

Monday, January 11, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1209C

LOS ALAMOS

REQUEST NUMBER: 10-1209

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/11/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE12-10-7722	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7722	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7722	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:**Date****Time****Received By:****Date****Time**

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:**Date****Time****Remarks:**

Printed Name

Signature



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00012

Client Sample ID: RE12-10-7722

Sample Collection Date: 01/07/10 09:15

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00012-015

Date Received: 01/08/10 00:00

Report Date: 01/09/10 06:49

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	99.73	44.50	32.23	46.15		pCi/g	EPA 900.0M	1/9/2010	ME	N/A
GROSS BETA	72.35	20.84	19.86	22.64		pCi/g	EPA 900.0M	1/9/2010	ME	N/A
NA-22	0.06	0.13	0.10	0.13		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
K-40	-0.79	-16.29	3.17	-16.29		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CO-60	0.06	0.13	0.11	0.13		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-134	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-137	0.07	0.28	0.14	0.28		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
EU-152	0.42	0.45	0.12	0.45		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
PB-212	0.70	0.46	0.21	0.46		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
RA-228	1.45	0.75	0.29	0.75		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-235	-0.07	120.84	0.27	120.84		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-238	2.69	2.87	1.30	2.94		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
AM-241	0.38	0.41	0.15	0.41		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
NOTES: % Moisture: 1.10										

Quality Assurance Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 30658

NELAP Certificate # E87558

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2493

EVENT NAME: 4th Qtr. FY09 - CU 12-001(a)-99 - Threemile Canyon

SAMPLE ID: RE12-10-7722

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/07/2010		MEDIA:	QBT3 SED	SED	12m 1/6/10 1/7/10
TIME COLLECTED (HH:MM)		09:15		SUB-MEDIA:	TUFF 1	OK	NA 1/7/10
PRS ID:	12-001(a)-99	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	12-610678	OK		FIELD QC TYPE:	NA		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	OK		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.2 ft		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	SED	SED 7.2m 1/7/10	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	AM241+GS+ISO PU+ISOU	1 LITER POLY 7.2m 1/6/10	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 Liter	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Light grayish brown pebbly decomposed tuff

SAMPLE COMMENTS:

8ft+ ESE of 1A-24 staked location in drainage sump

LOCATION DESC:

1A-24

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
 B18 \leq 3810 dpm
 2.9m 1/7/10

PID = $\frac{0}{0}$ ppm Ambient
 Reading

COLLECTED BY (PRINT)

L. Lopez

REVIEWED BY (PRINT)

J. Marin

RELINQUISHED BY (Printed Name) Larry Lopez (Signature) Larry Lopez	Date/Time 11/07/10 16:00	RECEIVED BY (Printed Name) L. Lopez (Signature) [Signature]	Date/Time 11/7/10 4:10
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

n

Subject: Cancel sample
From: "McFarland, Tracy" <tmcfarland@LATA.com>
To: "Keith Greene" <kgreene@lanl.gov>
Cc: "Davenport, David" <DDavenport@LATA.com>

Keith,

Will you please cancel Sample ID RE12-10-7721 from Event ID 2493? Let me or Dave Davenport know if you have any questions.

Thanks,
Tracy

Tracy L. McFarland
Risk Assessor/Geologist
Los Alamos Technical Associates

505) 662-1830 office phone
505) 934-3829 cell phone

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2493

EVENT NAME: 4th Qtr. FY09 - CU 12-001(a)-99 - Threemile Canyon

SAMPLE ID: RE12-10-7721

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/07/2010		MEDIA:	QBT3	ARM 1/7/10	
TIME COLLECTED (HH:MM)		09:00		SUB-MEDIA:	TUFF 1	SED	ALLH
PRS ID:	12-001(a)-99	OK		SAMPLE TECH CODE:	HA	NA	
LOCATION ID:	12-610678	OK		FIELD QC TYPE:	NA	OK	
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	OK		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	0	0.7 ft		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	SED ARM		EXCAVATED: YES/NO/NA	NA		
COMPOSITE TYPE:	NA	1/7/10					
		COMPOSITE TIME INTERVAL: NA				WATER FLOWING: YES/NO/NA	
BOREHOLE: YES/NO/NA	NA	BOREHOLE DECLINATION: NA				BOREHOLE DIRECTION: NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY ARM 1/6/10	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 Liter	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: ARM 1/7/10
COMMENTS

1A-24 Surface sediment at location staked

SAMPLE COMMENTS: ARM 1/7/10
DESC

Dark brown to black pebbly soil adjacent to drainage

LOCATION DESC:

1A-24

FIELD SCREENING/MEASUREMENT RESULTS:

alpha ≤ 33 dpm

B/8 ≤ 2700 dpm

PID: 0 Ambient
0 ppm
0 readings

COLLECTED BY (PRINT)

L. Lopez

REVIEWED BY (PRINT)

J. Marin

RELINQUISHED BY (Printed Name) <i>Lenny Lopez</i> (Signature) <i>[Signature]</i>	Date/Time 11/7/10 1600	RECEIVED BY (Printed Name) <i>K. Greer</i> (Signature) <i>[Signature]</i>	Date/Time 11/7/10 4:10
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time



133 State Road 4, White Rock, NM 87544

505-872-2170 FAX 505-872-9534

ARS Sample Delivery Group: ARS2-10-00012

Client Sample ID: RE12-10-7721

Sample Collection Date: 01/07/10 09:00

Sample Matrix: Soil/Solid

Request or PU Number:

ARS Sample ID: ARS2-10-00012-014

Date Received: 01/08/10 00:00

Report Date: 01/09/10 06:49

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	73.54	37.39	28.64	38.48		pCi/g	EPA 930.0M	1/8/2010	ME	N/A
GROSS BETA	70.87	18.93	17.99	20.78		pCi/g	EPA 900.0M	1/8/2010	ME	N/A
NA-22	0.00	0.00	0.15	0.00		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
K-40	-2.06	1237.50	2.77	1237.50		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CO-60	0.00	15.01	0.15	15.01		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-134	0.00	0.00	0.11	0.00		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-137	1.14	0.51	0.09	0.54		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
EU-152	0.88	0.86	0.31	0.86		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
PB-212	1.39	0.64	0.24	0.65		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
RA-228	0.13	0.29	0.47	0.29		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-235	1.66	1.10	0.47	1.10		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-238	6.78	3.83	2.03	6.17		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
AM-241	-0.01	31.30	0.07	31.30		pCi/g	EPA 901.1M	1/8/2010	ME	N/A

NOTES: % Moisture: 2.57

Matthew J. Edley
Quality Assurance Review

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LELAP Certificate # 30658

NELAP Certificate # ES7558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00012

Request or PO Number:

Client Sample ID: RE12-10-7722

ARS Sample ID: ARS2-10-00012-015

Sample Collection Date: 01/07/10 09:15

Date Received: 01/08/10 00:00

Sample Matrix: Soil/Solid

Report Date: 01/09/10 06:49

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	PMU	Unit	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery
GROSS ALPHA	99.73	44.50	32.23	46.15		pCi/g	EPA 900.0M	1/9/2010	ME	N/A
GROSS BETA	72.35	20.84	19.86	22.64		pCi/g	EPA 900.0M	1/9/2010	ME	N/A
NA-22	0.06	0.13	0.10	0.13		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
K-40	-0.79	-16.29	3.17	-16.29		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CO-60	0.06	0.13	0.11	0.13		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-134	0.00	0.00	0.08	0.00		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
CS-137	0.07	0.28	0.14	0.28		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
EU-152	0.42	0.45	0.12	0.45		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
PB-212	0.70	0.46	0.21	0.46		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
RA-228	1.45	0.75	0.29	0.75		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-235	-0.07	120.84	0.27	120.84		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
U-238	4.69	4.87	1.30	4.94		pCi/g	EPA 901.1M	1/8/2010	ME	N/A
AM-241	0.38	0.41	0.15	0.41		pCi/g	EPA 901.1M	1/8/2010	ME	N/A

NOTES: % Moisture: 1.10

Matthew L. Foley
Quality Assurance Review

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LELAP Certificate # 30658

NELAP Certificate # EB7558

DATA VALIDATION COVER SHEET

5121-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1209 VALIDATION DATE: 2/17/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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


1. The MS and MSD %R calculations were performed incorrectly. The parent sample result was < the MDL and, thus a result of 0µg/kg should have been used to calculate the %Rs. The laboratory subtracted the parent sample concentration. The %Rs were within the acceptance limits when calculated correctly. No sample results were qualified as a result.
2. It should be noted that the MS/MSD analyses were performed on a sample from another LANL RN and the raw data for the parent sample was not included in the data package. No data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/19/10


VALIDATOR'S SIGNATURE: _____

A handwritten signature of Eyda Hergenreder in black ink.


DATE: 2/17/10

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

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

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

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

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

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

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC
 Lab Code: GEL
 Instrument: LCMSMS
 Method: SW846 6850 Modified
 Matrix: SOIL
 Extraction Batch ID: 242310
 Extraction Type: Solid Prep
 Sample Volume/Weight: 2.00 g
 Concentrated Extract Volume: 20.0
 Client Sample No. RE12-10-7722
 Date Received: 13-JAN-10
 GEL Job No (SDG): 10-1209
 GEL Sample ID: 244597001
 Date Filtered: 20-JAN-10
 Injection Volume (uL): 20
 %Solids: 88

CAS No.	Analyte ^a	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate Isotope Ratio						1	21-JAN-10 01:35	per0120083a
14797-73-0	Perchlorate-101	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate-O(18)			5.49	ug/kg		1	21-JAN-10 01:35	per0120083a

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

*Concentration =

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

EH
2/17/10

DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1209 VALIDATION DATE: 2/17/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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


1. The CCV %Ds for o-nitroaniline and p-nitroaniline were >20% but ≤40% with negative bias. The associated sample results were NDs and, thus, were qualified UJ,HE7c. The CCV %Ds for 1,3,5-trinitrobenzene, RDX and tetryl were >20% with positive bias. The associated sample results were NDs and, thus, were not qualified.
2. The MSD %R for TATB was > the laboratory UAL. The sample result was an ND and, thus was not qualified as a result.
3. It should be noted that the MS/MSD analyses were performed on a sample from another LANL RN and the raw data for the parent sample was not included in the data package. No data were qualified as a result.
4. It should be noted that the raw ICAL data from the instrument used for the secondary HE analyses were not reported in the data package. Thus, the surrogate retention time criteria could not be evaluated. No sample data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/19/10


VALIDATOR'S SIGNATURE: _____

A handwritten signature in cursive script that reads 'Eyda Hergenreder'.


DATE: 2/17/10

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


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

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

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

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

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

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

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125220a

Date Analyzed: 29-JAN-10 23:04

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 UJ,HE7c	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 UJ,HE7c	500	U

*Concentration =

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

EH
2/17/10

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250100.wiff

Date Analyzed: 26-JAN-10 12:27

Units: ug/kg

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

*Concentration =

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

EH
2/17/10

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1209 VALIDATION DATE: 2/17/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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


- In the MB, Sb and Pb were detected. The Pb sample result was a detect >5X but ≤50X the blank value and, thus, was qualified J,I4a. The Sb sample result was an ND and, thus, was not qualified.
- In the CCB, Tl and U were detected. The Tl result was a detect ≤5X the blank value and, thus was qualified U,I4b. The U sample result was a detect >5X the blank value and, thus was not qualified.
- The MS %Rs for Ba, Ca, Fe, Mg, Mn, K and Al were > the laboratory UAL. The Ba, Ca, Mg, Mn and K sample results were detects and, thus, were qualified J+,I6b. The parent sample results for Fe and Al were >4X the spike concentrations and, thus, were not qualified based on professional judgment.
- The sample and duplicate results for Mg were >5X the PQL and the RPD was >35%. The sample result was a detect and, thus, was qualified J,I10a.
- It should be noted that the matrix QC for Hg was performed on a sample from another LANL RN. No data were qualified as a result.


Reviewed by: Monica Dymerski Level I Date: 02/19/10

VALIDATOR'S SIGNATURE:


Eyda Hergenreder

DATE: 2/17/10


DATA VALIDATION COVER SHEET	
5118-1	Records Use only
Data Validation Cover Sheet	 Los Alamos NATIONAL LABORATORY EST. 1945
Form 5118-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

METALS ANALYTICAL DATA VALIDATION CHECKLIST		
5118-2	Records Use only	
Metals Analytical Data Validation Checklist		


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

METALS ANALYTICAL DATA VALIDATION CHECKLIST		
5118-2	Records Use only	
Metals Analytical Data Validation Checklist		

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

METALS ANALYTICAL DATA VALIDATION CHECKLIST	
5118-2 Metals Analytical Data Validation Checklist	Records Use only 

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

METALS ANALYTICAL DATA VALIDATION CHECKLIST	
5118-2 Metals Analytical Data Validation Checklist	Records Use only 

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

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1209

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244597001

BASIS: Dry Weight

DATE COLLECTED 07-JAN-10

CLIENT ID: RE12-10-7722

LEVEL: Low

DATE RECEIVED 13-JAN-10

MATRIX: SOIL

%SOLIDS: 88

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2230000	ug/Kg		7690	22600	22600	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-36-0	Antimony	1130	ug/Kg	U	373	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-38-2	Arsenic	0.774	mg/kg	J	0.223	1.11	1.11	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-39-3	Barium J+,I6b	19600	ug/Kg	*N	113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-41-7	Beryllium	0.197	mg/kg	*	0.0223	0.111	0.111	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-43-9	Cadmium	566	ug/Kg	U	113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-70-2	Calcium J+,I6b	526000	ug/Kg	*N	9050	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-47-3	Chromium	2330	ug/Kg		170	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-48-4	Cobalt	888	ug/Kg		170	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-50-8	Copper	2120	ug/Kg		339	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-89-6	Iron	8080000	ug/Kg		9050	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-92-1	Lead J,I4a	6710	ug/Kg		283	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-95-4	Magnesium J+,I6b	320000	ug/Kg	*N	9620	33900	33900	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-96-5	Manganese J+,I6b	145000	ug/Kg	*N	226	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-97-6	Mercury	4.74	ug/kg	J	4.61	13.6	13.6	1	AV	JXL1	01/28/10 11:44	012810S1-3	943299
7440-02-0	Nickel	1.76	mg/kg		0.111	0.446	0.446	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-09-7	Potassium J+,I6b	321000	ug/Kg	*N	7240	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7782-49-2	Selenium	1.11	mg/kg	U	0.557	1.11	1.11	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-22-4	Silver	592	ug/Kg		113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-23-5	Sodium	52900	ug/Kg		7920	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-28-0	Thallium U,I4b	0.0849	mg/kg	J	0.0668	0.223	0.223	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-61-1	Uranium	2.08	mg/kg	*	0.0147	0.0446	0.0446	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-62-2	Vanadium	7520	ug/Kg		113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-66-6	Zinc	26300	ug/Kg		373	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
941739	941736	SW846 3050B	0.505	g	50	mL	01/20/10	AXG2
941743	941742	SW846 3050B	0.513	g	50	mL	01/20/10	AXG2
943299	943296	SW846 7471A Prep	0.506	g	30	mL	01/27/10	TXB3

EH
2/17/10

DATA VALIDATION COVER SHEET

5120-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1209 VALIDATION DATE: 2/17/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

☐ OTHER (DESCRIBE): total cyanide analysis only

Section II. Completeness Check

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

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


1. It should be noted that the matrix QC for total cyanide was performed on a sample from another LANL RN. No data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/19/10


VALIDATOR'S SIGNATURE: _____

 A handwritten signature of Eyda Hergenreder in cursive script.


 Eyda Hergenreder
DATE: 2/17/10

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
5120-2 General Chemistry Analytical Data Validation Checklist	Records Use only 

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

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST		
5120-2		Records Use only
General Chemistry Analytical Data Validation Checklist		 Los Alamos NATIONAL LABORATORY <small>EST. 1942</small>

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

GENERAL CHEMISTRY ANALYTICAL DATA VALIDATION CHECKLIST	
5120-2 General Chemistry Analytical Data Validation Checklist	Records Use only 

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

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 4, 2010

Client SDG: 10-1209

Client Sample ID: RE12-10-7722
Sample ID: 244597001
Matrix: R
Collect Date: 07-JAN-10 12:00
Receive Date: 13-JAN-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

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

Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	70.6	260	ug/kg	1	AXC2	01/19/10	1157	941485	1
----------------	---	----	------	-----	-------	---	------	----------	------	--------	---

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1537	941484

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

EH
2/17/10

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1209 VALIDATION DATE: 2/17/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Eyda Hergenreder ORGANIZATION: Analytical Quality Associates, Inc

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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


1. The gamma spec results that were rejected by the laboratory due to interference or low abundance were qualified R,R5a. In the duplicate sample several results were also rejected by the laboratory. No data were qualified as a result.
2. It should be noted that the matrix QC for Am, Pu and U were performed on a sample from another LANL RN. No data were qualified as a result.

Reviewed by: Monica Dymerski Level I Date: 02/19/10


VALIDATOR'S SIGNATURE:

A handwritten signature in cursive script that reads "Eyda Hergenreder".


DATE: 2/17/10

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

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

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

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

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

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

GEL LABORATORIES LLC

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: January 26, 2010

Client Sample ID: RE12-10-7722
Sample ID: 244597001
Matrix: R
Collect Date: 07-JAN-10
Receive Date: 13-JAN-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00202	0.0218	+/-0.00436	0.050	pCi/g		HAKB	01/20/10	1641	941693	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0053	0.0219	+/-0.00772	0.050	pCi/g		HAKB	01/19/10	1320	941694	3
Plutonium-239/240	U	0.0172	0.025	+/-0.00485	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.679	0.127	+/-0.0721	0.100	pCi/g		HAKB	01/20/10	2016	941697	4
Uranium-235/236	U	0.0202	0.0787	+/-0.0102	0.100	pCi/g						
Uranium-238		0.868	0.0736	+/-0.086	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0567	0.180	+/-0.0564	0.200	pCi/g		MXR1	01/22/10	0738	941635	5
Bismuth-211	UI	1.81	R,R5a	0.258	+/-0.188	pCi/g						
Bismuth-214		0.793		0.079	+/-0.0703	pCi/g						
Cadmium-109	U	1.02		1.04	+/-0.369	pCi/g						
Cerium-139	U	0.00806	0.0391	+/-0.0113	0.050	pCi/g						
Cesium-134	U	0.0631	0.0757	+/-0.0305	0.100	pCi/g						
Cesium-137		0.320	0.0397	+/-0.0318	0.100	pCi/g						
Cobalt-60	U	-0.0182	0.0504	+/-0.0163	0.100	pCi/g						
Europium-152	U	-0.0125	0.134	+/-0.0514	0.200	pCi/g						
Lanthanum-140	U	-0.0113	0.0977	+/-0.0308		pCi/g						
Lead-212		0.893	0.0707	+/-0.0516	0.100	pCi/g						
Lead-214		0.629	0.090	+/-0.0673	0.100	pCi/g						
Mercury-203	U	0.0166	0.0562	+/-0.0156	0.100	pCi/g						
Potassium-40		29.8	0.451	+/-1.33	1.00	pCi/g						
Radium-223	U	-0.238	0.851	+/-0.291		pCi/g						
Radium-224	UI	2.61	R,R5a	0.804	+/-0.426	pCi/g						
Radium-226		0.793	0.079	+/-0.0703		pCi/g						
Radium-228		0.846	0.197	+/-0.137	0.500	pCi/g						
Ruthenium-106	U	-0.0417	0.408	+/-0.123	0.800	pCi/g						

EH
2/17/10

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: January 26, 2010

Client Sample ID: RE12-10-7722
Sample ID: 244597001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	-0.0352	0.0574	+/-0.019	0.080	pCi/g						
Strontium-85	UI	0.103	R,R5a	+/-0.0165		pCi/g						
Thallium-208		0.267	0.0461	+/-0.0266	0.080	pCi/g						
Thorium-227	U	-0.283	0.457	+/-0.138		pCi/g						
Thorium-231	U	-0.238	0.851	+/-0.291		pCi/g						
Thorium-234	U	1.37	1.52	+/-0.631	2.00	pCi/g						
Tin-113	U	0.00568	0.0574	+/-0.0164	0.100	pCi/g						
Uranium-235	U	0.175	0.298	+/-0.0841	0.500	pCi/g						
Yttrium-88	U	-0.0106	0.0256	+/-0.00958	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.2	(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.
- 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

EH
2/17/10

Monday, January 11, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1209C

LOS ALAMOS

REQUEST NUMBER: 10-1209

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/11/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2445971

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
-----------	------	-----------	-------	---------	--------

RE12-10-7722	1	POLY	AM241+GS+ISOPU+ISO U	None	R
--------------	---	------	-------------------------	------	---

RE12-10-7722	1	POLY	Met+U+CLO4+CN	Ice	R
--------------	---	------	---------------	-----	---

RE12-10-7722	1	AMBER GLASS	NMED Explosives list	Ice	R
--------------	---	-------------	----------------------	-----	---

Relinquished By:

Date Time

Received By:

Date Time

Printed Name

Signature

1/12/10 1400

Printed Name

Signature

Greg Tyler 1-13-10 0855

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

REQUEST NUMBER: 10-1209

Monday, January 11, 2010

**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: 10-1209


Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:**SHIP DATE: 1/12/2010****TURNAROUND/REPORT DUE: 2/11/2010****TURNAROUND REQ'D: 30 Days****RAD SCREENING: Yes, Below Background****LAB REQUEST COMMENTS:**

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE12-10-7722	R	1/7/2010	
	HASL-300:AM-241	1	RE12-10-7722	R	1/7/2010	
	HASL-300:ISOPU	1	RE12-10-7722	R	1/7/2010	
	HASL-300:ISOU	1	RE12-10-7722	R	1/7/2010	
	SW-846:6020	1	RE12-10-7722	R	1/7/2010	
	SW-846:6850	1	RE12-10-7722	R	1/7/2010	
	SW-846:7471A	1	RE12-10-7722	R	1/7/2010	
	SW-846:8321A_MOD	1	RE12-10-7722	R	1/7/2010	
	SW-846:9012A	1	RE12-10-7722	R	1/7/2010	



January 18, 2010

www.gel.com

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: 244597
SDG: 10-1209

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 13, 2010, and analyzed for Explosives by LCMSMS, 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,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1209
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 244597
SDG: 10-1209

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Case Narrative

Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 244597
SDG # : 10-1209

January 18, 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 January 13, 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. The sample was delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 10,12,13C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following sample:

<u>Laboratory ID</u>	<u>Client ID</u>
244597001	RE12-10-7722

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, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry.

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



Valerie Davis

Project Manager

List of current GEL Certifications as of 18 January 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, January 11, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1209C

LOS ALAMOS

REQUEST NUMBER: 10-1209

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/11/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

244597%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
-----------	------	-----------	-------	---------	--------

RE12-10-7722	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE12-10-7722	1	POLY	Met+U+CLO4+CN	Ice	R
RE12-10-7722	1	AMBER GLASS	NMED Explosives list	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

1/12/10

1400

Printed Name

Signature

Greg Tyler

[Signature]

1-13-10 0855

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Monday, January 11, 2010

REQUEST NUMBER: 10-1209

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: 10-1209

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/12/2010

TURNAROUND/REPORT DUE: 2/11/2010

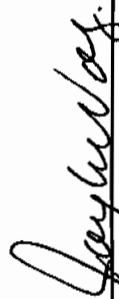
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE12-10-7722	R	1/7/2010	
	HASL-300:AM-241	1	RE12-10-7722	R	1/7/2010	
	HASL-300:ISOPU	1	RE12-10-7722	R	1/7/2010	
	HASL-300:ISOU	1	RE12-10-7722	R	1/7/2010	
	SW-846:6020	1	RE12-10-7722	R	1/7/2010	
	SW-846:6850	1	RE12-10-7722	R	1/7/2010	
	SW-846:7471A	1	RE12-10-7722	R	1/7/2010	
	SW-846:8321A_MOD	1	RE12-10-7722	R	1/7/2010	
	SW-846:9012A	1	RE12-10-7722	R	1/7/2010	



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCO/Work Order: 10-1209		
Received By: Greg Tyler			Date Received: 1/13/10		
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*: 60cpm		
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 $0 \leq 6$ deg. C?	X			Preservation Method: ice bags blue ice dry ice none other 1-6C 10, 12, 13C
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: No time on Chain of Custody.
11	Number of containers received match number indicated on COC?	X			Sample ID's affected:
12	COC form is properly signed in relinquished/received sections?	X			

Comments:

Fed Ex Tracking Numbers:

7209 7849 4887 1C 7209 7849 4854 10C
 7209 7849 4924 1C 7209 7849 4800 12C
 7209 7849 4810 2C 7209 7849 4843 13C
 7209 7849 4898 3C
 7209 7849 4946 4C
 7209 7849 4865 5C
 7209 7849 4876 6C
 7209 7849 4935 6C

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

SHIP DATE: 12JAN10
ACTWGT: 56.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

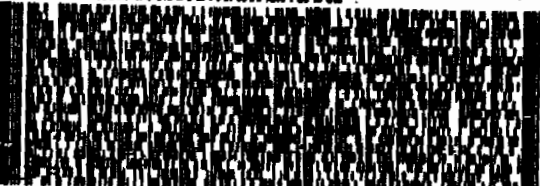
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A05529E00

0011 0011 0011 0011 0011 0011 0011 0011 0011 0011



FedEx
Express

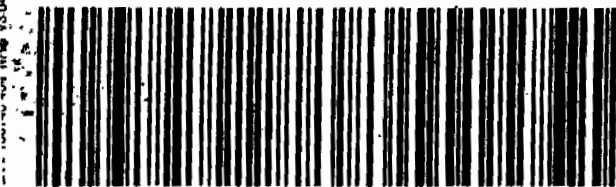


TRKH 7209 7849 4946
0201

WED - 13JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



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

SHIP DATE: 12JAN10
ACTWGT: 56.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A0352VA00

0011 0011 0011 0011 0011 0011 0011 0011 0011 0011



FedEx
Express



TRKH 7209 7849 4876
0201

WED - 13JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

Page 10 of 1180

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

SHIP DATE: 12JAN10
ACTWGT: 56.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A0352VA00

0011 0011 0011 0011 0011 0011 0011 0011 0011 0011



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Express



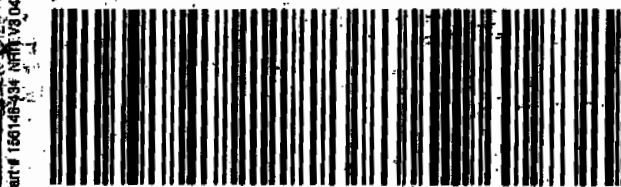
3 of 3
MPSH 7209 7849 4865
0203

Matr-N 7209 7849 4843 0201

WED - 13JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



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

SHIP DATE: 12JAN10
ACTWGT: 61.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A05529E00

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Express



TRKH 7209 7849 4935
0201

WED - 13JAN 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

SHIP DATE: 12JAN10
ACTWGT: 48.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

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REF: 68010AMR3A0352VA00

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2 of 3
MPS# 0263 7209 7849 4854

WED - 13JAN A1
PRIORITY OVERNIGHT

Matr# 7209 7849 4843 0201

XX CHSA

29407
SC-US
CHS

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

SHIP DATE: 12JAN10
ACTWGT: 59.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

12°

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(843) 556-8171
REF: 68010AMR2A0515BYD0

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Express



2 of 3
MPS# 0263 7209 7849 4800

WED - 13JAN A1
PRIORITY OVERNIGHT

Matr# 7209 7849 4795 0201

XX CHSA

29407
SC-US
CHS

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

SHIP DATE: 12JAN10
ACTWGT: 30.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

13°

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR3A0352VA00

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Express



1 of 3
TRKH 0201 7209 7849 4843

WED - 13JAN A1
PRIORITY OVERNIGHT

NN MASTER NN

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.

LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1209**

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: 942312

Prep Batch Number: 942310

Sample Analysis

Sample ID	Client ID
244597001	RE12-10-7722
1202017251	Interference Check Sample (ICS)
1202017247	Method Blank (MB)
1202017248	Laboratory Control Sample (LCS)
1202017249	244519002(RE16-10-419) Matrix Spike (MS)
1202017250	244519002(RE16-10-419) 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.

10-1209-PERLCMS

Page 1 of 4

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 244519002 (RE16-10-419) from SDG 10-1183 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: Herbert K. Mauer Date: 01/26/10

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: 942310

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7722

Date Received: 13-JAN-10

GEL Job No (SDG): 10-1202

GEL Sample ID: 244597001

Date Filtered: 20-JAN-10

Injection Volume (uL): 20

%Solids: 88

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate Isotope Ratio						1	21-JAN-10 01:35	per0120083a
14797-73-0	Perchlorate-101	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate-O(18)			5.49	ug/kg		1	21-JAN-10 01:35	per0120083a

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

*Concentration =

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

QUALITY CONTROL SUMMARY

Perchlorate Laboratory Control Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG): 10-1202

Extract Batch Code: 942310

Date Filtered: 20-JAN-10

Matrix: SOIL

Sample ID: 1202017248

Analyte ^a	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.08	ug/kg	104		70 - 130
Perchlorate Isotope Ratio		2.85				-
Perchlorate-101	2.00	2.23	ug/kg	112		70 - 130
Perchlorate-O(18)		5.16	ug/kg			-

^a 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): 10-1202

Extract Batch Code: 242310 Date Filtered: 20-JAN-10

Matrix: SOIL Sample ID: 1202017251

Analyte [^]	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	1.96	ug/kg	98.1		70 - 130
Perchlorate Isotope Ratio		2.91				
Perchlorate-101	2.00	2.07	ug/kg	103		70 - 130
Perchlorate-O(18)		4.98	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: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120057a

Date: 20-Jan-2010

Time: 22:05:24

ID: 1202017251

Vial: 2:1,C

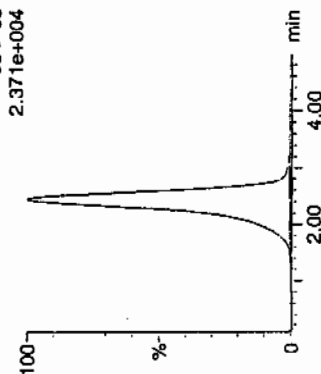
333
01-21-10

1202017251 | 5020 | 11

Page 24 of 1180

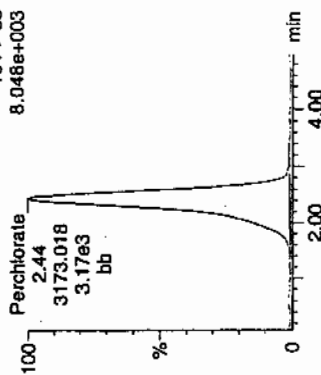
Perchlorate

MRM of 3 channels, ES-
99 > 83



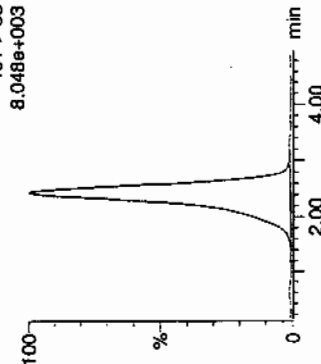
Perchlorate

MRM of 3 channels, ES-
101 > 85



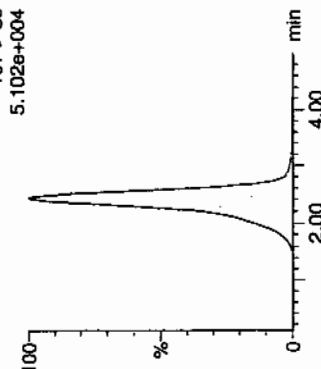
Perchlorate-101

MRM of 3 channels, ES-
101 > 85



Perchlorate-O(18)

MRM of 3 channels, ES-
107 > 89



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202017251	Perchlorate	99 > 83	2.44	9241.306	9241.306	bb			0.1962	98.09	-1.91	1339.5...	2.91
1202017251	Perchlorate-101	101 > 85	2.44	3173.018	3173.018	bb			0.2066	103.32	3.32	1614.2...	
1202017251	Perchlorate-O(18)	107 > 89	2.43	20044.713	20044.713	bb			0.4978	99.56	-0.44	4174.0...	

Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

Extract Batch Code: 942310

GEL MS/PS ID: 1202017242

GEL MSD/PSD ID: 1202017250

GEL Job No (SDG): 10-1209

Date Extracted: 20-JAN-10

Client ID: RE16-10-419

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	3.01	0.0282	ug/kg	3.05	100		3.14	104		3.03		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		2.93			3.06			0			-
Perchlorate-101	3.01	0.0168	ug/kg	3.19	106		3.15	104		1.53		30	75 - 125
Perchlorate-O(18)	0	7.93	ug/kg	7.77			7.44			4.34			-

^ 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:

Form 4

Perchlorate Initial Calibration Blank

GEL Job No.(SDG): 10-1209

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	20-JAN-10	per0120001a	IPB001
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120001a	IPB001
Perchlorate	0.00	0	NA	20-JAN-10	per0120002a	IPB001
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120002a	IPB001

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

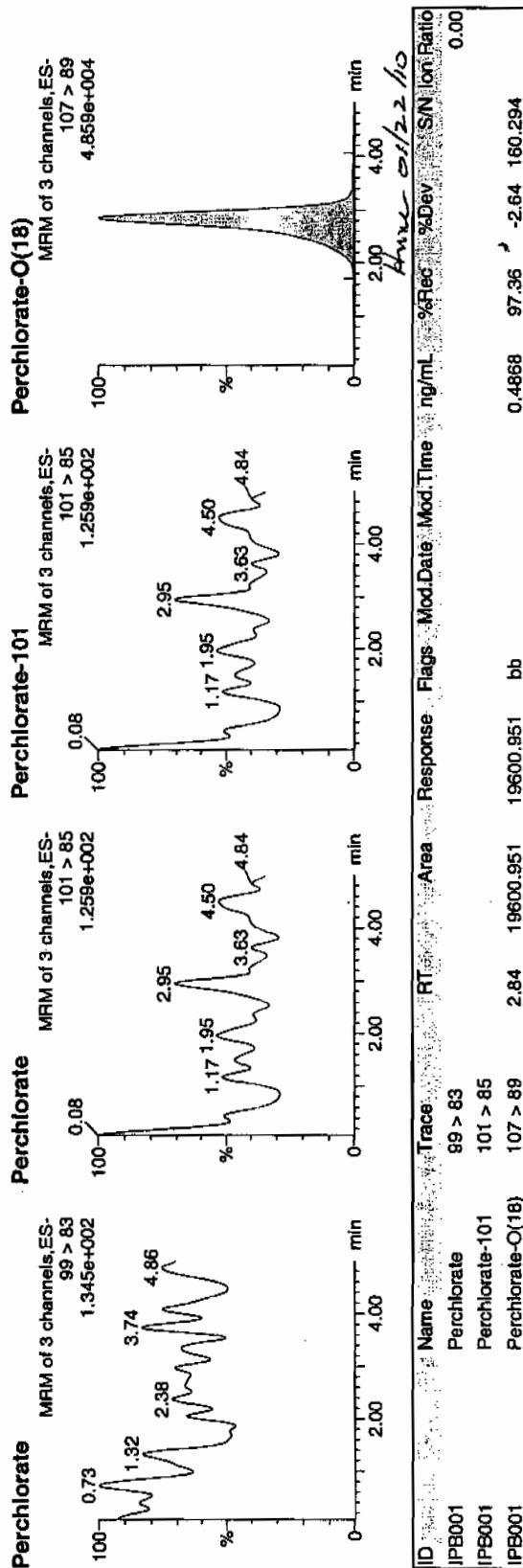
Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012010a.mdb 20 Jan 2010 15:44:00
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012010a.cdb 21 Jan 2010 07:27:15

Name: per0120001a
Date: 20-Jan-2010
Time: 14:34:41
ID: IPB001
Vial: 1:1,A

01-21-10



Quantify Sample Report MassLynx 4.0 SP4 The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Sample Name: per0120002a

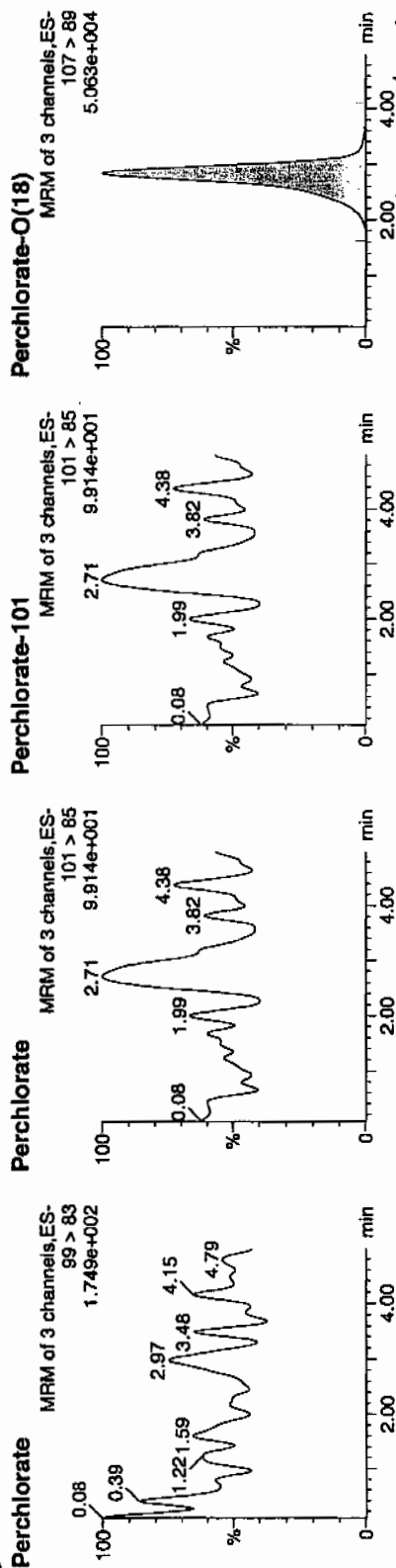
Date: 20-Jan-2010

Time: 14:42:54

ID: IPB001

Vial: 1:1,A

CWJ
01-21-10



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IPB001	Perchlorate	99 > 83											0.00
IPB001	Perchlorate-101	101 > 85											
IPB001	Perchlorate-O(18)	107 > 89	2.84	20047.805	20047.805	bb			0.4979	99.58	-0.42	1507.0...	

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1202

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	20-JAN-10	per0120008a	IPB002
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120008a	IPB002
Perchlorate	0.00	0	NA	20-JAN-10	per0120010a	IPB003
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120010a	IPB003
Perchlorate	0.00	0	NA	20-JAN-10	per0120023a	IPB004
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120023a	IPB004
Perchlorate	0.00	0	NA	20-JAN-10	per0120036a	IPB005
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120036a	IPB005
Perchlorate	0.00	0	NA	20-JAN-10	per0120049a	IPB006
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120049a	IPB006
Perchlorate	0.00	0	NA	20-JAN-10	per0120054a	IPB007
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120054a	IPB007
Perchlorate	0.00	0	NA	20-JAN-10	per0120062a	IPB008

Form 4

Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-1209

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate-101	0.00	0	NA	20-JAN-10	per0120062a	IPB008
Perchlorate	0.00	0	NA	21-JAN-10	per0120074a	IPB009
Perchlorate-101	0.00	0	NA	21-JAN-10	per0120074a	IPB009
Perchlorate	0.00	0	NA	21-JAN-10	per0120085a	IPB010
Perchlorate-101	0.00	0	NA	21-JAN-10	per0120085a	IPB010

Quantify Sample Report

The GEL Group, LLC Analyst: Charlers W: Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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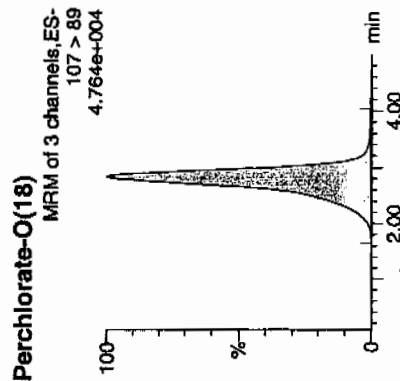
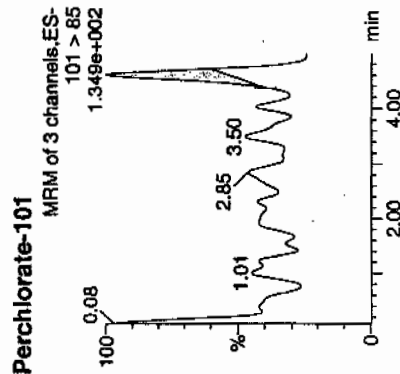
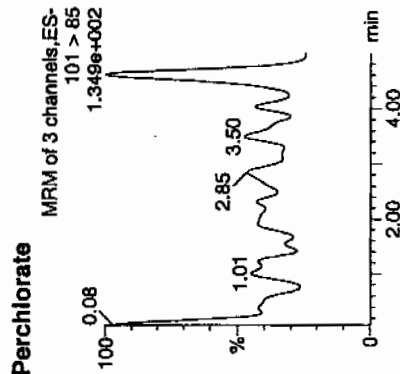
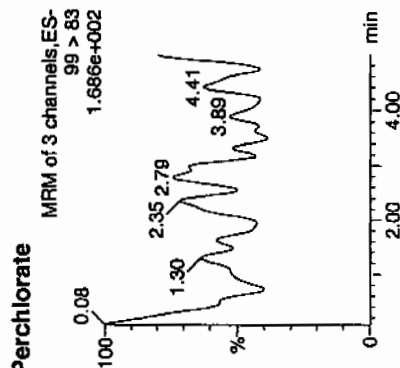
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Page Name: per0120008a

Date: 20-Jan-2010

Time: 15:31:00

ID: IPB002

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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	4.60	10.547	10.547	bb			0.0007			14.000	
IPB002	Perchlorate-O(18)	107 > 89	2.82	19125.730	19125.730	bb			0.4750	95.00	-5.00	246.768	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

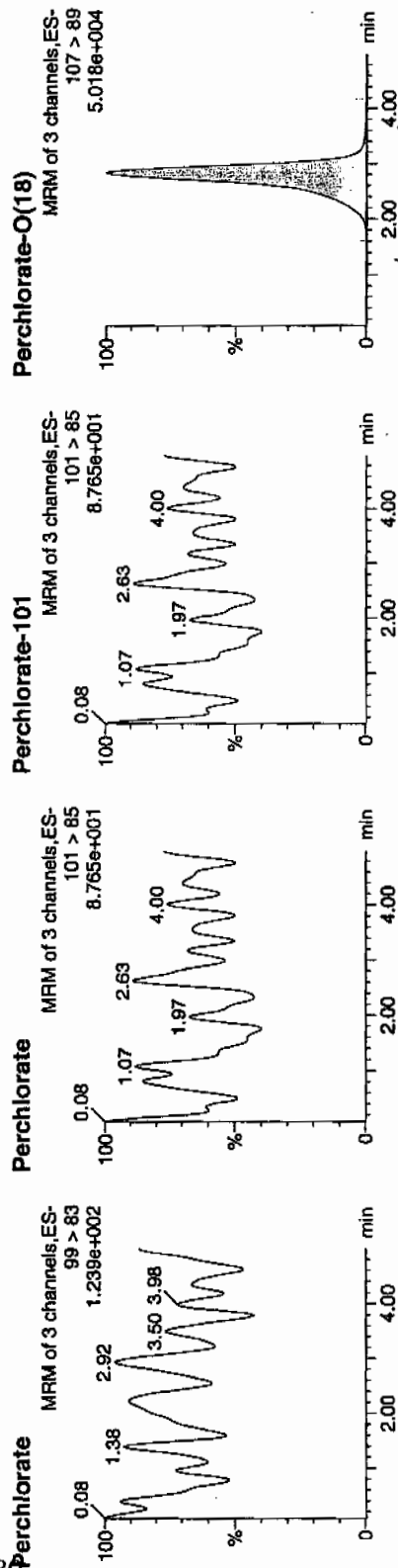
Page 10 of 86

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Sample Name: per0120010a
Date: 20-Jan-2010
Time: 15:47:04
ID: IPB003
Vial: 1:1,A

0.21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB003	Perchlorate	99 > 83											0.00
IPB003	Perchlorate-101	101 > 85	2.82	19950.449	19950.449	bb			0.4955	99.09	-0.91	2622.5...	
IPB003	Perchlorate-O(18)	107 > 89											

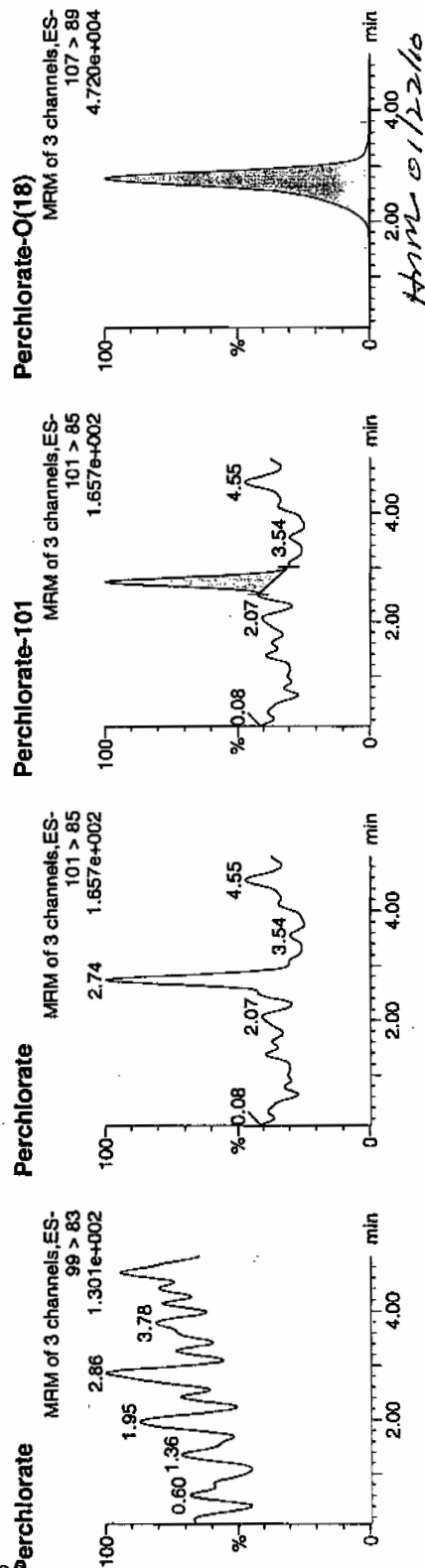
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120023a
Date: 20-Jan-2010
Time: 17:31:37
ID: IPB004
Vial: 1:1,A

Q-1140



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	2.74	20.739	20.739	bb			0.0014			11.942	
IPB004	Perchlorate-O(18)	107 > 89	2.77	18715.227	18715.227	bb			0.4648	92.96	-7.04	3797.0...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120036a

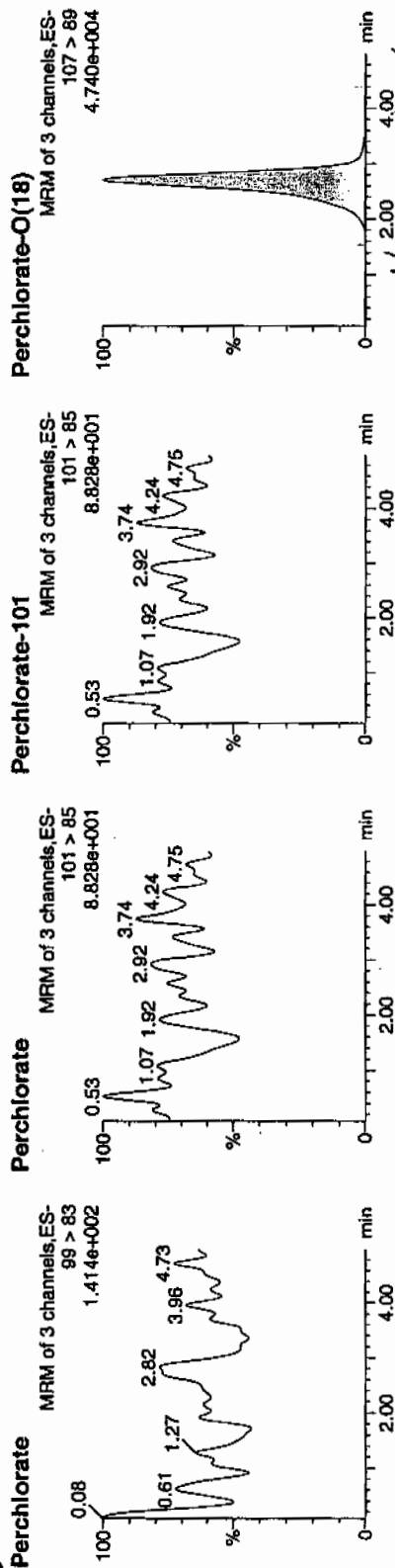
Date: 20-Jan-2010

Time: 19:16:12

ID: IPB005

Vial: 1:1,A

Q-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB005	Perchlorate	99 > 83											
IPB005	Perchlorate-101	101 > 85											
IPB005	Perchlorate-O(18)	107 > 89	2.71	18331.297	18331.297	bb			0.4553	91.05	-8.95	2525.2...	

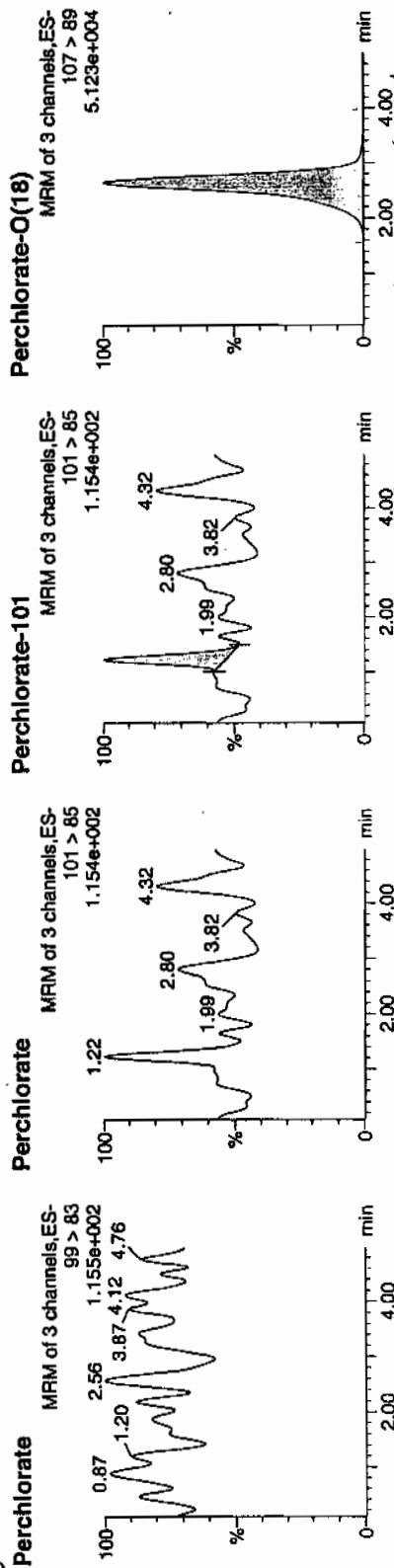
Quantify Sample Report MassLynx 4.0 SP4 The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Page 55 of 180
Name: per0120049a
Date: 20-Jan-2010
Time: 21:00:54
ID: IPB006
Vial: 1:1,A

Q-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB006	Perchlorate	99 > 83											0.00
IPB006	Perchlorate-101	101 > 85	1.22	10.193	10.193	bb			0.0007			10.927	
IPB006	Perchlorate-O(18)	107 > 89	2.65	19510.000	19510.000	bb			0.4845	96.91	-3.09	1658.5...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

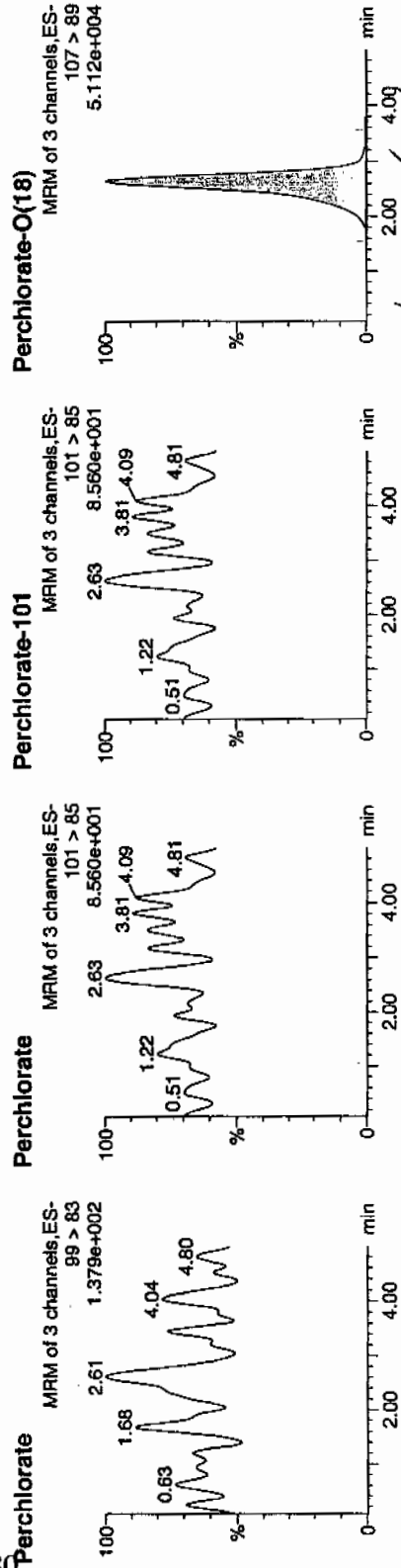
Page 54 of 86

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120054a
Date: 20-Jan-2010
Time: 21:41:08
ID: IPB007
Vial: 1:1,A

01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB007	Perchlorate	99 > 83											0.00
IPB007	Perchlorate-101	101 > 85	2.64	19230.340	19230.340	bb			0.4776	95.52	-4.48	3070.2...	
IPB007	Perchlorate-O(18)	107 > 89											

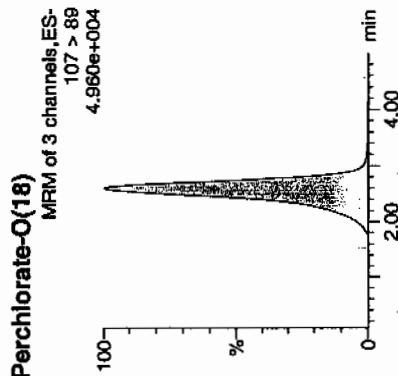
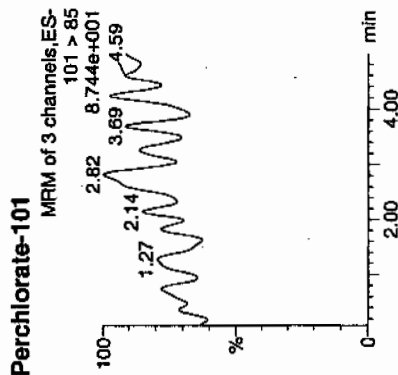
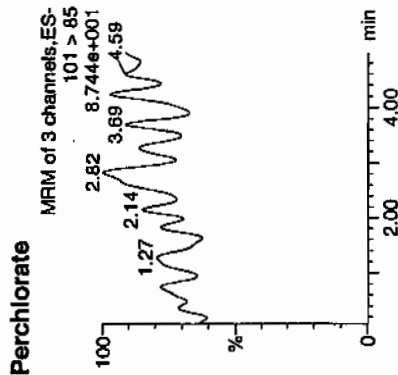
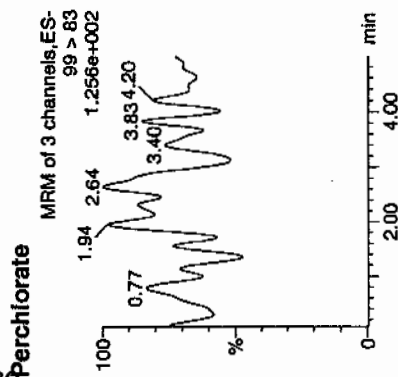
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Sample Name: per0120062a
Date: 20-Jan-2010
Time: 22:45:44
ID: IPB008
Vial: 1:1,A

0.24 10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
IPB008	Perchlorate	99 > 83											0.00
IPB008	Perchlorate-101	101 > 85											
IPB008	Perchlorate-Q(18)	107 > 89	2.59	18635.371	18635.371	bb			0.4628	92.56	-7.44	12945....	

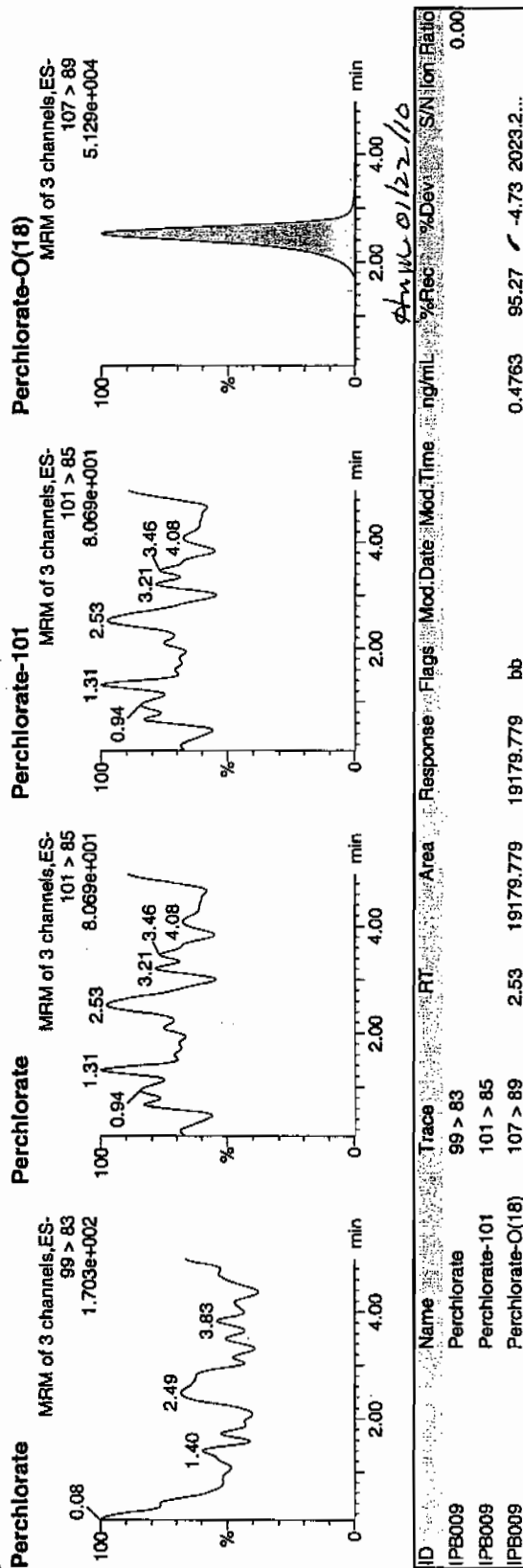
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Sample Name: per0120074a
Date: 21-Jan-2010
Time: 00:22:33
ID: IPB009
Vial: 1:1,A

0.21-10



Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charters W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
 Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120085a

Date: 21-Jan-2010

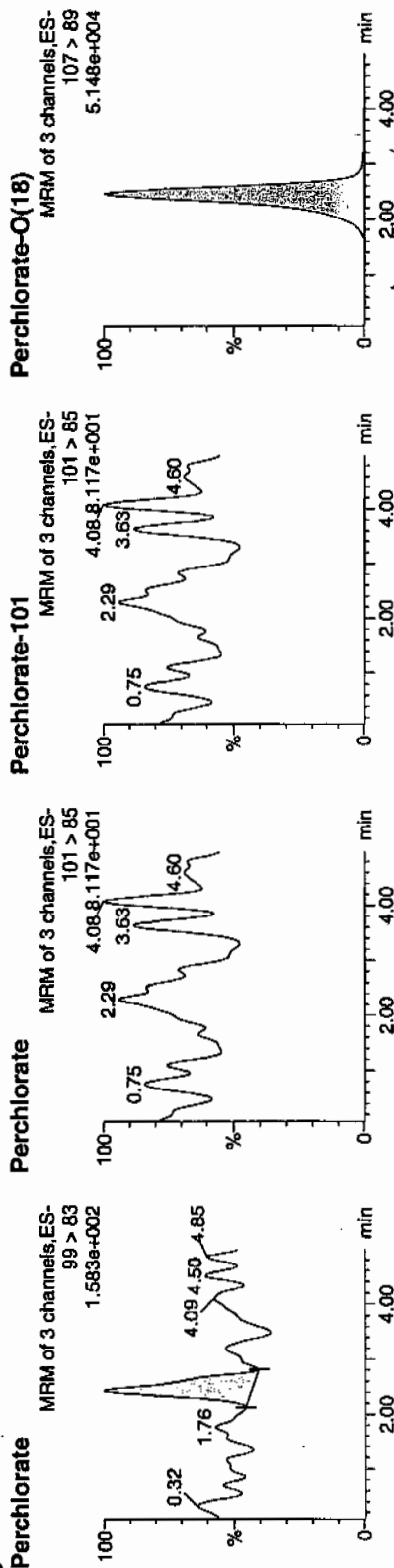
Time: 01:51:20

ID: IPB010

Vial: 1:1,A

80

01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	SN	Ion Ratio
IPB010	Perchlorate	99 > 83	2.43	27,404	27,404	bb			0.0006			14,172	0.00
IPB010	Perchlorate-101	101 > 85											
IPB010	Perchlorate-O(18)	107 > 89	2.45	18708.354	18708.354	bb			0.4646	92.92	-7.08	3604.1...	

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

QUANTO ULTIMA: nairb 01-08-08.ca

Calibration Report - MS1 Static

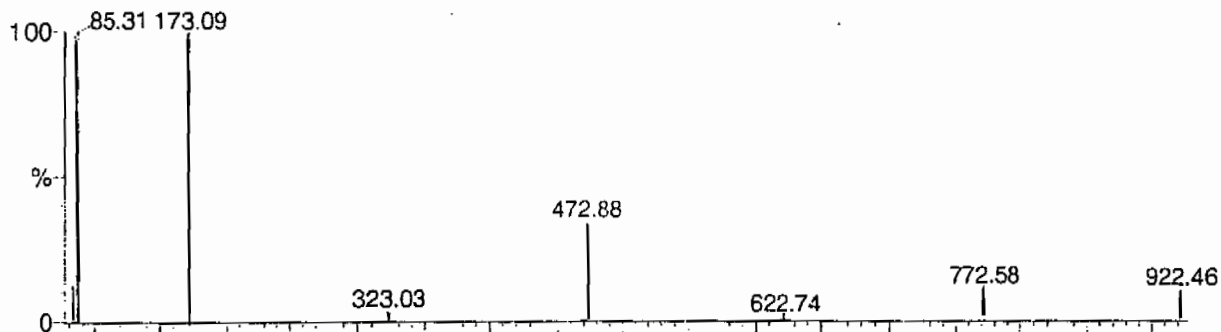
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

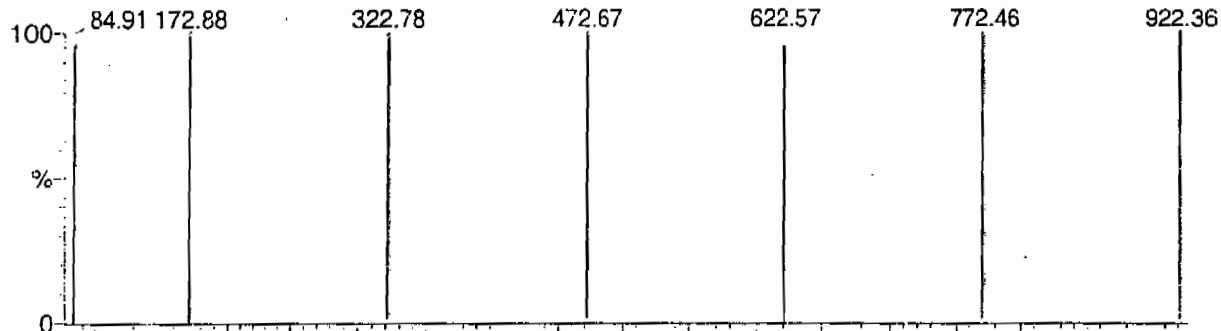
DATA HIGHLIGHTED BY CURVE 01-07-03

Data file: STATMS1 - Uncalibrated

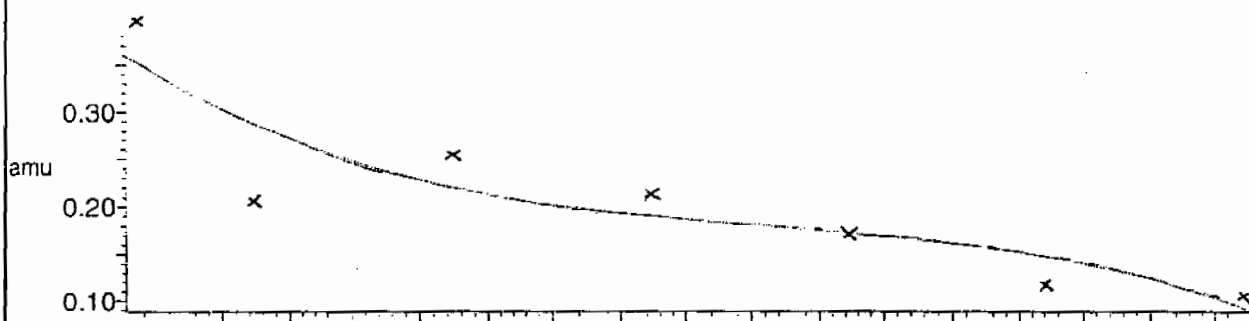
7 matches of 7 tested references



Reference file: Nairb

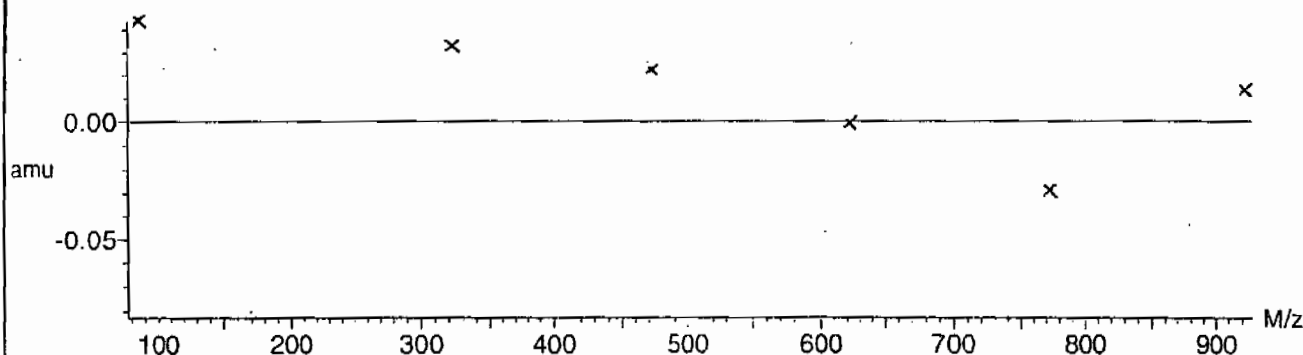


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $3.212012 \times 10^{-2} \pm 0.024108$

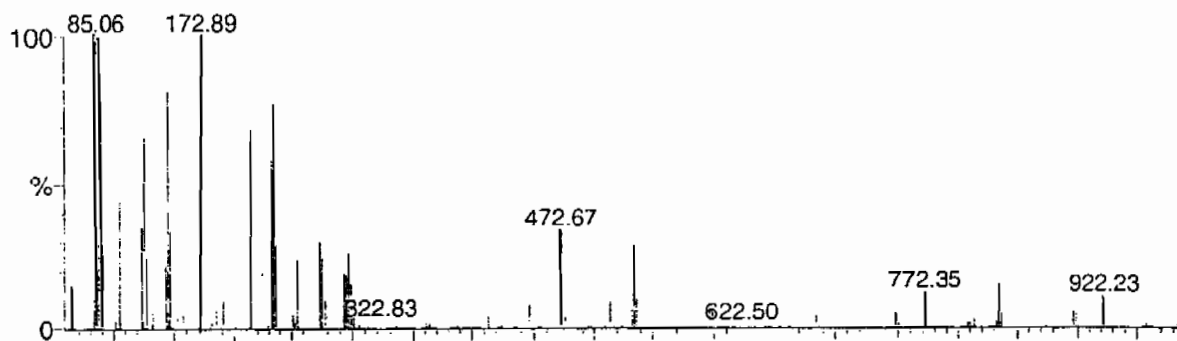


Calibration Report - MS1 Scanning

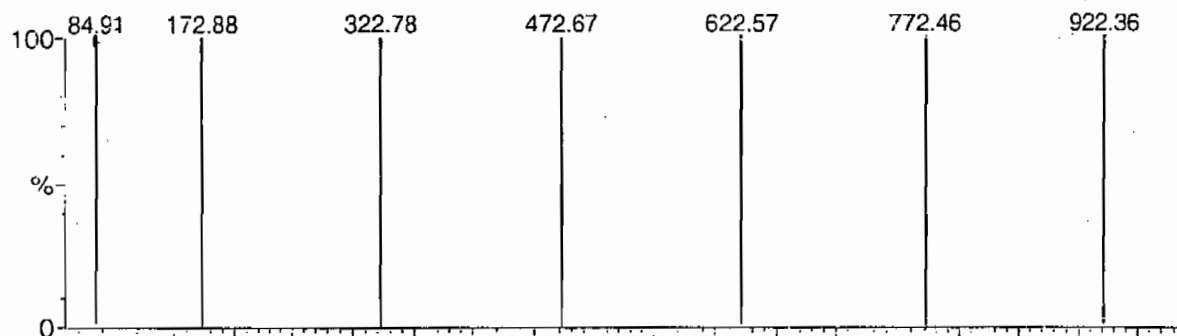
Page 1 of 1

Printed: Tue Jan 08 12:20:09 2008

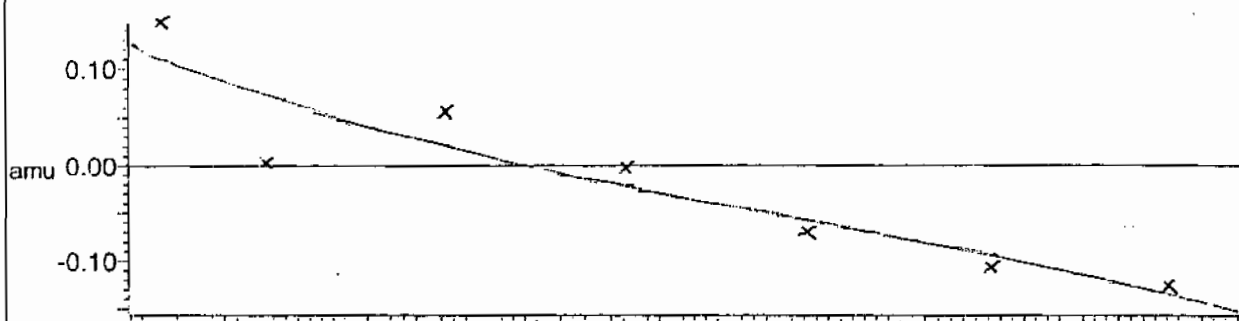
Data file: SCNMS1 - Uncalibrated 7 matches of 7 tested references



Reference file: Nairb

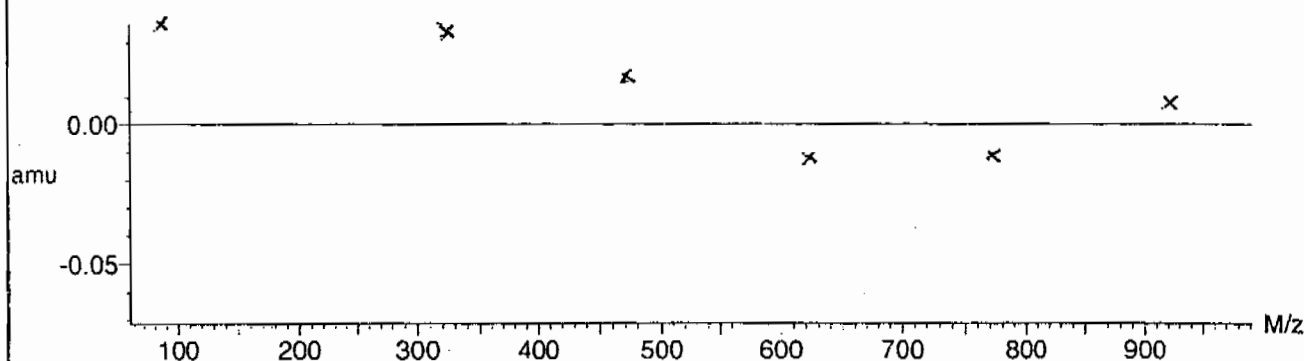


Mass difference (Raw - Ref mass)



Residuals

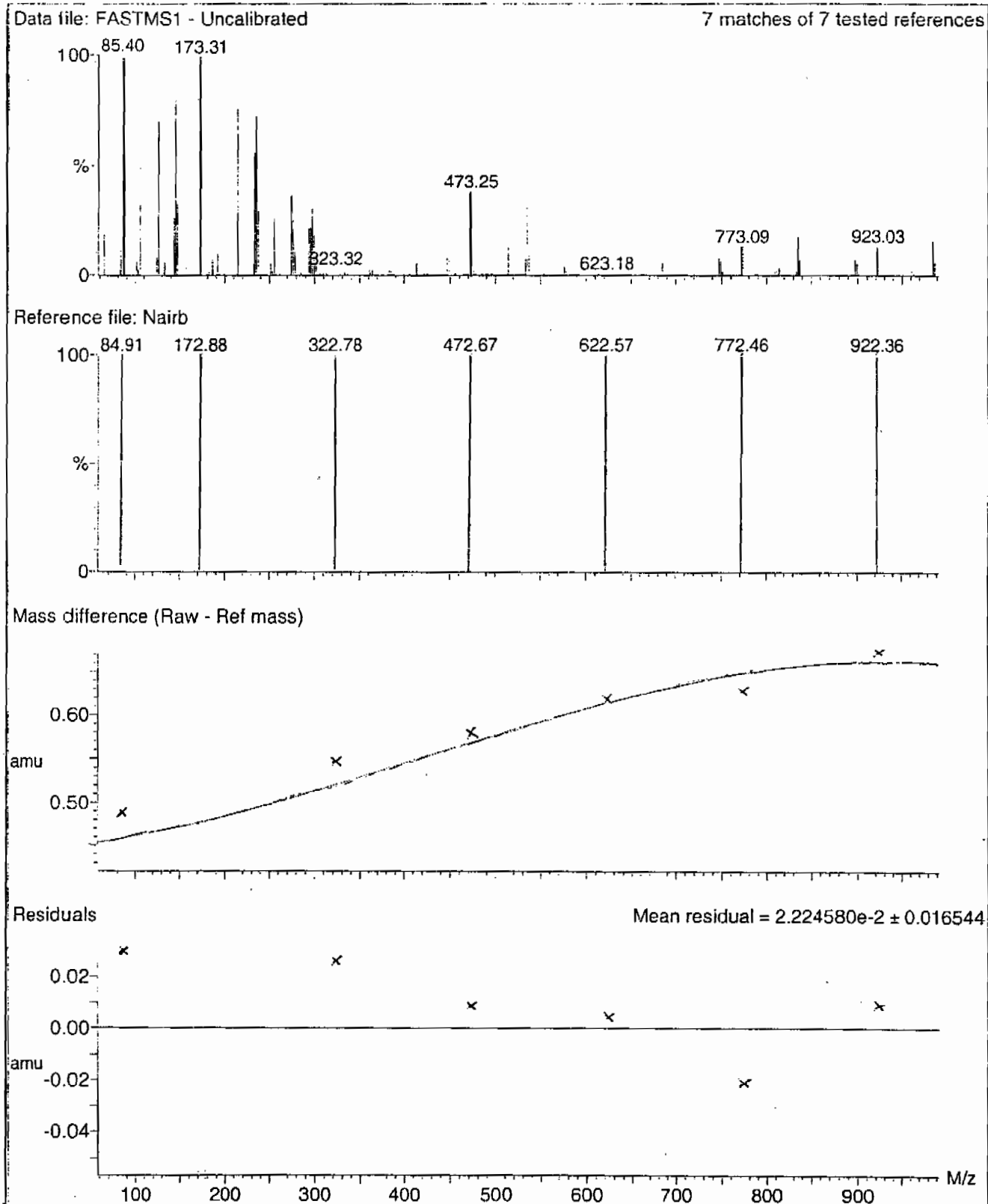
Mean residual = $2.732691 \times 10^{-2} \pm 0.020653$



Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

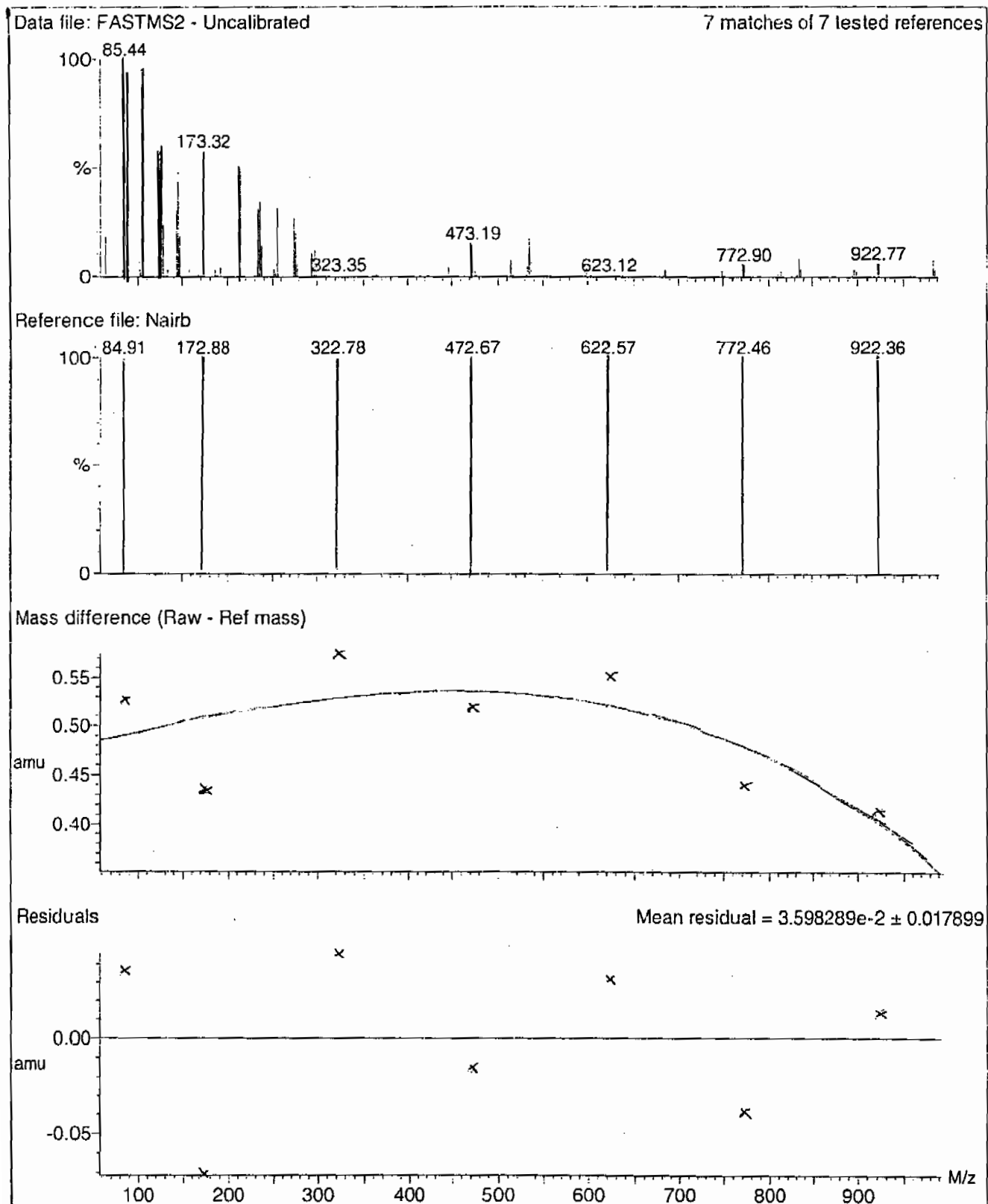
Printed: Tue Jan 08 12:21:04 2008



Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:23:51 2008



Calibration Report - MS2 Scanning

Page 1 of 1

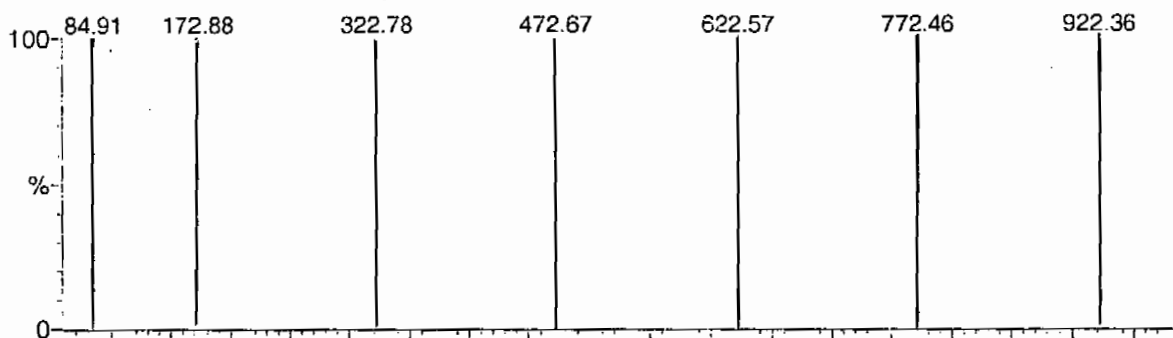
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

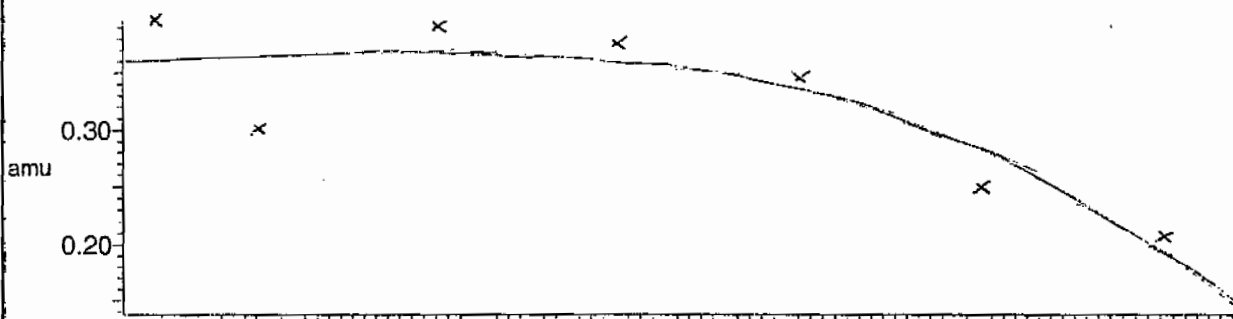
7 matches of 7 tested references



Reference file: Nairb

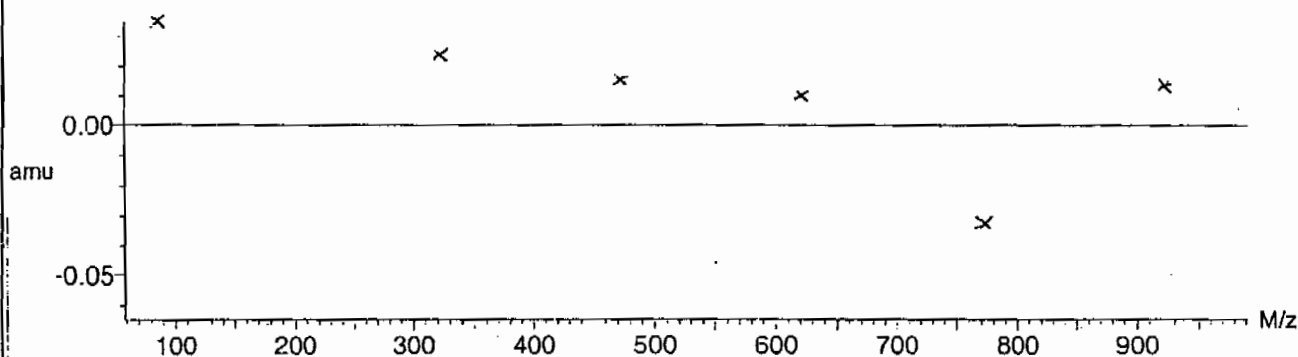


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $2.782494 \times 10^{-2} \pm 0.017442$



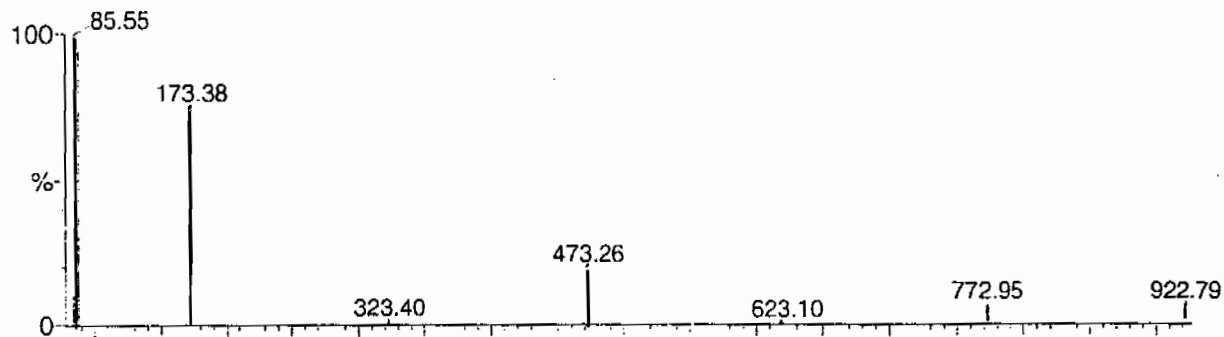
Calibration Report - MS2 Static

Page 1 of 1

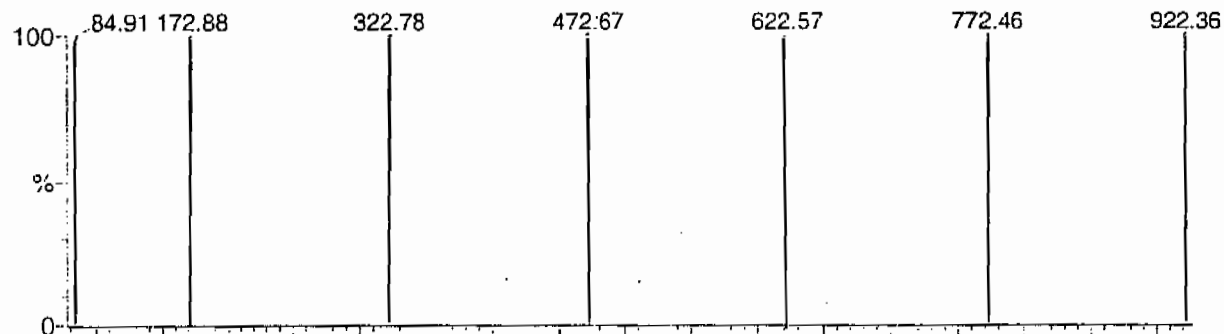
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

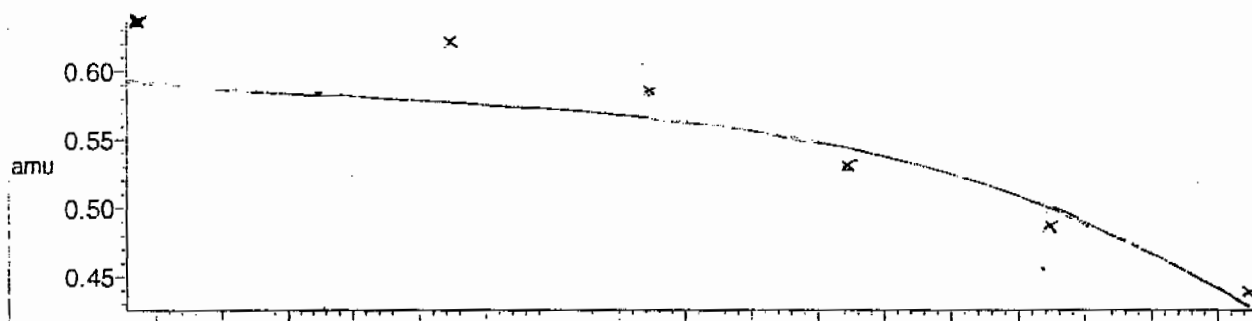
7 matches of 7 tested references



Reference file: Nairb

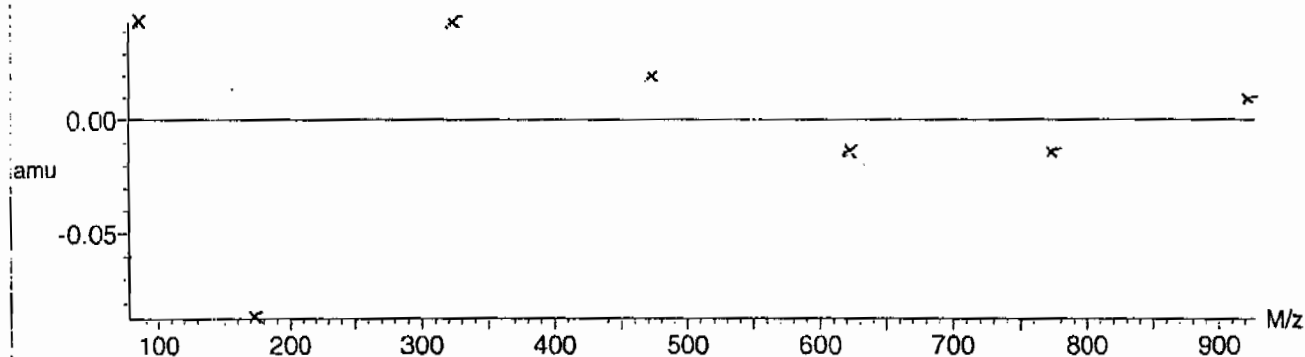


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $3.295980 \times 10^{-2} \pm 0.025603$



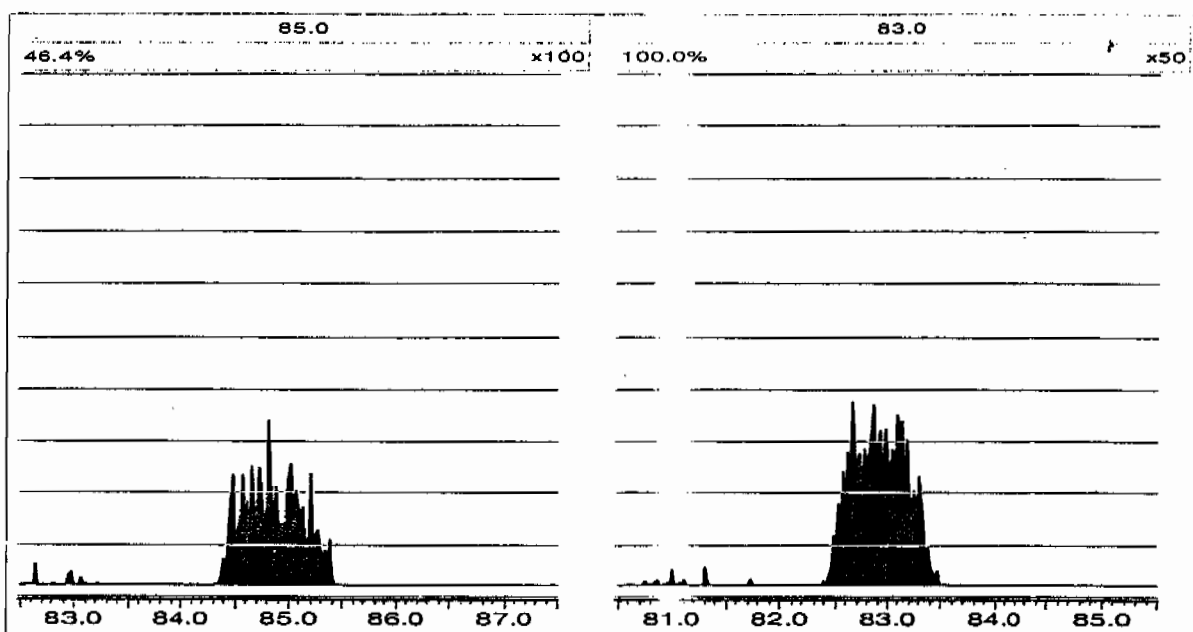
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

File: C:\MassLynx\Perchlorate.PRO\ACQUDB\Perchlorate.IPR

Printed: Wednesday, January 20, 2010 12:39:34 Eastern Standard Time



Perchlorate RT And Area Summary

PROPRIETARY INFORMATION - No unauthorized reproduction without written permission from GEL.

Lab Name: General Engineering Laboratories
GEL Job No.(SDG): 10-1209

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	per0120006a	20-JAN-10	20191.9				
Lower Area Limit			10095.95				
Upper Area Limit			40383.8				
1202017247	per0120055a	20-JAN-10 21:49	20311.2	2.64	2.63807	.999	
1202017248	per0120056a	20-JAN-10 21:57	20763.5	2.63	2.63822	1.003	
1202017251	per0120057a	20-JAN-10 22:05	20044.7	2.43	2.43933	1.004	
244597001	per0120083a	21-JAN-10 01:35	19347.7	2.45	2.4766	1.011	

SAMPLE DATA

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 942310

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE12-10-7722

Date Received: 13-JAN-10

GEL Job No (SDG): 10-1209

GEL Sample ID: 244597001

Date Filtered: 20-JAN-10

Injection Volume (uL): 20

%Solids: 88

CAS No.	Analyte ^a	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate Isotope Ratio						1	21-JAN-10 01:35	per0120083a
14797-73-0	Perchlorate-101	.571	2.29	0.571	ug/kg	U	1	21-JAN-10 01:35	per0120083a
	Perchlorate-O(18)			5.49	ug/kg		1	21-JAN-10 01:35	per0120083a

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

*Concentration =

Instrument Value X Concentrated Extract Volume X 1
Aliquot %Solids

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charters W. Wilson

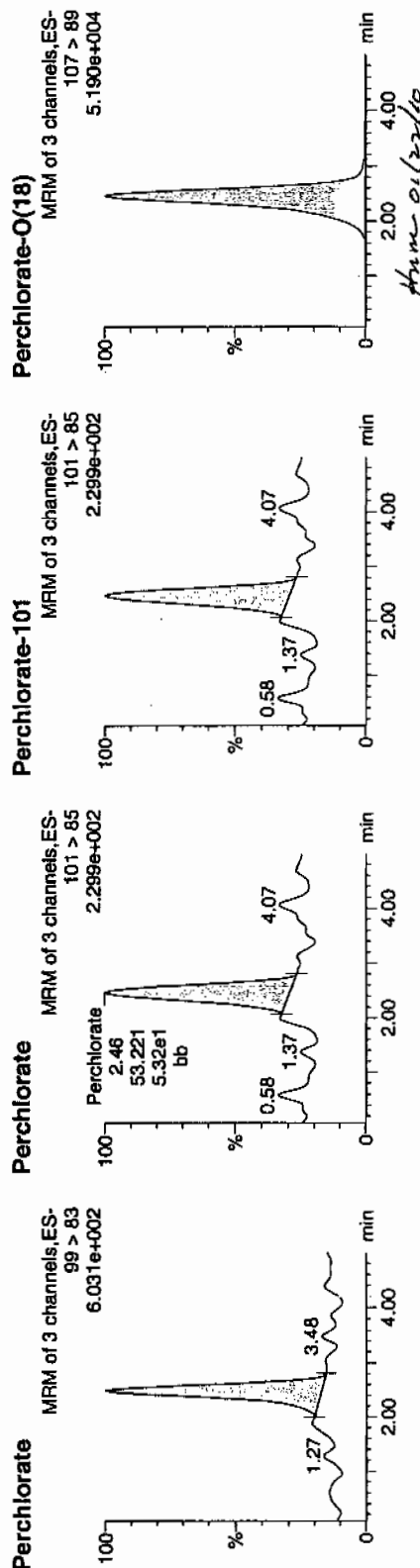
Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120083a
Date: 21-Jan-2010
Time: 01:35:02
ID: 244597001
Vial: 2:4,E

01-24-10

164221212 | 5025 | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
244597001	Perchlorate	99 > 83	2.48	140.790	140.790	bb			0.0030			24.670	2.65
244597001	Perchlorate-101	101 > 85	2.46	53.221	53.221	bb			0.0035			30.606	
244597001	Perchlorate-O(18)	107 > 89	2.45	19347.729	19347.729	bb			0.4805	96.10	-3.90	4488.1...	

STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1209

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 20-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parname Perchlorate

Coefficient of Determination:

Calibration Curve: 47107.98

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1209

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 20-JAN-10

HPLC Column: Phenomenex Ion Pac AG-16 2 X 50 mm

Calibration Level	1	2	3	4	5
Cal Concentration (ug/L)	0.05	0.1	0.25	0.50	1.0

Parname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 15355.26

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\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per012010a.mdb 20 Jan 2010 15:44:00
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per012010a.cdb 21 Jan 2010 07:27:15

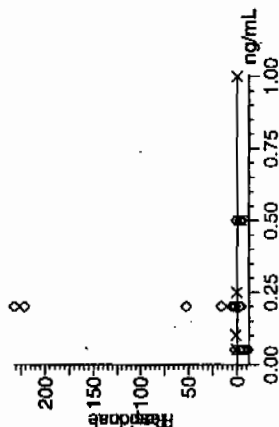
Compound name: Perchlorate

Response Factor: 47108

RRF SD: 449.7, % Relative SD: 0.954615

Response type: External Std, Area

Curve type: RF



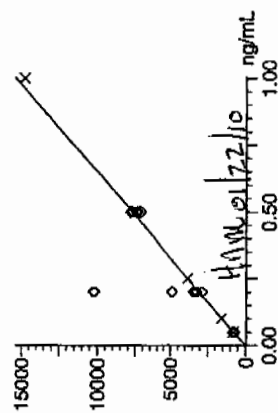
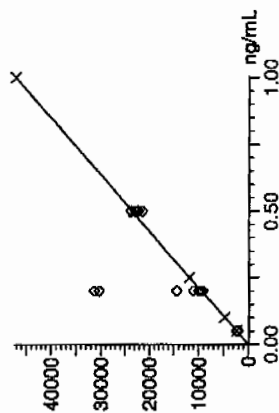
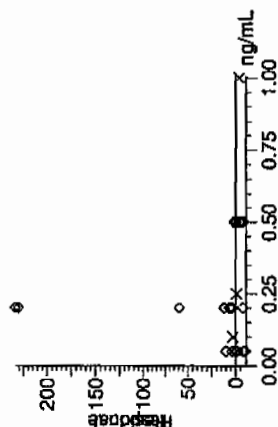
Compound name: Perchlorate-101

Response Factor: 15355.3

RRF SD: 507.293, % Relative SD: 3.30371

Response type: External Std, Area

Curve type: RF



Cur
01-21-10

Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

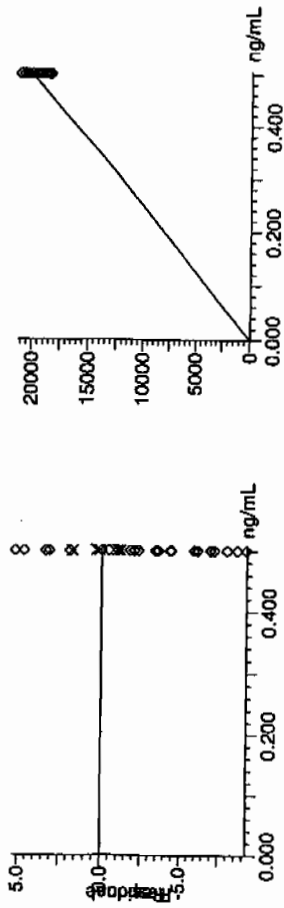
Page 2 of 2

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Compound name: Perchlorate-O(18)
Response Factor: 40265.8
RRF SD: 468.466, % Relative SD: 1.16343
Response type: External Std, Area
Curve type: RF

1180



Form 3

Perchlorate Initial Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1209

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.51	101.03	20-JAN-10 15:39	per0120009a
Perchlorate Isotope Ratio		3.08		20-JAN-10 15:39	per0120009a
Perchlorate-101	.5	.5	100.53	20-JAN-10 15:39	per0120009a

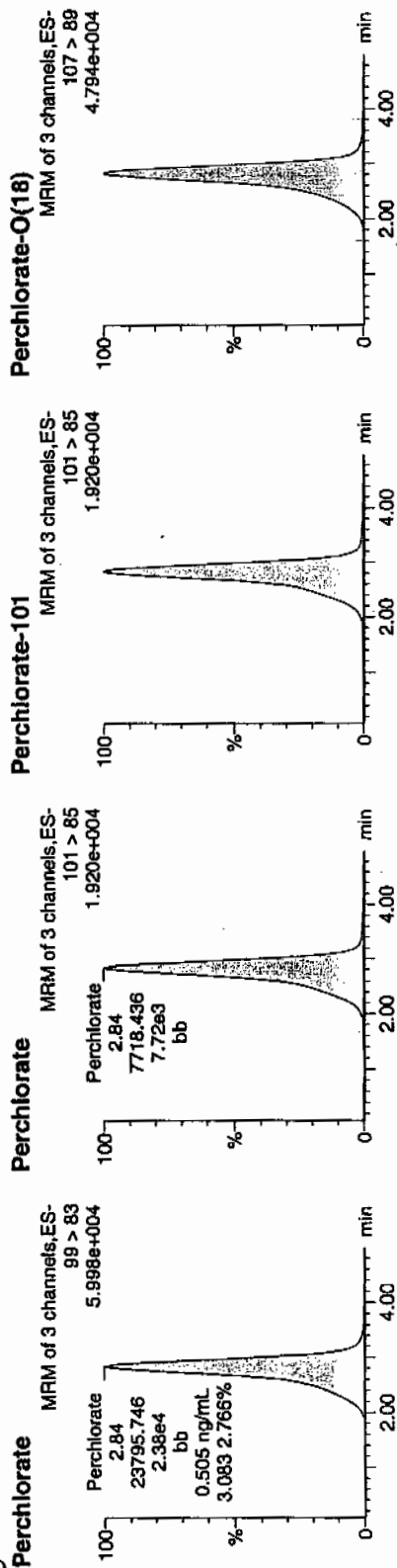
Quantify Sample Report MassLynx 4.0 SP4 The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Sample Name: per0120009a
Date: 20-Jan-2010
Time: 15:39:01
ID: WCL100118-061CV
Vial: 1:2,A

Pues
Ous
01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-061CV	Perchlorate	99 > 83	2.84	23795.746	23795.746	bb			0.5051	101.03	1.03	1346.6...	3.08
WCL100118-061CV	Perchlorate-101	101 > 85	2.84	7718.436	7718.436	bb			0.5027	100.53	0.53	2043.8...	
WCL100118-061CV	Perchlorate-O(18)	107 > 89	2.82	19435.041	19435.041	bb			0.4827	96.53	-3.47	2336.9...	

Form 3

Perchlorate Continuing Calibration Verification

GEL Job No.(SDG): 10-1209

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.48	95.73	20-JAN-10 17:23	per0120022a
Perchlorate Isotope Ratio		3.06		20-JAN-10 17:23	per0120022a
Perchlorate-101	.5	.48	95.89	20-JAN-10 17:23	per0120022a
Perchlorate	.5	.48	95.1	20-JAN-10 19:08	per0120035a
Perchlorate Isotope Ratio		3.08		20-JAN-10 19:08	per0120035a
Perchlorate-101	.5	.47	94.68	20-JAN-10 19:08	per0120035a
Perchlorate	.5	.5	100.4	20-JAN-10 20:52	per0120048a
Perchlorate Isotope Ratio		3.03		20-JAN-10 20:52	per0120048a
Perchlorate-101	.5	.51	101.63	20-JAN-10 20:52	per0120048a
Perchlorate	.5	.46	91.01	20-JAN-10 22:37	per0120061a
Perchlorate Isotope Ratio		3.03		20-JAN-10 22:37	per0120061a
Perchlorate-101	.5	.46	92.21	20-JAN-10 22:37	per0120061a
Perchlorate	.5	.49	97.36	21-JAN-10 00:14	per0120073a

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1209

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate Isotope Ratio		3		21-JAN-10 00:14	per0120073a
Perchlorate-101	.5	.5	99.51	21-JAN-10 00:14	per0120073a
Perchlorate	.5	.47	94.06	21-JAN-10 01:43	per0120084a
Perchlorate Isotope Ratio		2.98		21-JAN-10 01:43	per0120084a
Perchlorate-101	.5	.48	96.75	21-JAN-10 01:43	per0120084a

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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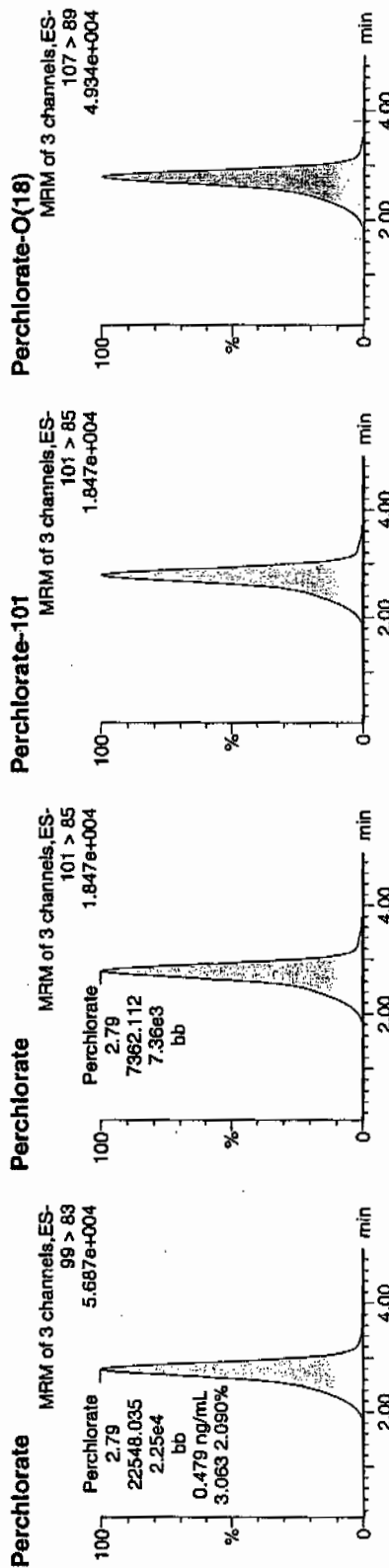
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Time: 17:23:34

ID: WCL100118-06CCV

Vial: 1:2,A

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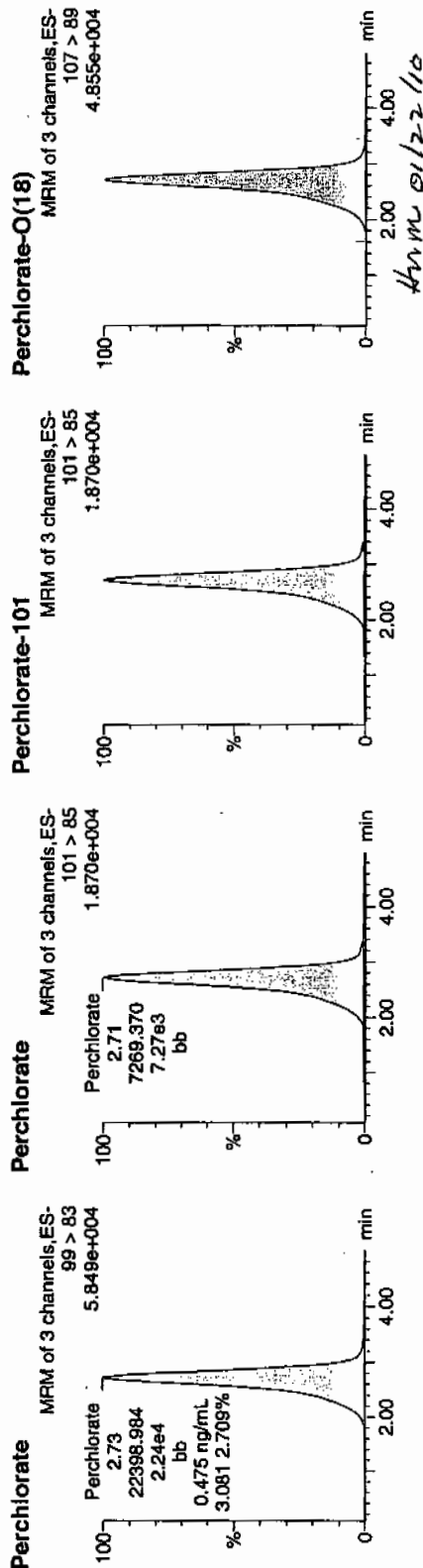
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Page 180
Name: per0120035a
Date: 20-Jan-2010
Time: 19:08:10
ID: WCL100118-06CCV
Vial: 1:2,A

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and
01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.73	22398.984	22398.984	bb			0.4755	95.10	-4.90	2949.8...	3.08
WCL100118-06CCV	Perchlorate-101	101 > 85	2.71	7269.370	7269.370	bb			0.4734	94.68	-5.32	905.671	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.70	18740.016	18740.016	bb			0.4654	93.08	-6.92	2440.8...	

Quantify Sample Report MassLynx 4.0 SP4

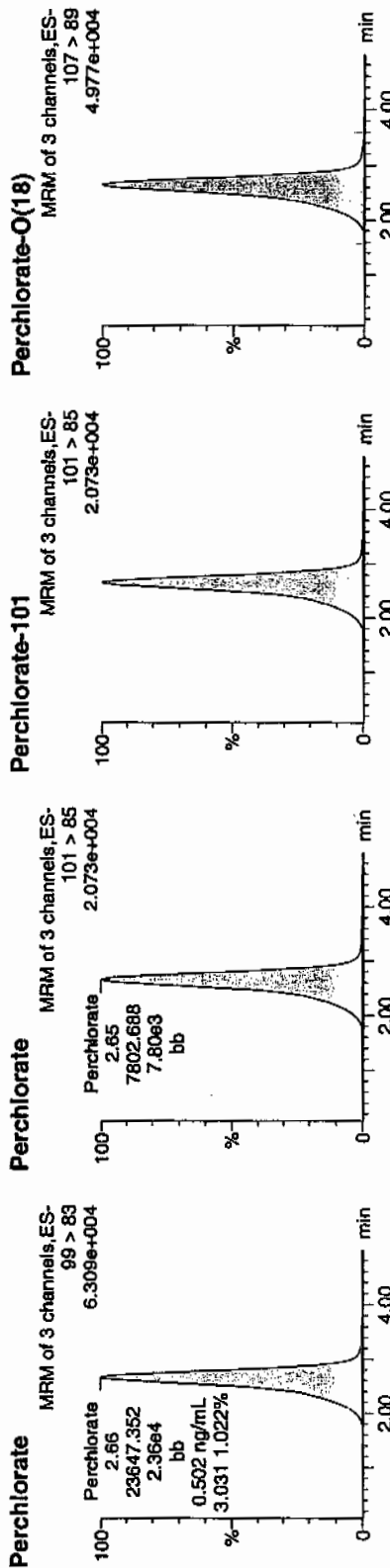
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qtd

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Name: per0120048a
 Date: 20-Jan-2010
 Time: 20:52:52
 ID: WCL100118-06CCV
 Vial: 1:2,A

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 01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.66	23647.352	23647.352	bb			0.5020	100.40	0.40	6920.4...	3.03
WCL100118-06CCV	Perchlorate-101	101 > 85	2.85	7802.688	7802.688	bb			0.5081	101.63	1.63	952.150	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.85	19409.467	19409.467	bb			0.4820	96.41	-3.59	475.335	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charters W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qid

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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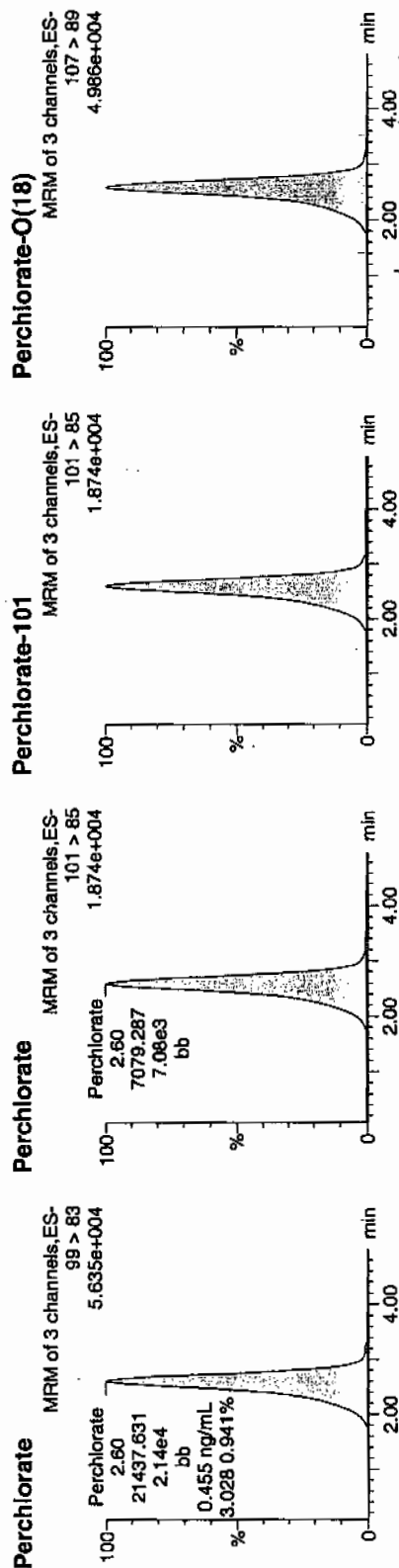
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ID: WCL100118-06CCV

Vial: 1:2,A

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WCL
01-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.60	21437.631	21437.631	bb			0.4551	91.01	-8.99	3844.5...	3.03
WCL100118-06CCV	Perchlorate-101	101 > 85	2.60	7079.287	7079.287	bb			0.4610	92.21	-7.79	1455.5...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.59	18528.201	18528.201	bb			0.4601	92.03	-7.97	2179.7...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
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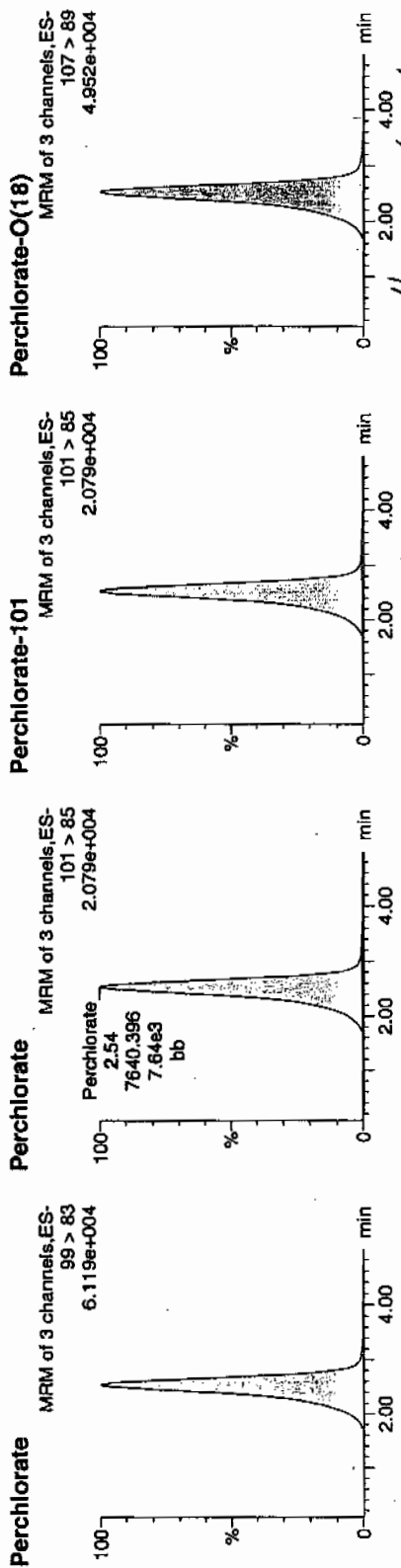
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ID: WCL100118-06CCV

Vial: 1:2,A

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ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Day	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.54	22931.795	22931.795	bb			0.4868	97.36	-2.64	9600.3...	3.00
WCL100118-06CCV	Perchlorate-101	101 > 85	2.54	7640.396	7640.396	bb			0.4976	99.51	-0.49	3795.2...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.53	18948.953	18948.953	bb			0.4706	94.12	-5.88	4168.8...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charfers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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Date: 21-Jan-2010

Time: 01:43:03

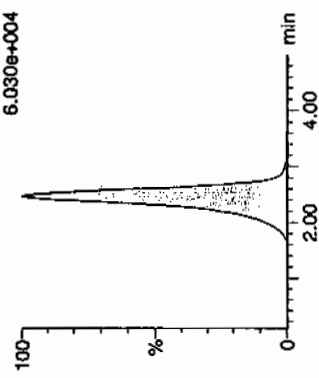
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Vial: 1:2,A

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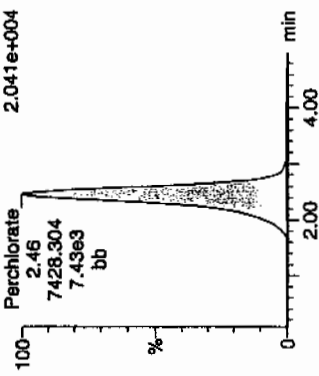
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MRM of 3 channels, ES-
99 > 83
6.030e+004



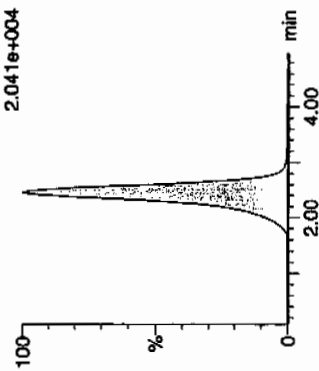
Perchlorate

MRM of 3 channels, ES-
101 > 85
2.041e+004



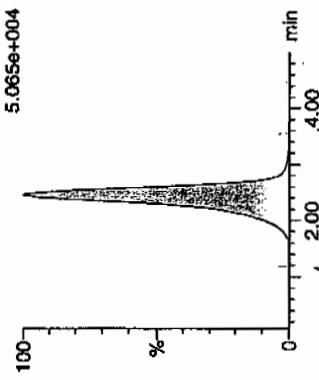
Perchlorate-101

MRM of 3 channels, ES-
101 > 85
2.041e+004



Perchlorate-O(18)

MRM of 3 channels, ES-
107 > 89
5.065e+004



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/ml	%Rec	%Dev	SN	Ion Ratio
WCL100118-06CCV	Perchlorate	99 > 83	2.46	22155.037	22155.037	bb			0.4703	94.06	-5.94	6301.2...	2.98
WCL100118-06CCV	Perchlorate-101	101 > 85	2.46	7428.304	7428.304	bb			0.4838	96.75	-3.25	4029.6...	
WCL100118-06CCV	Perchlorate-O(18)	107 > 89	2.46	18685.893	18685.893	bb			0.4641	92.81	-7.19	2802.1...	

Perchlorate MDL Verification

GEL Job No.(SDG): 10-1209

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	101.99	20-JAN-10 15:55	per0120011a
Perchlorate Isotope Ratio		2.84		20-JAN-10 15:55	per0120011a
Perchlorate-101	.05	.06	110.26	20-JAN-10 15:55	per0120011a
Perchlorate	.05	.05	96.1	20-JAN-10 17:39	per0120024a
Perchlorate Isotope Ratio		3.27		20-JAN-10 17:39	per0120024a
Perchlorate-101	.05	.05	90.03	20-JAN-10 17:39	per0120024a
Perchlorate	.05	.05	97.72	20-JAN-10 19:24	per0120037a
Perchlorate Isotope Ratio		2.9		20-JAN-10 19:24	per0120037a
Perchlorate-101	.05	.05	103.45	20-JAN-10 19:24	per0120037a
Perchlorate	.05	.05	94	20-JAN-10 21:08	per0120050a
Perchlorate Isotope Ratio		2.93		20-JAN-10 21:08	per0120050a

Perchlorate MDL Verification

GEL Job No.(SDG): 10-1209

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate-101	.05	.05	98.56	20-JAN-10 21:08	per0120050a
Perchlorate	.05	.04	88.36	20-JAN-10 22:53	per0120063a
Perchlorate Isotope Ratio		2.93		20-JAN-10 22:53	per0120063a
Perchlorate-101	.05	.05	92.46	20-JAN-10 22:53	per0120063a
Perchlorate	.05	.05	102	21-JAN-10 00:30	per0120075a
Perchlorate Isotope Ratio		3.19		21-JAN-10 00:30	per0120075a
Perchlorate-101	.05	.05	98.18	21-JAN-10 00:30	per0120075a
Perchlorate	.05	.05	91.75	21-JAN-10 01:59	per0120086a
Perchlorate Isotope Ratio		2.81		21-JAN-10 01:59	per0120086a
Perchlorate-101	.05	.05	100.16	21-JAN-10 01:59	per0120086a

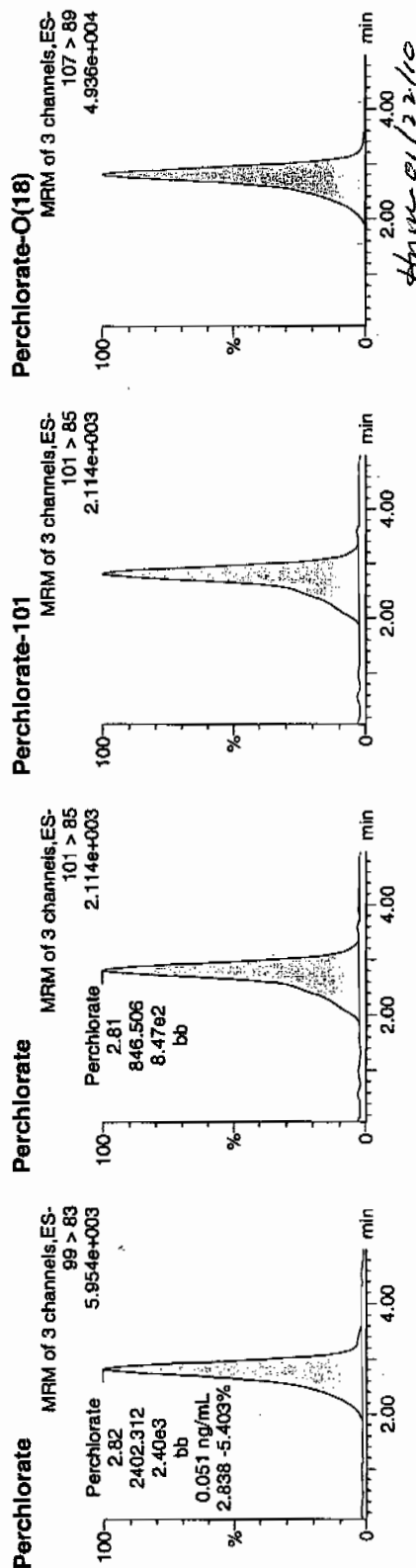
Quantify Sample Report MassLynx 4.0 SP4 The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120011a
Date: 20-Jan-2010
Time: 15:55:07
ID: WCL100118-07CRI
Vial: 1;2,B

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ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.82	2402.312	2402.312	bb			0.0510	101.99	1.99	300.932	2.84
WCL100118-07CRI	Perchlorate-101	101 > 85	2.81	846.506	846.506	bb			0.0551	110.26	10.26	139.479	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.81	19773.357	19773.357	bb			0.4911	98.21	-1.79	2741.9...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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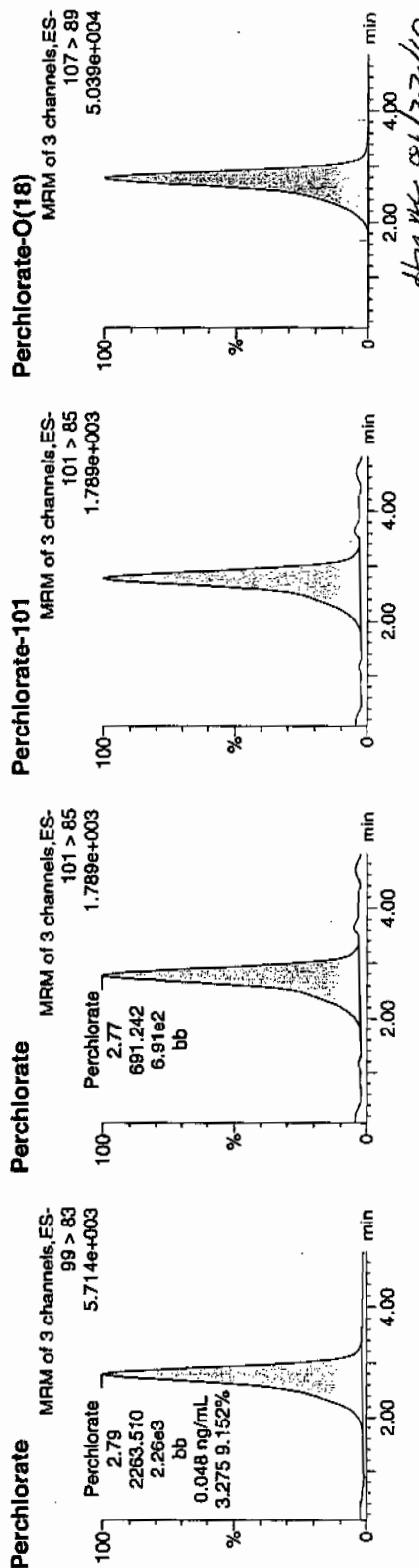
Date: 20-Jan-2010

Time: 17:39:39

ID: WCL100118-07CRI

Vial: 1:2,B

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ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.79	2263.510	2263.510	bb			0.0480	96.10	-3.90	150.027	3.27
WCL100118-07CRI	Perchlorate-101	101 > 85	2.77	691.242	691.242	bb			0.0450	90.03	-9.97	111.377	
WCL100118-07CRI	Perchlorate-Q(18)	107 > 89	2.77	19458.973	19458.973	bb			0.4833	96.65	-3.35	4555.4...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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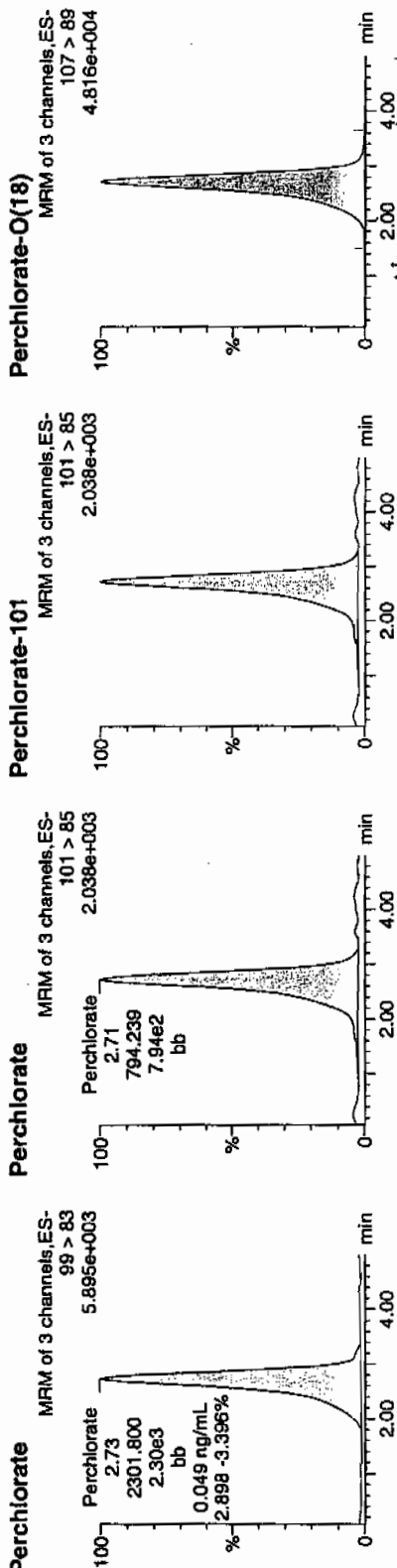
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ID: WCL100118-07CRI

Vial: 1:2,B

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ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.73	2301.800	2301.800	bb			0.0489	97.72	-2.28	892.610	2.90
WCL100118-07CRI	Perchlorate-101	101 > 85	2.71	794.239	794.239	bb			0.0517	103.45	3.45	95.490	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.71	18730.771	18730.771	bb			0.4652	93.04	-6.96	2728.7...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Date: 20-Jan-2010

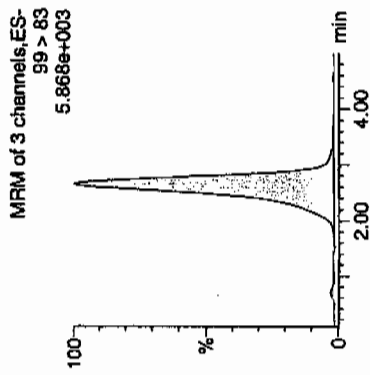
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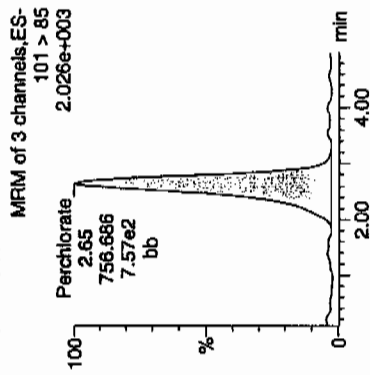
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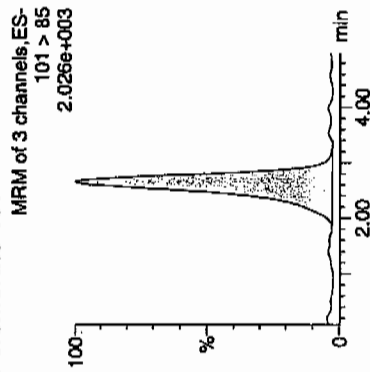
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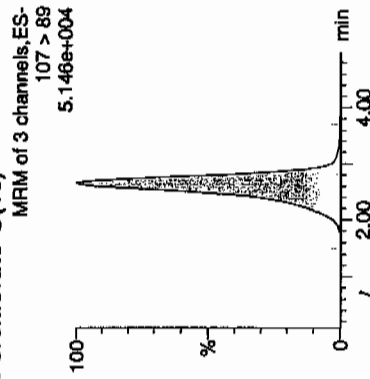
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.65	2214.129	2214.129	bb			0.0470	94.00	-6.00	354.547	2.93
WCL100118-07CRI	Perchlorate-101	101 > 85	2.65	756.686	756.686	bb			0.0493	98.56	-1.44	234.654	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.65	19715.338	19715.338	bb			0.4896	97.93	-2.07	1567.4...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

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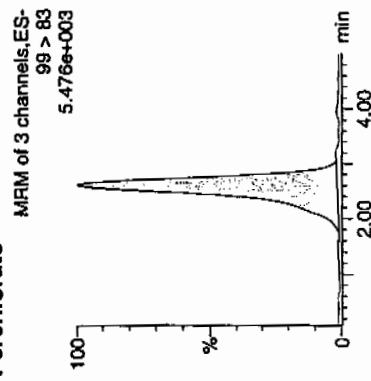
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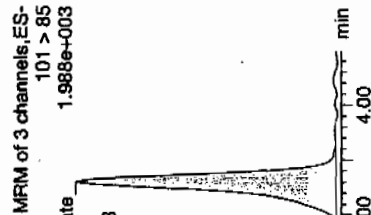
ID: WCL100118-07CRI

Vial: 1:2,B

Perchlorate



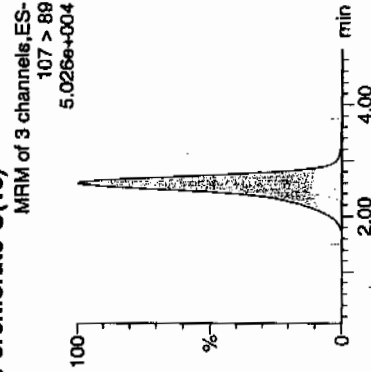
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.61	2081.118	2081.118	bb			0.0442	88.36	-11.64	99.945	2.93
WCL100118-07CRI	Perchlorate-101	101 > 85	2.61	709.843	709.843	bb			0.0462	92.46	-7.54	77.684	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.59	18903.783	18903.783	bb			0.4695	93.90	-6.10	397.926	

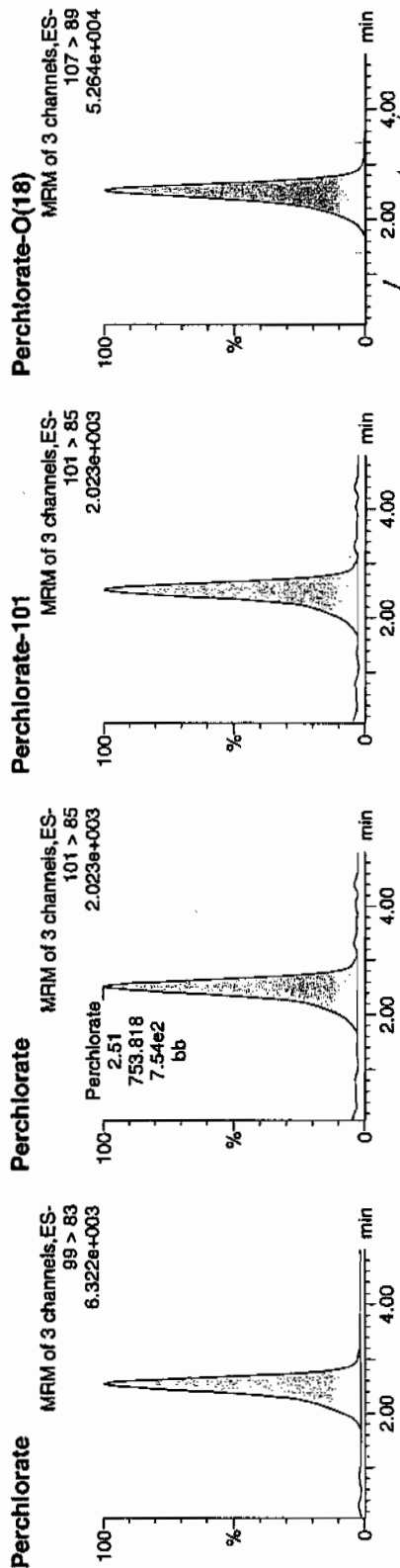
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120075a
Date: 21-Jan-2010
Time: 00:30:35
ID: WCL100118-07CRI
Vial: 1:2,B

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ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SS/N	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.54	2402.451	2402.451	bb			0.0510	102.00	2.00	384.894	3.19
WCL100118-07CRI	Perchlorate-101	101 > 85	2.51	753.818	753.818	bb			0.0491	98.18	-1.82	44.995	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.53	19729.752	19729.752	bb			0.4900	98.00	-2.00	4974.8...	

Quantify Sample Report MassLynx 4.0 SP4

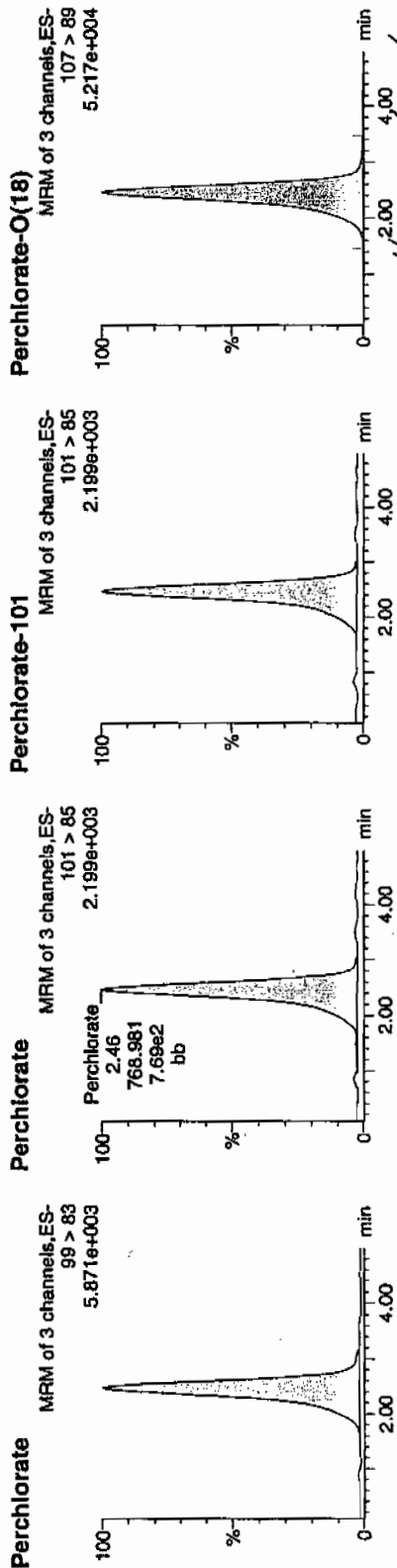
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

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 Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120086a
 Date: 21-Jan-2010
 Time: 01:59:22
 ID: WCL100118-07CRI
 Vial: 1:2,B

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ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
WCL100118-07CRI	Perchlorate	99 > 83	2.46	2161.101	2161.101	bb			0.0459	91.75	-8.25	141.371	2.81
WCL100118-07CRI	Perchlorate-101	101 > 85	2.46	768.981	768.981	bb			0.0501	100.16	0.16	534.663	
WCL100118-07CRI	Perchlorate-O(18)	107 > 89	2.45	19268.398	19268.398	bb			0.4785	95.71	-4.29	1088.2...	

QUALITY CONTROL

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 942310

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

MB

Date Received: 20-JAN-10

GEL Job No (SDG): 10-1209

GEL Sample ID: 1202017247

Date Filtered: 20-JAN-10

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	0.500	ug/kg	U	1	20-JAN-10 21:49	per0120055a
	Perchlorate Isotope Ratio						1	20-JAN-10 21:49	per0120055a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	20-JAN-10 21:49	per0120055a
	Perchlorate-O(18)			5.04	ug/kg		1	20-JAN-10 21:49	per0120055a

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

*Concentration =

Instrument Value X Concentrated Extract Volume X 1
Aliquot %Solids

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

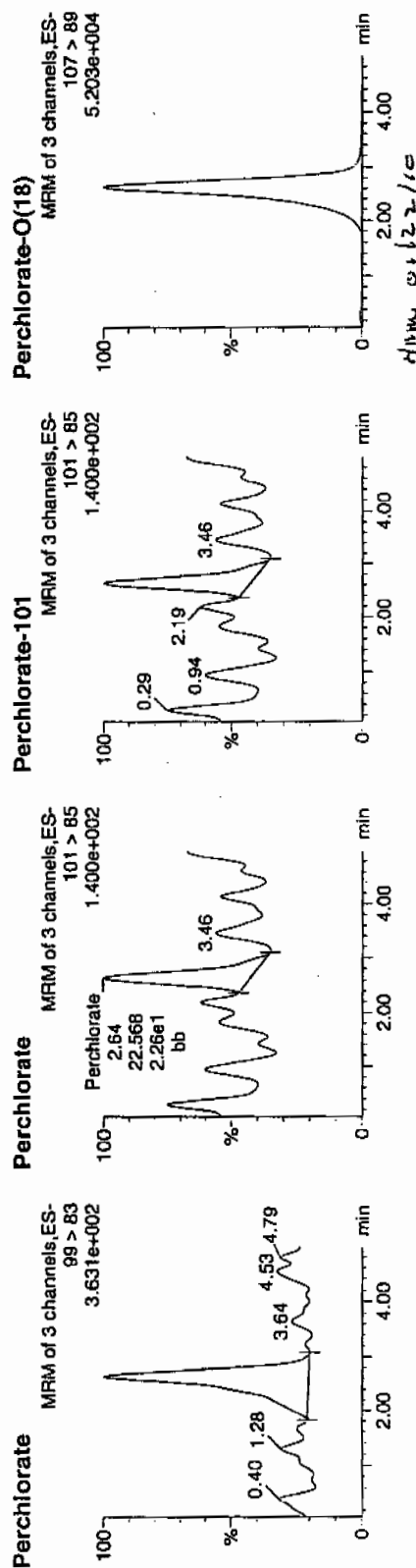
Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120055a
Date: 20-Jan-2010
Time: 21:49:10
ID: 1202017247
Vial: 2:1.A

01-21-10

LANC 942312 / 5070 / 11



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
1202017247	Perchlorate	99 > 83	2.64	112.580	112.580	bb			0.0024			41.010	4.99
1202017247	Perchlorate-101	101 > 85	2.64	22.568	22.568	bb			0.0015			7.710	
1202017247	Perchlorate-O(18)	107 > 89	2.64	20311.209	20311.209	bb			0.5044	100.89	0.99	3775.3...	

OKAY
20.0500

Form 1

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: EPA 6850 Modified

Matrix: SOIL

Extraction Batch ID: 942310

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

LCS

Date Received: 20-JAN-10

GEL Job No (SDG): 10-1209

GEL Sample ID: 1202017248

Date Filtered: 20-JAN-10

Injection Volume (uL): 20

%Solids: 100

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.5	2	2.08	ug/kg		1	20-JAN-10 21:57	per0120056a
	Perchlorate Isotope Ratio			2.85			1	20-JAN-10 21:57	per0120056a
14797-73-0	Perchlorate-101	.5	2	2.23	ug/kg		1	20-JAN-10 21:57	per0120056a
	Perchlorate-O(18)			5.16	ug/kg		1	20-JAN-10 21:57	per0120056a

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

*Concentration =

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

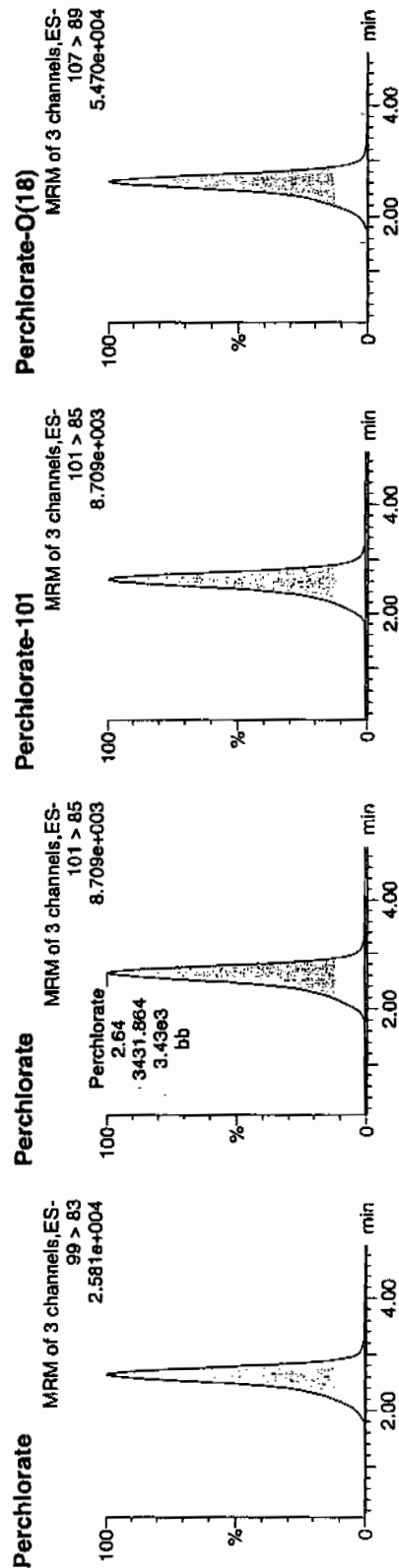
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120056a
Date: 20-Jan-2010
Time: 21:57:22
ID: 1202017248
Vial: 2:1.B

LANC 1942312 | 5020 | 45 | 11
09-21-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
1202017248	Perchlorate	99 > 83	2.64	9787.646	9787.646	bb			0.2078	103.89	3.89	444.786	2.85
1202017248	Perchlorate-101	101 > 85	2.64	3431.864	3431.864	bb			0.2235	111.75	11.75	952.717	
1202017248	Perchlorate-O(18)	107 > 89	2.63	20763.516	20763.516	bb			0.5157	103.13	3.13	3838.4...	

$$\frac{9787.646}{47108} = 0.2078$$

Handwritten: 01/22/10

MISCELLANEOUS DATA

Prep Logbook

Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)

Batch ID: 942310 Verified by: _____
 Analyst: Jareth Shirley Lab SOP: GL-OA-E-067 REV# 6
 Method: SW846 6850 Modified Instrument: MicroMass Quatro Ultima

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)
1202017247 MB	20-JAN-2010 12:11:27	2	20	10
1202017248 LCS	20-JAN-2010 12:11:27	2	20	10
244416001	20-JAN-2010 12:11:27	2	20	10
244416002	20-JAN-2010 12:11:27	2	20	10
244416003	20-JAN-2010 12:11:27	2	20	10
244416004	20-JAN-2010 12:11:27	2	20	10
244416005	20-JAN-2010 12:11:27	2	20	10
244416006	20-JAN-2010 12:11:27	2	20	10
244421001	20-JAN-2010 12:11:27	2	20	10
244421002	20-JAN-2010 12:11:27	2	20	10
244421003	20-JAN-2010 12:11:27	2	20	10
244421004	20-JAN-2010 12:11:27	2	20	10
244421005	20-JAN-2010 12:11:27	2	20	10
244519001	20-JAN-2010 12:11:27	2	20	10
244519002	20-JAN-2010 12:11:27	2	20	10
1202017249 MS (244519002)	20-JAN-2010 12:11:27	2	20	10
1202017250 MSD (244519002)	20-JAN-2010 12:11:27	2	20	10
244519003	20-JAN-2010 12:11:27	2	20	10
244519004	20-JAN-2010 12:11:27	2	20	10
244519005	20-JAN-2010 12:11:27	2	20	10
244519006	20-JAN-2010 12:11:27	2	20	10
244597001	20-JAN-2010 12:11:27	2	20	10
1202017251 ICS	20-JAN-2010 12:11:27	2	20	10

Comments:

Desalting cartridges used: B101/0211609 & B1000311609

Type	Sample ID	Description	Serial Number	Spike Amt	Units
ICS	1202017251	10 ug/L ICS/CCV Second Source	UCL091230-01.1	.4	mL
LCS	1202017248	10 ug/L LCS/CCV Second Source	UCL091230-01.1	.4	mL
MS	1202017249	10 ug/L MS/CCV Second Source	UCL091230-01.1	.4	mL
MSD	1202017250	10 ug/L MSD/CCV Second Source	UCL091230-01.1	.4	mL

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 01/20/10
 Extr. Injection Volume: 20uL
 Sequence Number: per012010a
 Initial Calibration Date: 01/20/10

Method: EPA 6850-Modified
 Int. Std.: UCL091019-03.2
 Mobile Phase Lot#: 1254342, 1246195
 Standard-Samp Reagent Lot#: 1233976

Reviewed BY: *Amu*
 Date: *01/22/10*
 SOP: GL-OA-E-067 Rev.6
 Alt Check Std. ID: WCL100118-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0120001a	IPB001	CWW	1/20/2010 14:34			1		USE	B
per0120002a	IPB001	CWW	1/20/2010 14:42			1		USE	B
per0120003a	WCLICAL-01	CWW	1/20/2010 14:50			1		USE	I
per0120004a	WCLICAL-02	CWW	1/20/2010 14:58			1		USE	I
per0120005a	WCLICAL-03	CWW	1/20/2010 15:06			1		USE	I
per0120006a	WCLICAL-04	CWW	1/20/2010 15:14			1		USE	I
per0120007a	WCLICAL-05	CWW	1/20/2010 15:23			1		USE	I
per0120008a	IPB002	CWW	1/20/2010 15:31			1		USE	B
per0120009a	WCLICV	CWW	1/20/2010 15:39			1		USE	C
per0120010a	IPB003	CWW	1/20/2010 15:47			1		USE	B
per0120011a	WCLCRI	CWW	1/20/2010 15:55			1		USE	C
per0120012a	1202017417	CWW	1/20/2010 16:03	942411	VARIOUS	1	LANL	DUSE-RE	S
per0120013a	1202017408	CWW	1/20/2010 16:11	942408	VARIOUS	1	LANL	DUSE-RE	S
per0120014a	244510002	CWW	1/20/2010 16:19	942408	10-1189	10	LANL	DUSE-RE	S
per0120015a	1202017409	CWW	1/20/2010 16:27	942408	10-1189	10	LANL	DUSE-RE	S
per0120016a	1202017410	CWW	1/20/2010 16:35	942408	10-1189	10	LANL	DUSE-RE	S
per0120017a	244510004	CWW	1/20/2010 16:43	942408	10-1189	1	LANL	DUSE-RE	S
per0120018a	244521004	CWW	1/20/2010 16:51	942408	10-1193	5	LANL	DUSE-RE	S
per0120019a	244525002	CWW	1/20/2010 16:59	942408	10-1185	5	LANL	DUSE-RE	S
per0120020a	244525004	CWW	1/20/2010 17:07	942408	10-1185	10	LANL	DUSE-RE	S
per0120021a	244844002	CWW	1/20/2010 17:15	942408	10-1252	1	LANL	DUSE-RE	S
per0120022a	WCLCCV	CWW	1/20/2010 17:23			1		USE	C
per0120023a	IPB004	CWW	1/20/2010 17:31			1		USE	B
per0120024a	WCLCRI	CWW	1/20/2010 17:39			1		USE	C
per0120025a	1202011821	CWW	1/20/2010 17:47	940141	10-1128	1	LANL	USE	S
per0120026a	1202011822	CWW	1/20/2010 17:55	940141	10-1128	1	LANL	USE	S
per0120027a	1202011825	CWW	1/20/2010 18:03	940141	10-1128	1	LANL	USE	S
per0120028a	244144001	CWW	1/20/2010 18:11	940141	10-1128	1	LANL	USE	S
per0120029a	1202011823	CWW	1/20/2010 18:19	940141	10-1128	1	LANL	USE	S

per0120030a	1202011824	CWW	1/20/2010 18:27	940141	10-1128	1	LANL	USE	S
per0120031a	244144002	CWW	1/20/2010 18:35	940141	10-1128	1	LANL	USE	S
per0120032a	244144003	CWW	1/20/2010 18:44	940141	10-1128	1	LANL	USE	S
per0120033a	244144004	CWW	1/20/2010 18:52	940141	10-1128	1	LANL	USE	S
per0120034a	244144005	CWW	1/20/2010 19:00	940141	10-1128	1	LANL	USE	S
per0120035a	WCLCCV	CWW	1/20/2010 19:08			1		USE	C
per0120036a	IPB005	CWW	1/20/2010 19:16			1		USE	B
per0120037a	WCLCRI	CWW	1/20/2010 19:24			1		USE	C
per0120038a	244144006	CWW	1/20/2010 19:32	940141	10-1128	1	LANL	USE	S
per0120039a	244144007	CWW	1/20/2010 19:40	940141	10-1128	1	LANL	USE	S
per0120040a	244144008	CWW	1/20/2010 19:48	940141	10-1128	1	LANL	USE	S
per0120041a	244144009	CWW	1/20/2010 19:56	940141	10-1128	1	LANL	USE	S
per0120042a	244144010	CWW	1/20/2010 20:04	940141	10-1128	1	LANL	USE	S
per0120043a	244144011	CWW	1/20/2010 20:12	940141	10-1128	1	LANL	USE	S
per0120044a	244144012	CWW	1/20/2010 20:20	940141	10-1128	1	LANL	USE	S
per0120045a	244144013	CWW	1/20/2010 20:28	940141	10-1128	1	LANL	USE	S
per0120046a	244144014	CWW	1/20/2010 20:36	940141	10-1128	1	LANL	USE	S
per0120047a	244144015	CWW	1/20/2010 20:44	940141	10-1128	1	LANL	USE	S
per0120048a	WCLCCV	CWW	1/20/2010 20:52			1		USE	C
per0120049a	IPB006	CWW	1/20/2010 21:00			1		USE	B
per0120050a	WCLCRI	CWW	1/20/2010 21:08			1		USE	C
per0120051a	244144016	CWW	1/20/2010 21:16	940141	10-1128	1	LANL	USE	S
per0120052a	244144017	CWW	1/20/2010 21:25	940141	10-1128	1	LANL	USE	S
per0120053a	244144018	CWW	1/20/2010 21:33	940141	10-1128	1	LANL	USE	S
per0120054a	IPB007	CWW	1/20/2010 21:41			1		USE	B
per0120055a	1202017247	CWW	1/20/2010 21:49	942312	VARIOUS	1	LANL	USE	S
per0120056a	1202017248	CWW	1/20/2010 21:57	942312	VARIOUS	1	LANL	USE	S
per0120057a	1202017251	CWW	1/20/2010 22:05	942312	VARIOUS	1	LANL	USE	S
per0120058a	244416001	CWW	1/20/2010 22:13	942312	10-1195	1	LANL	USE	S
per0120059a	244416002	CWW	1/20/2010 22:21	942312	10-1195	1	LANL	USE	S
per0120060a	244416003	CWW	1/20/2010 22:29	942312	10-1195	1	LANL	USE	S
per0120061a	WCLCCV	CWW	1/20/2010 22:37			1		USE	C
per0120062a	IPB008	CWW	1/20/2010 22:45			1		USE	B
per0120063a	WCLCRI	CWW	1/20/2010 22:53			1		USE	C
per0120064a	244416004	CWW	1/20/2010 23:01	942312	10-1195	1	LANL	USE	S
per0120065a	244416005	CWW	1/20/2010 23:10	942312	10-1195	1	LANL	USE	S
per0120066a	244416006	CWW	1/20/2010 23:18	942312	10-1195	1	LANL	USE	S

per0120067a	244421001	CWW	1/20/2010 23:26	942312	10-1203	1	LANL	USE	S
per0120068a	244421002	CWW	1/20/2010 23:34	942312	10-1203	1	LANL	USE	S
per0120069a	244421003	CWW	1/20/2010 23:42	942312	10-1203	1	LANL	USE	S
per0120070a	244421004	CWW	1/20/2010 23:50	942312	10-1203	1	LANL	USE	S
per0120071a	244421005	CWW	1/20/2010 23:58	942312	10-1203	1	LANL	USE	S
per0120072a	244519001	CWW	1/21/2010 0:06	942312	10-1183	1	LANL	USE	S
per0120073a	WCLCCV	CWW	1/21/2010 0:14			1		USE	C
per0120074a	IPB009	CWW	1/21/2010 0:22			1		USE	B
per0120075a	WCLCRI	CWW	1/21/2010 0:30			1		USE	C
per0120076a	244519002	CWW	1/21/2010 0:38	942312	10-1183	1	LANL	USE	S
per0120077a	1202017249	CWW	1/21/2010 0:46	942312	10-1183	1	LANL	USE	S
per0120078a	1202017250	CWW	1/21/2010 0:54	942312	10-1183	1	LANL	USE	S
per0120079a	244519003	CWW	1/21/2010 1:02	942312	10-1183	1	LANL	USE	S
per0120080a	244519004	CWW	1/21/2010 1:10	942312	10-1183	1	LANL	USE	S
per0120081a	244519005	CWW	1/21/2010 1:18	942312	10-1183	1	LANL	USE	S
per0120082a	244519006	CWW	1/21/2010 1:26	942312	10-1183	1	LANL	USE	S
per0120083a	244597001	CWW	1/21/2010 1:35	942312	10-1209	1	LANL	USE	S
per0120084a	WCLCCV	CWW	1/21/2010 1:43			1		USE	C
per0120085a	IPB010	CWW	1/21/2010 1:51			1		USE	B
per0120086a	WCLCRI	CWW	1/21/2010 1:59			1		USE	C

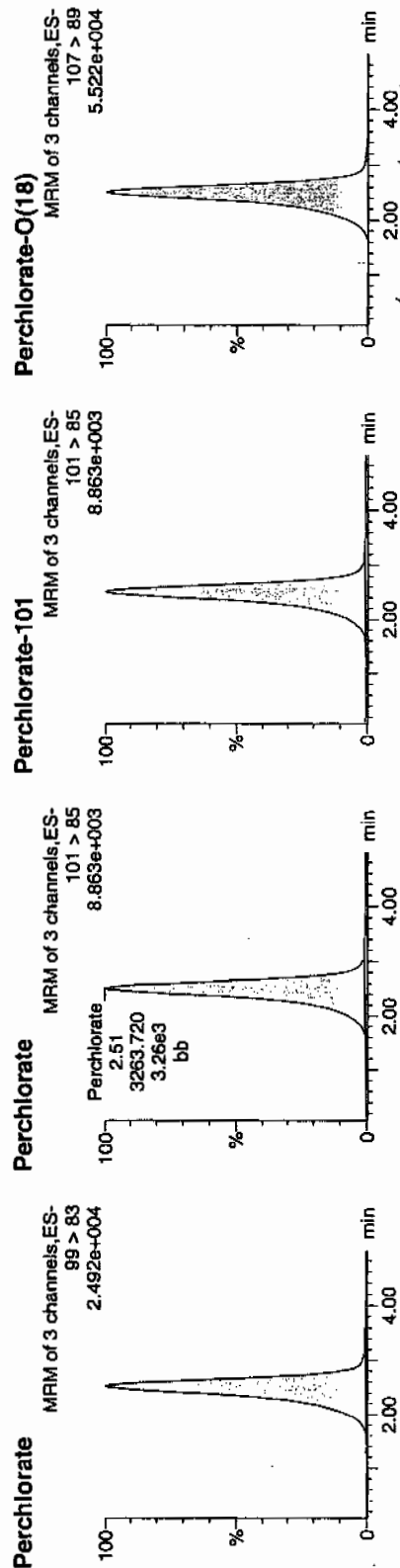
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charliers W. Wilson

Dataset: C:\MassLynx\P perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120077a
Date: 21-Jan-2010
Time: 00:46:50
ID: 1202017249
Vial: 2:3,E

14444-194212 | 5020 | MS | 1 |
01-U-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202017249	Perchlorate	99 > 83	2.53	9554.407	9554.407	bb			0.2028	101.41	1.41	1626.5...	2.93
1202017249	Perchlorate-101	101 > 85	2.51	3263.720	3263.720	bb			0.2125	106.27	6.27	592.433	
1202017249	Perchlorate-O(18)	107 > 89	2.51	20808.451	20808.451	bb			0.5168	103.36	3.36	7210.0...	

Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

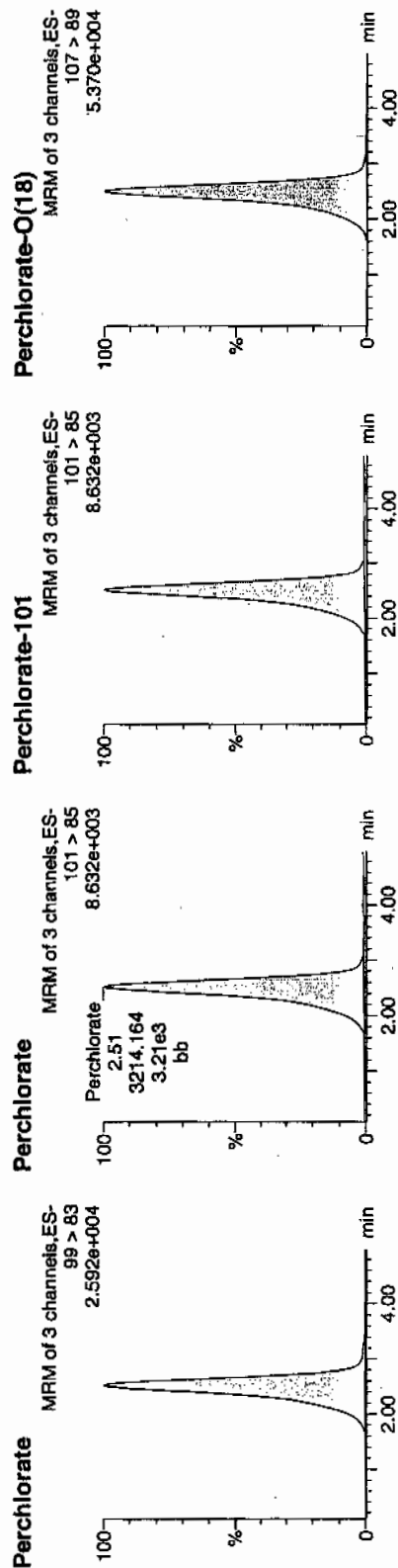
Dataset: C:\MassLynx\Perchlorate.PRO\per012010a.qld

Last Altered: Thursday, January 21, 2010 7:27:16 AM Eastern Standard Time
Printed: Thursday, January 21, 2010 7:39:47 AM Eastern Standard Time

Name: per0120078a
Date: 21-Jan-2010
Time: 00:54:51
ID: 1202017250
Vial: 2:3,F

Q-21-10

1202017250 | 50210 | 750 | 11



ID	Name	Trace	RT	Area	Response	Flags	Mod Date	Mod Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202017250	Perchlorate	99 > 83	2.51	9848.011	9848.011	bb			0.2091	104.53	4.53	2715.1...	3.06
1202017250	Perchlorate-101	101 > 85	2.51	3214.164	3214.164	bb			0.2093	104.66	4.66	1029.8...	
1202017250	Perchlorate-O(18)	107 > 89	2.50	19924.252	19924.252	bb			0.4948	98.96	-1.04	5498.4...	

Isotope Ratio Criteria

Isotope Ratio $^{35}\text{Cl}/^{37}\text{Cl}$

2.31-3.85

Tune Criteria

The tuning solution is introduced directly into the mass spectrometer using the ESI interface in the positive ion mode. The mass range scanned is 20 to 1100 amu using at least six scans. The observed mass for the target compound in the daily calibration standards must be within 0.2 amu of the expected value. If it is greater than 0.2 amu, then a mass calibration is performed and the instrument is re-calibrated.

LC/MS/MS EXPLOSIVES ANALYSIS

**LC/MS/MS Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1209**

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: 941658

Prep Batch Number: 941657

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 8321A Modified:

Sample ID	Client ID
244597001	RE12-10-7722
1202015498	Method Blank (MB)
1202015499	Laboratory Control Sample (LCS)
1202015500	244599001(RE12-10-7243) Matrix Spike (MS)
1202015501	244599001(RE12-10-7243) 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-B-056 REV# 12.

Primary Analyte Analysis

Calibration Information

Initial Calibration

All initial calibration requirements for this analysis have been met for this SDG.

Calibration Verification Standard Requirements

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

Calibration Blank Requirements

All initial or continuing calibration blanks (ICB or CCB) bracketing the analyses associated with this batch for this analysis were within acceptance criteria. Due to software limitations, the CCBs and/or the ICBs may have a concentration for target analytes in the Found column. These values should be zero.

10-1209-EXPLCMS

Page 1 of 5

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 244599001 (RE12-10-7243) from SDG 10-1210 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

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 244599001 (RE12-10-7243) from SDG 10-1210 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 recovered TATB at 199%. The recovery limits are 44-166%. Since the LCS and the MS met acceptance limits for TATB, the data are reported. Please see data exception report 785184.

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 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

Data exception report 785184 was generated for this SDG.

The MSD recovered TATB at 199%. The recovery limits are 44-166%. Since the LCS and the MS met acceptance limits for TATB, the data are reported.

Manual Integrations

Some initial calibration standards, continuing calibration standards, and/or samples required manual integrations due to software limitations.

Flagging Convention

The 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. Mauer Date: 02/03/10

SAMPLE DATA SUMMARY

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125220a

Date Analyzed: 29-JAN-10 23:04

Units: ug/kg

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

*Concentration =

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

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250100.wiff

Date Analyzed: 26-JAN-10 12:27

Units: ug/kg

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

*Concentration =

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

QUALITY CONTROL SUMMARY

High Explosives Surrogate Recovery Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
244597001	RE12-10-7722	104	73.7 - 133.3	
244597001	RE12-10-7722	108	73.7 - 133.3	
1202015498	MB for batch 941657	107	73.7 - 133.3	
1202015498	MB for batch 941657	84	73.7 - 133.3	
1202015499	LCS for batch 941657	110	73.7 - 133.3	
1202015499	LCS for batch 941657	93.2	73.7 - 133.3	

DNT = 3,4-Dinitrotoluene

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1209

Extract Batch Code: 941657

Date Extracted: 21-JAN-10

GEL LCS ID: 1202015499

GEL LCSDUP ID:

Analysis Date/Time: 29-JAN-10 22:34

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	5120	102					62.1 - 124
2,4,6-Trinitrotoluene	5000	5280	106					78.3 - 132
2,4-Dinitrotoluene	5000	4480	89.7					82.7 - 132
2,6-Dinitrotoluene	5000	4950	99					86.9 - 122
2-Amino-4,6-dinitrotoluene	5000	5850	117					84.2 - 149
4-Amino-2,6-dinitrotoluene	5000	5830	117					85.6 - 133
HMX	5000	4670	93.5					66.5 - 142
Nitrobenzene	5000	4590	91.7					71.8 - 126
PETN	5000	5580	112					64.6 - 147
RDX	5000	5240	105					78.7 - 144
Tetryl	5000	2850	57					31.2 - 119
m-Dinitrobenzene	5000	4920	98.5					80.9 - 127
m-Nitrotoluene	5000	4780	95.6					71.9 - 126
o-Nitrotoluene	5000	4520	90.3					75 - 123
p-Nitrotoluene	5000	4620	92.4					73.7 - 124

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1209

Extract Batch Code: 941657

Date Extracted: 21-JAN-10

GEL LCS ID: 1202015499

GEL LCSDUP ID:

Analysis Date/Time: 26-JAN-10 12:12

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	4330	86.6					64.8 - 128
2,6-Diamino-4-nitrotoluene	5000	4420	88.4					69.6 - 133
3,5-Dinitroaniline	5000	4620	92.4					77.3 - 123
tris(o-cresyl) phosphate	5000	4360	87.2					84.3 - 120
TATB	5000	7180	144					46.8 - 166

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7243

Lab Code: GEL

GEL Job No (SDG) 10-1209

Extract Batch Code: 941657

Date Extracted: 21-JAN-10

GEL Spike ID: 1202015500

GEL SpikeDup ID: 1202015501

Analysis Date/Time: 30-JAN-10 00:03

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	5360	107	5850	117	8.8	30	70.7 - 130
2,4,6-Trinitrotoluene	5000	0	6060	121	6220	124	2.73	30	83.4 - 138
2,4-Dinitrotoluene	5000	0	5440	109	4760	95.2	13.3	30	79.1 - 137
2,6-Dinitrotoluene	5000	0	5160	103	5070	101	1.64	30	85.4 - 125
2-Amino-4,6-dinitrotoluene	5000	0	5860	117	5440	109	7.45	30	77.4 - 154
4-Amino-2,6-dinitrotoluene	5000	0	6210	124	5830	117	6.4	30	77.3 - 140
HMX	5000	0	5460	109	5450	109	.139	30	66.7 - 144
Nitrobenzene	5000	0	4390	87.8	4840	96.8	9.82	30	70.4 - 129
PETN	5000	0	5530	111	5420	108	2	30	61.9 - 153
RDX	5000	0	5630	113	5350	107	4.98	30	73 - 140
Tetryl	5000	0	3350	67.1	3550	70.9	5.61	30	46.8 - 138
m-Dinitrobenzene	5000	0	4950	98.9	5340	107	7.58	30	83.5 - 126
m-Nitrotoluene	5000	0	5290	106	4890	97.9	7.69	30	68.6 - 135
o-Nitrotoluene	5000	0	4950	99	4810	96.1	2.94	30	71.2 - 131
p-Nitrotoluene	5000	0	5070	101	4760	95.3	6.28	30	69.3 - 133

#Column to be used to flag recovery and RPD values with an asterisk

High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE12-10-7243

Lab Code: GEL

GEL Job No (SDG) 10-1209

Extract Batch Code: 941657

Date Extracted: 21-JAN-10

GEL Spike ID: 1202015500

GEL SpikeDup ID: 1202015501

Analysis Date/Time: 26-JAN-10 12:59

MSD Analysis Date/Time:

Reporting Units: ug/kg

QC Type: MS/MSD

Compound	Spike Added	Sample Conc	MS Conc	MS Rec #	MSD Conc	MSD Rec #	RPD #	RPD Limit	Rec Limits
2,4-Diamino-6-nitrotoluene	5000	0	4580	91.6	4540	90.8	.877	30	51.6 - 127
2,6-Diamino-4-nitrotoluene	5000	0	4210	84.2	4420	88.4	4.87	30	58.9 - 135
3,5-Dinitroaniline	5000	0	5020	100	5090	102	1.39	30	72.8 - 125
tris(o-cresyl) phosphate	5000	0	4830	96.6	4700	94	2.73	30	79.1 - 124
TATB	5000	0	7870	157	9960	199 *	23.4	30	43.9 - 166

#Column to be used to flag recovery and RPD values with an asterisk

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 11:20

GEL Data File: EXP0125001a

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	557.589
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	586.101
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Method: C:\MASSLYNX\New_Exp\PRO\MethDB\012510expa.mdb, Time: Mon Jan 25 16:14:14 2010
Calibration: Untitled, Time: Tue Jan 26 09:24:51 2010

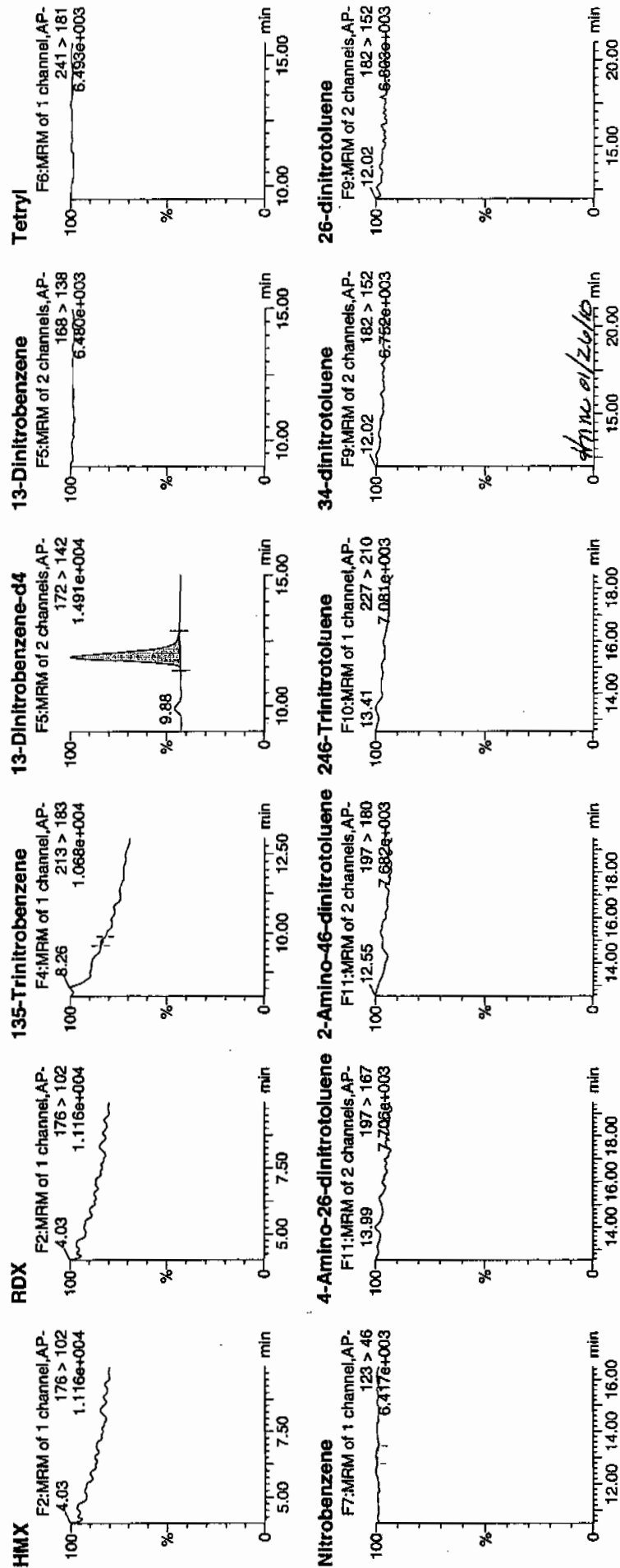
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Date: 25-Jan-2010

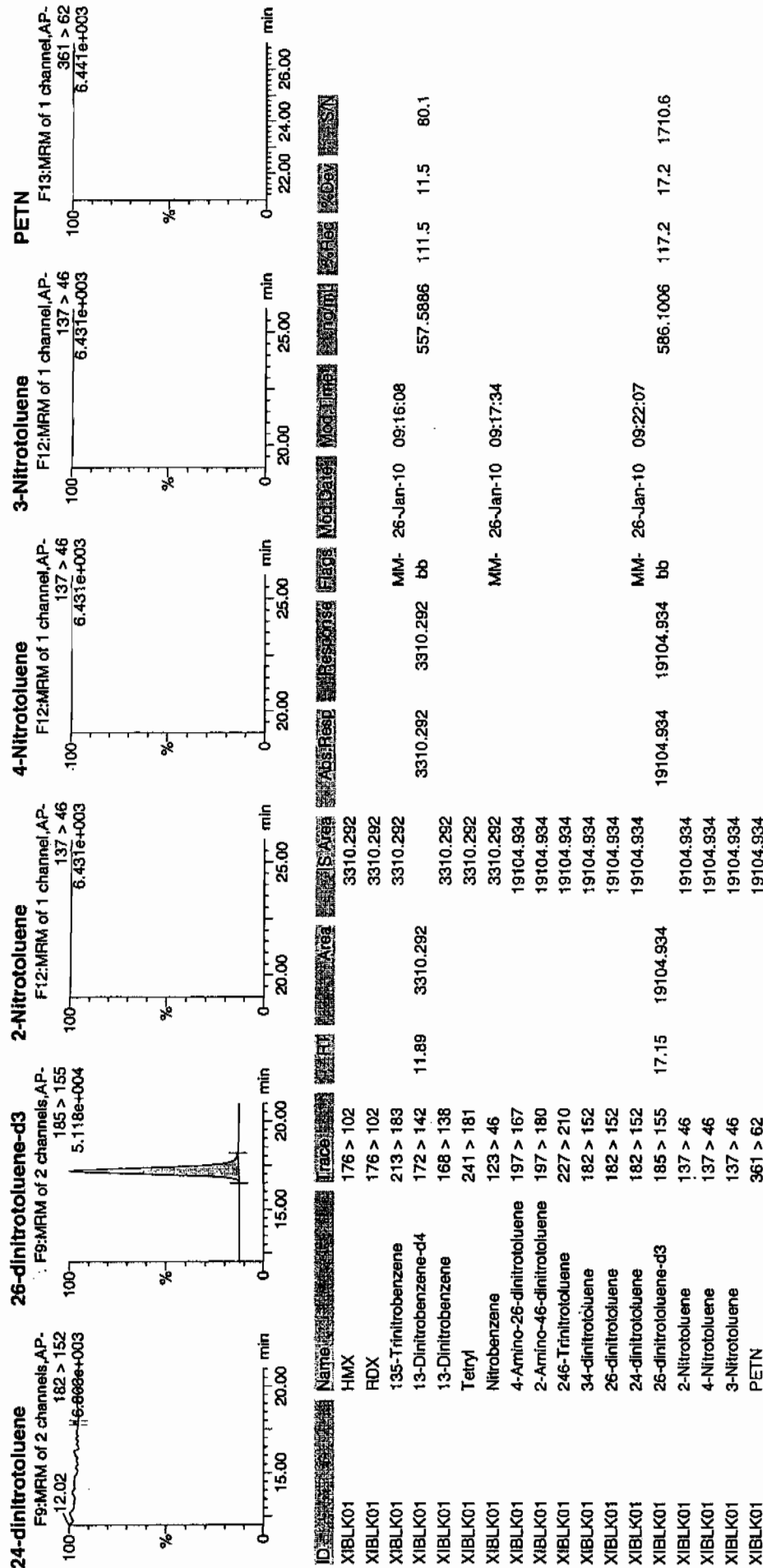
Time: 11:20:43

ID: XIBLK01

Vial: 1:1,A



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 11:50

GEL Data File: EXP0125002a

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	490.527
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	511.129
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125002a

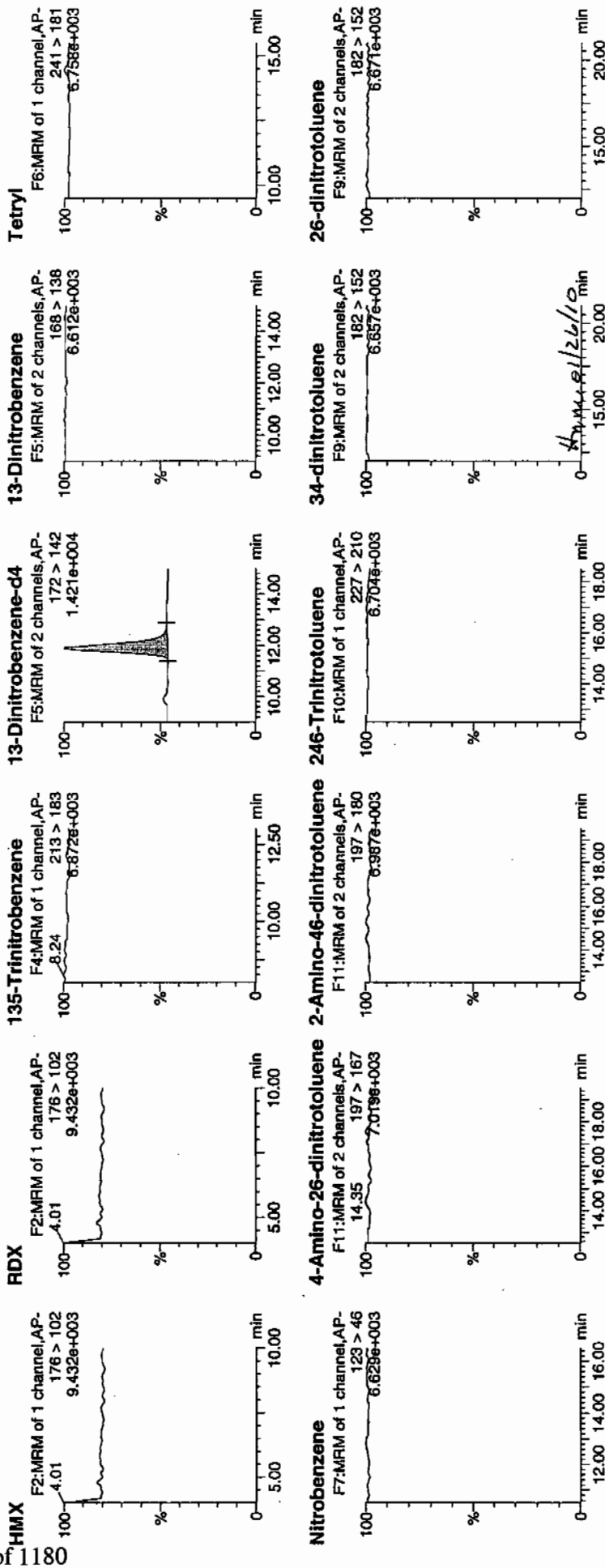
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Time: 11:50:16

ID: XIBLK01

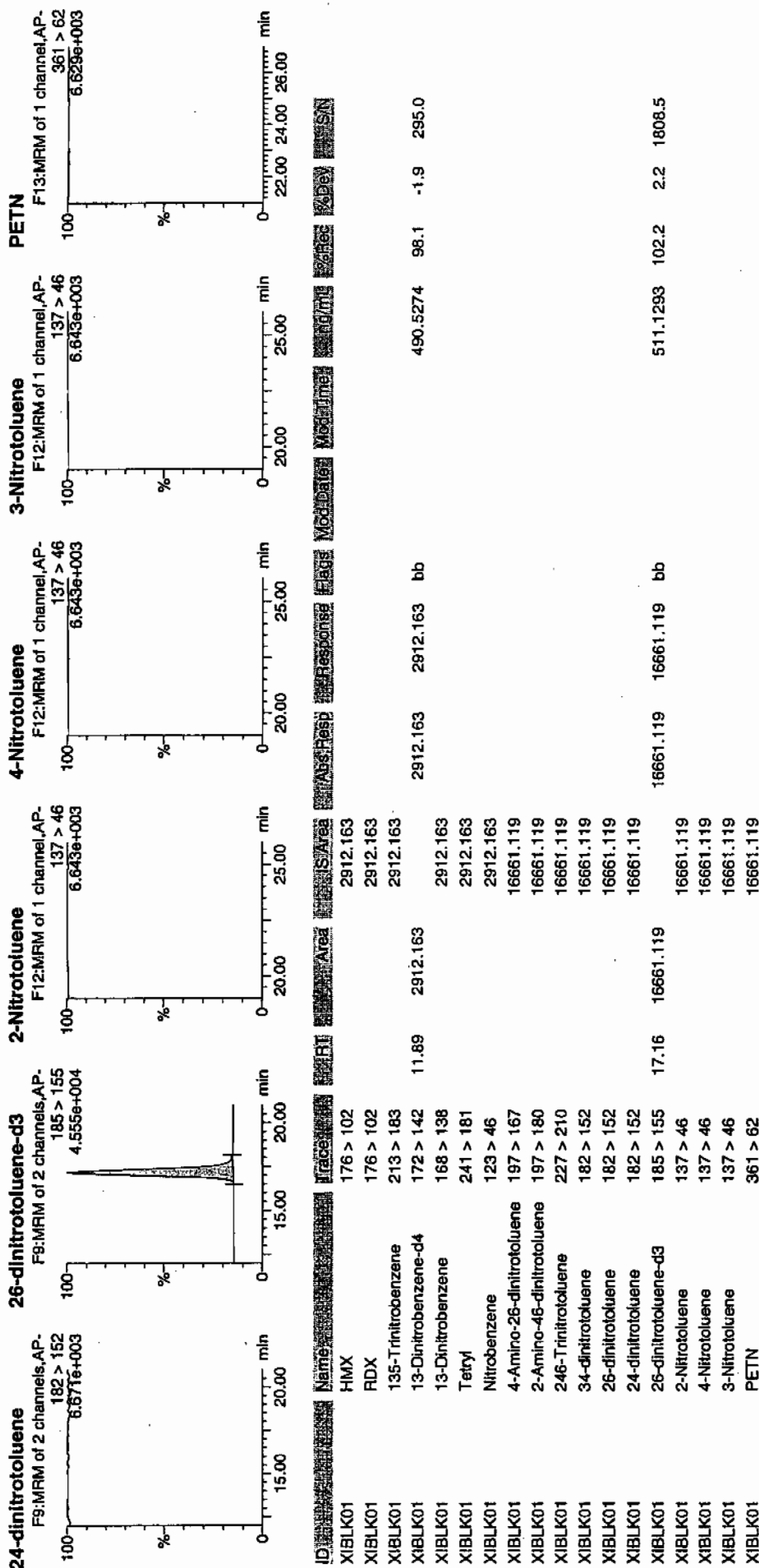
Vial: 1:1,A

1/26/10



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:28

GEL Data File: EXS01250001.wiff

Instrument ID: LCMSMS

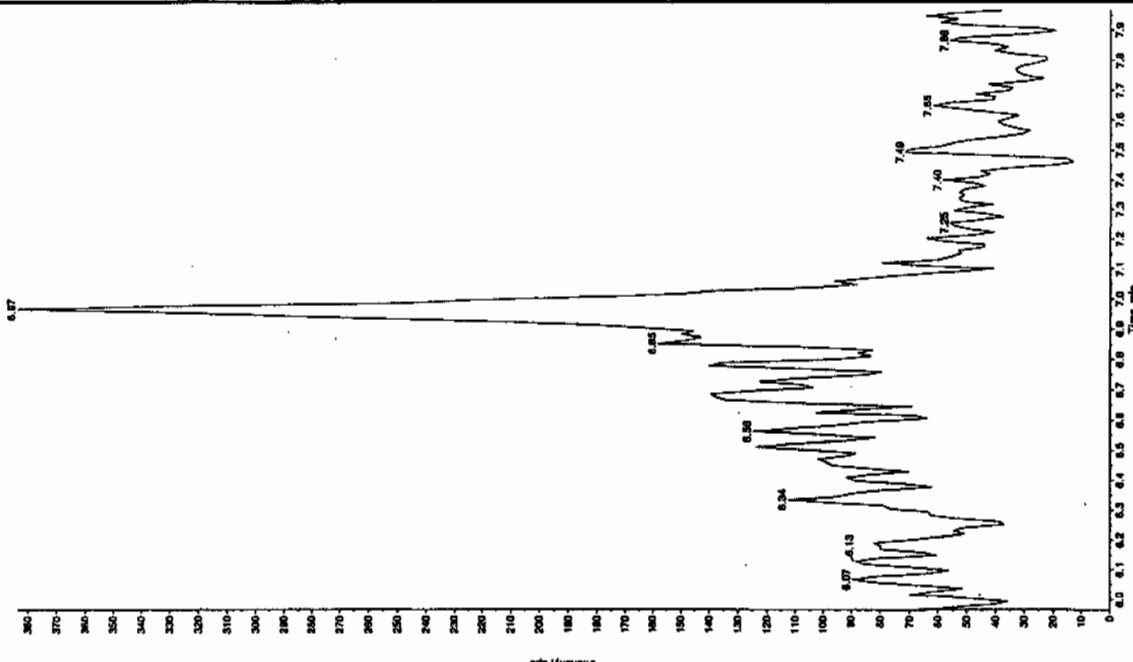
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 1/27/10

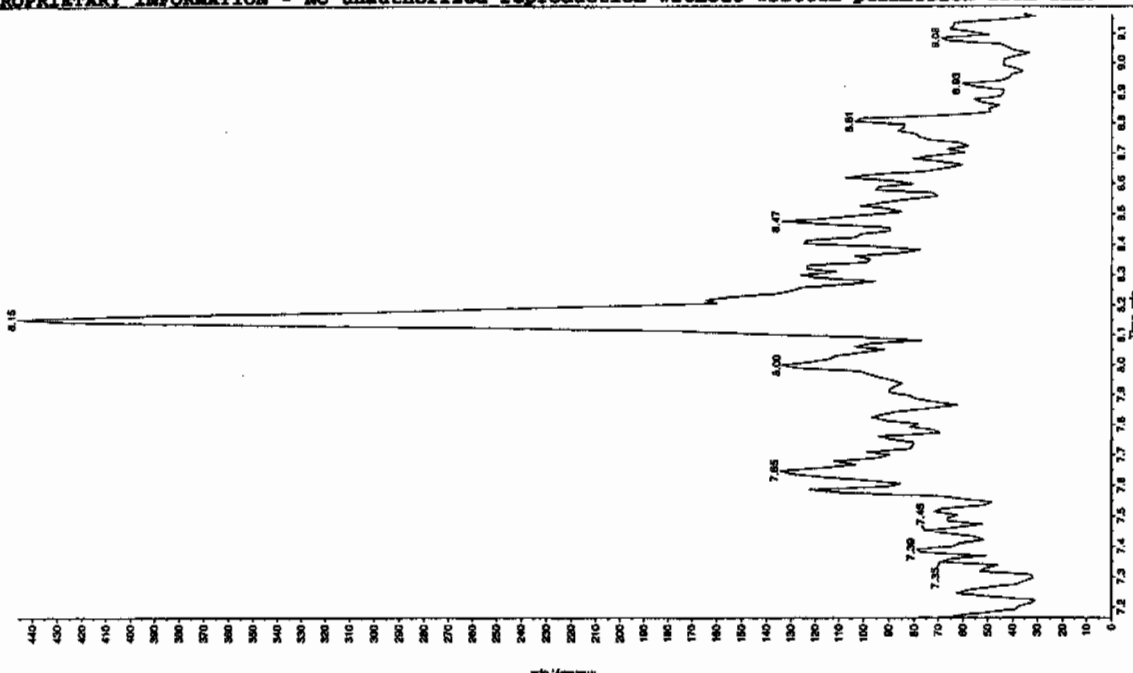
Sample Name: "XBL001" Sample ID: "111ER" File: "EX01250001.wif"
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"
 Comment: "LCMS-EXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 1/25/2010
 Acq. Time: 10:28:30 AM
 Modified: No



Sample Name: "XBL001" Sample ID: "111ER" File: "EX01250001.wif"
 Peak Name: "3S-Dinitroarsine" Mass(es): "182.046.0 amu"
 Comment: "LCMS-EXP_B" Annotation: "

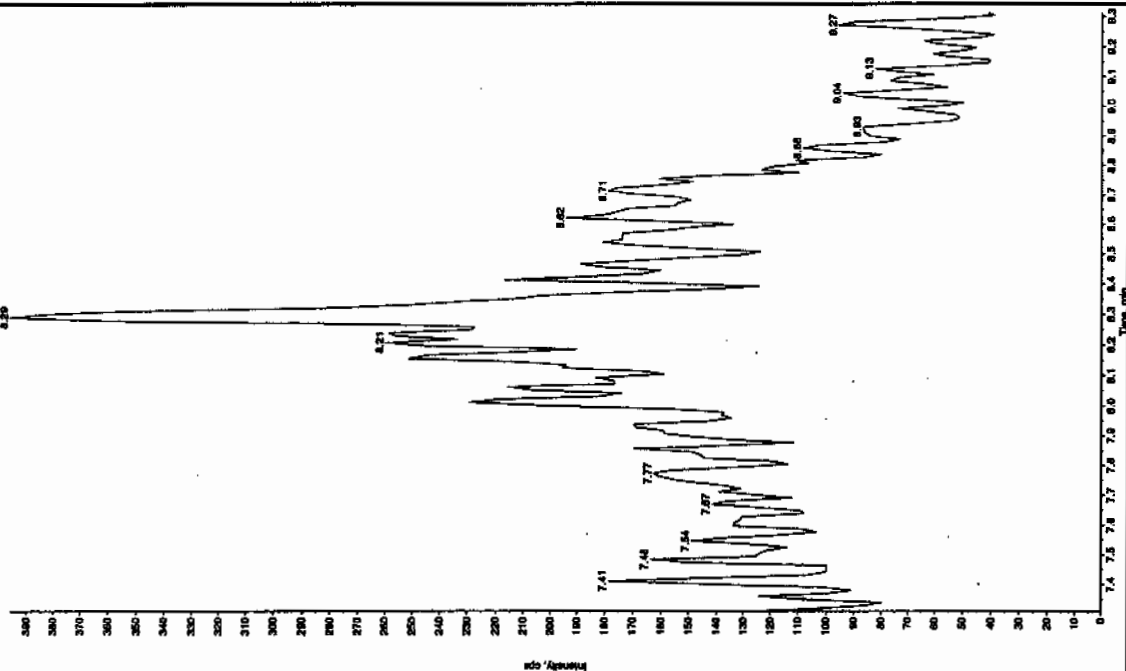
Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 1/25/2010
 Acq. Time: 10:28:30 AM
 Modified: No



Jan 21/27/10

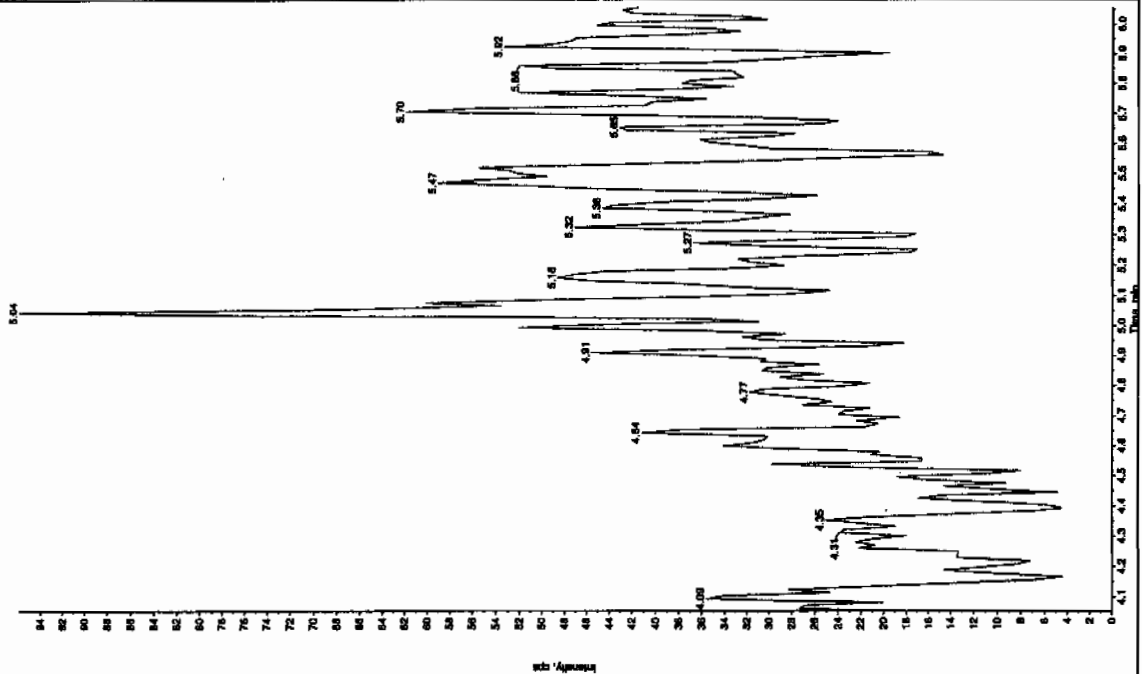
Sample Name: "XBLU01" Sample ID: "111ER" File: "EX501250001.wif"
 Peak Name: "34-Oxobutanoic" Mass(es): "182.1/151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

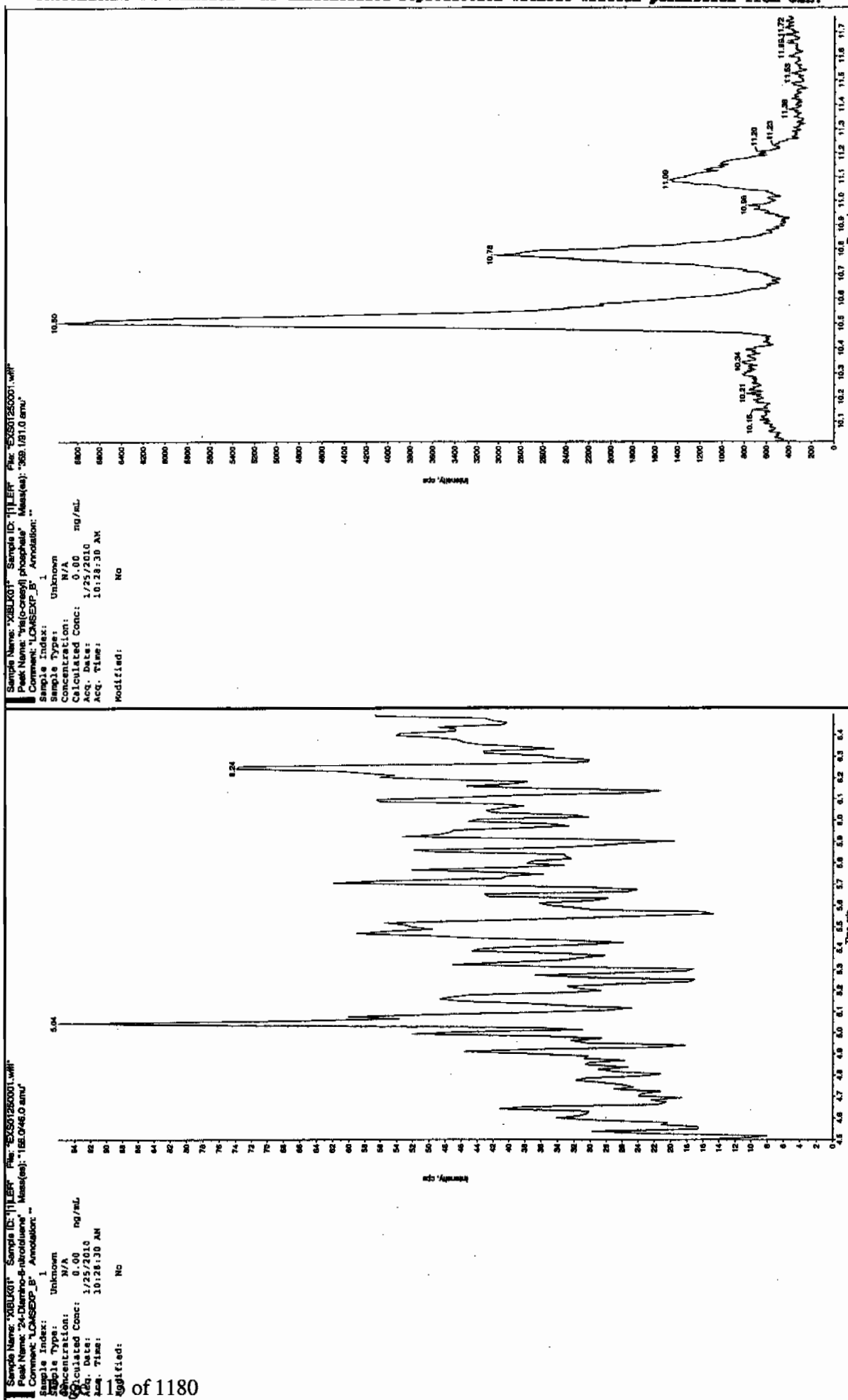
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:28:30 AM
 Modified: No



Sample Name: "XBLU01" Sample ID: "111ER" File: "EX501250001.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "188.0/168.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:28:30 AM
 Modified: No





Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 25-JAN-10 10:46

GEL Data File: EXS01250002.wiff

Instrument ID: LCMSMS

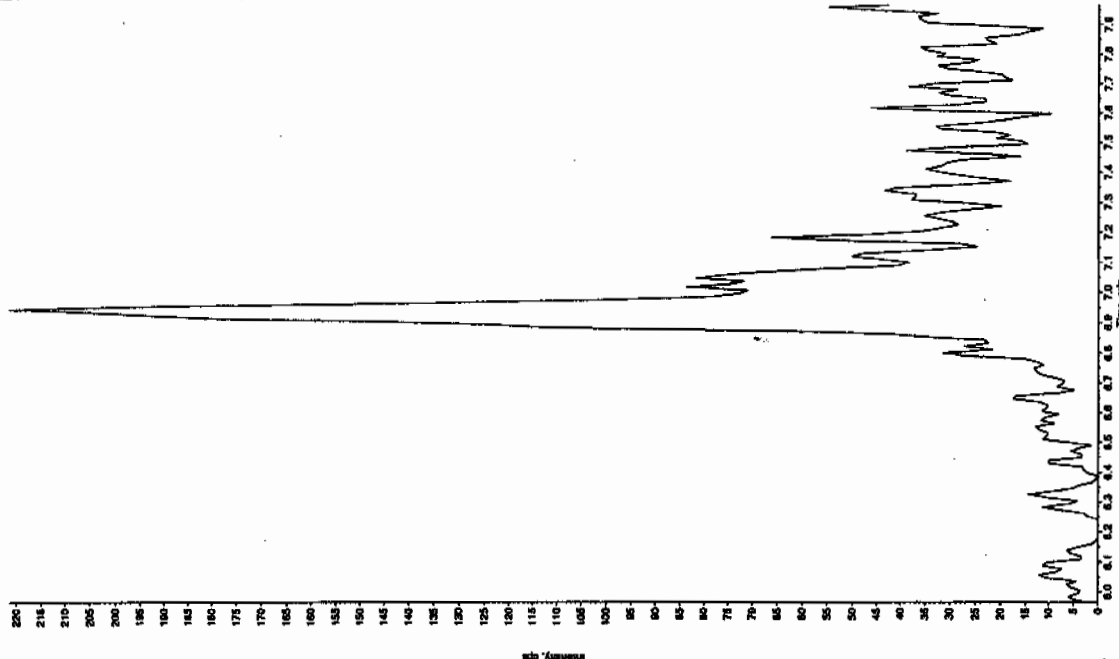
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 112710

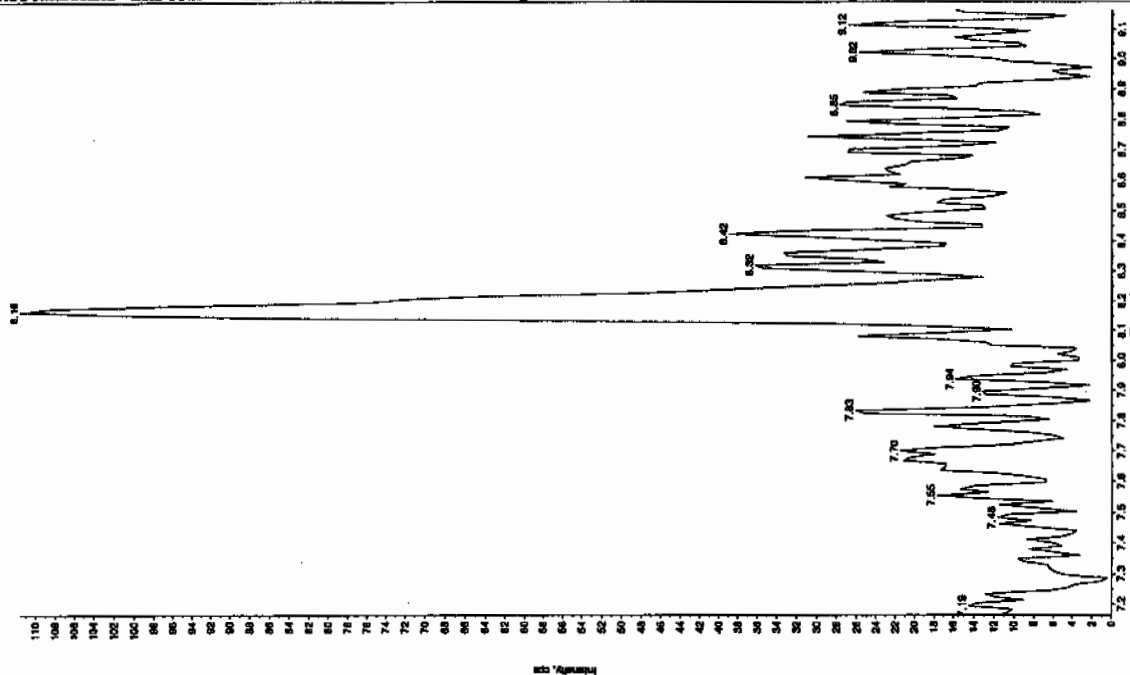
Sample Name: "XBLK01" Sample ID: "XBLK01" File: "EX01250002.wif"
 Peak Name: "TATP" Mass(es): "257.2204.9 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:46:38 AM
 Modified: No



Sample Name: "XBLK01" Sample ID: "XBLK01" File: "EX01250002.wif"
 Peak Name: "3S-Dibromoline" Mass(es): "182.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:46:38 AM
 Modified: No



112710

Sample Name: "XIBU01" Sample ID: "111ER" File: "EX501250002.wif"

Peak Name: "28-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

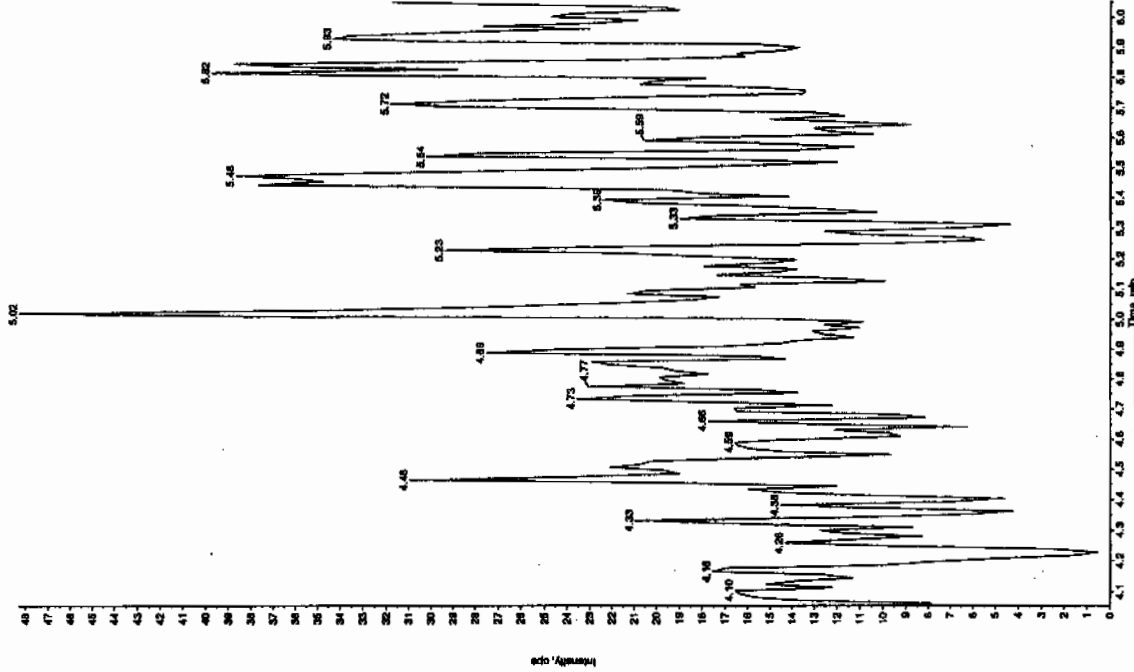
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

Acq. Time: 10:46:38 AM

Modified: No



Sample Name: "XIBU01" Sample ID: "111ER" File: "EX501250002.wif"

Peak Name: "34-Dinitrofluorene" Mass(es): "162.17151.9 amu"

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

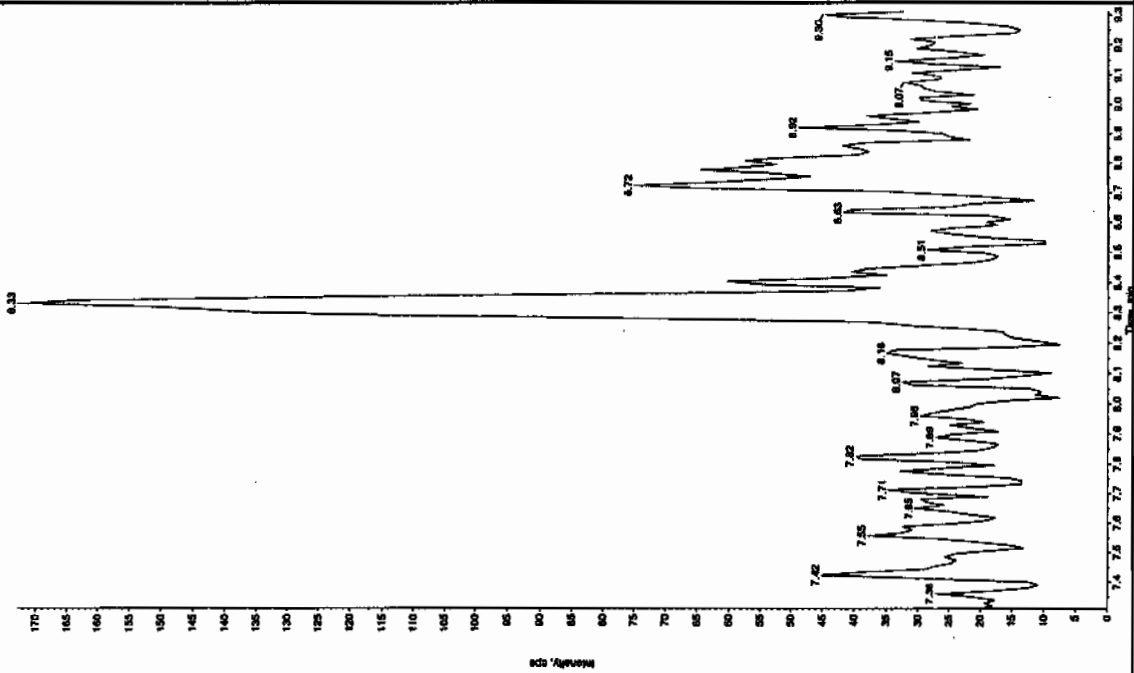
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/25/2010

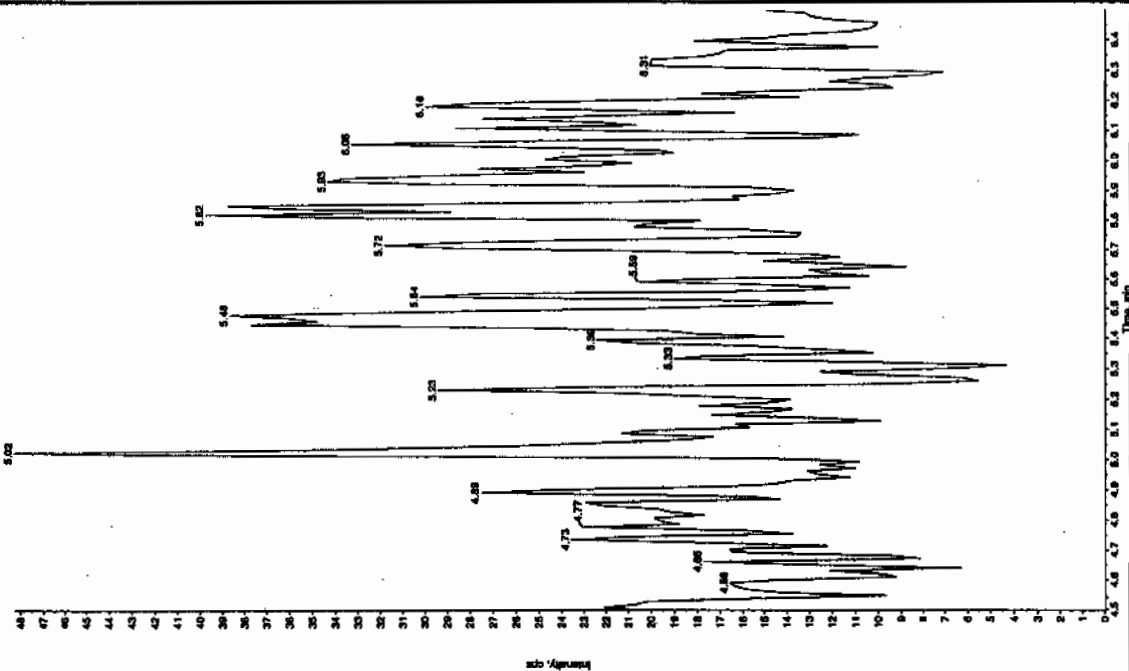
Acq. Time: 10:46:38 AM

Modified: No



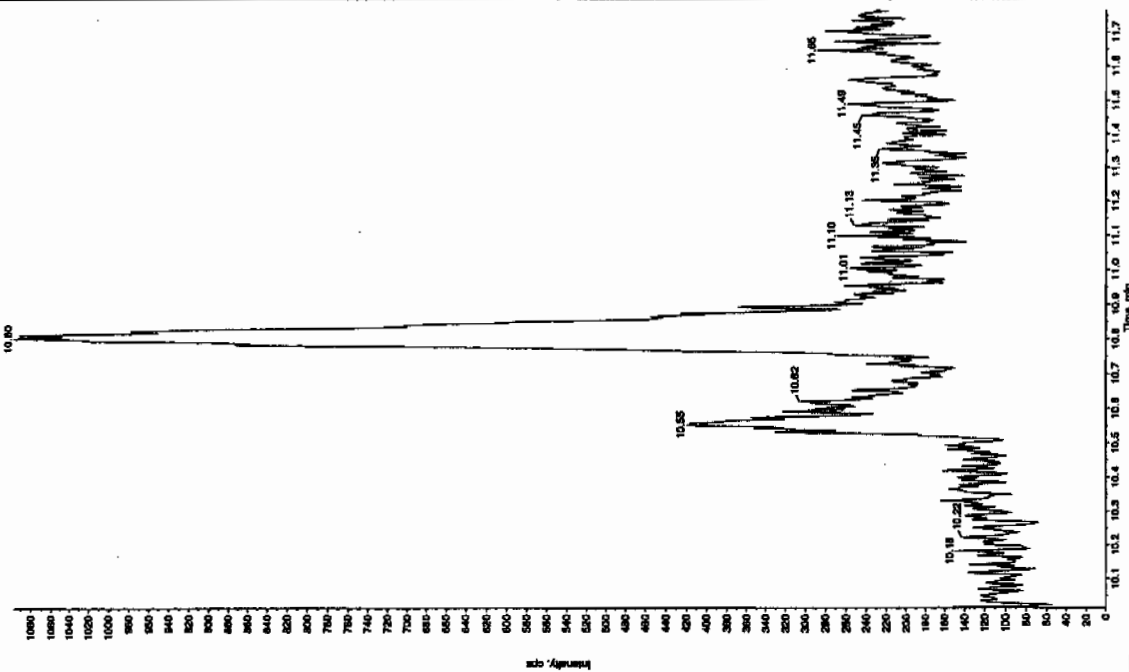
Sample Name: "XBLK01" Sample ID: "1111" File: "EX01250002.wi"
 Peak Name: "24-Diamino-6-tyrosine" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:46:38 AM
 Modified: No



Sample Name: "XBLK01" Sample ID: "1111" File: "EX01250002.wi"
 Peak Name: "bis(o-cresyl) phosphate" Mass(es): "308.191.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:46:38 AM
 Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 25-JAN-10 15:16

GEL Data File: EXP0125009a

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	502.66
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	519.883
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0125009a

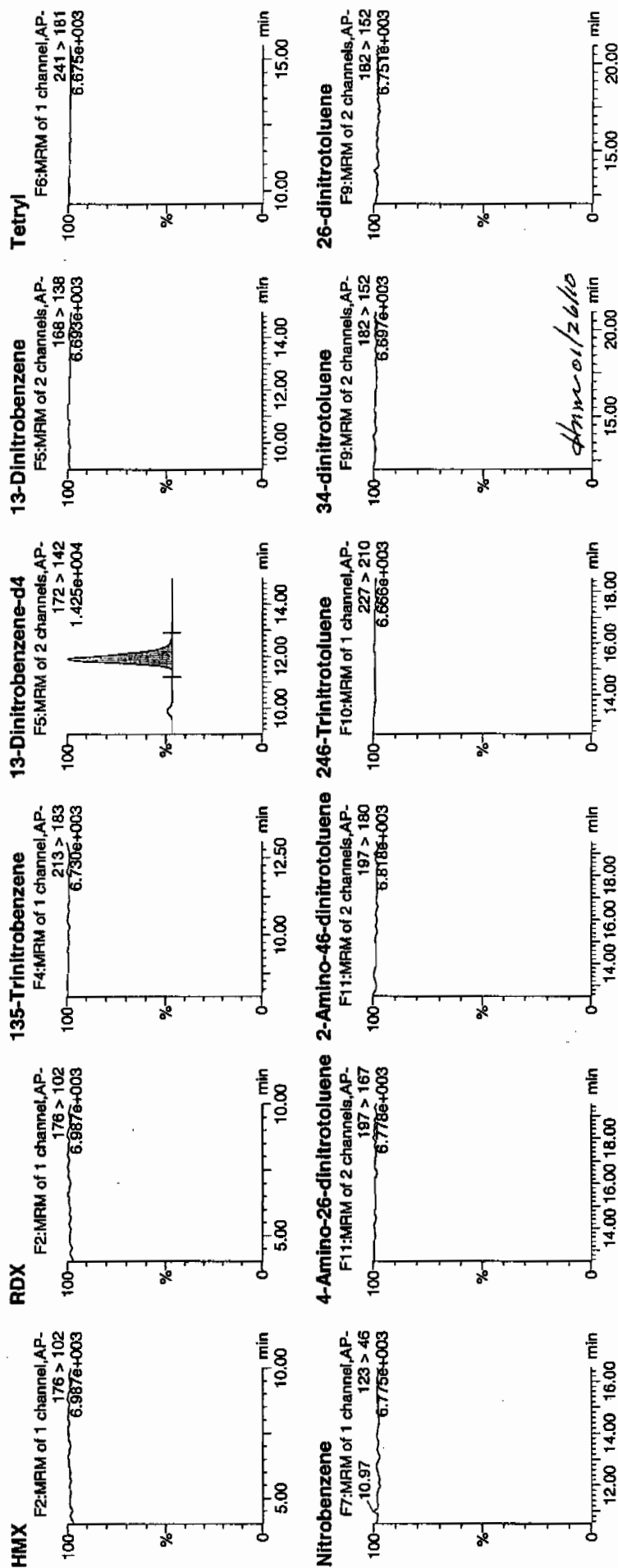
Date: 25-Jan-2010

Time: 15:16:35

ID: XIBLK02

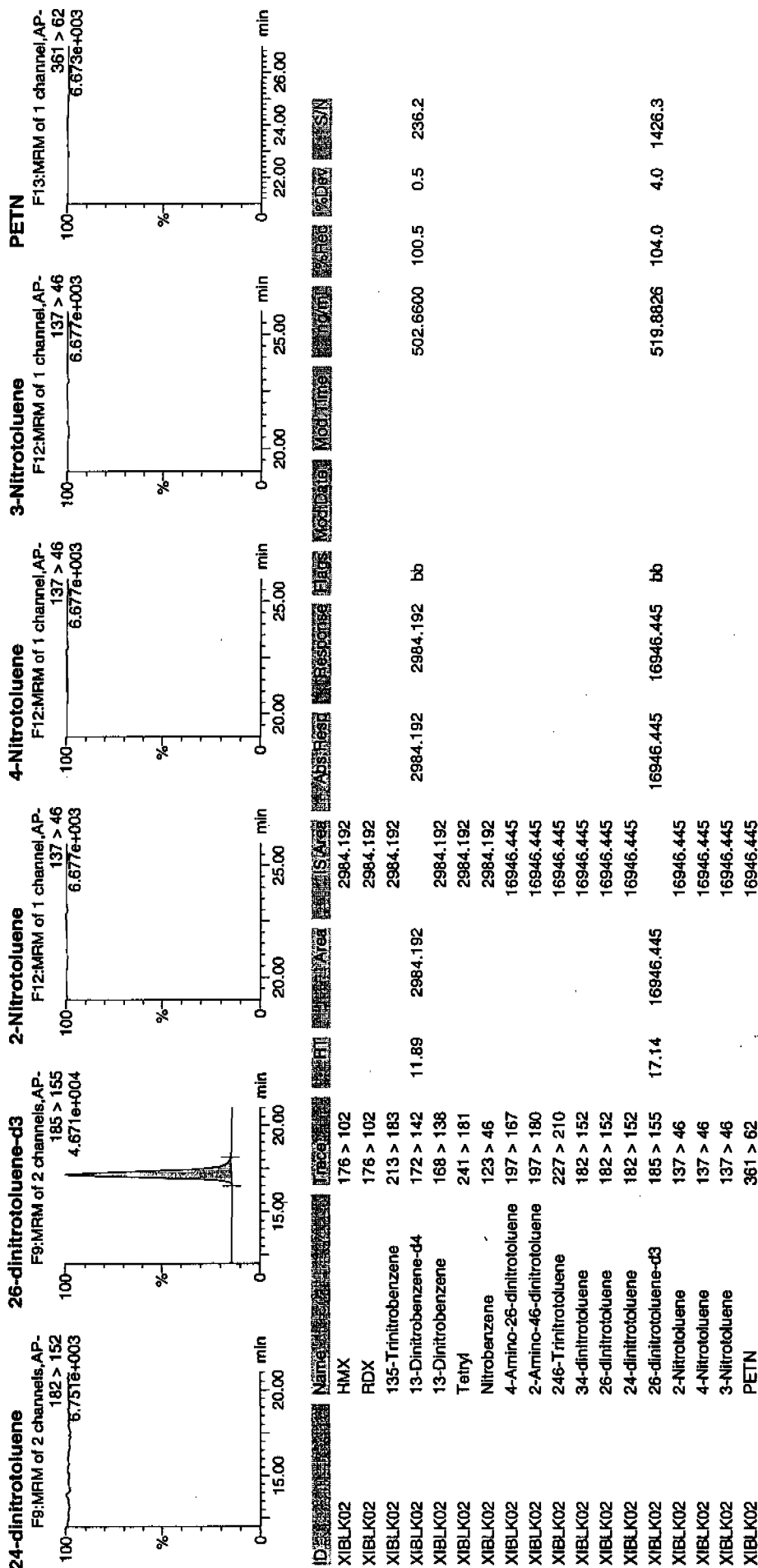
Vial: 1:1,A

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Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 25-JAN-10 16:15

GEL Data File: EXP0125011a

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	508.032
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	524.258
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

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125011a

Date: 25-Jan-2010

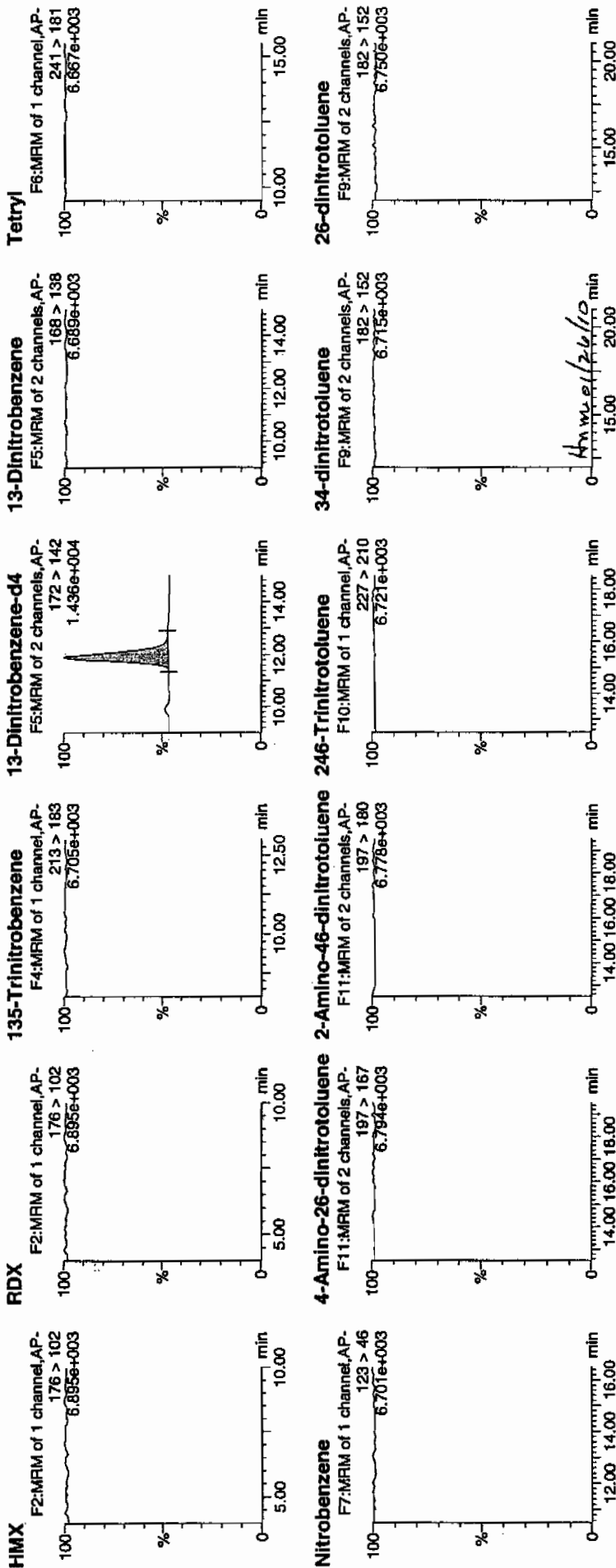
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ID: XIBLK03

Vial: 1:1,A

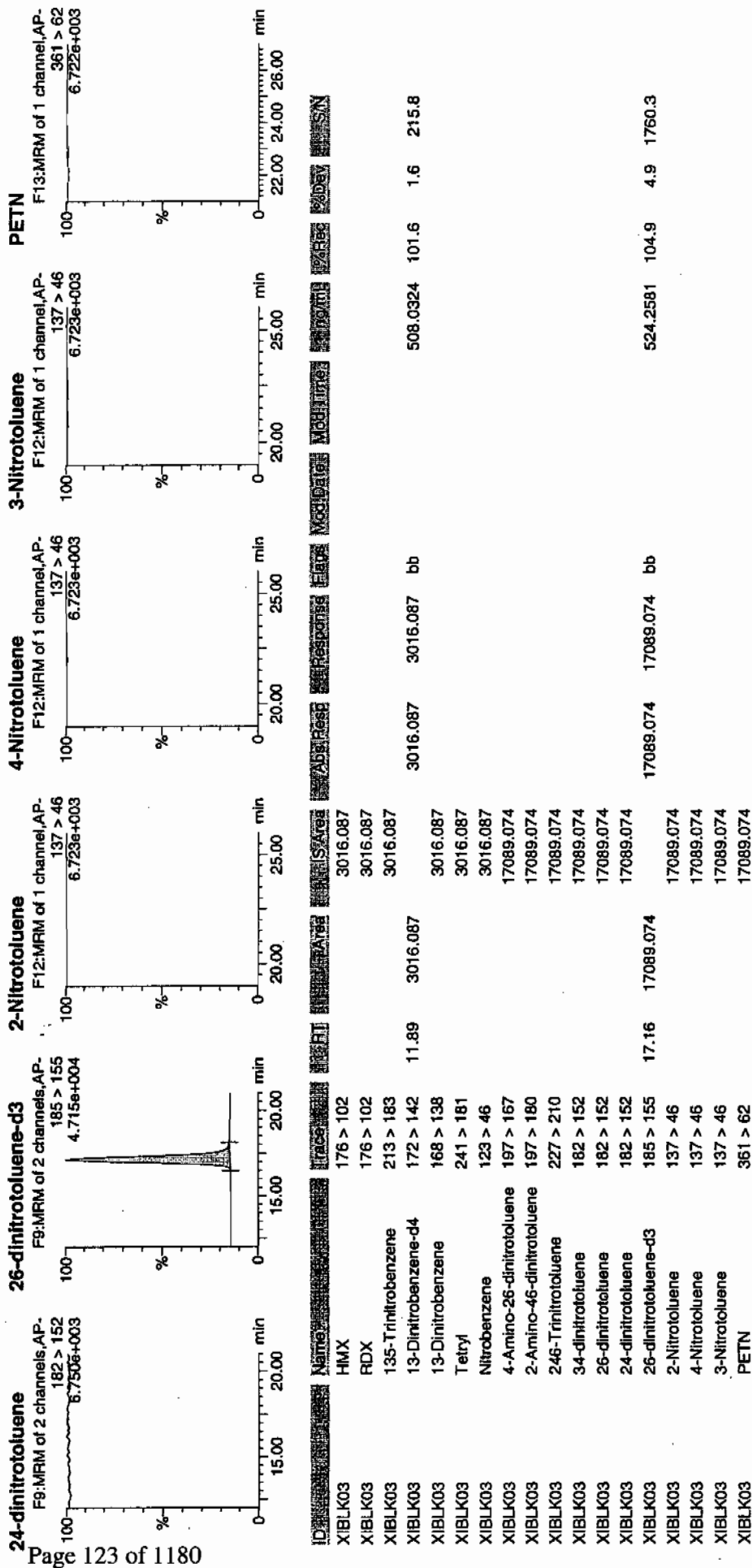
1/26/10

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Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 25-JAN-10 22:39

GEL Data File: EXP0125024a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	536.181
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	610.208
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

Printed: Tue Jan 26 11:27:45 2010, Page 47 of 73

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qid, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125024a

Date: 25-Jan-2010

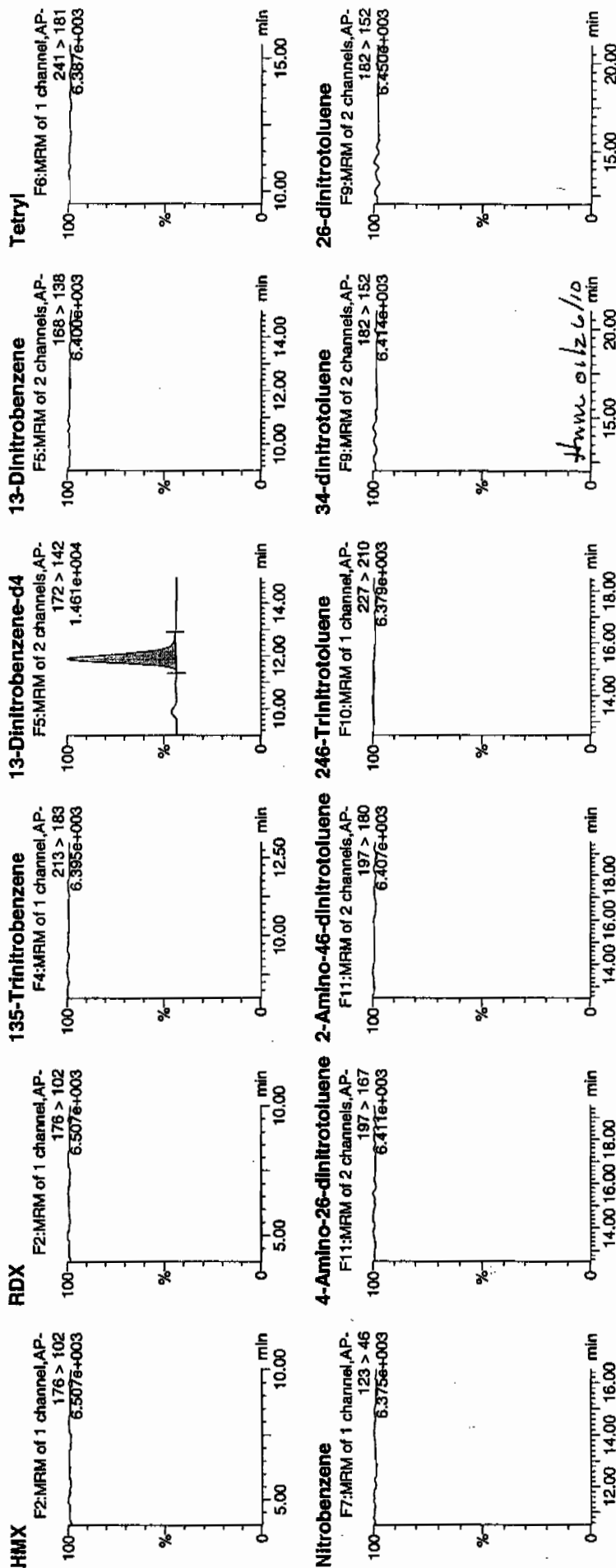
Time: 22:39:19

ID: XIBLK04

Vial: 1:1A

1/26/10
MP

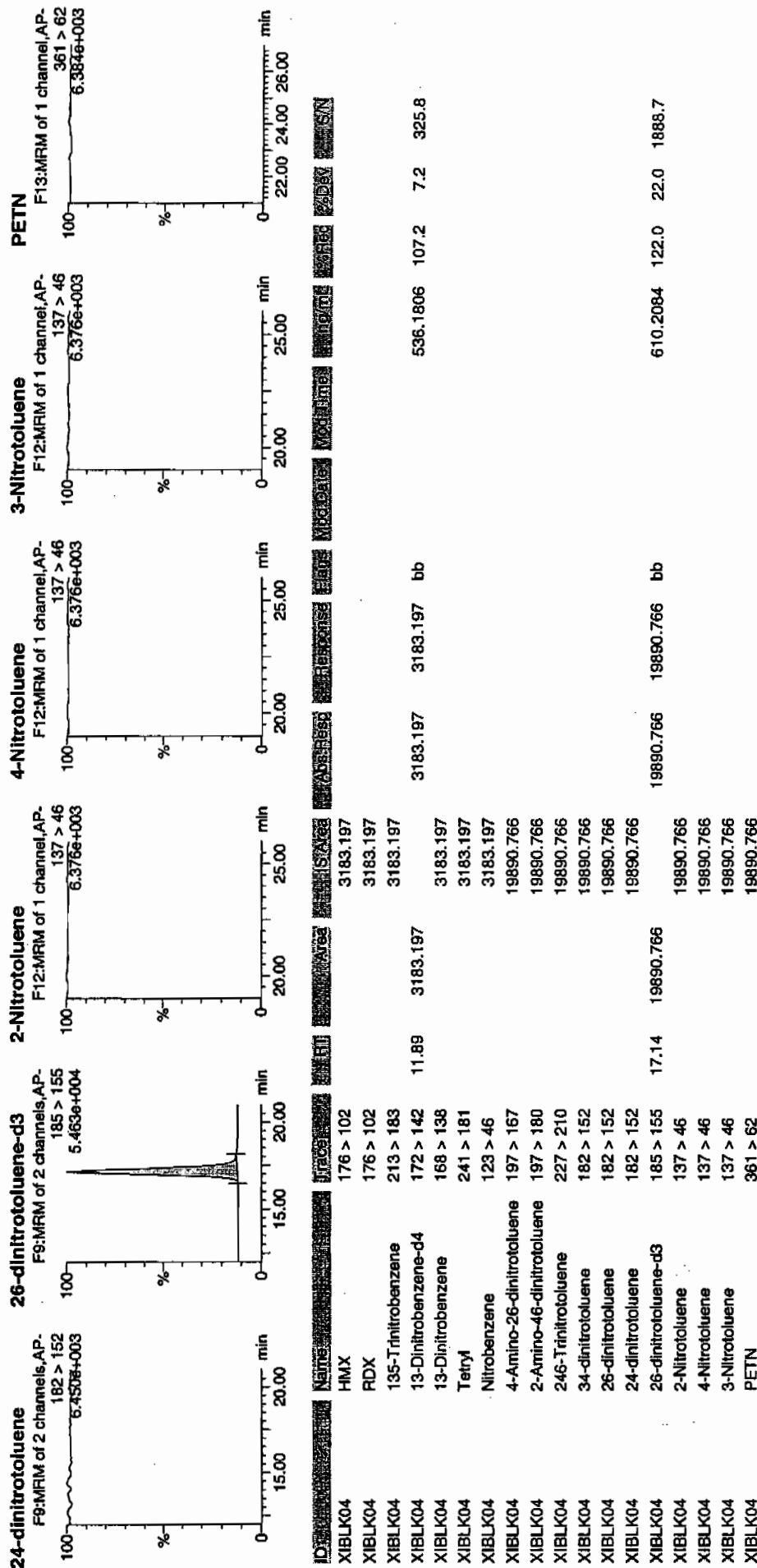
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Printed: Tue Jan 26 11:27:45 2010, Page 48 of 73

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PROV012510expA.qld, Time: Tue Jan 26 09:24:51 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 26-JAN-10 04:03

GEL Data File: EXP0125035a

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	530.31
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	567.52
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\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125035a

Date: 26-Jan-2010

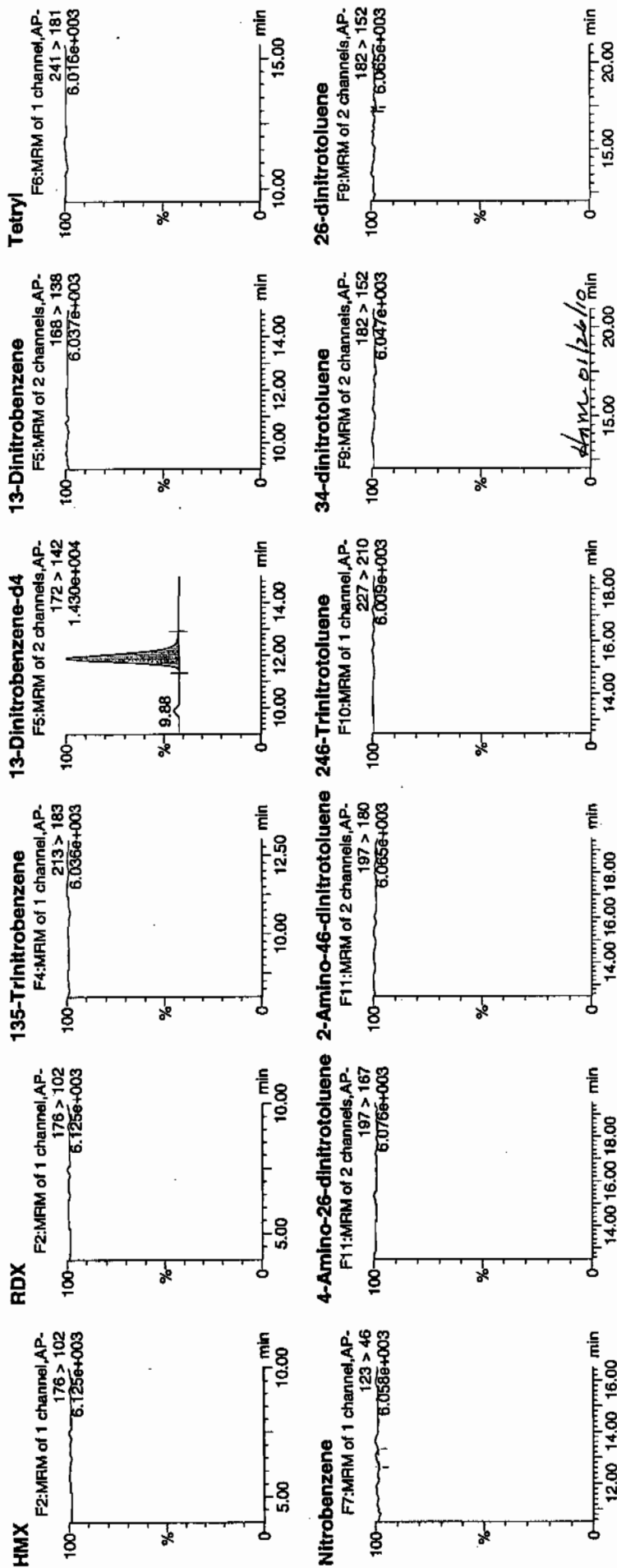
Time: 04:03:54

ID: XIBLK05

Vial: 1:1,A

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1/26/10

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4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 26-JAN-10 10:27

GEL Data File: EXP0125048a

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	526.699
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	549.419
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125048a

Date: 26-Jan-2010

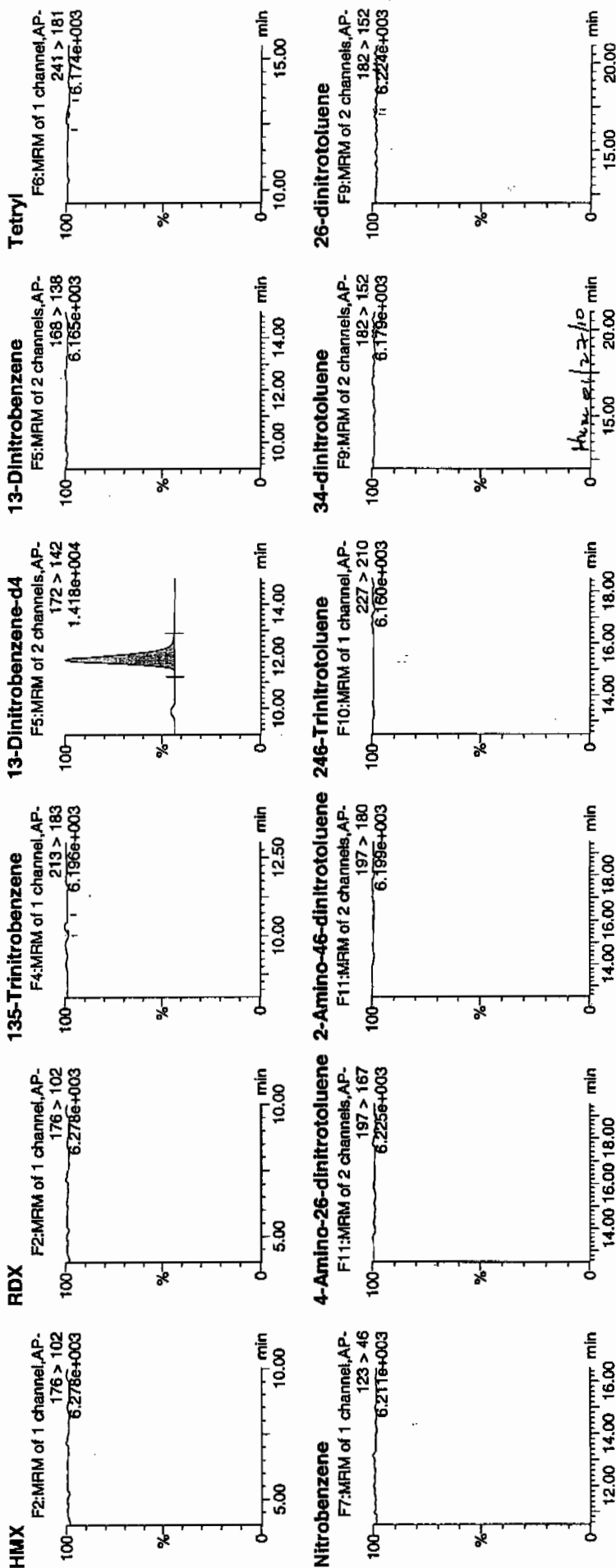
Time: 10:27:39

ID: XIBLK06

Vial: 1:1,A

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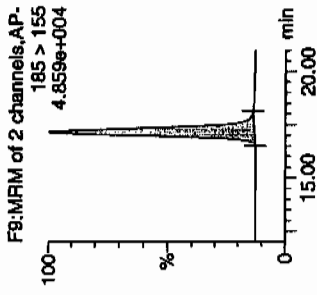


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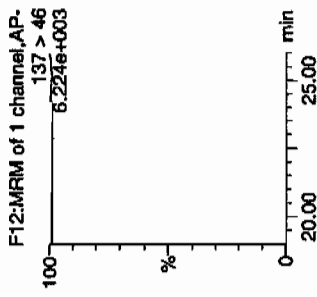
2,4-dinitrotoluene



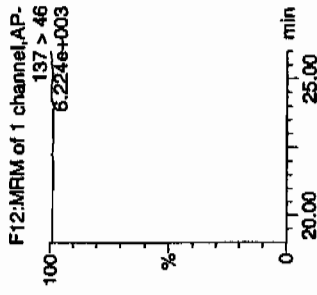
26-dinitrotoluene-d3



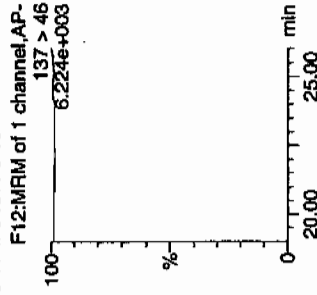
2-Nitrotoluene



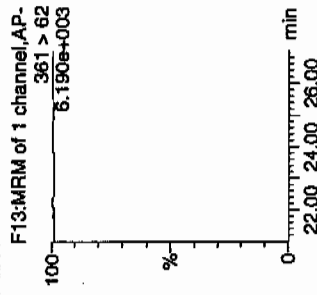
4-Nitrotoluene



3-Nitrotoluene



PETN

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 26-JAN-10 16:50

GEL Data File: EXP0125061a

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	597.432
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	608.457
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\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125061a

Date: 26-Jan-2010

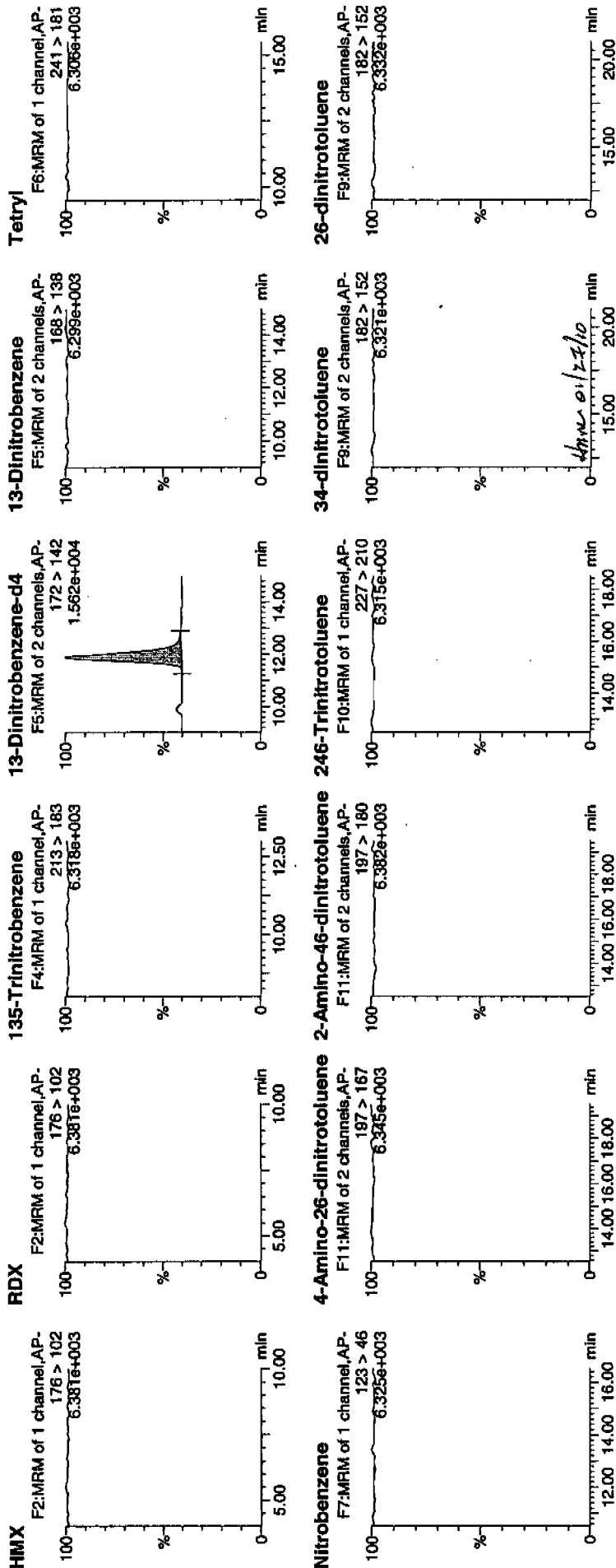
Time: 16:50:59

ID: XIBLK07

Vial: 1:1,A

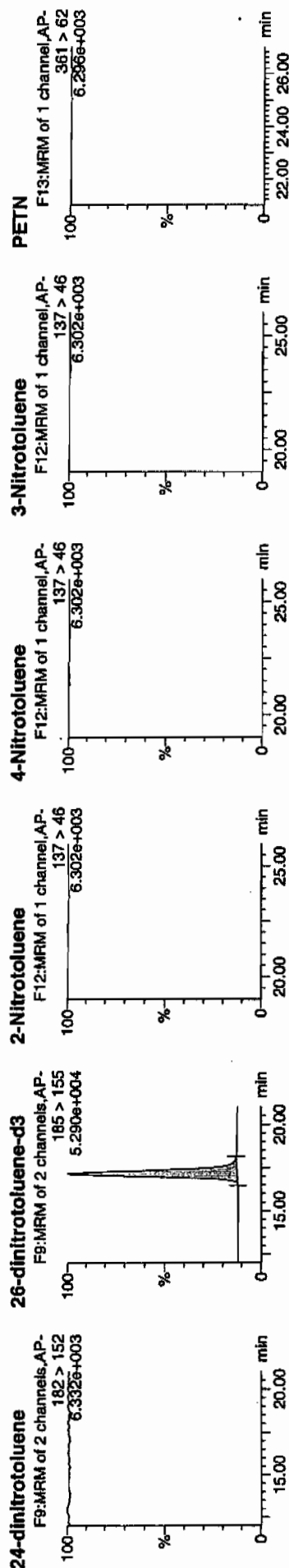
WJF
1/27/10

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Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PROV012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	Abundance	Response	Peak	Moddate	Modtime	Moduser	Modsys
XIBLK07	HMX	176 > 102									
XIBLK07	RDX	176 > 102		3546.834							
XIBLK07	135-Trinitrobenzene	213 > 183		3546.834							
XIBLK07	13-Dinitrobenzene-d4	172 > 142	11.89	3546.834			3546.834	bb	597.4319	119.5	407.5
XIBLK07	13-Dinitrobenzene	188 > 138		3546.834							
XIBLK07	Tetryl	241 > 181		3546.834							
XIBLK07	Nitrobenzene	123 > 46		3546.834							
XIBLK07	4-Amino-26-dinitrotoluene	197 > 167		19833.693							
XIBLK07	2-Amino-46-dinitrotoluene	197 > 180		19833.693							
XIBLK07	246-Trinitrotoluene	227 > 210		19833.693							
XIBLK07	34-dinitrotoluene	182 > 152		19833.693							
XIBLK07	26-dinitrotoluene	182 > 152		19833.693							
XIBLK07	24-dinitrotoluene	182 > 152		19833.693							
XIBLK07	26-dinitrotoluene-d3	185 > 155	17.14	19833.693			19833.693	bb	608.4575	121.7	957.2
XIBLK07	2-Nitrotoluene	137 > 46		19833.693							
XIBLK07	4-Nitrotoluene	137 > 46		19833.693							
XIBLK07	3-Nitrotoluene	137 > 46		19833.693							
XIBLK07	PETN	361 > 62		19833.693							

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 26-JAN-10 19:48

GEL Data File: EXP0125067a

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	538.014
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	566.746
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

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125067a

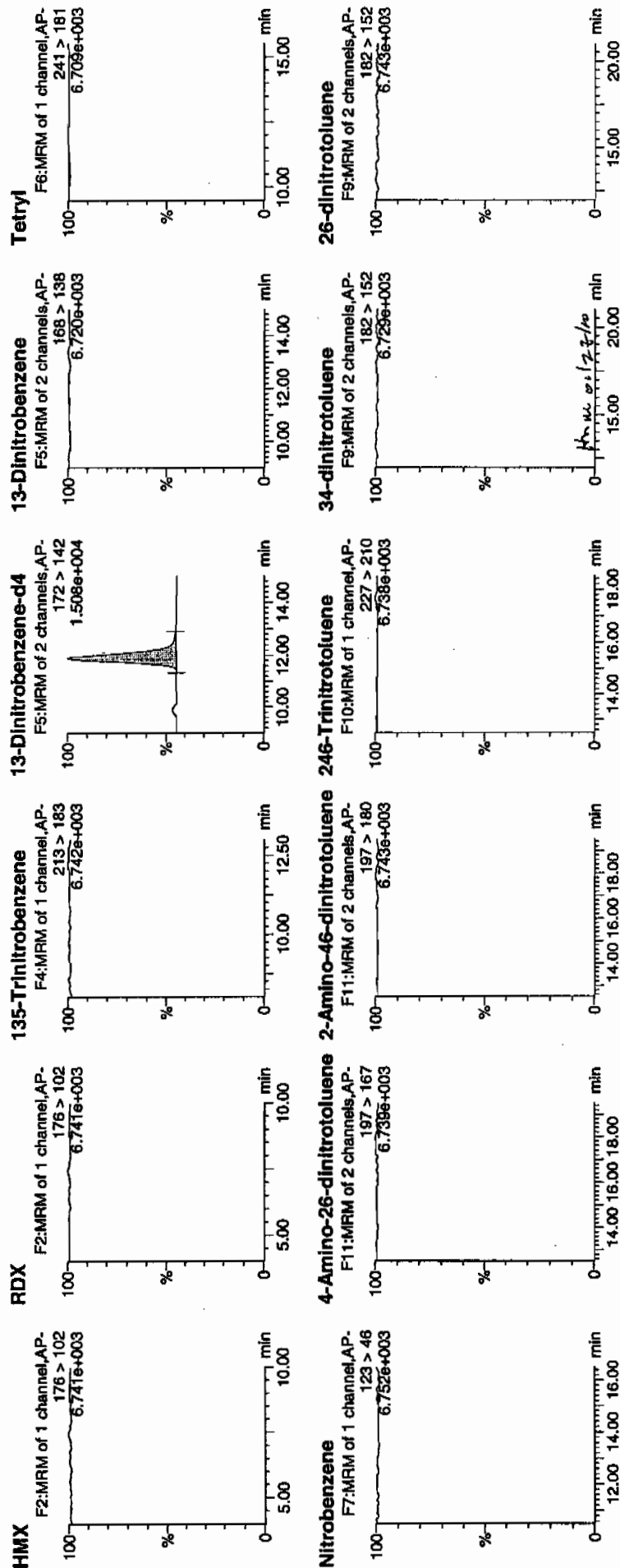
Date: 26-Jan-2010

Time: 19:48:13

ID: XIBLK08

Vial: 1:1,A

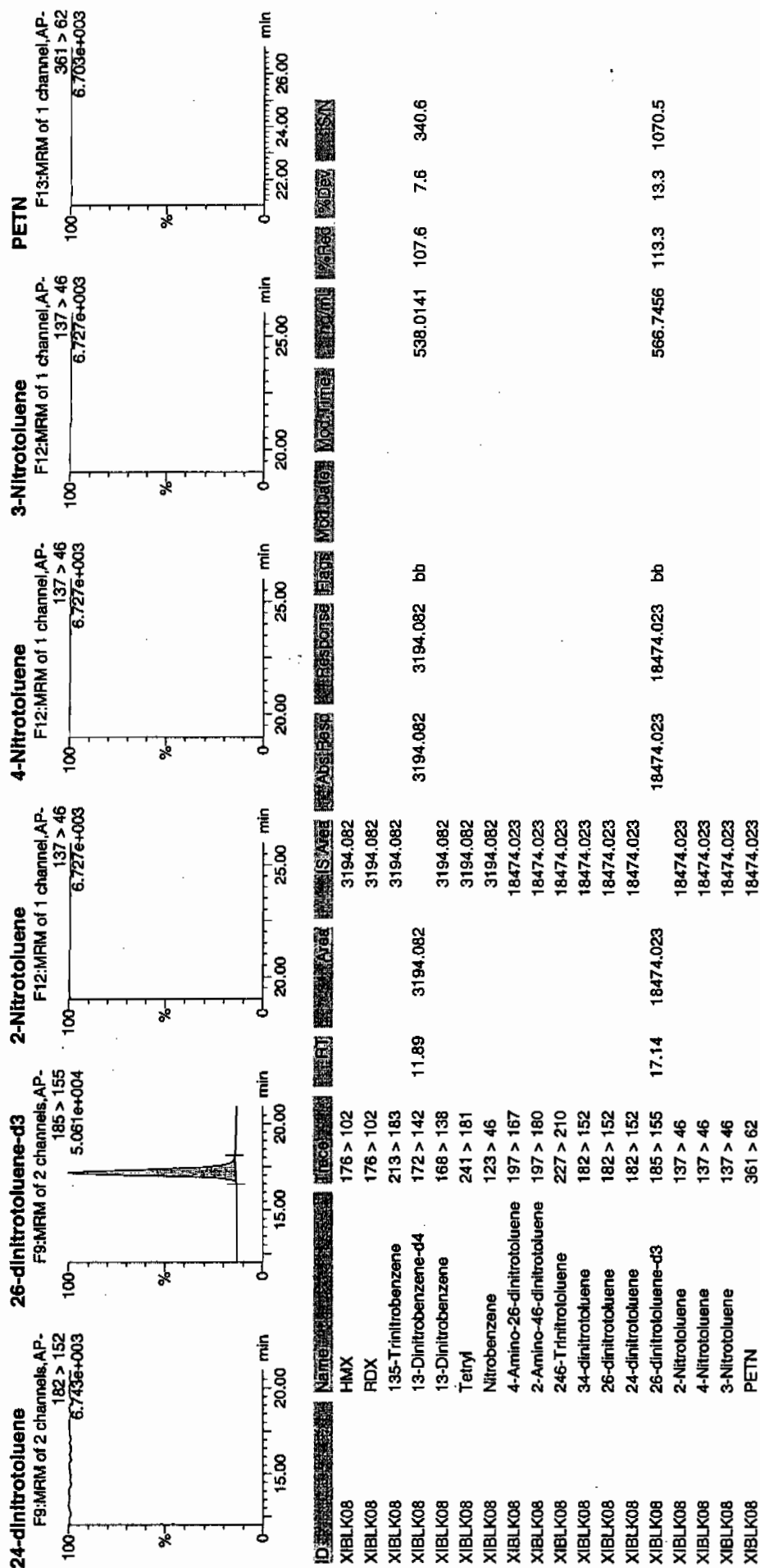
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Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 26-JAN-10 23:14

GEL Data File: EXP0125074a

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	524.417
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	524.016
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\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125074a

Date: 26-Jan-2010

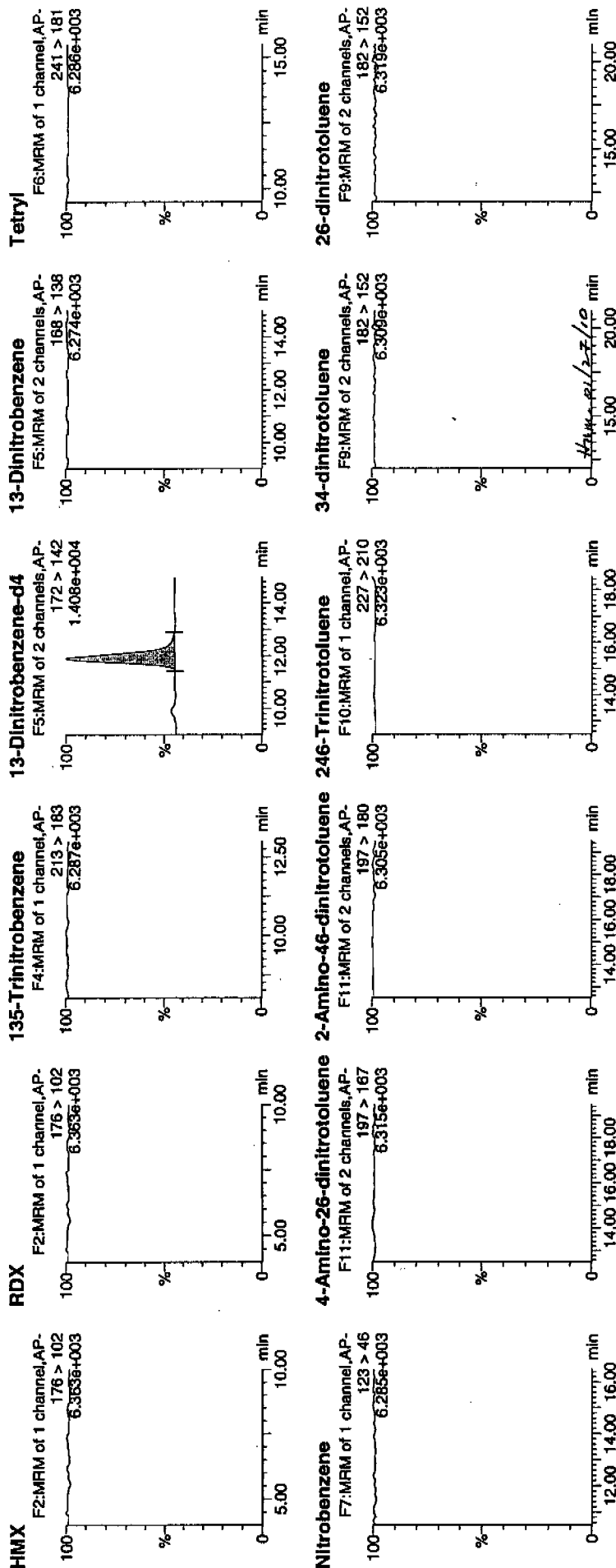
Time: 23:14:40

ID: XIBLK09

Vial: 1:1,A

1/27/10

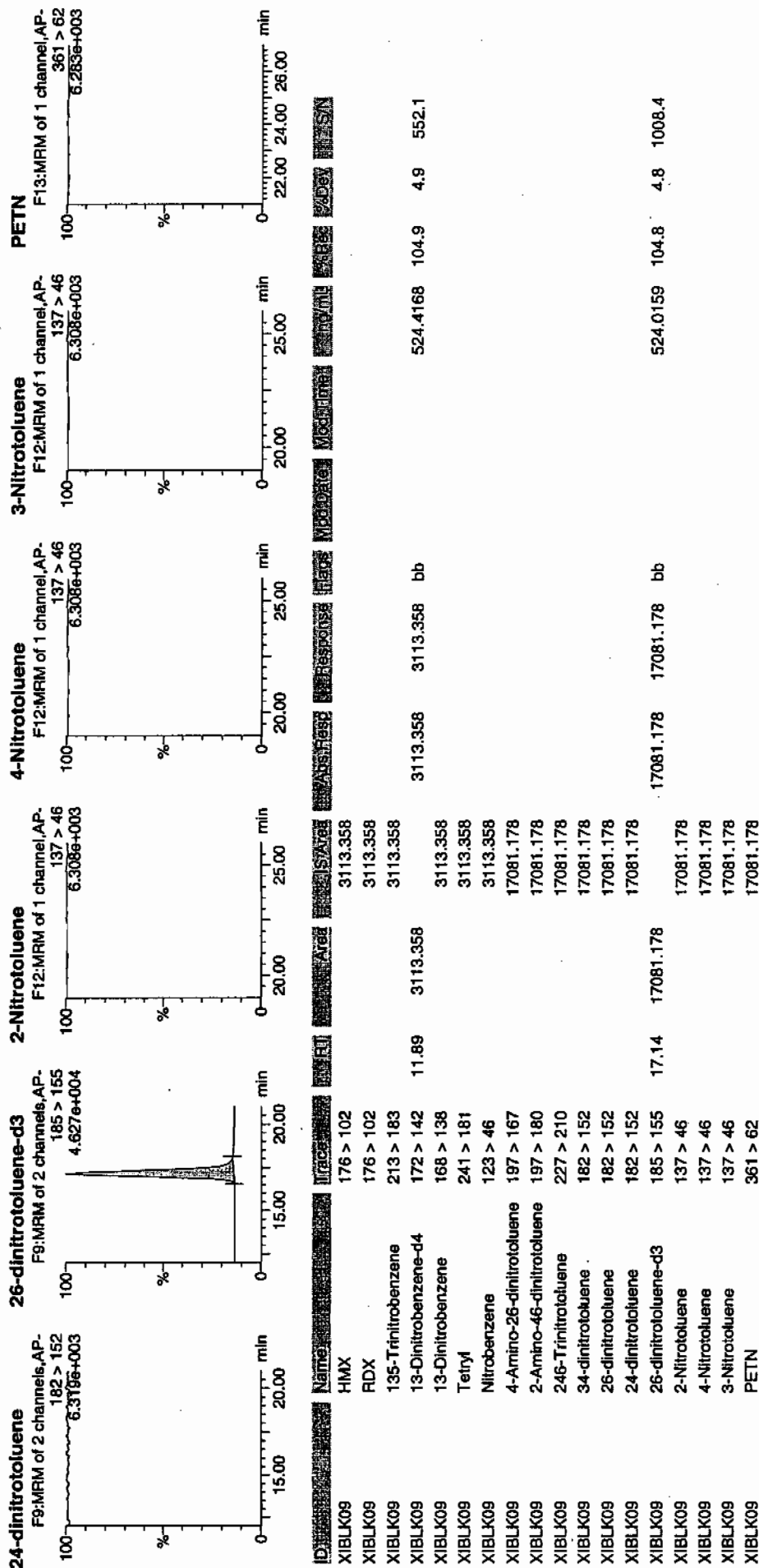
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Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\WASSLYN\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK10

Analysis Date: 27-JAN-10 03:40

GEL Data File: EXP0125083a

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	574.551
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	599.188
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

Printed: Wed Jan 27 09:26:20 2010, Page 93 of 97

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125083a

Date: 27-Jan-2010

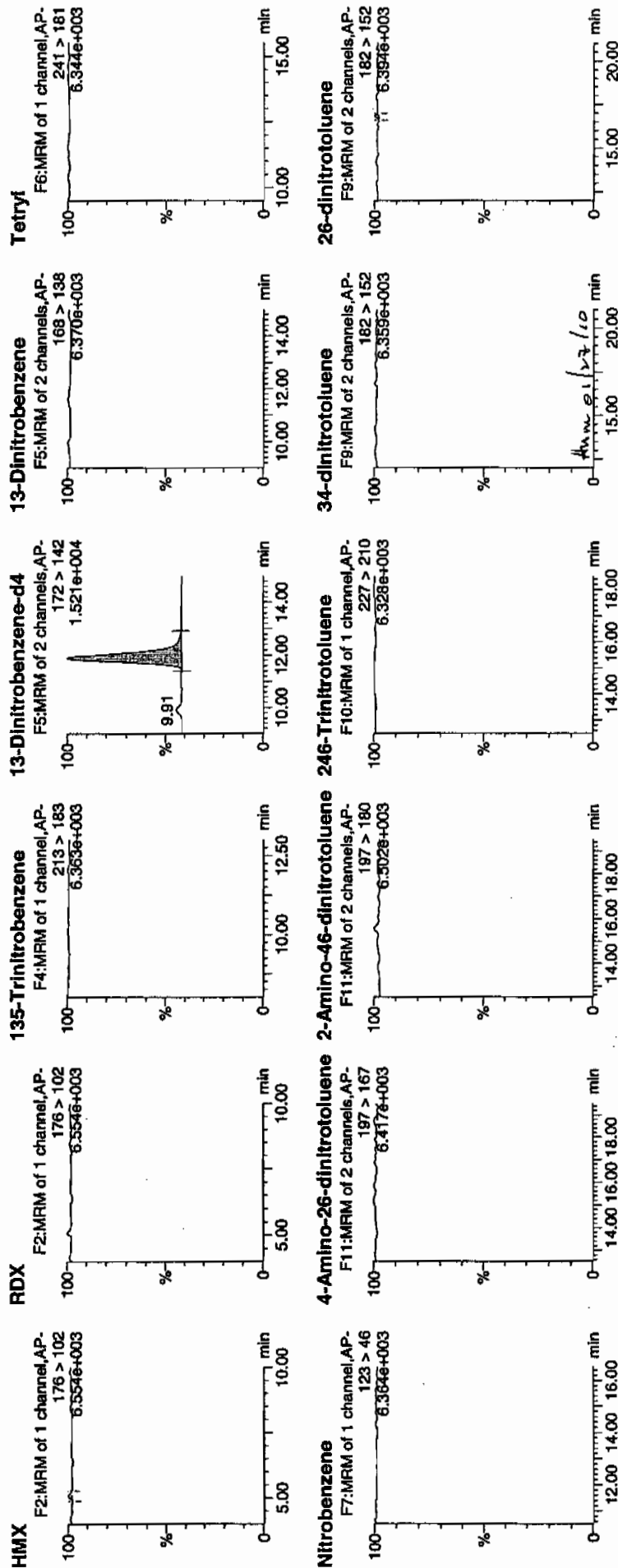
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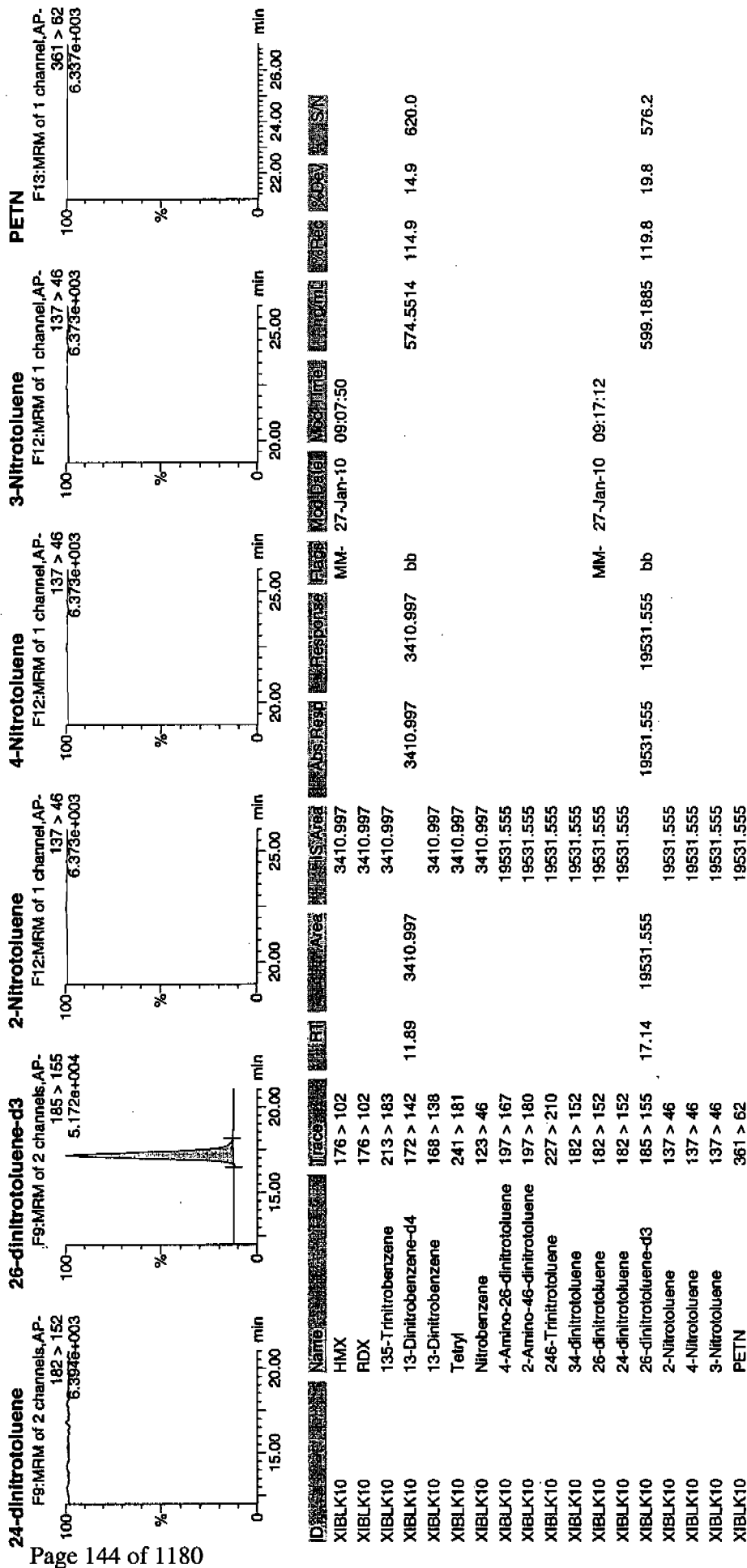
Vial: 1:1,A

WAT
1/27/10

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Dataset: C:\MASSLYNX\New_Exp\PRO1012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK11

Analysis Date: 27-JAN-10 10:04

GEL Data File: EXP0125096a

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	558.477
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	528.84
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\data\EXP0125096a

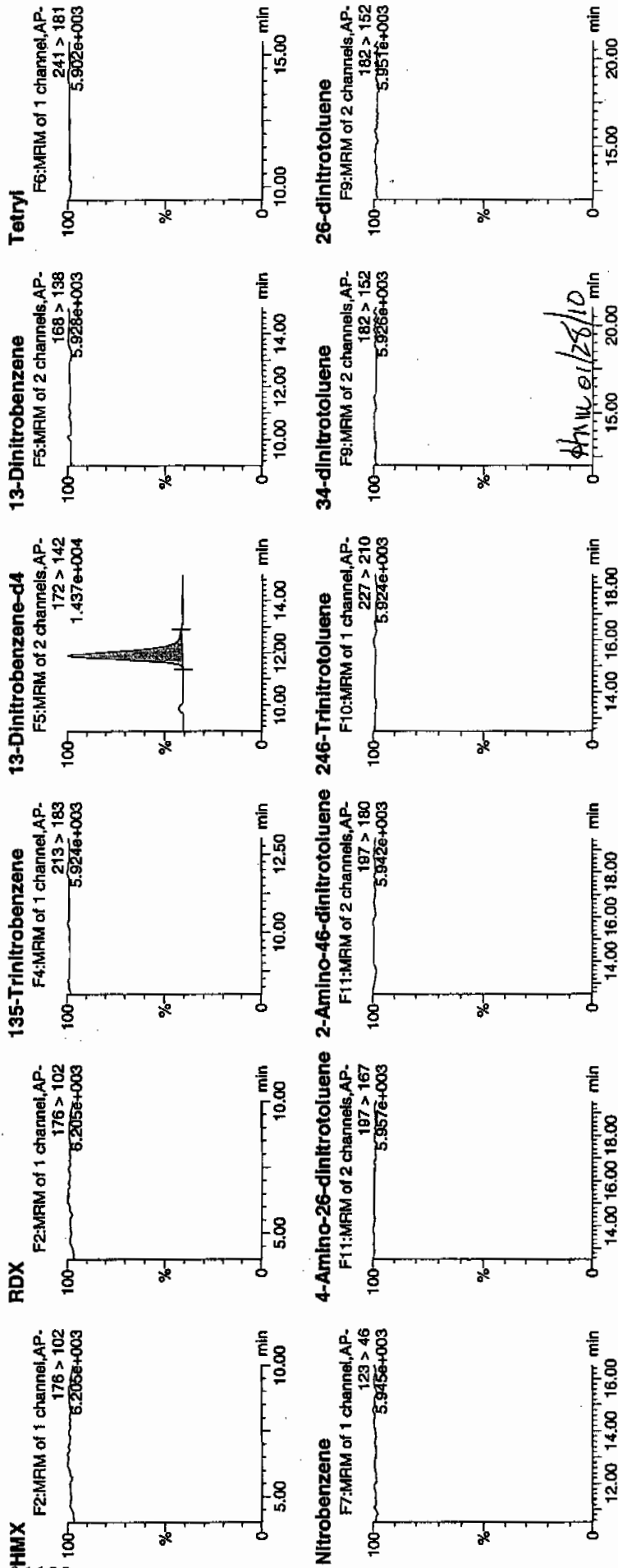
Date: 27-Jan-2010

Time: 10:04:30

ID: XIBLK11

Vial: 1:1,A

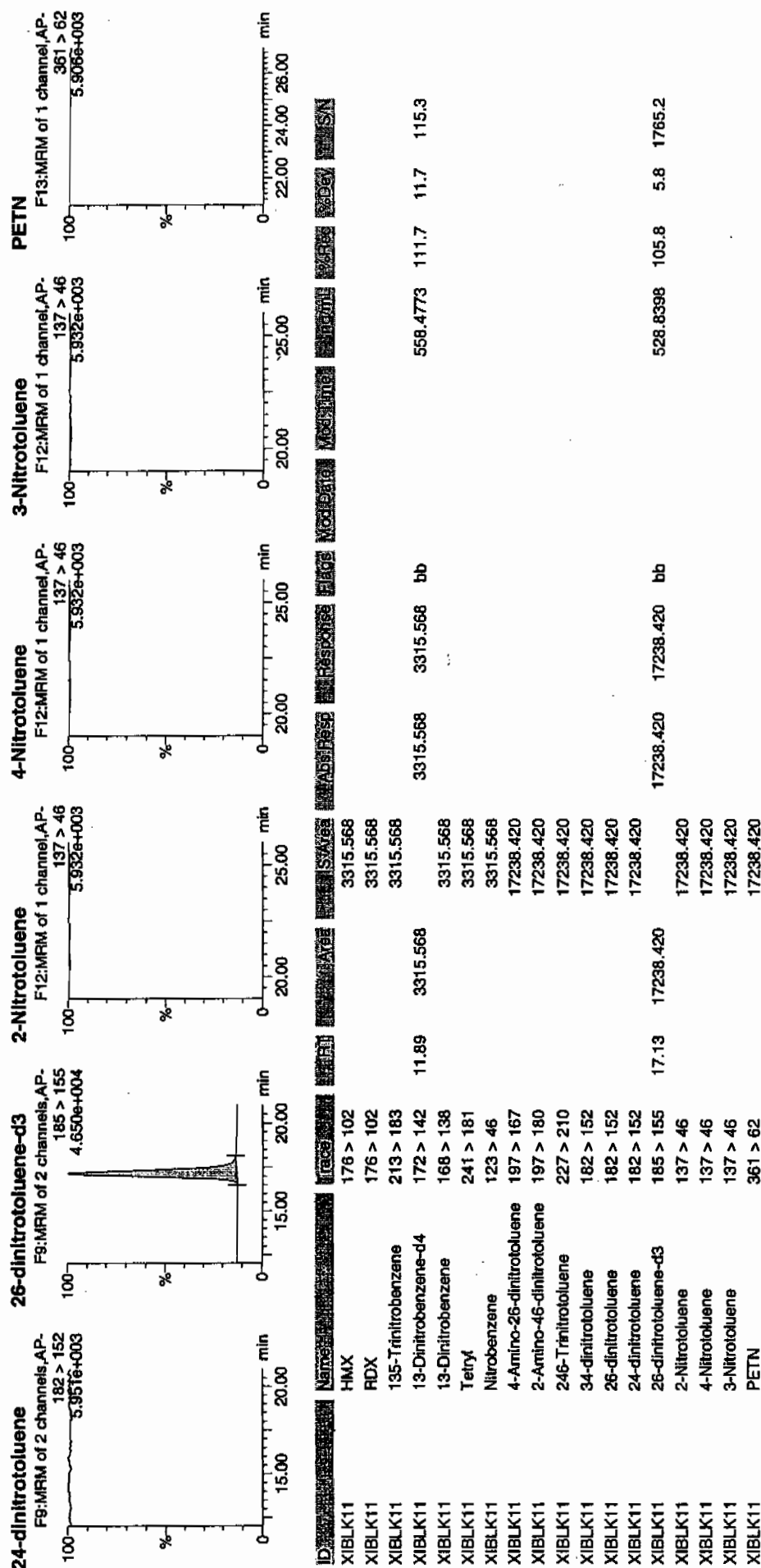
NOT
1/28/10



Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK12

Analysis Date: 27-JAN-10 16:28

GEL Data File: EXP0125109a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

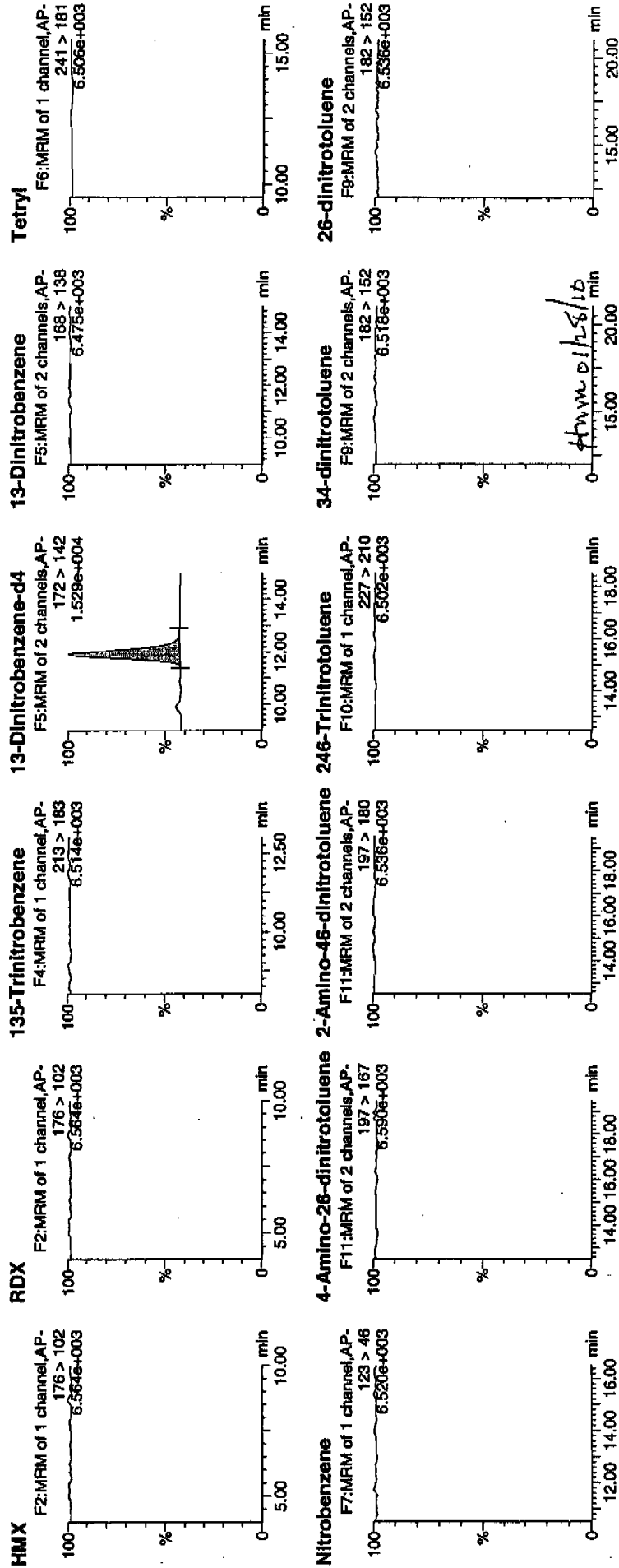
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	568.05
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	575.906
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

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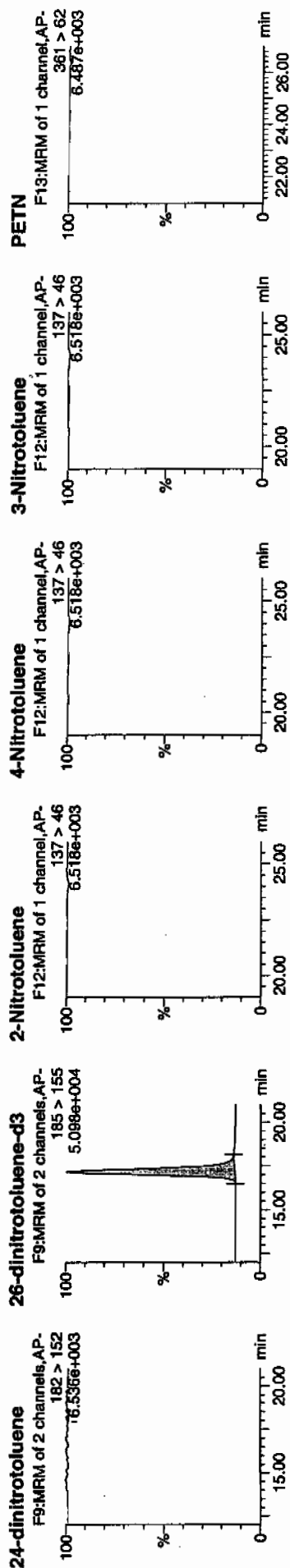
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Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK13

Analysis Date: 27-JAN-10 18:55

GEL Data File: EXP0125114a

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	505.557
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	509.162
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\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125114a

Date: 27-Jan-2010

Time: 18:55:56

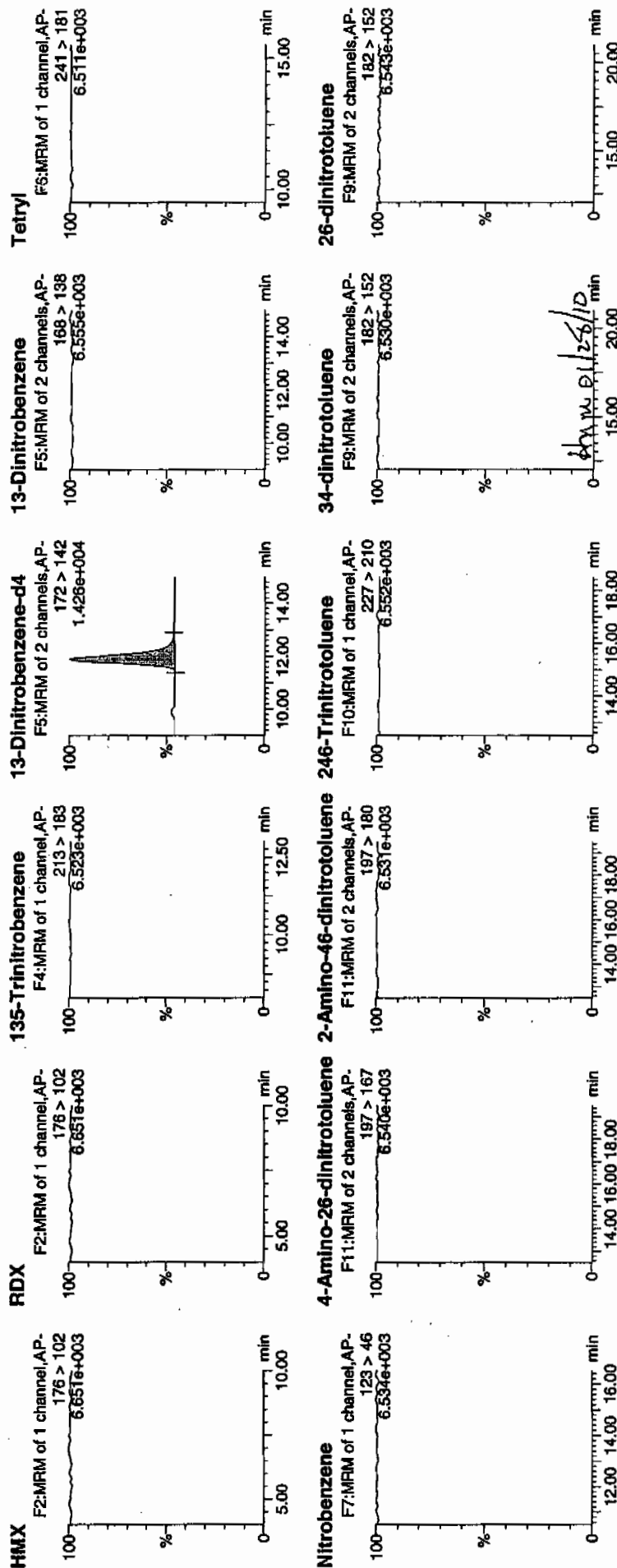
ID: XIBLK13

Vial: 1:1,A

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK14

Analysis Date: 27-JAN-10 20:24

GEL Data File: EXP0125117a

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	487.356
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	507.261
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125117a

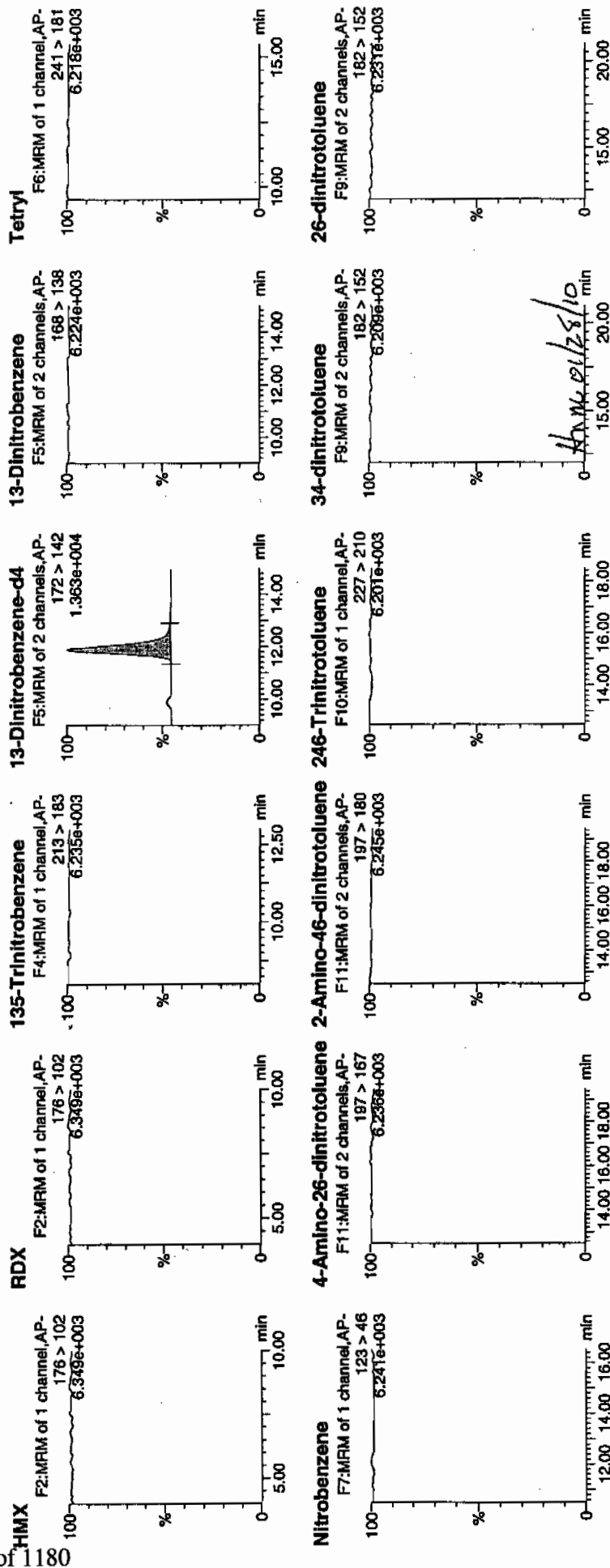
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Time: 20:24:27

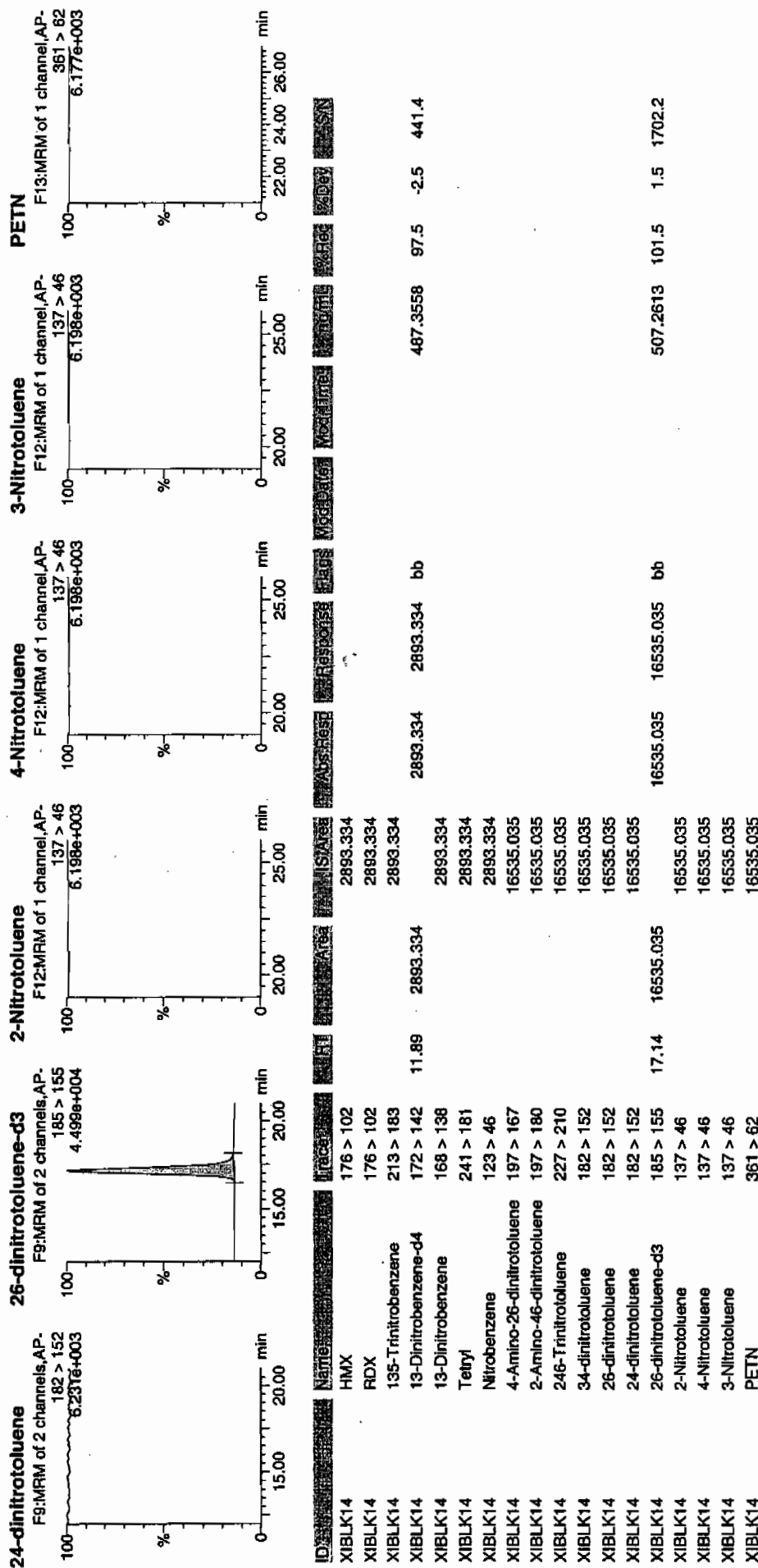
ID: XIBLK14

Vial: 1:1,A

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Dataset: C:\MASSLYN\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK15

Analysis Date: 28-JAN-10 02:47

GEL Data File: EXP0125130a

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	480.578
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	473.198
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125130a

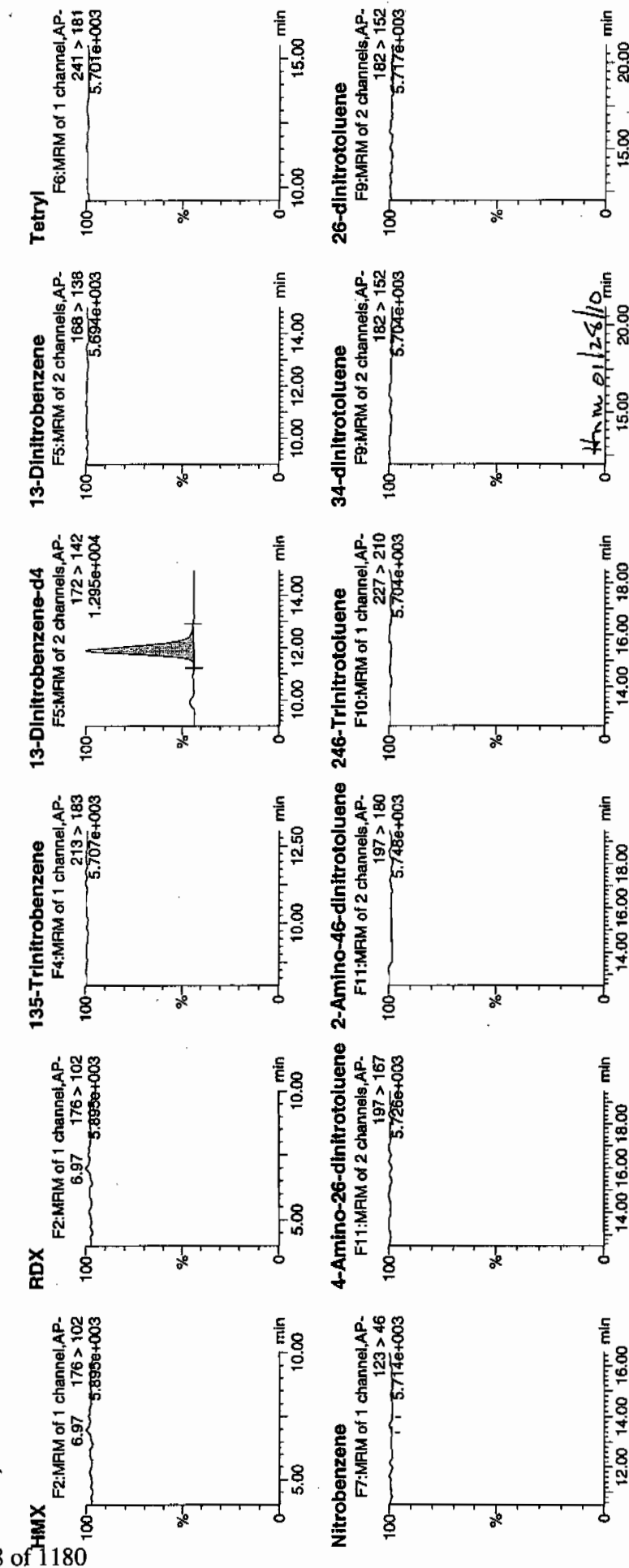
Date: 28-Jan-2010

Time: 02:47:46

ID: XIBLK15

Vial: 1:1,A

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MPT

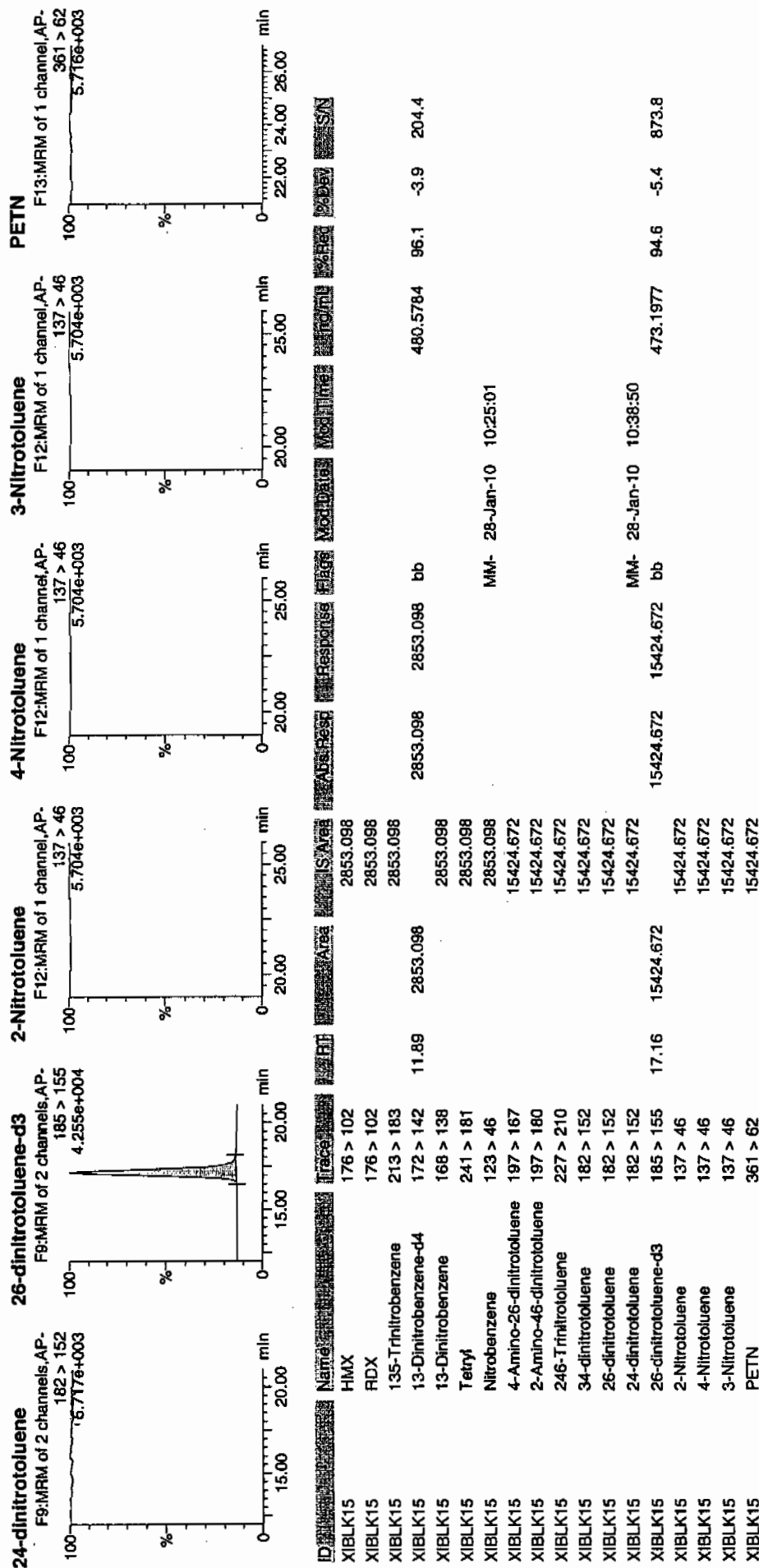


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK16

Analysis Date: 28-JAN-10 09:11

GEL Data File: EXP0125143a

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	519.151
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	494.217
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
 GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125143a

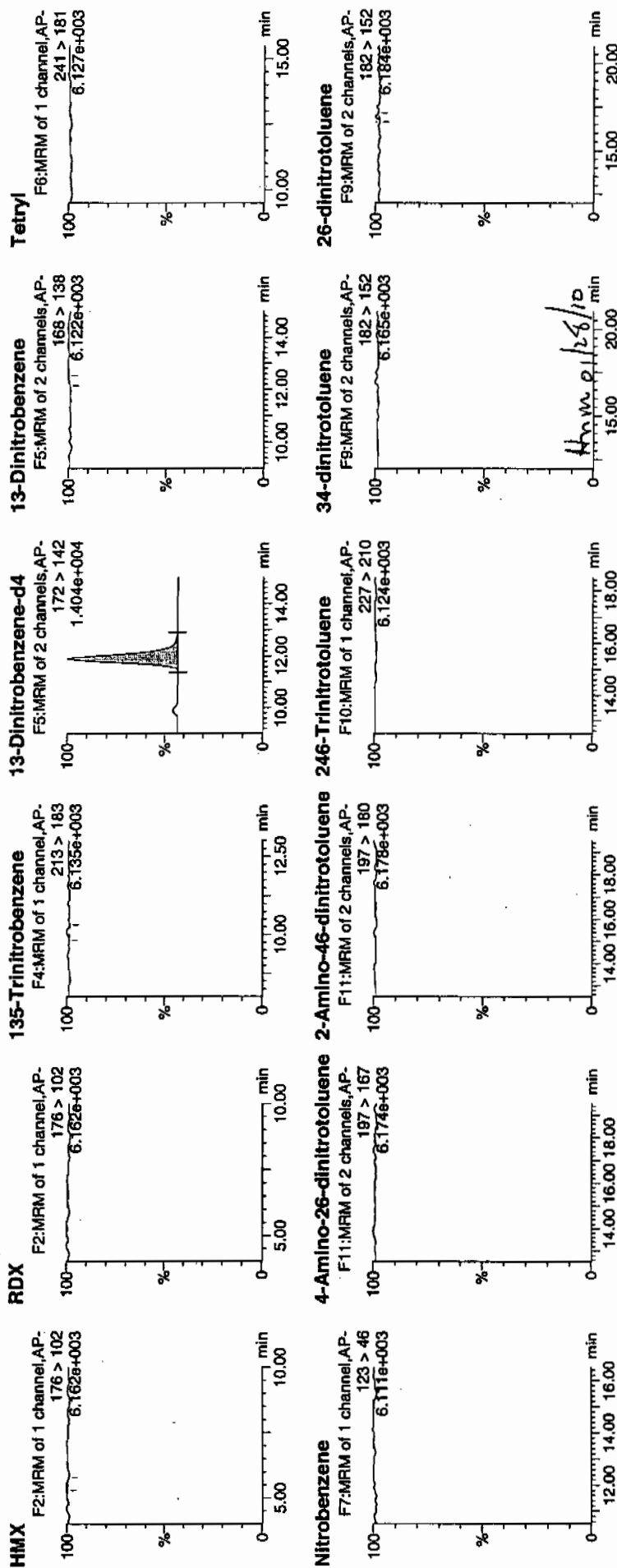
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Time: 09:11:19

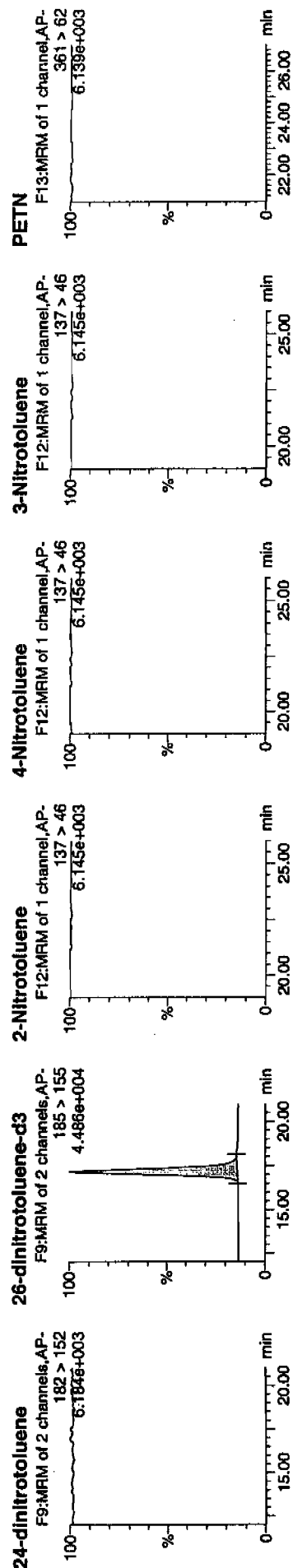
ID: XIBLK16

Vial: 1:1,A

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1/28/10



Dataset: C:\MASSLYN\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK17

Analysis Date: 28-JAN-10 15:35

GEL Data File: EXP0125156a

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	612.197
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	577.738
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125156a

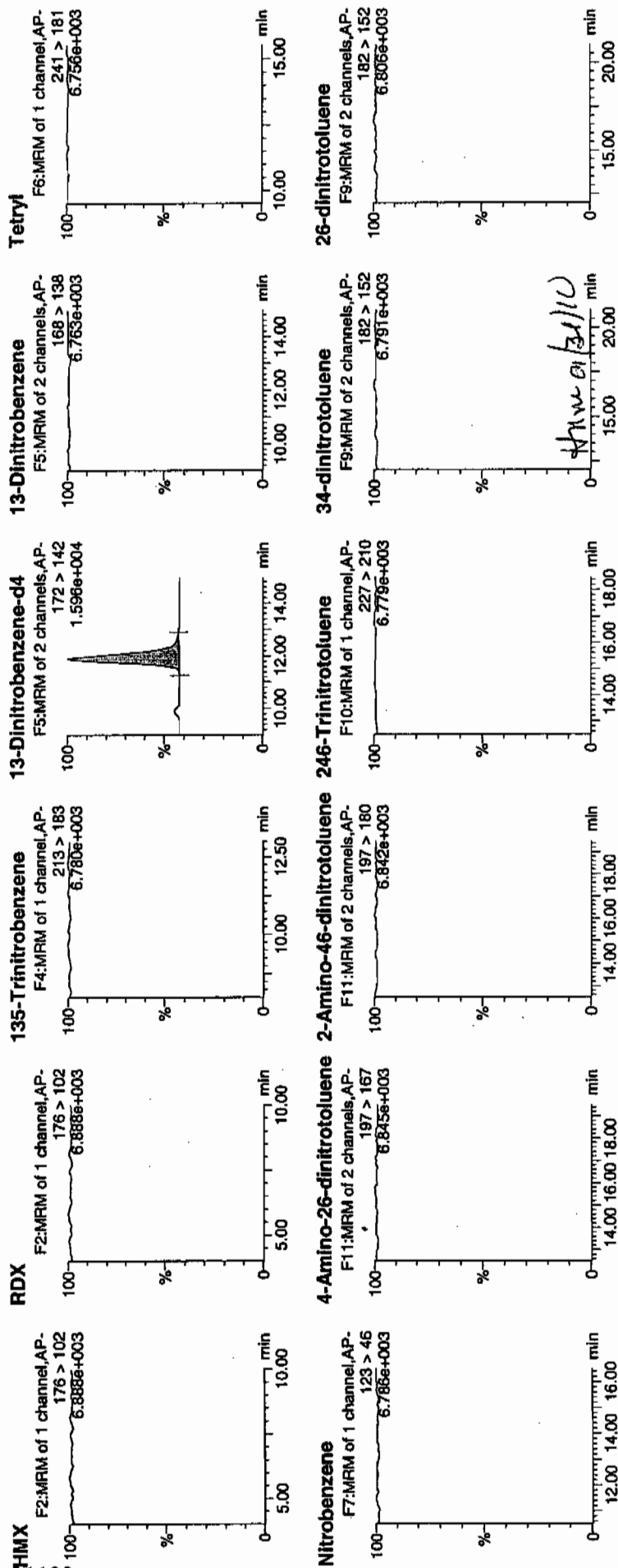
Date: 28-Jan-2010

Time: 15:35:37

ID: XIBLK17

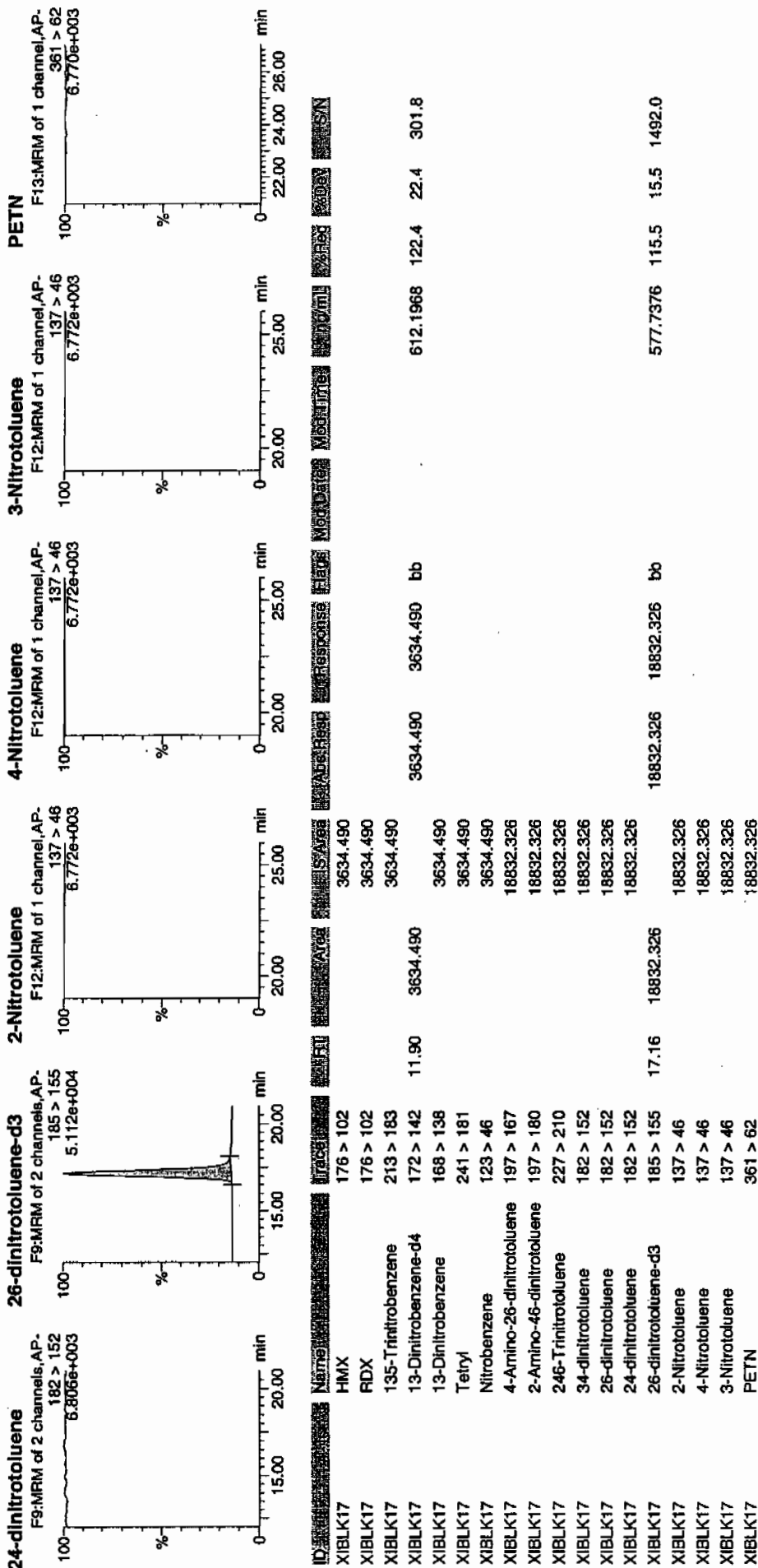
Vial: 1:1,A

1/29/10



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PROV012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK18

Analysis Date: 28-JAN-10 17:04

GEL Data File: EXP0125159a

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	507.456
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	534.04
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0125159a

Date: 28-Jan-2010

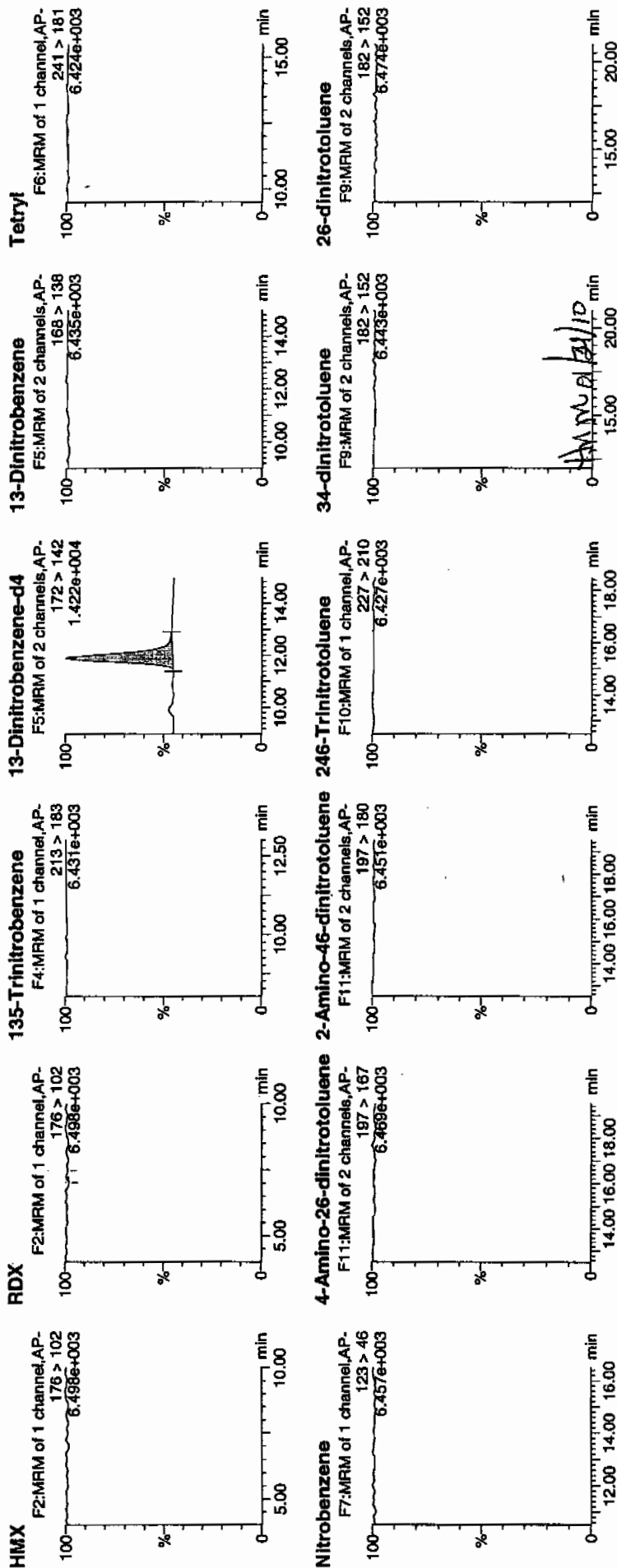
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ID: XIBLK18

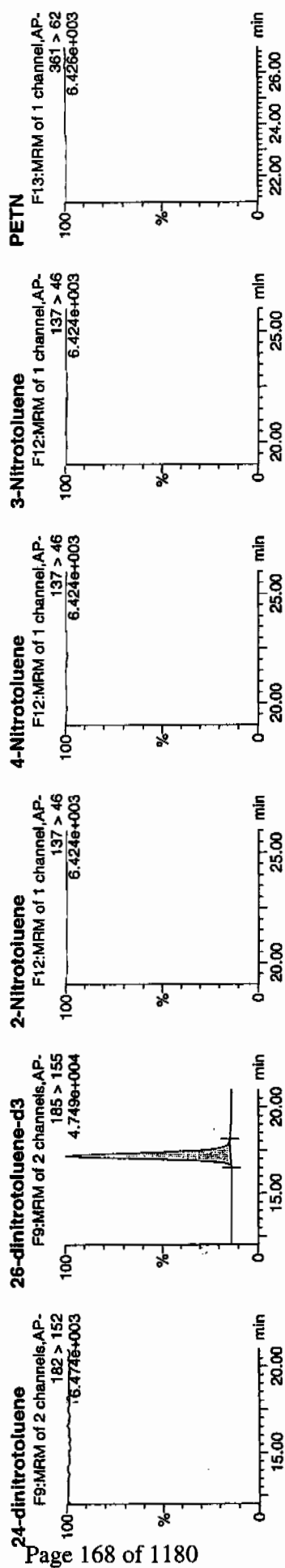
Vial: 1:1,A

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Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

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4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK19

Analysis Date: 28-JAN-10 21:00

GEL Data File: EXP0125167a

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	539.662
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	508.524
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125167a

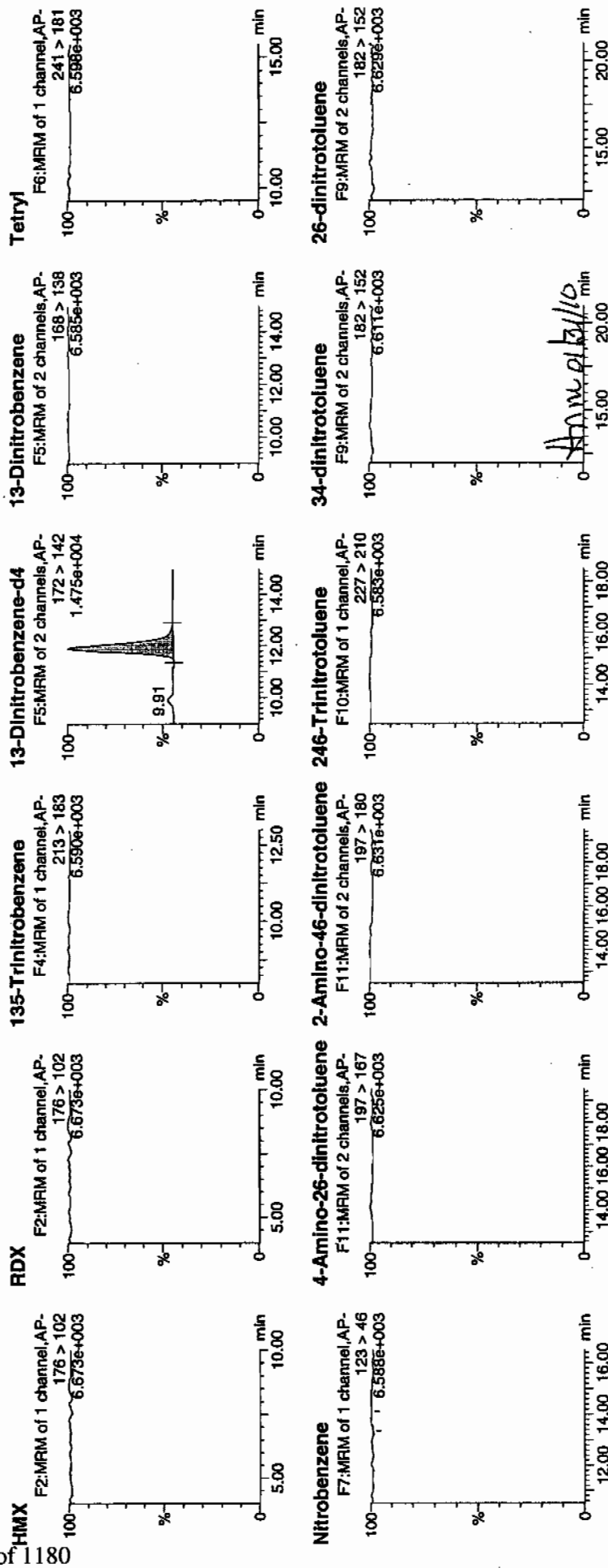
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Time: 21:00:06

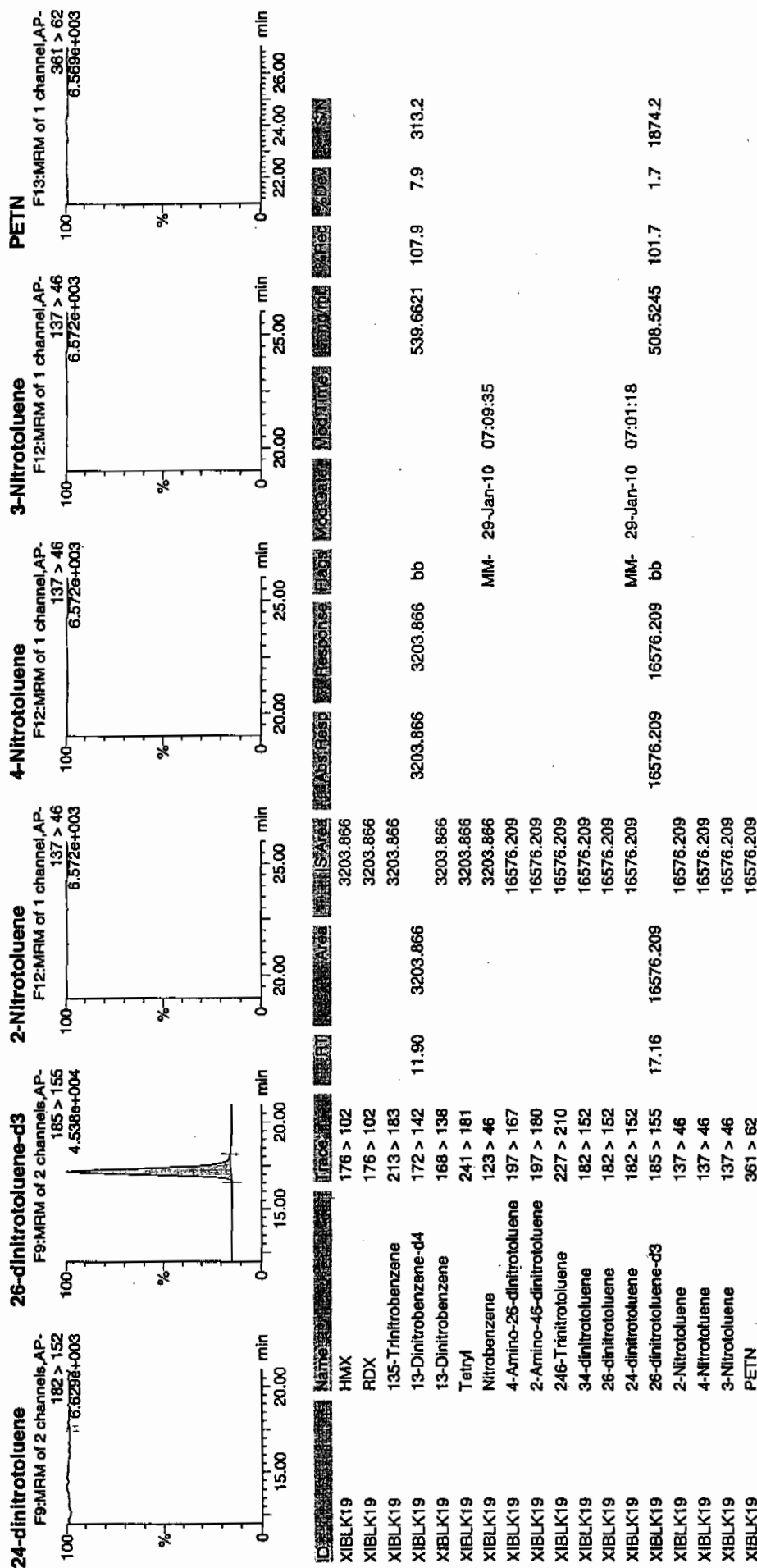
ID: XIBLK19

Vial: 1:1,A

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1/29/10



Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK20

Analysis Date: 29-JAN-10 03:23

GEL Data File: EXP0125180a

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	495.296
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	542.599
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125180a

Date: 29-Jan-2010

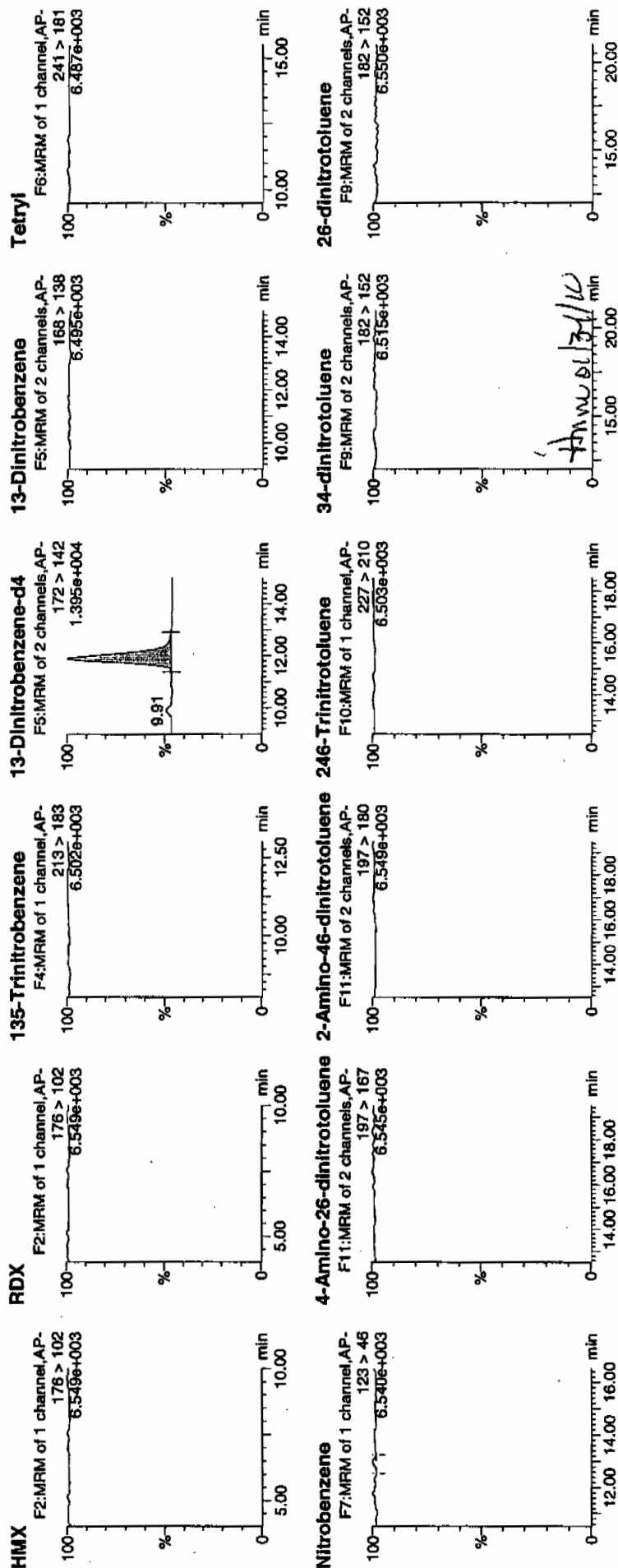
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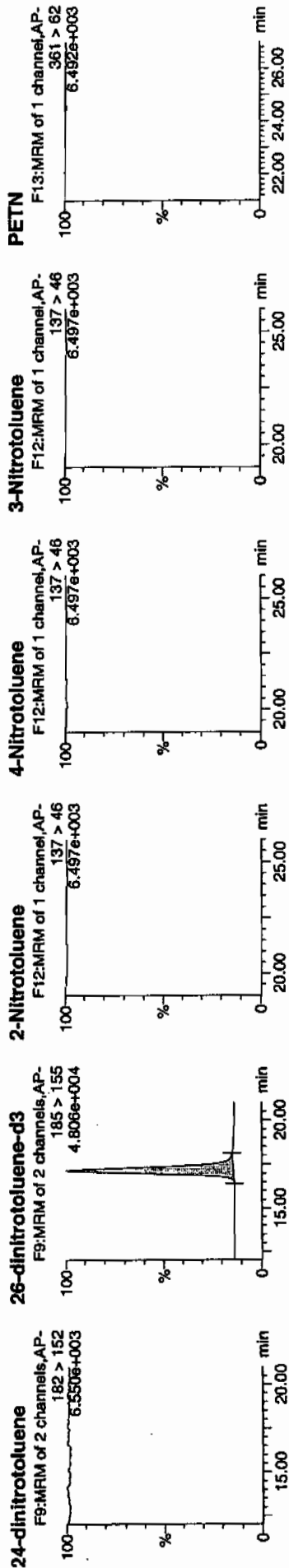
Vial: 1:1,A

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Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



ID	Name	RT	Area	Height	Width	Area%	Height%	Width%	Area%	Height%	Width%
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XIBLK20	RDX	176 > 102	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476
XIBLK20	135-Trinitrobenzene	213 > 183	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476
XIBLK20	13-Dinitrobenzene-d4	172 > 142	11.89	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476
XIBLK20	13-Dinitrobenzene	168 > 138	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476
XIBLK20	Tetryl	241 > 181	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476	2940.476
XIBLK20	Nitrobenzene	123 > 46	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	4-Amino-26-dinitrotoluene	197 > 167	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	2-Amino-46-dinitrotoluene	197 > 180	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	246-Trinitrotoluene	227 > 210	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	34-dinitrotoluene	182 > 152	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	26-dinitrotoluene	182 > 152	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	24-dinitrotoluene	182 > 152	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	26-dinitrotoluene-d3	185 > 155	17.16	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	2-Nitrotoluene	137 > 46	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	4-Nitrotoluene	137 > 46	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	3-Nitrotoluene	137 > 46	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930	17686.930
XIBLK20	PETN	361 > 62	542.5991	108.5	8.5	1388.3	542.5991	108.5	8.5	1388.3	542.5991

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK21

Analysis Date: 29-JAN-10 09:47

GEL Data File: EXP0125193a

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	474.634
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	484.797
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\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125193a

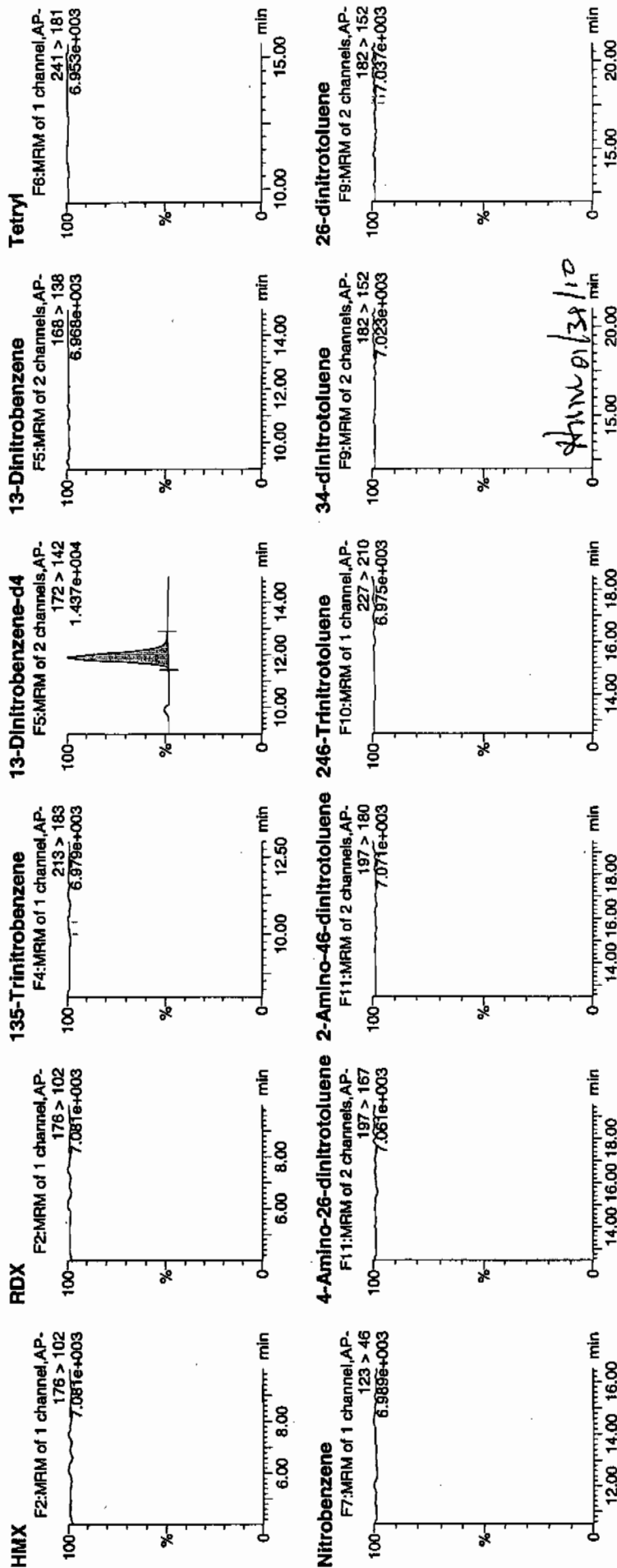
Date: 29-Jan-2010

Time: 09:47:18

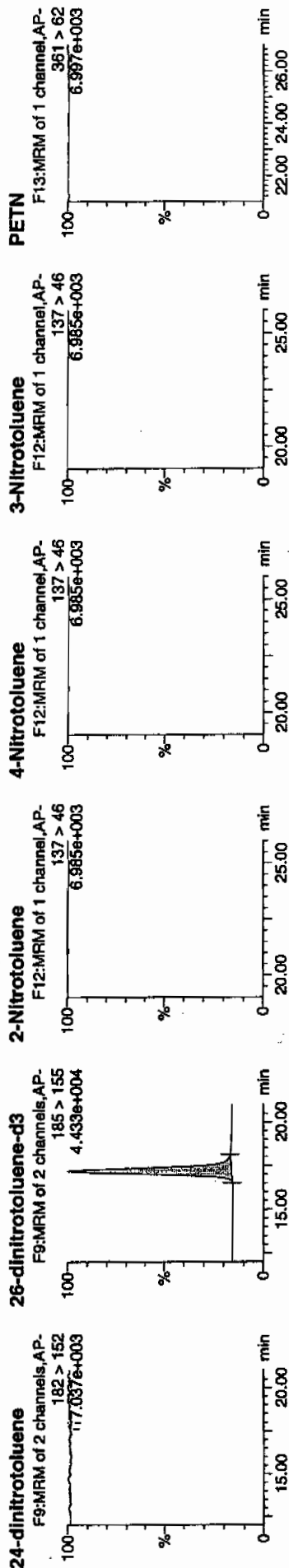
ID: XIBLK21

Vial: 1:1,A

1/29/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010



ID	Name	Trace	RT	Area	IS	MS	Response	File	Mod	Date	Time	Mod	Time	Mod	Time
XIBLK21	HMX	176 > 102	2817.810												
XIBLK21	RDX	176 > 102	2817.810												
XIBLK21	135-Trinitrobenzene	213 > 183	2817.810												
XIBLK21	13-Dinitrobenzene-d4	172 > 142	11.92	2817.810											
XIBLK21	13-Dinitrobenzene	168 > 138													
XIBLK21	Tetryl	241 > 181													
XIBLK21	Nitrobenzene	123 > 46													
XIBLK21	4-Amino-26-dinitrotoluene	197 > 167													
XIBLK21	2-Amino-46-dinitrotoluene	197 > 180													
XIBLK21	246-Trinitrotoluene	227 > 210													
XIBLK21	34-dinitrotoluene	182 > 152													
XIBLK21	26-dinitrotoluene	182 > 152													
XIBLK21	24-dinitrotoluene	182 > 152													
XIBLK21	26-dinitrotoluene-d3	185 > 155	17.18	15802.788											
XIBLK21	2-Nitrotoluene	137 > 46													
XIBLK21	4-Nitrotoluene	137 > 46													
XIBLK21	3-Nitrotoluene	137 > 46													
XIBLK21	PETN	361 > 62													

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK22

Analysis Date: 29-JAN-10 15:41

GEL Data File: EXP0125205a

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	473.694
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	472.723
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125205a

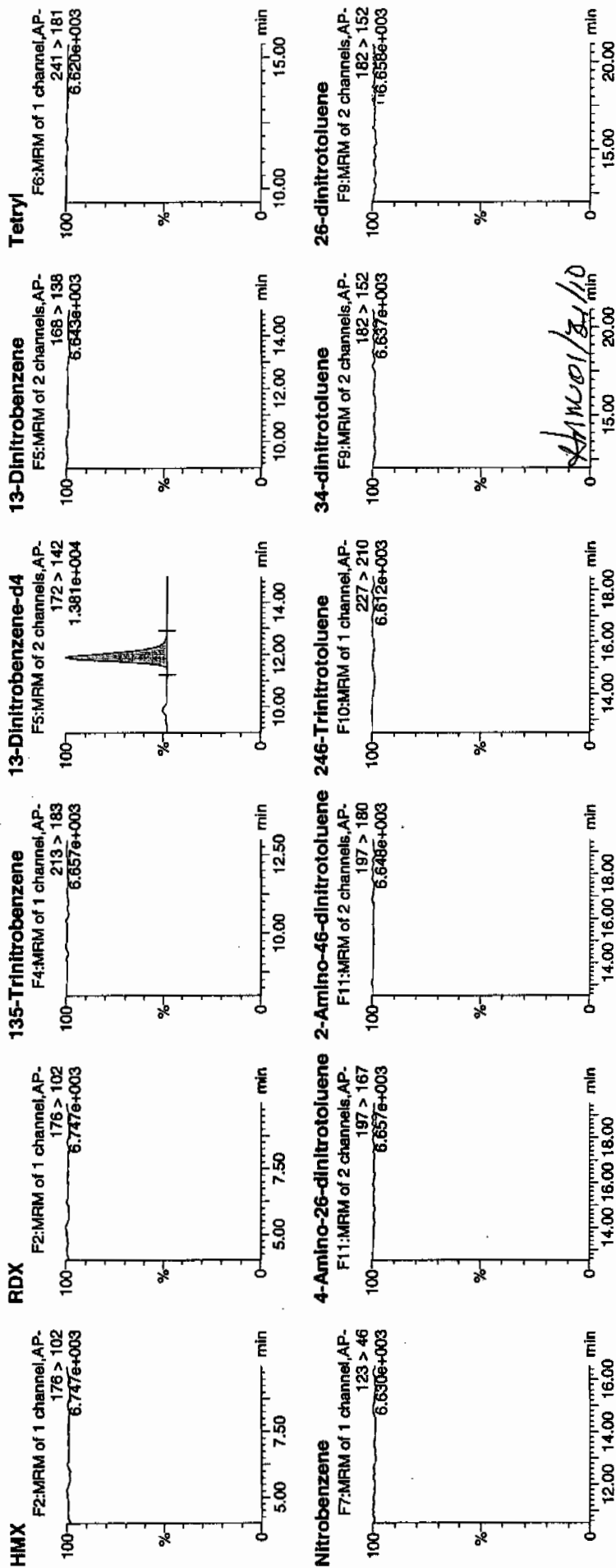
Date: 29-Jan-2010

Time: 15:41:10

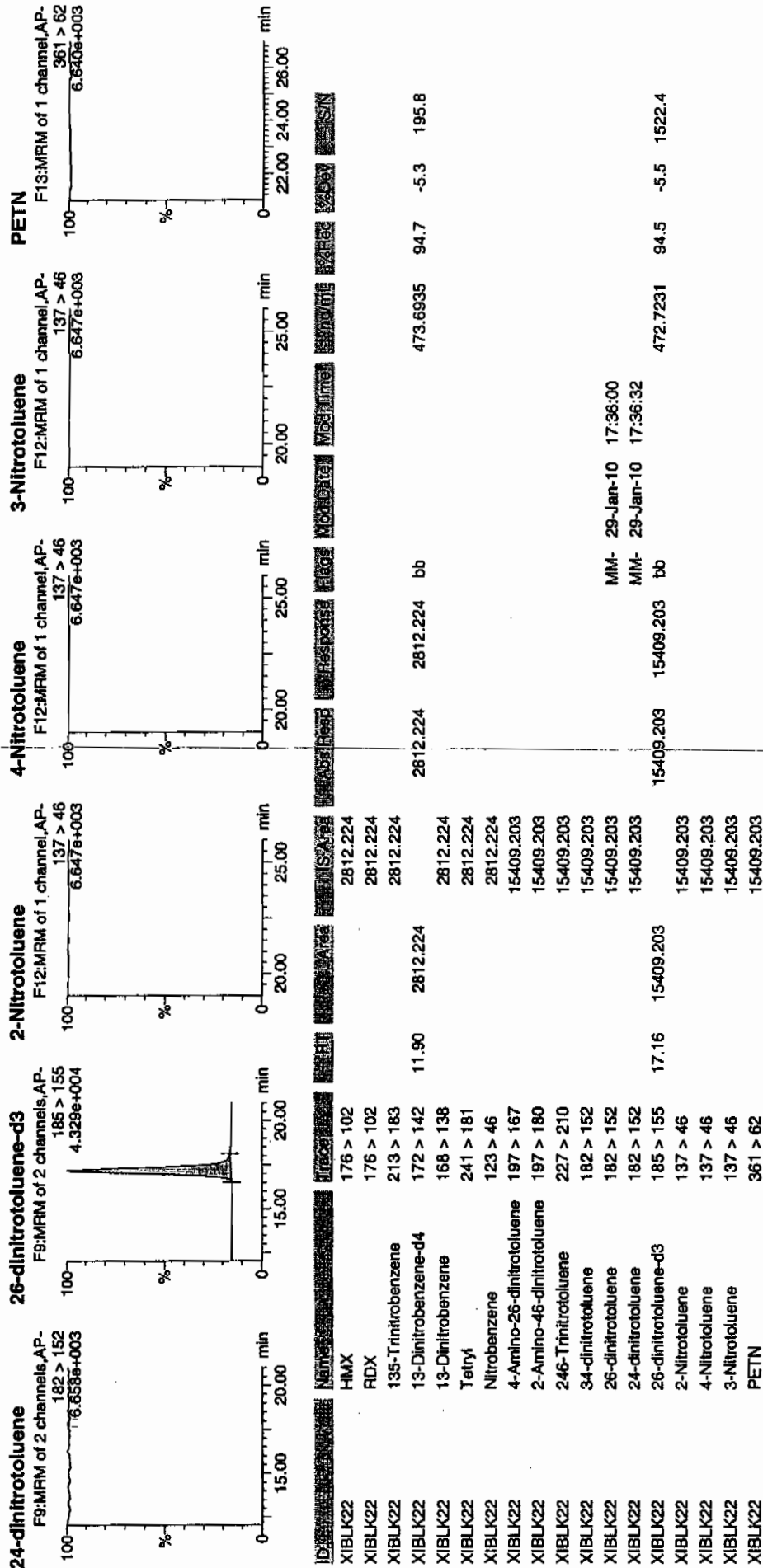
ID: XIBLK22

Vial: 1:1,A

1077
1/29/10



Dataset: C:\MASSLYNX\New_Exp\PRO12510expA4.qld, Time: Fri Jan 29 17:40:23 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK23

Analysis Date: 29-JAN-10 21:05

GEL Data File: EXP0125216a

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	514.705
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	541.748
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

Printed: Sat Jan 30 10:07:34 2010, Page 19 of 71

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0125216a

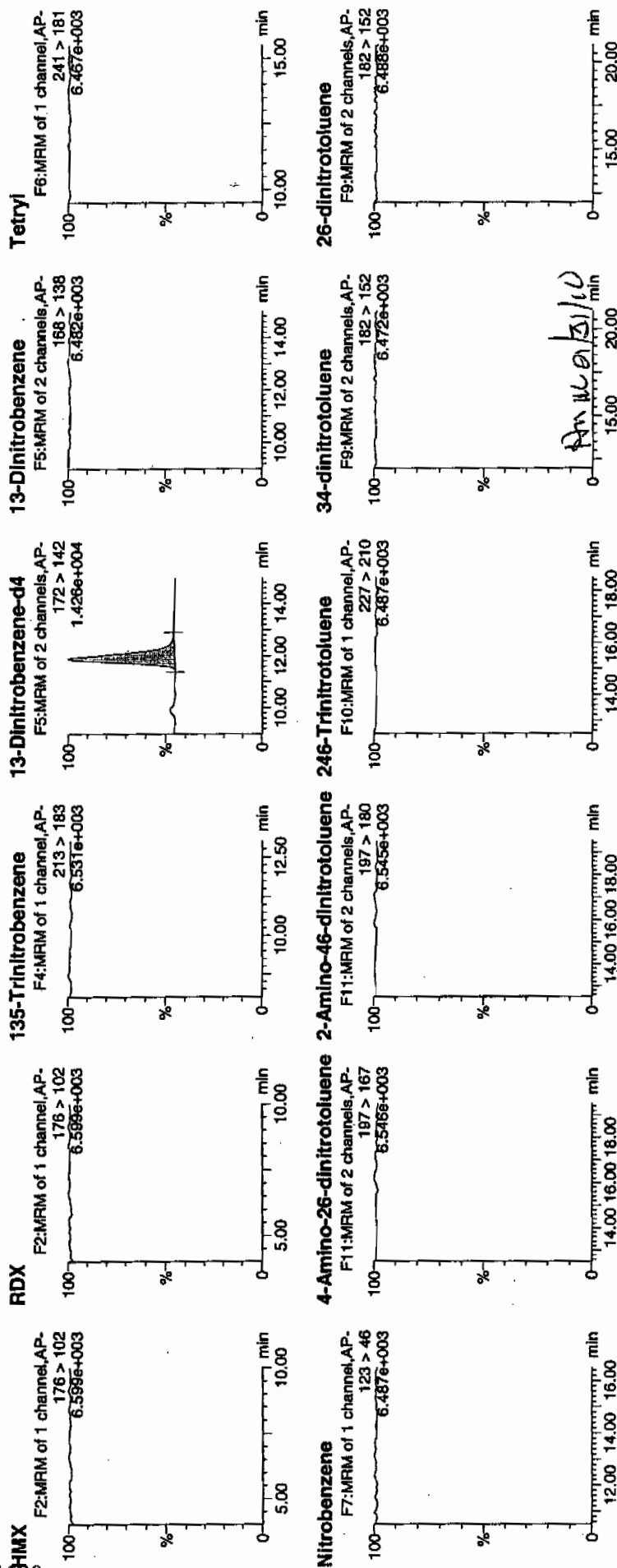
Date: 29-Jan-2010

Time: 21:05:52

ID: XIBLK23

Vial: 1:1,A

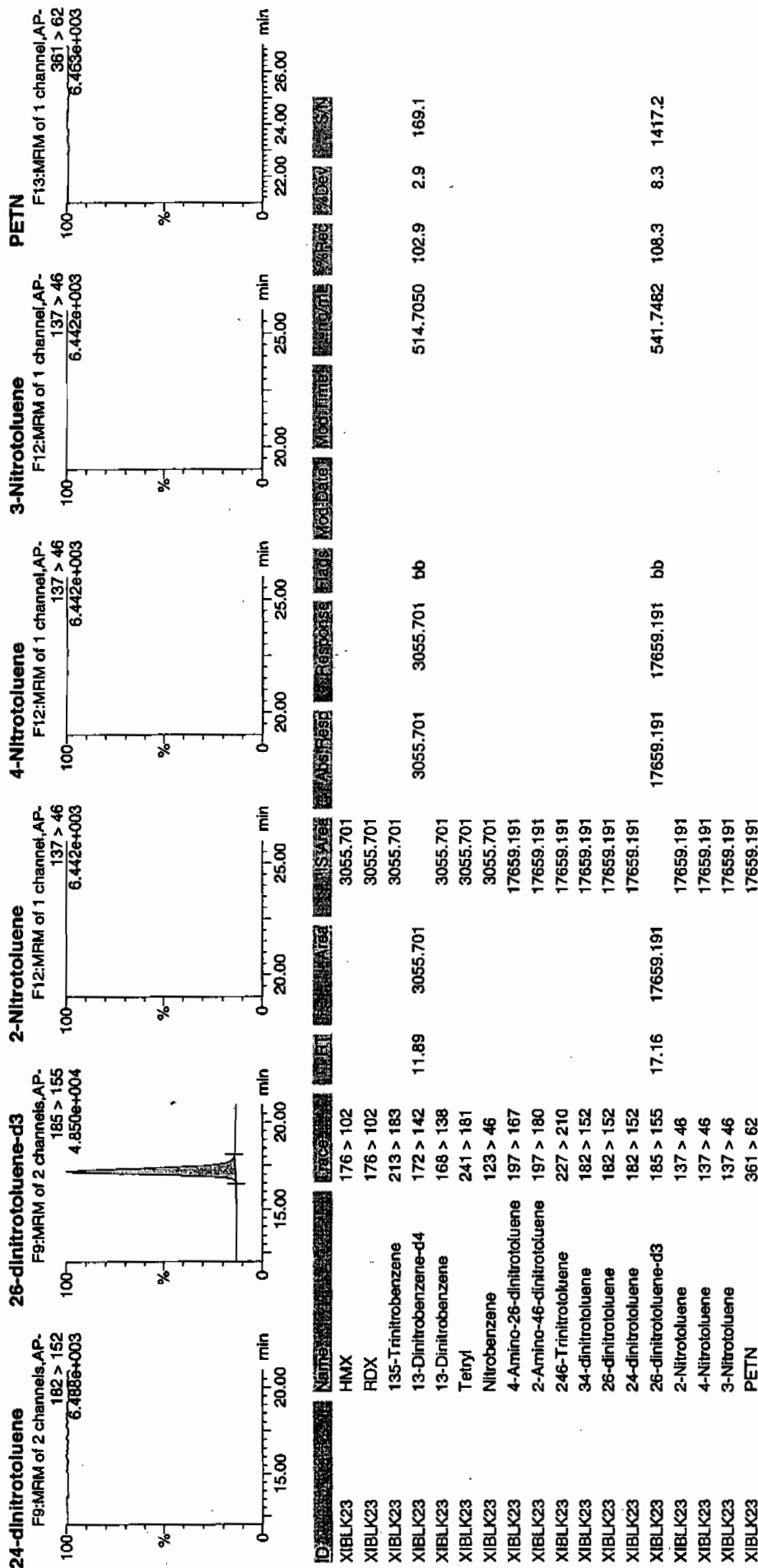
130/10



Printed: Sat Jan 30 10:07:34 2010, Page 20 of 71

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO1012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK24

Analysis Date: 30-JAN-10 03:29

GEL Data File: EXP0125229a

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	519.591
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	493.362
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125229a

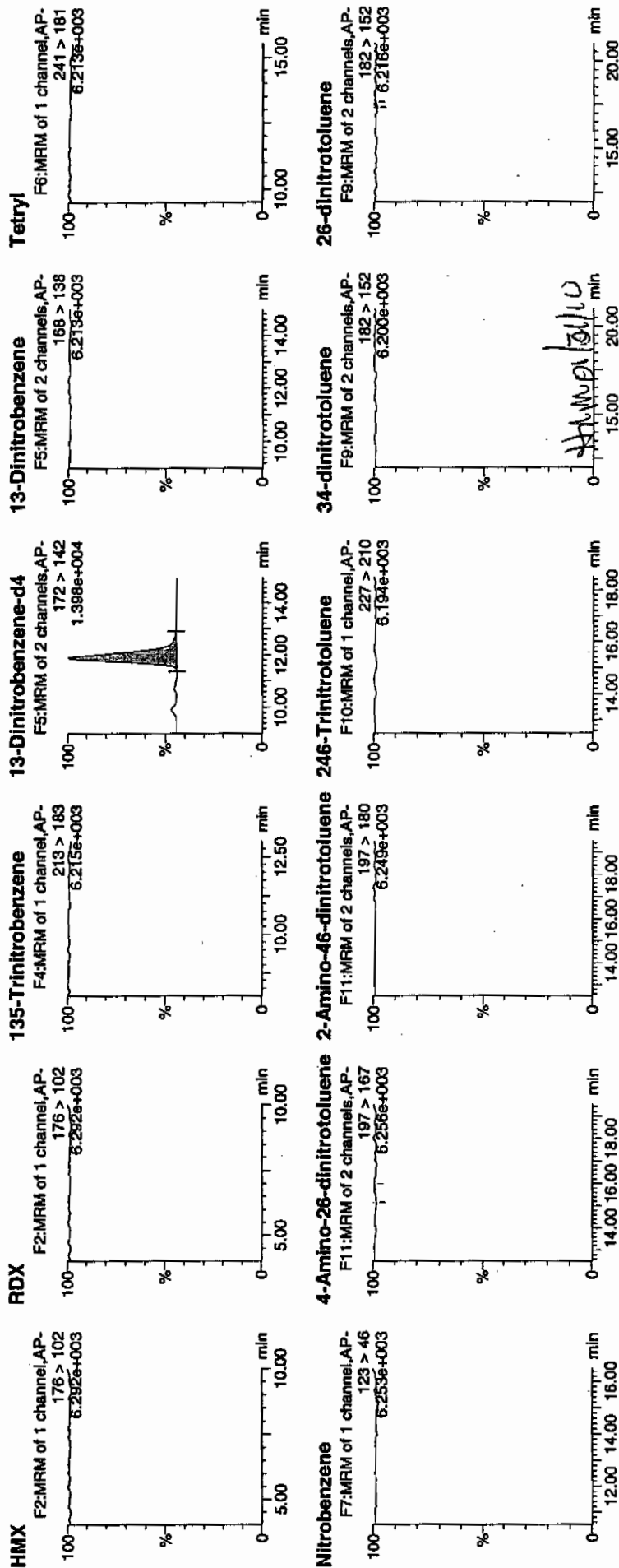
Date: 30-Jan-2010

Time: 03:29:42

ID: XIBLK24

Vial: 1:1,A

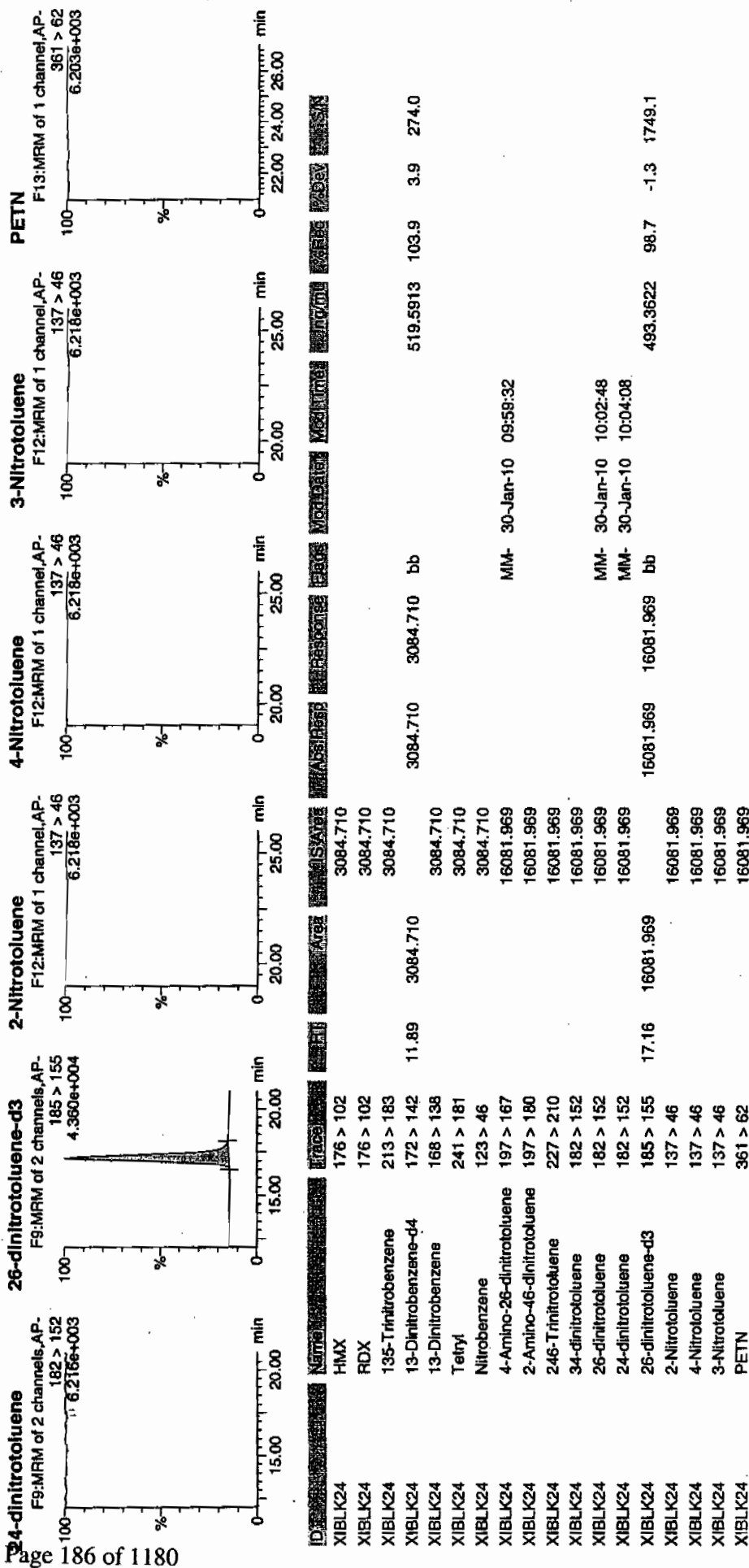
130/10



Printed: Sat Jan 30 10:07:34 2010, Page 46 of 71

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 25-JAN-10 12:54

GEL Data File: EXS01250010.wiff

Instrument ID: LCMSMS

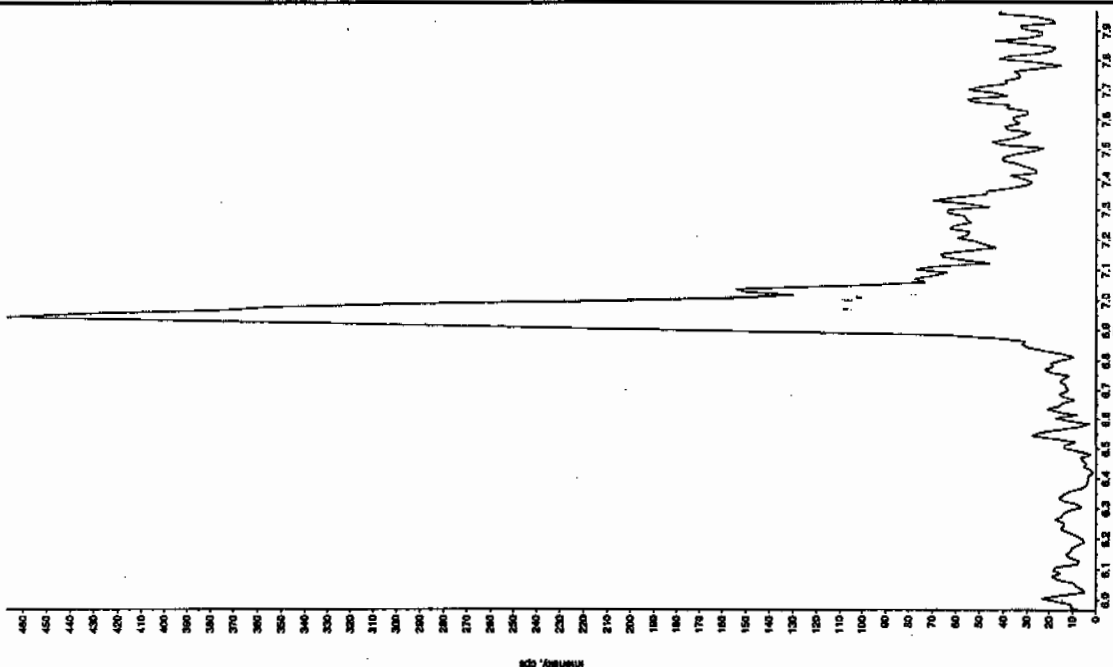
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.7
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1/27/10

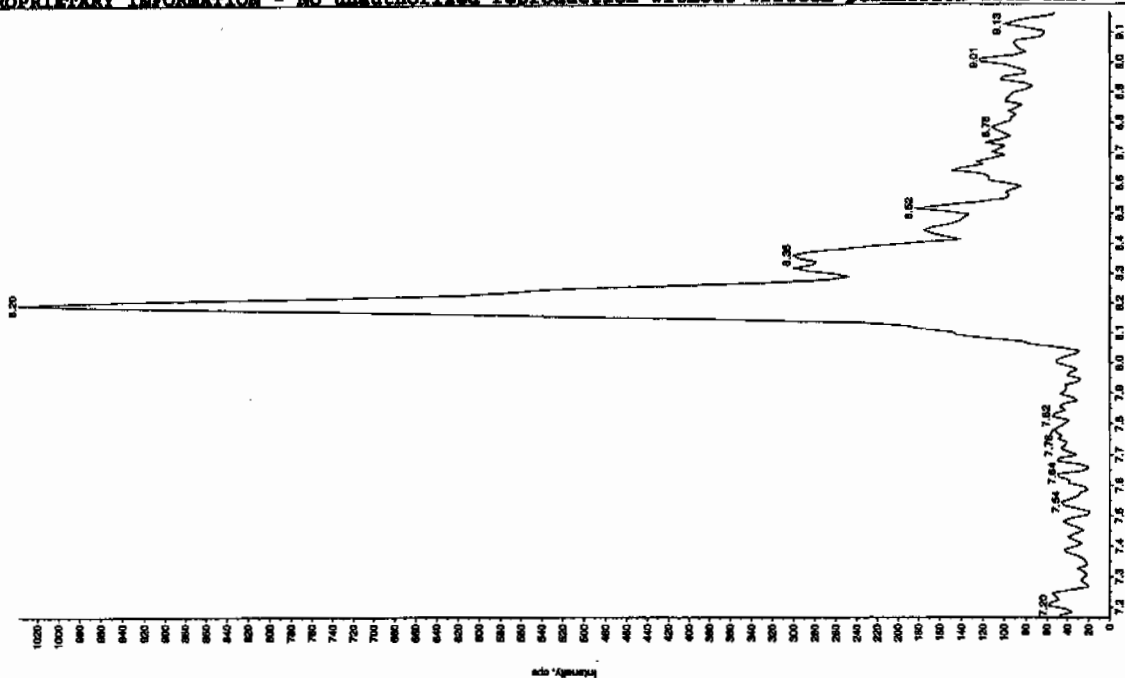
Sample Name: 'XBL002' Sample ID: '11111' File: 'EX01250010.wif'
 Peak Name: 'TATP' Mass(es): '257.2204.9 amu'
 Comment: 'LCMS EXP_B' Annotation: ''

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 12:54:10 PM
 Modified: No



Sample Name: 'XBL002' Sample ID: '11111' File: 'EX01250010.wif'
 Peak Name: 'TATP' Mass(es): '182.0446.0 amu'
 Comment: 'LCMS EXP_B' Annotation: ''

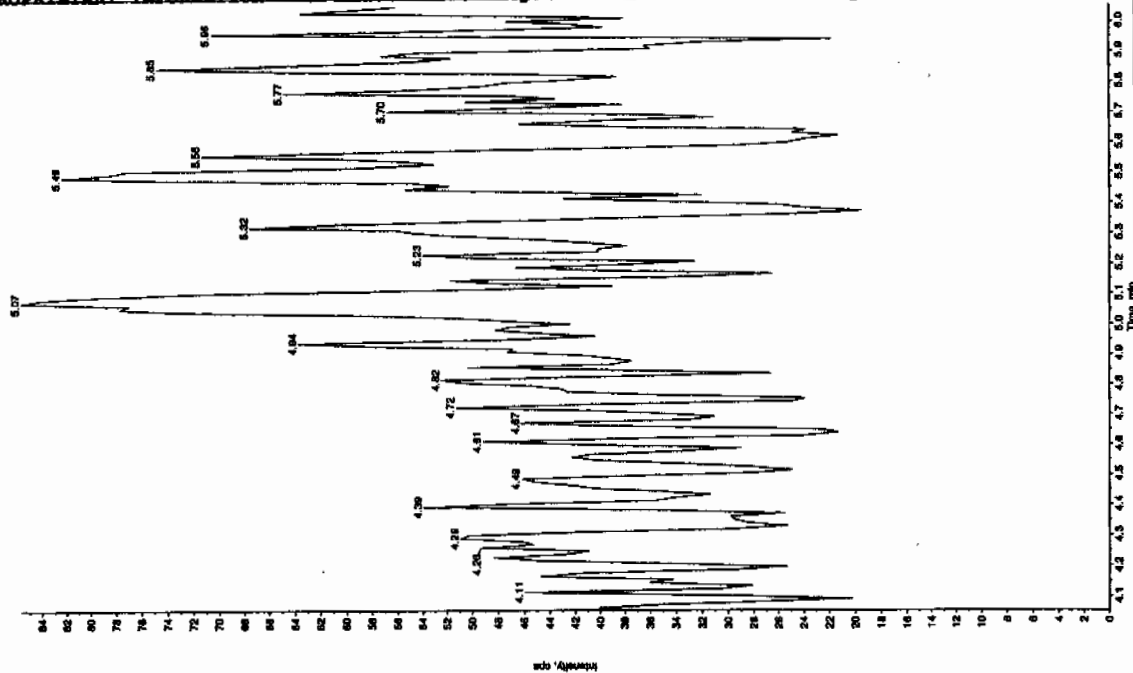
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 12:54:10 PM
 Modified: No



See 01/27/10

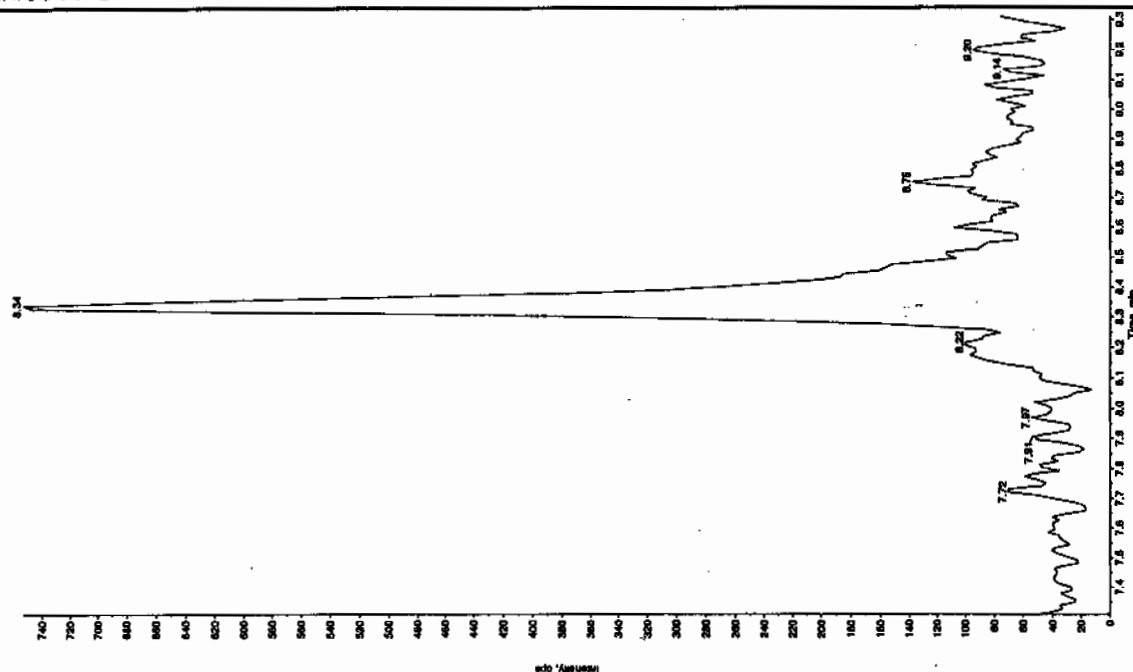
Sample Name: "XBLK02" Sample ID: "1111" File: "EX501250010.wif"
 Peak Name: "26-Olefin-4-nitrobenzene" Mass(es): "166.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 12:54:10 PM
 Modified: No



Sample Name: "XBLK02" Sample ID: "1111" File: "EX501250010.wif"
 Peak Name: "26-Olefin-4-nitrobenzene" Mass(es): "182.1151.8 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 12:54:10 PM
 Modified: No

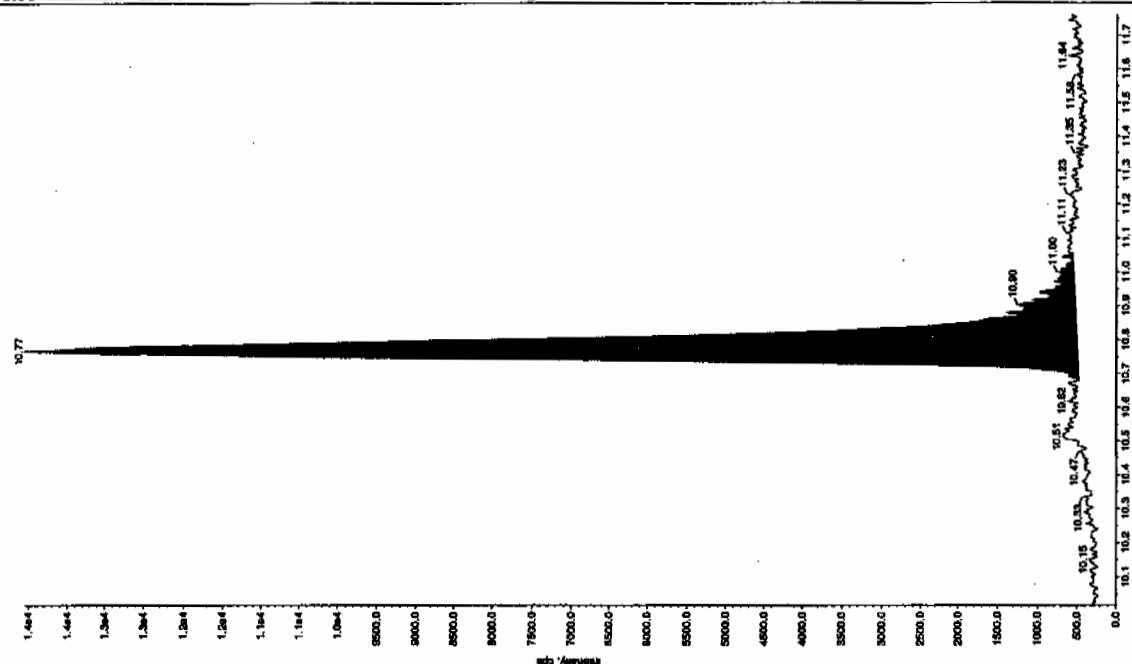
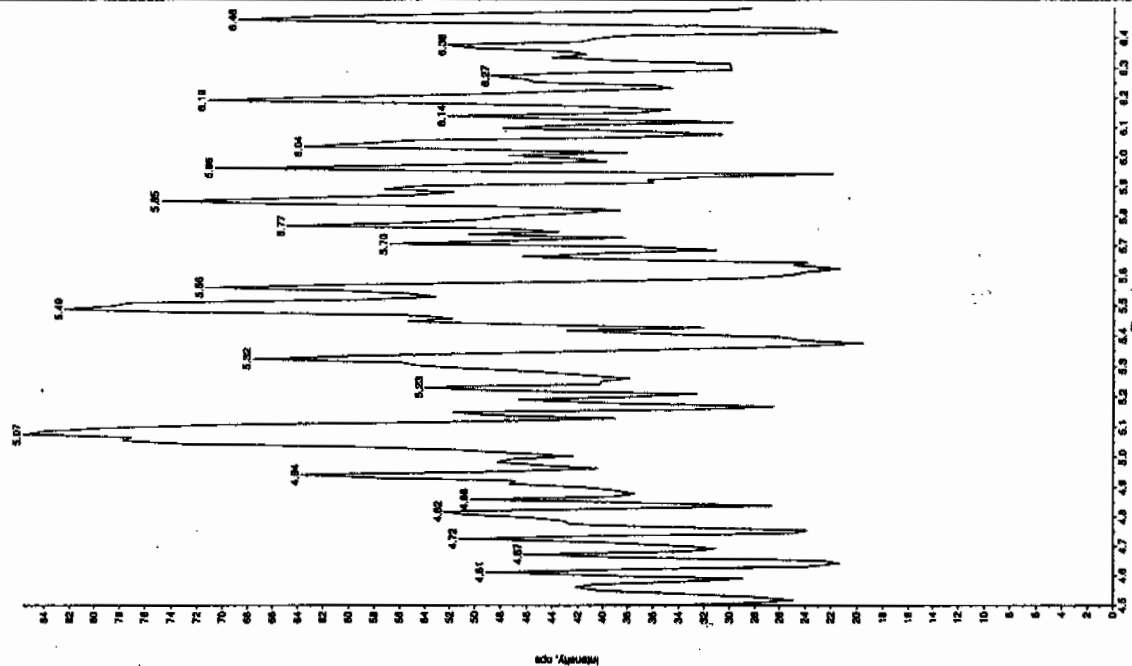


Sample Name: "XIBLX02" Sample ID: "HILER" File: "EX501250010.wif"
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "186.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 12:54:10 PM
 Acq. Time: No

Modified:

Sample Index: 1
 Sample Type: Unknown
 Concentration: 16.7 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 12:54:10 PM
 Acq. Time: No
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1.00e4 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 10.8 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.8 min
 Area: 6.01e+004 counts
 Height: 13557.476 cps
 Start Time: 10.7 min
 End Time: 11.1 min



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 25-JAN-10 13:25

GEL Data File: EXS01250012.wiff

Instrument ID: LCMSMS

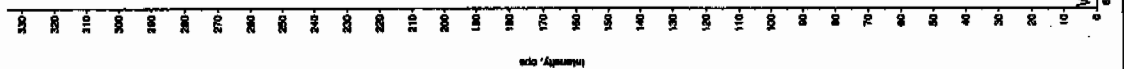
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 11/27/10

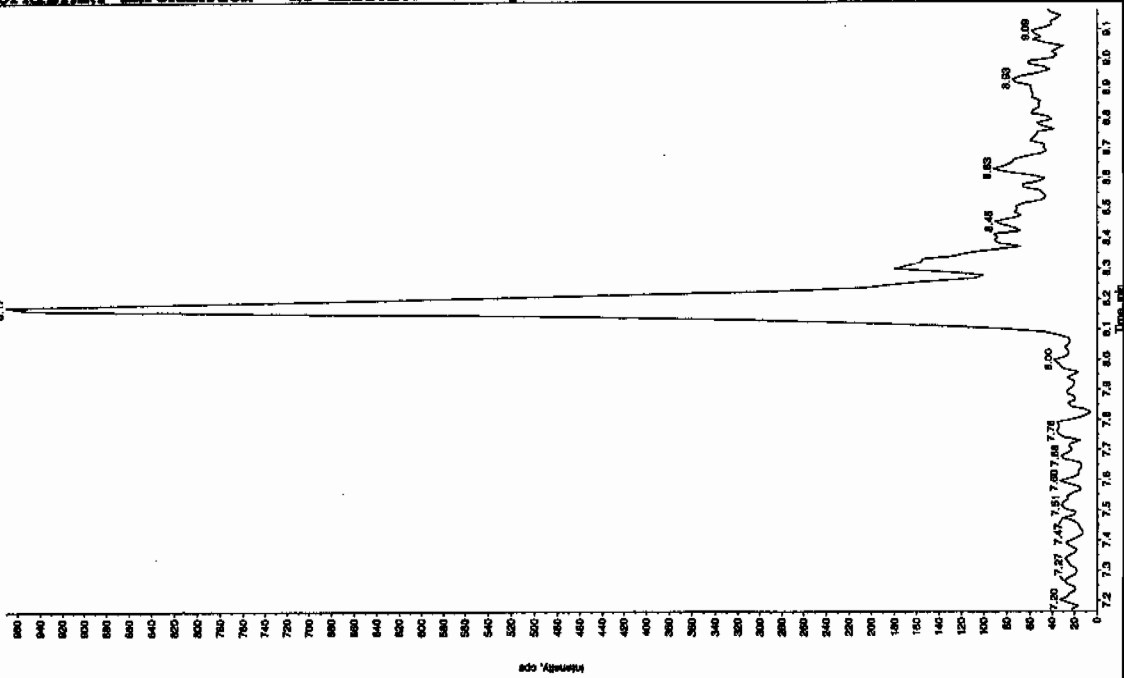
Sample Name: "XBLK03" Sample ID: "JILER" File: "EXS01250012.wif"
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



Sample Name: "XBLK03" Sample ID: "JILER" File: "EXS01250012.wif"
 Peak Name: "3S-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

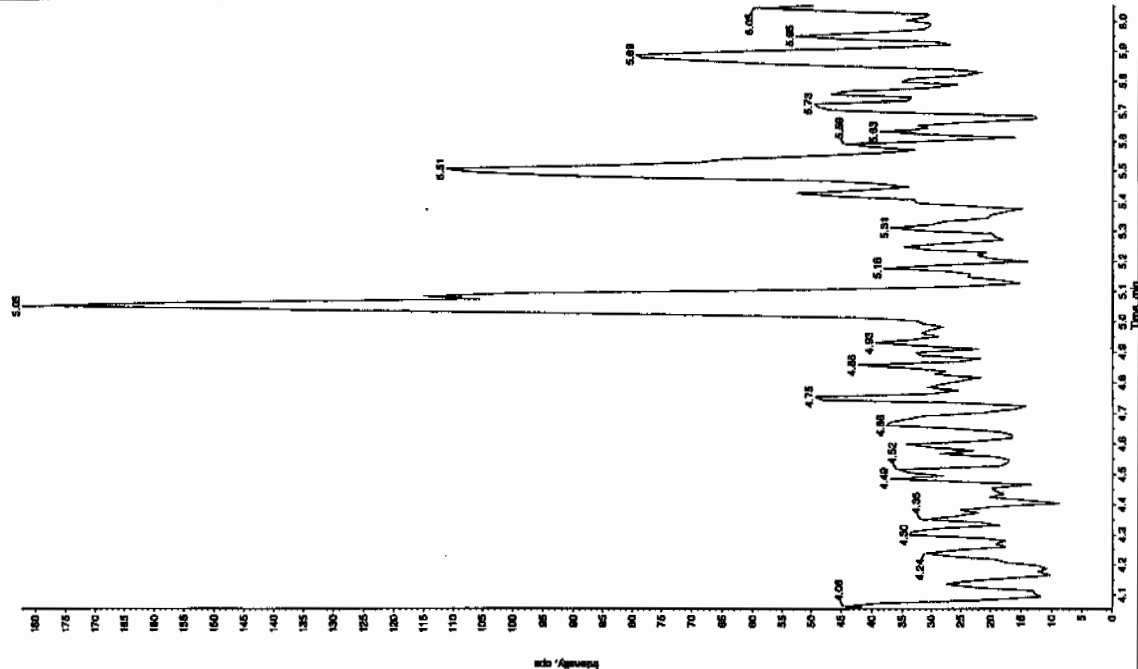
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



Jan 01/27/10

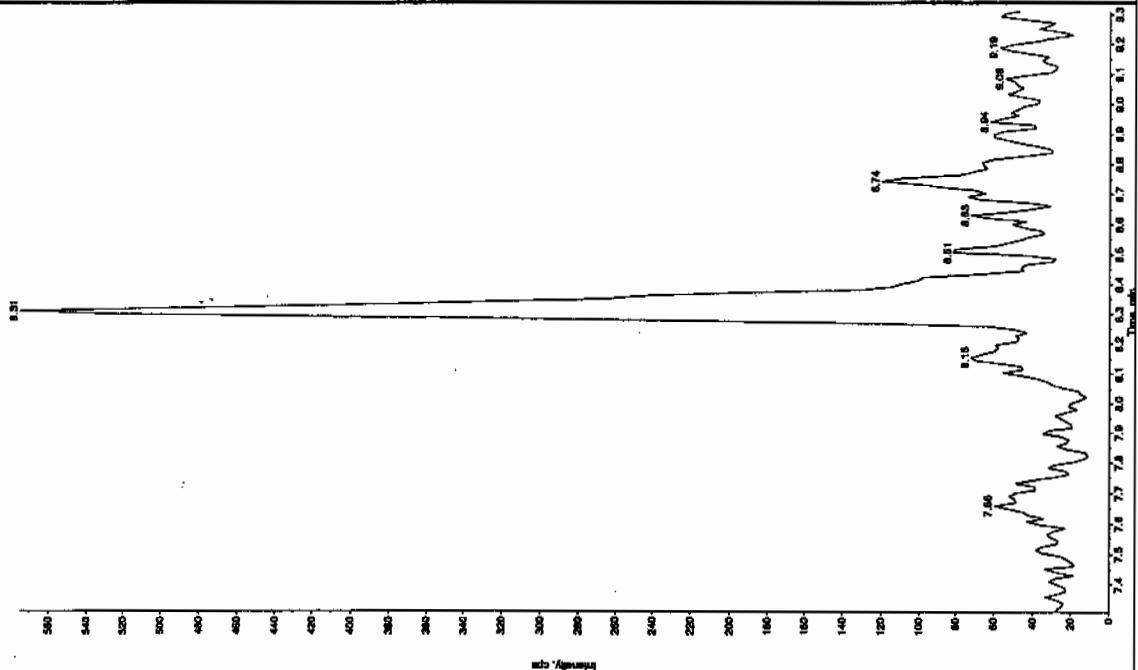
Sample Name: "XBLK03" Sample ID: "TILER" File: "EXS01250012.wif"
 Peak Name: "28-Dinitro-4-nitrotoluene" Mass(es): "186.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



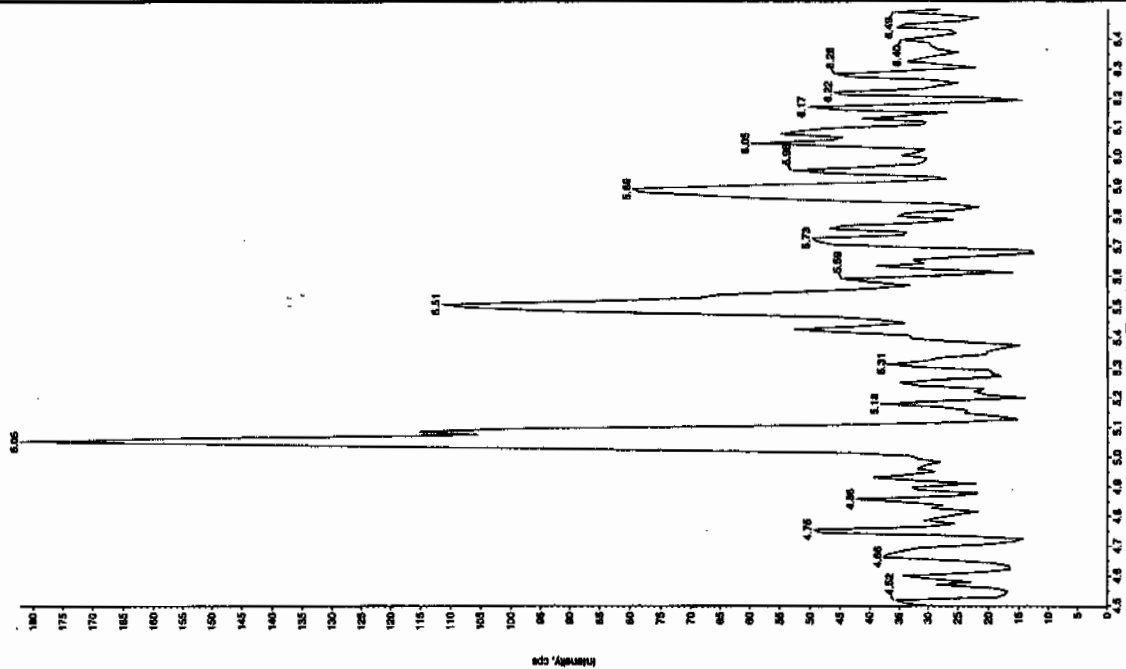
Sample Name: "XBLK03" Sample ID: "TILER" File: "EXS01250012.wif"
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



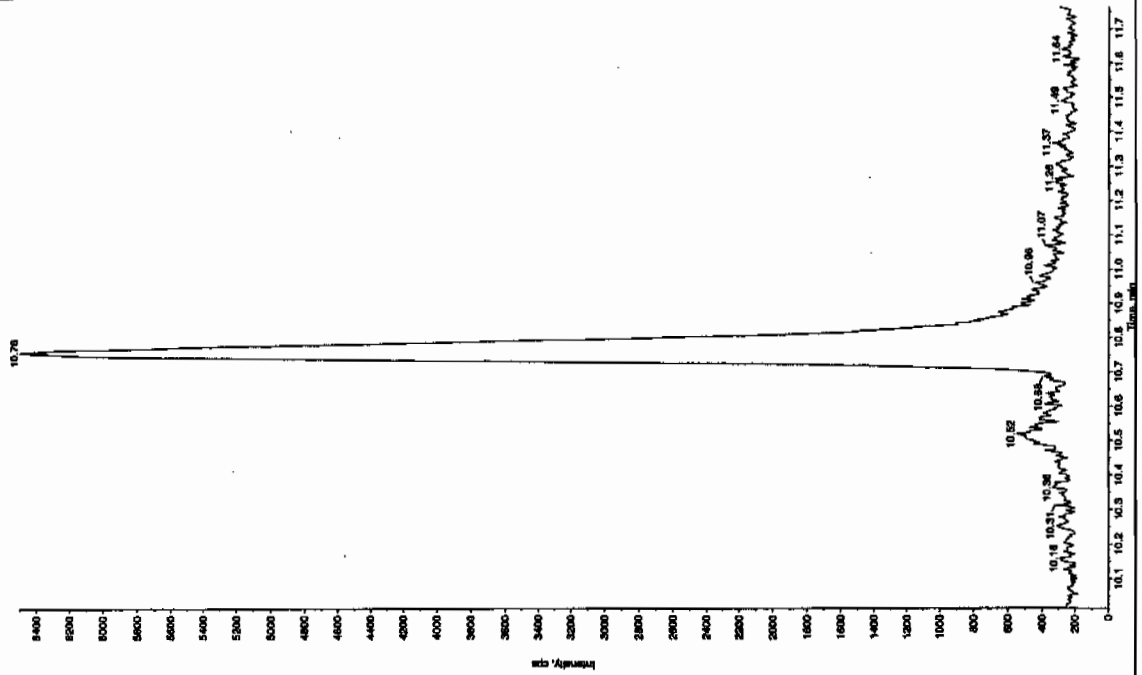
Sample Name: "XIBLX03" Sample ID: "TILER" File: "EXS01250012.wif"
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



Sample Name: "XIBLX03" Sample ID: "TILER" File: "EXS01250012.wif"
 Peak Name: "10-(p-cresyl) phosphate" Mass(es): "368.191.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 1/25/2010
 Acq. Time: 1:25:34 PM
 Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 25-JAN-10 14:28

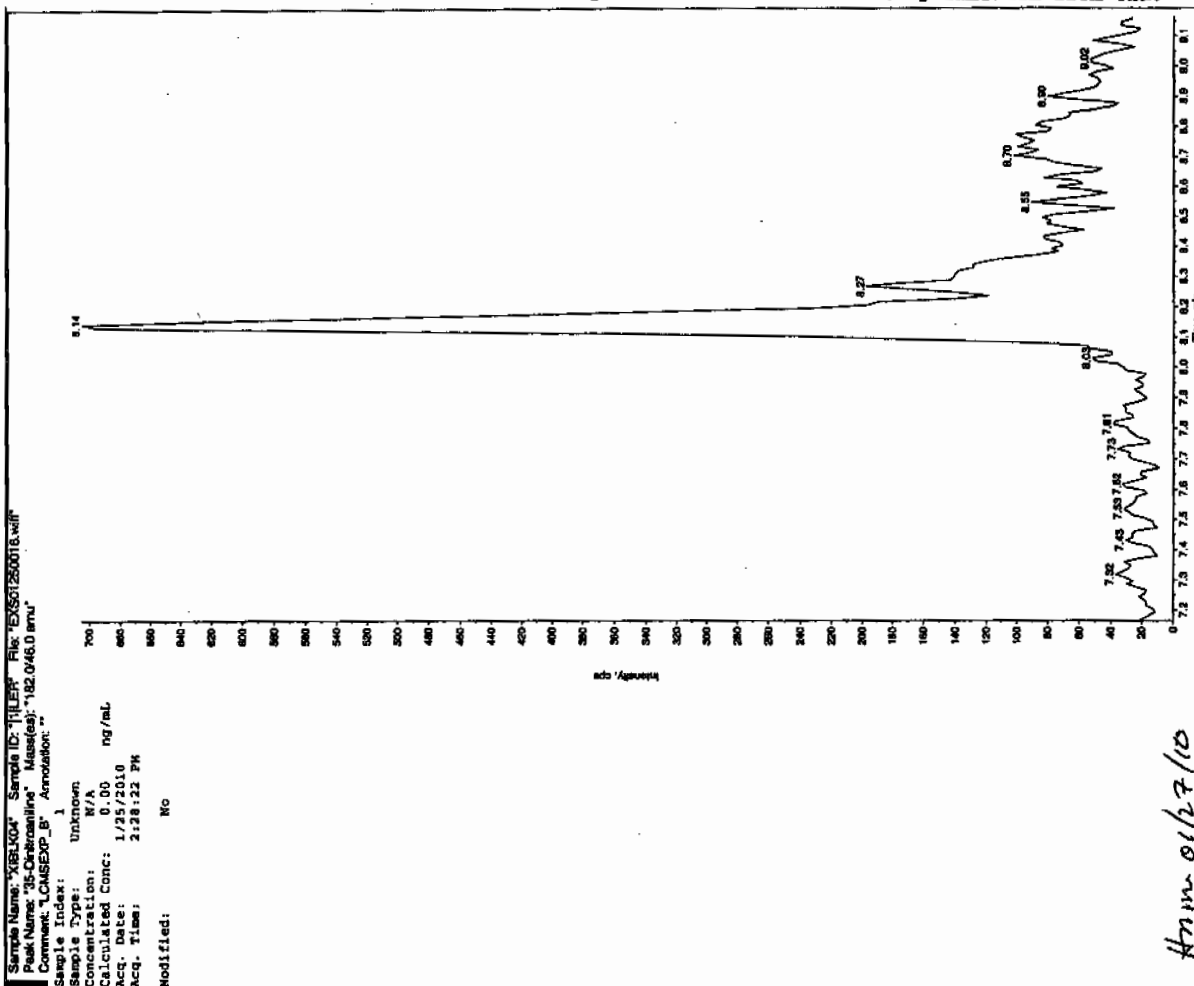
GEL Data File: EXS01250016.wiff

Instrument ID: LCMSMS

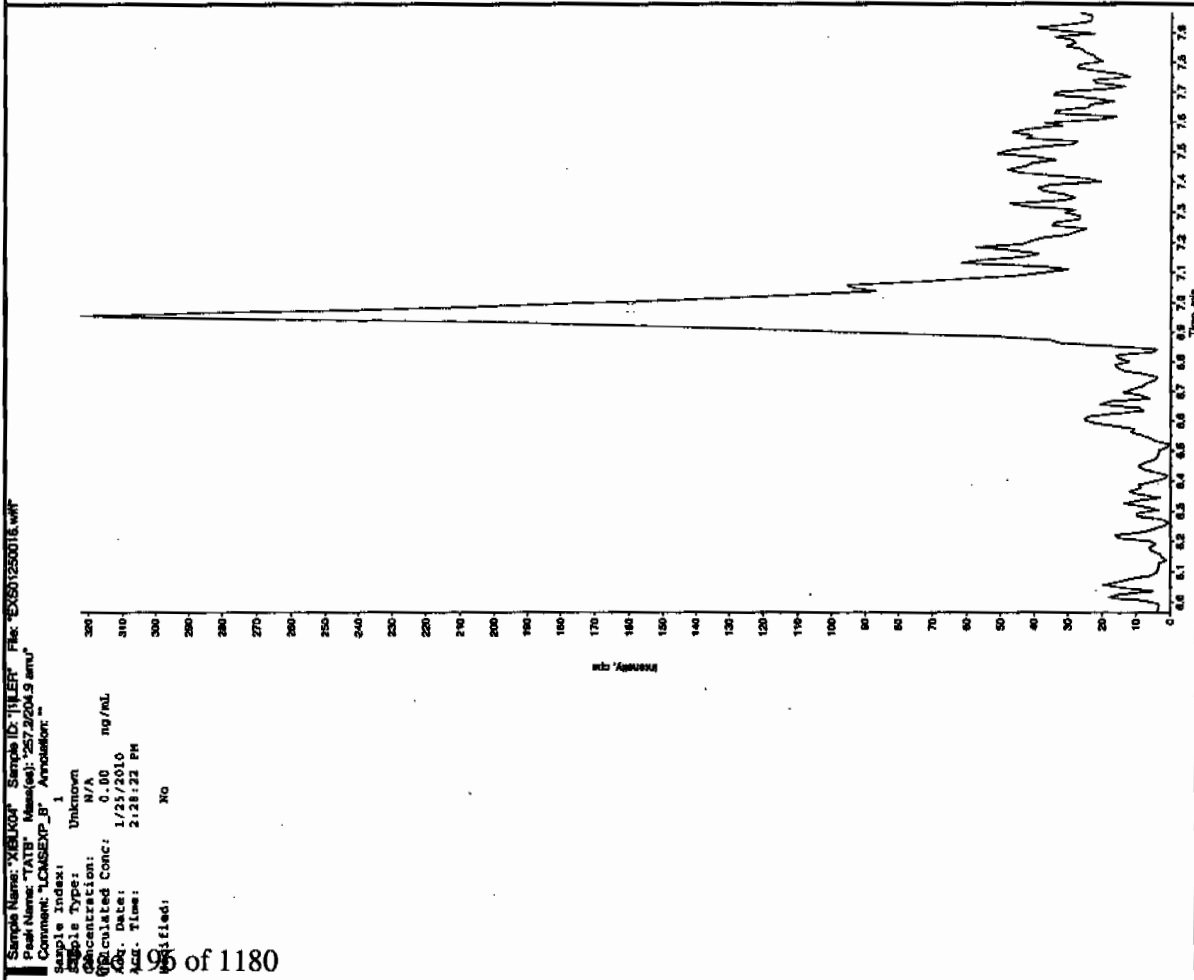
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 11/27/10



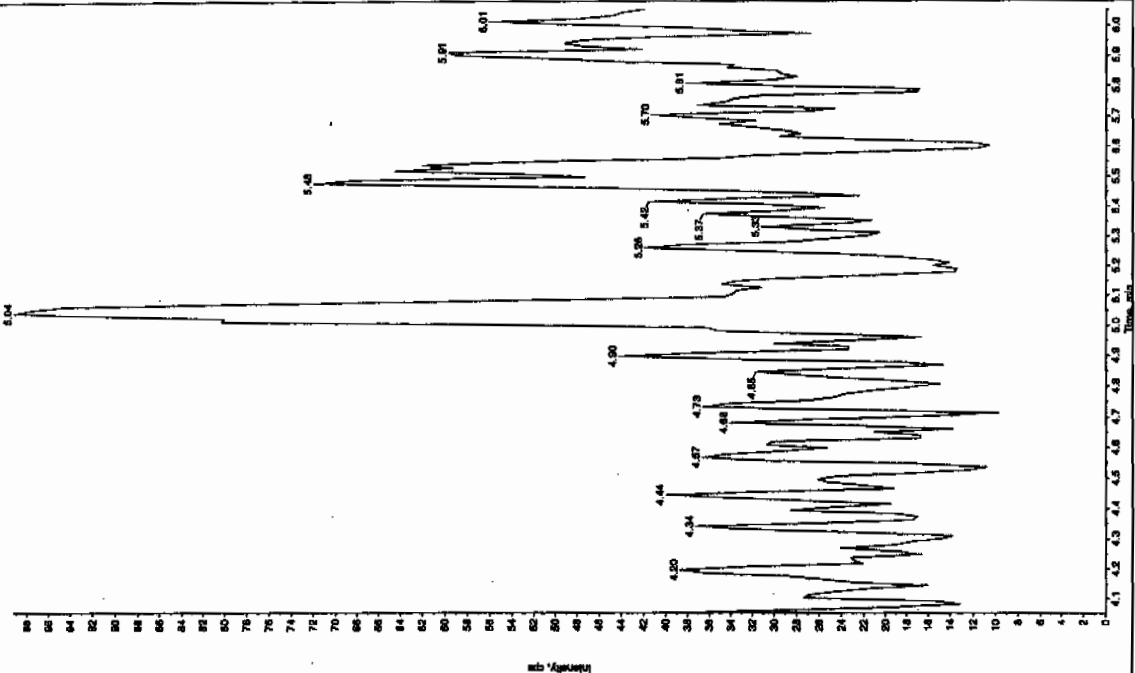
Am 01/27/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

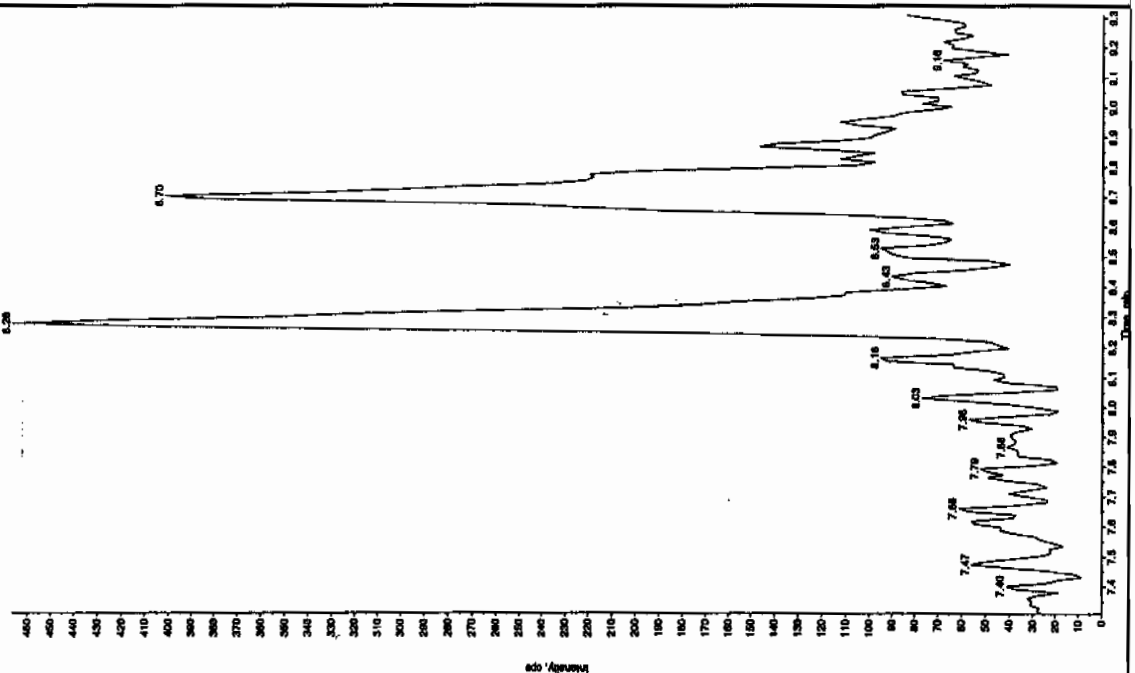
Sample Name: "XBL104" Sample ID: "111EP" File: "8320120016.wif"
 Peak Name: "25-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Name: Unknown
 Sample Type: N/A
 Concentration: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 2:28:22 PM
 Modified: No



Sample Name: "XBL104" Sample ID: "111EP" File: "8320120016.wif"
 Peak Name: "34-Diamino-4-nitrofluorene" Mass(es): "182.051.9 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Name: Unknown
 Sample Type: N/A
 Concentration: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 2:28:22 PM
 Modified: No



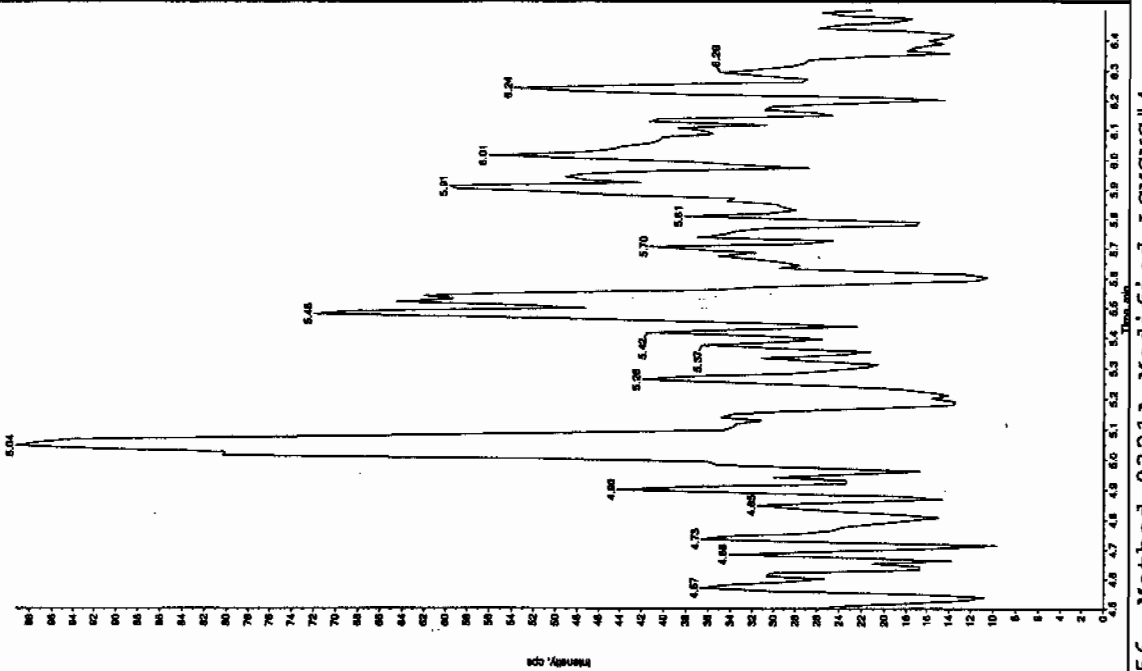
Sample Name: "XBLUGA" Sample ID: "HILER" File: "EXS01260016.wif"
 Peak Name: "trio-cresyl phosphate" Mass(es): "389.191.0 amu"
 Comment: "LCMS EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 2:28:22 PM
 Modified: No



Sample Name: "XBLUGA" Sample ID: "HILER" File: "EXS01260016.wif"
 Peak Name: "24-Diamino-4-nitroindane" Mass(es): "168.046.0 amu"
 Comment: "LCMS EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 2:28:22 PM
 Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 25-JAN-10 16:49

GEL Data File: EXS01250025.wiff

Instrument ID: LCMSMS

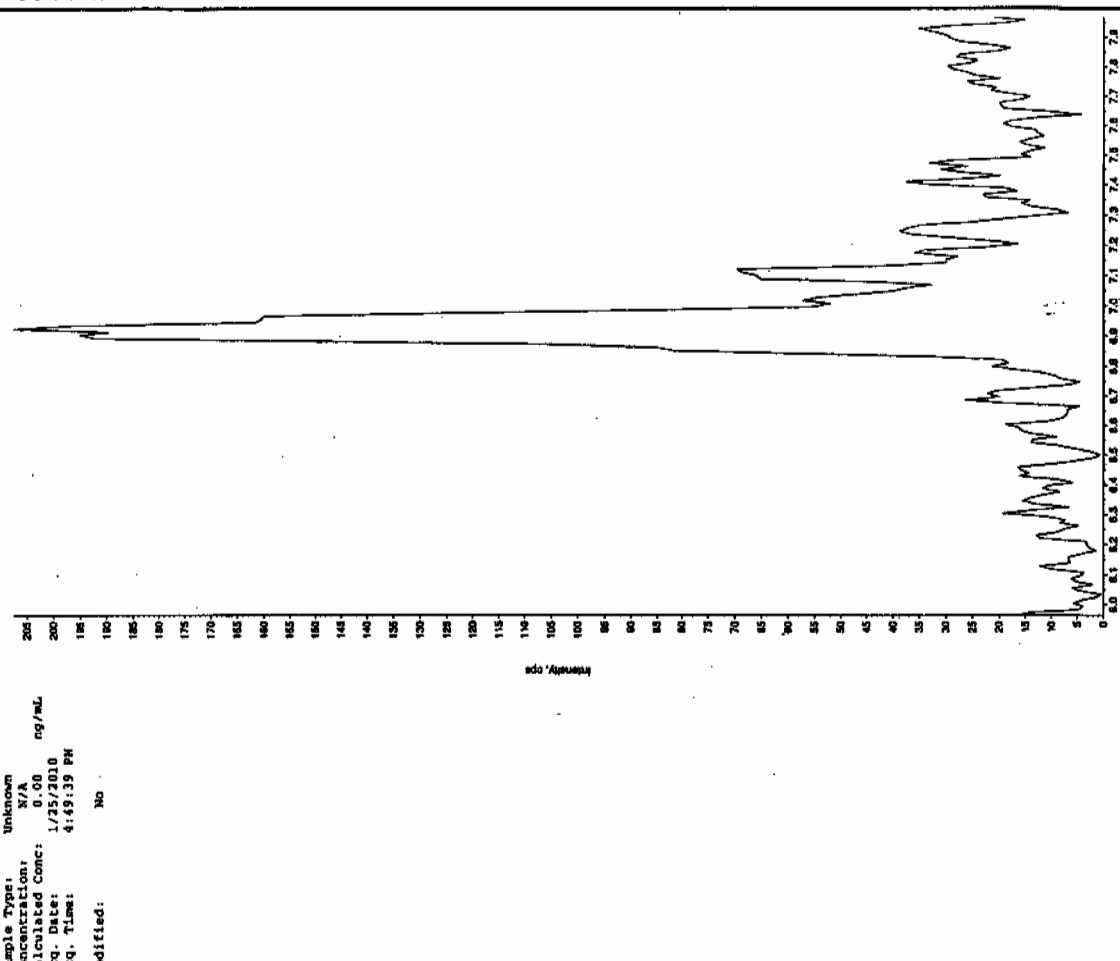
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 11/27/10

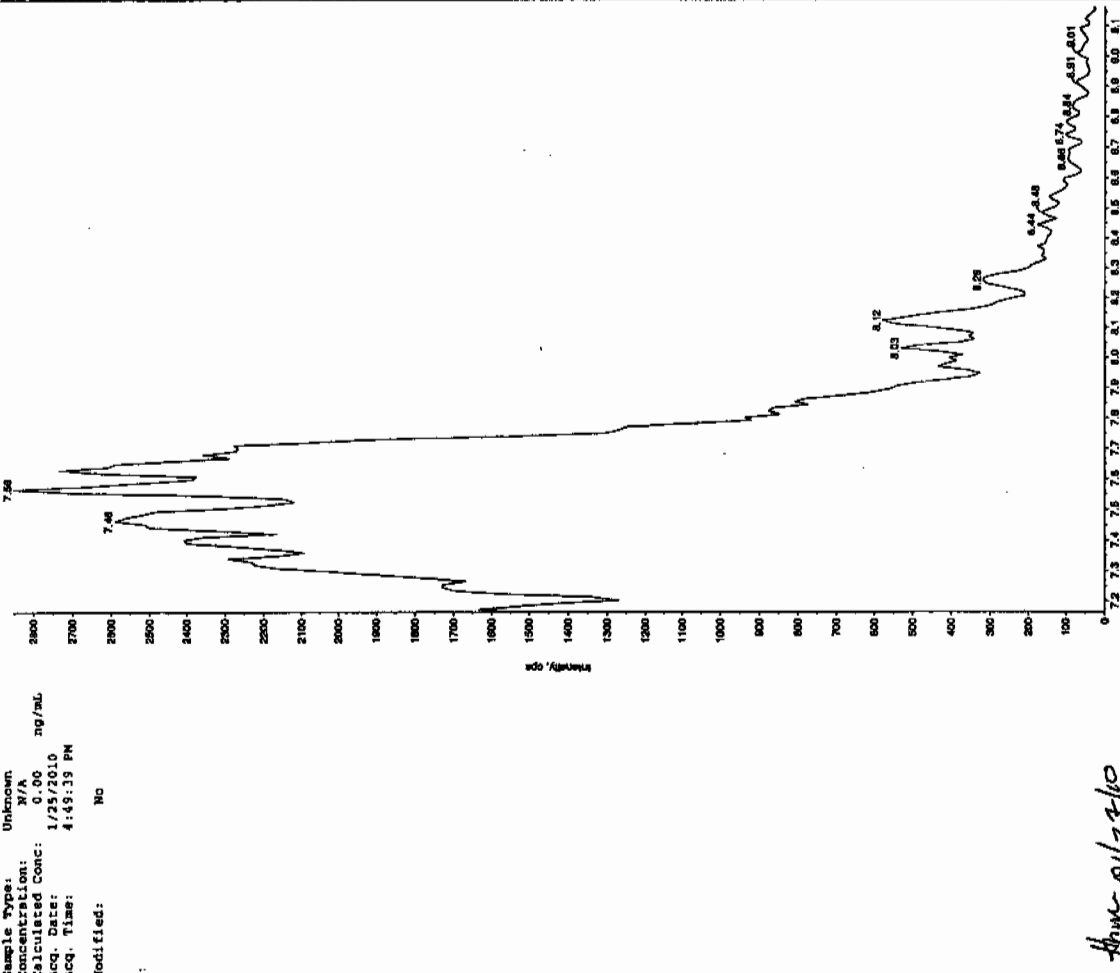
Sample Name: "XBL005" Sample ID: "1116R" File: "EX01250025.wif"
 Peak Name: "TATB" Mass(es): "257.2204.9 amu"
 Comment: "LCMS EXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 4:49:39 PM
 Acq. Time: 1/25/2010
 Modified: No



Sample Name: "XBL005" Sample ID: "1116R" File: "EX01250025.wif"
 Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"
 Comment: "LCMS EXP_B" Annotation: "

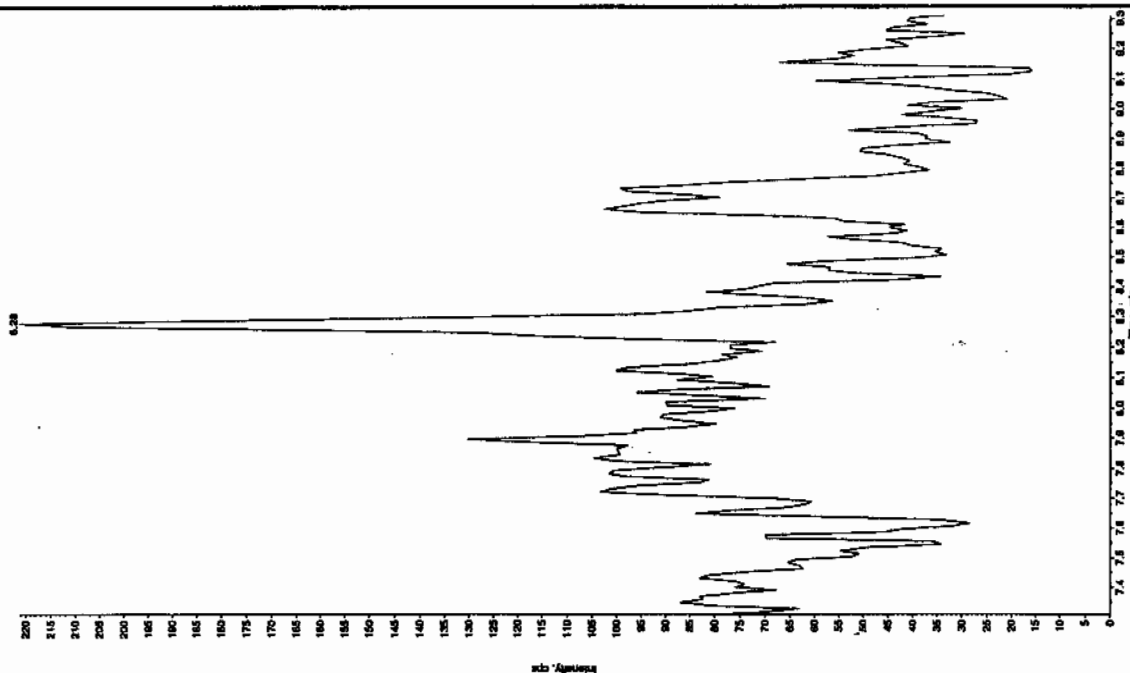
Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/25/2010
 Acq. Date: 4:49:39 PM
 Acq. Time: 1/25/2010
 Modified: No



See 01/27/10

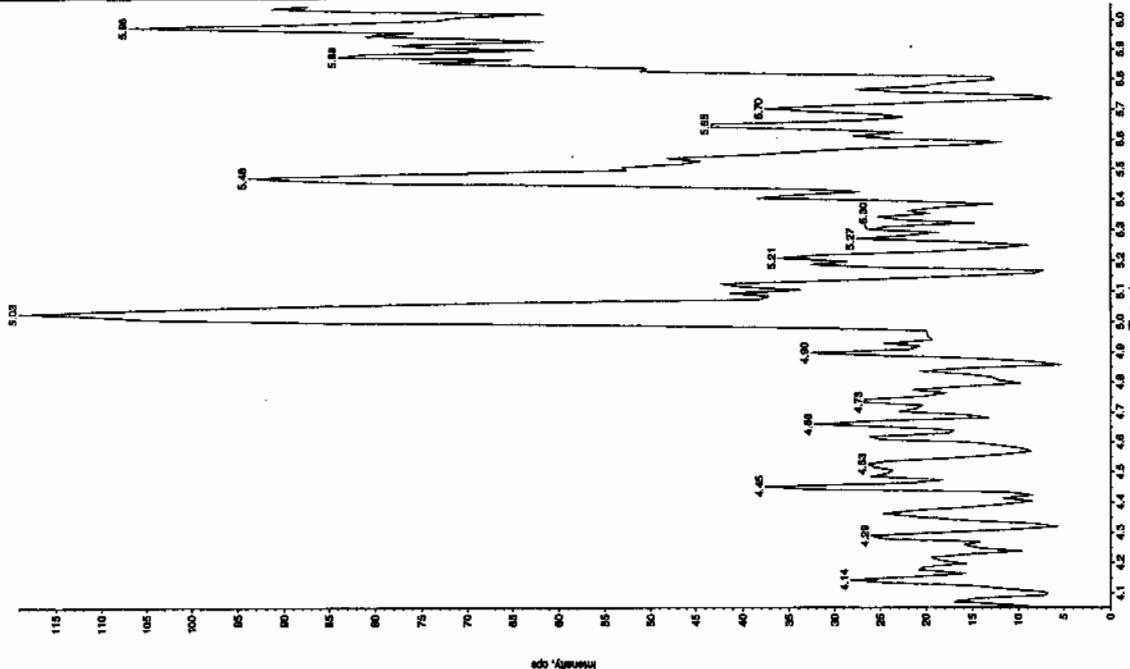
Sample Name: "XBLJ005" Sample ID: "111ER" File: "EXS01250025.wif"
 Peak Name: "34-Dihydro-4-nitrofluorene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 4:49:39 PM
 Modified: No



Sample Name: "XBLJ005" Sample ID: "111ER" File: "EXS01250025.wif"
 Peak Name: "26-Dimino-4-nitrofluorene" Mass(es): "188.0/166.0 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 4:49:39 PM
 Modified: No



Sample Name: "XBLX05" Sample ID: "T1LER" File: "EX501250025.wif"
 Peak Name: "24-Dinitro-6-nitrotoluene" Mass(es): "168.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

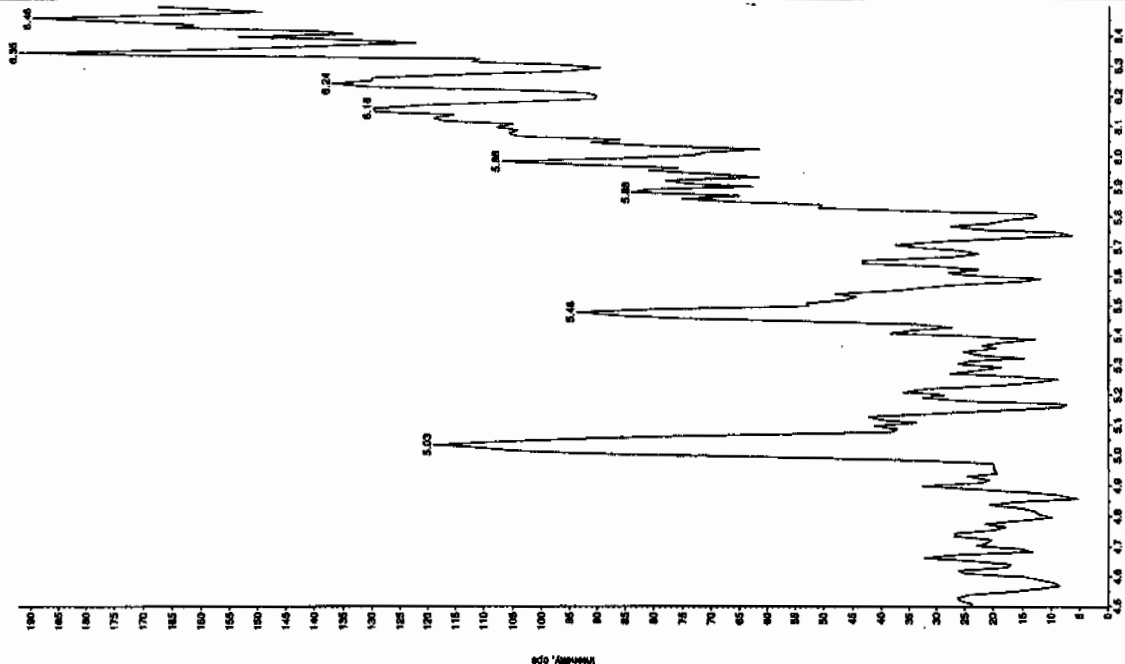
Concentration: N/A ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 1/25/2010

Acq. Time: 4:49:39 PM

Modified: NO



Sample Name: "XBLX05" Sample ID: "T1LER" File: "EX501250025.wif"
 Peak Name: "Is(o-cresyl) phosphite" Mass(es): "359.191.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

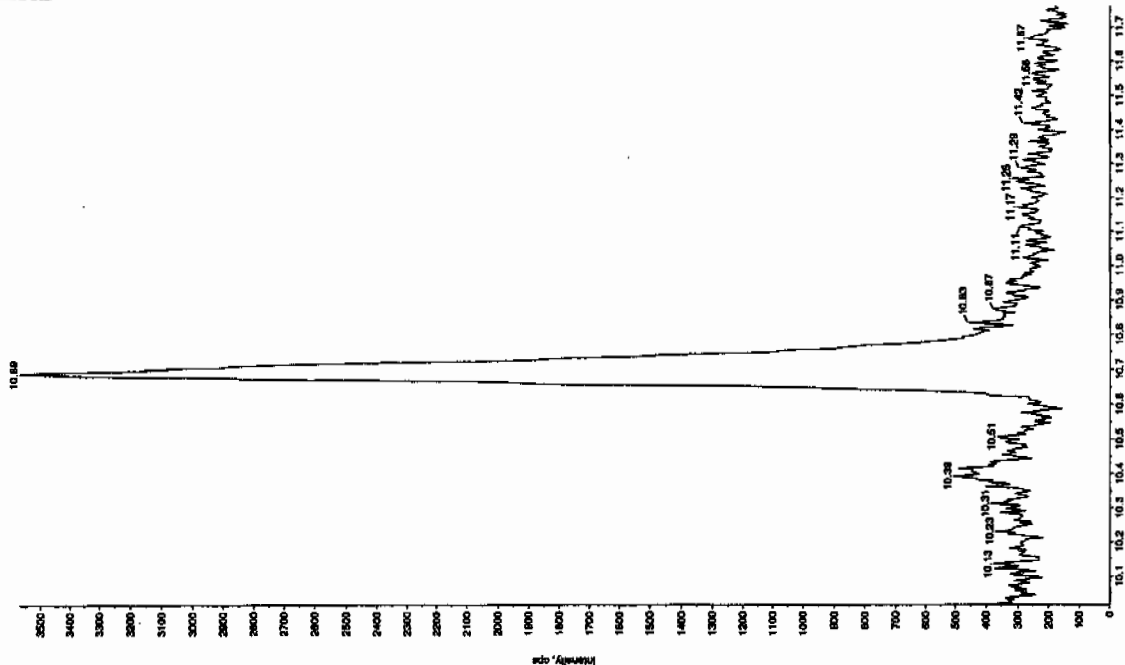
Concentration: N/A ng/mL

Calculated Conc: 1/25/2010

Acq. Date: 1/25/2010

Acq. Time: 4:49:39 PM

Modified: NO



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 25-JAN-10 20:14

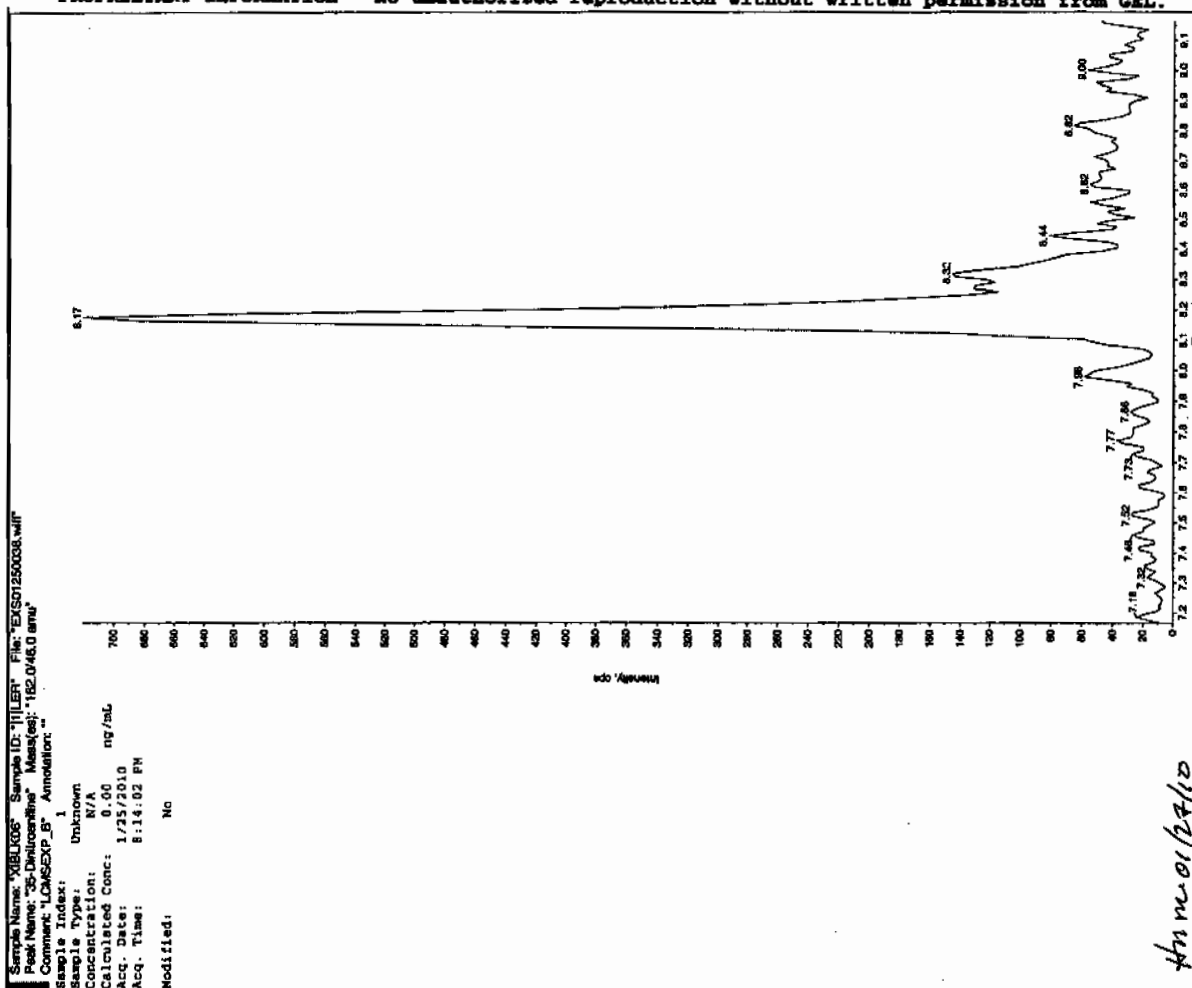
GEL Data File: EXS01250038.wiff

Instrument ID: LCMSMS

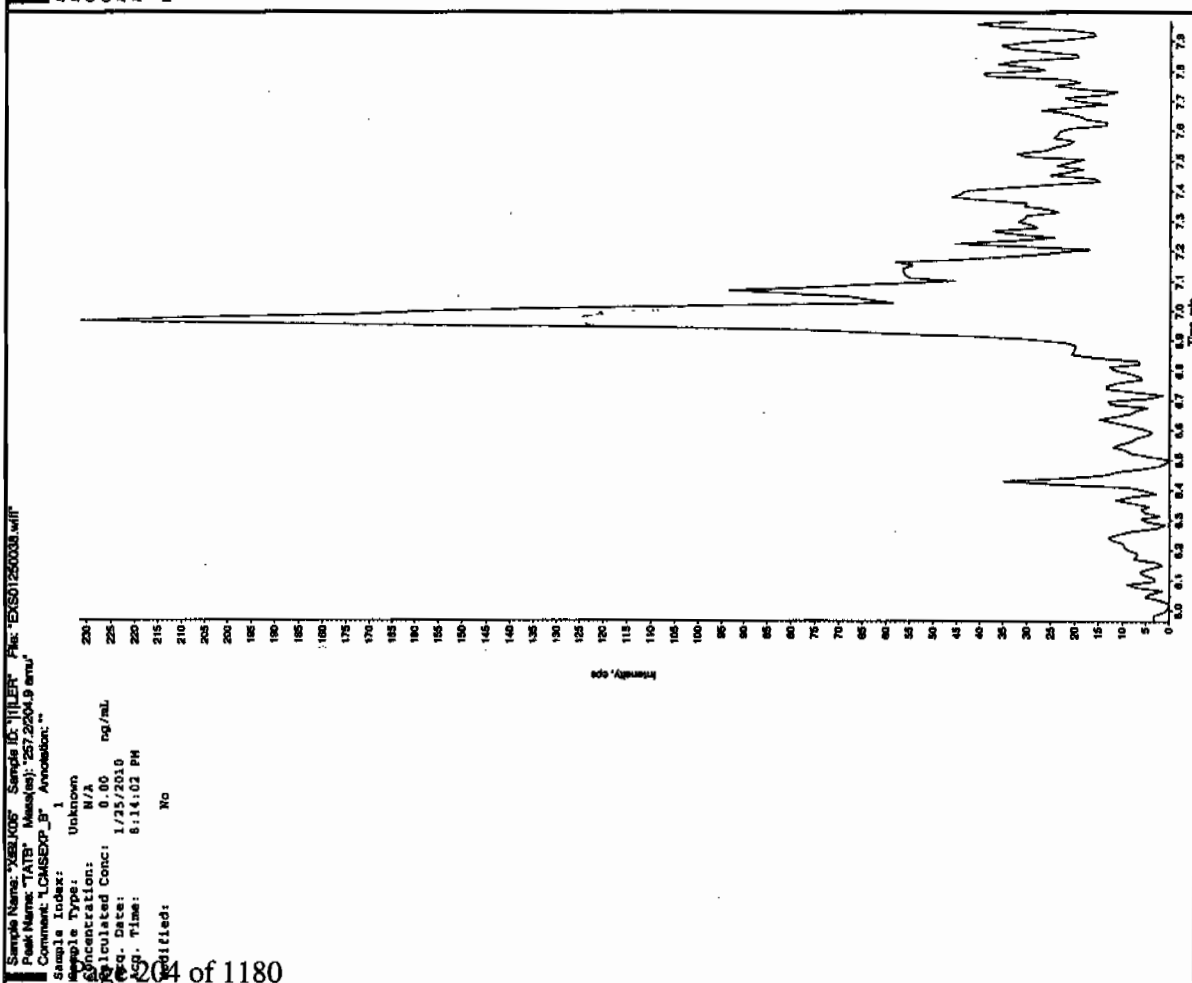
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Jan 1/27/10

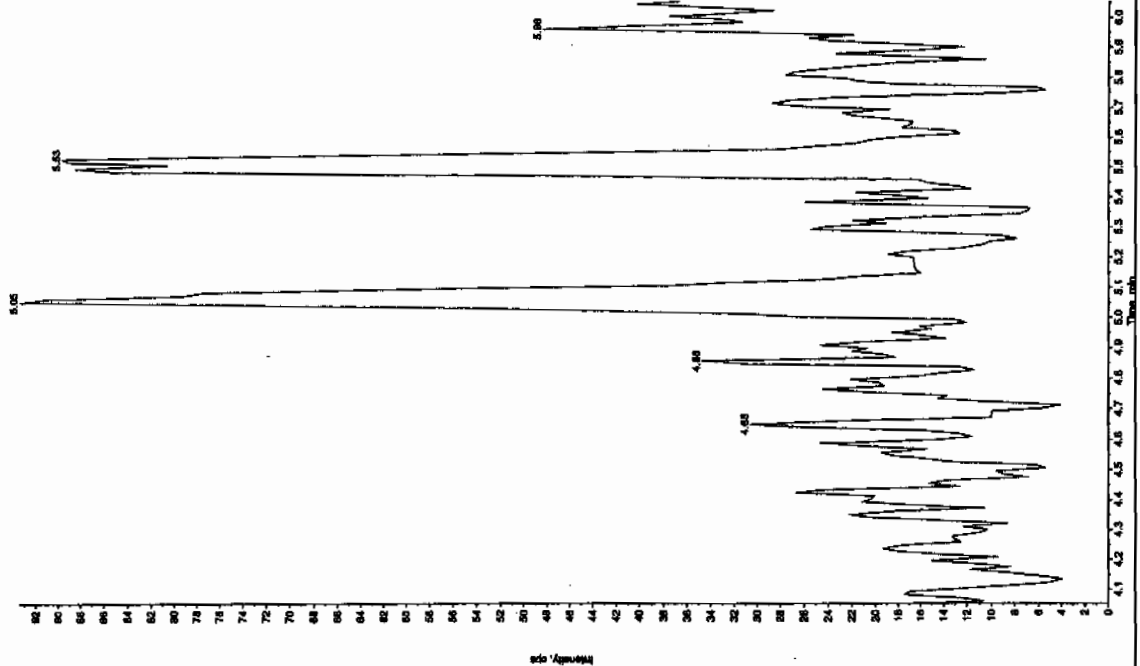


Am m. 01/27/10

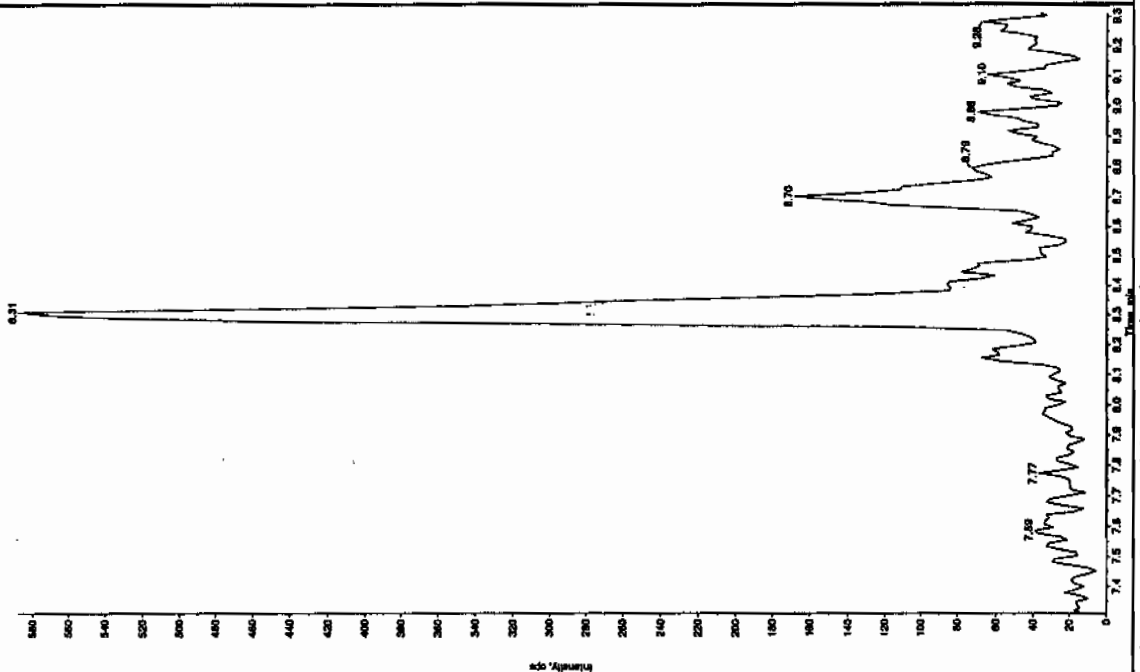


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "XBLK05" Sample ID: "HLLER" File: "EX501250038.wdf"
 Peak Name: "25-Dinitro-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: "
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 8:14:02 PM
 Modified: No



Sample Name: "XBLK05" Sample ID: "HLLER" File: "EX501250038.wdf"
 Peak Name: "24-Dinitrotoluene" Mass(es): "182.171.9 amu"
 Comment: "LCMSEXP_B" Annotation: "
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 8:14:02 PM
 Modified: No



Sample Name: "XBLX05" Sample ID: "111111" File: "EX501250038.wif"

Peak Name: "1,3-bis(4-chlorophenyl) phosphazene" Mass(es): "366.191.0 amu"

Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/23/2010

Acq. Time: 8:14:02 PM

Modified: No

Sample Name: "XBLX05" Sample ID: "111111" File: "EX501250038.wif"

Peak Name: "24-Diamino-6-nitrothiurane" Mass(es): "166.046.0 amu"

Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

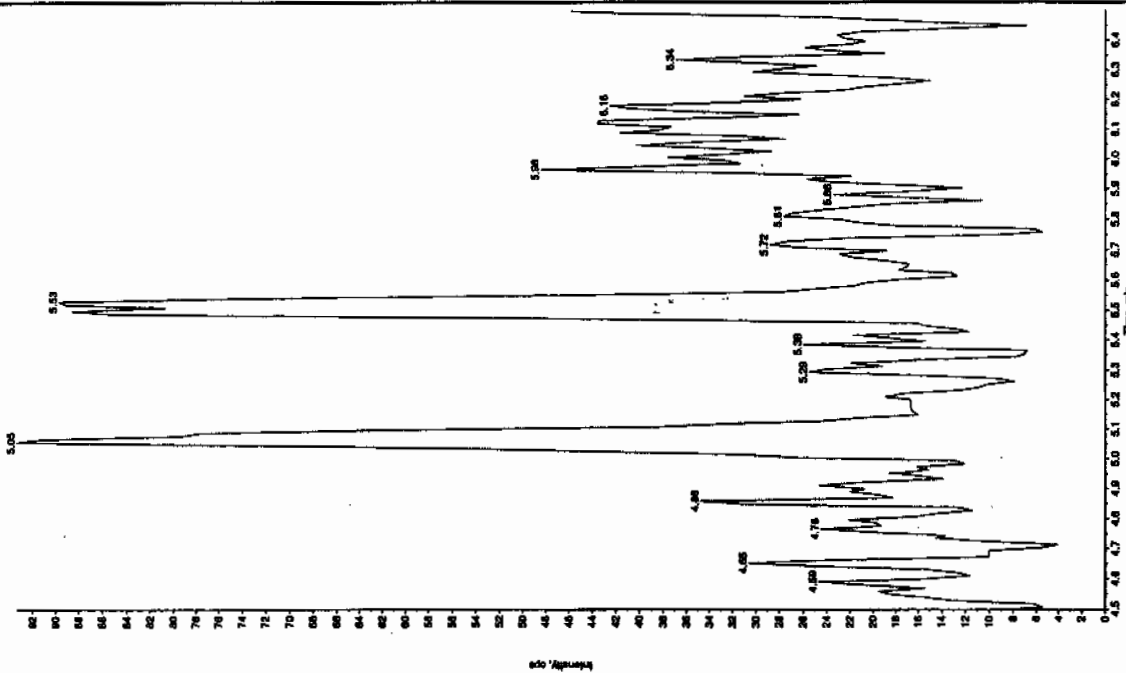
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 1/23/2010

Acq. Time: 8:14:02 PM

Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 25-JAN-10 22:19

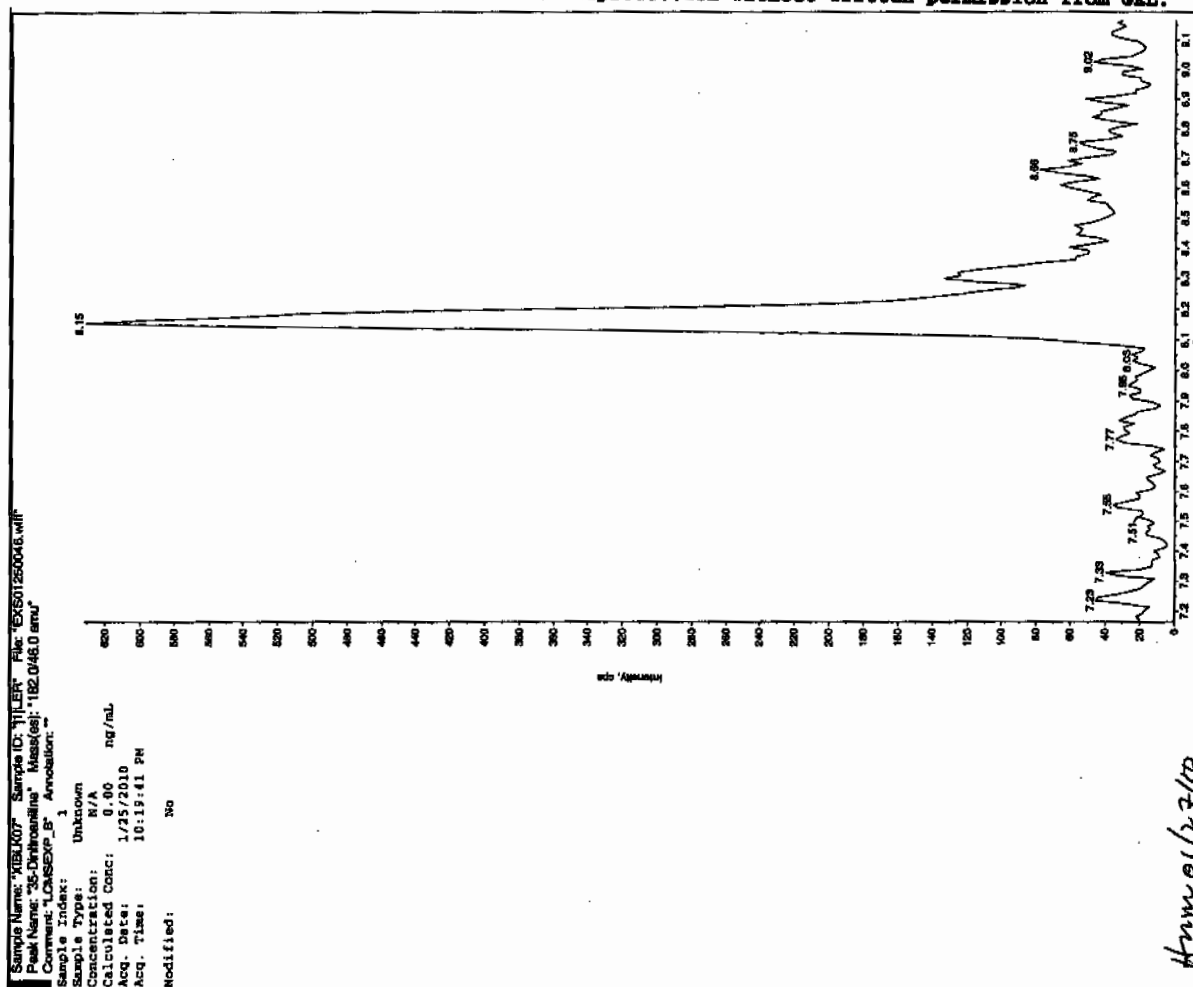
GEL Data File: EXS01250046.wiff

Instrument ID: LCMSMS

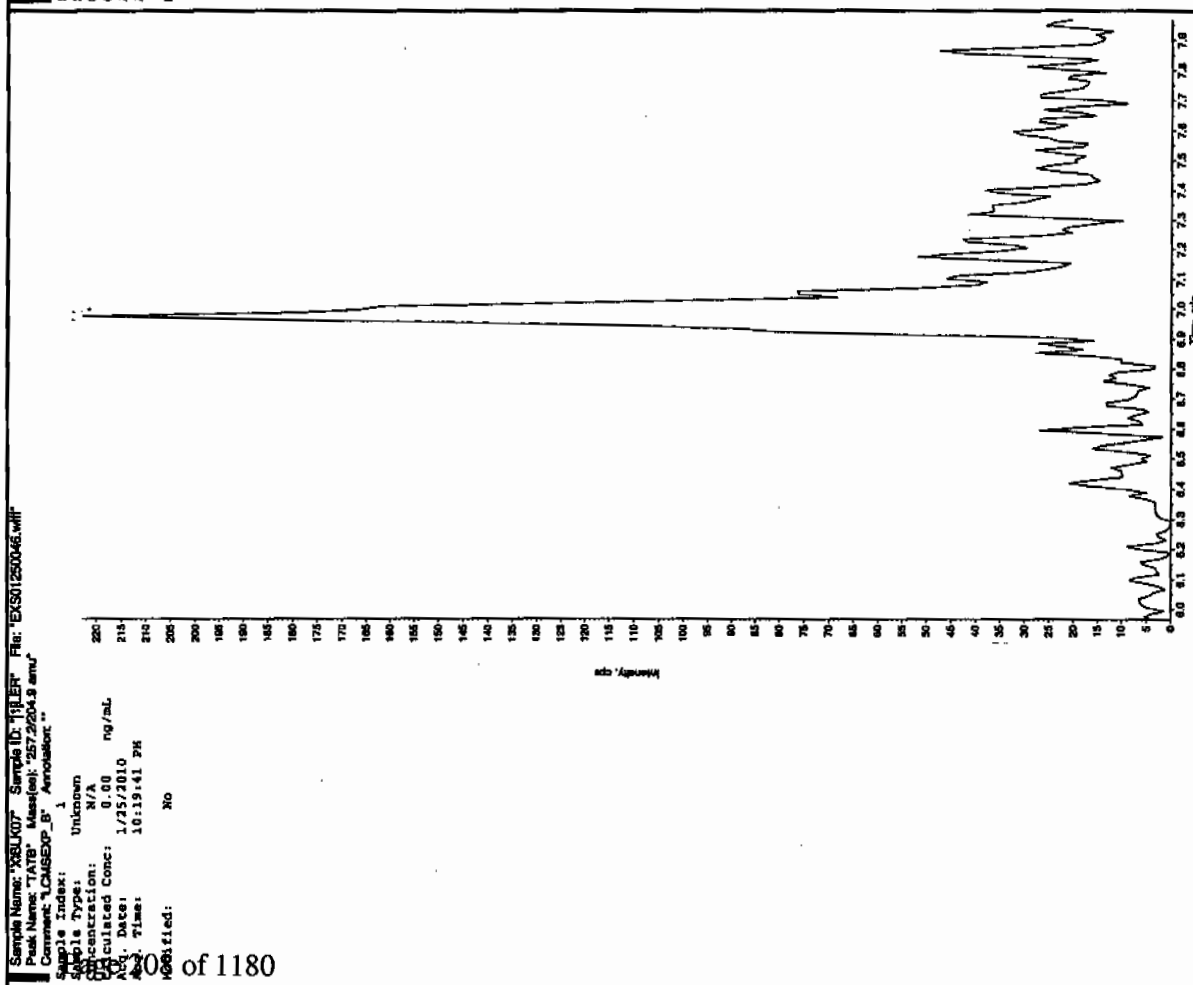
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

See 1127110



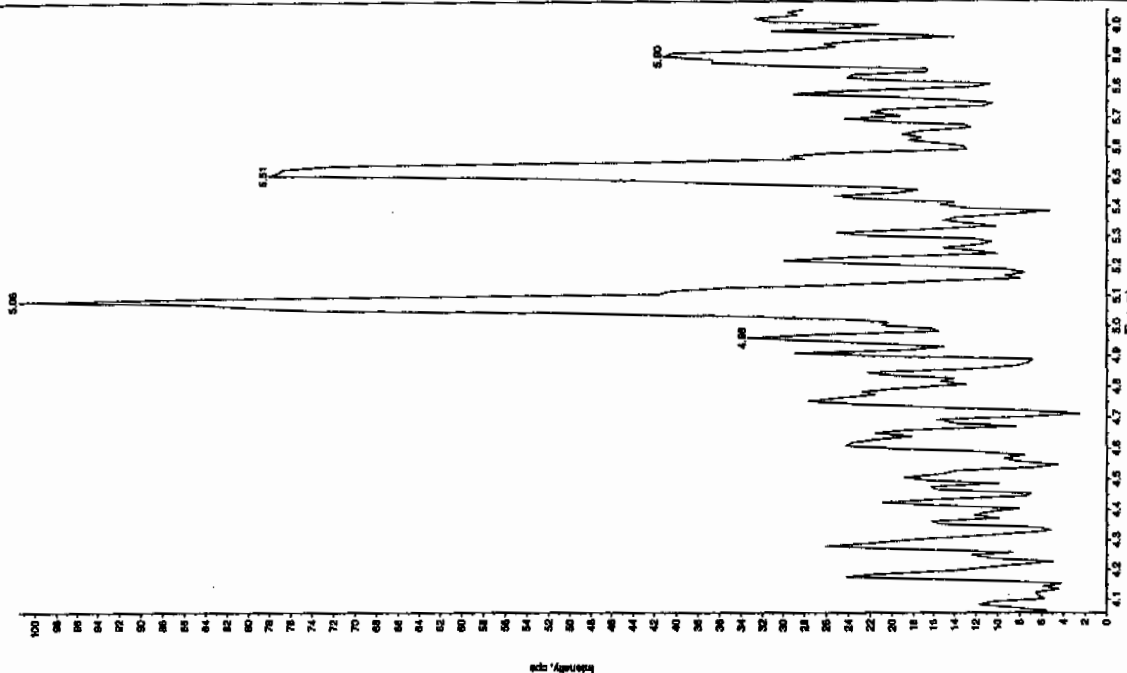
Amme 1/27/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

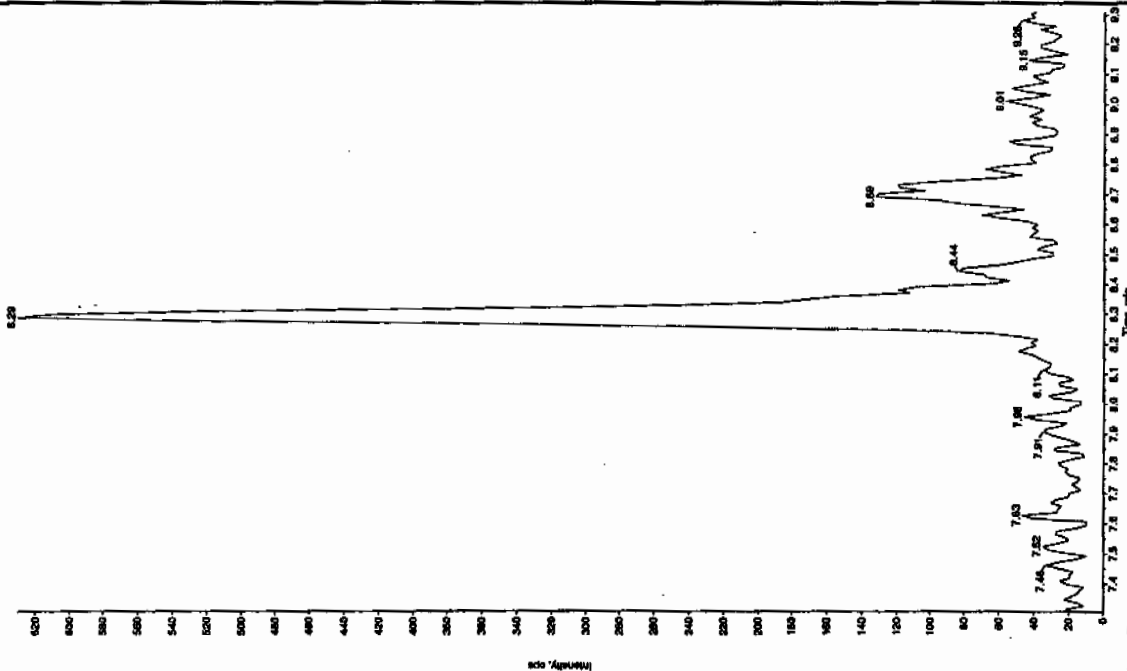
Sample Name: "XBLK07" Sample ID: "T1LEFF" File: "E5501250046.wif"
 Peak Name: "26-Diamino-4-nitrophenol" Mass(es): "168.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

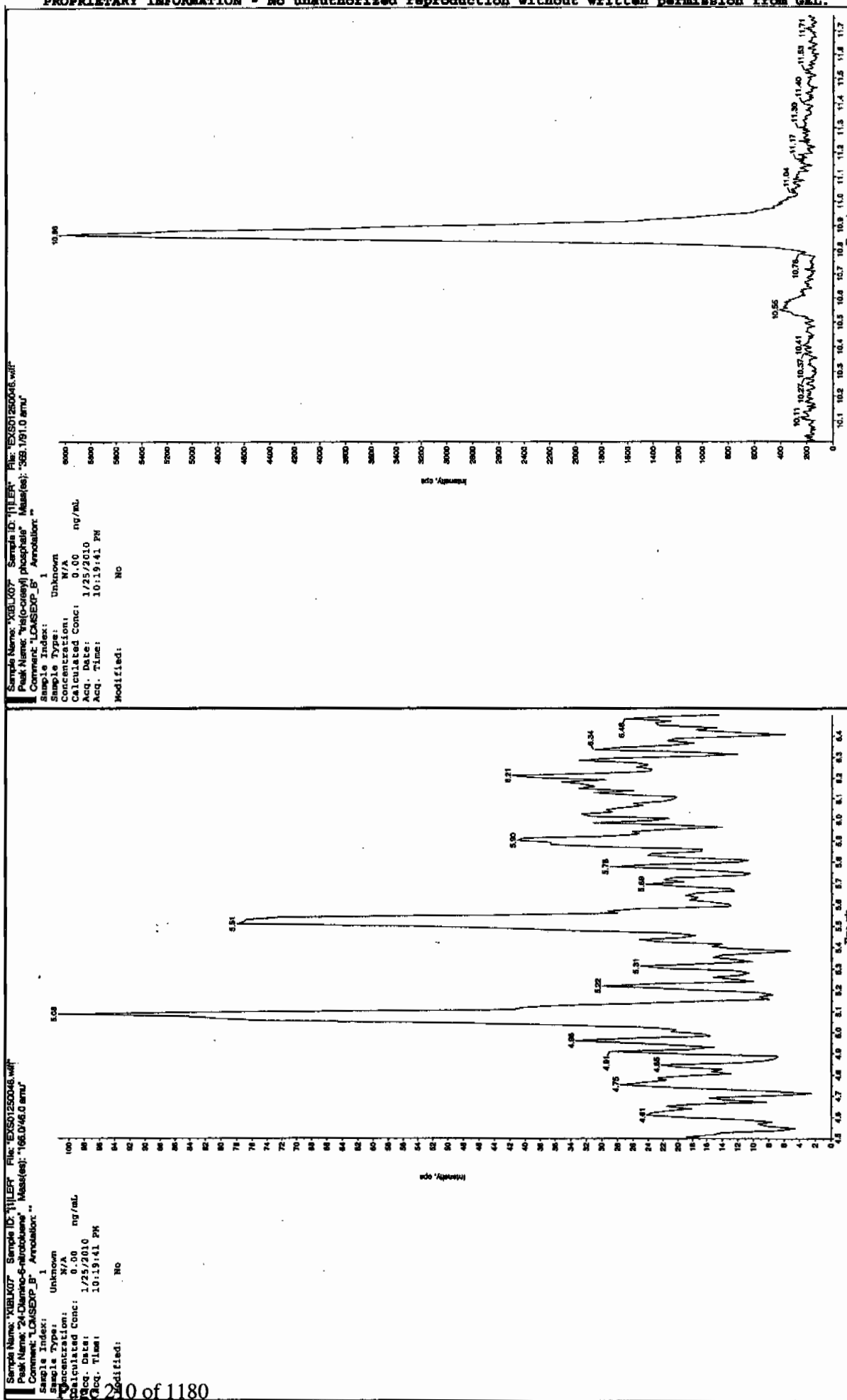
Sample Index: 1
 Sample Type: Unknown
 Concentration: M/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:19:41 PM
 Modified: No



Sample Name: "XBLK07" Sample ID: "T1LEFF" File: "E5501250046.wif"
 Peak Name: "34-Dinitrochlorobenzene" Mass(es): "182.1715.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: M/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 10:19:41 PM
 Modified: No





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 26-JAN-10 01:44

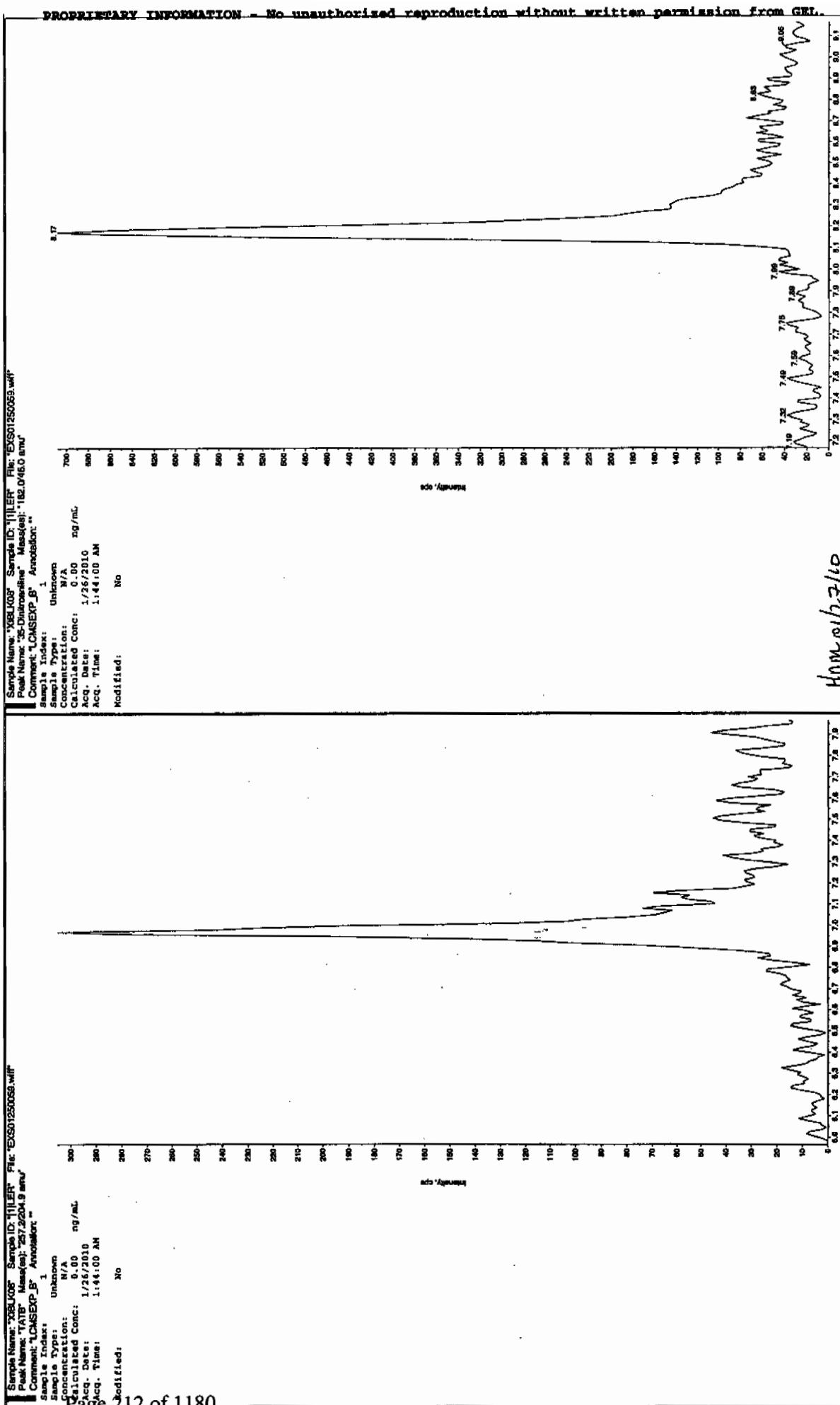
GEL Data File: EXS01250059.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

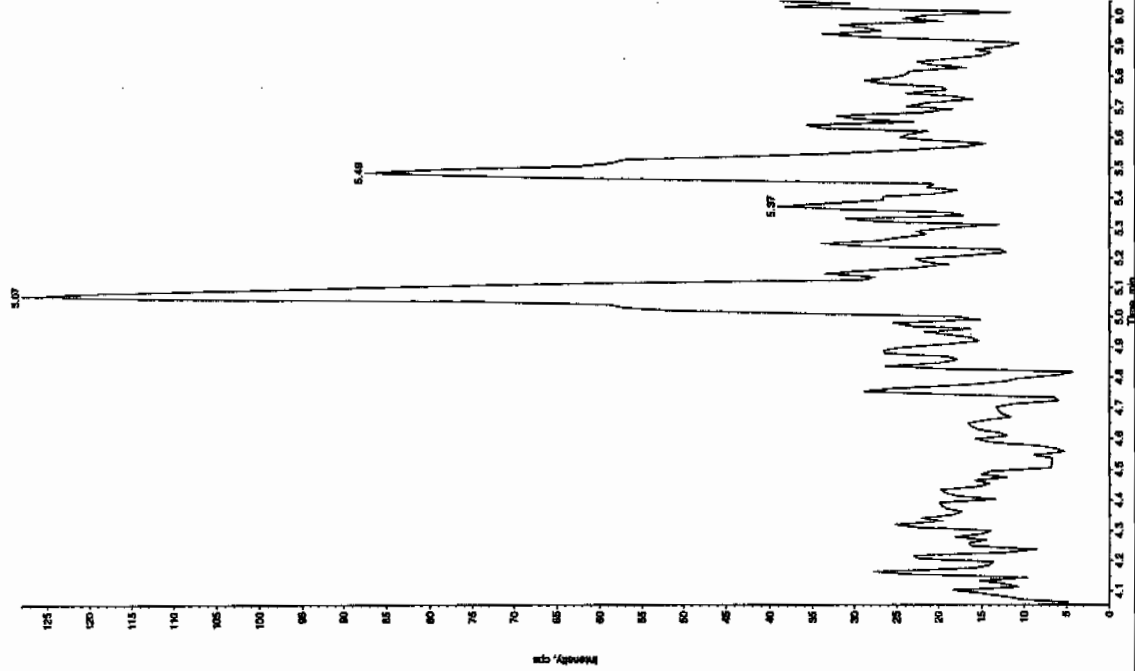
See 1/27/10



See 1/27/10

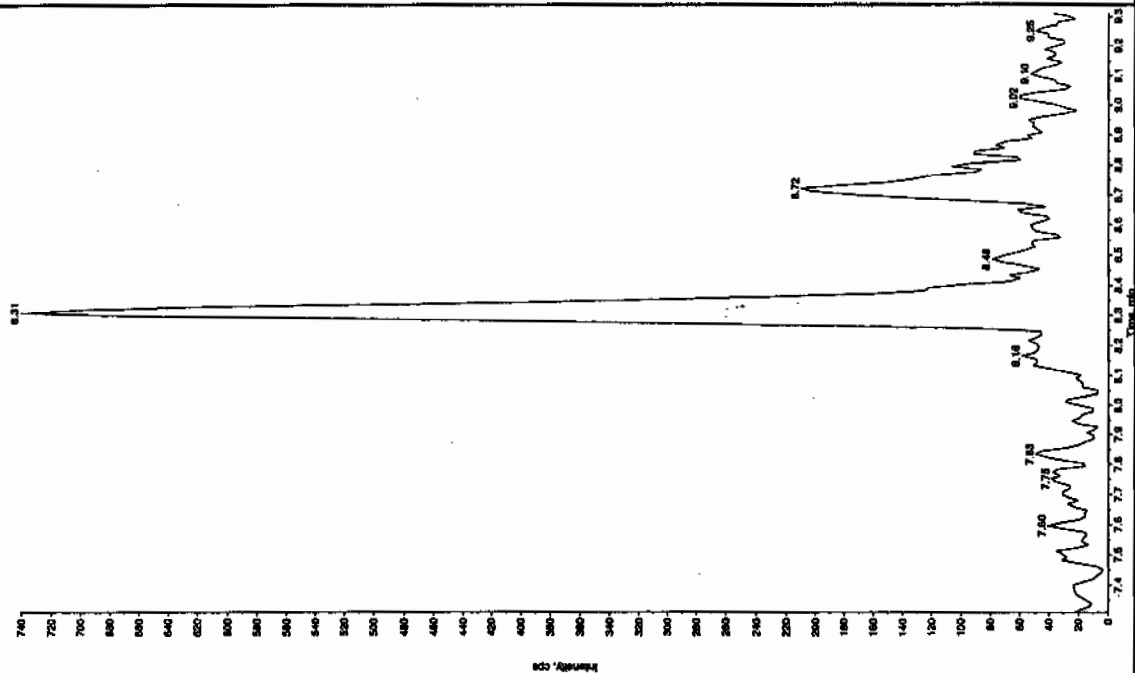
Sample Name: "XBLK06" Sample ID: "J1LEF" File: "EXS01250059.wif"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "185.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 1:44:00 AM
 Modified: No



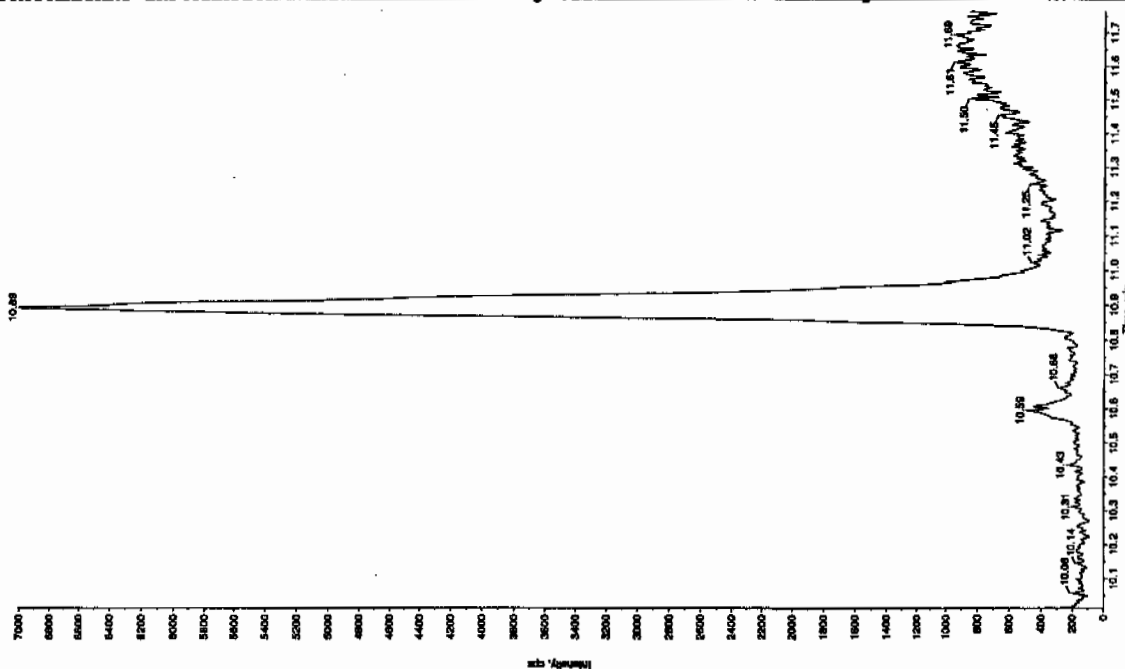
Sample Name: "XBLK06" Sample ID: "J1LEF" File: "EXS01250059.wif"
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.071.9 amu"
 Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 1:44:00 AM
 Modified: No



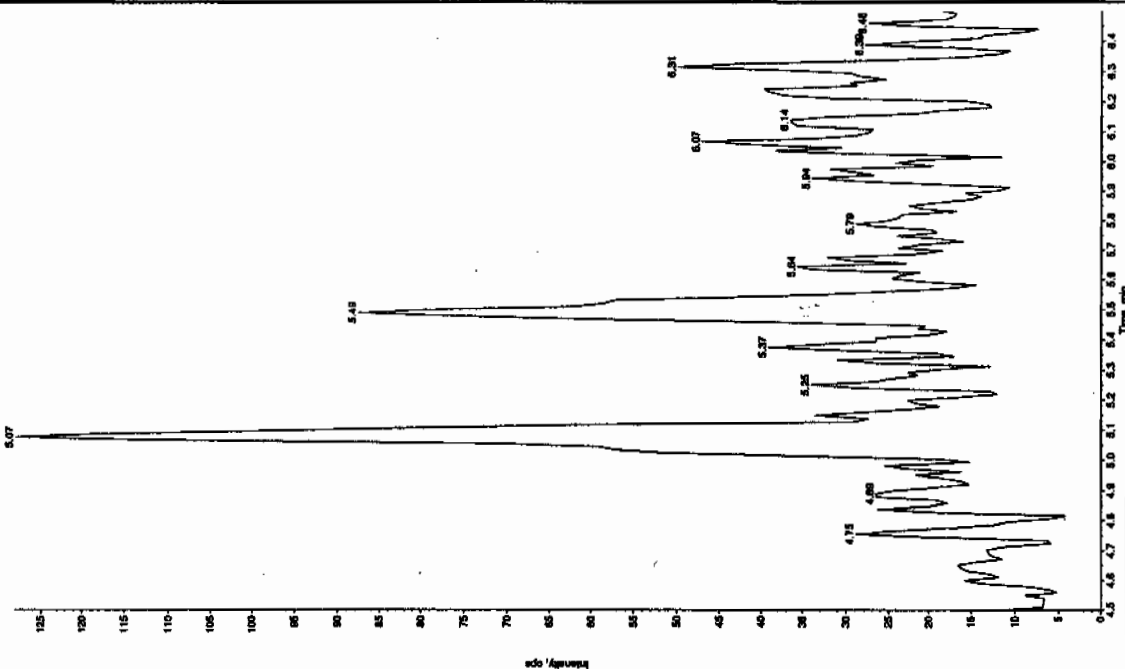
Sample Name: "XBLK08" Sample ID: "111ER" File: "EXS01250059.wif"
 Peak Name: "iso-octyl phosphate" Mass(es): "369.191.0 amu"
 Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 1:44:00 AM
 Modified: No



Sample Name: "XBLK08" Sample ID: "111ER" File: "EXS01250059.wif"
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 1:44:00 AM
 Modified: No



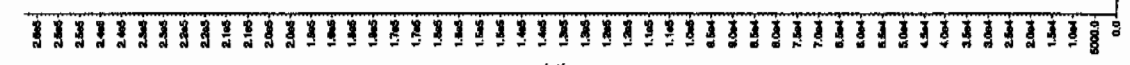
for 1127110

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Sample Name: "WXX100125-2709" Sample ID: "111111" File: "EXS01250080.wif"
Peak Name: "TATP" Mass(es): "257.2004.9 amu"
Concentration: "LCMSDEP_C" Annotation: "

Sample Index: 1
Sample Type: 100. ng/mL
Concentration: 103. ng/mL
Acq. Date: 1/26/2010
Acq. Time: 1:59:42 AM

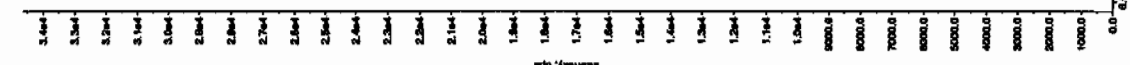
Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.10 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 8.15 min
Area: 1.01e+006 counts
Height: 257909.027 cps
Start Time: 8.05 min
End Time: 8.25 min



Sample Name: "WXX100125-2709" Sample ID: "111111" File: "EXS01250080.wif"
Peak Name: "TATP" Mass(es): "257.2004.9 amu"
Concentration: "LCMSDEP_C" Annotation: "

Sample Index: 1
Sample Type: 100. ng/mL
Concentration: 104. ng/mL
Acq. Date: 1/26/2010
Acq. Time: 1:59:42 AM

Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.97 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 6.98 min
Area: 1.47e+005 counts
Height: 34643.734 cps
Start Time: 6.82 min
End Time: 7.18 min



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

for 1127110

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 26-JAN-10 04:05

GEL Data File: EXS01250068.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

Scan 112710

Sample Name: "XBLX09" Sample ID: "111ER" File: "EX501250068.wif"

Peak Name: "TATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

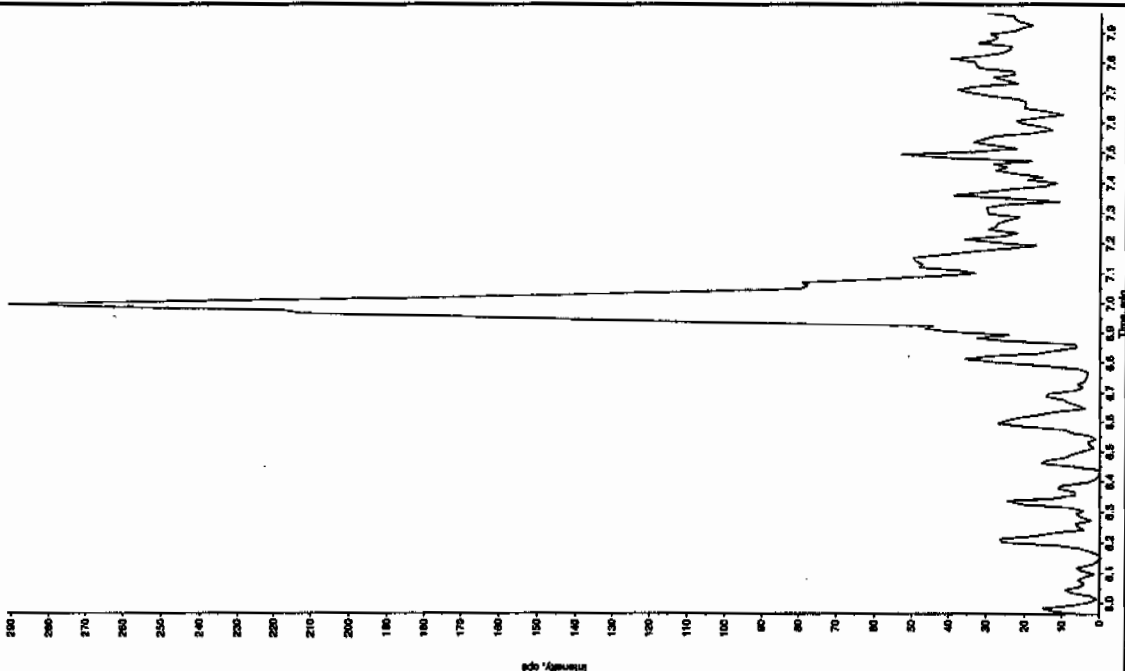
Concentration: N/A ng/mL

Calculated Conc: 0.00

Acq. Date: 1/28/2010

Acq. Time: 4:05:24 AM

Modified: No



Sample Name: "XBLX08" Sample ID: "111ER" File: "EX501250068.wif"

Peak Name: "3S-Durkionline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

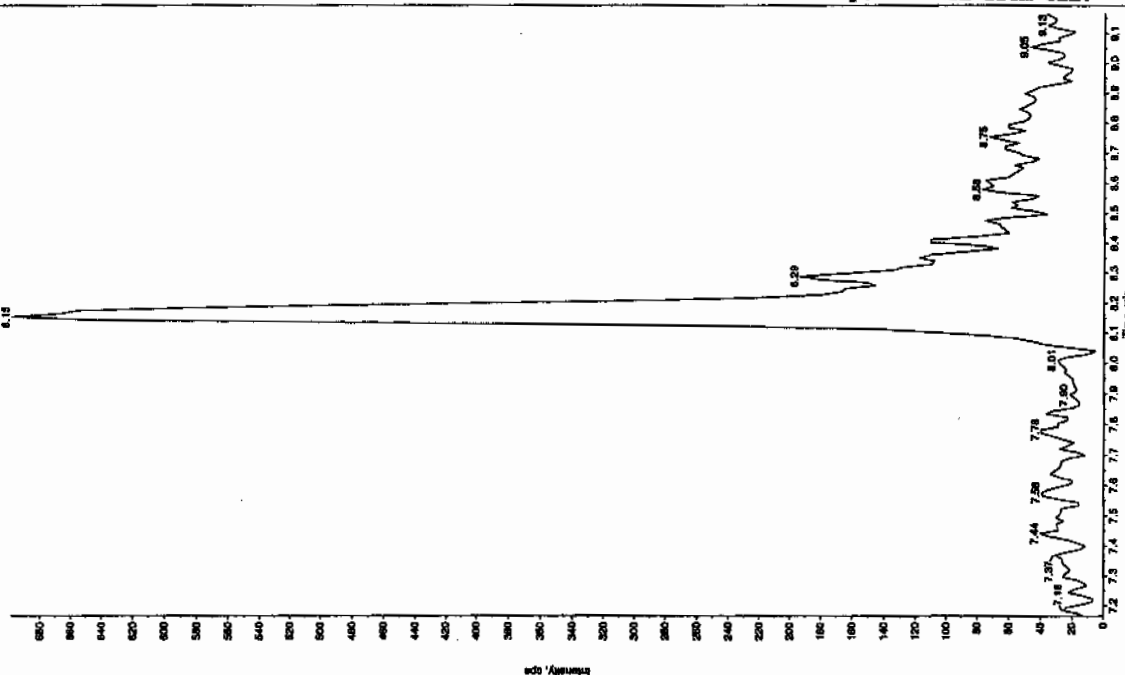
Concentration: N/A ng/mL

Calculated Conc: 0.00

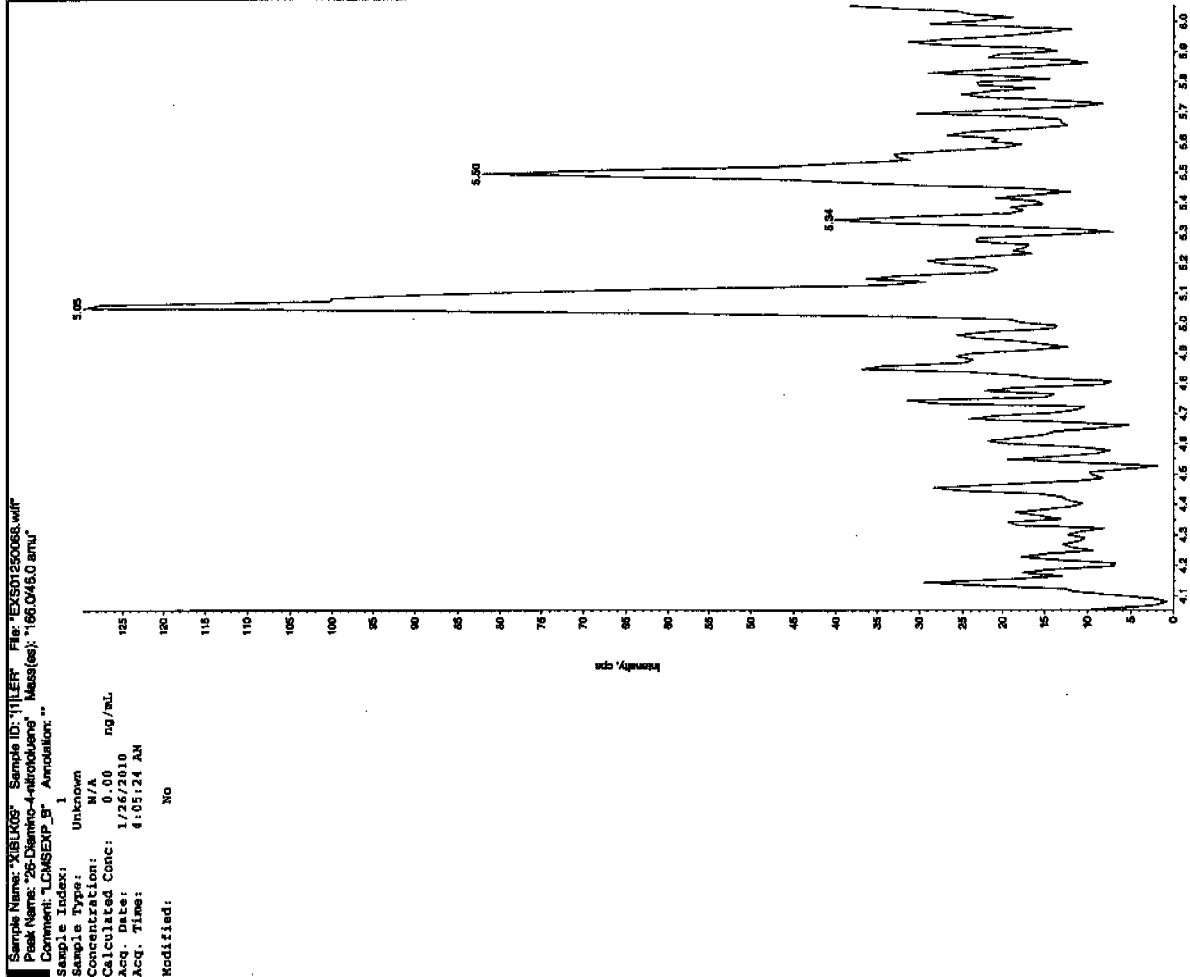
Acq. Date: 1/28/2010

Acq. Time: 4:05:24 AM

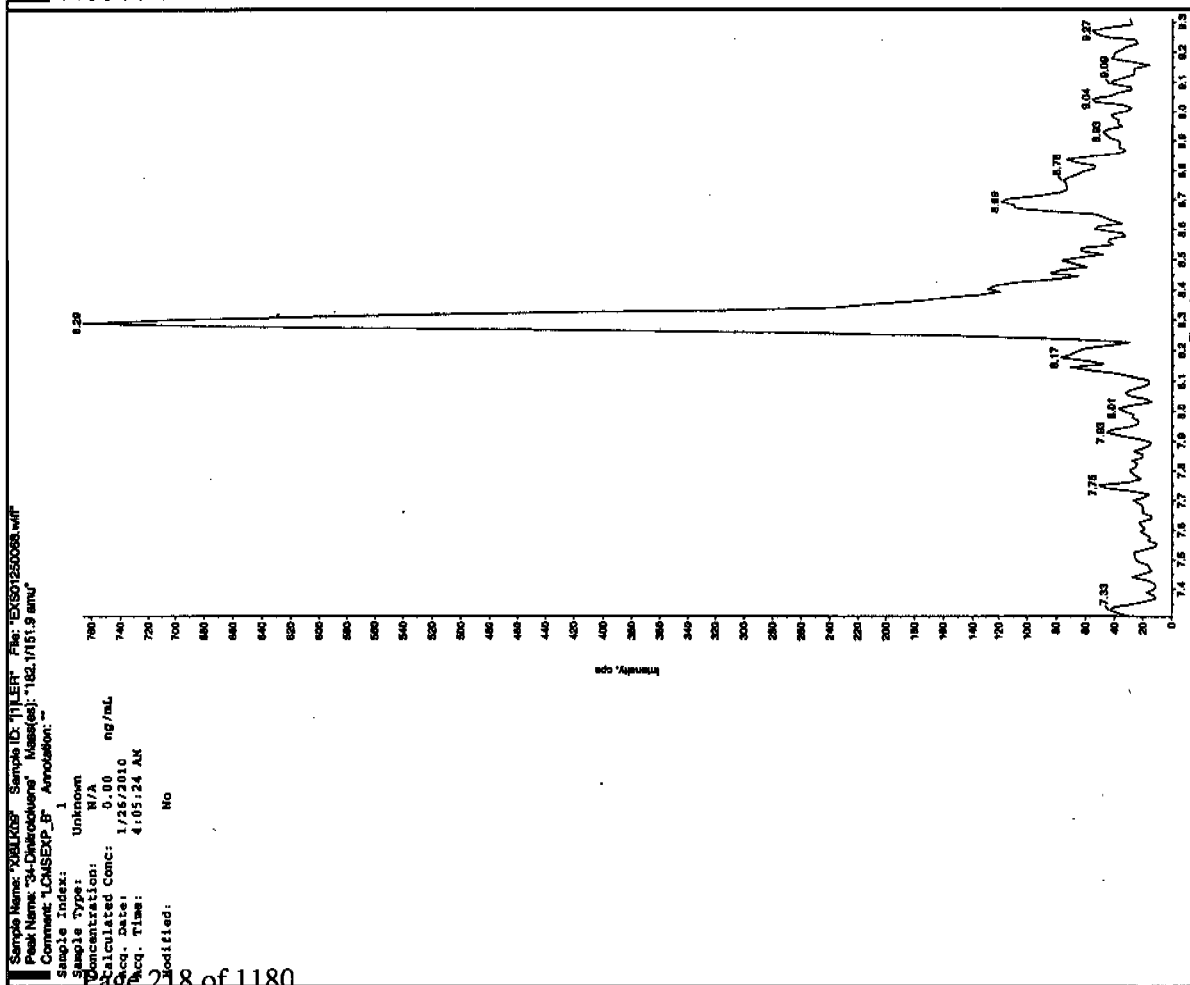
Modified: No



Scan 0112710

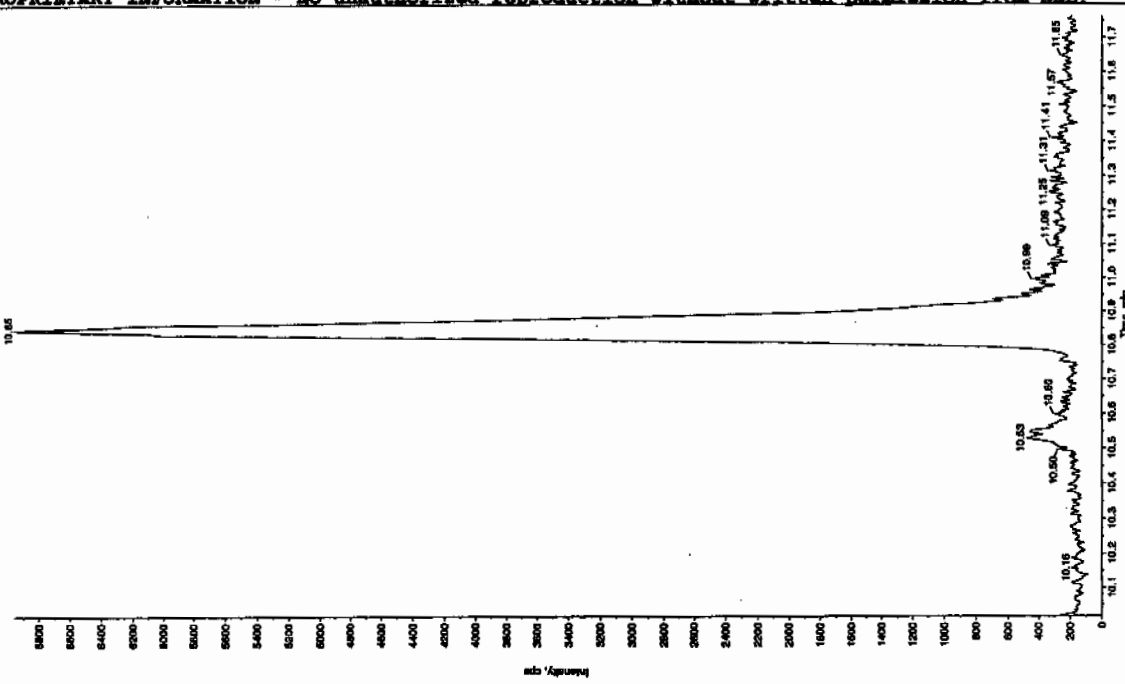


Sample Name: "XALKOS" Sample ID: "111ER" File: "EXS01250088.wiff"
Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"



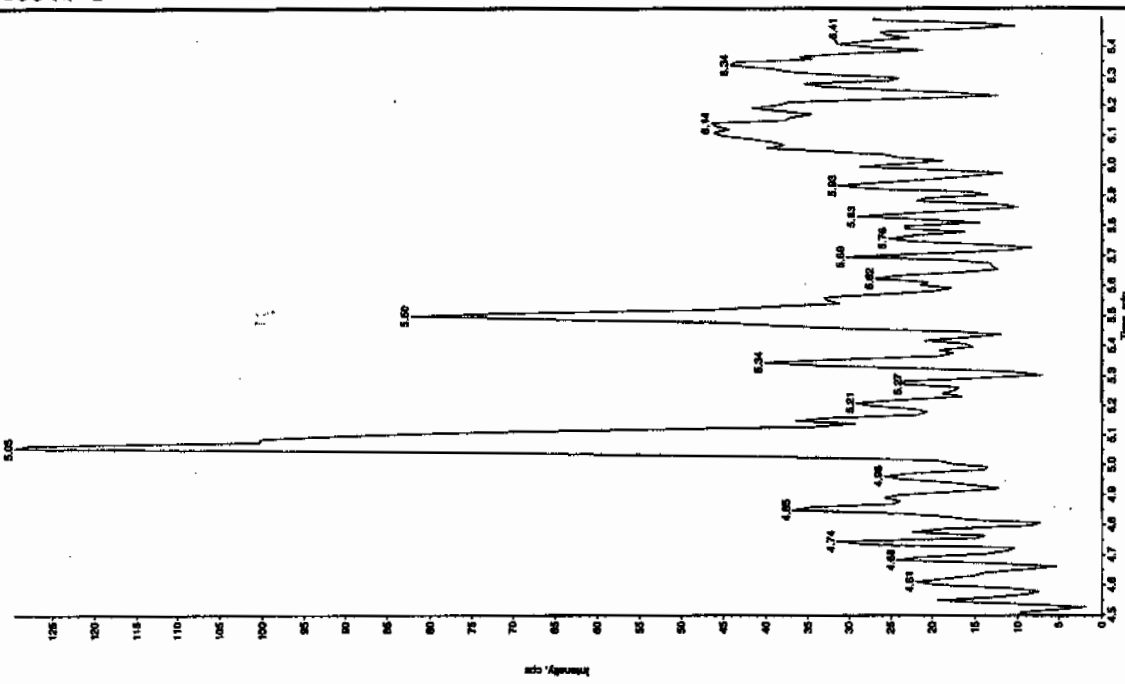
Sample Name: "XBLK09" Sample ID: "11LEF" File: "EX501250088.wif"
 Peak Name: "11g(0-oxa) phosphate" Mass(es): "355.181.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 4:03:24 AM
 Modified: No



Sample Name: "XBLK09" Sample ID: "11LEF" File: "EX501250088.wif"
 Peak Name: "24-Diamino-6-nitrobenzene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 4:05:24 AM
 Modified: No



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK10

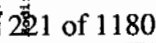
Analysis Date: 26-JAN-10 07:29

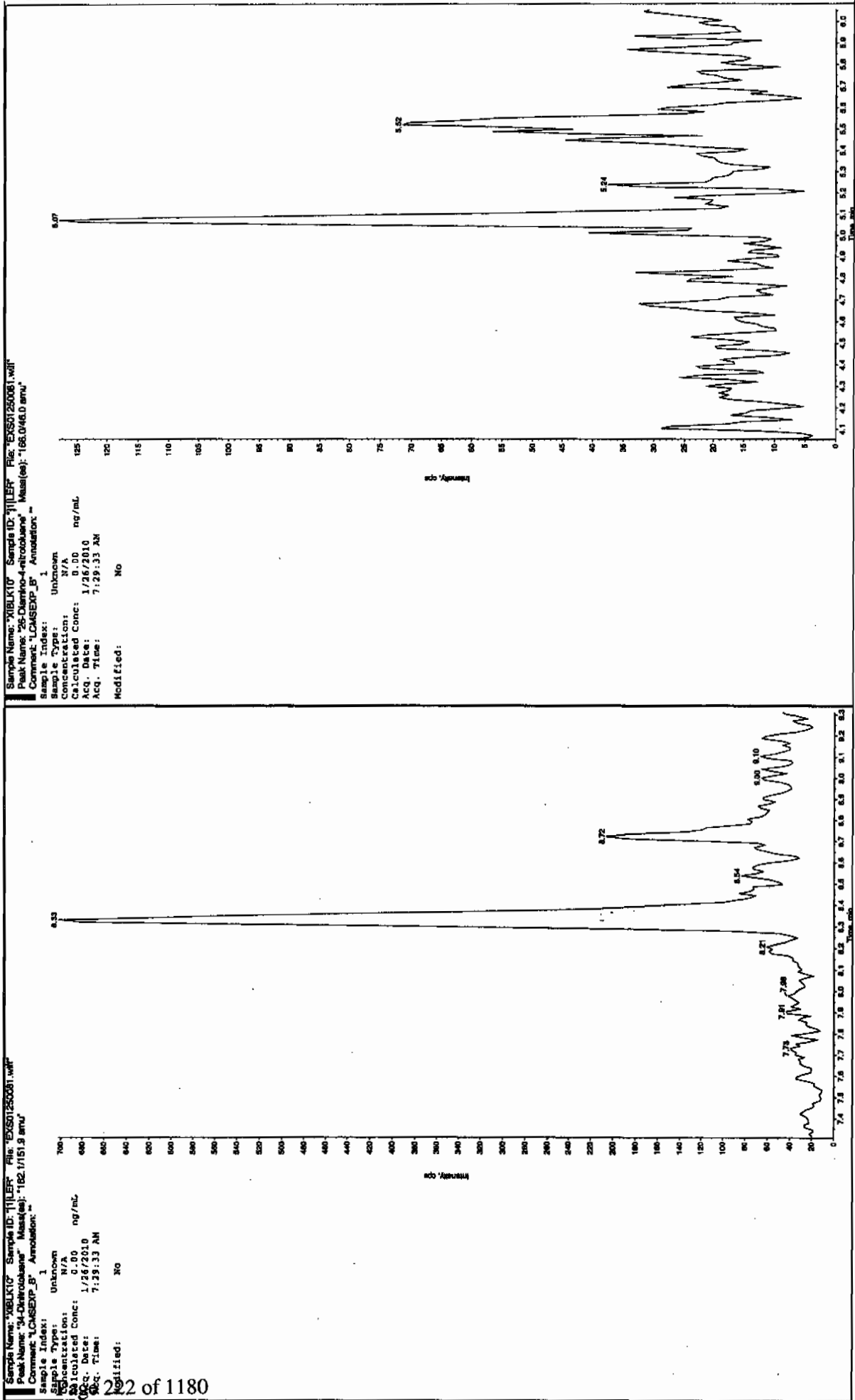
GEL Data File: EXS01250081.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.2
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

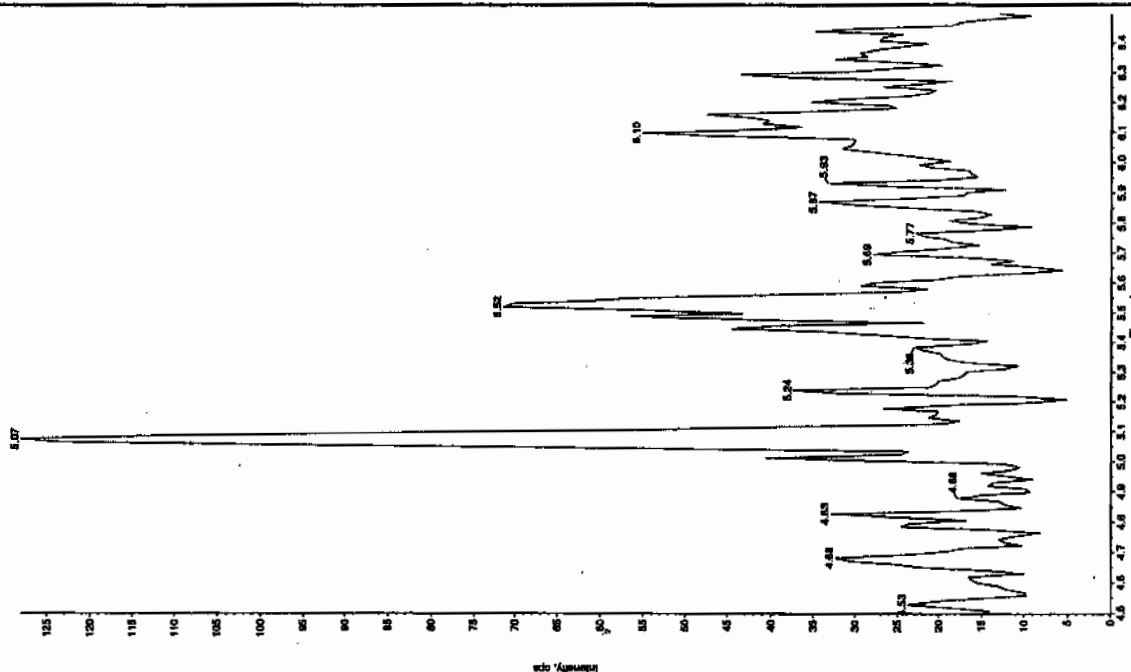




Sample Name: "XIBLK10" Sample ID: "111ER" File: "EXS01250031.wif"
 Peak Name: "2,4-Dinitro-5-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 7:29:33 AM
 Modified: No

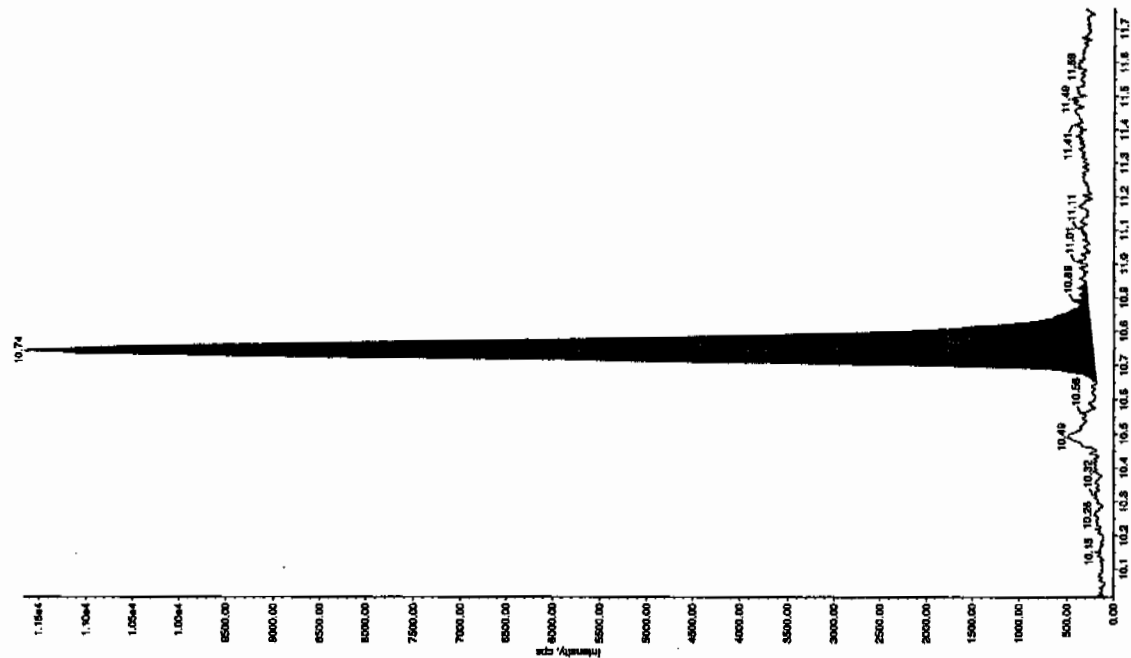
223 of 1180



Sample Name: "XIBLK10" Sample ID: "111ER" File: "EXS01250031.wif"
 Peak Name: "bis(o-cresyl) phosphate" Mass(es): "355.191.0 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 16.2 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 7:29:33 AM
 Modified: No

Proc. Algorithm: IntelliQuan - ION
 Min. Peak Height: 1.00e4 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 10.0 sec
 Expected RT: 10.8 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.7 min
 Area: 4.74e+004 counts
 Height: 11444.225 cps
 Start Time: 10.7 min
 End Time: 10.9 min



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK11

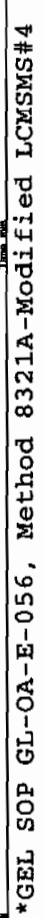
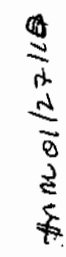
Analysis Date: 26-JAN-10 10:53

GEL Data File: EXS01250094.wiff

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

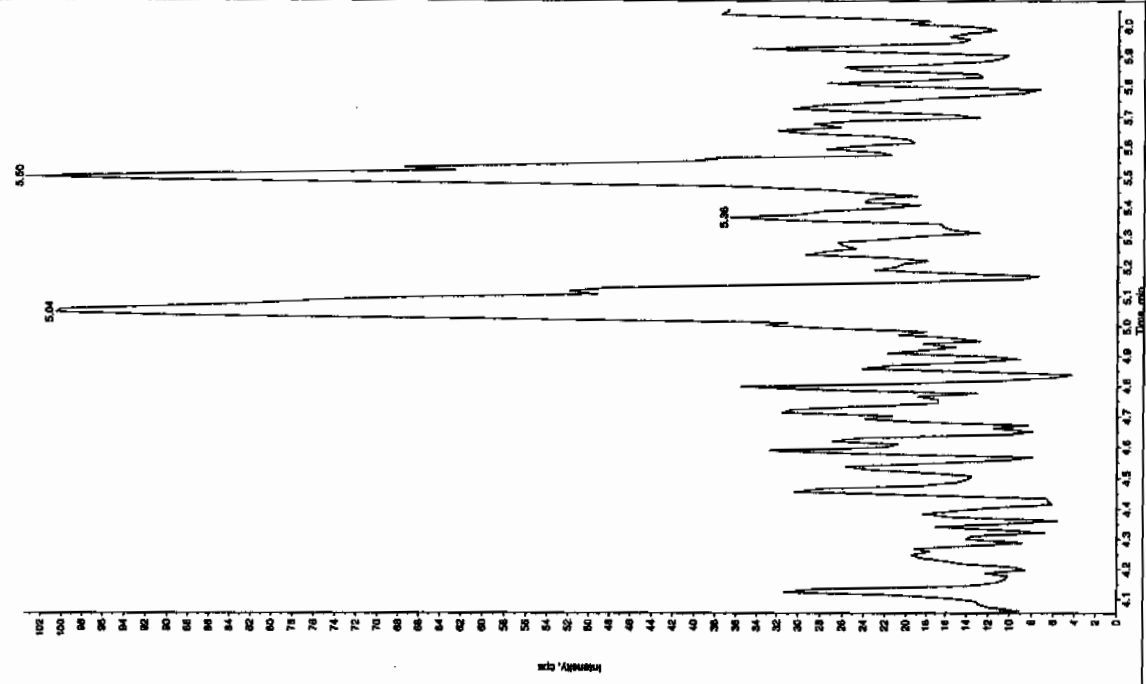
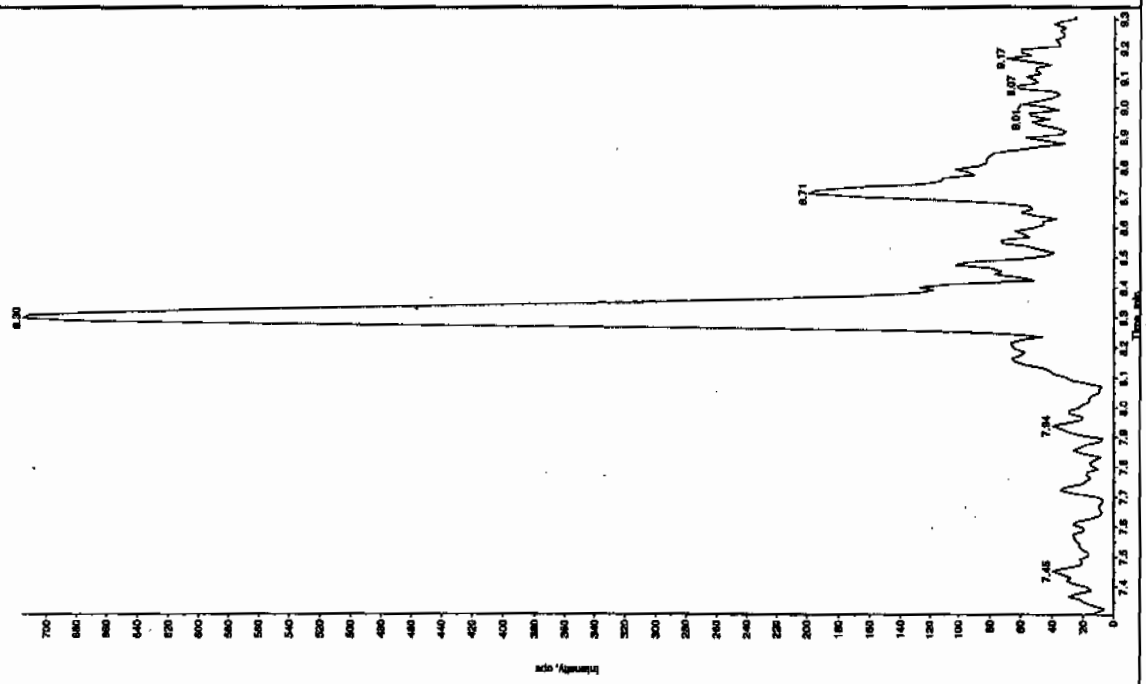
Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.4
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

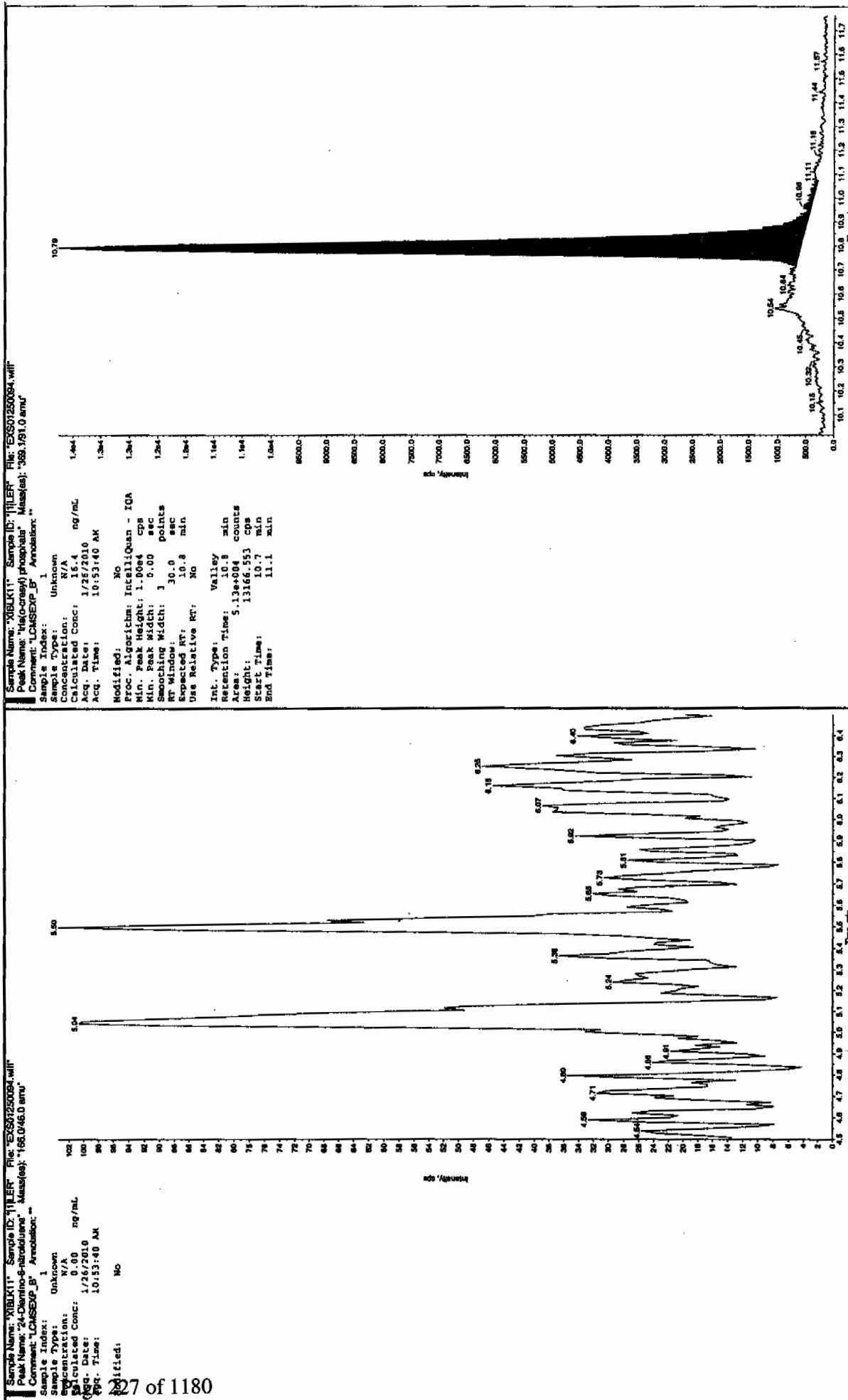


Sample Name: "XBLK11" Sample ID: "11"ER File: "EXS01250094.wif"
Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"
Comment: "LOWEXP B" Annotation: ""

Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.00
Acq. Date:	1/25/2010
Acq. Time:	10:53:40 AM
Modified:	No

Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.00 ng/mL
Acq. Date:	1/26/2010
Acq. Time:	10:53:40 AM
Modified:	No





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK12

Analysis Date: 26-JAN-10 11:40

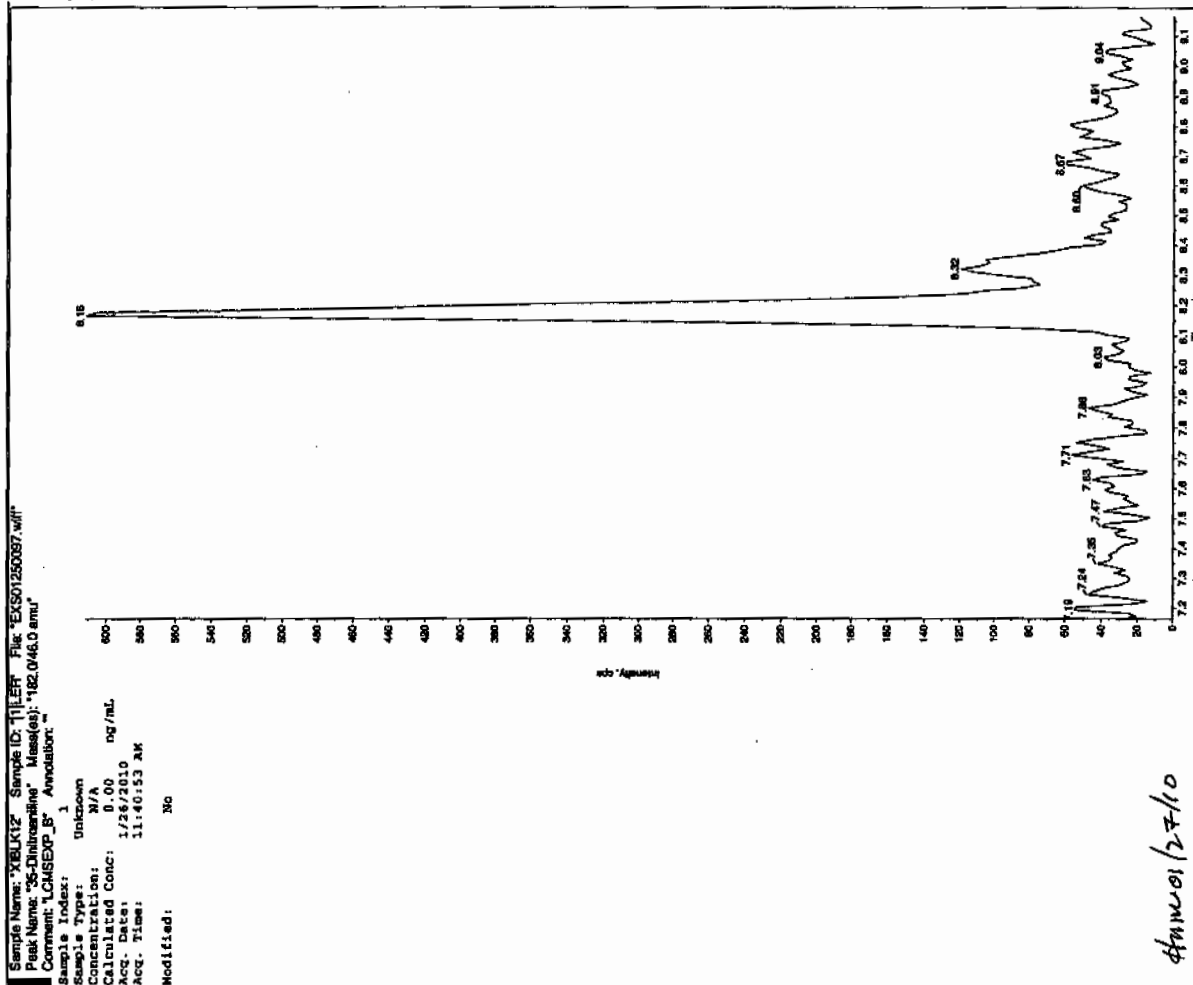
GEL Data File: EXS01250097.wiff

Instrument ID: LCMSMS

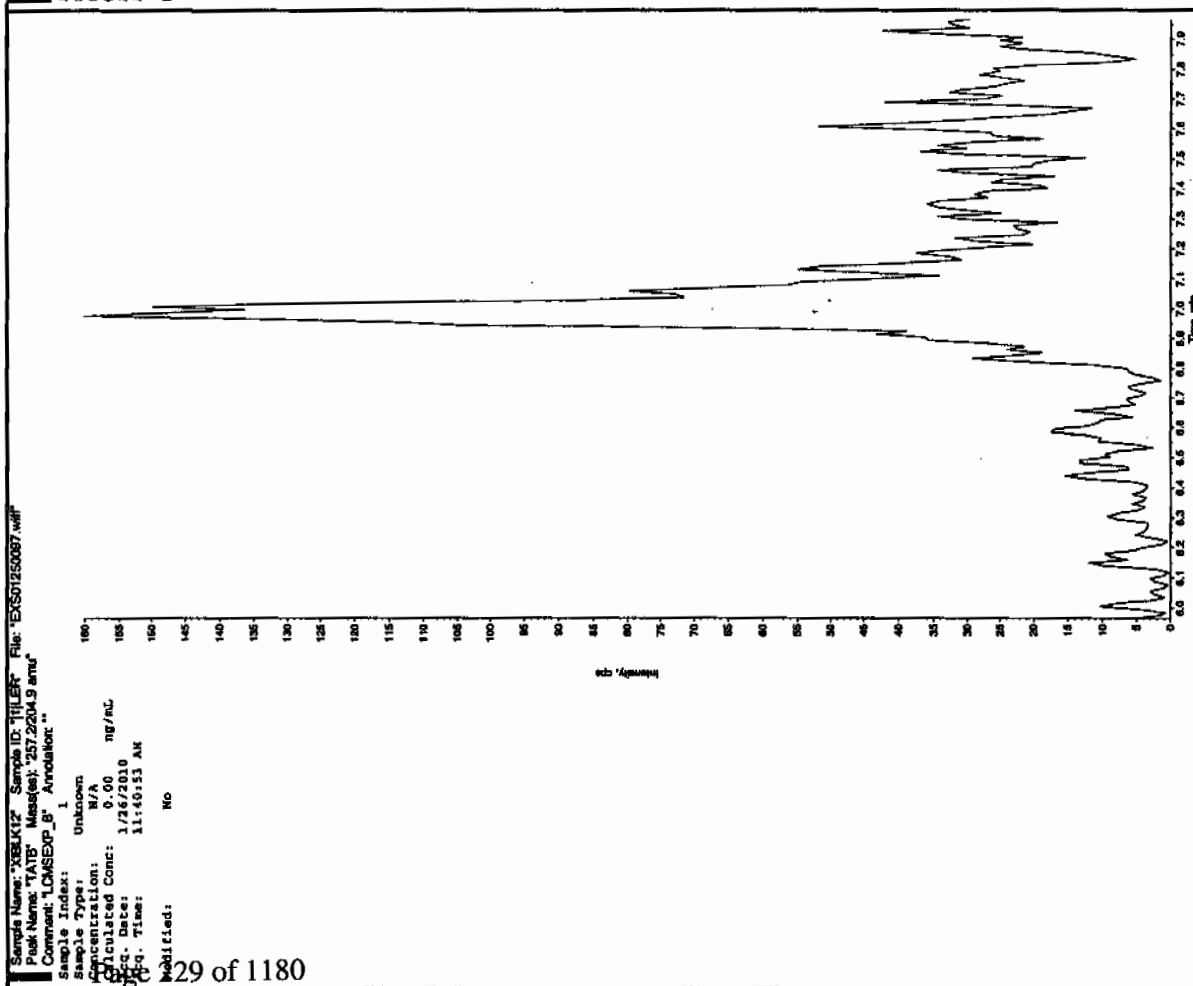
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	0
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

REA 112710



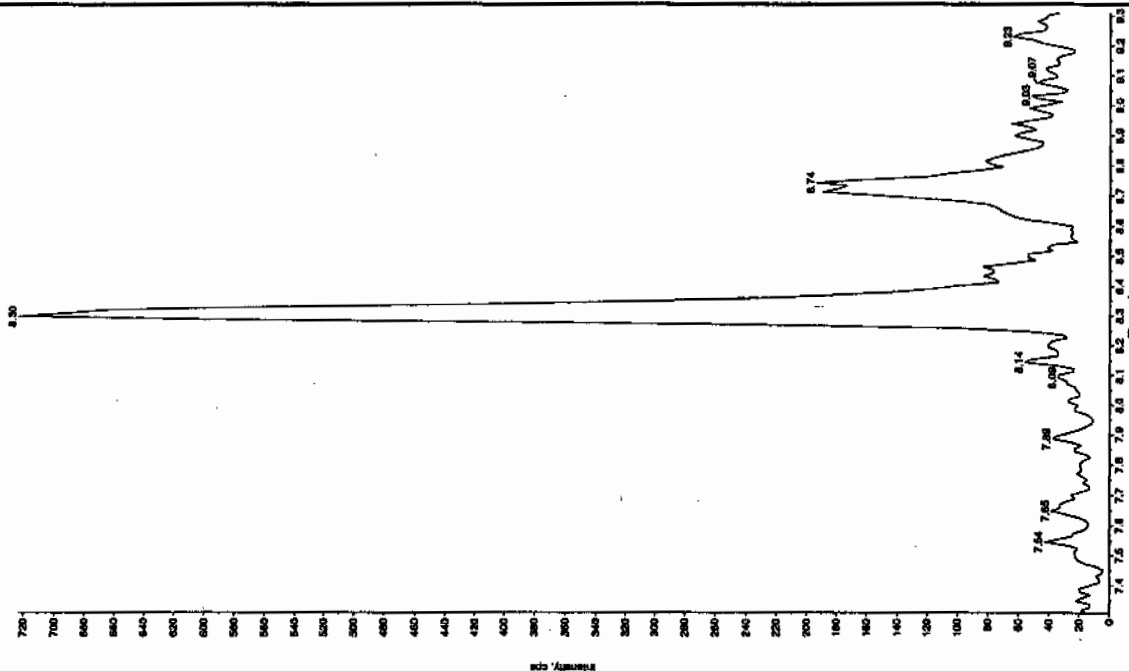
4/11/2010



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

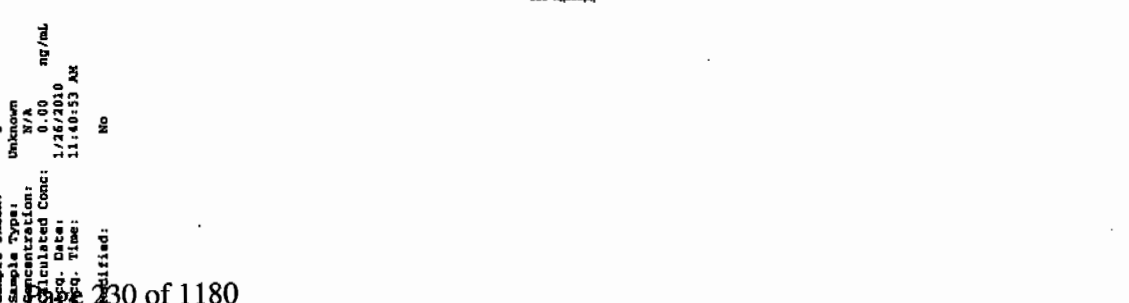
Sample Name: "XIBLK12" Sample ID: "111ER" File: "EX501250037.wif"
 Peak Name: "28-Oximin-4-nitrofluorene" Mass(es): "186.0465.0 amu"
 Comment: "LCMS-EXP_5" Annotation: ""

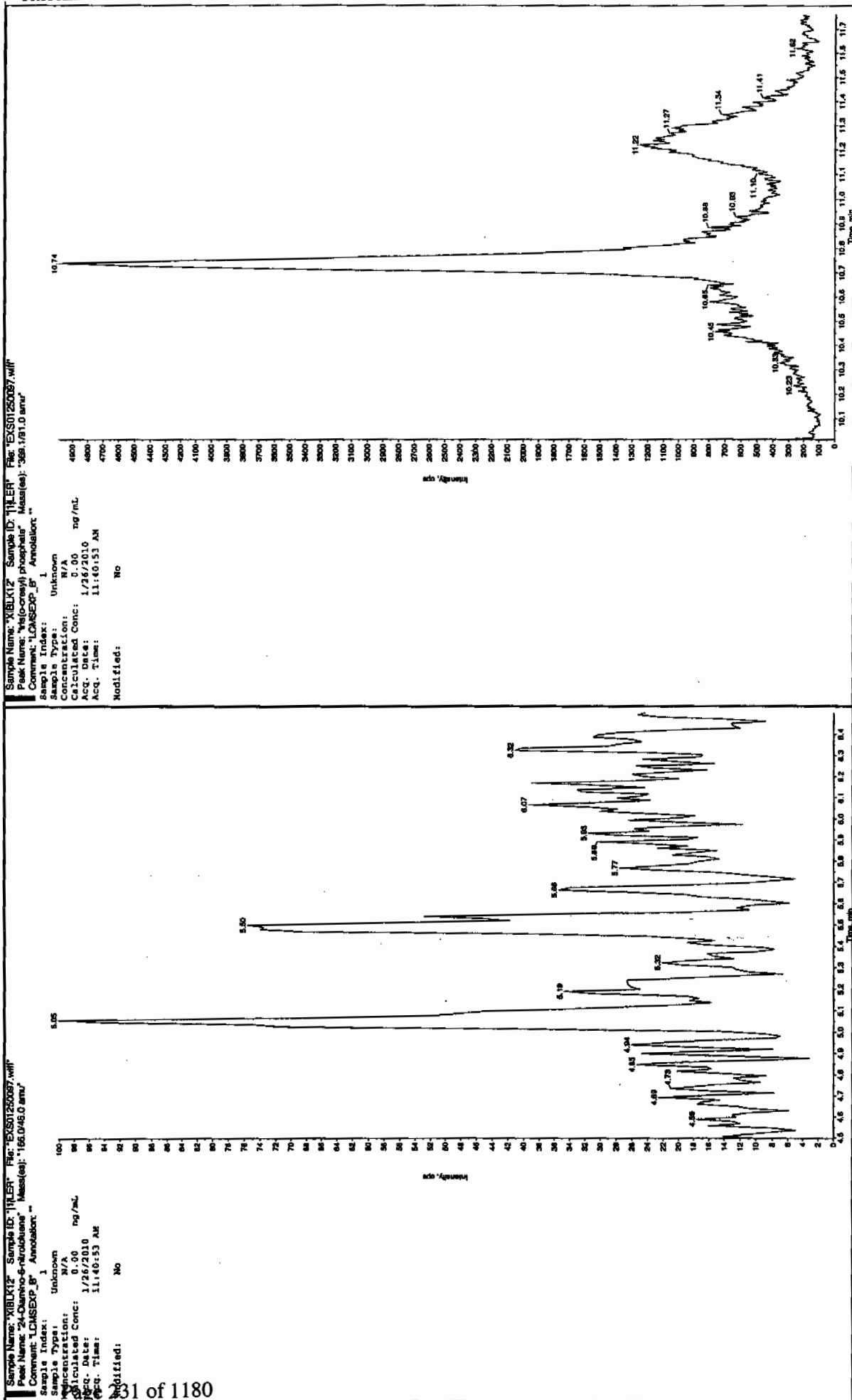
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 11:40:53 AM
 Modified: No



Sample Name: "XIBLK12" Sample ID: "111ER" File: "EX501250037.wif"
 Peak Name: "34-Oximin-4-nitrofluorene" Mass(es): "182.1151.9 amu"
 Comment: "LCMS-EXP_5" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 11:40:53 AM
 Modified: No





4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1209

Lab Code: GEL

Lab Sample ID: XIBLK13

Analysis Date: 26-JAN-10 14:17

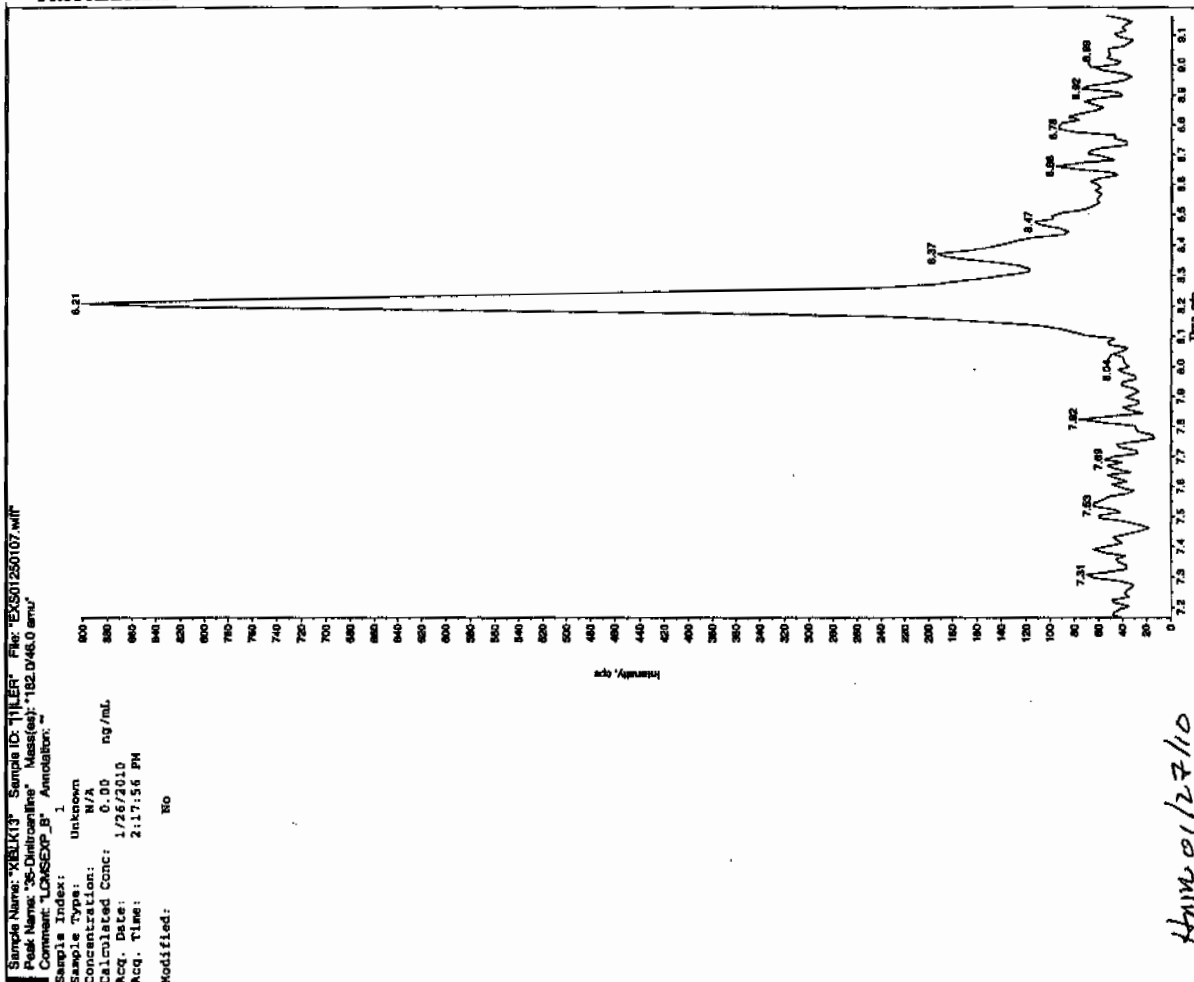
GEL Data File: EXS01250107.wiff

Instrument ID: LCMSMS

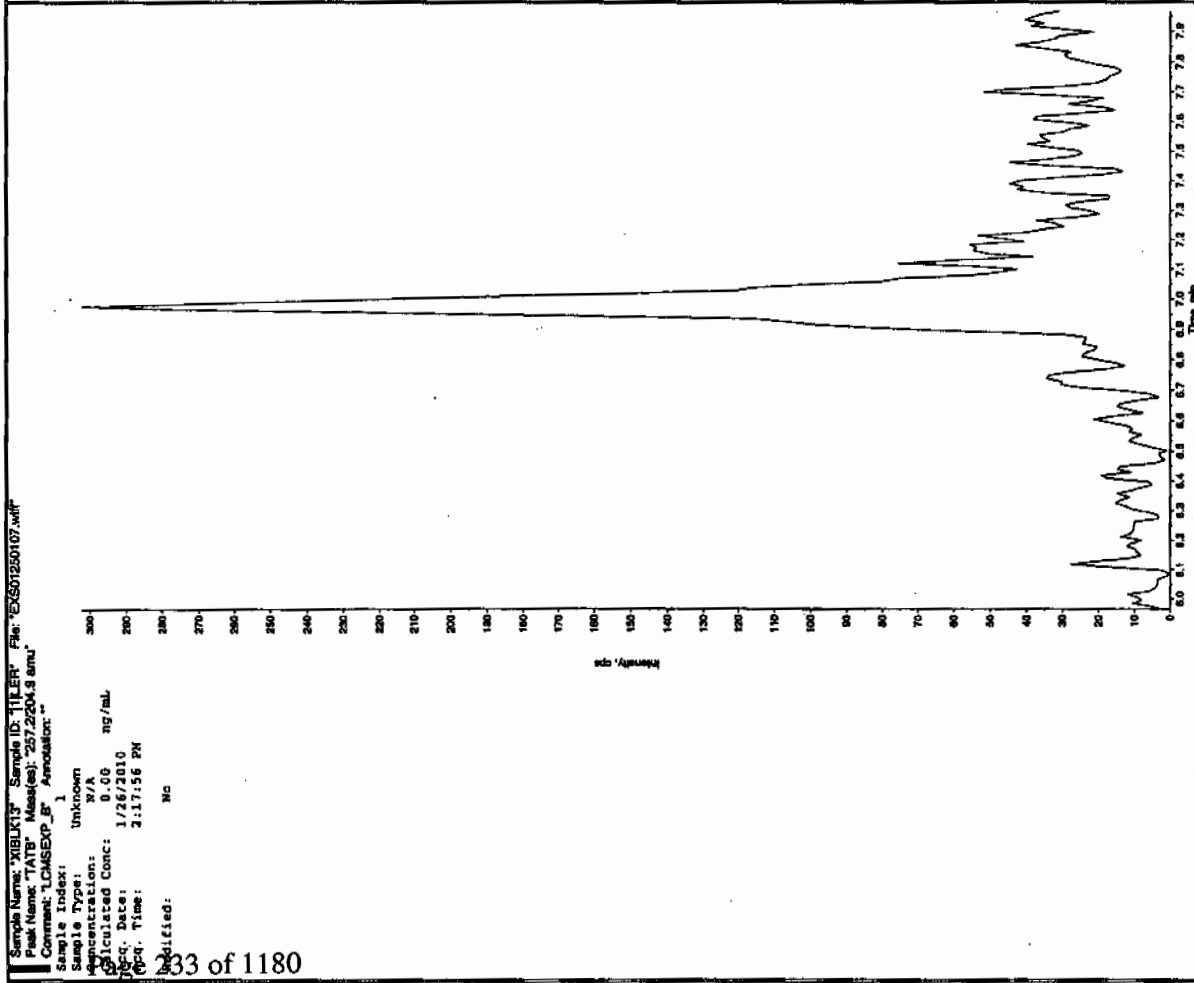
Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
3,4-Dinitrotoluene	0	0
tris(o-cresyl) phosphate	0	16.3
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

OK 1/27/10



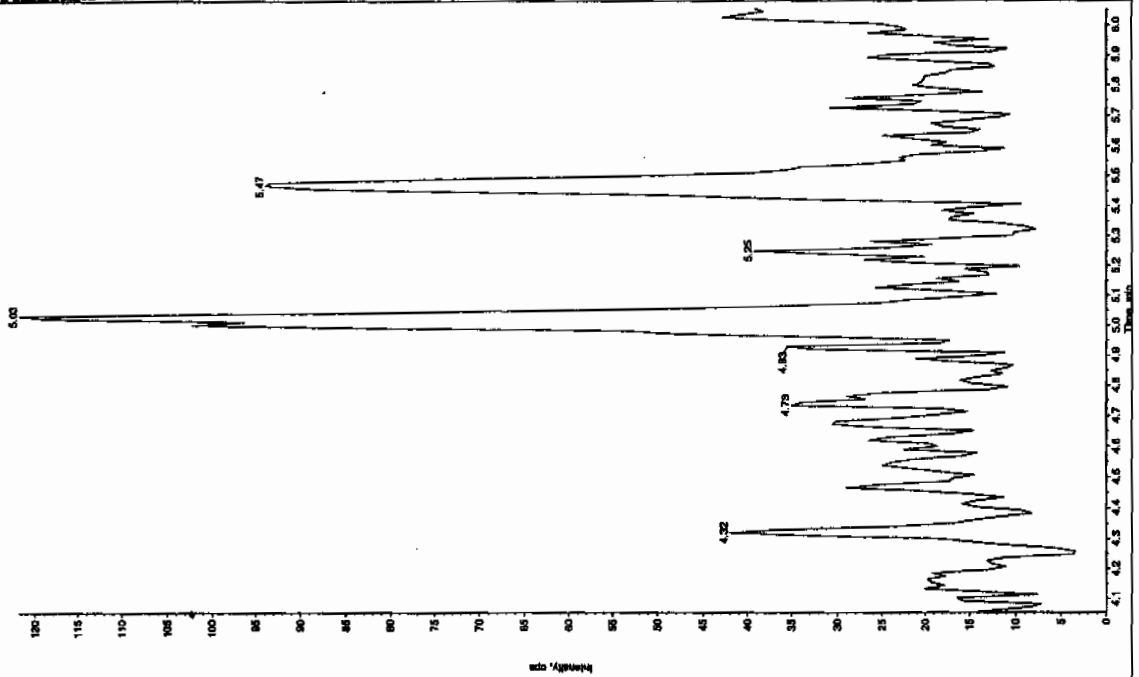
1/27/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

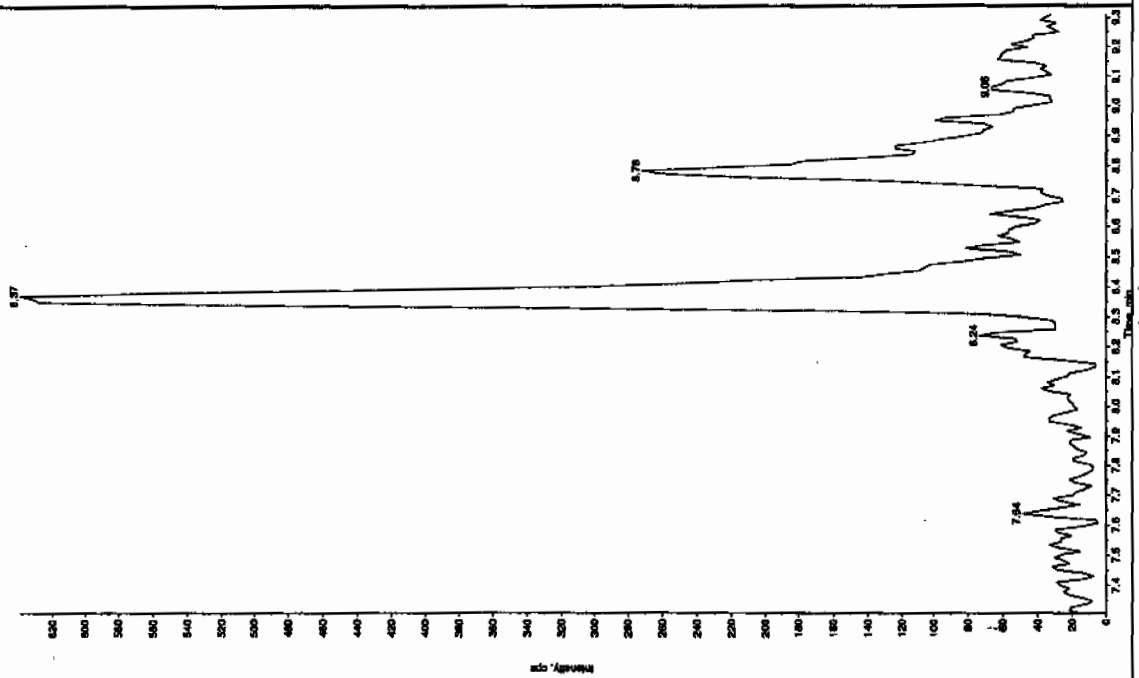
Sample Name: "XBLK13" Sample ID: "TILER" File: "EX501250107.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 2:17:56 PM
 Modified: No



Sample Name: "XBLK13" Sample ID: "TILER" File: "EX501250107.wif"
 Peak Name: "34-Diamino-4-nitrotoluene" Mass(es): "182.1451.9 amu"
 Comment: "LCMS-EXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 2:17:56 PM
 Modified: No

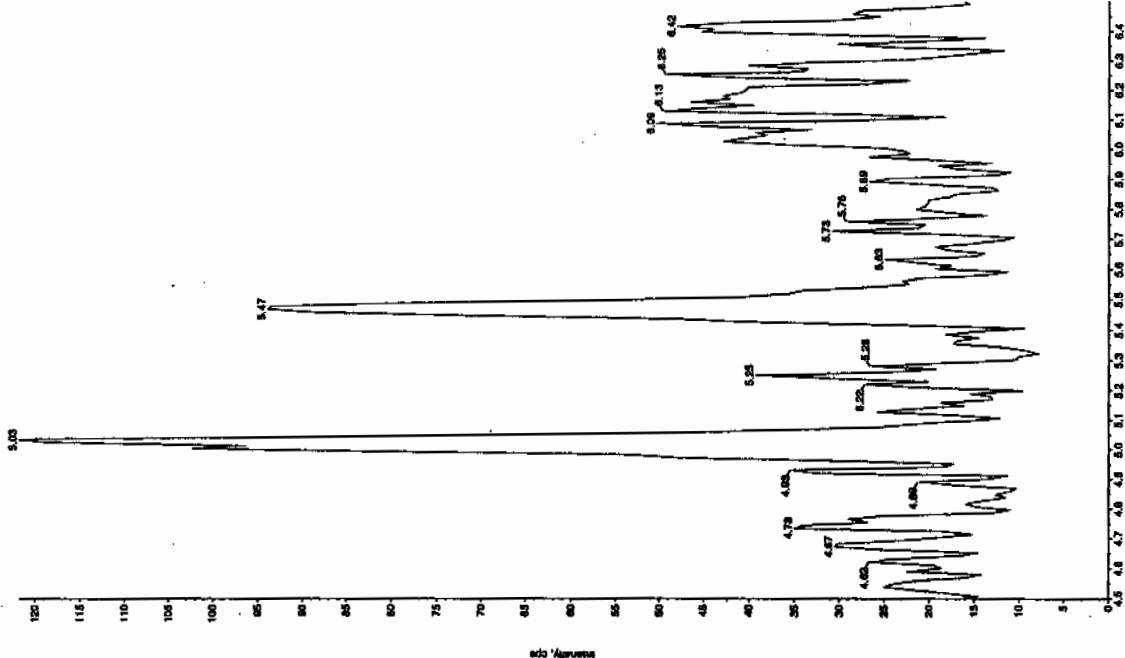


Sample Name: "XBLK13" Sample ID: "TILER" File: "EX501250107.wif"
 Peak Name: "bis(2-ethyl) phosphite" Mass(es): "328.1610 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 16.3 ng/mL
 Calculated Conc: 1/26/2010
 Acq. Date: 2:17:56 PM
 Acq. Time: 2:17:56 PM

Modified: No
 Proc. Algorithm: Inhibition - IOR
 Min. Peak Height: 1.00e4 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 10.8 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 10.9 min
 Area: 5.06e+004 counts
 Height: 11621.375 cps
 Start Time: 10.8 min
 End Time: 11.1 min



Sample Name: "XBLK13" Sample ID: "TILER" File: "EX501250107.wif"
 Peak Name: "34-Olefin-5-nitrobenzene" Mass(es): "158.0460 amu"
 Comment: "LCMSXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/26/2010
 Acq. Date: 2:17:56 PM
 Acq. Time: 2:17:56 PM

Modified: No

Int. Type: Valley

Nairb.ref

;Positive ion monoisotopic and average masses from solution
 ;of Nal/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

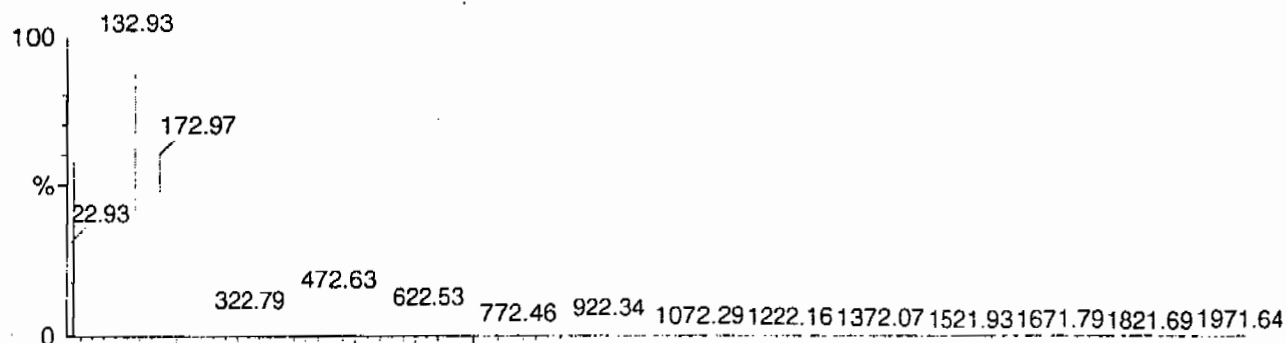
Calibration Report - MS1 Static

Page 1 of 1

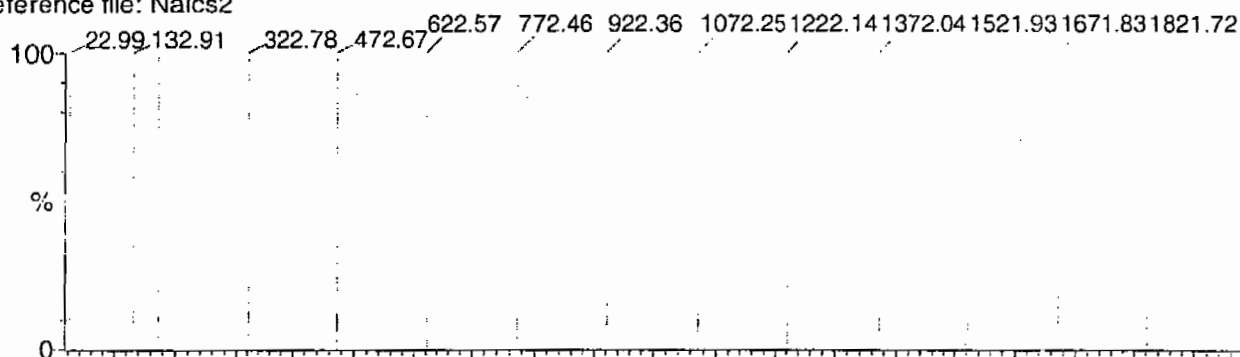
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

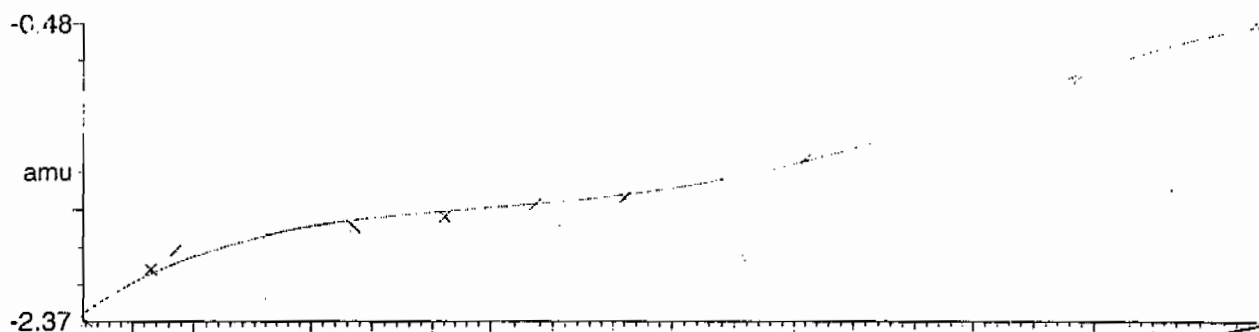
15 matches of 15 tested references



Reference file: Naics2

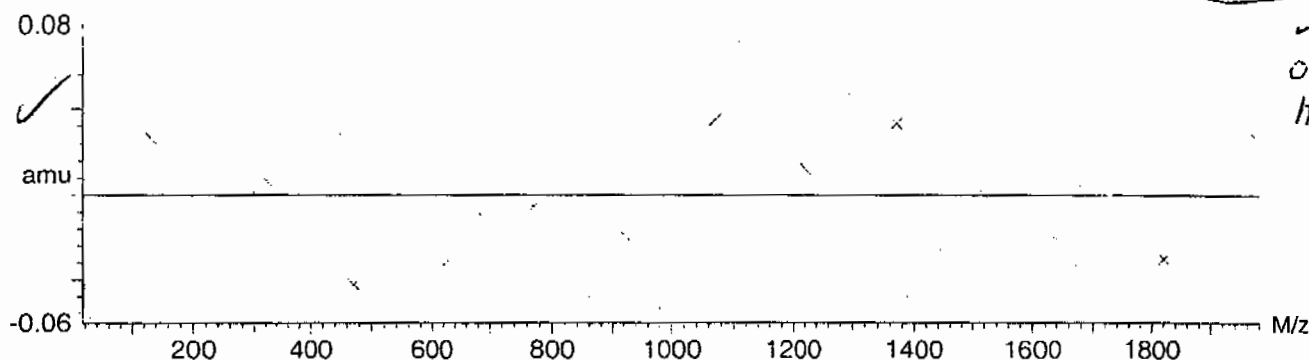


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-1.673470 \times 10^{-9} \pm 0.036953$



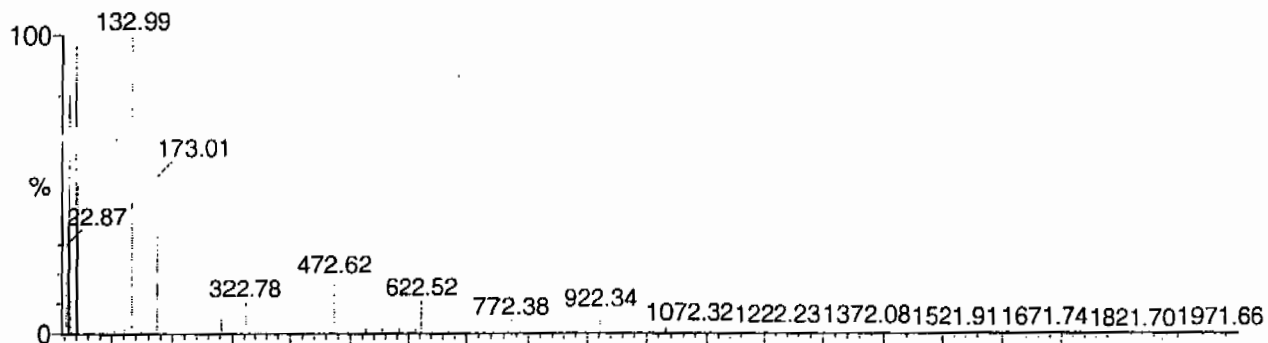
Calibration Report - MS1 Scanning

Page 1 of 1

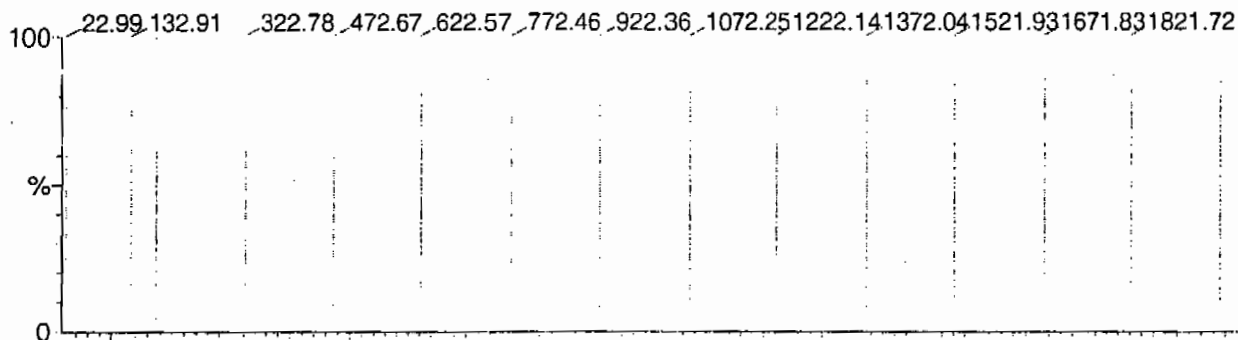
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

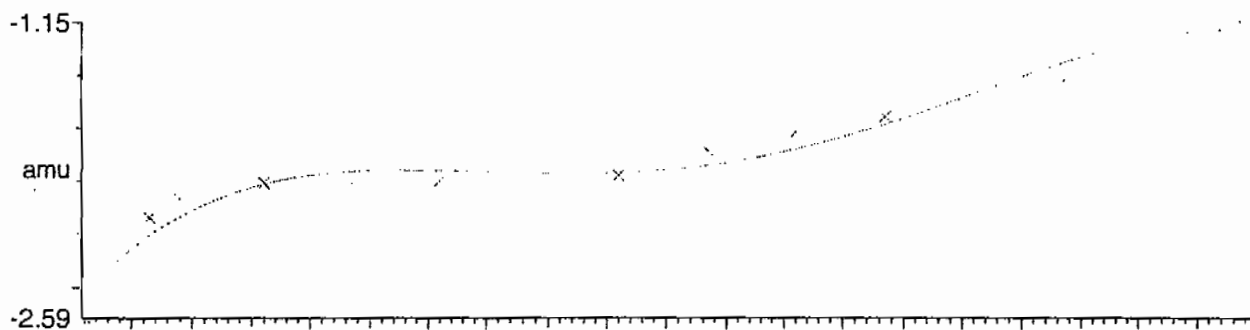
15 matches of 15 tested references



Reference file: Naics2



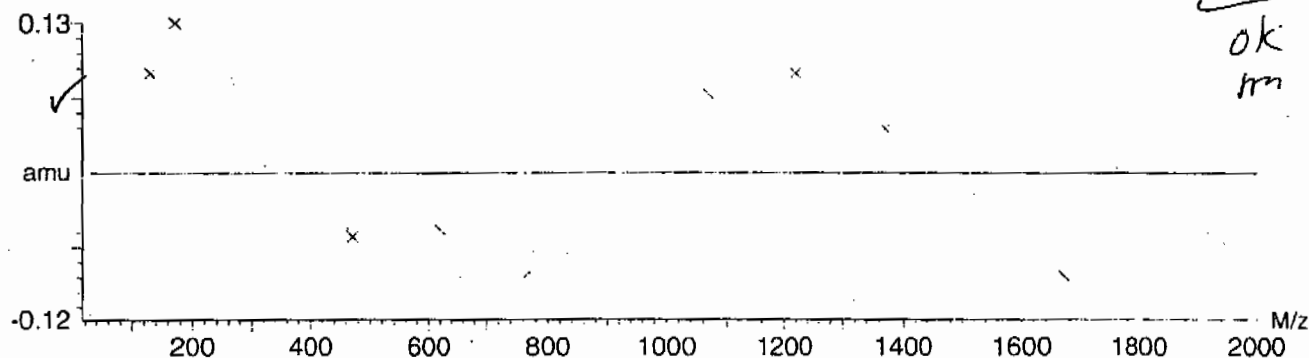
Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-5.432715 \times 10^{-9} \pm 0.069858$

ok
m



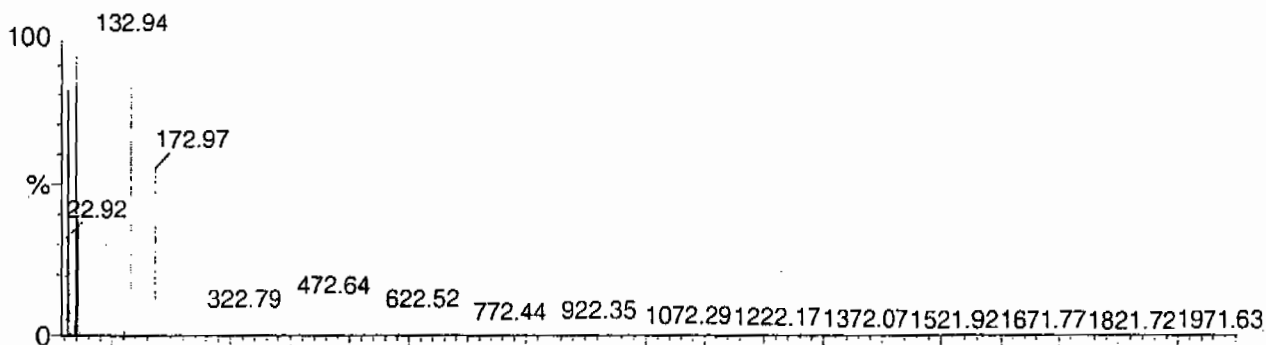
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

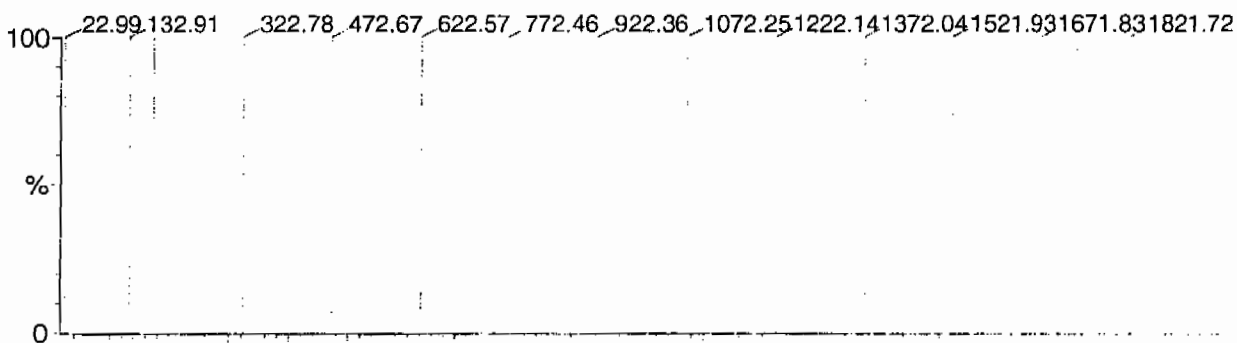
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

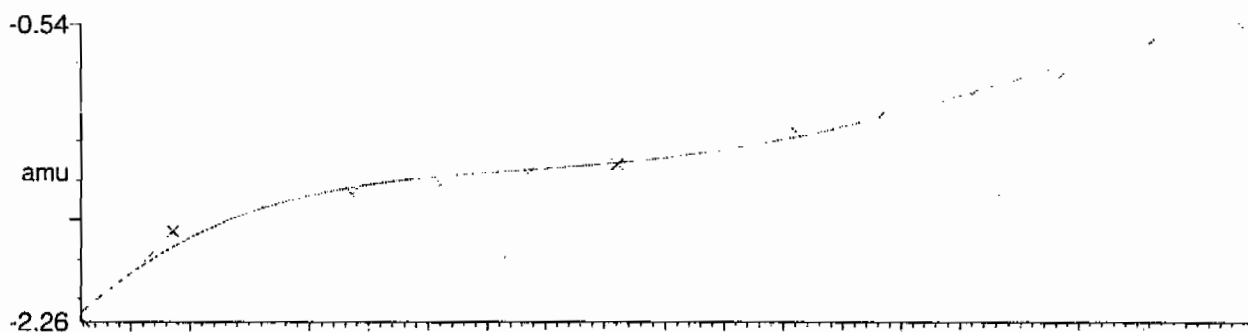
15 matches of 15 tested references



Reference file: Naics2

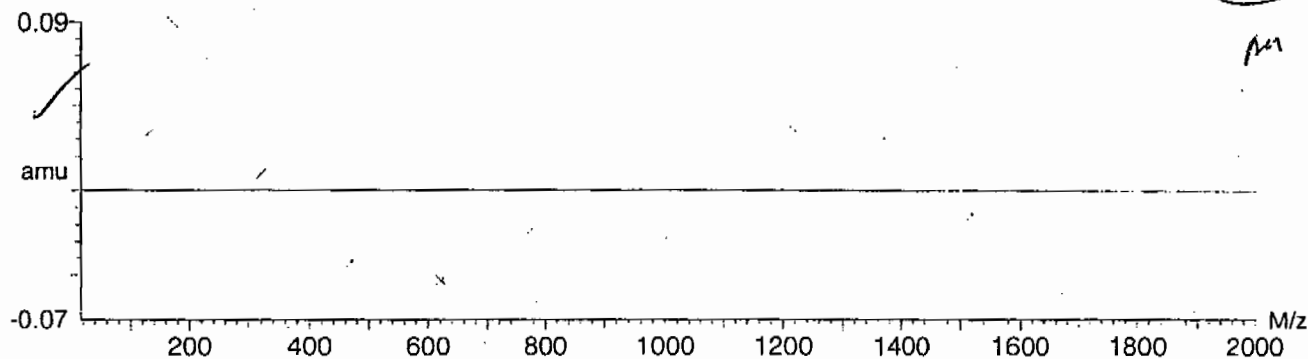


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $3.486639 \times 10^{-9} \pm 0.040487$



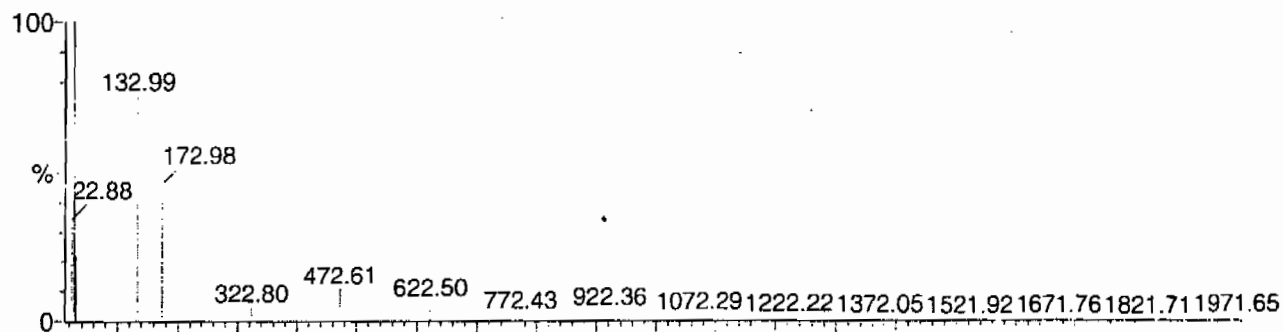
Calibration Report - MS2 Static

Page 1 of 1

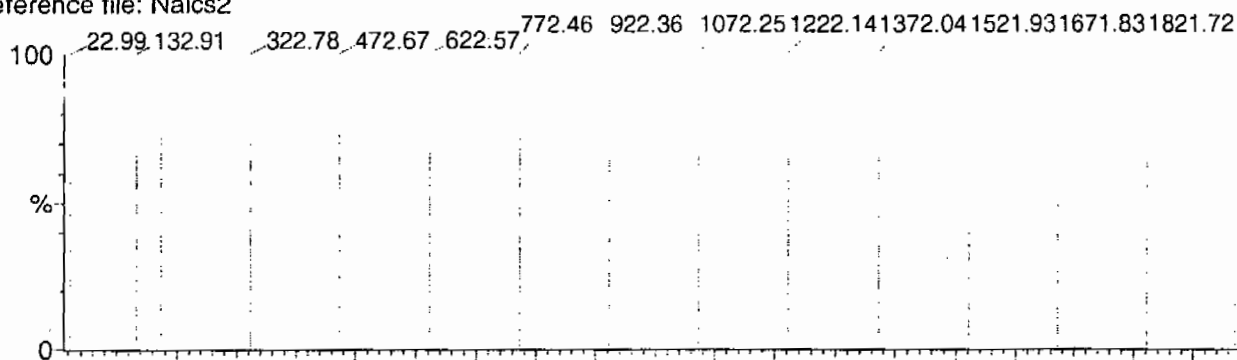
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

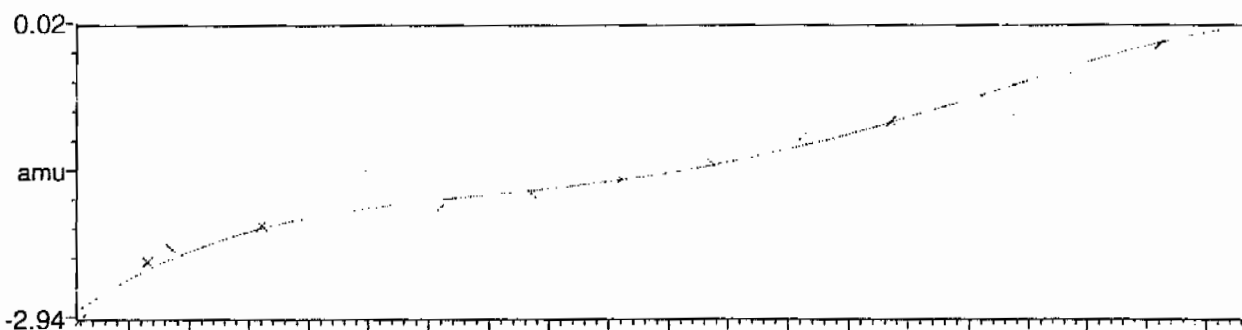
15 matches of 15 tested references



Reference file: Naics2

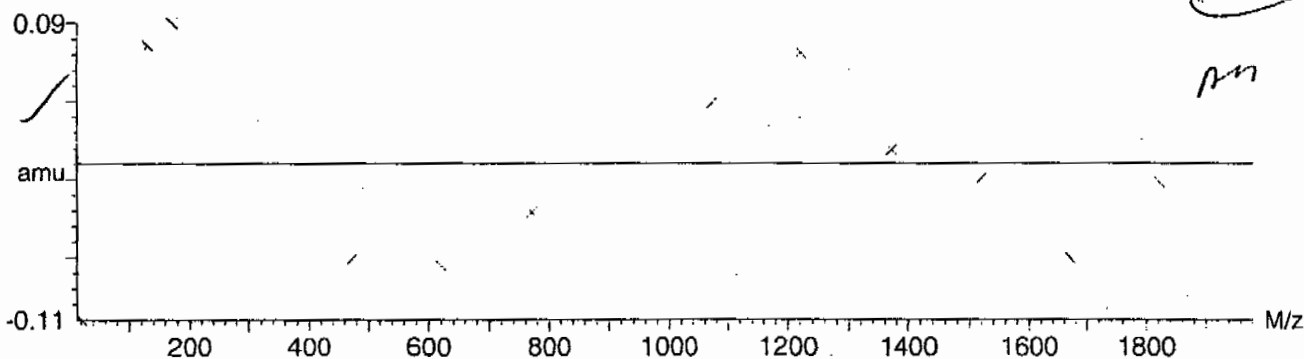


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $2.048910 \times 10^{-9} \pm 0.057803$



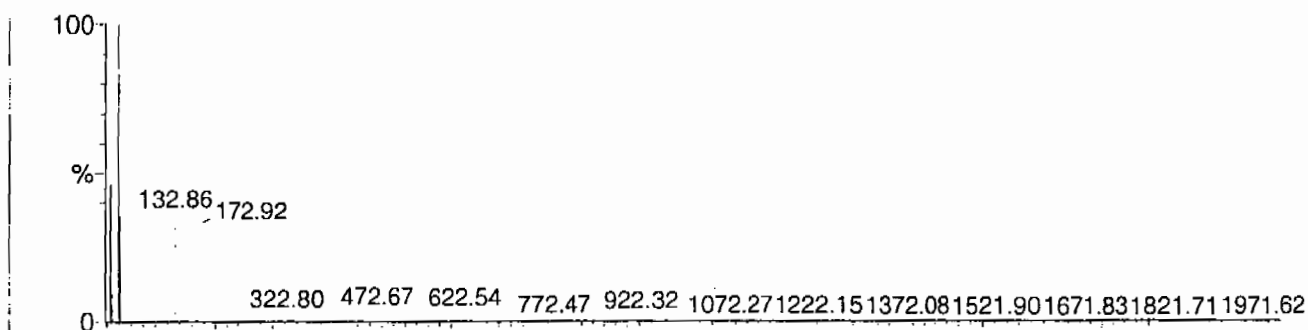
Calibration Report - MS2 Scanning

Page 1 of 1

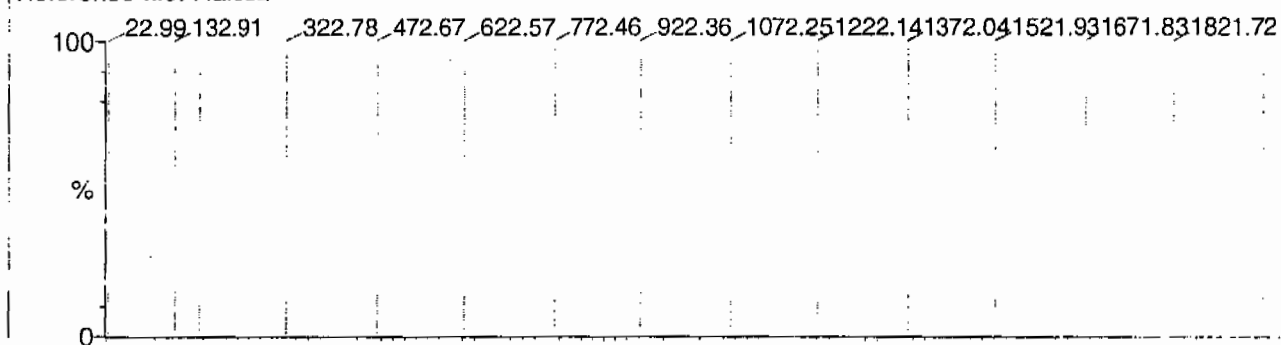
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

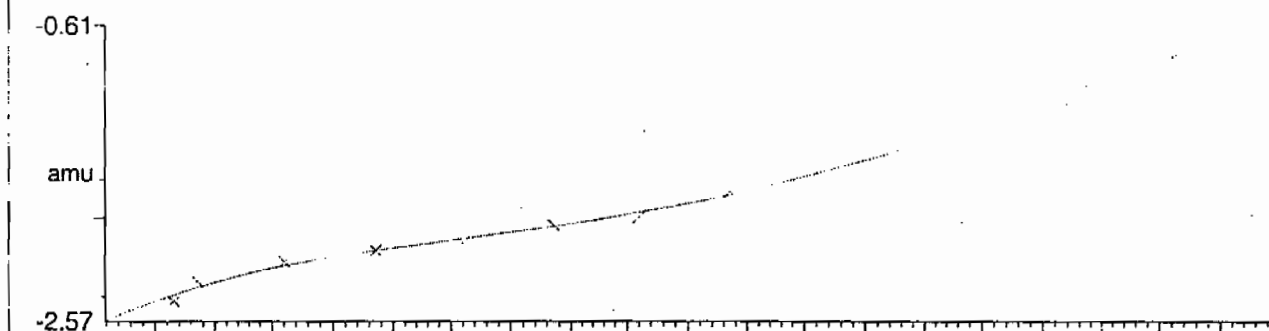
14 matches of 15 tested references



Reference file: Naics2

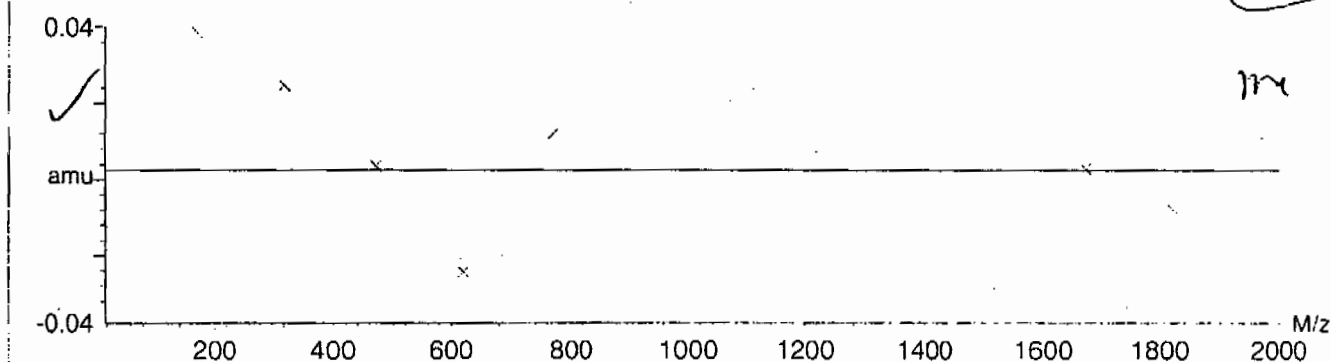


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-2.623502e-9 \pm 0.025622$



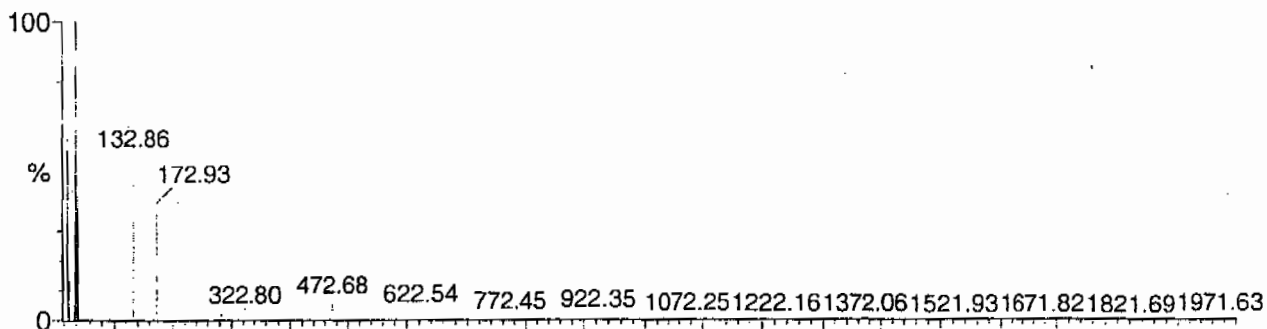
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

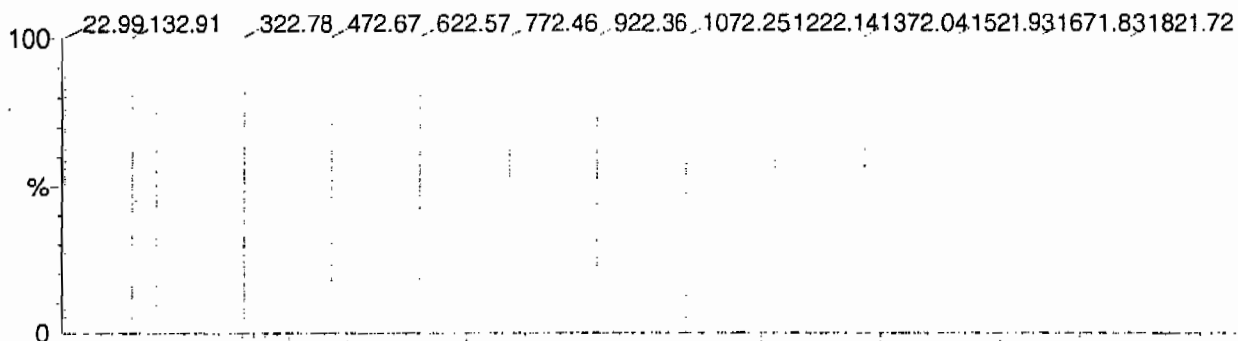
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

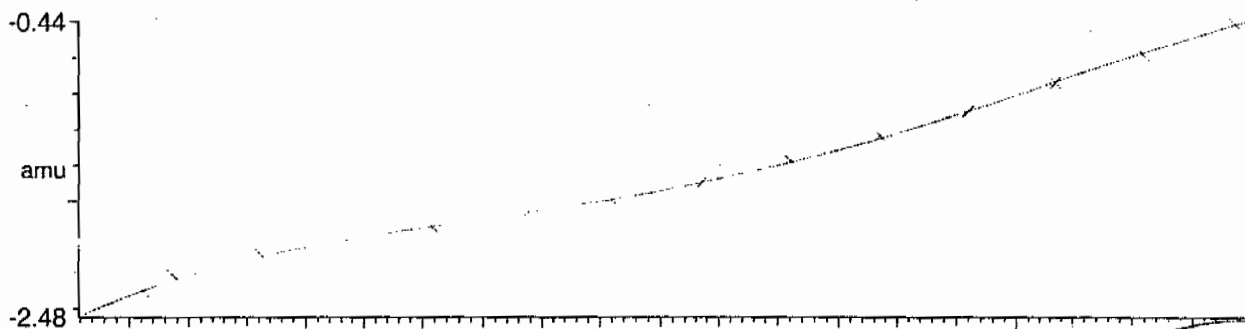
14 matches of 15 tested references



Reference file: Naics2

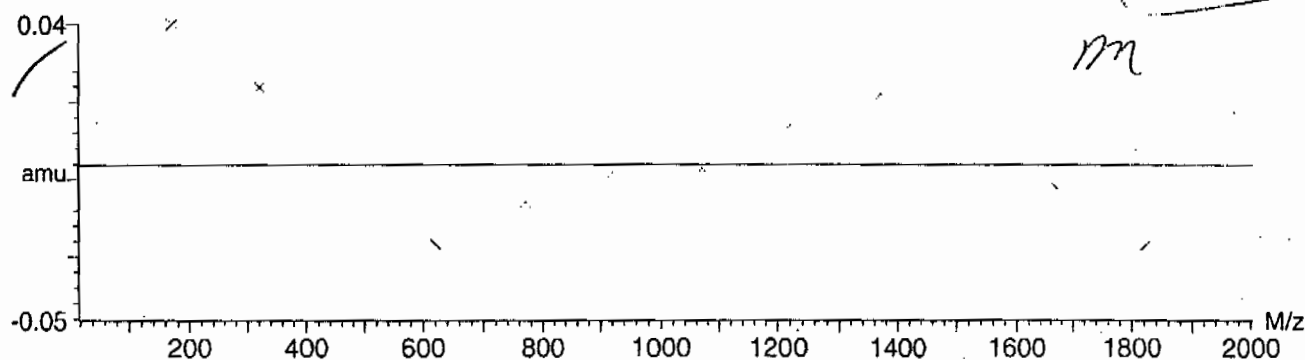


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-6.785350 \times 10^{-9} \pm 0.023134$

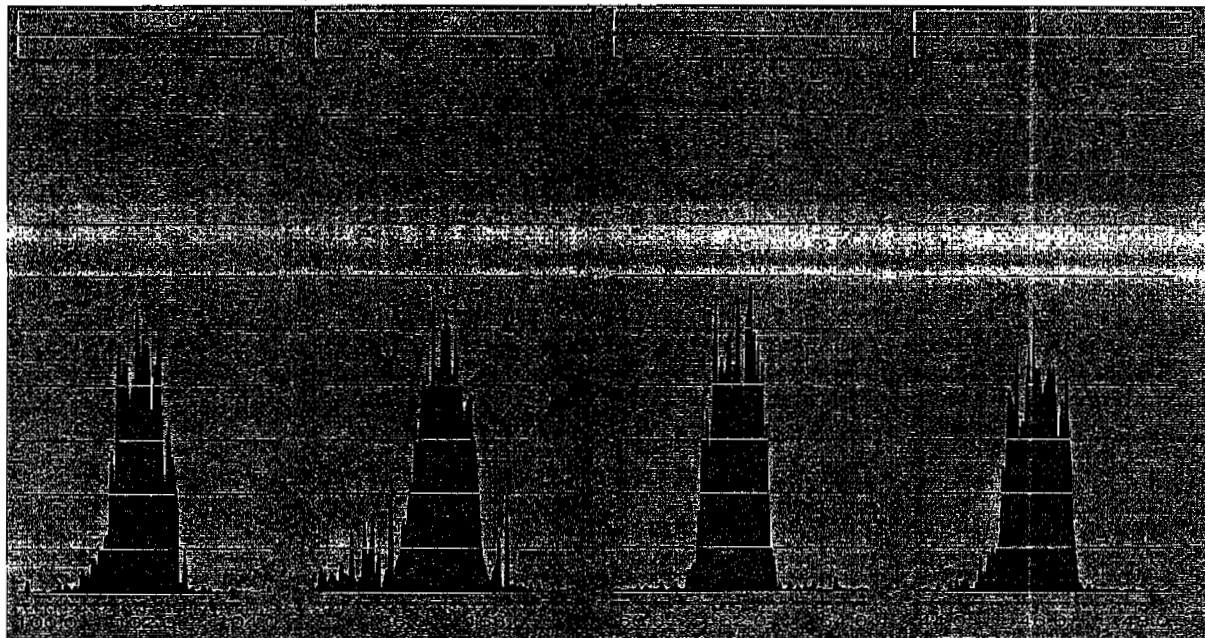


Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNX\NEW_EXP.PROVACQUDB\explosives04.ipr

Printed : Mon Jan 25 11:18:26 2010



High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

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) #
			2968.4	11.902	16298.333	17.149
Upper Limit			3858.92	12.402	21187.8329	17.649
Lower Limit			2077.88	11.402	11408.8331	16.649
MB for batch 941657	29-jan-10 22:04	EXP0125218a	2677.71	11.895	14774.3	17.158
LCS for batch 941657	29-jan-10 22:34	EXP0125219a	2752.41	11.895	14337	17.135
RE12-10-7722	29-jan-10 23:04	EXP0125220a	2491.75	11.894	14035.6	17.157

IS1 (DNB) = 1,3-Dinitrobenzene-d4

IS2 (DNT) = 2,6-Dinitrotoluene-d3

Area Upper Limit = + 30% of average IS area from multipoint calibration

Area Lower Limit = - 30% of average IS area from multipoint calibration

RT Upper Limit = +0.5 of average multipoint RT

RT Lower Limit = -0.5 of average multipoint RT

Column used to flag values outside QC limits with an asterisk

* Values outside of QC limits

SAMPLE DATA

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125220a

Date Analyzed: 29-JAN-10 23:04

Units: ug/kg

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

*Concentration =

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

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Sat Jan 30 10:07:34 2010, Page 27 of 71

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125220a

Date: 29-Jan-2010

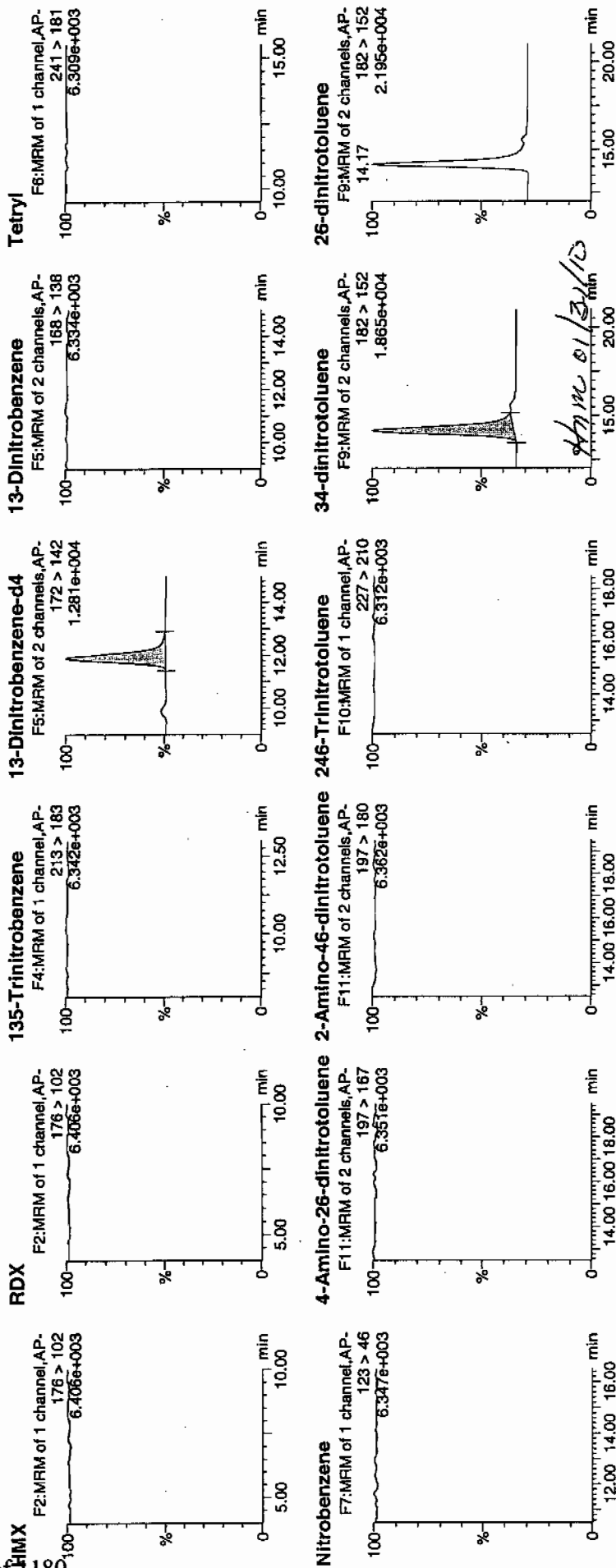
Time: 23:04:11

ID: 244597001

Vial: 3:5,C

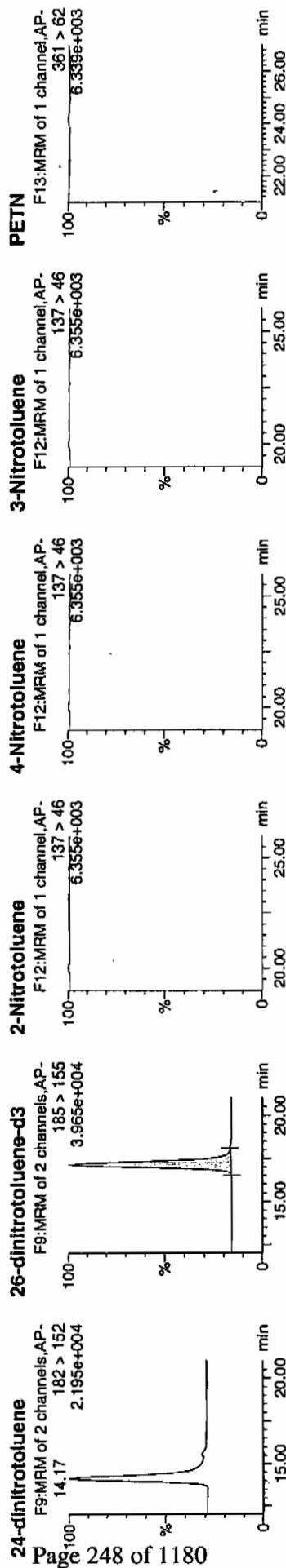
1/30/10

Handwritten: 941658 | 2-1



Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp\PRO012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



ID	Name	Trace	RT	Area	Abs:Resp	Response	Flags	Mod:Time	%Rec	%Dev	%SN
244597001	HMX	176 > 102		2491.747							
244597001	RDX	176 > 102		2491.747							
244597001	135-Trinitrobenzene	213 > 183		2491.747							
244597001	13-Dinitrobenzene-d4	172 > 142	11.89	2491.747	2491.747	2491.747	bb	419.7121	83.9	-16.1	475.2
244597001	13-Dinitrobenzene	168 > 138									
244597001	Tetryl	241 > 181									
244597001	Nitrobenzene	123 > 46									
244597001	4-Amino-26-dinitrotoluene	197 > 167									
244597001	2-Amino-46-dinitrotoluene	197 > 180									
244597001	246-Trinitrotoluene	227 > 210									
244597001	34-dinitrotoluene	182 > 152	14.17	6602.333	6602.333	235.200	bb	259.0269	103.6	3.6	512.5
244597001	26-dinitrotoluene	182 > 152									
244597001	24-dinitrotoluene	182 > 152									
244597001	26-dinitrotoluene-d3	185 > 155	17.16	14035.564	14035.564	14035.564	bb	430.5826	86.1	-13.9	1227.2
244597001	2-Nitrotoluene	137 > 46									
244597001	4-Nitrotoluene	137 > 46									
244597001	3-Nitrotoluene	137 > 46									
244597001	PETN	361 > 62									

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE12-10-7722

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 244597001

Sample Amount 2

Moisture: 12.5

Amount Units g

Date Received: 13-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250100.wiff

Date Analyzed: 26-JAN-10 12:27

Units: ug/kg

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

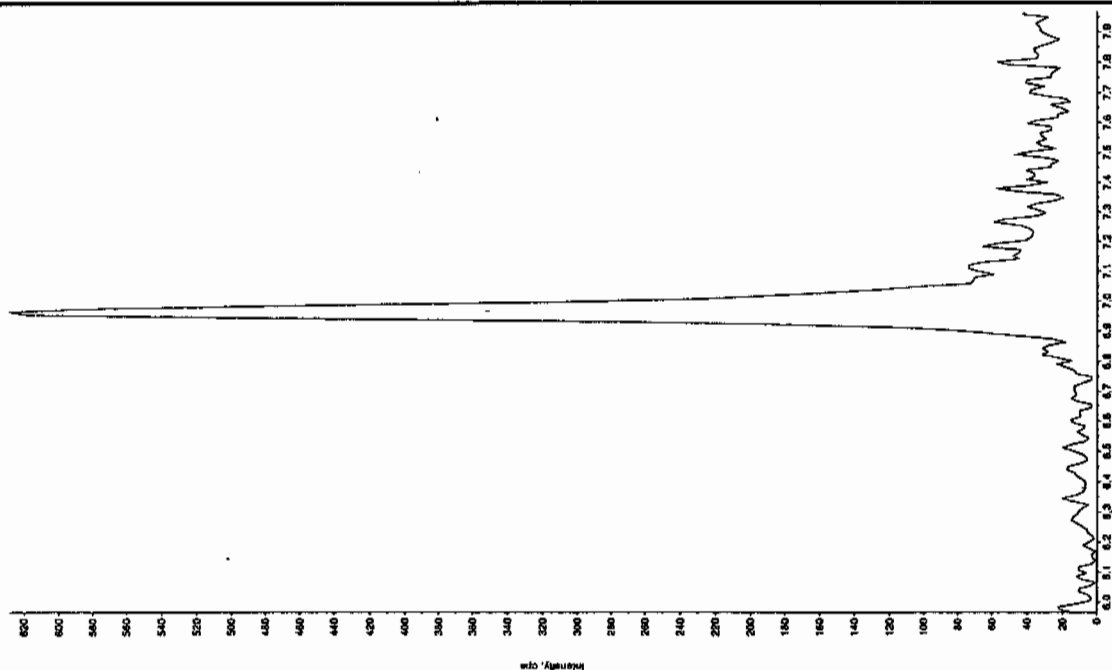
*Concentration =

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

flaw 1/27/10

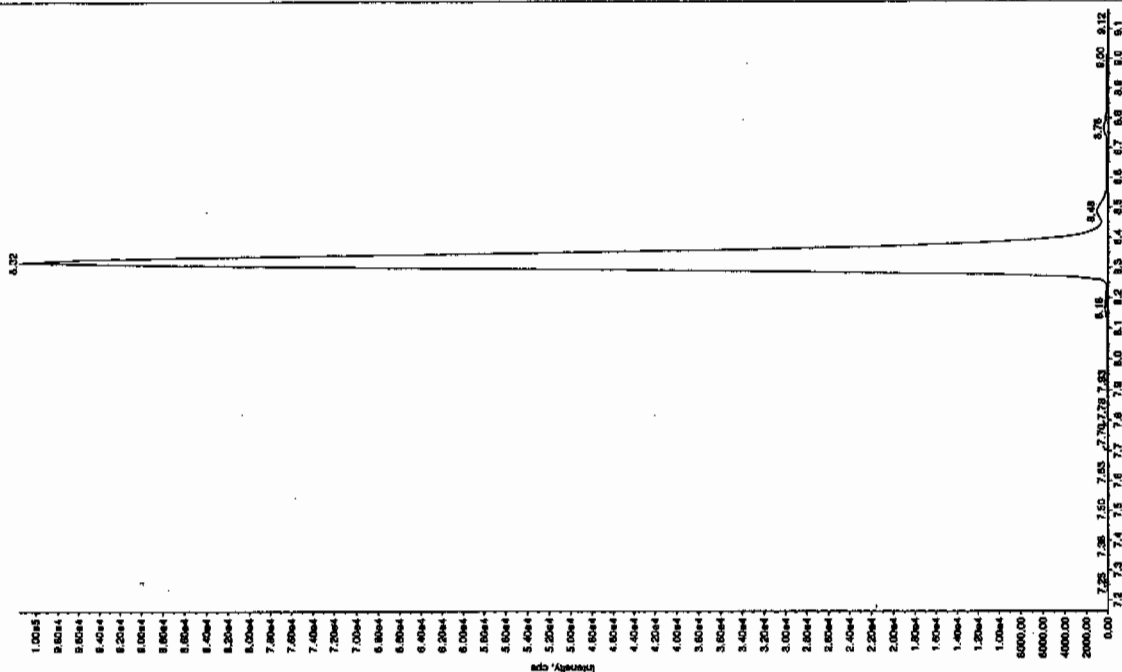
Sample Name: "244597001" Sample ID: "94165921" File: "EX501250100.wif"
 Peak Name: "TA1B" Mass(es): "257.2204.9 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 0.00
 Acq. Date: 1/26/2010
 Acq. Time: 12:27:59 PM
 Modified: No

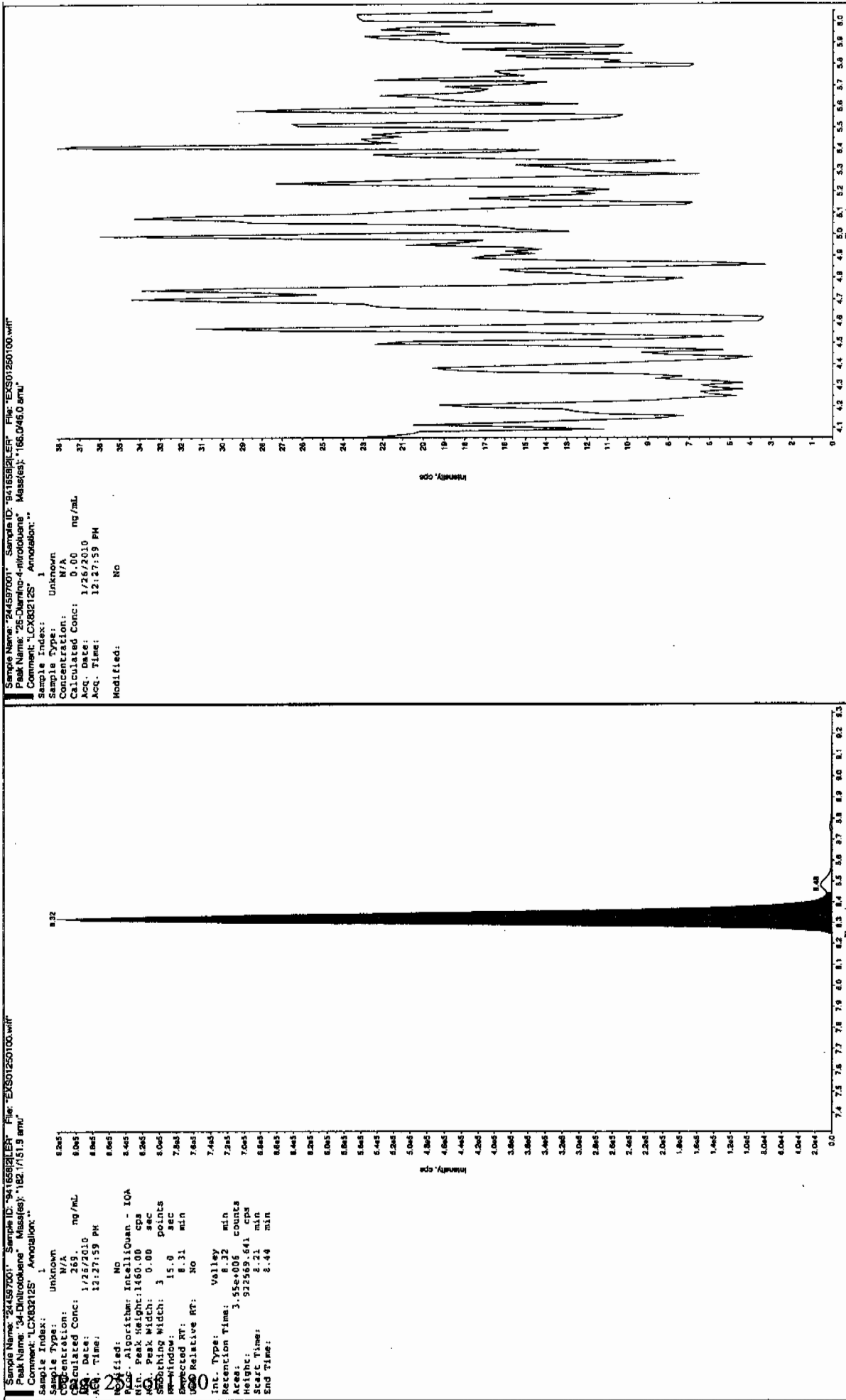


Sample Name: "244597001" Sample ID: "94165921" File: "EX501250100.wif"
 Peak Name: "35-Dinitroresin" Mass(es): "182.046.0 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 mg/mL
 Calculated Conc: 0.00
 Acq. Date: 1/26/2010
 Acq. Time: 12:27:59 PM
 Modified: No

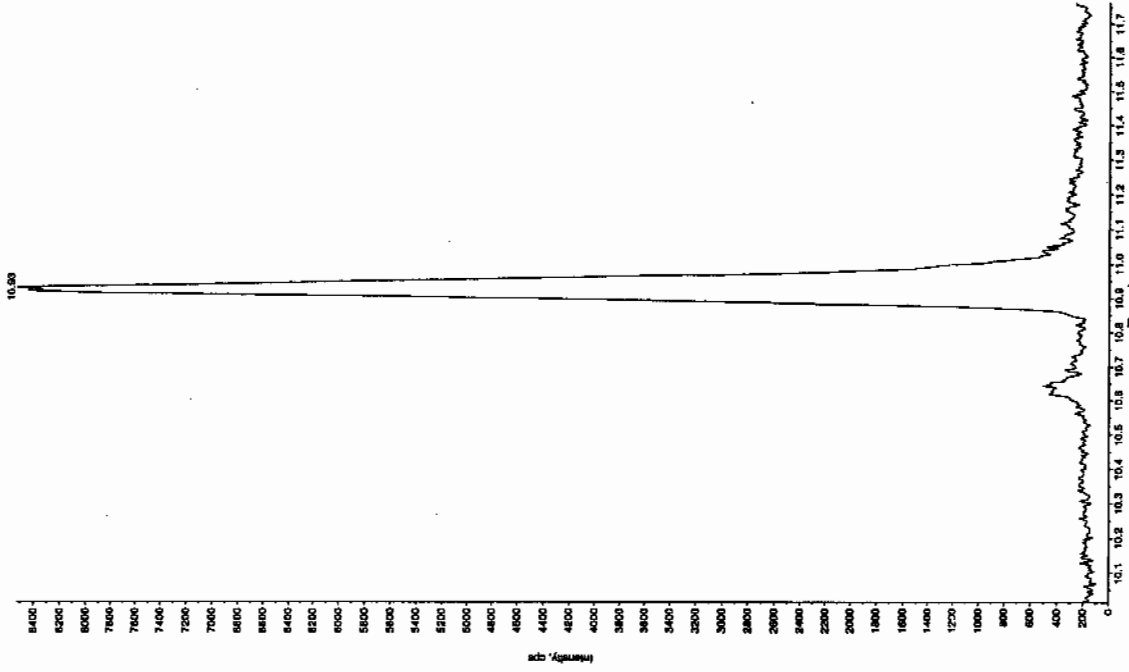
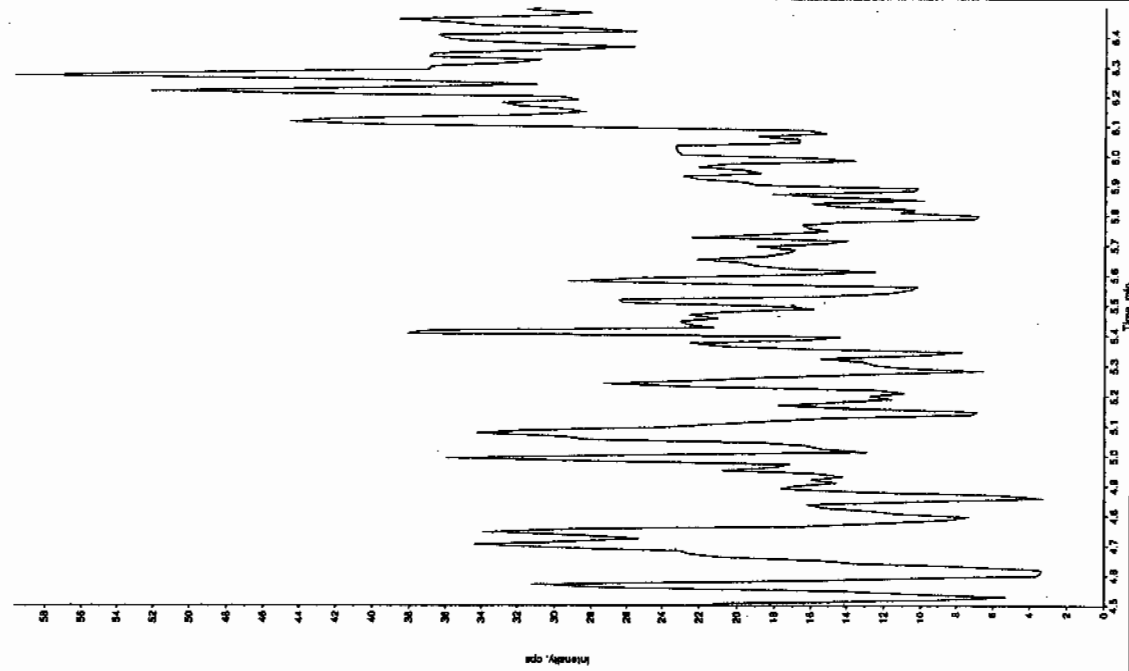


flaw 1/27/10



Sample Name: "244597001" Sample ID: "94165821EP" File: "EXS01250100.wif"
 Peak Name: "Tri(Octyl) phosphate" Mass(es): "186.0460 amu"
 Comment: "LCK832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/26/2010
 Acq. Date: 12/27/10
 Acq. Time: 12:27:59 PM
 Modified: No



Sample Name: "244597001" Sample ID: "94165821EP" File: "EXS01250100.wif"
 Peak Name: "Tri(Octyl) phosphate" Mass(es): "359.1910 amu"
 Comment: "LCK832125" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 1/26/2010
 Acq. Date: 12/27/10
 Acq. Time: 12:27:59 PM
 Modified: No

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
MXN	25	50	200	400	800	1000	na	600
TNX	25	50	200	400	800	1000	na	600
1,3,5-Trinitrobenzene	25	50	200	400	800	1000	na	600
1,3-Dinitrobenzene	25	50	200	400	800	1000	na	600
Nitrobenzene	25	50	200	400	800	1000	na	600
Tetryl	25	50	200	400	800	1000	na	600
Nitroglycerin	50	100	200	400	800	1000	na	600
2,4,6-Trinitrotoluene	25	50	200	400	800	1000	na	600
2-Amino-4,6-dinitrotoluene	25	50	200	400	800	1000	na	600
4-Amino-2,6-dinitrotoluene	25	50	200	400	800	1000	na	600
2,4-Dinitrotoluene	25	50	200	400	800	1000	na	600
2,6-Dinitrotoluene	25	50	200	400	800	1000	na	600
2-Nitrotoluene	25	50	200	400	800	1000	na	600
4-Nitrotoluene	25	50	200	400	800	1000	an	600
3-Nitrotoluene	25	50	200	400	800	1000	na	600
PETN	25	50	200	400	800	1000	na	600
Picric Acid	200	400	1600	3200	6400	8000	na	4800
3,4-Dinitrotoluene (Surrogate)	25	50	125	250	375	500	1000	250
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)

Calibration Levels 8321A-Modified-EXPL.xls

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1209

Lab Code: GEL

Run Date: 25-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Average RF

Parname	1	2	3	4	5	6	Ave RF	RSD	Q
Calibration Level:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a			
Data File:									
1,3-Dinitrobenzene-d4	5.832	5.787	6.227	6.458	5.56	5.758	5.937	5.651	
2,4,6-Trinitrotoluene	.291	.314	.307	.33	.315	.35	0.318	6.37	
2,4-Dinitrotoluene	.266	.236	.248	.257	.257	.261	0.254	4.281	
2,6-Dinitrotoluene	1.098	1.063	1.109	1.102	1.101	1.136	1.102	2.135	
2,6-Dinitrotoluene-d3	32.788	34.124	32.326	33.697	32.571	30.074	32.597	4.342	
2-Amino-4,6-dinitrotoluene	.357	.34	.36	.395	.383	.411	0.374	7.093	
3,4-Dinitrotoluene	.897	.857	.859	.974	.897	.964	0.908	5.56	
4-Amino-2,6-dinitrotoluene	.224	.204	.265	.278	.276	.315	0.260	15.398	
HMX	3.197	3.208	2.918	3.261	3.211	3.241	3.173	4.004	
Nitrobenzene	.797	.997	.799	.806	.871	.858	0.855	8.992	
RDX	2.287	2.428	1.935	2.024	2.303	2.216	2.199	8.428	
Tetryl	.914	.973	.905	.866	.809	.744	0.869	9.411	
m-Dinitrobenzene	1.053	1.14	1.161	1.232	1.185	1.188	1.160	5.223	
m-Nitrotoluene	.087	.096	.092	.097	.091	.099	0.094	4.837	
o-Nitrotoluene	.167	.176	.171	.158	.159	.167	0.166	4.11	
p-Nitrotoluene	.087	.091	.082	.08	.076	.081	0.083	6.385	

Q column used to flag RSD values outside of Limit (>20%)

* Values outside of QC Limit

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1209

Lab Code: GEL

Run Date: 25-JAN-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

Calibration Level:	1	2	3	4	5	6	Slope	Intercept	COD	Q
Data File:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a				
Parname										
1,3,5-Trinitrobenzene	651.953	1067.5	3665.01	7077.27	12962.6	16285.9	2.817	28.102	.999	

Linear fit : $Y = mx + b$
where b is Intercept and m is slope

COD is Coefficient of Determination

Q column used to flag COD values outside of Limit (<0.990)

* Values outside of QC Limit

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1209

Lab Code: GEL

Run Date: 25-JAN-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:	EXP0125003a	EXP0125004a	EXP0125005a	EXP0125006a	EXP0125007a	EXP0125008a					
Parname:											
PETN	2319.71	4827.48	15533.2	25594.2	42172.6	47290	2	-0004964	47.5	.9972	

Quadratic Fit: $y = Ax^2 + Bx + C$
 where X^2 column above is coefficient A
 X column above is coefficient B
 intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)

* Values outside of QC Limit

Quantify Calibration Report

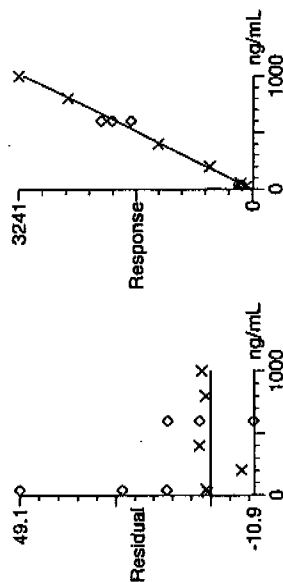
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qtd, Time: Tue Jan 26 09:24:51 2010

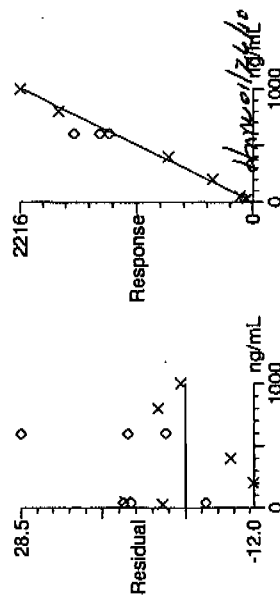
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Calibration: Untitled, Time: Tue Jan 26 09:24:51 2010

Compound name: HMX
 Response Factor: 3.17253
 RRF SD: 0.127021, % Relative SD: 4.00378
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF



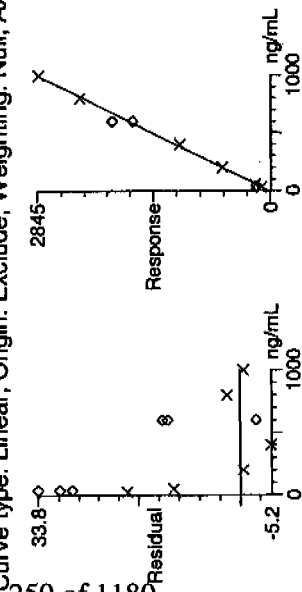
Compound name: RDX
 Response Factor: 2.1986
 RRF SD: 0.185302, % Relative SD: 8.42817
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF



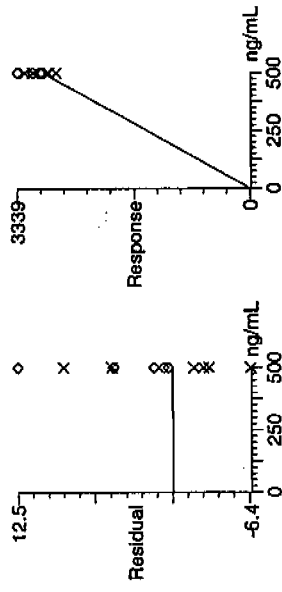
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 135-Trinitrobenzene
 Correlation coefficient: $r = 0.999489$, $r^2 = 0.998979$
 Calibration curve: $2.81694 \times 10^{15} \times \text{Area} + 2845$
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: Linear, Origin: Exclude, Weighting: None



Compound name: 13-Dinitrobenzene-d4
 Response Factor: 5.9368
 RRF SD: 0.33509, % Relative SD: 5.65134
 Response type: External Std, Area
 Curve type: RF



Quantify Calibration Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Tue Jan 26 11:27:45 2010, Page 3 of 9

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

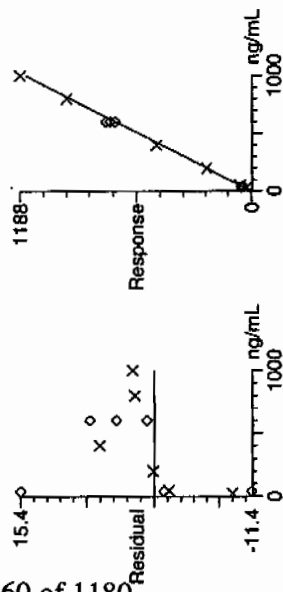
Compound name: 13-Dinitrobenzene

Response Factor: 1.15998

RRF SD: 0.0605914, % Relative SD: 5.22347

Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)

Curve type: RF



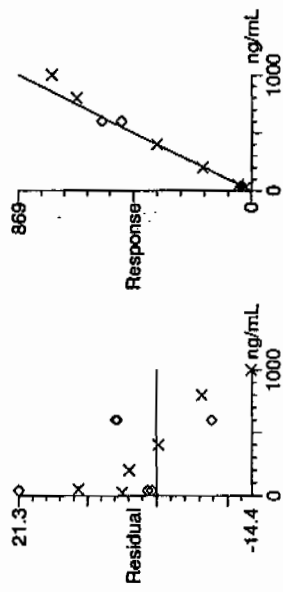
Compound name: Tetral

Response Factor: 0.868613

RRF SD: 0.0817457, % Relative SD: 9.41106

Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)

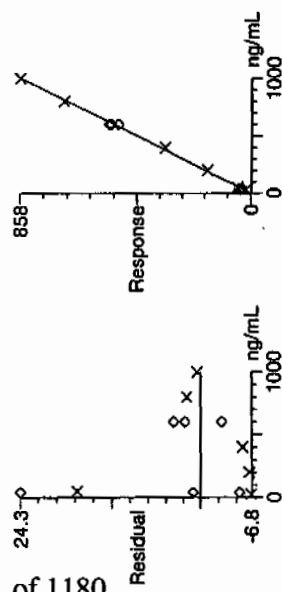
Curve type: RF



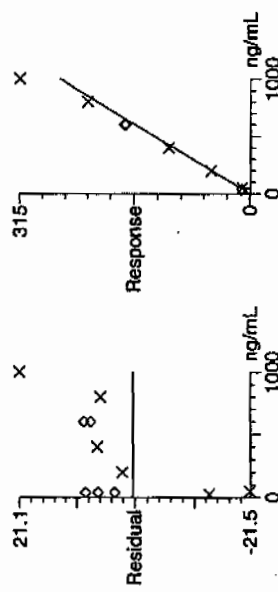
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: Nitrobenzene
Response Factor: 0.854595
RRF SD: 0.076847, % Relative SD: 8.99222
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



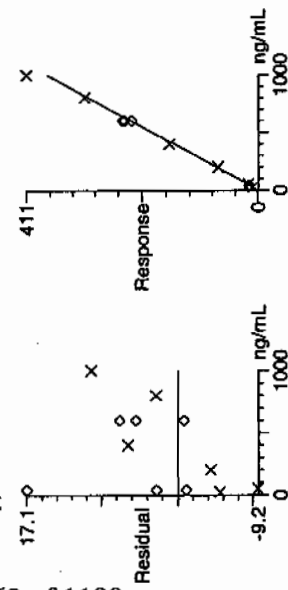
Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.260514
RRF SD: 0.040113, % Relative SD: 15.3977
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



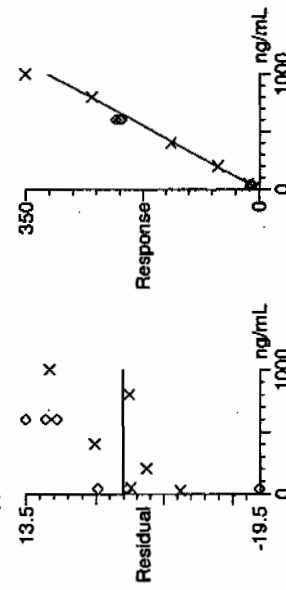
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 2-Amino-46-dinitrotoluene
 Response Factor: 0.374285
 RRF SD: 0.0265466, % Relative SD: 7.09263
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



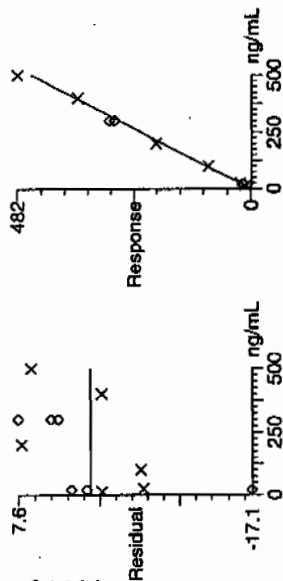
Compound name: 246-Trinitrotoluene
 Response Factor: 0.318064
 RRF SD: 0.020262, % Relative SD: 6.37043
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



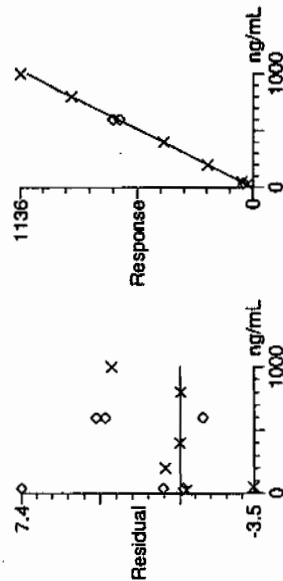
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 34-dinitrotoluene
 Response Factor: 0.908014
 RRF SD: 0.0504831, % Relative SD: 5.55973
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



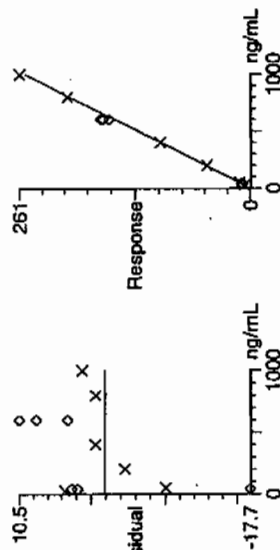
Compound name: 26-dinitrotoluene
 Response Factor: 1.10154
 RRF SD: 0.0235225, % Relative SD: 2.13541
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



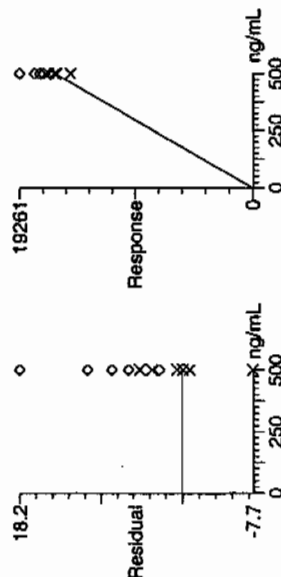
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 24-dinitrotoluene
 Response Factor: 0.254063
 RRF SD: 0.0108762, % Relative SD: 4.28092
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



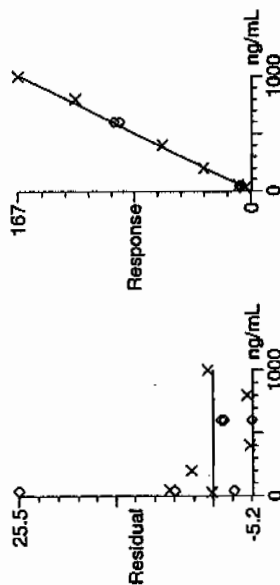
Compound name: 26-dinitrotoluene-d3
 Response Factor: 32.5967
 RRF SD: 1.41533, % Relative SD: 4.34194
 Response type: External Std, Area
 Curve type: RF



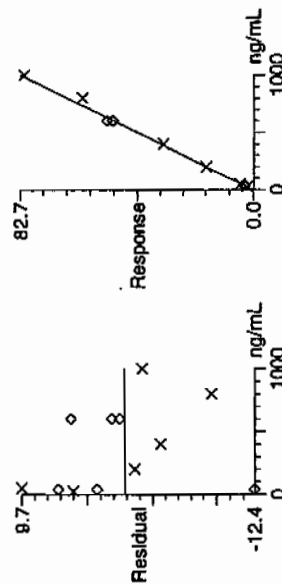
Quantify Calibration Report GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 2-Nitrotoluene
Response Factor: 0.166303
RRF SD: 0.00683474, % Relative SD: 4.10981
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



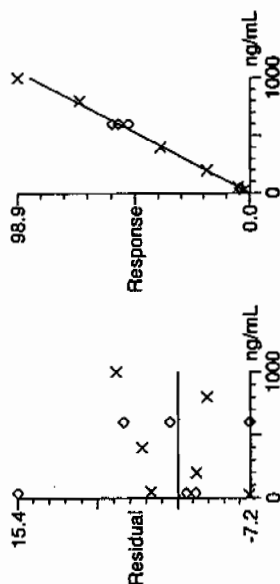
Compound name: 4-Nitrotoluene
Response Factor: 0.0826798
RRF SD: 0.00527876, % Relative SD: 6.38459
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



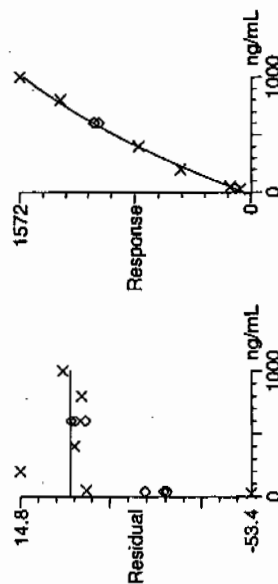
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Compound name: 3-Nitrotoluene
 Response Factor: 0.0933598
 RRF SD: 0.00451572, % Relative SD: 4.83691
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



Compound name: PETN
 Coefficient of Determination: 0.997185
 Calibration curve: $-0.000496352 \cdot x^2 + 1.99974 \cdot x + 47.5002$
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: 2nd Order, Origin: Exclude, Weighting: Null, Axis trans: None



Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0125010a

Analysis Date: 25-JAN-10 15:46

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	584.029	97	
1,3-Dinitrobenzene-d4	500	523.981	105	
2,4,6-Trinitrotoluene	600	654.852	109	
2,4-Dinitrotoluene	600	662.983	110	
2,6-Dinitrotoluene	600	623.146	104	
2,6-Dinitrotoluene-d3	500	512.68	103	
2-Amino-4,6-dinitrotoluene	600	596.059	99	
3,4-Dinitrotoluene	300	322.78	108	
4-Amino-2,6-dinitrotoluene	600	646.592	108	
HMX	600	534.345	89	
Nitrobenzene	600	582.675	97	
PETN	600	572.063	95	
RDX	600	620.495	103	
Tetryl	600	550.312	92	
m-Dinitrobenzene	600	604.886	101	
m-Nitrotoluene	600	631.363	105	
o-Nitrotoluene	600	591.123	99	
p-Nitrotoluene	600	630.068	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 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125010a

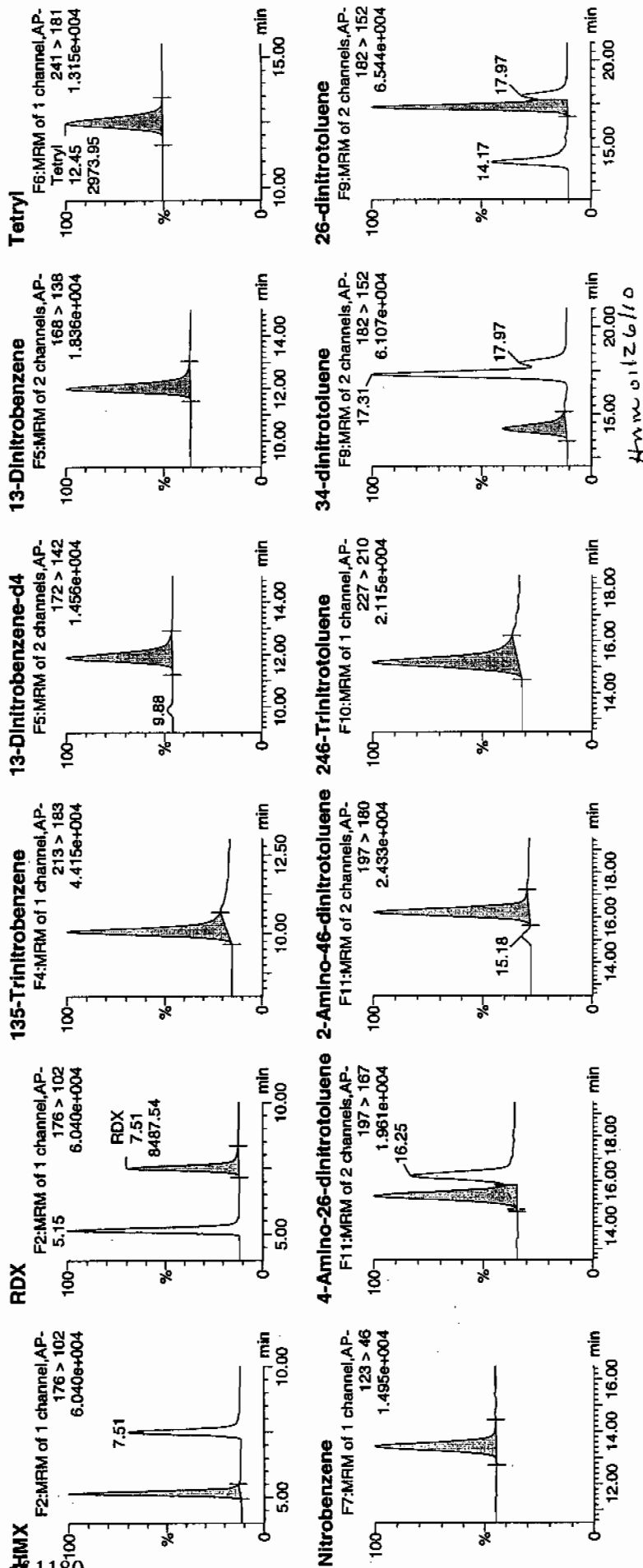
Date: 25-Jan-2010

Time: 15:46:04

ID: WXX100125-07ICV

Vial: 1:1,B

WXX
1/26/10

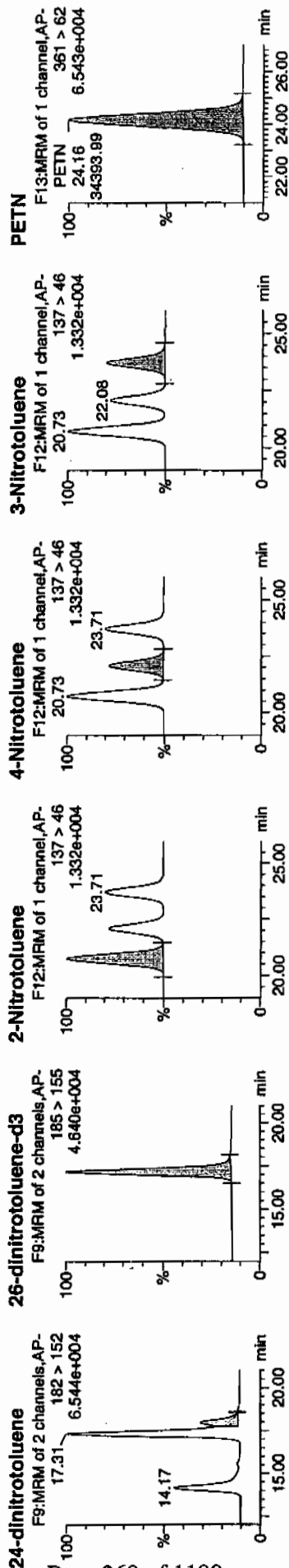


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Tue Jan 26 11:27:45 2010, Page 20 of 73

Dataset: C:\MASSLYNX\New_Exp\PRO012510expA.qld, Time: Tue Jan 26 09:24:51 2010



ID	Name	Trace	RT	Area	SA	Abundance	Response	Peak	Mod Date	Mod Time	Conc	SN
WXX100125-07CV	HMX	176 > 102	5.15	10546.914	3110.769	10546.914	1695.226	bb	534.3448	89.1	-10.9	1064.1
WXX100125-07CV	RDX	176 > 102	7.51	8487.540	3110.769	8487.540	1364.219	bb	620.4949	103.4	3.4	702.9
WXX100125-07CV	135-Trinitrobenzene	213 > 183	10.07	10410.370	3110.769	10410.370	1673.279	bb	584.0293	97.3	-2.7	558.3
WXX100125-07CV	13-Dinitrobenzene-d4	172 > 142	11.89	3110.769	3110.769	3110.769	3110.769	bb	523.9807	104.8	4.8	490.9
WXX100125-07CV	13-Dinitrobenzene	168 > 138	12.03	4365.390	3110.769	4365.390	701.658	bb	604.8864	100.8	0.8	348.2
WXX100125-07CV	Tetryl	241 > 181	12.45	2973.947	3110.769	2973.947	478.008	bb	550.3123	91.7	-8.3	262.3
WXX100125-07CV	Nitrobenzene	123 > 46	13.45	3098.019	3110.769	3098.019	497.951	bb	582.6747	97.1	-2.9	191.2
WXX100125-07CV	4-Amino-26-dinitrotoluene	197 > 167	15.35	5630.028	16711.664	5630.028	168.446	MM	646.5922	107.8	7.8	151.7
WXX100125-07CV	2-Amino-46-dinitrotoluene	197 > 180	16.25	7456.607	16711.664	7456.607	223.096	bb	596.0593	99.3	-0.7	535.5
WXX100125-07CV	246-Trinitrotoluene	227 > 210	15.21	6961.575	16711.664	6961.575	208.285	bb	654.8523	109.1	9.1	360.8
WXX100125-07CV	34-dinitrotoluene	182 > 152	14.17	9795.994	16711.664	9795.994	293.089	bb	322.7797	107.6	7.6	214.3
WXX100125-07CV	26-dinitrotoluene	182 > 152	17.31	22942.564	16711.664	22942.564	686.424	MM	623.1464	103.9	3.9	662.7
WXX100125-07CV	24-dinitrotoluene	182 > 152	17.97	5629.797	16711.664	5629.797	168.439	MM	662.9825	110.5	10.5	148.9
WXX100125-07CV	26-dinitrotoluene-d3	185 > 155	17.16	16711.664	16711.664	16711.664	16711.664	bb	512.6800	102.5	2.5	842.3
WXX100125-07CV	2-Nitrotoluene	137 > 46	20.73	3285.697	16711.664	3285.697	98.396	bb	591.1230	98.5	-1.5	432.4
WXX100125-07CV	4-Nitrotoluene	137 > 46	22.08	1741.151	16711.664	1741.151	52.094	bb	630.0677	105.0	5.0	238.5
WXX100125-07CV	3-Nitrotoluene	137 > 46	23.71	1970.103	16711.664	1970.103	56.944	bb	631.3634	105.2	5.2	258.3
WXX100125-07CV	PETN	361 > 62	24.16	34393.992	16711.664	34393.992	1029.042	bb	572.0632	95.3	-4.7	9765.3

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/25/10
 Time of Injection: 1546
 Standard Number: WXX100125-07ICV
 Data File: EXP0125010a

HMX	89.1
RDX	103.4
135-TNB	97.3
13-DNB	100.8
Tetryl	91.7
Nitrobenzene	97.1
4A-26-DNT	107.8
2A-46-DNT	99.3
246-TNT	109.1
34-DNT(surr)	107.6
26-DNT	103.9
24-DNT	110.5
2-NT	98.5
4-NT	105.0
3-NT	105.2
PETN	95.3

11/26/10

Total 1621.6

Average 101.4

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

Form 6

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1209

Lab Code: GEL

Run Date: 25-JAN-10

LCMSMS Instrument ID: LCMSMS4

Method: 8321A Modified

HPLC Column: YMC J-Sphere ODS-H8Q

Calibration Type: 2nd Order

Calibration Level:	19	20	21	22	23	24	25	X	X^2	Intercept	COD	Q
Data File:	EXS01250003.wif	EXS01250004.wif	EXS01250005.wif	EXS01250006.wif	EXS01250007.wif	EXS01250008.wif	EXS01250009.wif					
Parname:												
2,4-Diamino-6-nitrotoluene	124000	243000	556000	1130000	1930000	2390000	4860000	-20500	2450	-006	.9993	
2,6-Diamino-4-nitrotoluene	196000	379000	859000	1770000	2910000	3810000	7350000	-50100	3930	-114	.9996	
3,4-Dinitrotoluene	318000	666000	1460000	3270000	4740000	5910000	10800000	-61500	14400	-3.5	.9975	
3,5-Dinitroaniline	504000	1060000	2200000	4760000	6820000	8600000	14400000	-27700	10200	-1.48	.9998	
TATB	71000	141000	345000	692000	1070000	1350000	2660000	-94.4	1410	-043	.9998	
tris(o-cresyl) phosphate	456000	2410000	5510000	10100000	15300000	19000000	29700000	-337000	23800	-4.41	.9996	

Quadratic Fit: $y = Ax^2 + Bx + C$
 where X^2 column above is coefficient A
 X column above is coefficient B
 intercept is C

COD is Coefficient of Determination

Q column used to flag COD outside of Limit (<0.990)

* Values outside of QC Limit

012510ICAL

Peak Name: TATB
No Internal Standard
Q1/Q3 Masses: 257.20/204.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-94.4			
a1	1.41e+003			
a2	-0.043			
Correlation coefficient 0.9998				
Use Area				

Peak Name: 35-Dinitroaniline
No Internal Standard
Q1/Q3 Masses: 182.00/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-2.77e+004			
a1	1.02e+004			
a2	-1.48			
Correlation coefficient 0.9998				
Use Area				

Peak Name: 34-Dinitrotoluene
No Internal Standard
Q1/Q3 Masses: 182.08/151.90 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-6.15e+004			
a1	1.44e+004			
a2	-3.5			
Correlation coefficient 0.9975				
Use Area				

Peak Name: 26-Diamino-4-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-5.01e+004			
a1	3.93e+003			
a2	-0.114			
Correlation coefficient 0.9996				
Use Area				

See
1/27/10

Amw
01/27/10

012510ICAL

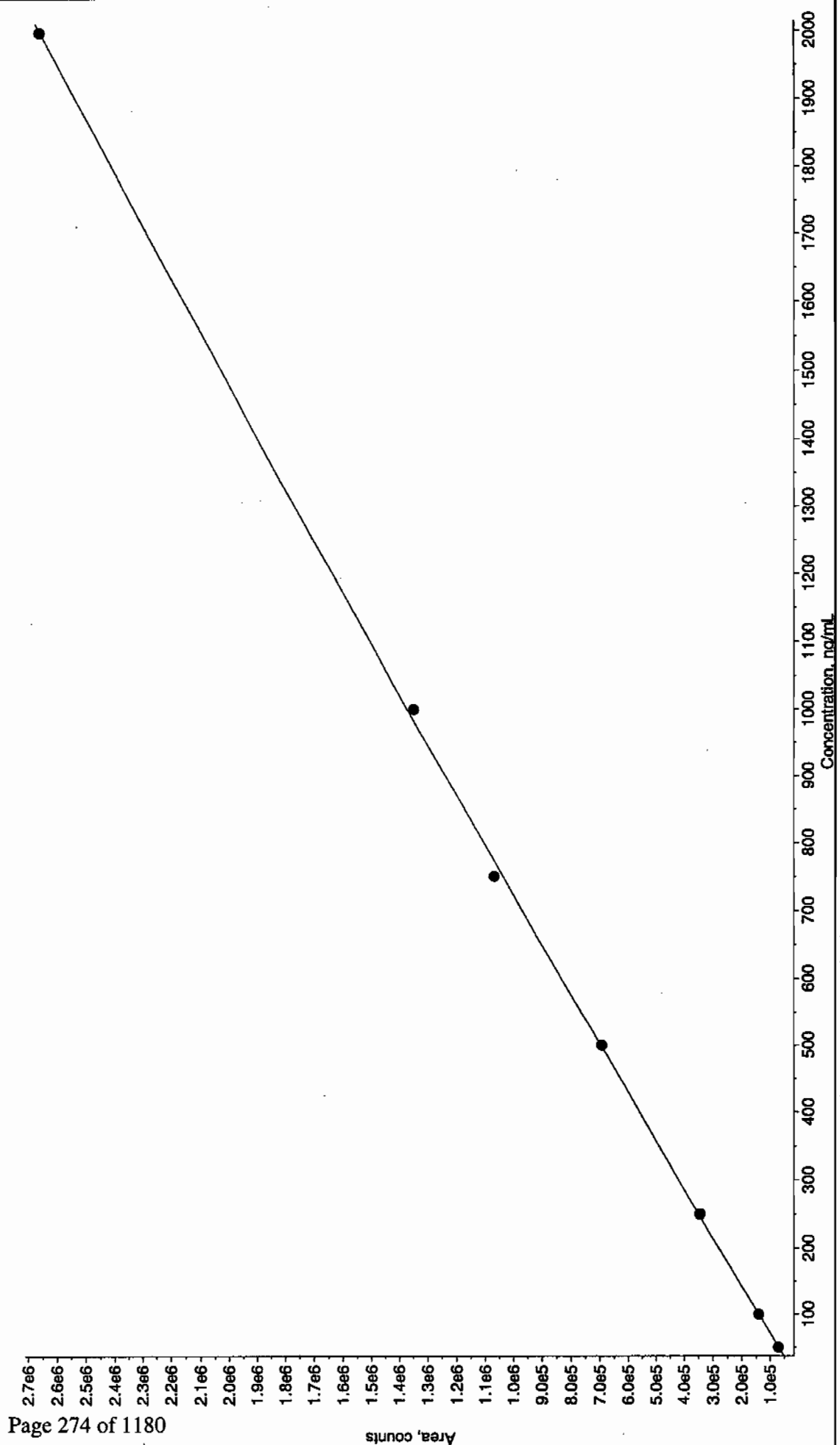
Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

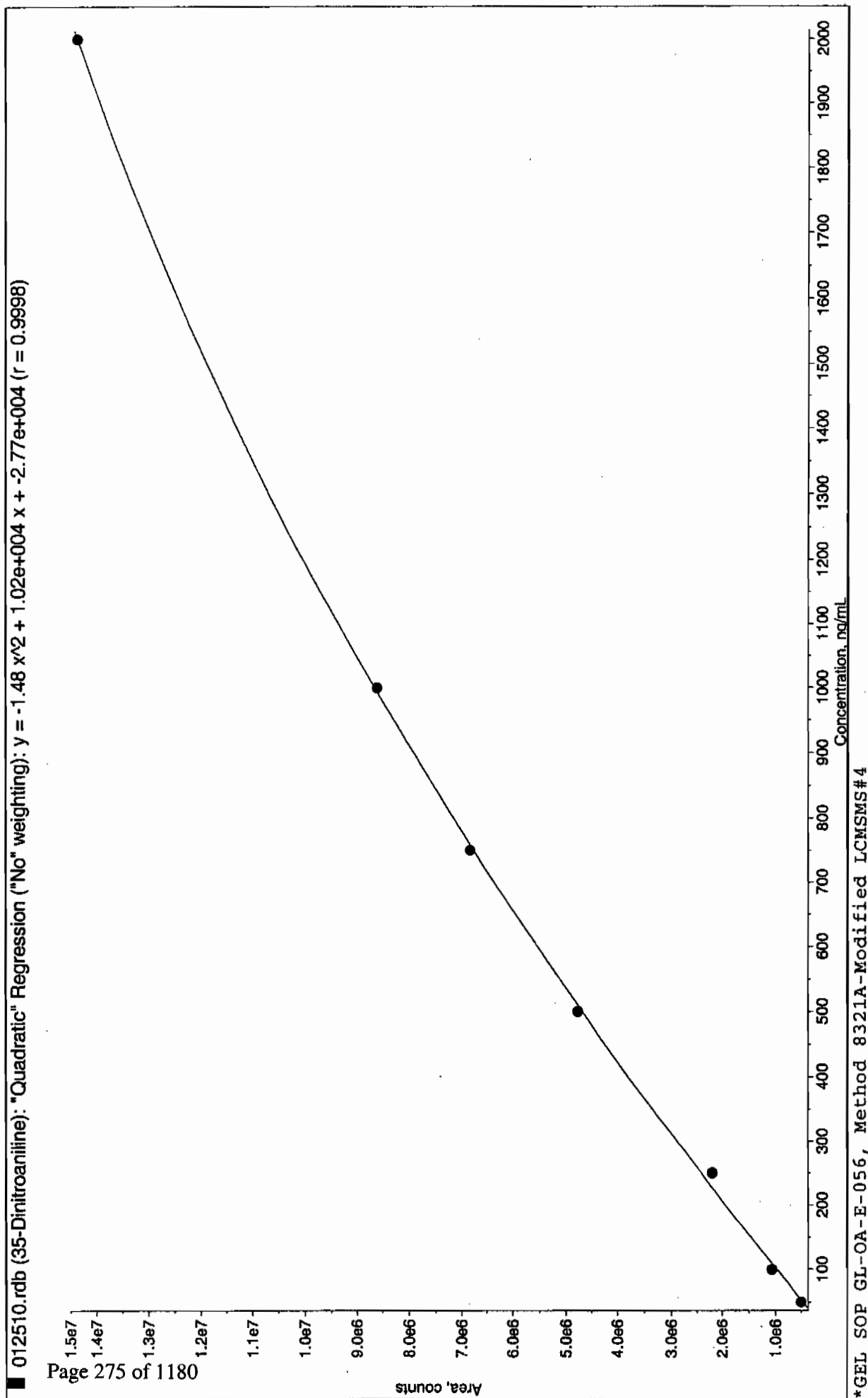
Fit	Quadratic	Weighting	None	Iterate No
a0	-2.05e+004			
a1	2.45e+003			
a2	-0.00578			
Correlation coefficient 0.9993				
Use Area				

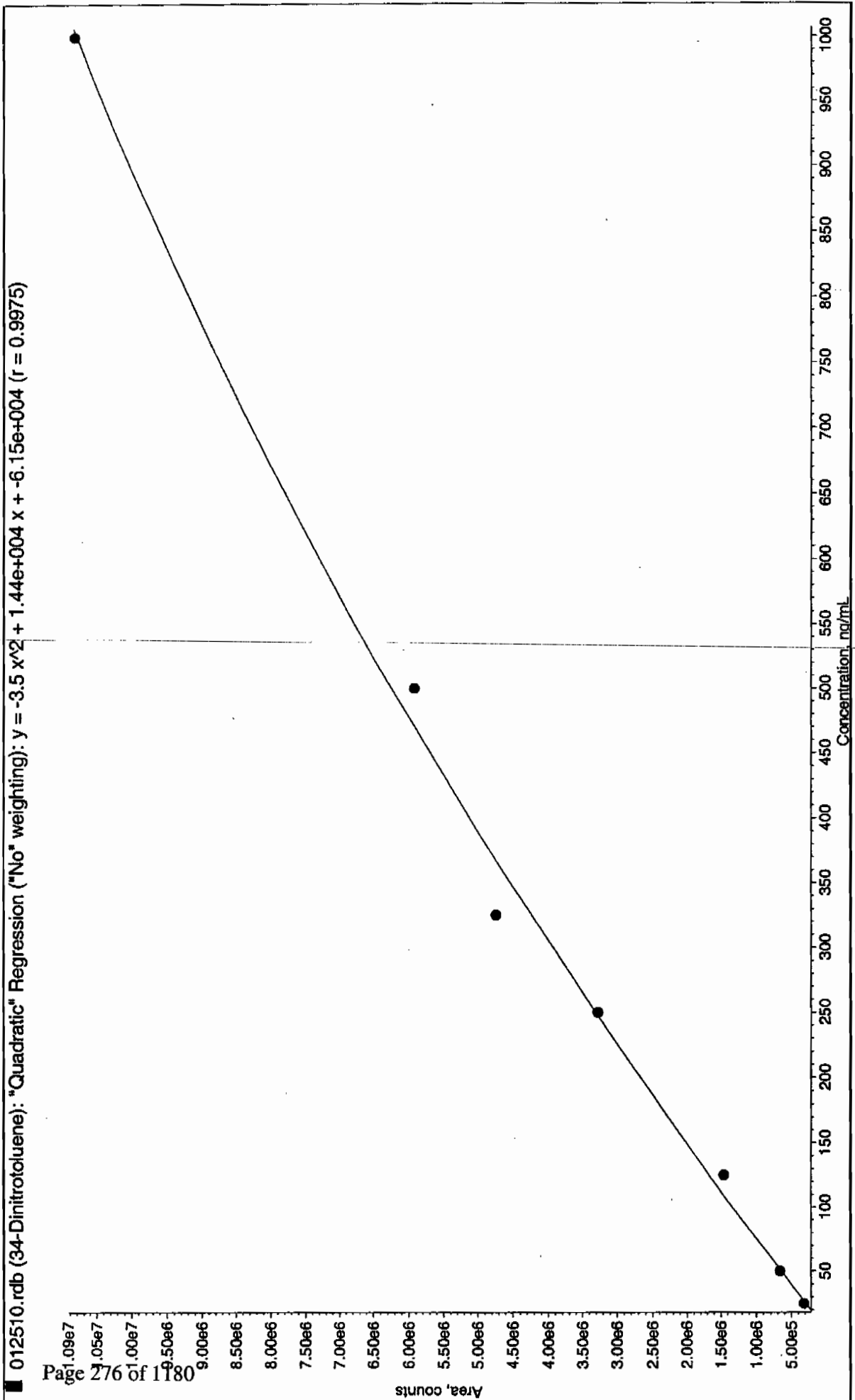
Peak Name: tris(o-cresyl) phosphate
No Internal Standard
Q1/Q3 Masses: 369.15/91.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	-3.37e+005			
a1	2.38e+004			
a2	-4.41			
Correlation coefficient 0.9996				
Use Area				

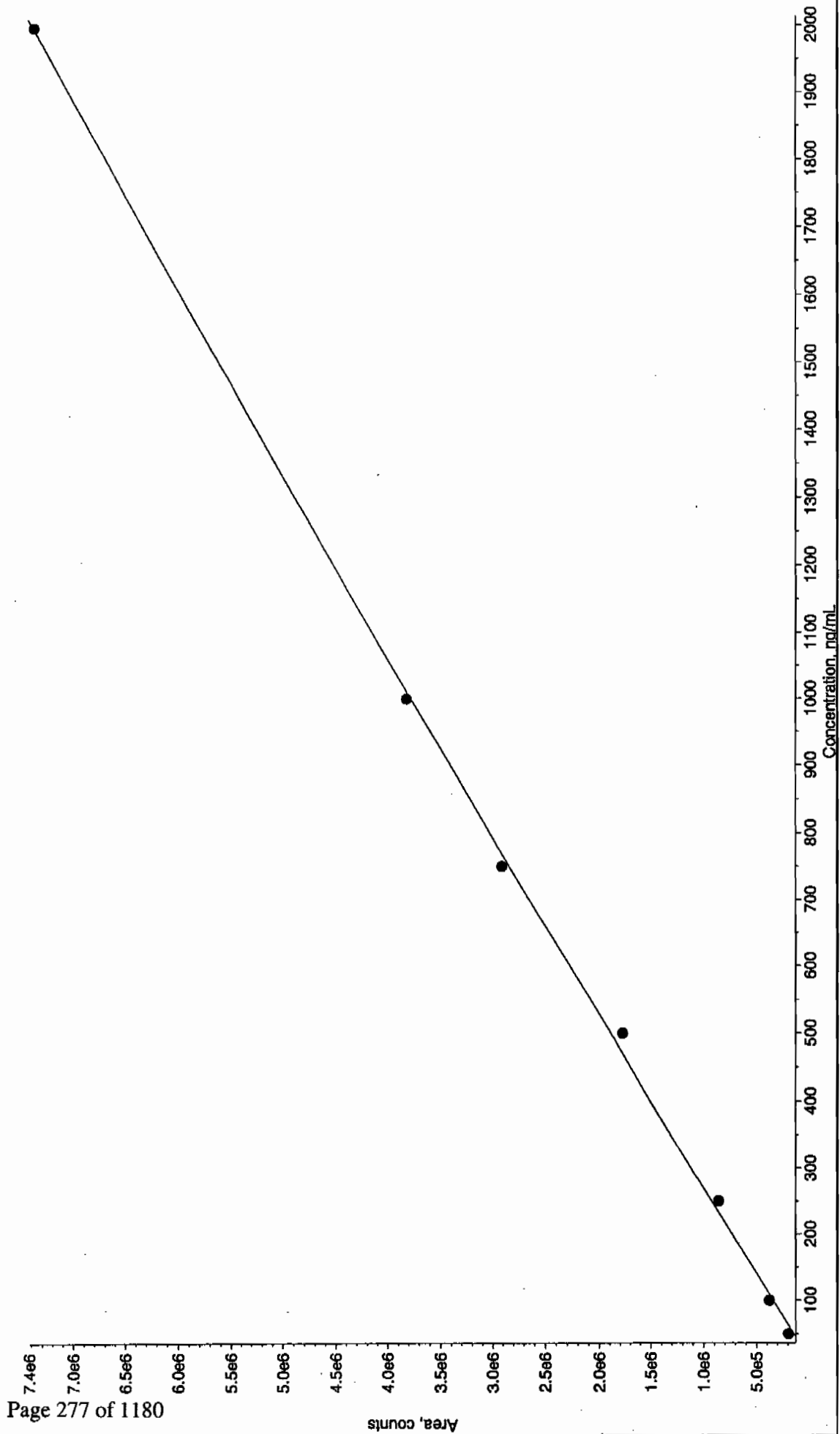
012510.rdb (TATB): "Quadratic" Regression ("No" weighting): $y = -0.043 x^2 + 1.41e+003 x + -94.4$ ($r = 0.9998$)



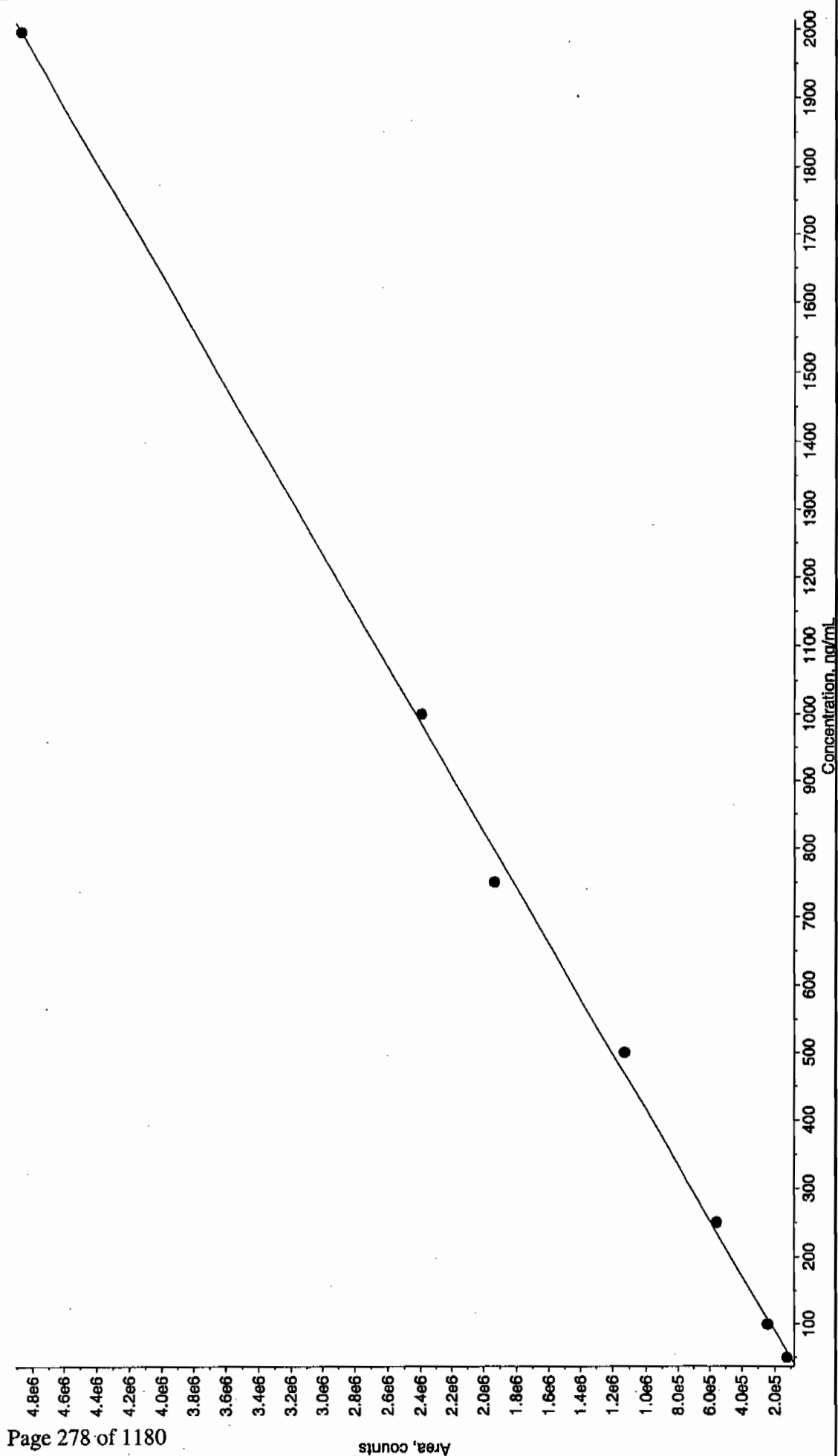




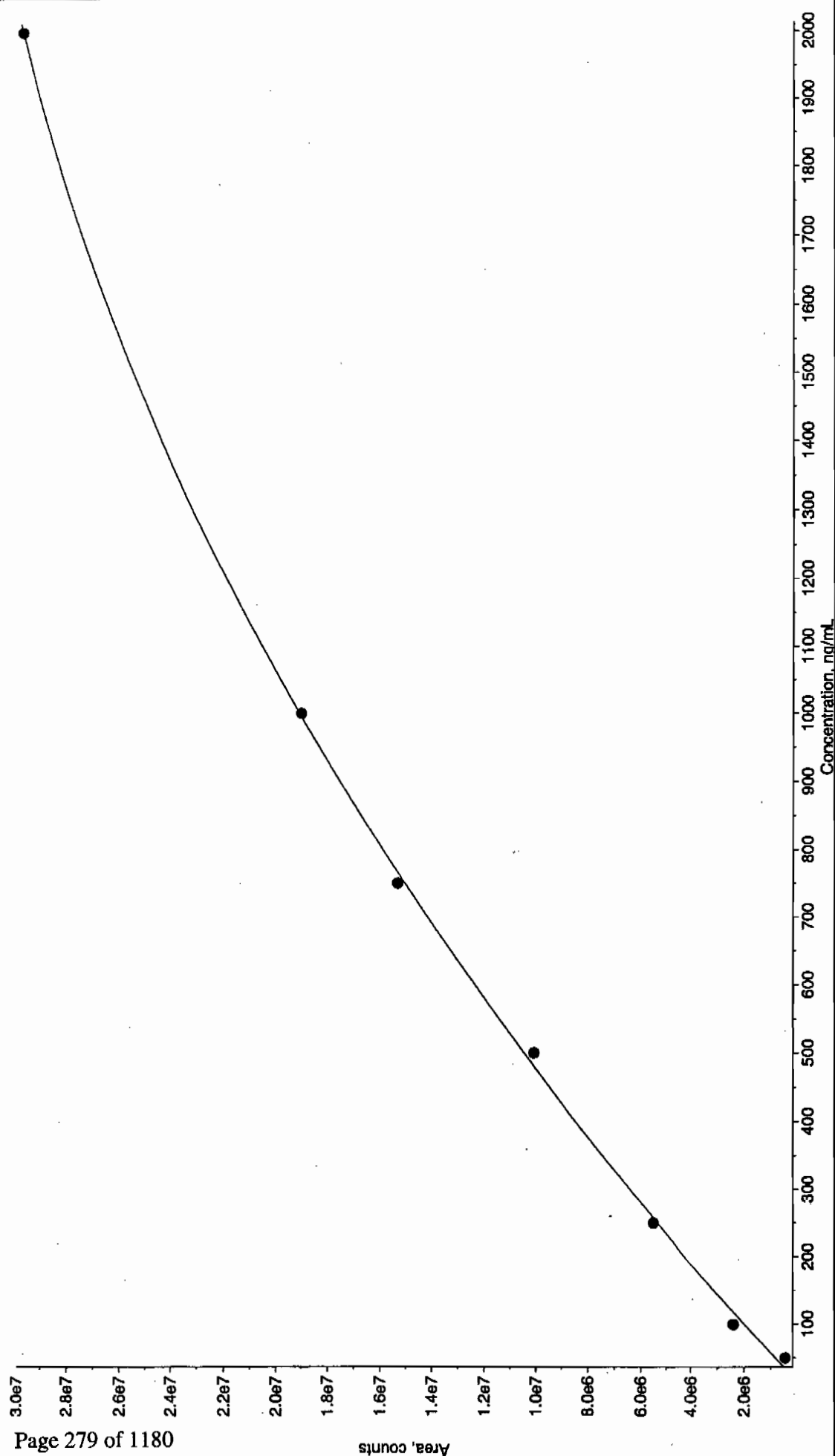
012510.rdb (26-Diamino-4-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.114 x^2 + 3.93e+003 x + -5.01e+004$ ($r = 0.9996$)



012510.rdb (24-Diamino-6-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.00578 x^2 + 2.45e+003 x + -2.05e+004$ ($r = 0.9993$)



012510.rdb (tris(o-cresyl) phosphate): "Quadratic" Regression ("No" weighting): $y = -4.41 x^2 + 2.38e+004 x + -3.37e+005$ ($r = 0.9996$)



7

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS01250011.wiff

Analysis Date: 25-JAN-10 13:09

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	486	97	
2,6-Diamino-4-nitrotoluene	500	478	96	
3,4-Dinitrotoluene	250	228	91	
3,5-Dinitroaniline	500	485	97	
TATB	500	478	96	
tris(o-cresyl) phosphate	500	509	102	

Recovery Limits:

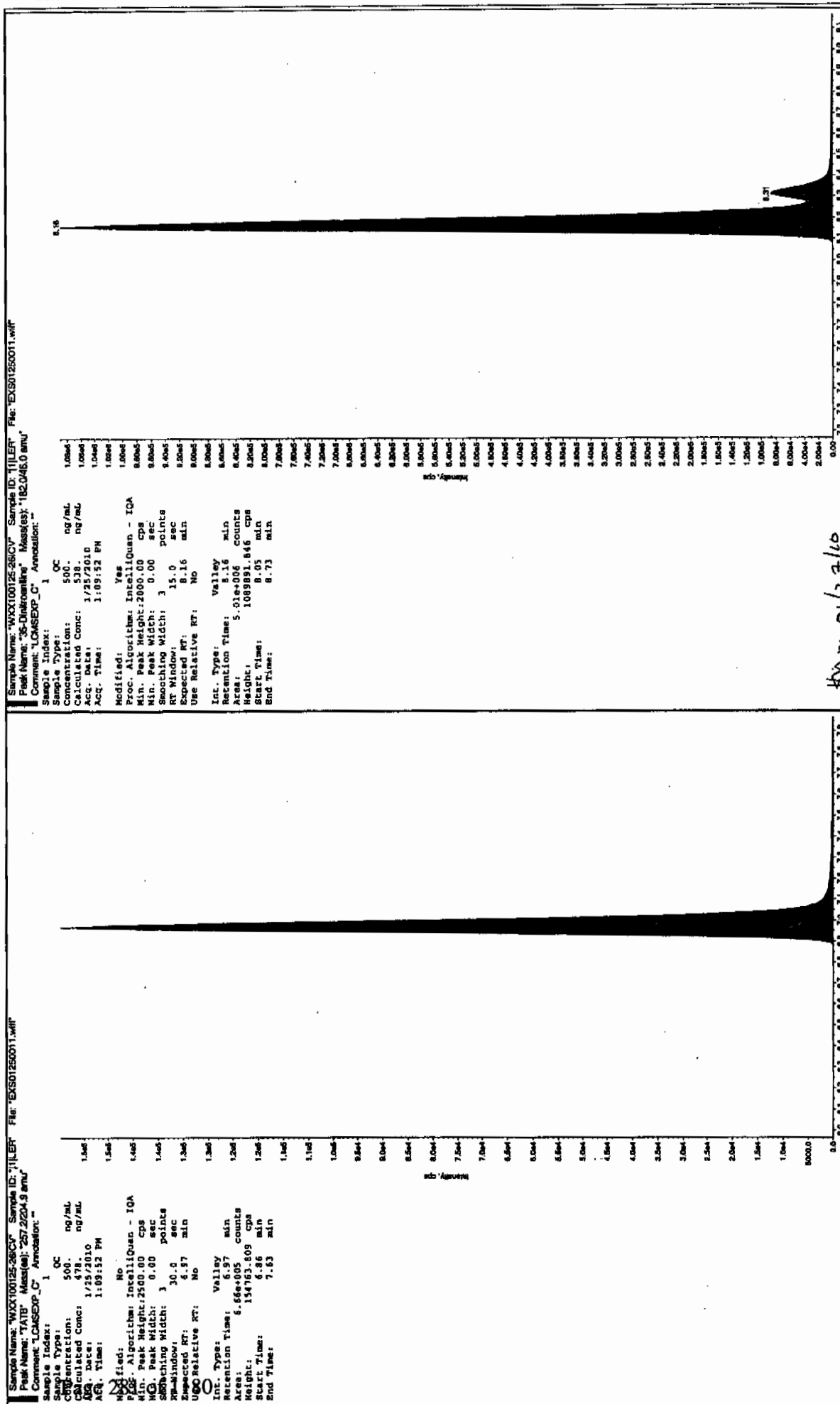
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

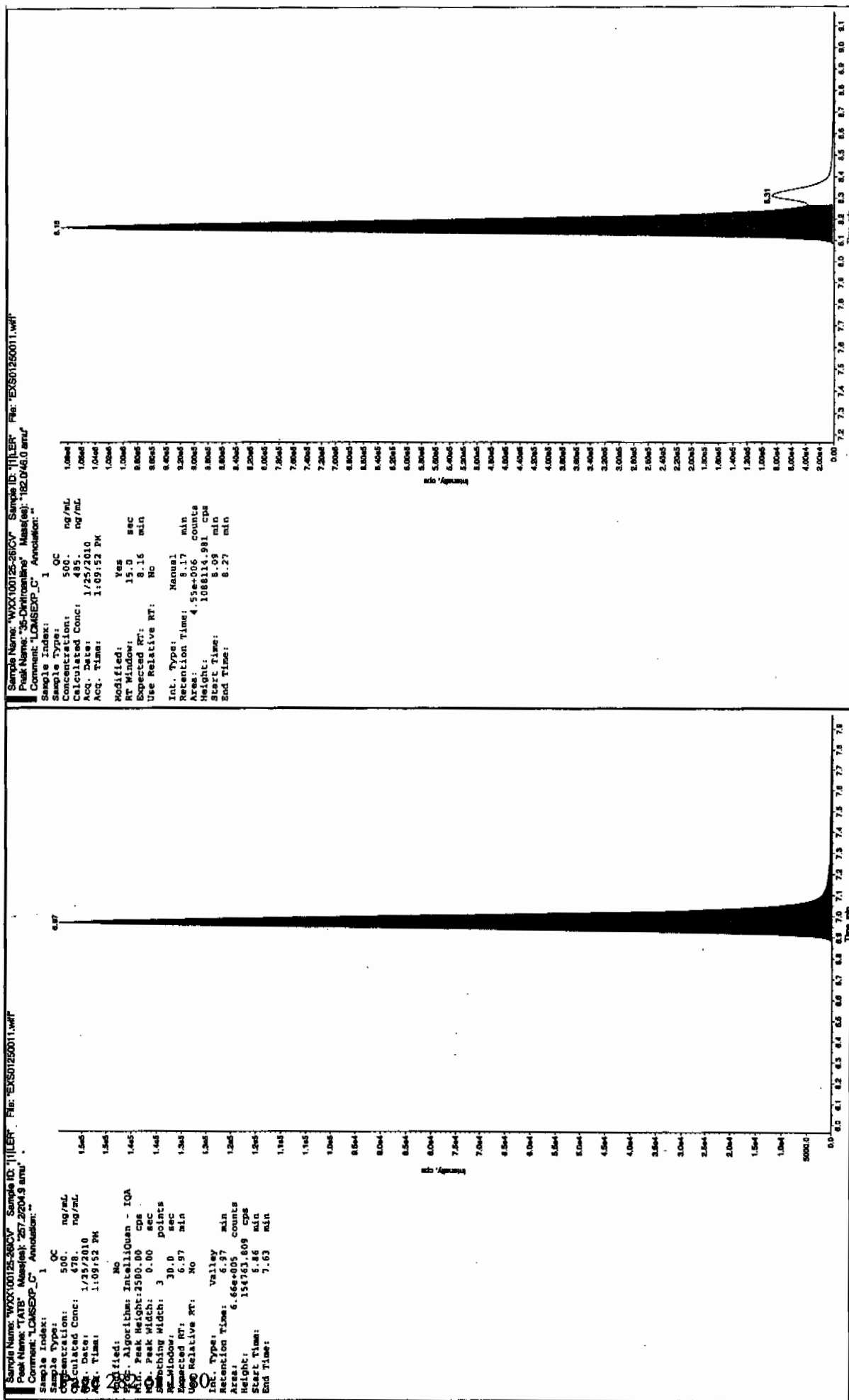
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before Jan 11/27/10



after Jan 11/27/10



Sample Name: WXX100125-260V Sample ID: 11111111 File: EX501250011.wif
 Peak Name: "TATB" Mass(es): 257.22043 amu
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 485. ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:09:52 PM

Modified: Yes
 RT Window: 15.0 sec
 Expected RT: 8.16 min
 Use Relative RT: No

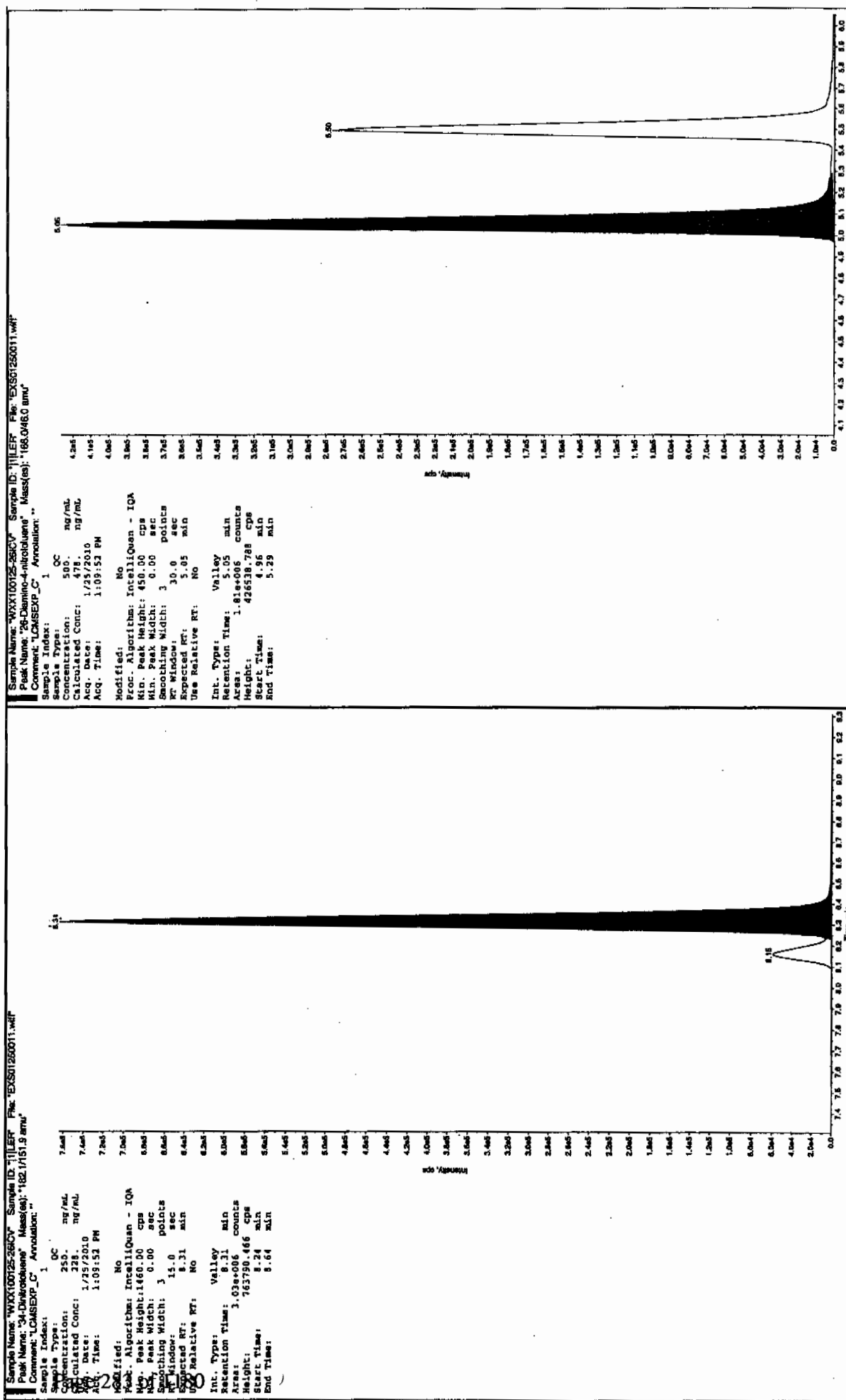
Int. Type: Manual
 Retention Time: 6.97 min
 Height: 1086106 cps
 Start Time: 8.09 min
 End Time: 8.27 min

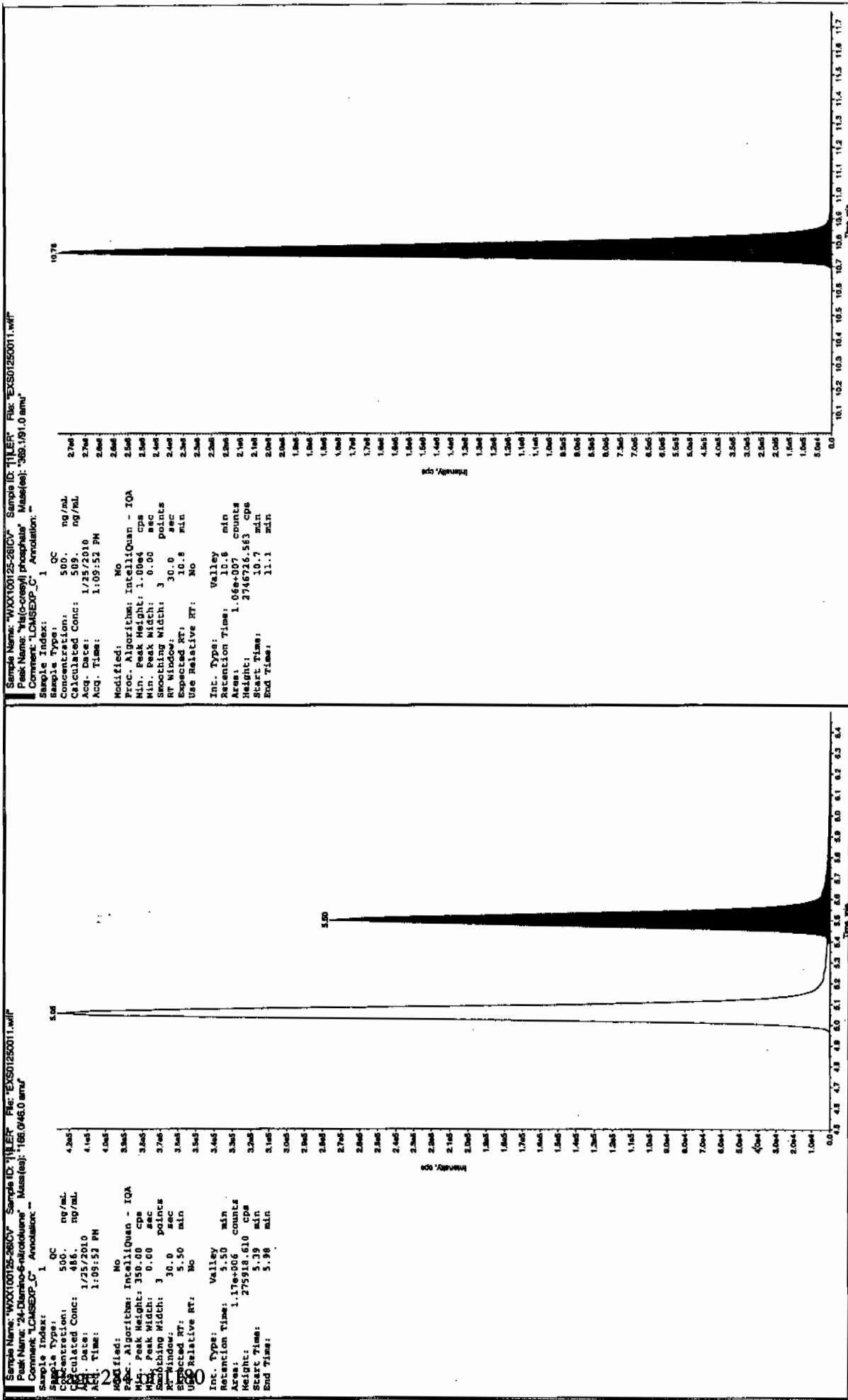
Sample Name: WXX100125-260V Sample ID: 11111111 File: EX501250011.wif
 Peak Name: "TATB" Mass(es): 257.22043 amu
 Comment: "LCMS-EXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 478. ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:09:52 PM

Modified: No
 RT Window: 15.0 sec
 Expected RT: 8.16 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 6.97 min
 Height: 154763.809 cps
 Start Time: 6.86 min
 End Time: 7.63 min





Sample Name: "WXX100125-280CV" Sample ID: "111ER" File: "EXS01250011.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1

Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 509. ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:09:52 PM

Modified: No

Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1.00 cps
 Min. Peak Width: 3.00 points
 Smoothing Width: 30.0 sec
 RT Window: 10.8 min
 Expected RT: 10.8 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 10.8 min
 Area: 1.06e-007 counts
 Height: 2746726.563 cps
 Start Time: 10.7 min
 End Time: 11.1 min

Sample Name: "WXX100125-280CV" Sample ID: "111ER" File: "EXS01250011.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1

Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 485. ng/mL
 Acq. Date: 1/25/2010
 Acq. Time: 1:09:52 PM

Modified: No

Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 350.00 cps
 Min. Peak Width: 3.00 points
 Smoothing Width: 30.0 sec
 RT Window: 5.50 min
 Expected RT: 5.50 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 5.50 min
 Area: 1.17e-006 counts
 Height: 275918.610 cps
 Start Time: 5.39 min
 End Time: 5.98 min

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125012a

Analysis Date: 25-JAN-10 16:45

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	53.525	134	*
1,3-Dinitrobenzene-d4	500	523.569	105	
2,4,6-Trinitrotoluene	40	32.202	81	
2,4-Dinitrotoluene	40	32.904	82	
2,6-Dinitrotoluene	40	42.96	107	
2,6-Dinitrotoluene-d3	500	553.084	111	
2-Amino-4,6-dinitrotoluene	40	46.855	117	
3,4-Dinitrotoluene	20	16.575	83	
4-Amino-2,6-dinitrotoluene	40	41.308	103	
HMX	40	44.507	111	
Nitrobenzene	40	37.891	95	
PETN	40	31.16	78	
RDX	40	38.595	96	
Tetryl	40	40.286	101	
m-Dinitrobenzene	40	39.556	99	
m-Nitrotoluene	40	39.269	98	
o-Nitrotoluene	40	42.003	105	
p-Nitrotoluene	40	41.044	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%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125012a

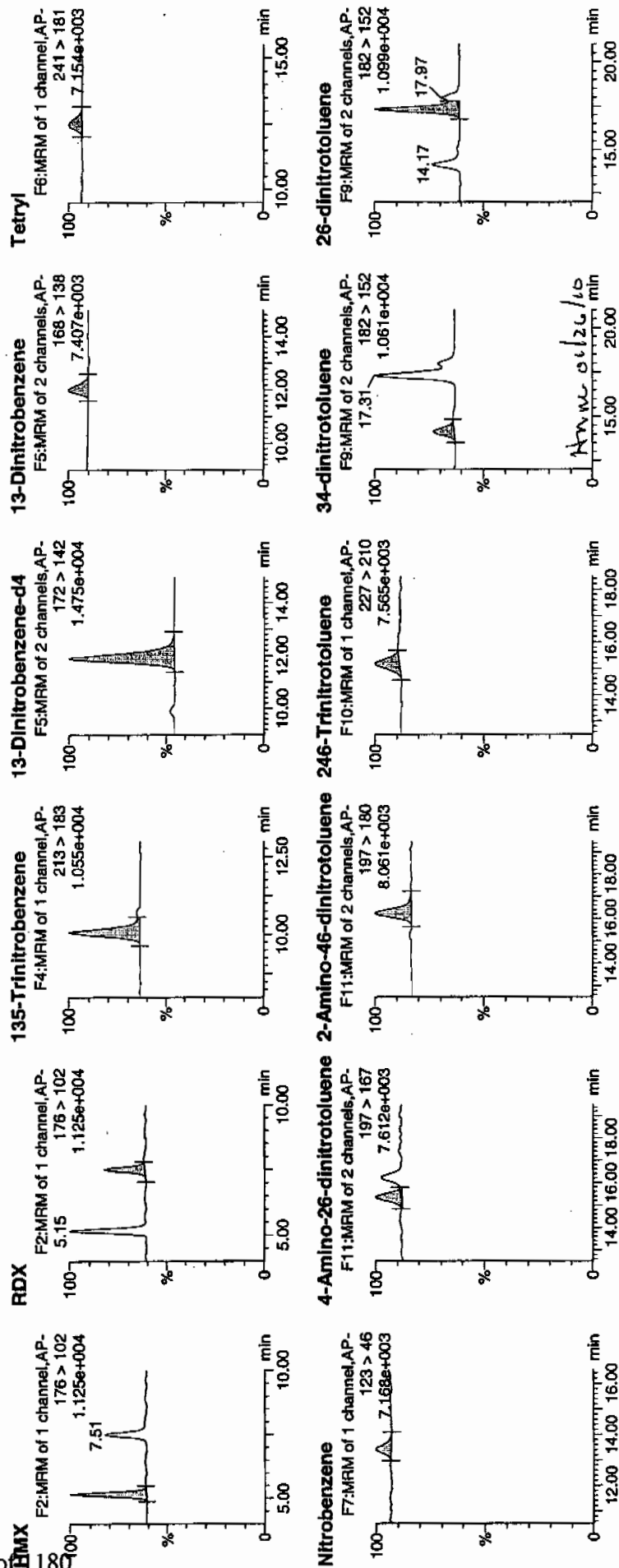
Date: 25-Jan-2010

Time: 16:45:01

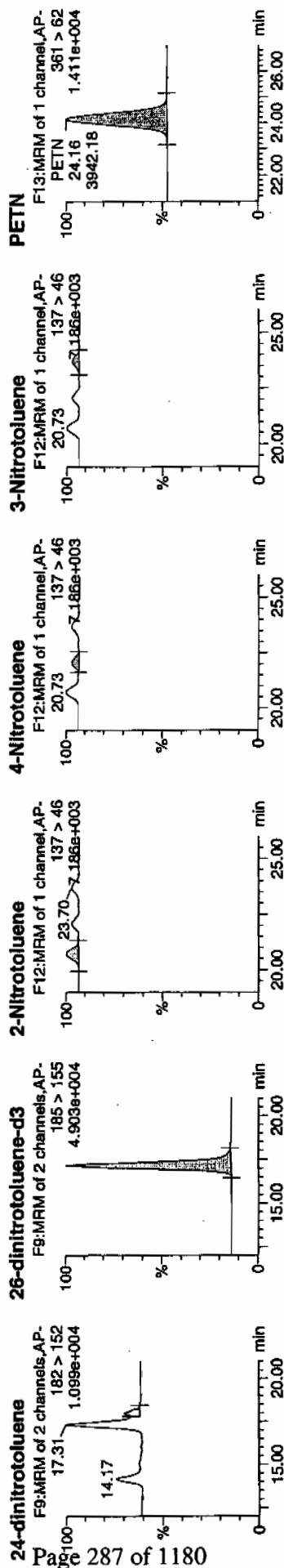
ID: WXX100125-08CRI

Ratio: 1:1,C

12/1/10
12/1/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



ID	Name	Trace	Area	S Area	Abundance	Response	Height	Mod Date	Mod Time	Intens	SN
WXX100125-08CRI	HMX	176 > 102	877.792	3108.327	877.792	141.200	bb			44.5071	111.3
WXX100125-08CRI	RDX	176 > 102	527.508	3108.327	527.508	84.854	bb			38.5946	96.5
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	1112.023	3108.327	1112.023	178.878	bd			53.5249	133.8
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	3108.327	3108.327	3108.327	3108.327	bb			523.5694	104.7
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	285.243	3108.327	285.243	45.884	bb			39.5555	98.9
WXX100125-08CRI	Tetryl	241 > 181	217.540	3108.327	217.540	34.993	bb			40.2862	100.7
WXX100125-08CRI	Nitrobenzene	123 > 46	201.306	3108.327	201.306	32.382	bb			37.8913	94.7
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	388.025	18028.699	388.025	10.761	MM	26-Jan-10	09:19:05	41.3081	103.3
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	632.342	18028.699	632.342	17.537	bb			46.8550	117.1
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	369.309	18028.699	369.309	10.242	bb			32.2019	80.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	542.658	18028.699	542.658	15.050	bb			16.5745	82.9
WXX100125-08CRI	26-dinitrotoluene	182 > 152	1706.312	18028.699	1706.312	47.322	MM	26-Jan-10	09:21:21	42.9598	107.4
WXX100125-08CRI	24-dinitrotoluene	182 > 152	301.425	18028.699	301.425	8.360	MM	26-Jan-10	09:23:11	32.9036	82.3
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	18028.699	18028.699	18028.699	18028.699	bb			553.0839	110.6
WXX100125-08CRI	2-Nitrotoluene	137 > 46	251.870	18028.699	251.870	6.985	bb			42.0032	105.0
WXX100125-08CRI	4-Nitrotoluene	137 > 46	122.362	18028.699	122.362	3.394	bb			41.0443	102.6
WXX100125-08CRI	3-Nitrotoluene	137 > 46	132.192	18028.699	132.192	3.666	bb			39.2891	98.2
WXX100125-08CRI	PETN	361 > 62	3942.182	18028.699	3942.182	109.331	bb			31.1604	77.9

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/25/10
 Time of Injection 1645
 Standard Number WXX100125-08CRI
 Data File EXP0125012a

HMX	111.3
RDX	96.5
135-TNB	133.8
13-DNB	98.9
Tetryl	100.7
Nitrobenzene	94.7
4A-26-DNT	103.3
2A-46-DNT	117.1
246-TNT	80.5
34-DNT(surr)	82.9
26-DNT	107.4
24-DNT	82.3
2-NT	105.0
4-NT	102.6
3-NT	98.2
PETN	77.9

MTT
1/26/10

Total 1593.1

Average 99.6

4mm 01/26/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125023a

Analysis Date: 25-JAN-10 22:09

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	671.995	112	
1,3-Dinitrobenzene-d4	500	501.648	100	
2,4,6-Trinitrotoluene	600	681.012	114	
2,4-Dinitrotoluene	600	650.509	108	
2,6-Dinitrotoluene	600	620.709	103	
2,6-Dinitrotoluene-d3	500	529.849	106	
2-Amino-4,6-dinitrotoluene	600	638.815	106	
3,4-Dinitrotoluene	300	312.536	104	
4-Amino-2,6-dinitrotoluene	600	654.415	109	
HMX	600	616.521	103	
Nitrobenzene	600	622.507	104	
PETN	600	590.603	98	
RDX	600	659.536	110	
Tetryl	600	635.812	106	
m-Dinitrobenzene	600	625.794	104	
m-Nitrotoluene	600	604.626	101	
o-Nitrotoluene	600	593.315	99	
p-Nitrotoluene	600	607.304	101	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0125023a

Date: 25-Jan-2010

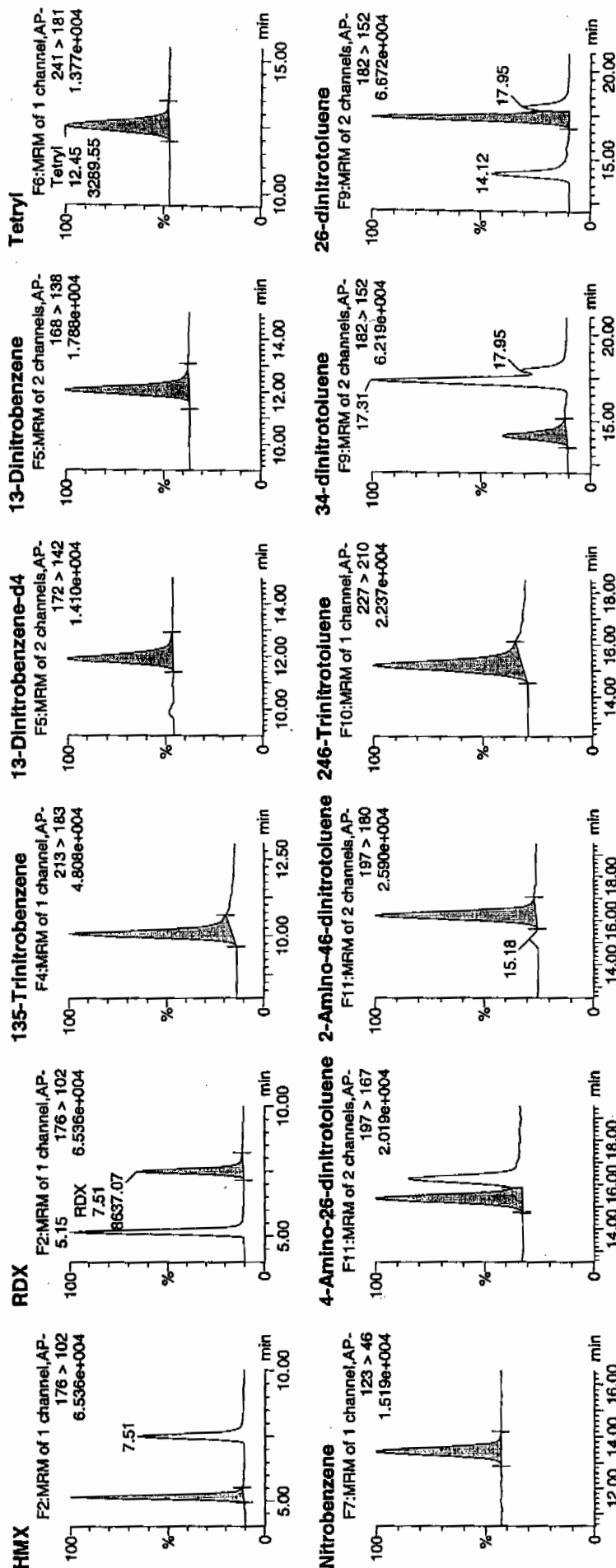
Time: 22:09:44

ID: WXX100125-07CCV

Vial: 1:1,B

1/26/10

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HMM 01/26/10

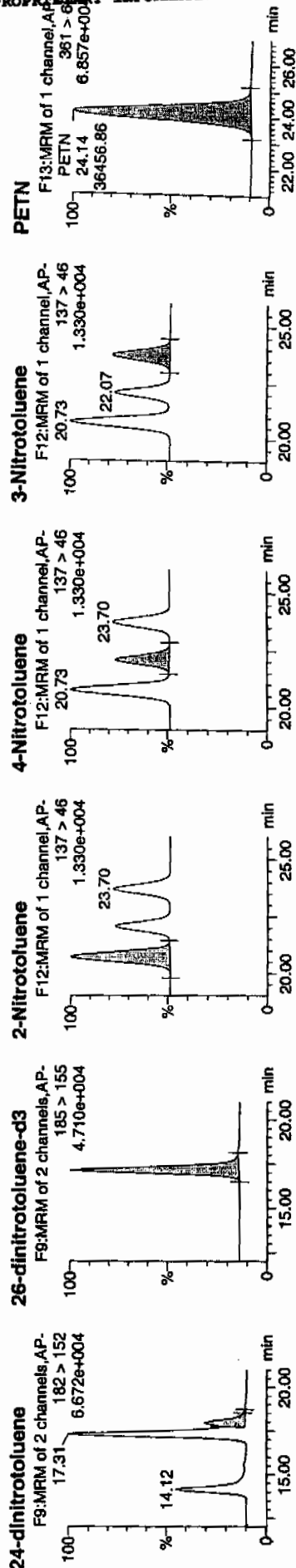
Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Tue Jan 26 11:27:45 2010, Page 46 of 73

Dataset: C:\MASSLYNX\New_Exp\PRO1012510expA.qld, Time: Tue Jan 26 09:24:51 2010

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Sample Name	Area	Height	Area%	Height%	Retention Time (min)	Mass	Label	Mod Date	Mod Time	Mod User	SN
WXX100125-07CCV HMX	176 > 102	5.15	11650.265	2978.185	11650.265	1955.934	bb	26-Jan-10	09:19:24	MM	1613.8
WXX100125-07CCV RDX	176 > 102	7.51	8637.066	2978.185	8637.066	1450.055	bb				9.9
WXX100125-07CCV 135-Trinitrobenzene	213 > 183	10.07	11442.634	2978.185	11442.634	1921.075	bb				12.0
WXX100125-07CCV 13-Dinitrobenzene-d4	172 > 142	11.89	2978.185	2978.185	2978.185	725.911	bb				0.3
WXX100125-07CCV 13-Dinitrobenzene	168 > 138	12.00	4323.792	2978.185	4323.792	552.275	bb				4.3
WXX100125-07CCV Tetryl	241 > 181	12.45	3289.552	2978.185	3289.552	531.991	bb				6.0
WXX100125-07CCV Nitrobenzene	123 > 46	13.41	3168.738	2978.185	3168.738	170.484	MM				3.8
WXX100125-07CCV 4-Amino-26-dinitrotoluene	197 > 167	15.35	5888.969	17271.318	5888.969	239.099	bb				9.1
WXX100125-07CCV 2-Amino-46-dinitrotoluene	197 > 180	16.22	8259.095	17271.318	8259.095	216.605	bb				6.5
WXX100125-07CCV 246-Trinitrotoluene	227 > 210	15.17	7482.116	17271.318	7482.116	283.787	bb				13.5
WXX100125-07CCV 34-dinitrotoluene	182 > 152	14.16	9802.761	17271.318	9802.761	236.18.141	MM	26-Jan-10	09:21:34	MM	4.2
WXX100125-07CCV 26-dinitrotoluene	182 > 152	17.31	23618.141	17271.318	23618.141	683.739	MM	26-Jan-10	09:23:32	MM	3.5
WXX100125-07CCV 24-dinitrotoluene	182 > 152	17.95	5708.864	17271.318	5708.864	165.270	MM				8.4
WXX100125-07CCV 26-dinitrotoluene-d3	185 > 155	17.14	17271.318	17271.318	17271.318	98.670	bb				6.0
WXX100125-07CCV 2-Nitrotoluene	137 > 46	20.73	3408.326	17271.318	3408.326	593.3155	98.9				-1.1
WXX100125-07CCV 4-Nitrotoluene	137 > 46	22.07	1734.448	17271.318	1734.448	607.3042	101.2				1.2
WXX100125-07CCV 3-Nitrotoluene	137 > 46	23.70	1949.855	17271.318	1949.855	604.6262	100.8				0.8
WXX100125-07CCV PETN	361 > 62	24.14	36456.863	17271.318	36456.863	590.6025	98.4				-1.6

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/25/10
 Time of Injection: 2209
 Standard Number: WXX100125-07CCV
 Data File: EXP0125023a

HMX	102.8
RDX	109.9
135-TNB	112.0
13-DNB	104.3
Tetryl	106.0
Nitrobenzene	103.8
4A-26-DNT	109.1
2A-46-DNT	106.5
246-TNT	113.5
34-DNT(surr)	104.2
26-DNT	103.5
24-DNT	108.4
2-NT	98.9
4-NT	101.2
3-NT	100.8
PETN	98.4

*not
1/26/10*

Total 1683.3

Average 105.2

done 01/26/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125025a

Analysis Date: 25-JAN-10 23:08

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	51.275	128	
1,3-Dinitrobenzene-d4	500	562.36	112	
2,4,6-Trinitrotoluene	40	41.402	104	
2,4-Dinitrotoluene	40	41.568	104	
2,6-Dinitrotoluene	40	40.317	101	
2,6-Dinitrotoluene-d3	500	590.895	118	
2-Amino-4,6-dinitrotoluene	40	40.944	102	
3,4-Dinitrotoluene	20	20.089	100	
4-Amino-2,6-dinitrotoluene	40	43.494	109	
HMX	40	59.635	149	*
Nitrobenzene	40	49.71	124	
PETN	40	28.625	72	
RDX	40	43.744	109	
Tetryl	40	40.54	101	
m-Dinitrobenzene	40	46.142	115	
m-Nitrotoluene	40	46.171	115	
o-Nitrotoluene	40	38.888	97	
p-Nitrotoluene	40	35.04	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%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

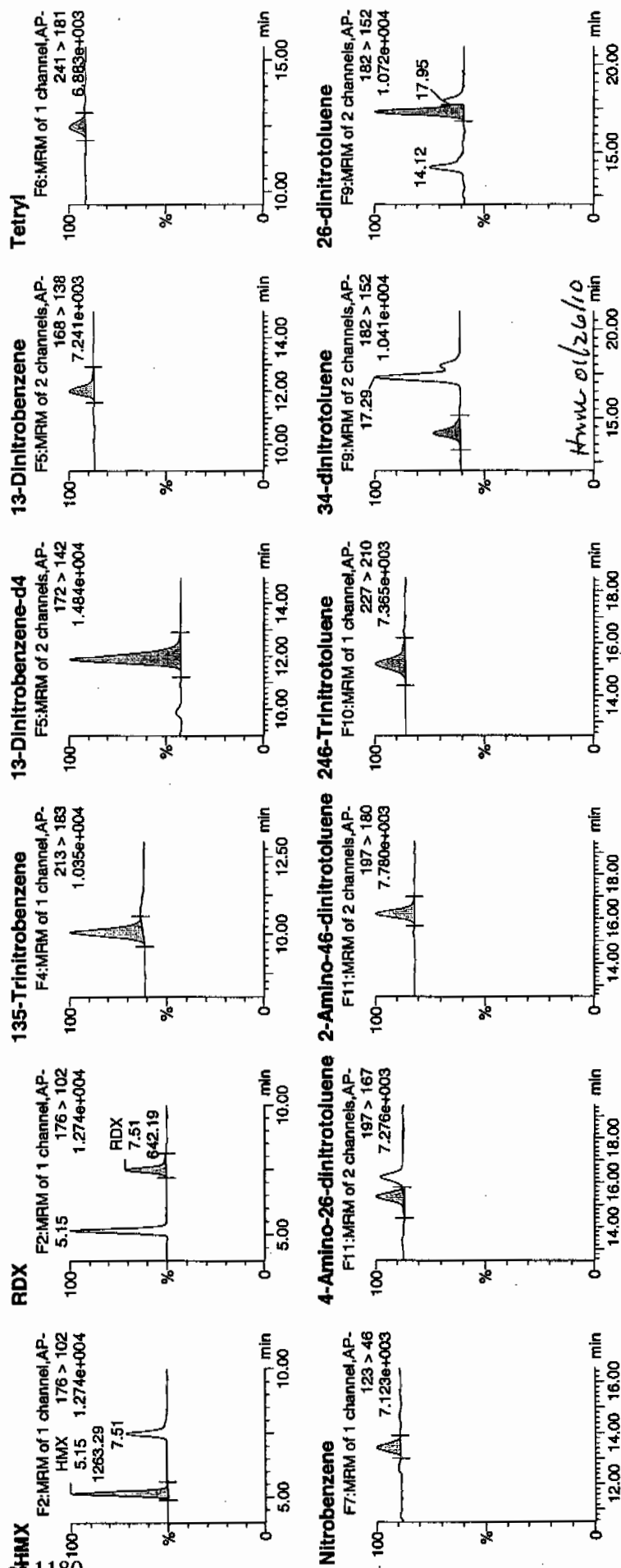
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Date: 25-Jan-2010

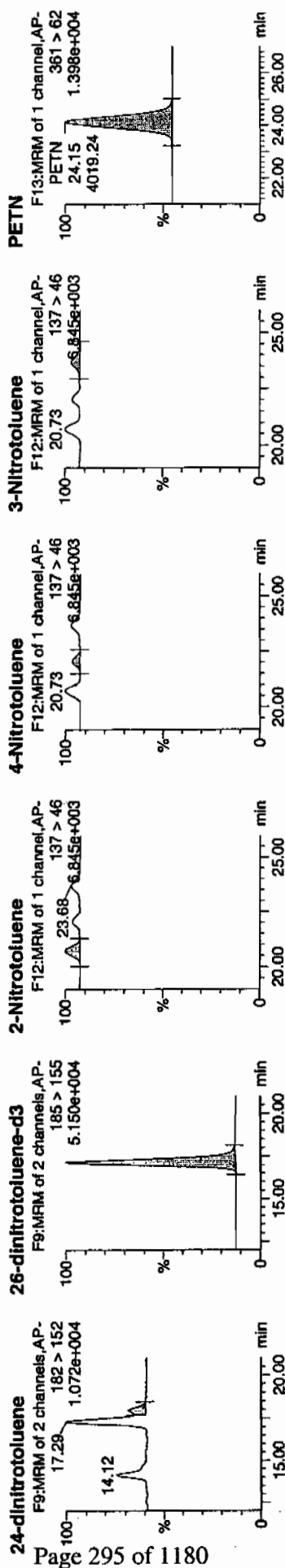
Time: 23:08:48

ID: WXX100125-08CRI

Vial: 1:1,C



Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



ID	Name	Trace	Height	Area	SWArea	AbsRelAp	Response	Flags	ModDate	ModTime	APRef	APDev	SN	
WXX100125-08CRI	HMx	176 > 102	5.15	1263.285	3338.619	1263.285	189.193	bb			59.6346	149.1	49.1	338.5
WXX100125-08CRI	RDX	176 > 102	7.51	642.190	3338.619	642.190	96.176	bb			43.7442	109.4	9.4	141.4
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1152.094	3338.619	1152.094	172.541	bb			51.2751	128.2	28.2	131.8
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3338.619		3338.619	3338.619	bb			562.3600	112.5	12.5	430.5
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	357.395	3338.619	357.395	53.524	bb			46.1424	115.4	15.4	27.5
WXX100125-08CRI	Tetryl	241 > 181	12.45	235.130	3338.619	235.130	35.214	bb			40.5401	101.4	1.4	19.3
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	283.661	3338.619	283.661	42.482	bb			49.7089	124.3	24.3	33.4
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	436.484	19261.230	436.484	11.331	MM	26-Jan-10	09:19:33	43.4935	108.7	8.7	25.6
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	590.352	19261.230	590.352	15.325	bb			40.9444	102.4	2.4	89.9
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.21	507.277	19261.230	507.277	13.168	bb			41.4016	103.5	3.5	33.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.16	702.684	19261.230	702.684	18.241	bb			20.0888	100.4	0.4	47.0
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.29	1710.801	19261.230	1710.801	44.410	MM	26-Jan-10	09:21:41	40.3165	100.8	0.8	103.8
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.95	406.830	19261.230	406.830	10.561	MM	26-Jan-10	09:23:39	41.5679	103.9	3.9	23.1
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	19261.230		19261.230	19261.230	bb			590.8955	118.2	18.2	944.5
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	249.133	19261.230	249.133	6.467	bb			38.8881	97.2	-2.8	41.4
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.04	111.602	19261.230	111.602	2.897	bb			35.0395	87.6	-12.4	19.7
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.68	166.053	19261.230	166.053	4.311	bb			46.1714	115.4	15.4	23.2
WXX100125-08CRI	PETN	361 > 62	24.15	4019.243	19261.230	4019.243	104.335	bb			28.6246	71.6	-28.4	1039.0

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/25/10
 Time of Injection 2308
 Standard Number WXX100125-08CRI
 Data File EXP0125025a

HMX	149.1
RDX	109.4
135-TNB	128.2
13-DNB	115.4
Tetryl	101.4
Nitrobenzene	124.3
4A-26-DNT	108.7
2A-46-DNT	102.4
246-TNT	103.5
34-DNT(surr)	100.4
26-DNT	100.8
24-DNT	103.9
2-NT	97.2
4-NT	87.6
3-NT	115.4
PETN	71.6

*mtt
1/26/10*

Total 1719.3

Average 107.5

gtm 01/26/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125034a

Analysis Date: 26-JAN-10 03:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	677.094	113	
1,3-Dinitrobenzene-d4	500	507.421	101	
2,4,6-Trinitrotoluene	600	664.277	111	
2,4-Dinitrotoluene	600	626.592	104	
2,6-Dinitrotoluene	600	593.375	99	
2,6-Dinitrotoluene-d3	500	552.887	111	
2-Amino-4,6-dinitrotoluene	600	628.043	105	
3,4-Dinitrotoluene	300	310.216	103	
4-Amino-2,6-dinitrotoluene	600	653.794	109	
HMX	600	665.852	111	
Nitrobenzene	600	612.948	102	
PETN	600	598.099	100	
RDX	600	771.215	129	*
Tetryl	600	637.72	106	
m-Dinitrobenzene	600	643.843	107	
m-Nitrotoluene	600	557.007	93	
o-Nitrotoluene	600	568.991	95	
p-Nitrotoluene	600	602.81	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 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

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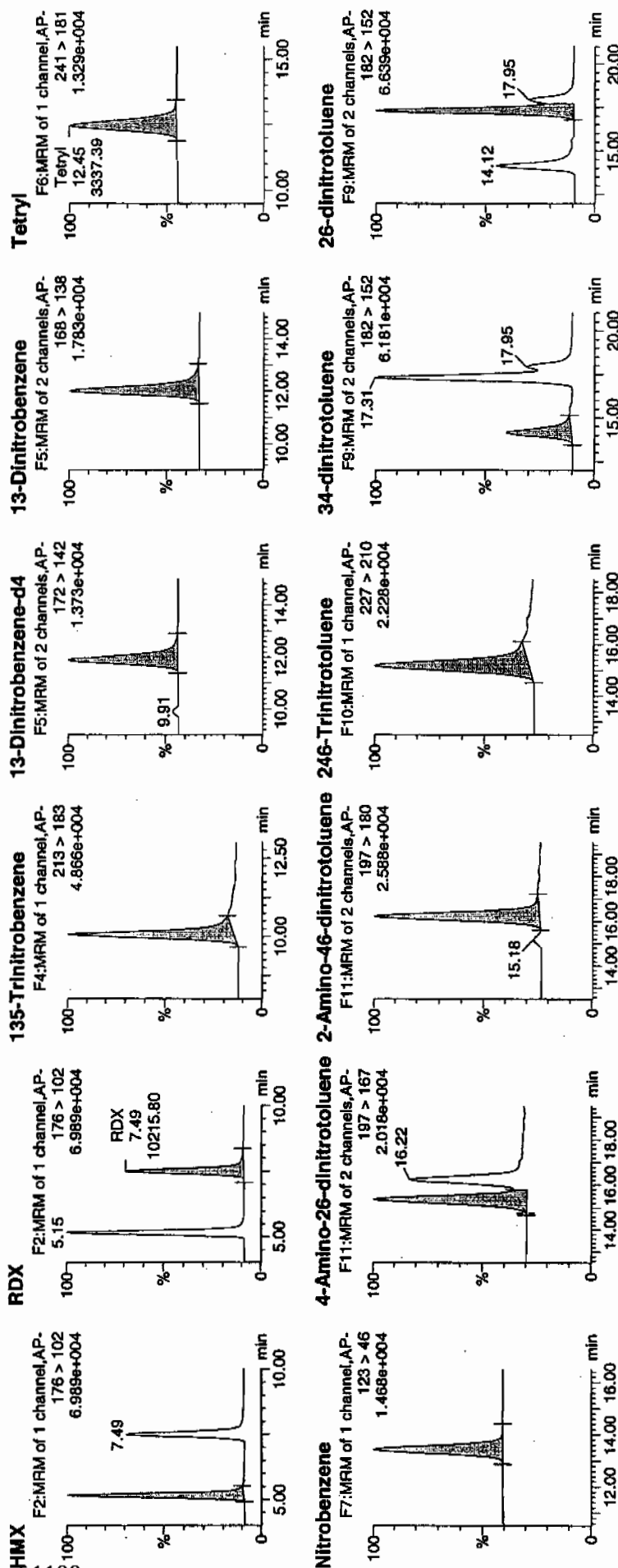
Date: 26-Jan-2010

Time: 03:34:18

ID: WXX100125-07CCV

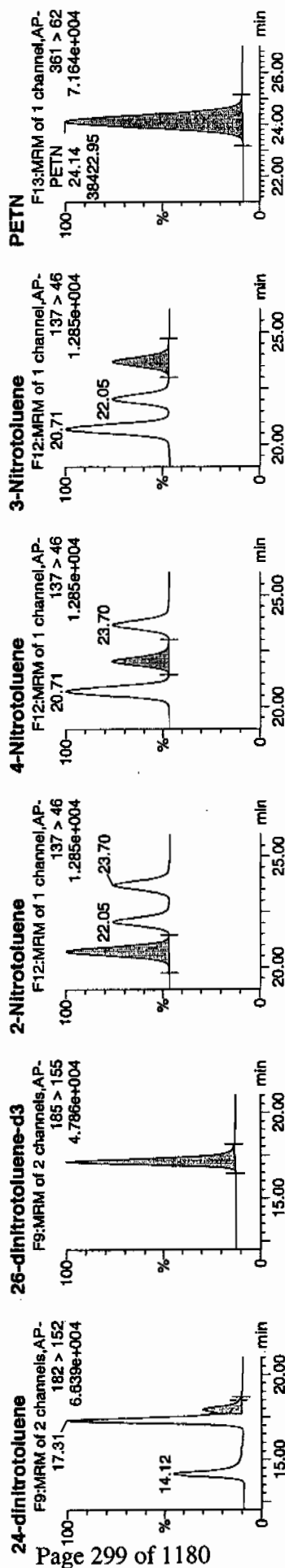
Vial: 1:1,B

298



AWW-01/26/10

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010



ID	Name	Trace	RT	SA Area	Abundance	Flags	Mod Date	Mod Time	Norm	Age	WOW	SN
WXX100125-07CCV	HMX	176 > 102	5.15	12727.260	3012.459	12727.260	2112.437	bb	665.8520	111.0	11.0	1385.6
WXX100125-07CCV	RDX	176 > 102	7.49	10215.800	3012.459	10215.800	1695.592	bb	771.2149	128.5	28.5	918.6
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	11660.856	3012.459	11660.856	1935.438	bb	677.0943	112.8	12.8	921.2
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	3012.459	3012.459	3012.459	3012.459	bb	507.4213	101.5	1.5	175.5
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4498.687	3012.459	4498.687	746.846	bb	643.8425	107.3	7.3	448.1
WXX100125-07CCV	Tetryl	241 > 181	12.45	3337.394	3012.459	3337.394	553.932	bb	637.7201	106.3	6.3	329.8
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	3155.987	3012.459	3155.987	523.822	bb	612.9484	102.2	2.2	319.0
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.35	6139.198	18022.293	6139.198	170.322	MM	653.7944	109.0	9.0	343.5
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	8472.895	18022.293	8472.895	235.087	bb	628.0434	104.7	4.7	308.1
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	7615.592	18022.293	7615.592	211.283	bb	664.2769	110.7	10.7	340.1
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	10153.055	18022.293	10153.055	281.680	bb	510.2159	103.4	3.4	637.1
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	23559.799	18022.293	23559.799	653.629	MM	593.3752	98.9	-1.1	851.1
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.95	5738.072	18022.293	5738.072	159.194	MM	626.5922	104.4	4.4	187.7
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.14	18022.293	18022.293	18022.293	18022.293	bb	552.8874	110.6	10.6	1407.4
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.71	3410.712	18022.293	3410.712	94.625	bb	568.9905	94.8	-5.2	584.2
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.05	1796.469	18022.293	1796.469	49.840	bb	602.8096	100.5	0.5	322.1
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1874.392	18022.293	1874.392	52.002	bb	557.0088	92.8	-7.2	319.9
WXX100125-07CCV	PETN	361 > 62	24.14	38422.945	18022.293	38422.945	1065.984	bb	598.0986	99.7	-0.3	4403.3

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/26/10
 Time of Injection: 0334
 Standard Number: WXX100125-07CCV
 Data File: EXP0125034a

HMX		111.0
RDX		128.5
135-TNB		112.8
13-DNB		107.3
Tetryl		106.3
Nitrobenzene		102.2
4A-26-DNT		109.0
2A-46-DNT		104.7
246-TNT		110.7
34-DNT(surr)		103.4
26-DNT		98.9
24-DNT		104.4
2-NT		94.8
4-NT		100.5
3-NT		92.8
PETN		99.7

*not
1/26/10*

Total 1687.0

Average 105.4

sum 01/26/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125036a

Analysis Date: 26-JAN-10 04:33

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.11	130	*
1,3-Dinitrobenzene-d4	500	503.562	101	
2,4,6-Trinitrotoluene	40	39.74	99	
2,4-Dinitrotoluene	40	41.295	103	
2,6-Dinitrotoluene	40	39.945	100	
2,6-Dinitrotoluene-d3	500	539.662	108	
2-Amino-4,6-dinitrotoluene	40	39.655	99	
3,4-Dinitrotoluene	20	20.419	102	
4-Amino-2,6-dinitrotoluene	40	42.579	106	
HMX	40	49.197	123	
Nitrobenzene	40	40.413	101	
PETN	40	28.993	72	
RDX	40	44.285	111	
Tetryl	40	48.534	121	
m-Dinitrobenzene	40	35.432	89	
m-Nitrotoluene	40	39.652	99	
o-Nitrotoluene	40	50.193	125	
p-Nitrotoluene	40	42.49	106	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125036a

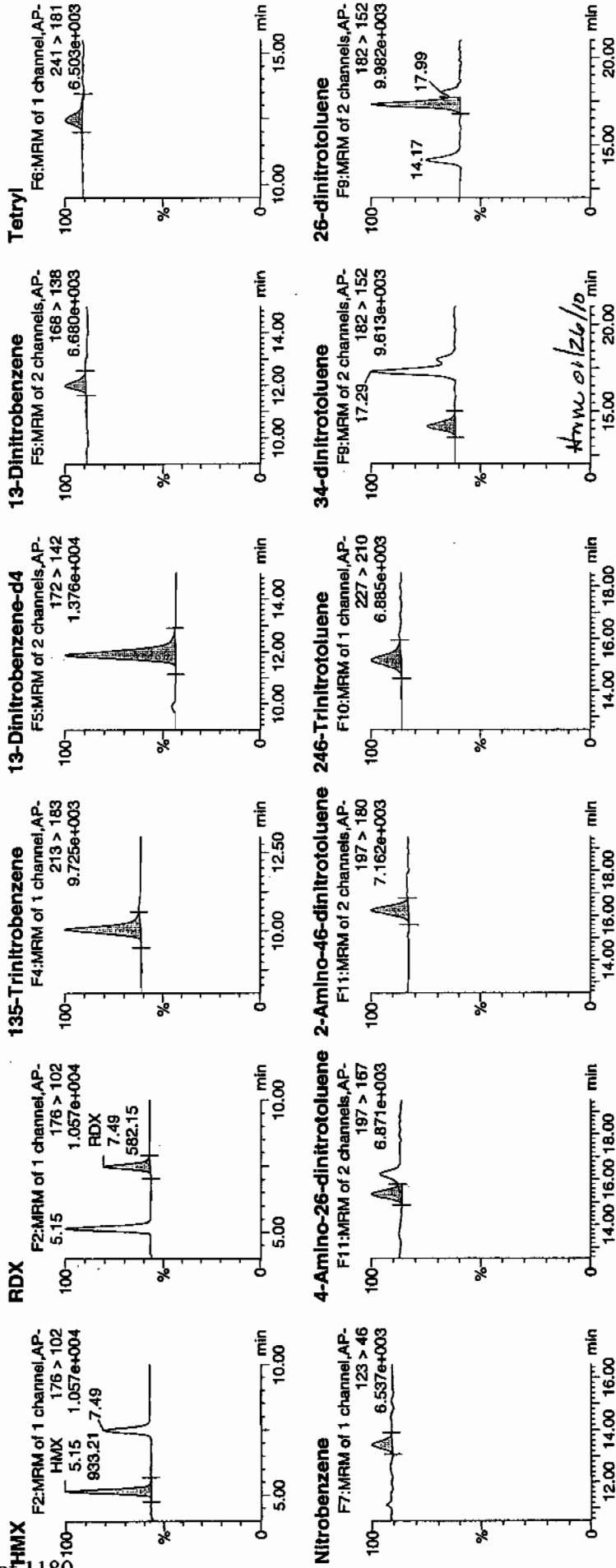
Date: 26-Jan-2010

Time: 04:33:23

ID: WXX100125-08CRI

Ratio: 1:1,C

1/26/10
M.A.P.



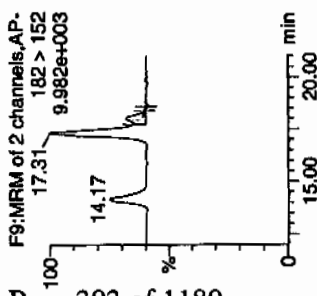
Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

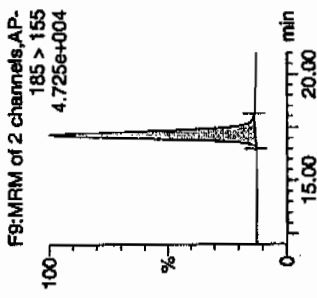
Printed: Tue Jan 26 11:27:45 2010, Page 72 of 73

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA.qld, Time: Tue Jan 26 09:24:51 2010

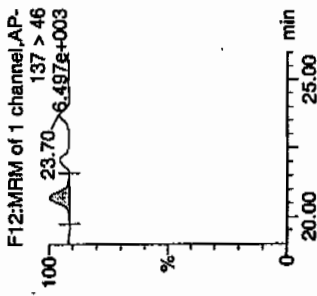
24-dinitrotoluene



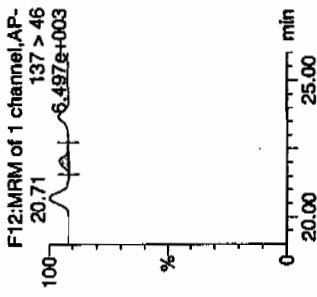
26-dinitrotoluene-d3



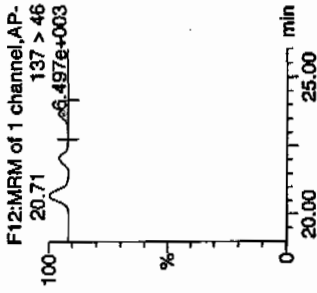
2-Nitrotoluene



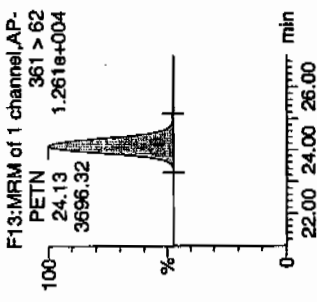
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Area	Height	Area%	Height%	Flags	Mod	Time	Area	Height	Area%	Height%	SN
WXX100125-08CRI	HMX	176 > 102	5.15	933.214	2989.546	933.214	156.080	bb	49.1971	123.0	23.0	196.3	
WXX100125-08CRI	FDX	176 > 102	7.49	582.152	2989.546	582.152	97.365	bb	44.2849	110.7	10.7	106.4	
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1045.697	2989.546	1045.697	174.892	bb	52.1099	130.3	30.3	143.8	
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2989.546	2989.546	2989.546	2989.546	bb	503.5618	100.7	0.7	363.4	
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	245.746	2989.546	245.746	41.101	bb	35.4323	88.6	-11.4	38.0	
WXX100125-08CRI	Tetryl	241 > 181	12.45	252.060	2989.546	252.060	42.157	bb	48.5336	121.3	21.3	19.8	
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	206.496	2989.546	206.496	34.536	bb	40.4126	101.0	1.0	15.5	
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	390.258	17591.199	390.258	11.092	MM	42.5791	106.4	6.4	32.4	
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	522.190	17591.199	522.190	14.842	bb	39.6553	99.1	-0.9	18.4	
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	444.695	17591.199	444.695	12.640	bb	39.7395	99.3	-0.7	37.2	
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.16	652.297	17591.199	652.297	18.540	bb	20.4187	102.1	2.1	47.4	
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1548.066	17591.199	1548.066	44.001	MM	39.9449	99.9	-0.1	92.0	
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.99	369.118	17591.199	369.118	10.492	MM	41.2951	103.2	3.2	19.6	
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	17591.199	17591.199	17591.199	17591.199	bb	539.6623	107.9	7.9	1827.3	
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.72	293.678	17591.199	293.678	8.347	bb	50.1933	125.5	25.5	86.4	
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.09	123.598	17591.199	123.598	3.513	bb	42.4900	106.2	6.2	40.7	
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.70	130.241	17591.199	130.241	3.702	bb	39.6518	99.1	-0.9	43.4	
WXX100125-08CRI	PETN	361 > 62	24.13	3696.324	17591.199	3696.324	105.062	bb	28.9932	72.5	-27.5	609.4	

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/26/10
 Time of Injection 0433
 Standard Number WXX100125-08CRI
 Data File EXP0125036a

HMX	123.0
RDX	110.7
135-TNB	130.3
13-DNB	88.6
Tetryl	121.3
Nitrobenzene	101.0
4A-26-DNT	106.4
2A-46-DNT	99.1
246-TNT	99.3
34-DNT(surr)	102.1
26-DNT	99.9
24-DNT	103.2
2-NT	125.5
4-NT	106.2
3-NT	99.1
PETN	72.5

WXX
1/26/10

Total 1688.2

Average 105.5

WXX 01/26/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125047a

Analysis Date: 26-JAN-10 09:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	646.04	108	
1,3-Dinitrobenzene-d4	500	528.635	106	
2,4,6-Trinitrotoluene	600	844.315	141	*
2,4-Dinitrotoluene	600	601.657	100	
2,6-Dinitrotoluene	600	607.414	101	
2,6-Dinitrotoluene-d3	500	552.683	111	
2-Amino-4,6-dinitrotoluene	600	622.543	104	
3,4-Dinitrotoluene	300	327.234	109	
4-Amino-2,6-dinitrotoluene	600	623.75	104	
HMX	600	662.143	110	
Nitrobenzene	600	629.393	105	
PETN	600	593.682	99	
RDX	600	700.33	117	
Tetryl	600	658.895	110	
m-Dinitrobenzene	600	616.464	103	
m-Nitrotoluene	600	578.165	96	
o-Nitrotoluene	600	560.785	93	
p-Nitrotoluene	600	573.922	96	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125047a

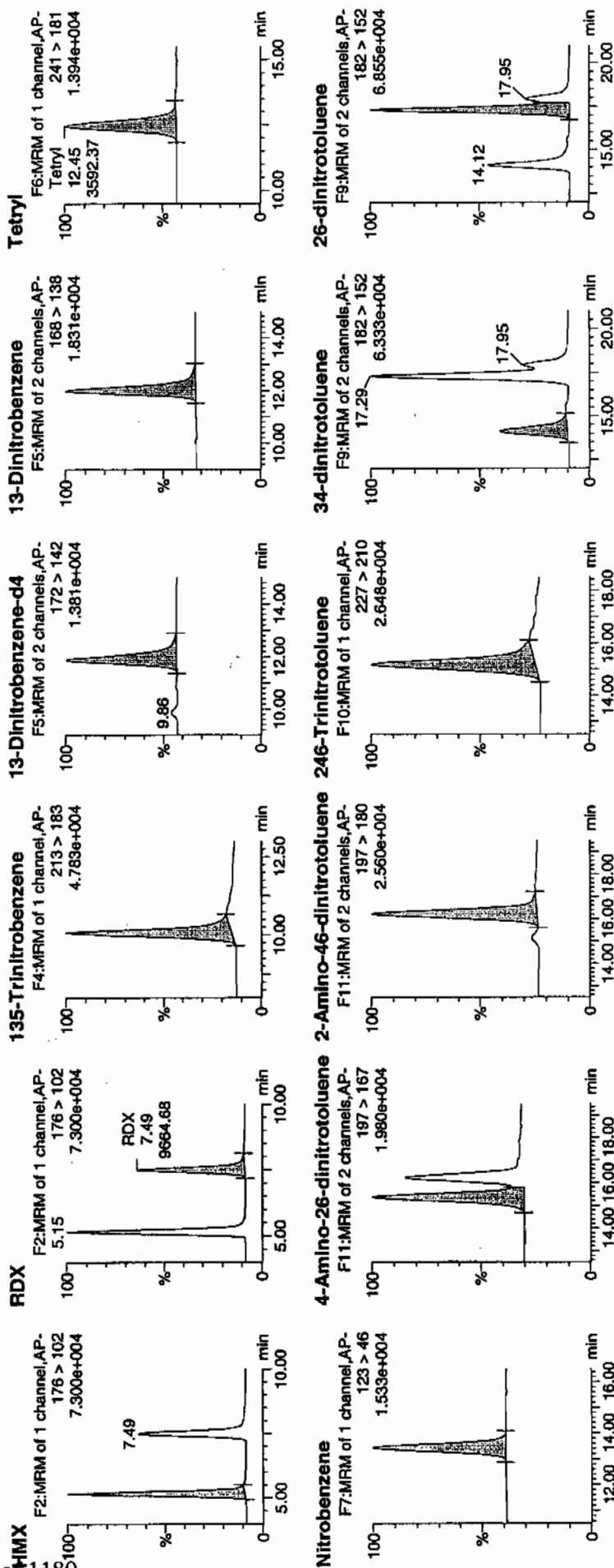
Date: 26-Jan-2010

Time: 09:58:05

ID: WXX100125-07CCV

Ratio: 1:1,B

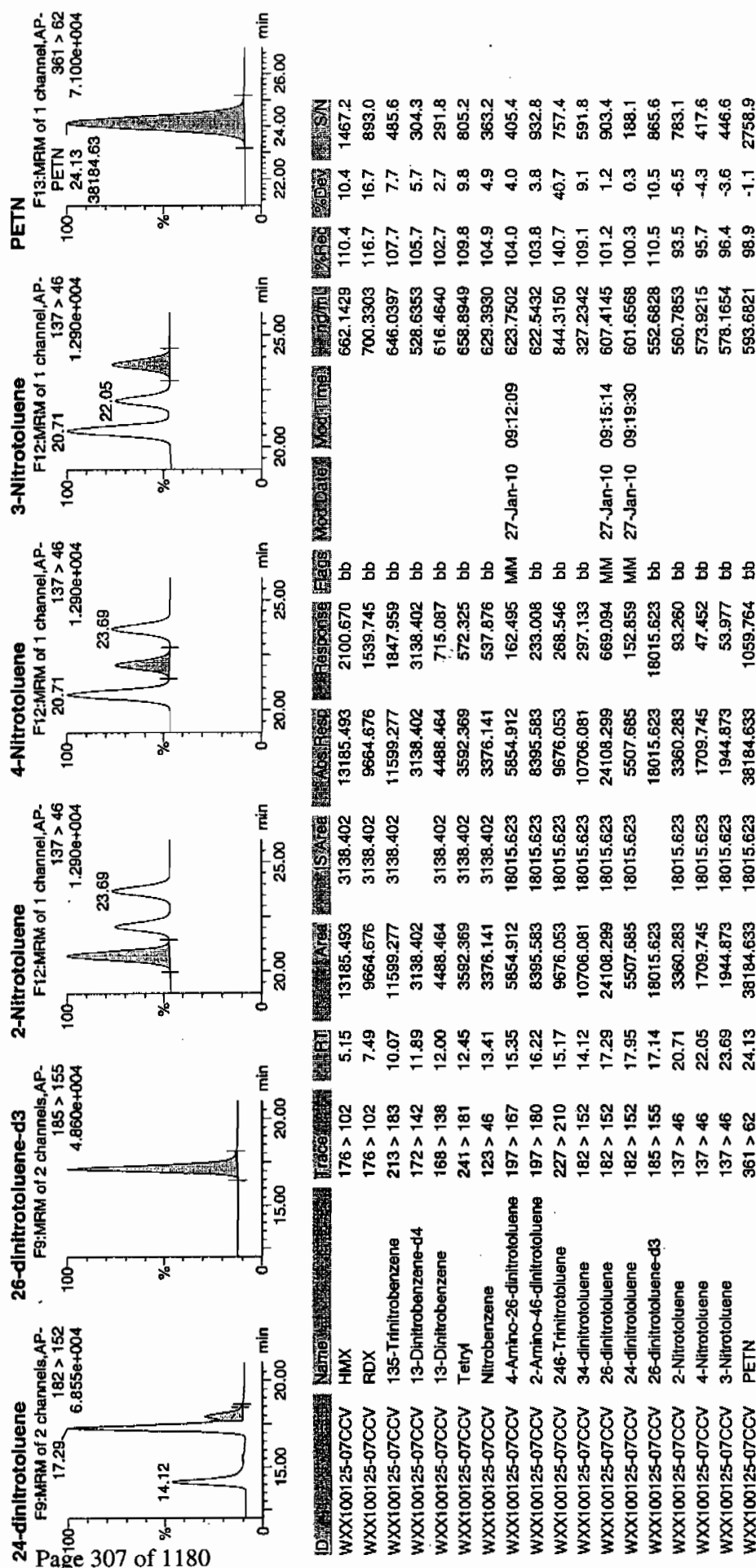
1/27/10



4/26/10

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/26/10
 Time of Injection: 0958
 Standard Number: WXX100125-07CCV
 Data File: EXP0125047a

HMX	110.4
RDX	116.7
135-TNB	107.7
13-DNB	102.7
Tetryl	109.8
Nitrobenzene	104.9
4A-26-DNT	104.0
2A-46-DNT	103.8
246-TNT	140.7
34-DNT(surr)	109.1
26-DNT	101.2
24-DNT	100.3
2-NT	93.5
4-NT	95.7
3-NT	96.4
PETN	98.9

Handwritten:
 1/27/10

Total 1695.8

Average 106.0

Handwritten: HAW 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125049a

Analysis Date: 26-JAN-10 10:57

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	44.638	112	
1,3-Dinitrobenzene-d4	500	604.504	121	
2,4,6-Trinitrotoluene	40	37.616	94	
2,4-Dinitrotoluene	40	40.509	101	
2,6-Dinitrotoluene	40	39.422	99	
2,6-Dinitrotoluene-d3	500	574.489	115	
2-Amino-4,6-dinitrotoluene	40	46.027	115	
3,4-Dinitrotoluene	20	22.575	113	
4-Amino-2,6-dinitrotoluene	40	43.635	109	
HMX	40	41.294	103	
Nitrobenzene	40	37.127	93	
PETN	40	31.781	79	
RDX	40	41.493	104	
Tetryl	40	40.973	102	
m-Dinitrobenzene	40	33.859	85	
m-Nitrotoluene	40	49.924	125	
o-Nitrotoluene	40	42.014	105	
p-Nitrotoluene	40	42.378	106	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125049a

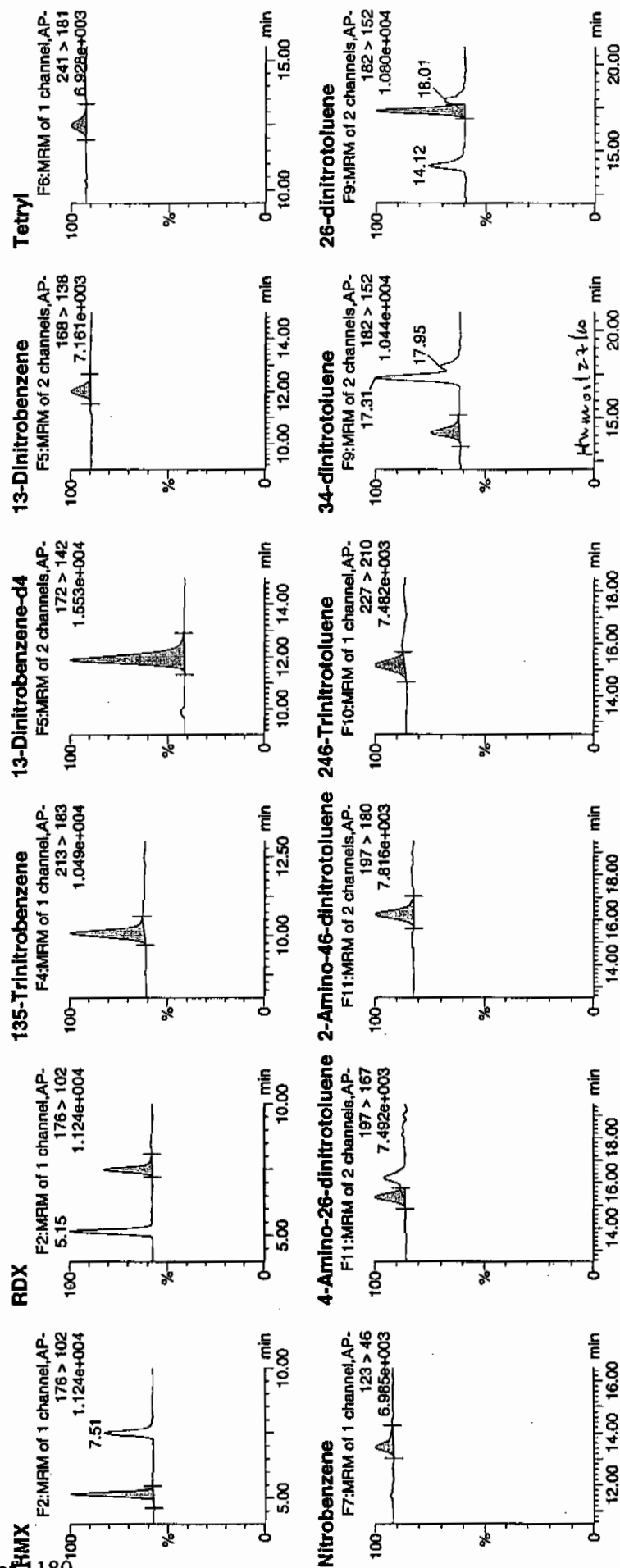
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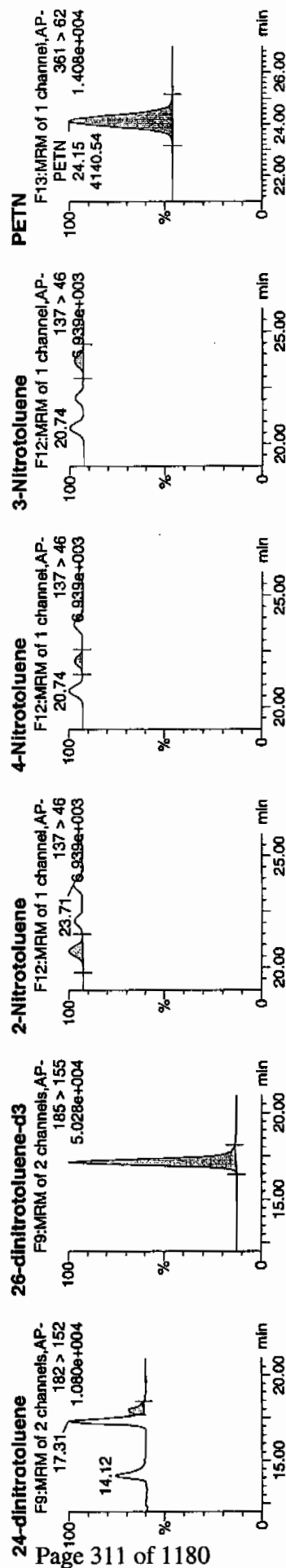
ID: WXX100125-08CRI

Vial: 1:1,C

11/21/10



Dataset: C:\MASSLYN\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RFI	Area	IS Area	Abs. Resp.	Response	Flags	Mod. Date	Mod. Time	Acq. Num	Acq. Rec	Day	ISN
WXX100125-08CRI	HMXX	176 > 102	5.15	940.323	3588.820	940.323	131.007	bb	27-Jan-10	09:12:17	41.2942	103.2	3.2	113.1
WXX100125-08CRI	RDX	176 > 102	7.51	654.783	3588.820	654.783	91.225	bb			41.4925	103.7	3.7	66.1
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1104.246	3588.820	1104.246	153.845	bb			44.6384	111.6	11.6	145.1
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3588.820	172 > 142	3588.820	3588.820	bb			604.5041	120.9	20.9	191.6
WXX100125-08CRI	13-Dinitrobenzene	188 > 138	12.03	281.911	3588.820	281.911	39.276	bb			33.8594	84.6	-15.4	32.1
WXX100125-08CRI	Tetryl	241 > 181	12.45	255.450	3588.820	255.450	35.590	bb			40.9730	102.4	2.4	13.0
WXX100125-08CRI	Nitrobenzene	123 > 46	13.45	227.737	3588.820	227.737	31.729	bb			37.1272	92.8	-7.2	18.7
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	425.744	18726.447	425.744	11.367	MM	27-Jan-10	09:12:17	43.6348	109.1	9.1	23.7
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	645.214	18726.447	645.214	17.227	bb			46.0274	115.1	15.1	51.8
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	448.097	18726.447	448.097	11.984	bb			37.6160	94.0	-6.0	23.5
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	767.709	18726.447	767.709	20.498	bb			22.5745	112.9	12.9	30.5
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1626.381	18726.447	1626.381	43.425	MM	27-Jan-10	09:15:27	39.4216	98.6	-1.4	95.8
WXX100125-08CRI	24-dinitrotoluene	182 > 152	18.01	385.462	18726.447	385.462	10.292	MM	27-Jan-10	09:19:17	40.5093	101.3	1.3	19.4
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	18726.447	18726.447	18726.447	18726.447	bb			574.4894	114.9	14.9	1389.2
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.74	261.684	18726.447	261.684	6.987	bb			42.0138	105.0	5.0	60.2
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.06	131.227	18726.447	131.227	3.504	bb			42.3778	105.9	5.9	31.3
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.71	174.564	18726.447	174.564	4.661	bb			49.9240	124.8	24.8	37.1
WXX100125-08CRI	PETN	361 > 62	24.15	4140.537	18726.447	4140.537	110.553	bb			31.7814	79.5	-20.5	450.9

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/26/10
 Time of Injection 1057
 Standard Number WXX100125-08CRI
 Data File EXP0125049a

HMX	103.2
RDX	103.7
135-TNB	111.6
13-DNB	84.6
Tetryl	102.4
Nitrobenzene	92.8
4A-26-DNT	109.1
2A-46-DNT	115.1
246-TNT	94.0
34-DNT(surr)	112.9
26-DNT	98.6
24-DNT	101.3
2-NT	105.0
4-NT	105.9
3-NT	124.8
PETN	79.5

*WXX
1/27/10*

Total 1644.5

Average 102.8

thru 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125060a

Analysis Date: 26-JAN-10 16:21

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	682.994	114	
1,3-Dinitrobenzene-d4	500	545.605	109	
2,4,6-Trinitrotoluene	600	697.867	116	
2,4-Dinitrotoluene	600	608.207	101	
2,6-Dinitrotoluene	600	595.1	99	
2,6-Dinitrotoluene-d3	500	562.286	112	
2-Amino-4,6-dinitrotoluene	600	657.831	110	
3,4-Dinitrotoluene	300	337.629	113	
4-Amino-2,6-dinitrotoluene	600	664.072	111	
HMX	600	707.84	118	
Nitrobenzene	600	600.429	100	
PETN	600	601.346	100	
RDX	600	753.08	126	*
Tetryl	600	642.934	107	
m-Dinitrobenzene	600	616.028	103	
m-Nitrotoluene	600	554.466	92	
o-Nitrotoluene	600	538.809	90	
p-Nitrotoluene	600	558.692	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%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0125060a

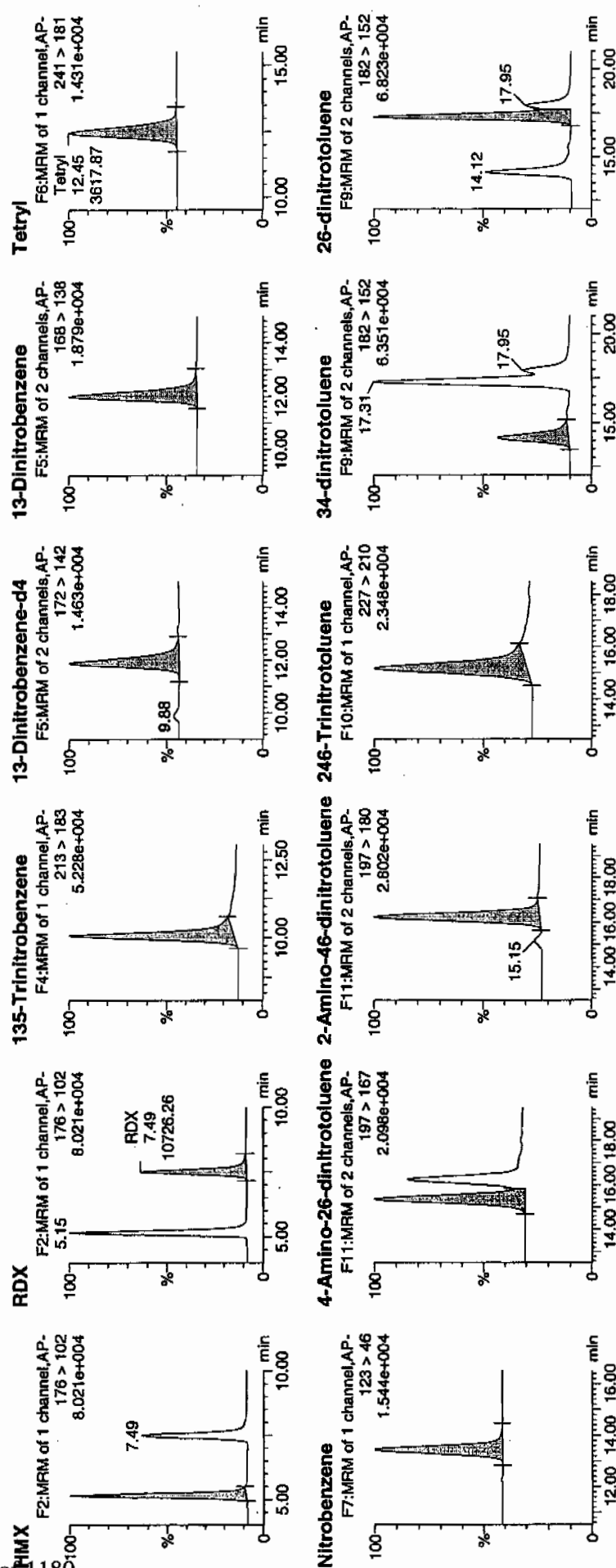
Date: 26-Jan-2010

Time: 16:21:27

ID: WXX100125-07CCV

Vial: 1:1,B

1/27/10



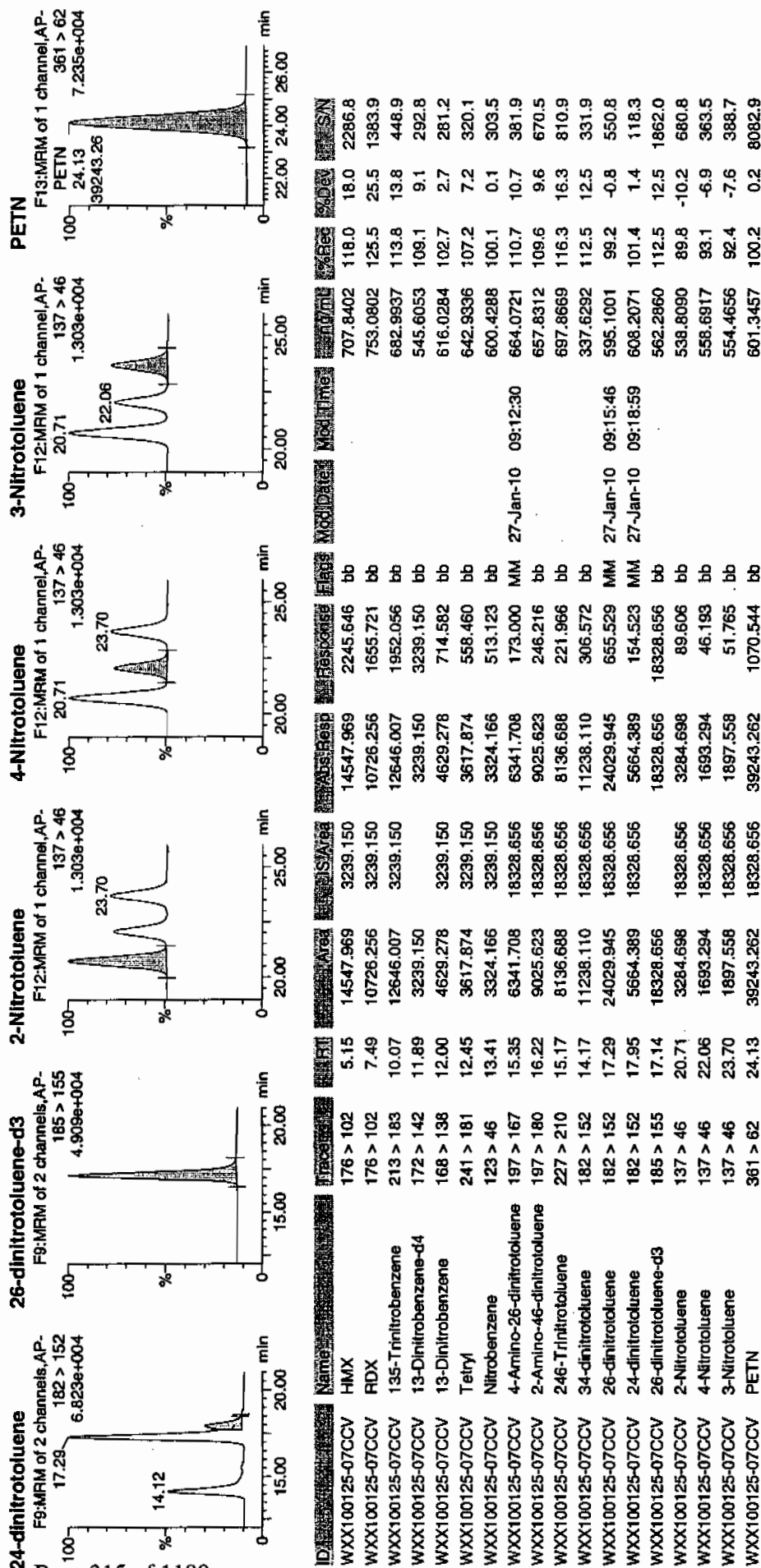
1/27/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Wed Jan 27 09:26:20 2010, Page 48 of 97

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/26/10
 Time of Injection: 1621
 Standard Number: WXX100125-07CCV
 Data File: EXP0125060a

HMX	118.0
RDX	125.5
135-TNB	113.8
13-DNB	102.7
Tetryl	107.2
Nitrobenzene	100.1
4A-26-DNT	110.7
2A-46-DNT	109.6
246-TNT	116.3
34-DNT(surr)	112.5
26-DNT	99.2
24-DNT	101.4
2-NT	89.8
4-NT	93.1
3-NT	92.4
PETN	100.2
Total	1692.5

*MTT
1/27/10*

Average

105.8

ham 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125062a

Analysis Date: 26-JAN-10 17:20

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	51.696	129	
1,3-Dinitrobenzene-d4	500	614.783	123	
2,4,6-Trinitrotoluene	40	49.225	123	
2,4-Dinitrotoluene	40	34.729	87	
2,6-Dinitrotoluene	40	39.808	100	
2,6-Dinitrotoluene-d3	500	614.638	123	
2-Amino-4,6-dinitrotoluene	40	45.735	114	
3,4-Dinitrotoluene	20	24.671	123	
4-Amino-2,6-dinitrotoluene	40	51.11	128	
HMX	40	52.738	132	*
Nitrobenzene	40	40.221	101	
PETN	40	28.447	71	
RDX	40	50.85	127	
Tetryl	40	57.694	144	*
m-Dinitrobenzene	40	44.101	110	
m-Nitrotoluene	40	43.112	108	
o-Nitrotoluene	40	44.615	112	
p-Nitrotoluene	40	46.759	117	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\1012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125062a

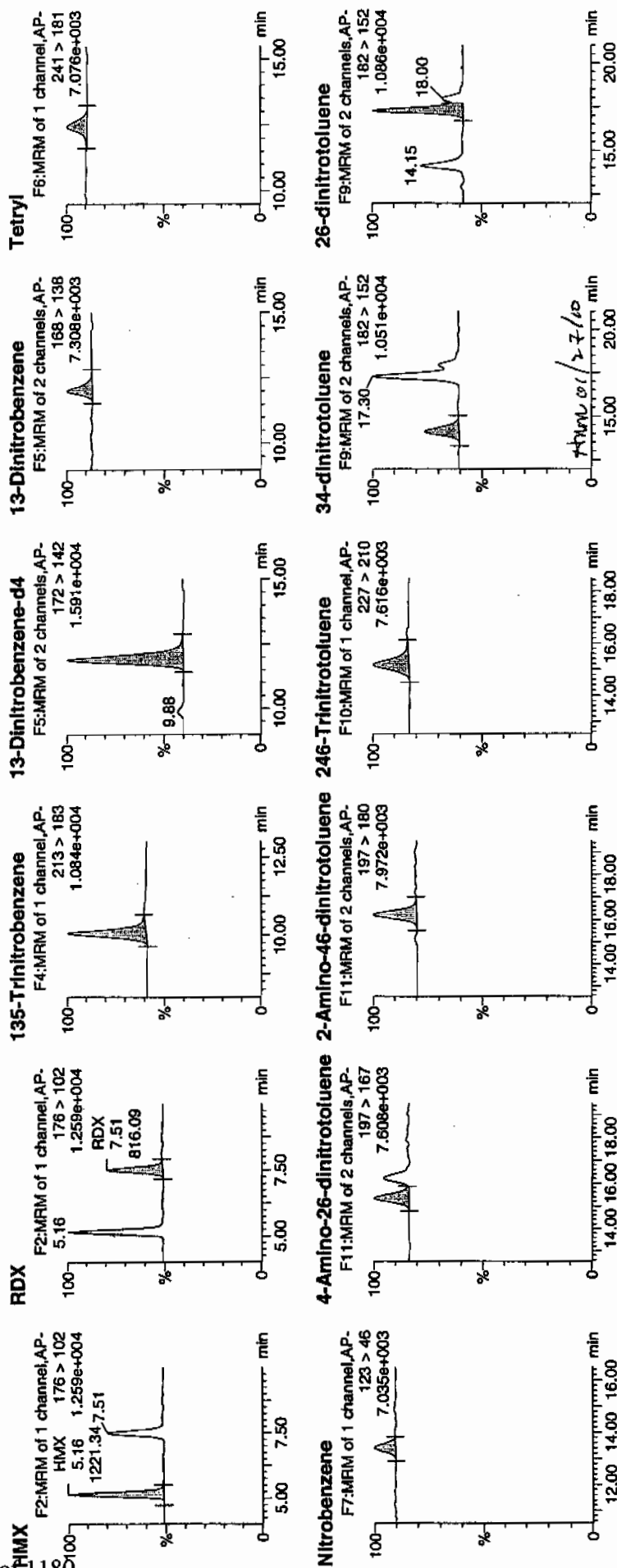
Date: 26-Jan-2010

Time: 17:20:28

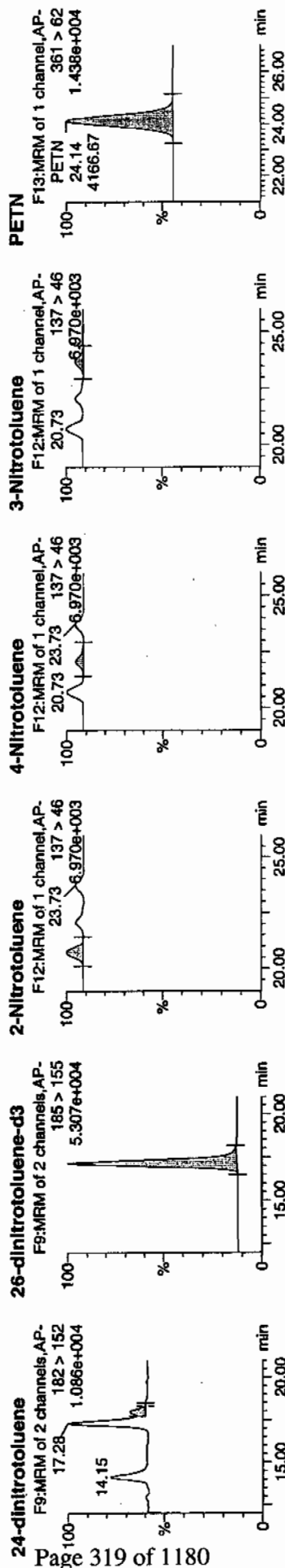
ID: WXX100125-08CRI

Vial: 1:1,C

10/27/10



Dataset: C:\MASSLYN\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	RT	Area	S Area	Abs.Ratio	Response	Flags	Mod.Date	Mod.Time	Exp.No	Day	SN	
WXX100125-08CRI	HMX	176 > 102	5.16	1221.338	3649.844	1221.338	167,314	bb			52.7382	131.8	31.8	153.9
WXX100125-08CRI	RDX	176 > 102	7.51	816.089	3649.844	816.089	111,798	bb			50.8496	127.1	27.1	88.6
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1268.148	3649.844	1268.148	173,726	bb			51.6960	129.2	29.2	136.5
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3649.844		3649.844	3649.844	bb			614.7830	123.0	23.0	630.8
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	373.422	3649.844	373.422	51,156	bb			44.1006	110.3	10.3	57.1
WXX100125-08CRI	Tetryl	241 > 181	12.45	365.812	3649.844	365.812	50,113	bb			57.6936	144.2	44.2	28.2
WXX100125-08CRI	Nitrobenzene	123 > 46	13.39	250.910	3649.844	250.910	34,373	bb			40.2211	100.6	0.6	22.6
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.34	533.527	20035.150	533.527	13,315	MM	27-Jan-10	09:12:38	51.1097	127.8	27.8	25.1
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.21	685.925	20035.150	685.925	17,118	bb			45.7353	114.3	14.3	76.5
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.20	627.366	20035.150	627.366	15,657	bb			49.2248	123.1	23.1	128.9
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.15	897.648	20035.150	897.648	22,402	bb			24.6712	123.4	23.4	52.6
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.28	1757.109	20035.150	1757.109	43,851	MM	27-Jan-10	09:15:56	39.8083	99.5	-0.5	75.0
WXX100125-08CRI	24-dinitrotoluene	182 > 152	18.00	353.553	20035.150	353.553	8,823	MM	27-Jan-10	09:18:51	34.7289	86.8	-13.2	15.1
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.15	20035.150		20035.150	20035.150	bb			614.6378	122.9	22.9	1178.3
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	297.304	20035.150	297.304	7,420	bb			44.6147	111.5	11.5	85.1
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.07	154.912	20035.150	154.912	3,866	bb			46.7588	116.9	16.9	41.2
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.73	161.279	20035.150	161.279	4,025	bb			43.1117	107.8	7.8	43.0
WXX100125-08CRI	PETN	361 > 62	24.14	4166.667	20035.150	4166.667	103,984	bb			28.4465	71.1	-28.9	1101.8

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/26/10
 Time of Injection 1720
 Standard Number WXX100125-08CRI
 Data File EXP0125062a

HMX	131.8
RDX	127.1
135-TNB	129.2
13-DNB	110.3
Tetryl	144.2
Nitrobenzene	100.6
4A-26-DNT	127.8
2A-46-DNT	114.3
246-TNT	123.1
34-DNT(surr)	123.4
26-DNT	99.5
24-DNT	86.8
2-NT	111.5
4-NT	116.9
3-NT	107.8
PETN	71.1

*1007
1/27/10*

Total 1825.4

Average 114.1

done 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125073a

Analysis Date: 26-JAN--10 22:45

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	671.694	112	
1,3-Dinitrobenzene-d4	500	508.961	102	
2,4,6-Trinitrotoluene	600	706.753	118	
2,4-Dinitrotoluene	600	643.877	107	
2,6-Dinitrotoluene	600	596.244	99	
2,6-Dinitrotoluene-d3	500	475.276	95	
2-Amino-4,6-dinitrotoluene	600	688.37	115	
3,4-Dinitrotoluene	300	342.191	114	
4-Amino-2,6-dinitrotoluene	600	691.558	115	
HMX	600	652.718	109	
Nitrobenzene	600	550.739	92	
PETN	600	648.299	108	
RDX	600	649.867	108	
Tetryl	600	631.484	105	
m-Dinitrobenzene	600	592.419	99	
m-Nitrotoluene	600	650.365	108	
o-Nitrotoluene	600	610.997	102	
p-Nitrotoluene	600	618.438	103	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PROV012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP\PROV012510expA1\EXP0125073a

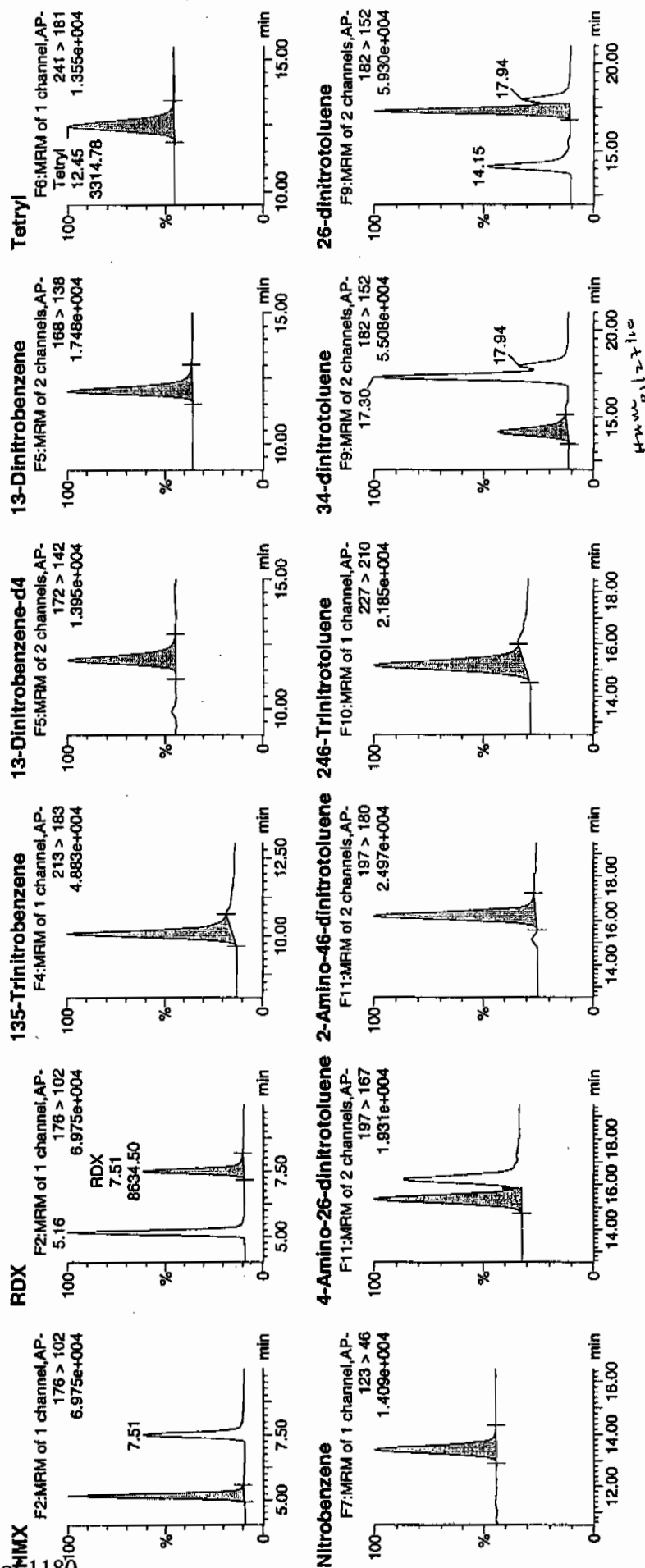
Date: 26-Jan-2010

Time: 22:45:12

ID: WXX100125-07CCV

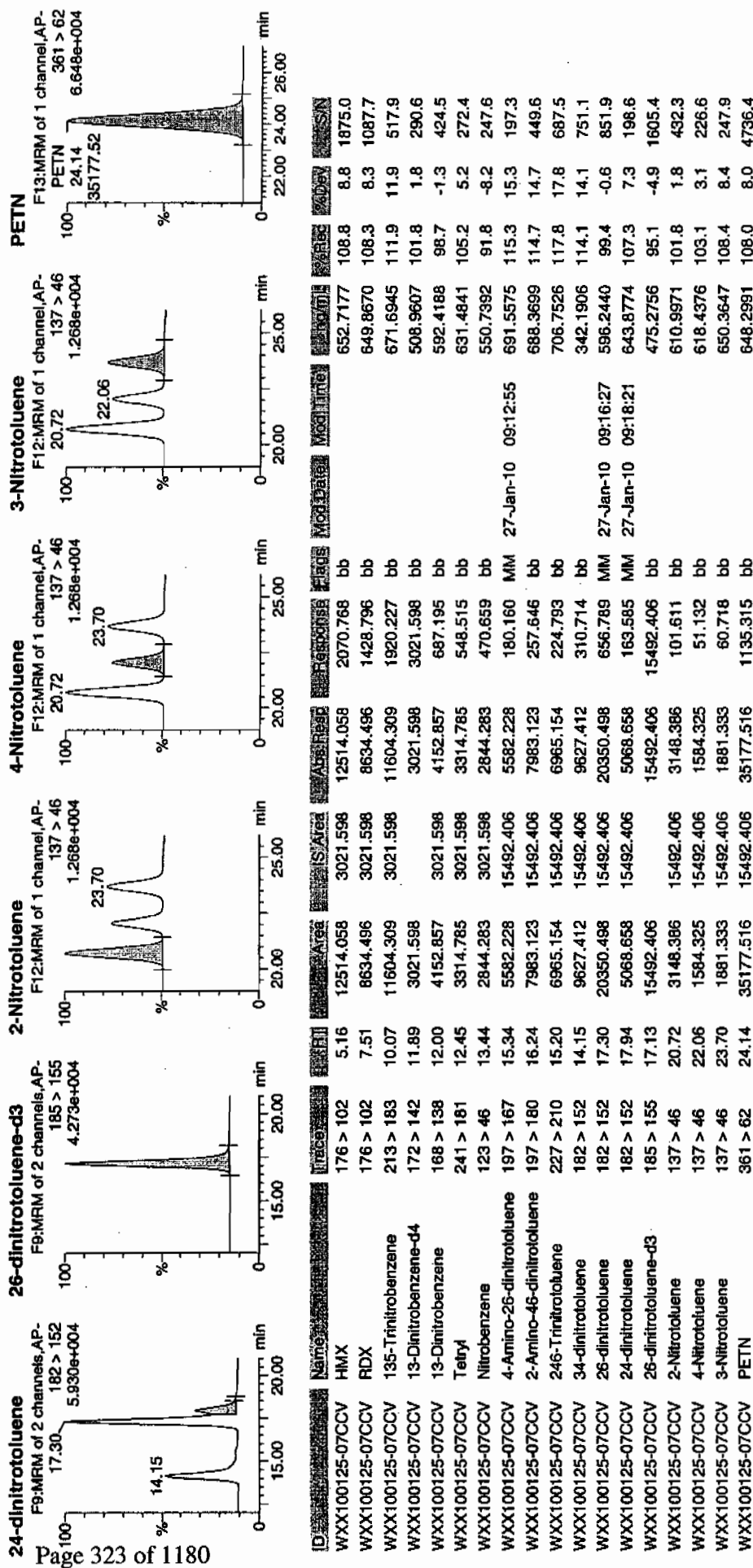
Vial: 1:1,B

1/27/10



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp\PRO012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/26/10
 Time of Injection: 2245
 Standard Number: WXX100125-07CCV
 Data File: EXP0125073a

HMX	108.8
RDX	108.3
135-TNB	111.9
13-DNB	98.7
Tetryl	105.2
Nitrobenzene	91.8
4A-26-DNT	115.3
2A-46-DNT	114.7
246-TNT	117.8
34-DNT(surr)	114.1
26-DNT	99.4
24-DNT	107.3
2-NT	101.8
4-NT	103.1
3-NT	108.4
PETN	108.0

Total 1714.6

Average 107.2

Handwritten: 107.2
 1/27/10

Handwritten: 107.2
 1/27/10

Handwritten: 107.2
 1/27/10

No single analyte > +/- 60%

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125075a

Analysis Date: 26-JAN-10 23:44

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	56.169	140	*
1,3-Dinitrobenzene-d4	500	483.992	97	
2,4,6-Trinitrotoluene	40	40.766	102	
2,4-Dinitrotoluene	40	35.006	88	
2,6-Dinitrotoluene	40	40.845	102	
2,6-Dinitrotoluene-d3	500	507.7	102	
2-Amino-4,6-dinitrotoluene	40	44.774	112	
3,4-Dinitrotoluene	20	23.523	118	
4-Amino-2,6-dinitrotoluene	40	43.317	108	
HMX	40	49.659	124	
Nitrobenzene	40	38.296	96	
PETN	40	36.274	91	
RDX	40	46.372	116	
Tetryl	40	44.916	112	
m-Dinitrobenzene	40	38.172	95	
m-Nitrotoluene	40	37.685	94	
o-Nitrotoluene	40	39.419	99	
p-Nitrotoluene	40	40.939	102	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantity Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125075a

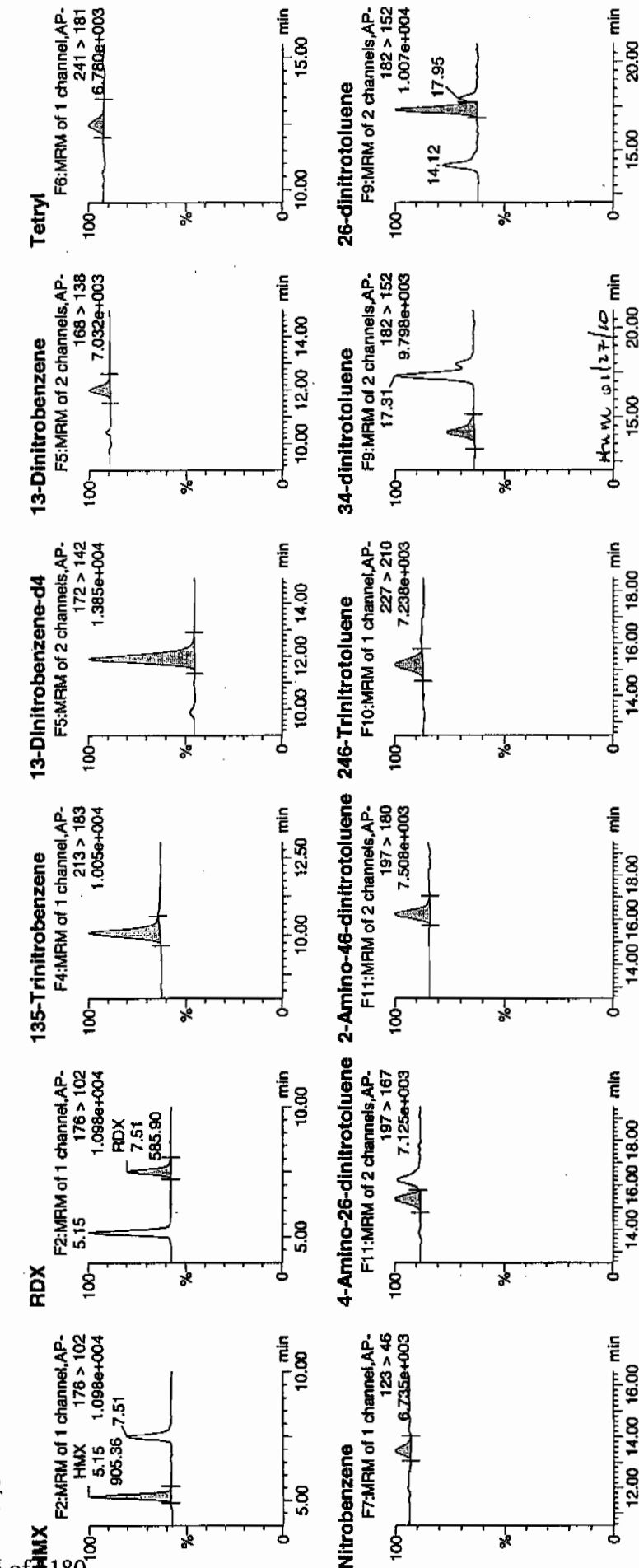
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Time: 23:44:10

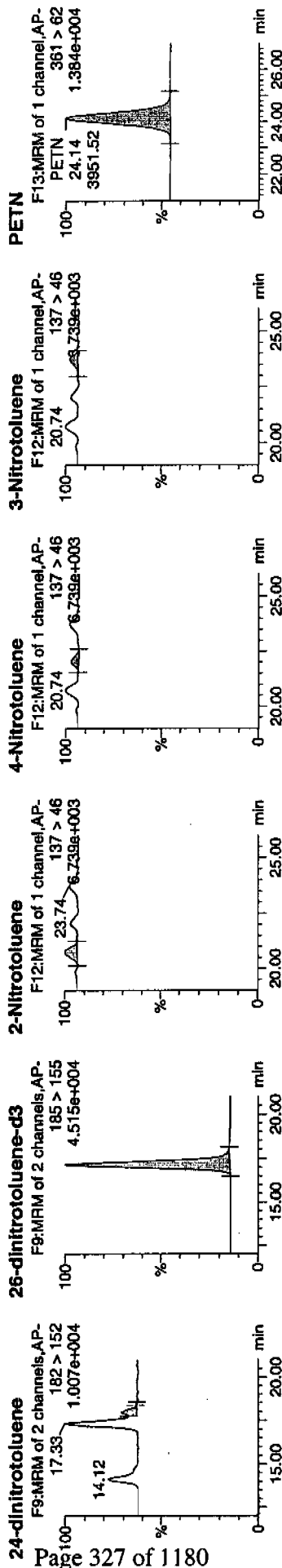
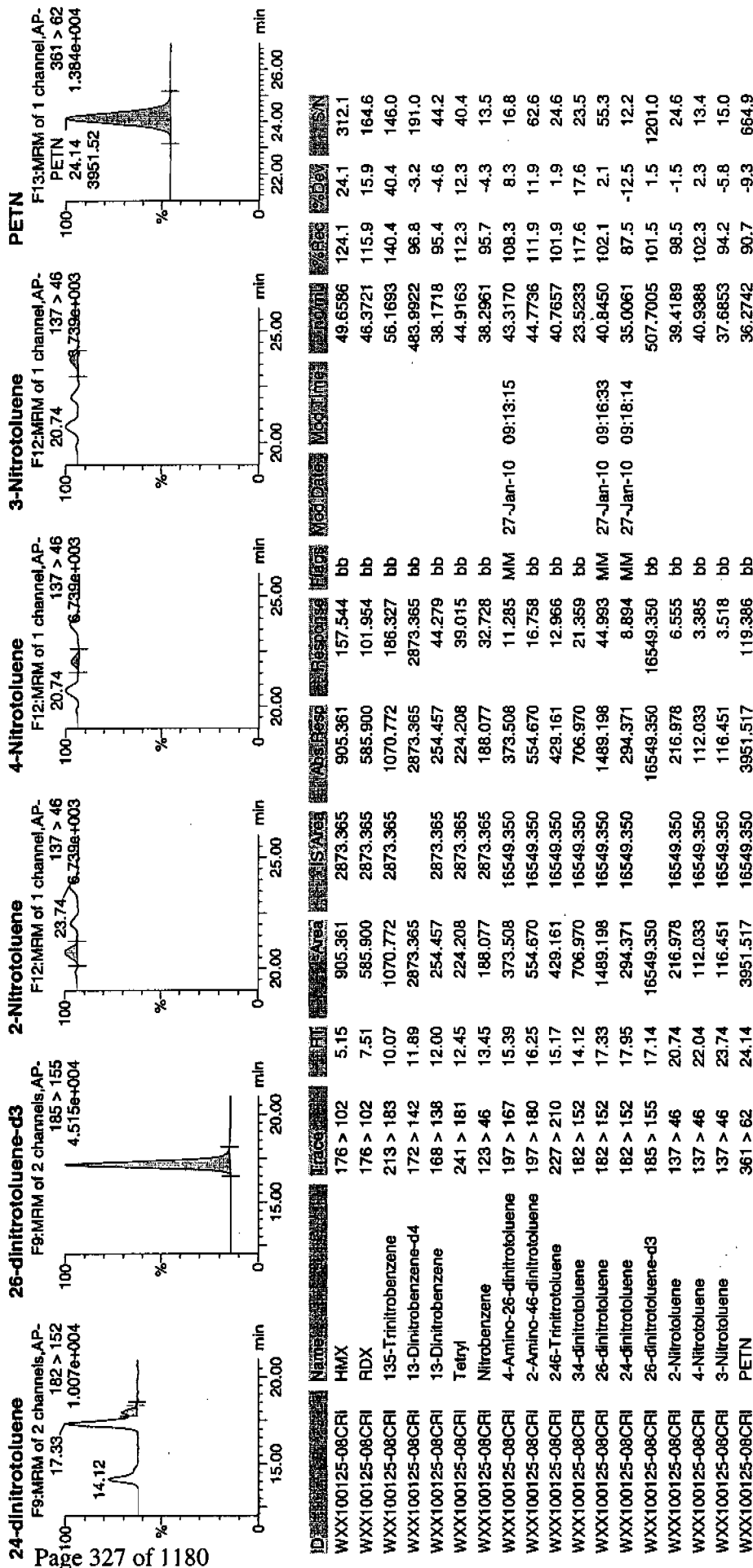
ID: WXX100125-08CRI

Al: 1:1,C

107
112/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/26/10
 Time of Injection 2344
 Standard Number WXX100125-08CRI
 Data File EXP0125075a

HMX	124.1
RDX	115.9
135-TNB	140.4
13-DNB	95.4
Tetryl	112.3
Nitrobenzene	95.7
4A-26-DNT	108.3
2A-46-DNT	111.9
246-TNT	101.9
34-DNT(surr)	117.6
26-DNT	102.1
24-DNT	87.5
2-NT	98.5
4-NT	102.3
3-NT	94.2
PETN	90.7

*MTT
1/27/10*

Total 1698.8

Average 106.2

from 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125082a

Analysis Date: 27-JAN-10 03:10

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	646.231	108	
1,3-Dinitrobenzene-d4	500	533.587	107	
2,4,6-Trinitrotoluene	600	729.079	122	*
2,4-Dinitrotoluene	600	544.593	91	
2,6-Dinitrotoluene	600	604.575	101	
2,6-Dinitrotoluene-d3	500	492.902	99	
2-Amino-4,6-dinitrotoluene	600	713.723	119	
3,4-Dinitrotoluene	300	321.614	107	
4-Amino-2,6-dinitrotoluene	600	641.942	107	
HMX	600	657.246	110	
Nitrobenzene	600	546.972	91	
PETN	600	662.902	110	
RDX	600	625.04	104	
Tetryl	600	618.034	103	
m-Dinitrobenzene	600	604.712	101	
m-Nitrotoluene	600	620.723	103	
o-Nitrotoluene	600	528.487	88	
p-Nitrotoluene	600	627.285	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 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0125082a

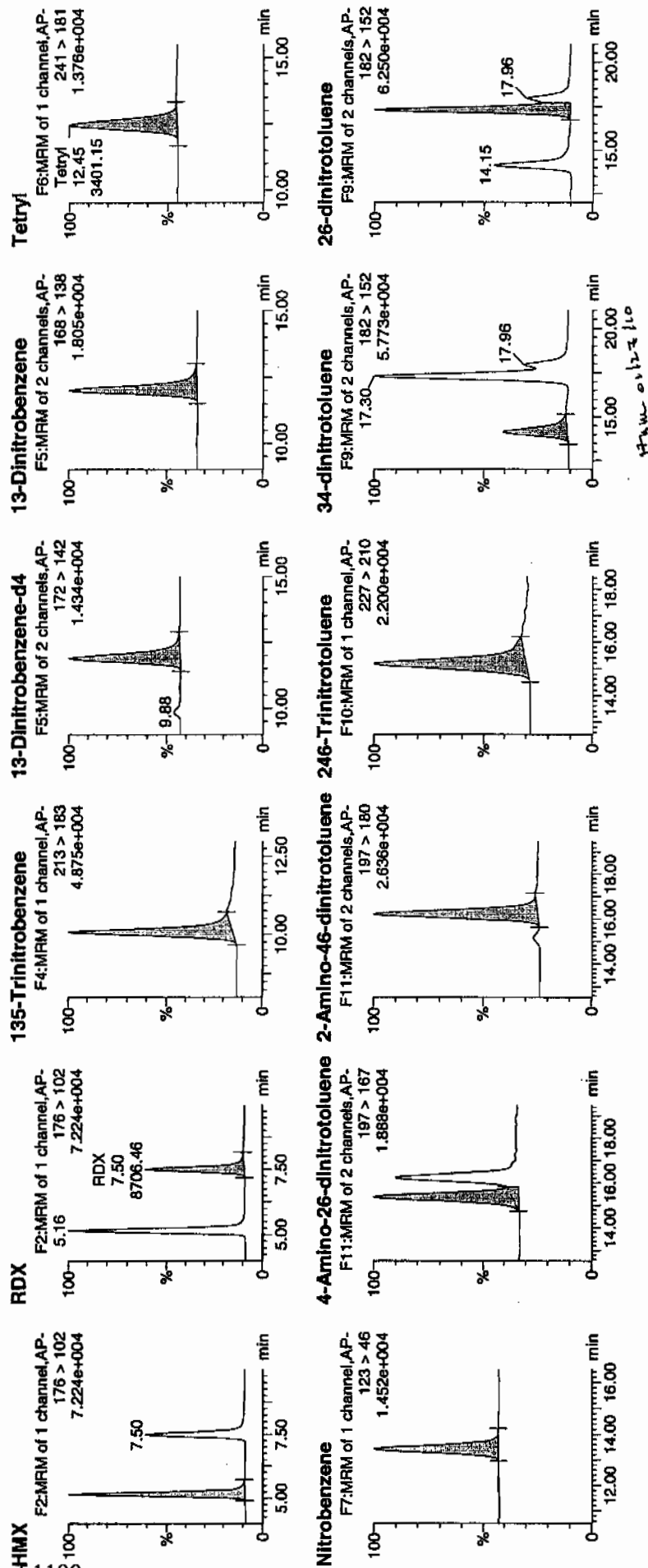
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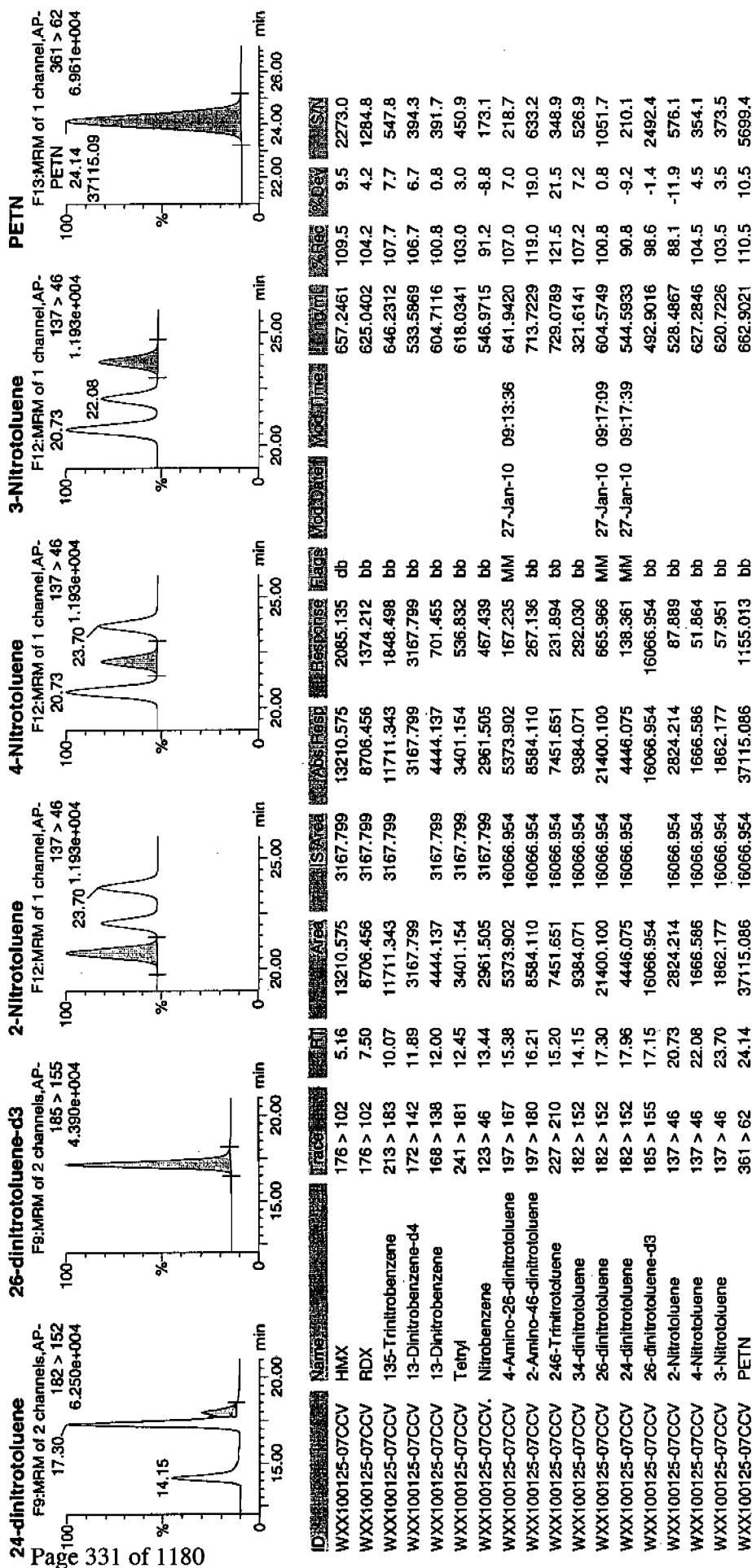
ID: WXX100125-07CCV

Vial: 1:1,B

WPP
1/27/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/27/10
 Time of Injection: 0310
 Standard Number: WXX100125-07CCV
 Data File: EXP0125082a

HMX	109.5
RDX	104.2
135-TNB	107.7
13-DNB	100.8
Tetryl	103.0
Nitrobenzene	91.2
4A-26-DNT	107.0
2A-46-DNT	119.0
246-TNT	121.5
34-DNT(surr)	107.2
26-DNT	100.8
24-DNT	90.8
2-NT	88.1
4-NT	104.5
3-NT	103.5
PETN	110.5

WAT
1/27/10

Total 1669.3

Average 104.3

WAT 01/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125084a

Analysis Date: 27-JAN-10 04:09

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.216	131	*
1,3-Dinitrobenzene-d4	500	509.03	102	
2,4,6-Trinitrotoluene	40	49.421	124	
2,4-Dinitrotoluene	40	37.395	93	
2,6-Dinitrotoluene	40	41.302	103	
2,6-Dinitrotoluene-d3	500	549.582	110	
2-Amino-4,6-dinitrotoluene	40	41.118	103	
3,4-Dinitrotoluene	20	22.594	113	
4-Amino-2,6-dinitrotoluene	40	41.47	104	
HMX	40	49.161	123	
Nitrobenzene	40	52.118	130	*
PETN	40	34.241	86	
RDX	40	46.475	116	
Tetryl	40	57.554	144	*
m-Dinitrobenzene	40	37.685	94	
m-Nitrotoluene	40	42.967	107	
o-Nitrotoluene	40	44.801	112	
p-Nitrotoluene	40	41.318	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%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Wed Jan 27 09:26:20 2010, Page 95 of 97

Dataset: C:\MASSLYNX\New_Exp\PRO1012510expA1.qld, Time: Wed Jan 27 09:20:42 2010

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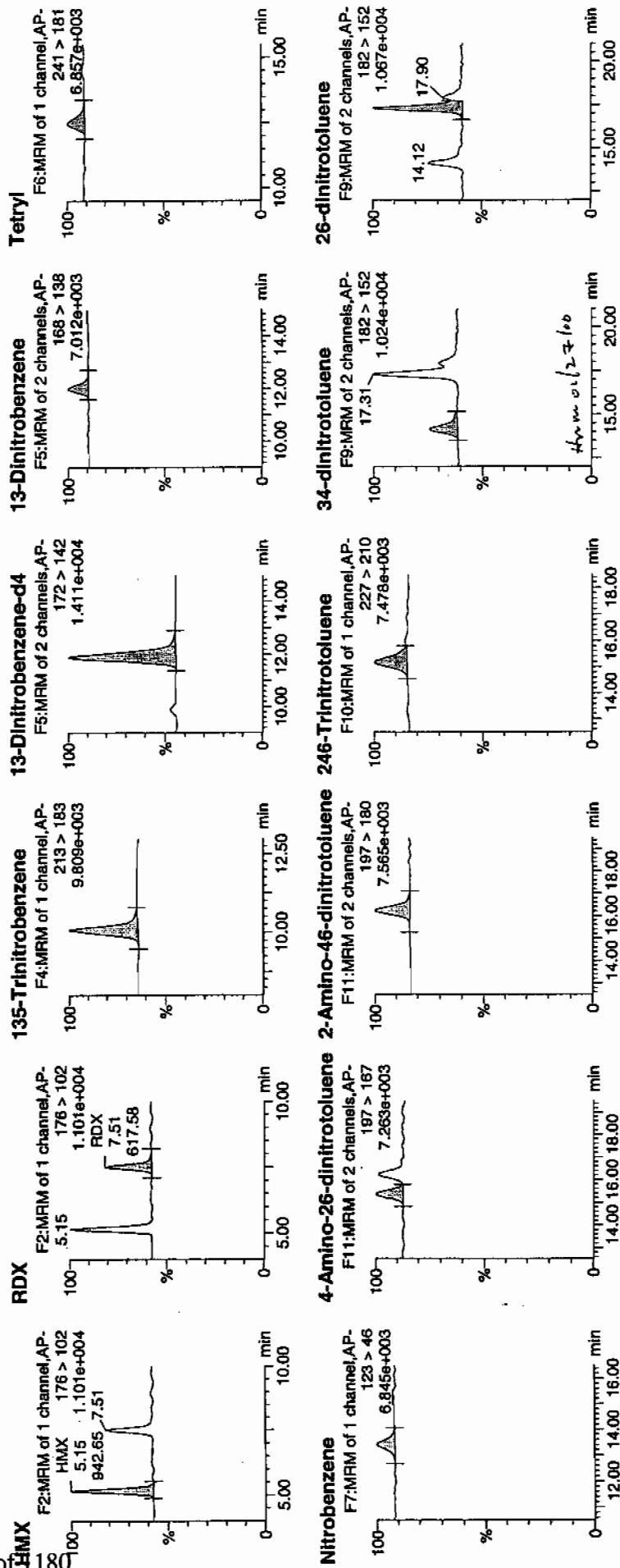
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Time: 04:09:30

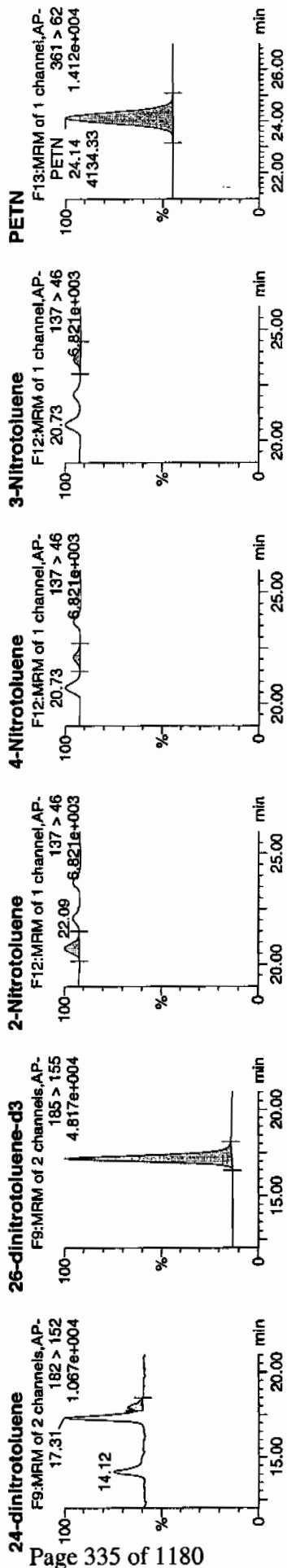
ID: WXX100125-08CRI

Label: 1:1,C

Not
1/27/10



Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA1.qld, Time: Wed Jan 27 09:20:42 2010



ID	Name	Trace	Area	SLArea	Abs Resp	Response	Flags	Mod Date	Mod Time	%Rec	%Dev		
WXX100125-08CRI	HMW	176 > 102	5.15	942.653	3022.007	942.653	155.965	bb	49.1610	122.9	22.9	128.3	
WXX100125-08CRI	RDX	176 > 102	7.51	617.581	3022.007	617.581	102.181	bb	46.4753	116.2	16.2	71.2	
WXX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1058.864	3022.007	1058.864	175.192	bb	52.2164	130.5	30.5	144.7	
WXX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	3022.007	3022.007	3022.007	3022.007	bb	509.0296	101.8	1.8	273.5	
WXX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	264.208	3022.007	264.208	43.714	bb	37.6850	94.2	-5.8	29.9	
WXX100125-08CRI	Tetryl	241 > 181	12.48	302.151	3022.007	302.151	49.992	bb	57.5536	143.9	43.9	35.6	
WXX100125-08CRI	Nitrobenzene	123 > 46	13.41	269.198	3022.007	269.198	44.540	bb	52.1178	130.3	30.3	22.6	
WXX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.35	387.081	17914.533	387.081	10.804	MM	27-Jan-10 09:13:45	41.4702	103.7	3.7	43.3
WXX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.25	551.404	17914.533	551.404	15.390	bb	41.1180	102.8	2.8	26.9	
WXX100125-08CRI	246-Trinitrotoluene	227 > 210	15.17	563.193	17914.533	563.193	15.719	bd	49.4205	123.6	23.6	27.5	
WXX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	735.041	17914.533	735.041	20.515	bb	22.5935	113.0	13.0	39.3	
WXX100125-08CRI	26-dinitrotoluene	182 > 152	17.31	1630.073	17914.533	1630.073	45.496	MM	27-Jan-10 09:17:20	41.3018	103.3	3.3	119.5
WXX100125-08CRI	24-dinitrotoluene	182 > 152	17.90	340.404	17914.533	340.404	9.501	MM	27-Jan-10 09:17:32	37.3954	93.5	-6.5	23.6
WXX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.14	17914.533	17914.533	17914.533	17914.533	bb	549.5815	109.9	9.9	578.0	
WXX100125-08CRI	2-Nitrotoluene	137 > 46	20.73	266.947	17914.533	266.947	7.451	bb	44.8012	112.0	12.0	80.3	
WXX100125-08CRI	4-Nitrotoluene	137 > 46	22.09	122.399	17914.533	122.399	3.416	bb	41.3183	103.3	3.3	35.6	
WXX100125-08CRI	3-Nitrotoluene	137 > 46	23.69	143.723	17914.533	143.723	4.011	bb	42.9666	107.4	7.4	37.7	
WXX100125-08CRI	PETN	361 > 62	24.14	4134.333	17914.533	4134.333	115.390	bb	34.2406	85.6	-14.4	2130.1	

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/27/10
 Time of Injection 0409
 Standard Number WXX100125-08CRI
 Data File EXP0125084a

HMX	122.9	✓
RDX	116.2	✓
135-TNB	130.5	✓
13-DNB	94.2	
Tetryl	143.9	✓
Nitrobenzene	130.3	
4A-26-DNT	103.7	
2A-46-DNT	102.8	
246-TNT	123.6	
34-DNT(surr)	113.0	
26-DNT	103.3	
24-DNT	93.5	
2-NT	112.0	
4-NT	103.3	
3-NT	107.4	
PETN	85.6	

1/27/10

Total 1786.2

Average 111.6

1/27/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125095a

Analysis Date: 27-JAN-10 09:34

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	690.785	115	
1,3-Dinitrobenzene-d4	500	557.852	112	
2,4,6-Trinitrotoluene	600	694.988	116	
2,4-Dinitrotoluene	600	594.759	99	
2,6-Dinitrotoluene	600	598.981	100	
2,6-Dinitrotoluene-d3	500	502.328	100	
2-Amino-4,6-dinitrotoluene	600	696.342	116	
3,4-Dinitrotoluene	300	322.957	108	
4-Amino-2,6-dinitrotoluene	600	690.103	115	
HMX	600	748.841	125	*
Nitrobenzene	600	539.735	90	
PETN	600	692.59	115	
RDX	600	801.044	134	*
Tetryl	600	639.631	107	
m-Dinitrobenzene	600	610.103	102	
m-Nitrotoluene	600	630.246	105	
o-Nitrotoluene	600	599.552	100	
p-Nitrotoluene	600	647.051	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 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\1012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0125095a

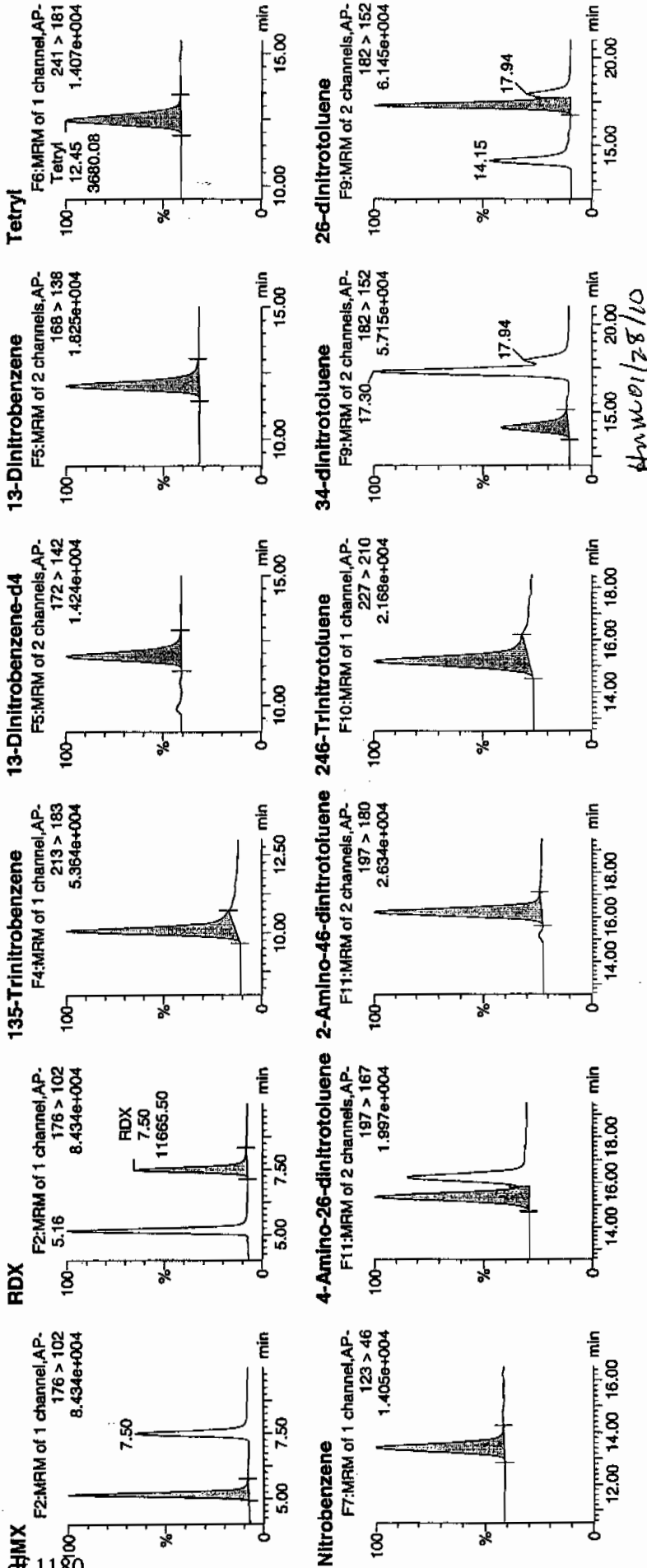
Date: 27-Jan-2010

Time: 09:34:49

ID: WXX100125-07CCV

Vial: 1:1,B

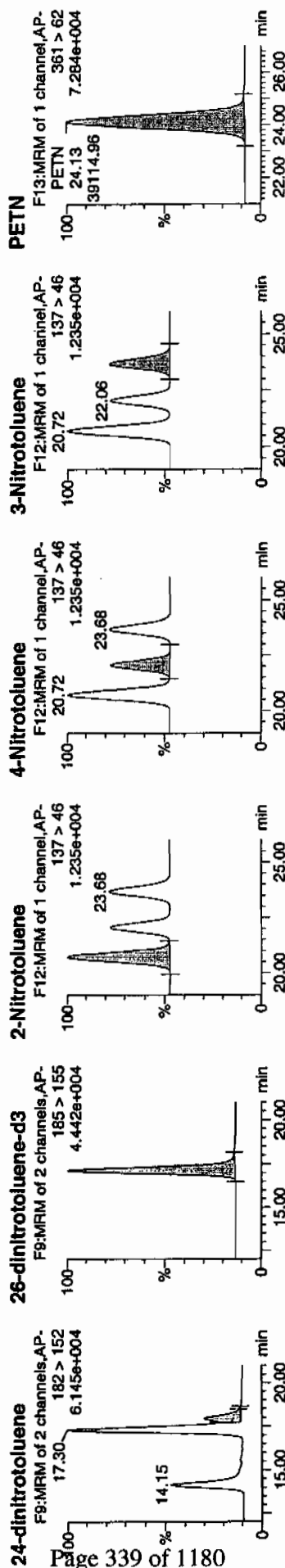
38



Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



ID	Name	Trace	RT	Area	Saved	Abundance	Response	Mass	ModDate	ModTime	Atom	2336	2338	2340	2342	2344	2346	2348	2350	2352	2354	2356	2358	2360	2362	2364	2366	2368	2370	2372	2374	2376	2378	2380	2382	2384	2386	2388	2390	2392	2394	2396	2398	2400	2402	2404	2406	2408	2410	2412	2414	2416	2418	2420	2422	2424	2426	2428	2430	2432	2434	2436	2438	2440	2442	2444	2446	2448	2450	2452	2454	2456	2458	2460	2462	2464	2466	2468	2470	2472	2474	2476	2478	2480	2482	2484	2486	2488	2490	2492	2494	2496	2498	2500	2502	2504	2506	2508	2510	2512	2514	2516	2518	2520	2522	2524	2526	2528	2530	2532	2534	2536	2538	2540	2542	2544	2546	2548	2550	2552	2554	2556	2558	2560	2562	2564	2566	2568	2570	2572	2574	2576	2578	2580	2582	2584	2586	2588	2590	2592	2594	2596	2598	2600	2602	2604	2606	2608	2610	2612	2614	2616	2618	2620	2622	2624	2626	2628	2630	2632	2634	2636	2638	2640	2642	2644	2646	2648	2650	2652	2654	2656	2658	2660	2662	2664	2666	2668	2670	2672	2674	2676	2678	2680	2682	2684	2686	2688	2690	2692	2694	2696	2698	2700	2702	2704	2706	2708	2710	2712	2714	2716	2718	2720	2722	2724	2726	2728	2730	2732	2734	2736	2738	2740	2742	2744	2746	2748	2750	2752	2754	2756	2758	2760	2762	2764	2766	2768	2770	2772	2774	2776	2778	2780	2782	2784	2786	2788	2790	2792	2794	2796	2798	2800	2802	2804	2806	2808	2810	2812	2814	2816	2818	2820	2822	2824	2826	2828	2830	2832	2834	2836	2838	2840	2842	2844	2846	2848	2850	2852	2854	2856	2858	2860	2862	2864	2866	2868	2870	2872	2874	2876	2878	2880	2882	2884	2886	2888	2890	2892	2894	2896	2898	2900	2902	2904	2906	2908	2910	2912	2914	2916	2918	2920	2922	2924	2926	2928	2930	2932	2934	2936	2938	2940	2942	2944	2946	2948	2950	2952	2954	2956	2958	2960	2962	2964	2966	2968	2970	2972	2974	2976	2978	2980	2982	2984	2986	2988	2990	2992	2994	2996	2998	3000	3002	3004	3006	3008	3010	3012	3014	3016	3018	3020	3022	3024	3026	3028	3030	3032	3034	3036	3038	3040	3042	3044	3046	3048	3050	3052	3054	3056	3058	3060	3062	3064	3066	3068	3070	3072	3074	3076	3078	3080	3082	3084	3086	3088	3090	3092	3094	3096	3098	3100	3102	3104	3106	3108	3110	3112	3114	3116	3118	3120	3122	3124	3126	3128	3130	3132	3134	3136	3138	3140	3142	3144	3146	3148	3150	3152	3154	3156	3158	3160	3162	3164	3166	3168	3170	3172	3174	3176	3178	3180	3182	3184	3186	3188	3190	3192	3194	3196	3198	3200	3202	3204	3206	3208	3210	3212	3214	3216	3218	3220	3222	3224	3226	3228	3230	3232	3234	3236	3238	3240	3242	3244	3246	3248	3250	3252	3254	3256	3258	3260	3262	3264	3266	3268	3270	3272	3274	3276	3278	3280	3282	3284	3286	3288	3290	3292	3294	3296	3298	3300	3302	3304	3306	3308	3310	3312	3314	3316	3318	3320	3322	3324	3326	3328	3330	3332	3334	3336	3338	3340	3342	3344	3346	3348	3350	3352	3354	3356	3358	3360	3362	3364	3366	3368	3370	3372	3374	3376	3378	3380	3382	3384	3386	3388	3390	3392	3394	3396	3398	3400	3402	3404	3406	3408	3410	3412	3414	3416	3418	3420	3422	3424	3426	3428	3430	3432	3434	3436	3438	3440	3442	3444	3446	3448	3450	3452	3454	3456	3458	3460	3462	3464	3466	3468	3470	3472	3474	3476	3478	3480	3482	3484	3486	3488	3490	3492	3494	3496	3498	3500	3502	3504	3506	3508	3510	3512	3514	3516	3518	3520	3522	3524	3526	3528	3530	3532	3534	3536	3538	3540	3542	3544	3546	3548	3550	3552	3554	3556	3558	3560	3562	3564	3566	3568	3570	3572	3574	3576	3578	3580	3582	3584	3586	3588	3590	3592	3594	3596	3598	3600	3602	3604	3606	3608	3610	3612	3614	3616	3618	3620	3622	3624	3626	3628	3630	3632	3634	3636	3638	3640	3642	3644	3646	3648	3650	3652	3654	3656	3658	3660	3662	3664	3666	3668	3670	3672	3674	3676	3678	3680	3682	3684	3686	3688	3690	3692	3694	3696	3698	3700	3702	3704	3706	3708	3710	3712	3714	3716	3718	3720	3722	3724	3726	3728	3730	3732	3734	3736	3738	3740	3742	3744	3746	3748	3750	3752	3754	3756	3758	3760	3762	3764	3766	3768	3770	3772	3774	3776	3778	3780	3782	3784	3786	3788	3790	3792	3794	3796	3798	3800	3802	3804	3806	3808	3810	3812	3814	3816	3818	3820	3822	3824	3826	3828	3830	3832	3834	3836	3838	3840	3842	3844	3846	3848	3850	3852	3854	3856	3858	3860	3862	3864	3866	3868	3870	3872	3874	3876	3878	3880	3882	3884	3886	3888	3890	3892	3894	3896	3898	3900	3902	3904	3906	3908	3910	3912	3914	3916	3918	3920	3922	3924	3926	3928	3930	3932	3934	3936	3938	3940	3942	3944	3946	3948	3950	3952	3954	3956	3958	3960	3962	3964	3966	3968	3970	3972	3974	3976	3978	3980	3982	3984	3986	3988	3990	3992	3994	3996	3998	4000	4002	4004	4006	4008	4010	4012	4014	4016	4018	4020	4022	4024	4026	4028	4030	4032	4034	4036	4038	4040	4042	4044	4046	4048	4050	4052	4054	4056	4058	4060	4062	4064	4066	4068	4070	4072	4074	4076	4078	4080	4082	4084	4086	4088	4090	4092	4094	4096	4098	4100	4102	4104	4106	4108	4110	4112	4114	4116	4118	4120	4122	4124	4126	4128	4130	4132	4134	4136	4138	4140	4142	4144	4146	4148	4150	4152	4154	4156	4158	4160	4162	4164	4166	4168	4170	4172	4174	4176	4178	4180	4182	4184	4186	4188	4190	4192	4194	4196	4198	4200	4202	4204	4206	4208	4210	4212	4214	4216	4218	4220	4222	4224	4226	4228	4230	4232	4234	4236	4238	4240	4242	4244	4246	4248	4250	4252	4254	4256	4258	4260	4262	4264	4266	4268	4270	4272	4274	4276	4278	4280	4282	4284	4286	4288	4290	4292	4294	4296	4298	4300	4302	4304	43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GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/27/10
 Time of Injection: 0934
 Standard Number: WXX100125-07CCV
 Data File: EXP0125095a

HMX	124.8
RDX	133.5
135-TNB	115.1
13-DNB	101.7
Tetryl	106.6
Nitrobenzene	90.0
4A-26-DNT	115.0
2A-46-DNT	116.1
246-TNT	115.8
34-DNT(surr)	107.7
26-DNT	99.8
24-DNT	99.1
2-NT	99.9
4-NT	107.8
3-NT	105.0
PETN	115.4

MHT
1/28/10

Total 1753.3

Average 109.6

Handwritten: 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125097a

Analysis Date: 27-JAN-10 10:33

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	50.948	127	
1,3-Dinitrobenzene-d4	500	494.315	99	
2,4,6-Trinitrotoluene	40	36.387	91	
2,4-Dinitrotoluene	40	43.297	108	
2,6-Dinitrotoluene	40	40.794	102	
2,6-Dinitrotoluene-d3	500	507.664	102	
2-Amino-4,6-dinitrotoluene	40	41.899	105	
3,4-Dinitrotoluene	20	21.498	107	
4-Amino-2,6-dinitrotoluene	40	50.75	127	
HMX	40	63.85	160	*
Nitrobenzene	40	44.243	111	
PETN	40	40.486	101	
RDX	40	46.52	116	
Tetryl	40	48.725	122	
m-Dinitrobenzene	40	39.009	98	
m-Nitrotoluene	40	44.324	111	
o-Nitrotoluene	40	38.885	97	
p-Nitrotoluene	40	39.287	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 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

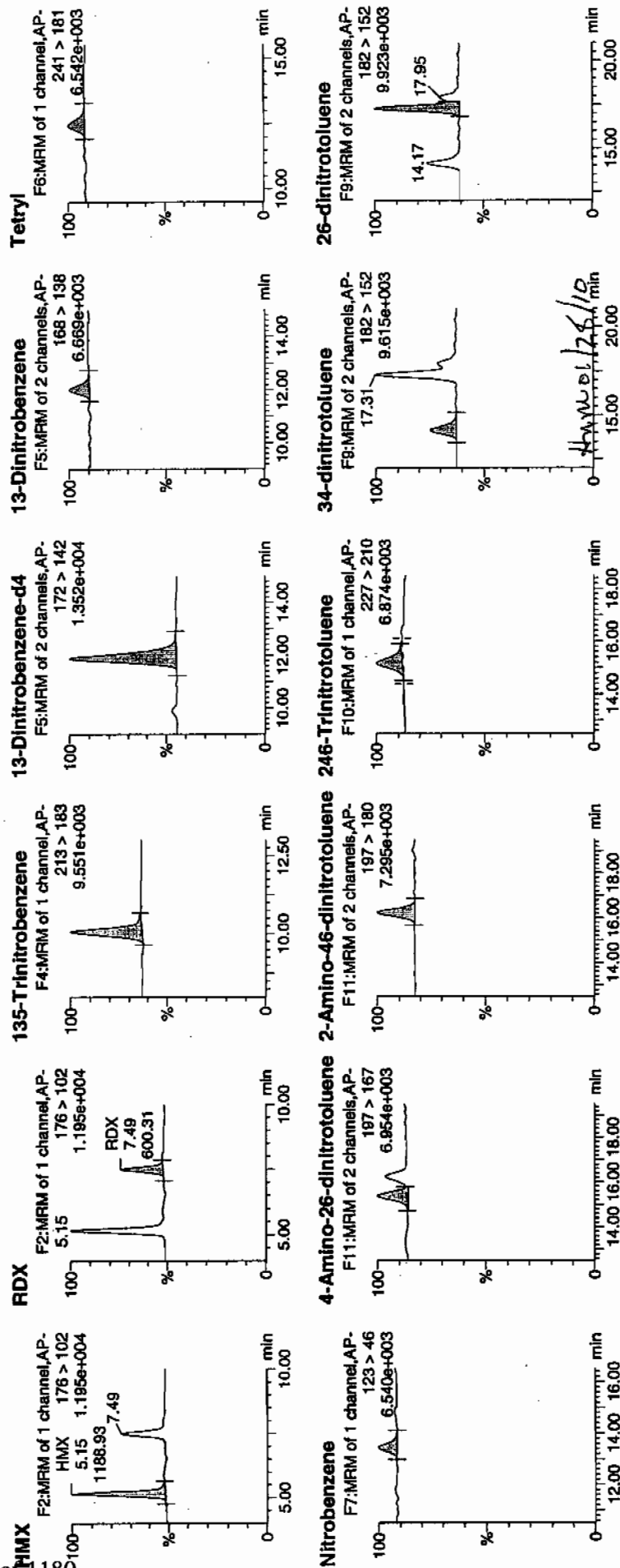
Name: C:\MASSLYNX\NEW_EXP.PRO\data\EXP0125097a

Date: 27-Jan-2010

Time: 10:33:58

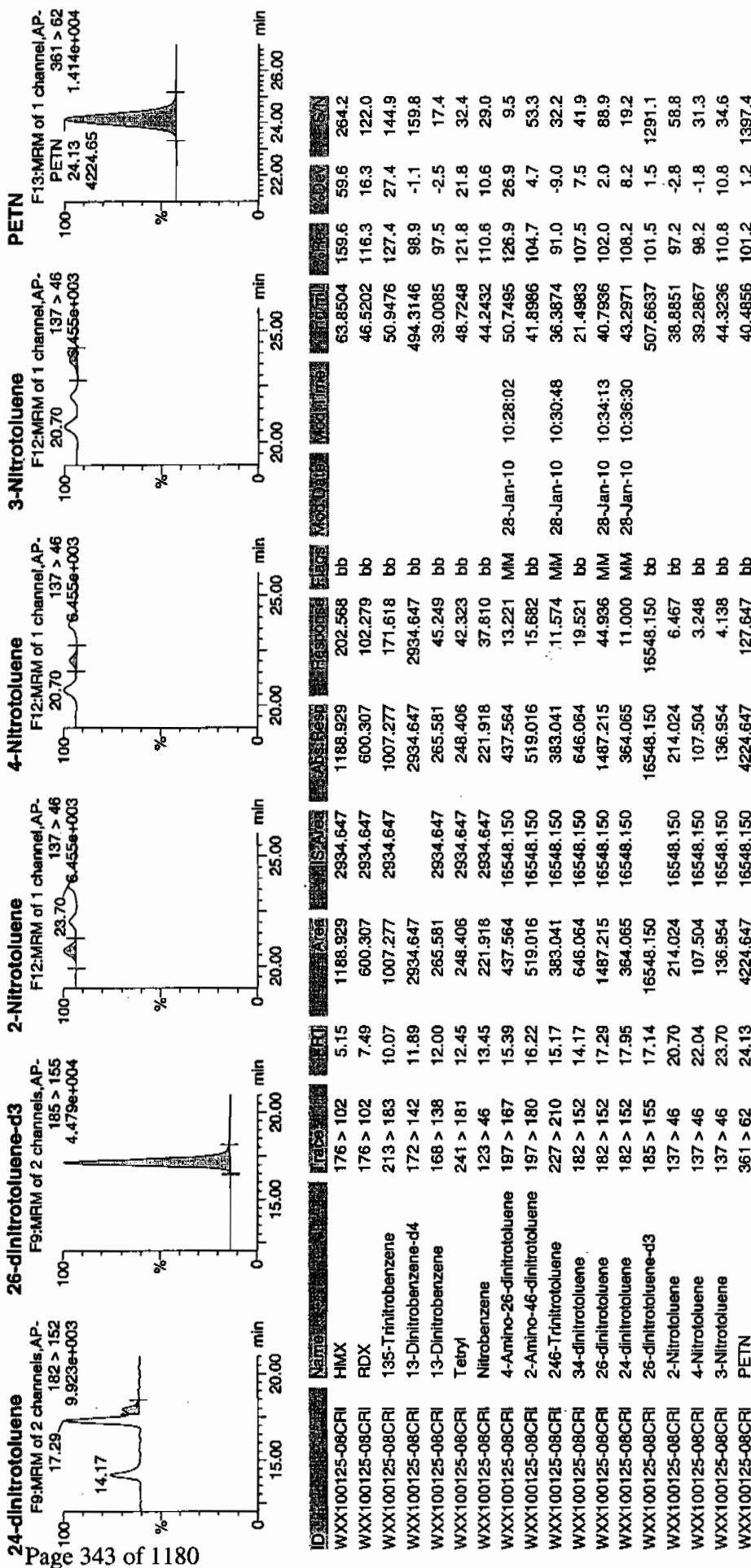
ID: WXX100125-08CRI

Vial: 1:1,C



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/27/10
 Time of Injection 1033
 Standard Number WXX100125-08CRI
 Data File EXP0125097a

HMX	159.6
RDX	116.3
135-TNB	127.4
13-DNB	97.5
Tetryl	121.8
Nitrobenzene	110.6
4A-26-DNT	126.9
2A-46-DNT	104.7
246-TNT	91.0
34-DNT (surr)	107.5
26-DNT	102.0
24-DNT	108.2
2-NT	97.2
4-NT	98.2
3-NT	110.8
PETN	101.2

MTT
1/28/10

Total 1780.9

Average 111.3

done 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125108a

Analysis Date: 27-JAN-10 15:58

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	680.256	113	
1,3-Dinitrobenzene-d4	500	550.639	110	
2,4,6-Trinitrotoluene	600	793.623	132	*
2,4-Dinitrotoluene	600	605.077	101	
2,6-Dinitrotoluene	600	604.019	101	
2,6-Dinitrotoluene-d3	500	530.816	106	
2-Amino-4,6-dinitrotoluene	600	658.199	110	
3,4-Dinitrotoluene	300	339.185	113	
4-Amino-2,6-dinitrotoluene	600	669.192	112	
HMX	600	600.388	100	
Nitrobenzene	600	537.876	90	
PETN	600	537.246	90	
RDX	600	628.942	105	
Tetryl	600	594.999	99	
m-Dinitrobenzene	600	600.852	100	
m-Nitrotoluene	600	545.465	91	
o-Nitrotoluene	600	500.166	83	
p-Nitrotoluene	600	523.635	87	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene , 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125108a

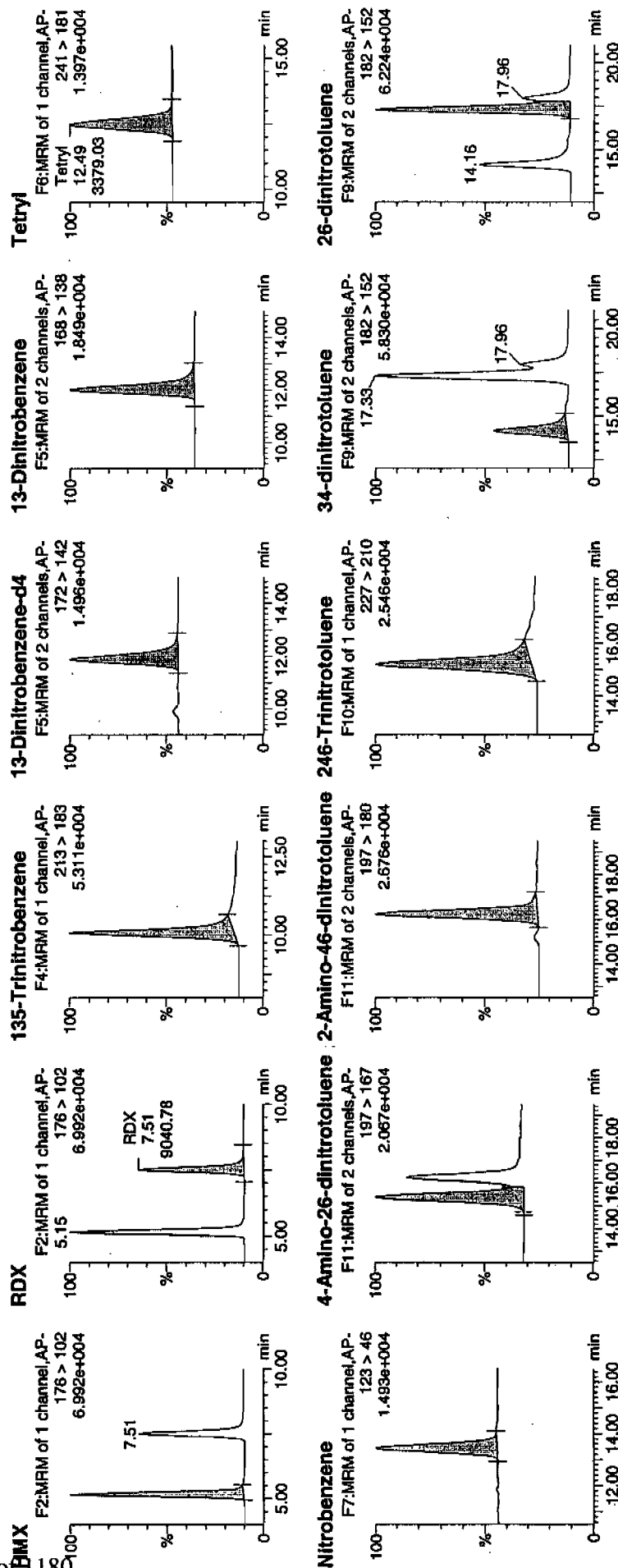
Date: 27-Jan-2010

Time: 15:58:33

ID: WXX100125-07CCV

Vial: 1:1,B

1/28/10

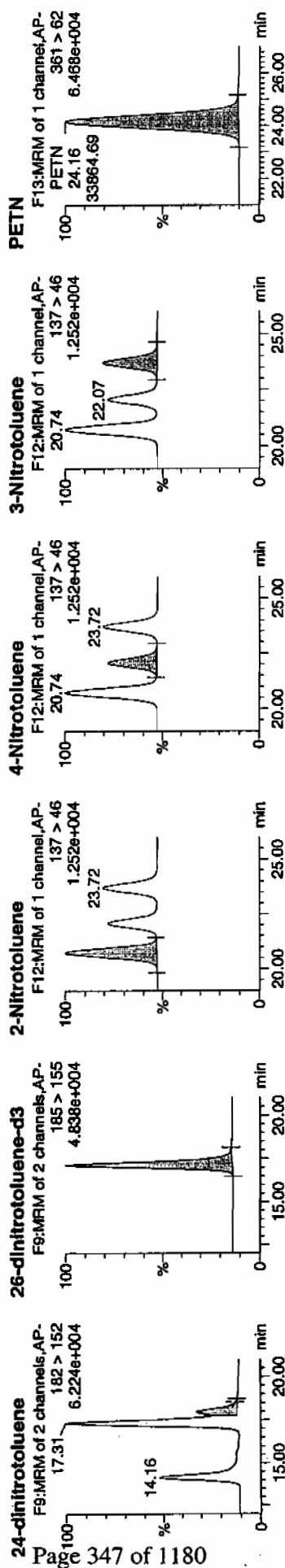


4mm 01/28/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



ID	Name	Trace	EI	Area	SW Area	Abs. Ret.	Response	Flags	Mod Date	Mod Time	Intm	Z Score	Rec	Score	S/N
WXX100125-07CCV	HMX	176 > 102	5.15	12453.394	3269.034	12453.394	1904.751	bb	28-Jan-10	10:27:49	600.3983	100.1	0.1	1753.9	
WXX100125-07CCV	RDX	176 > 102	7.51	9040.780	3269.034	9040.780	1382.791	bb			628.9420	104.8	4.8	1059.1	
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	12712.248	3269.034	12712.248	1944.343	bb			680.2555	113.4	13.4	703.1	
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.90	3269.034		3269.034	3269.034	bb			550.6390	110.1	10.1	370.4	
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.03	4556.892	3269.034	4556.892	696.978	bb			600.8524	100.1	0.1	344.9	
WXX100125-07CCV	Tetryl	241 > 181	12.49	3379.031	3269.034	3379.031	516.824	bb			594.9994	99.2	-0.8	356.6	
WXX100125-07CCV	Nitrobenzene	123 > 46	13.45	3005.327	3269.034	3005.327	459.666	bb			537.8760	89.6	-10.4	181.4	
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.38	6032.938	17302.844	6032.938	174.334	MM	28-Jan-10	10:27:49	669.1924	111.5	11.5	135.6	
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	8525.245	17302.844	8525.245	246.354	bb			658.1991	109.7	9.7	403.8	
WXX100125-07CCV	246-Trinitratoluene	227 > 210	15.20	8735.267	17302.844	8735.267	252.423	bb			793.6230	132.3	32.3	419.6	
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	10658.028	17302.844	10658.028	307.985	bb			339.1851	113.1	13.1	347.5	
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	23025.027	17302.844	23025.027	665.354	MM	28-Jan-10	10:33:50	604.0189	100.7	0.7	504.4	
WXX100125-07CCV	28-dinitrotoluene	182 > 152	17.96	5319.846	17302.844	5319.846	153.728	MM	28-Jan-10	10:36:57	505.0769	100.8	0.8	118.6	
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.15	17302.844		17302.844	17302.844	bb			530.8162	106.2	6.2	1375.2	
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.74	2878.468	17302.844	2878.468	83.179	bb			500.1657	83.4	-16.6	338.1	
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.07	1498.221	17302.844	1498.221	43.294	bb			523.6352	87.3	-12.7	180.6	
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.72	1762.278	17302.844	1762.278	50.925	bb			545.4852	90.9	-9.1	199.8	
WXX100125-07CCV	PETN	361 > 62	24.16	33964.688	17302.844	33964.688	978.587	bb			537.2463	89.5	-10.5	5249.6	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/27/10
 Time of Injection: 1558
 Standard Number: WXX100125-07CCV
 Data File: EXP0125108a

HMX		100.1
RDX		104.8
135-TNB		113.4
13-DNB		100.1
Tetryl		99.2
Nitrobenzene		89.6
4A-26-DNT		111.5
2A-46-DNT		109.7
246-TNT		132.3
34-DNT(surr)		113.1
26-DNT		100.7
24-DNT		100.8
2-NT		83.4
4-NT		87.3
3-NT		90.9
PETN		89.5

not
1/28/10

Total 1626.4

Average 101.7

HM 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125110a

Analysis Date: 27-JAN-10 16:57

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.299	131	*
1,3-Dinitrobenzene-d4	500	559.774	112	
2,4,6-Trinitrotoluene	40	62.349	156	*
2,4-Dinitrotoluene	40	40.315	101	
2,6-Dinitrotoluene	40	40.693	102	
2,6-Dinitrotoluene-d3	500	553.757	111	
2-Amino-4,6-dinitrotoluene	40	40.05	100	
3,4-Dinitrotoluene	20	21.774	109	
4-Amino-2,6-dinitrotoluene	40	44.776	112	
HMX	40	41.328	103	
Nitrobenzene	40	35.669	89	
PETN	40	28.542	71	
RDX	40	39.292	98	
Tetryl	40	37.065	93	
m-Dinitrobenzene	40	33.575	84	
m-Nitrotoluene	40	41.171	103	
o-Nitrotoluene	40	32.917	82	
p-Nitrotoluene	40	36.803	92	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

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Date: 27-Jan-2010

Time: 16:57:36

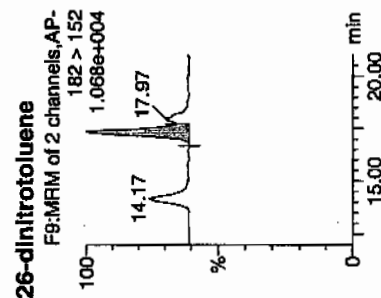
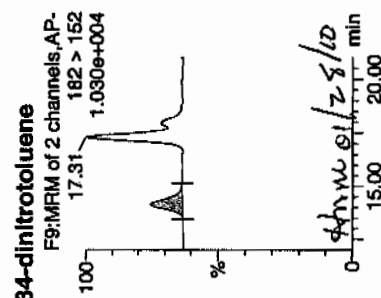
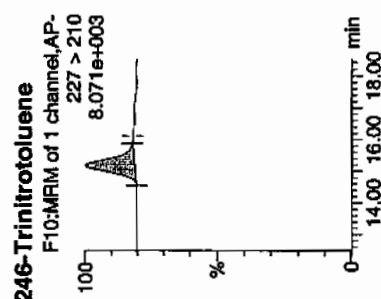
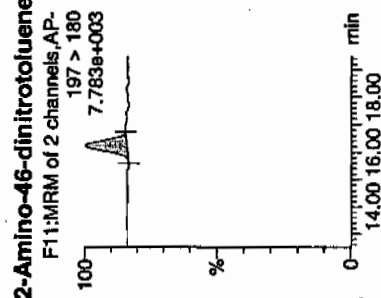
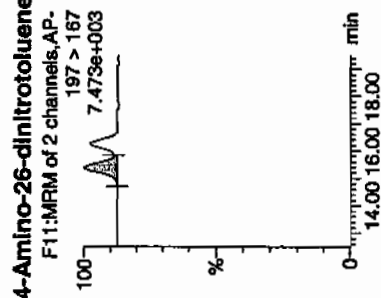
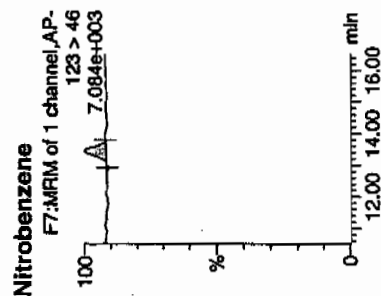
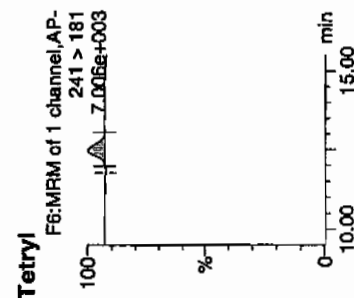
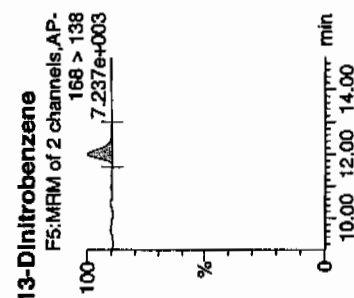
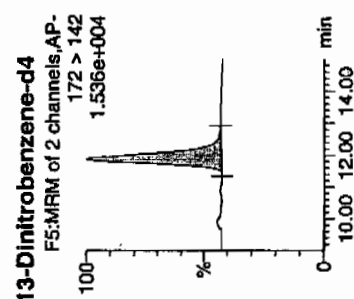
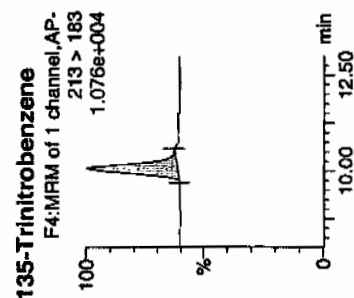
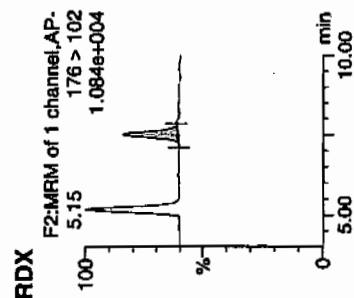
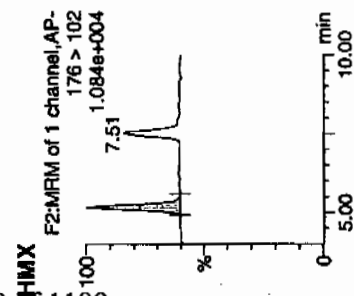
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Vial: 1:1,C

550

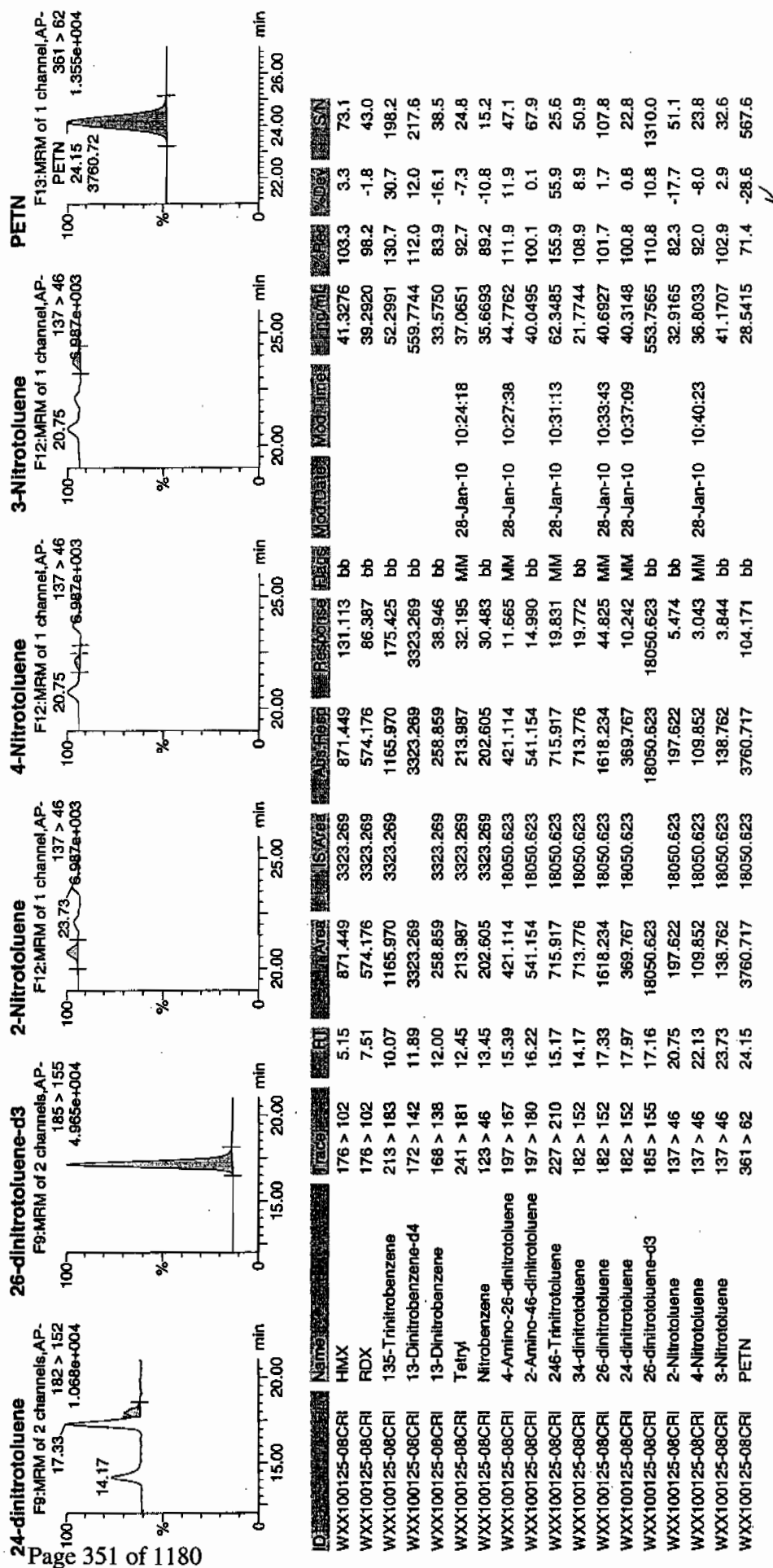
CHMX

1100



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/27/10
 Time of Injection 1657
 Standard Number WXX100125-08CRI
 Data File EXP0125110a

HMX	103.3
RDX	98.2
135-TNB	130.7
13-DNB	83.9
Tetryl	92.7
Nitrobenzene	89.2
4A-26-DNT	111.9
2A-46-DNT	100.1
246-TNT	155.9
34-DNT(surr)	108.9
26-DNT	101.7
24-DNT	100.8
2-NT	82.3
4-NT	92.0
3-NT	102.9
PETN	71.4

*MTT
1/28/10*

Total 1625.9

Average 101.6

Annex 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125116a

Analysis Date: 27-JAN-10 19:54

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	631.041	105	
1,3-Dinitrobenzene-d4	500	529.487	106	
2,4,6-Trinitrotoluene	600	716.58	119	
2,4-Dinitrotoluene	600	651.975	109	
2,6-Dinitrotoluene	600	619.509	103	
2,6-Dinitrotoluene-d3	500	468.187	94	
2-Amino-4,6-dinitrotoluene	600	700.462	117	
3,4-Dinitrotoluene	300	334.393	111	
4-Amino-2,6-dinitrotoluene	600	684.091	114	
HMX	600	616.785	103	
Nitrobenzene	600	533.559	89	
PETN	600	660.7	110	
RDX	600	635.793	106	
Tetryl	600	651.276	109	
m-Dinitrobenzene	600	592.514	99	
m-Nitrotoluene	600	522.524	87	
o-Nitrotoluene	600	557.564	93	
p-Nitrotoluene	600	549.542	92	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Thu Jan 28 10:43:32 2010, Page 63 of 121

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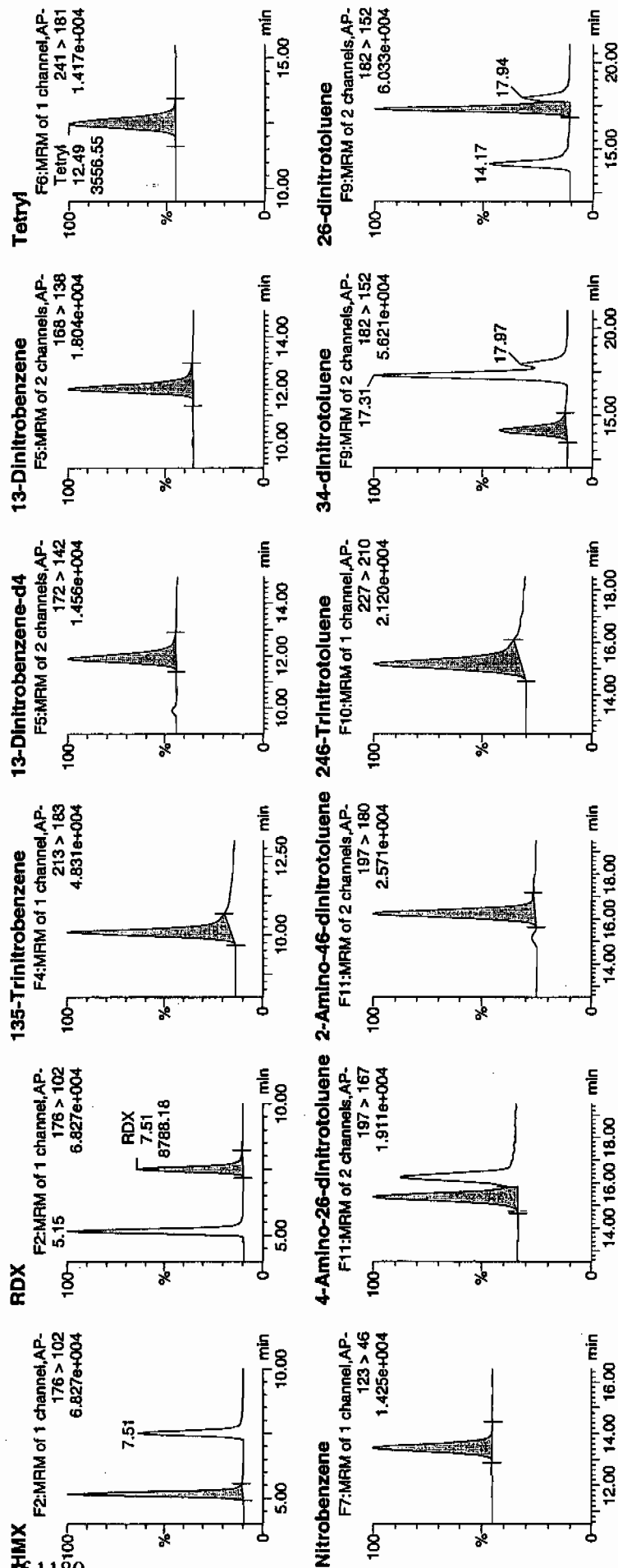
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Time: 19:54:59

ID: WXX100125-07CCV

Vial: 1:1,B

10/10

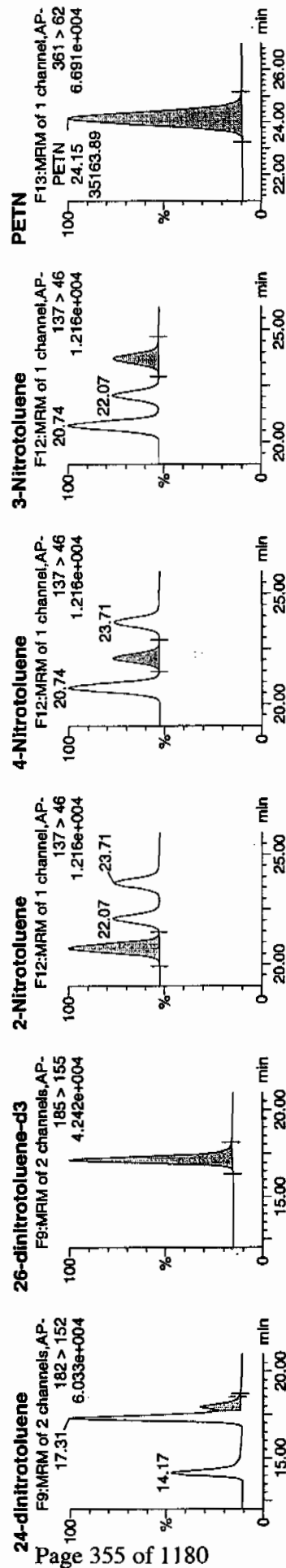


from 01/28/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



Name	Area	RT	Area	SA Area	Abs Peak	Response	Flags	Mod Date	Mod Time	% Rec	Abv	S/N		
HMX	WXX100125-07CCV	176 > 102	5.15	12302.053	3143.459	12302.053	1956.770	bb		616.7849	102.8	2.8	2098.0	
RDX	WXX100125-07CCV	176 > 102	7.51	8788.184	3143.459	8788.184	1397.852	bb		635.7926	106.0	6.0	1271.2	
135-Trinitrobenzene	WXX100125-07CCV	213 > 183	10.07	11352.341	3143.459	11352.341	1805.708	bb		631.0410	105.2	5.2	673.6	
13-Dinitrobenzene-d4	WXX100125-07CCV	172 > 142	11.89	3143.459	3143.459	3143.459	3143.459	bb		529.4871	105.9	5.9	381.5	
13-Dinitrobenzene	WXX100125-07CCV	168 > 138	12.00	4321.038	3143.459	4321.038	687.306	bb		592.5142	98.8	-1.2	418.0	
Tetryl	WXX100125-07CCV	241 > 181	12.49	3556.552	3143.459	3556.552	565.707	bb		651.2761	108.5	8.5	328.1	
Nitrobenzene	WXX100125-07CCV	123 > 46	13.45	2866.690	3143.459	2866.690	455.977	bb		533.5594	88.9	-11.1	182.9	
4-Amino-26-dinitrotoluene	WXX100125-07CCV	197 > 167	15.35	5439.601	15261.352	5439.601	178.215	MIM	28-Jan-10	10:27:21	684.0907	114.0	14.0	231.3
2-Amino-46-dinitrotoluene	WXX100125-07CCV	197 > 180	16.22	8002.209	15261.352	8002.209	262.172	bb		700.4623	116.7	16.7	448.5	
246-Trinitrotoluene	WXX100125-07CCV	227 > 210	15.17	6956.677	15261.352	6956.677	227.918	bb		716.5795	119.4	19.4	366.7	
34-dinitrotoluene	WXX100125-07CCV	182 > 152	14.17	9267.728	15261.352	9267.728	303.634	bb		334.3934	111.5	11.5	287.0	
25-dinitrotoluene	WXX100125-07CCV	182 > 152	17.31	20829.203	15261.352	20829.203	682.417	MIM	28-Jan-10	10:33:27	619.5088	103.3	3.3	713.0
26-dinitrotoluene	WXX100125-07CCV	182 > 152	17.94	5055.856	15261.352	5055.856	165.542	MIM	28-Jan-10	10:37:37	651.9747	108.7	8.7	164.2
26-dinitrotoluene-d3	WXX100125-07CCV	185 > 155	17.16	15261.352	15261.352	15261.352	15261.352	bb		468.1873	93.6	-6.4	1463.8	
2-Nitrotoluene	WXX100125-07CCV	137 > 46	20.74	2830.204	15261.352	2830.204	92.725	bb		557.5640	92.9	-7.1	353.0	
4-Nitrotoluene	WXX100125-07CCV	137 > 46	22.07	1386.831	15261.352	1386.831	45.436	bb		549.5421	91.6	-8.4	180.3	
3-Nitrotoluene	WXX100125-07CCV	137 > 46	23.71	1488.980	15261.352	1488.980	48.783	bb		522.5237	87.1	-12.9	176.3	
PETN	WXX100125-07CCV	361 > 62	24.15	35163.887	15261.352	35163.887	1152.057	bb		660.7004	110.1	10.1	9730.8	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/27/10
 Time of Injection: 1954
 Standard Number: WXX100125-07CCV
 Data File: EXP0125116a

HMX	102.8
RDX	106.0
135-TNB	105.2
13-DNB	98.8
Tetryl	108.5
Nitrobenzene	88.9
4A-26-DNT	114.0
2A-46-DNT	116.7
246-TNT	119.4
34-DNT(surr)	111.5
26-DNT	103.3
24-DNT	108.7
2-NT	92.9
4-NT	91.6
3-NT	87.1
PETN	110.1

*mtt
1/28/10*

Total 1665.5

Average 104.1

Home 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125118a

Analysis Date: 27-JAN-10 20:53

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	59.135	148	*
1,3-Dinitrobenzene-d4	500	488.735	98	
2,4,6-Trinitrotoluene	40	44.307	111	
2,4-Dinitrotoluene	40	35.195	88	
2,6-Dinitrotoluene	40	41.434	104	
2,6-Dinitrotoluene-d3	500	505.851	101	
2-Amino-4,6-dinitrotoluene	40	53.643	134	*
3,4-Dinitrotoluene	20	21.876	109	
4-Amino-2,6-dinitrotoluene	40	48.557	121	
HMX	40	51.45	129	
Nitrobenzene	40	35.236	88	
PETN	40	35.671	89	
RDX	40	41.584	104	
Tetryl	40	46.813	117	
m-Dinitrobenzene	40	46.88	117	
m-Nitrotoluene	40	36.119	90	
o-Nitrotoluene	40	38.379	96	
p-Nitrotoluene	40	42.922	107	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

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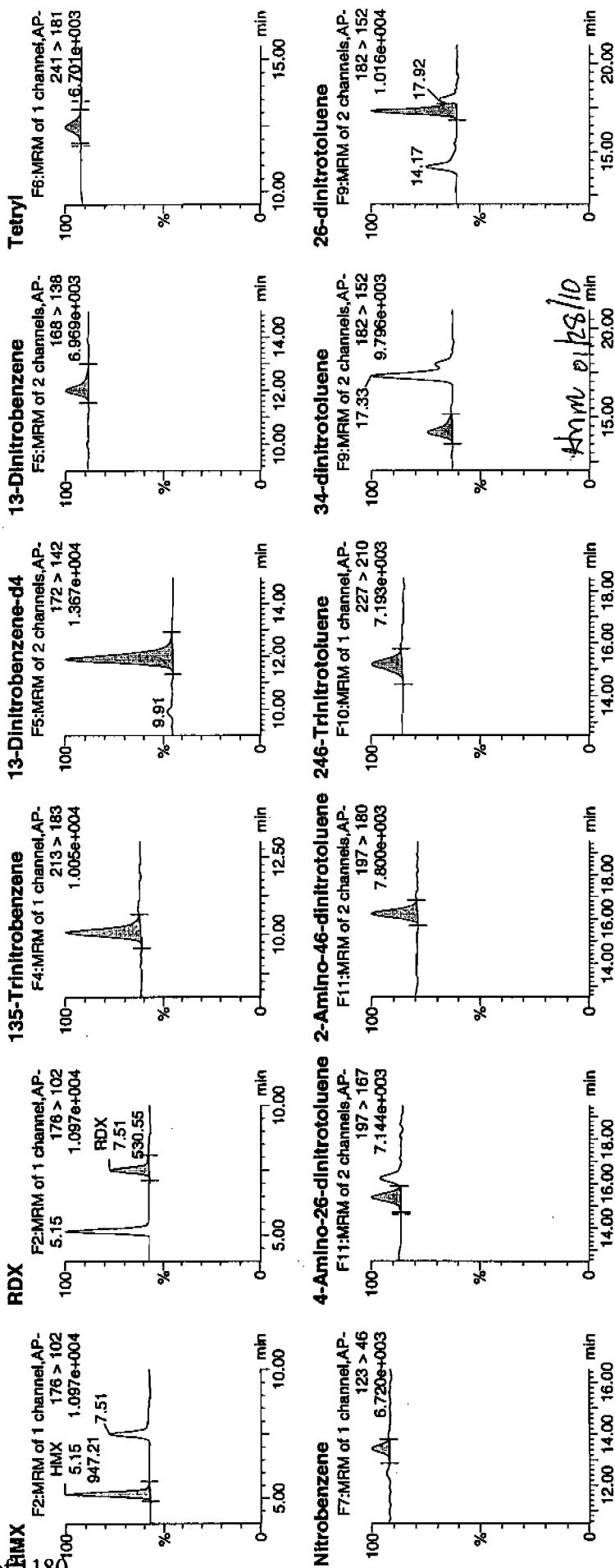
Date: 27-Jan-2010

Time: 20:53:56

ID: WXX100125-08CRI

Vial: 1:1,C

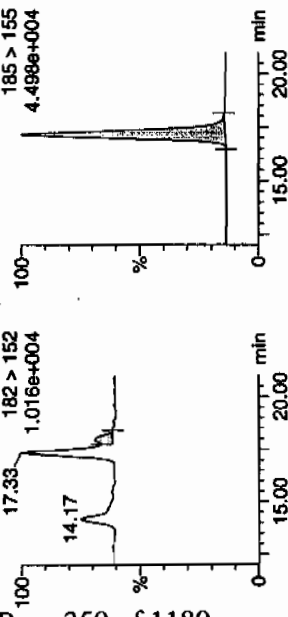
1/28/10
MTP



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

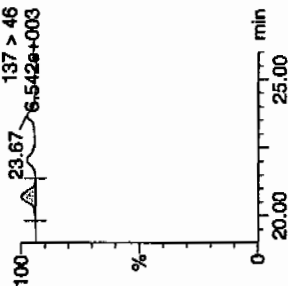
2,4-dinitrotoluene

F9:MRM of 2 channels,AP-



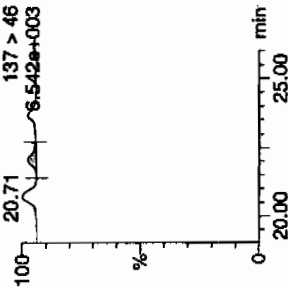
26-dinitrotoluene-d3

F9:MRM of 2 channels,AP-



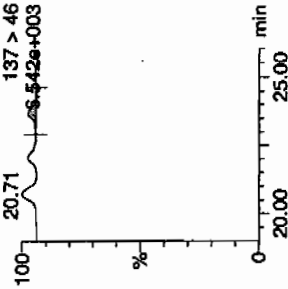
2-Nitrotoluene

F12:MRM of 1 channel, AP-



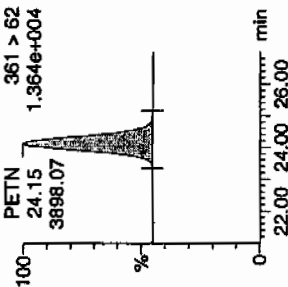
4-Nitrotoluene

F12:MRM of 1 channel,AP-



3-Nitrotoluene

F12:MRM of 1 channel,AP-



PETN

F13:MFRM of 1 channel,AP-

ID	Name	Trace	Ratio	Area	SA Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Form	% Rec	% Dev	SN
WX100125-08CRI	HMx	176 > 102	5.15	947.212	2901.522	947.212	163.227	bb			51.4500	128.6	28.6	284.0
WX100125-08CRI	RDX	176 > 102	7.51	530.551	2901.522	530.551	91.426	bb			41.5839	104.0	4.0	132.8
WX100125-08CRI	135-Trinitrobenzene	213 > 183	10.07	1129.748	2901.522	1129.748	194.682	bb			59.1352	147.8	47.8	266.4
WX100125-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2901.522	2901.522	2901.522	2901.522	bb			488.7350	97.7	-2.3	692.4
WX100125-08CRI	13-Dinitrobenzene	168 > 138	12.00	315.570	2901.522	315.570	54.380	bb			46.8801	117.2	17.2	32.0
WX100125-08CRI	Tetryl	241 > 181	12.45	235.963	2901.522	235.963	40.662	MM	28-Jan-10	10:24:03	46.8125	117.0	17.0	27.0
WX100125-08CRI	Nitrobenzene	123 > 46	13.45	174.742	2901.522	174.742	30.112	bb			35.2356	88.1	-11.9	14.4
WX100125-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.36	417.165	16489.053	417.165	12.650	MM	28-Jan-10	10:27:09	48.5570	121.4	21.4	15.3
WX100125-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.22	682.126	16489.053	682.126	20.078	bb			53.6430	134.1	34.1	24.3
WX100125-08CRI	246-Trinitrotoluene	227 > 210	15.21	464.743	16489.053	464.743	14.092	bb			44.3070	110.8	10.8	33.5
WX100125-08CRI	34-dinitrotoluene	182 > 152	14.17	655.064	16489.053	655.064	19.864	bb			21.8759	109.4	9.4	52.6
WX100125-08CRI	26-dinitrotoluene	182 > 152	17.33	1505.167	16489.053	1505.167	45.641	MM	28-Jan-10	10:33:21	41.4340	103.6	3.6	82.0
WX100125-08CRI	24-dinitrotoluene	182 > 152	17.92	294.878	16489.053	294.878	8.942	MM	28-Jan-10	10:37:49	35.1946	88.0	-12.0	15.8
WX100125-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	16489.053	16489.053	16489.053	16489.053	bb			505.8507	101.2	1.2	251.4
WX100125-08CRI	2-Nitrotoluene	137 > 46	20.71	210.484	16489.053	210.484	6.383	bb			38.3790	95.9	-4.1	43.2
WX100125-08CRI	4-Nitrotoluene	137 > 46	22.05	117.032	16489.053	117.032	3.549	bb			42.9219	107.3	7.3	25.0
WX100125-08CRI	3-Nitrotoluene	137 > 46	23.67	111.204	16489.053	111.204	3.372	bb			36.1189	90.3	-9.7	24.1
WX100125-08CRI	PETN	361 > 62	24.15	3898.075	16489.053	3898.075	118.202	bb			35.6714	89.2	-10.8	960.7

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/27/10
 Time of Injection 2053
 Standard Number WXX100125-08CRI
 Data File EXP0125118a

HMX	128.6
RDX	104.0
135-TNB	147.8
13-DNB	117.2
Tetryl	117.0
Nitrobenzene	88.1
4A-26-DNT	121.4
2A-46-DNT	134.1
246-TNT	110.8
34-DNT(surr)	109.4
26-DNT	103.6
24-DNT	88.0
2-NT	95.9
4-NT	107.3
3-NT	90.3
PETN	89.2

Total 1752.7

Average 109.5

Handwritten: 11/28/10

Handwritten: HMM 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125129a

Analysis Date: 28-JAN-10 02:18

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	689.575	115	
1,3-Dinitrobenzene-d4	500	518.18	104	
2,4,6-Trinitrotoluene	600	645.918	108	
2,4-Dinitrotoluene	600	613.752	102	
2,6-Dinitrotoluene	600	606.783	101	
2,6-Dinitrotoluene-d3	500	513.396	103	
2-Amino-4,6-dinitrotoluene	600	630.102	105	
3,4-Dinitrotoluene	300	312.169	104	
4-Amino-2,6-dinitrotoluene	600	617.083	103	
HMX	600	648.898	108	
Nitrobenzene	600	524.48	87	
PETN	600	597.663	100	
RDX	600	756.637	126	*
Tetryl	600	672.089	112	
m-Dinitrobenzene	600	611.428	102	
m-Nitrotoluene	600	529.309	88	
o-Nitrotoluene	600	510.736	85	
p-Nitrotoluene	600	506.539	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 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125129a

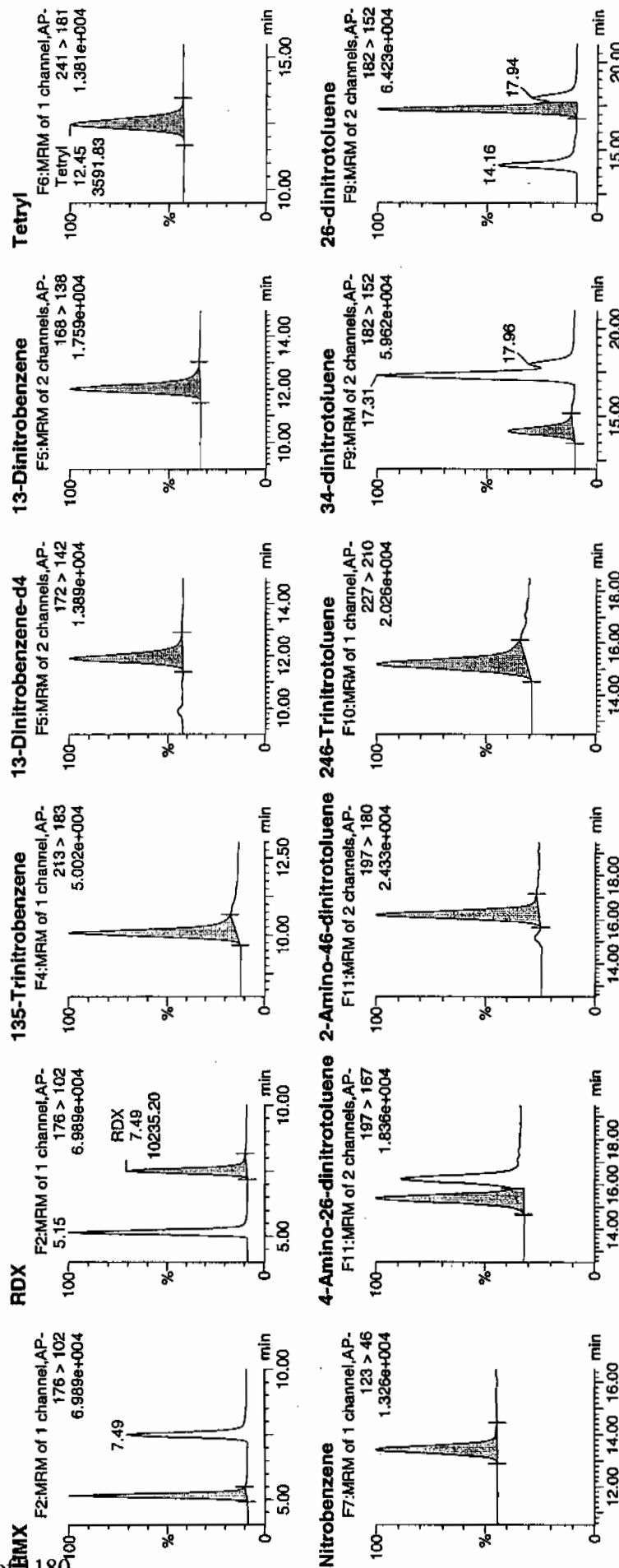
Date: 28-Jan-2010

Time: 02:18:11

ID: WXX100125-07CCV

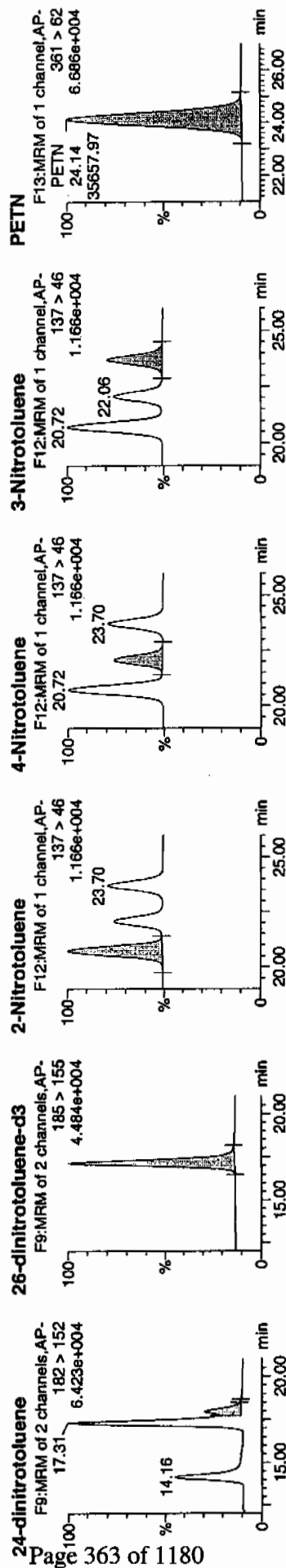
Cylal: 1:1,B

1/28/10



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Dataset: C:\MASSLYN\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



ID	Name	Trace	RT	Area	IS Area	Abn Resp	Response	Flag	Mod Date	Mod Time	Norm	Area	Dev	ISN
WXX100125-07CCV	HMX	176 > 102	5.15	12666.174	3076.330	12666.174	2058.650	bb			648.8980	108.1	8.1	2673.8
WXX100125-07CCV	RDX	176 > 102	7.49	10235.204	3076.330	10235.204	1663.541	bb			756.6373	126.1	26.1	1819.4
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	12124.401	3076.330	12124.401	1970.595	bb			689.5748	114.9	14.9	1128.8
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.90	3076.330	3076.330	3076.330	3076.330	bb			518.1798	103.6	3.6	239.3
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4363.751	3076.330	4363.751	709.246	bb			611.4283	101.9	1.9	302.0
WXX100125-07CCV	Tetryl	241 > 181	12.45	3591.830	3076.330	3591.830	583.785	bb			672.0887	112.0	12.0	480.4
WXX100125-07CCV	Nitrobenzene	123 > 46	13.45	2757.729	3076.330	2757.729	448.217	bb			524.4795	87.4	-12.6	219.2
WXX100125-07CCV	4-Amino-28-dinitrotoluene	197 > 167	15.35	5380.591	16735.004	5380.591	160.759	MM	28-Jan-10	10:26:28	617.0833	102.8	2.8	210.4
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	7893.479	16735.004	7893.479	235.837	bb			630.1015	105.0	5.0	263.6
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	6876.185	16735.004	6876.185	205.443	bb			645.9179	107.7	7.7	256.5
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.16	9487.213	16735.004	9487.213	283.454	bb			312.1693	104.1	4.1	448.2
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	22371.311	16735.004	22371.311	668.399	MM	28-Jan-10	10:32:28	606.7831	101.1	1.1	754.2
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.94	5219.031	16735.004	5219.031	155.932	MM	28-Jan-10	10:38:43	613.7522	102.3	2.3	157.4
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.15	16735.004	16735.004	16735.004	16735.004	bb			513.3960	102.7	2.7	1711.3
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.72	2842.840	16735.004	2842.840	84.937	bb			510.7362	85.1	-14.9	301.3
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.06	1401.742	16735.004	1401.742	41.861	bb			506.5368	84.4	-15.6	154.0
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.70	1653.960	16735.004	1653.960	49.416	bb			529.3091	88.2	-11.8	175.4
WXX100125-07CCV	PETN	361 > 62	24.14	35657.973	16735.004	35657.973	1065.371	bb			597.6628	99.6	-0.4	7805.0

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/28/10
 Time of Injection: 0218
 Standard Number: WXX100125-07CCV
 Data File: EXP0125129a

HMX	108.1
RDX	126.1
135-TNB	114.9
13-DNB	101.9
Tetryl	112.0
Nitrobenzene	87.4
4A-26-DNT	102.8
2A-46-DNT	105.0
246-TNT	107.7
34-DNT(surr)	104.1
26-DNT	101.1
24-DNT	102.3
2-NT	85.1
4-NT	84.4
3-NT	88.2
PETN	99.6

Total 1630.7

Average 101.9

ICV Limits 85-115%
 CRI Limits 70-130%
 CCV Limits 85-115%

No single analyte > +/- 60%

101.9
 1/28/10

101.9 01/28/10

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125131a

Analysis Date: 28-JAN-10 03:17

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	57.612	144	*
1,3-Dinitrobenzene-d4	500	504.225	101	
2,4,6-Trinitrotoluene	40	41.133	103	
2,4-Dinitrotoluene	40	36.314	91	
2,6-Dinitrotoluene	40	40.973	102	
2,6-Dinitrotoluene-d3	500	527.33	105	
2-Amino-4,6-dinitrotoluene	40	46.164	115	
3,4-Dinitrotoluene	20	19.933	100	
4-Amino-2,6-dinitrotoluene	40	41.338	103	
HMX	40	53.421	134	*
Nitrobenzene	40	45.023	113	
PETN	40	35.323	88	
RDX	40	41.603	104	
Tetryl	40	51.008	128	
m-Dinitrobenzene	40	39.957	100	
m-Nitrotoluene	40	40.221	101	
o-Nitrotoluene	40	38.017	95	
p-Nitrotoluene	40	33.311	83	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125131a

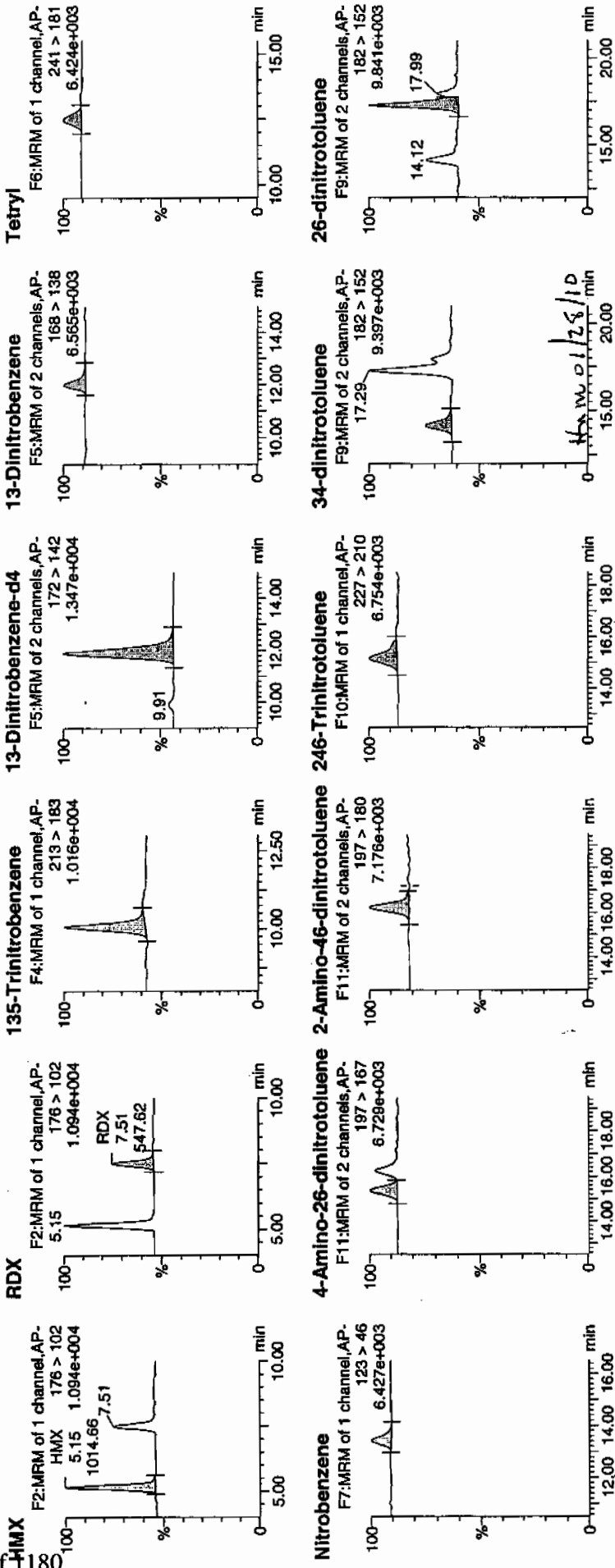
Date: 28-Jan-2010

Time: 03:17:15

ID: WXX100125-08CRI

Vial: 1:1,C

1/28/10

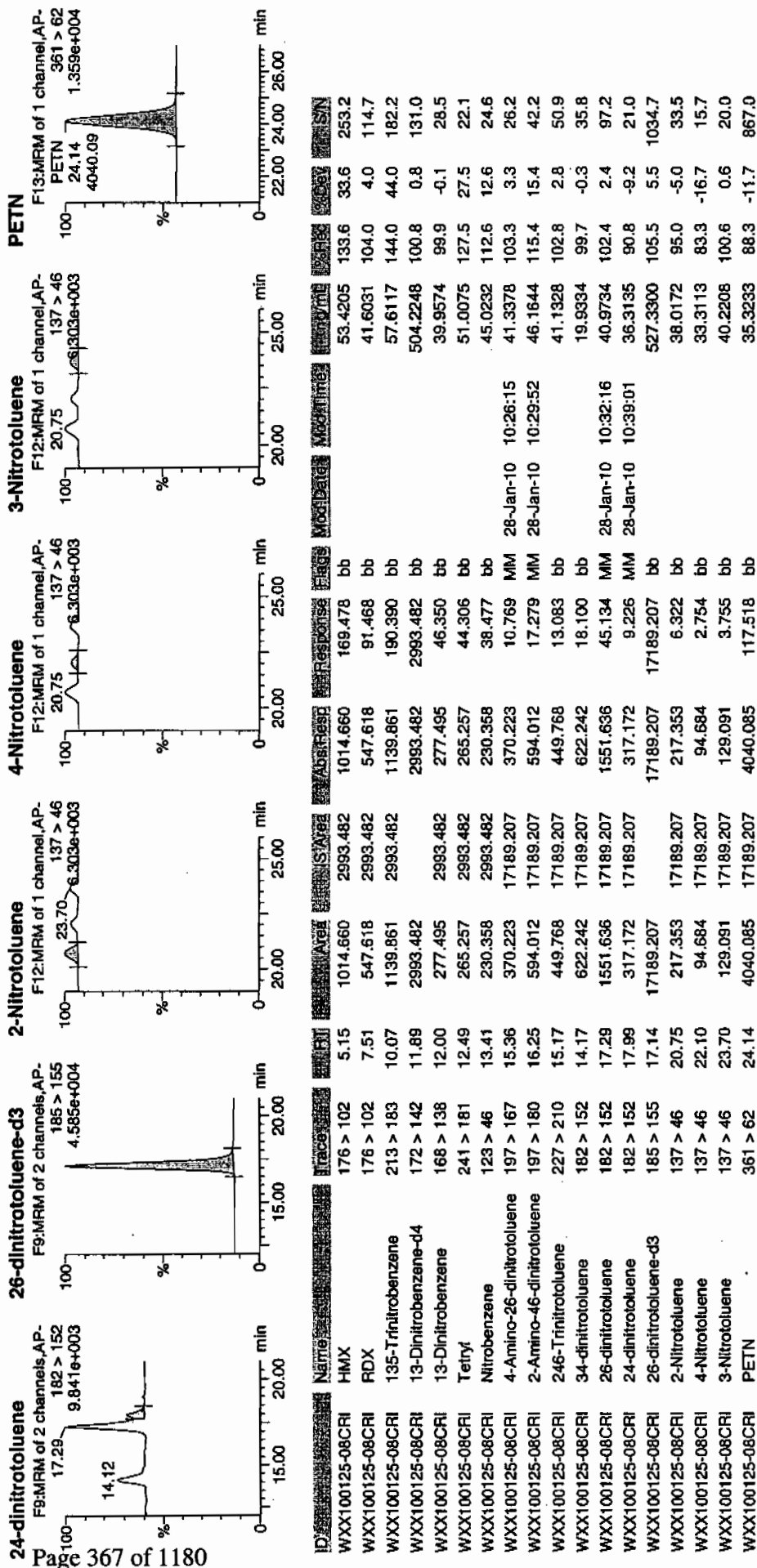


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Thu Jan 28 10:43:32 2010, Page 94 of 121

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/28/10
 Time of Injection 0317
 Standard Number WXX100125-08CRI
 Data File EXP0125131a

HMX	133.6
RDX	104.0
135-TNB	144.0
13-DNB	99.9
Tetryl	127.5
Nitrobenzene	112.6
4A-26-DNT	103.3
2A-46-DNT	115.4
246-TNT	102.8
34-DNT(surr)	99.7
26-DNT	102.4
24-DNT	90.8
2-NT	95.0
4-NT	83.3
3-NT	100.6
PETN	88.3

*not
1/28/10*

Total 1703.2

Average 106.5

Hmm 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125142a

Analysis Date: 28-JAN-10 08:41

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	784.323	131	*
1,3-Dinitrobenzene-d4	500	464.389	93	
2,4,6-Trinitrotoluene	600	865.486	144	*
2,4-Dinitrotoluene	600	635.609	106	
2,6-Dinitrotoluene	600	585.132	98	
2,6-Dinitrotoluene-d3	500	523.158	105	
2-Amino-4,6-dinitrotoluene	600	577.839	96	
3,4-Dinitrotoluene	300	294.928	98	
4-Amino-2,6-dinitrotoluene	600	591.279	99	
HMX	600	672.053	112	
Nitrobenzene	600	572.628	95	
PETN	600	477.341	80	*
RDX	600	583.83	97	
Tetryl	600	717.697	120	
m-Dinitrobenzene	600	626.426	104	
m-Nitrotoluene	600	536.142	89	
o-Nitrotoluene	600	479.542	80	*
p-Nitrotoluene	600	491.628	82	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\1012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125142a

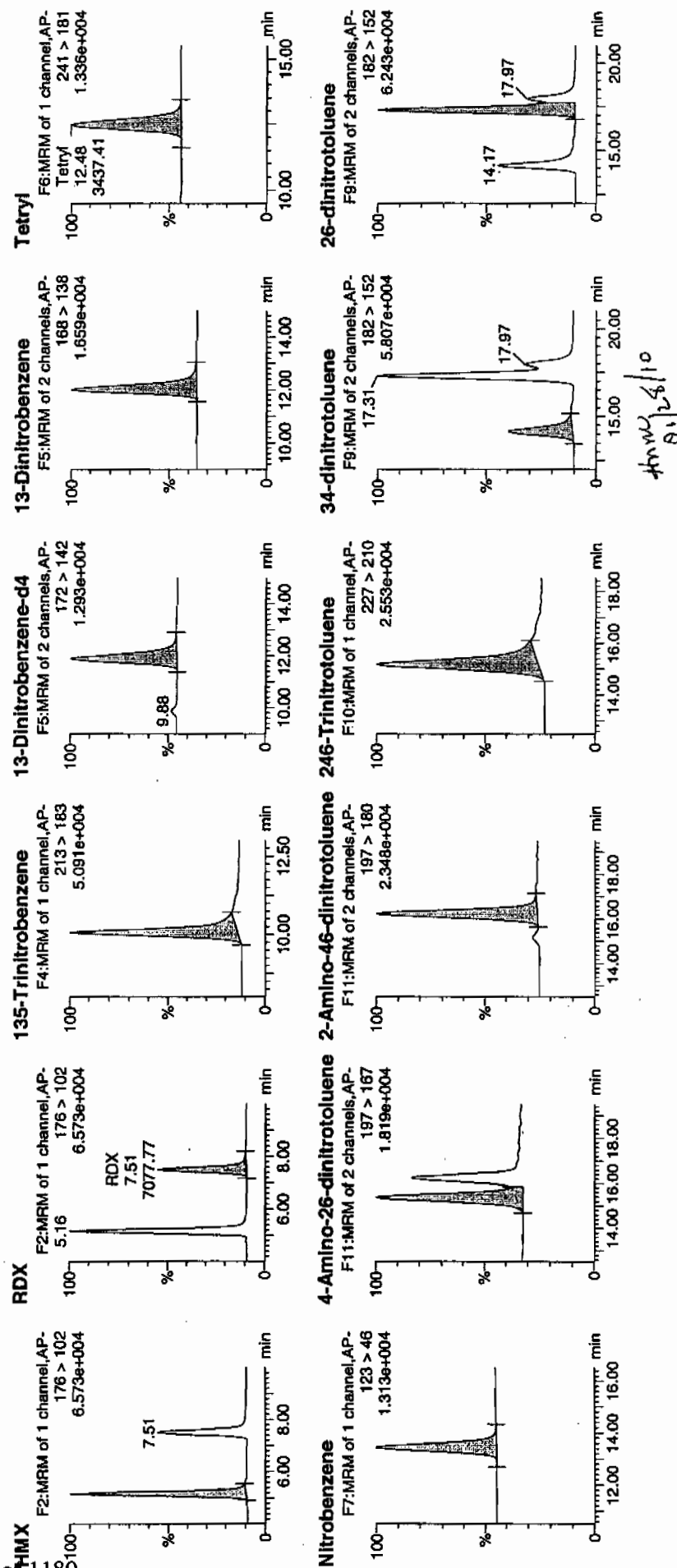
Date: 28-Jan-2010

Time: 08:41:46

ID: WXX100125-07CCV

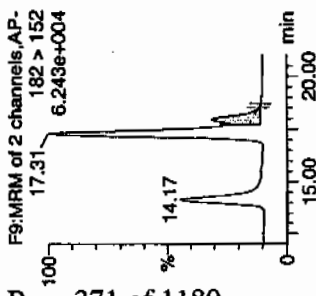
Vial: 1:1,B

1/28/10

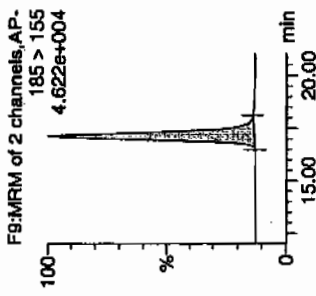


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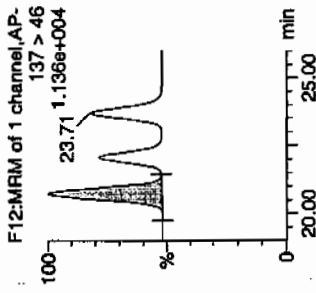
24-dinitrotoluene



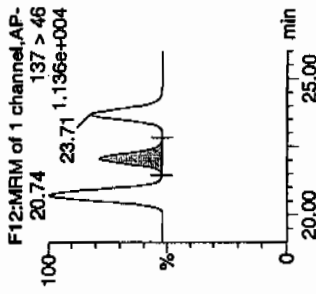
26-dinitrotoluene-d3



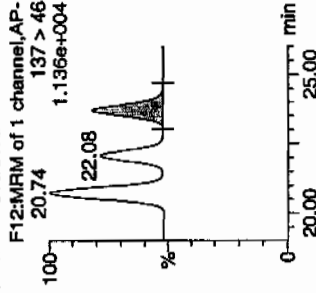
2-Nitrotoluene



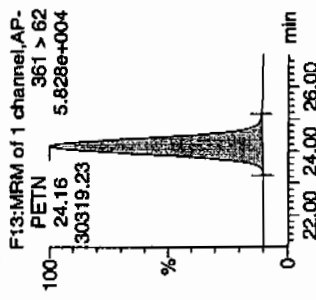
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	Area Res	Response	Flag	Mod Date	Mod Time	Ratio	Area	Ratio	ISN
WXX100125-07CCV	HMX	176 > 102	5.16	11756.382	2756.983	11756.382	2132.110	bb	672.0530	112.0	12.0	1526.0	
WXX100125-07CCV	RDX	176 > 102	7.51	7077.767	2756.983	7077.767	1283.607	bb	583.8299	87.3	-2.7	773.0	
WXX100125-07CCV	135-Trinitrobenzene	213 > 183	10.07	12337.478	2756.983	12337.478	2237.496	bb	784.3233	130.7	30.7	640.8	
WXX100125-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	2756.983		2756.983	2756.983	bb	484.3887	92.9	-7.1	567.5	
WXX100125-07CCV	13-Dinitrobenzene	168 > 138	12.00	4006.687	2756.983	4006.687	726.643	bb	626.4261	104.4	4.4	498.2	
WXX100125-07CCV	Tetryl	241 > 181	12.48	3437.411	2756.983	3437.411	623.401	bb	717.6970	119.6	19.6	197.7	
WXX100125-07CCV	Nitrobenzene	123 > 46	13.41	2698.343	2756.983	2698.343	489.365	bb	572.6285	95.4	-4.6	294.3	
WXX100125-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.36	5253.618	17053.201	5253.618	154.036	MM	591.2787	98.5	-1.5	199.9	
WXX100125-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.22	7376.413	17053.201	7376.413	216.276	bb	577.8395	96.3	-3.7	195.6	
WXX100125-07CCV	246-Trinitrotoluene	227 > 210	15.17	9388.802	17053.201	9388.802	275.280	bb	865.4856	144.2	44.2	390.4	
WXX100125-07CCV	34-dinitrotoluene	182 > 152	14.17	9133.663	17053.201	9133.663	267.799	bb	294.9283	98.3	-1.7	356.1	
WXX100125-07CCV	26-dinitrotoluene	182 > 152	17.31	21983.248	17053.201	21983.248	644.549	MM	585.1319	97.5	-2.5	602.7	
WXX100125-07CCV	24-dinitrotoluene	182 > 152	17.97	5507.661	17053.201	5507.661	161.485	MM	635.6094	105.9	5.9	136.9	
WXX100125-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	17053.201		17053.201	17053.201	bb	523.1576	104.6	4.6	1226.9	
WXX100125-07CCV	2-Nitrotoluene	137 > 46	20.74	2719.962	17053.201	2719.962	79.749	bb	479.5423	79.9	-20.1	251.2	
WXX100125-07CCV	4-Nitrotoluene	137 > 46	22.08	1386.346	17053.201	1386.346	40.648	bb	491.6275	81.9	-18.1	137.1	
WXX100125-07CCV	3-Nitrotoluene	137 > 46	23.71	1707.166	17053.201	1707.166	50.054	bb	536.1422	89.4	-10.6	155.6	
WXX100125-07CCV	PETN	361 > 62	24.16	30319.232	17053.201	30319.232	888.960	bb	477.3409	79.6	-20.4	4483.1	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/28/10
 Time of Injection: 0841
 Standard Number: WXX100125-07CCV
 Data File: EXP0125142a

HMX	112.0
RDX	97.3
135-TNB	130.7
13-DNB	104.4
Tetryl	119.6
Nitrobenzene	95.4
4A-26-DNT	98.5
2A-46-DNT	96.3
246-TNT	144.2
34-DNT(surr)	98.3
26-DNT	97.5
24-DNT	105.9
2-NT	79.9
4-NT	81.9
3-NT	89.4
PETN	79.6

*MTT
1/28/10*

Total 1630.9

Average 101.9

Home 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125144a

Analysis Date: 28-JAN-10 09:40

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	61.574	154	*
1,3-Dinitrobenzene-d4	500	461.719	92	
2,4,6-Trinitrotoluene	40	45.81	115	
2,4-Dinitrotoluene	40	42.881	107	
2,6-Dinitrotoluene	40	40.235	101	
2,6-Dinitrotoluene-d3	500	522.309	104	
2-Amino-4,6-dinitrotoluene	40	47.484	119	
3,4-Dinitrotoluene	20	20.079	100	
4-Amino-2,6-dinitrotoluene	40	44.024	110	
HMX	40	48.62	122	
Nitrobenzene	40	34.836	87	
PETN	40	27.753	69	*
RDX	40	35.534	89	
Tetryl	40	62.477	156	*
m-Dinitrobenzene	40	42.805	107	
m-Nitrotoluene	40	30.675	77	
o-Nitrotoluene	40	30.694	77	
p-Nitrotoluene	40	31.002	78	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA2.qld, Time: Thu Jan 28 10:42:53 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\data\EXP0125144a

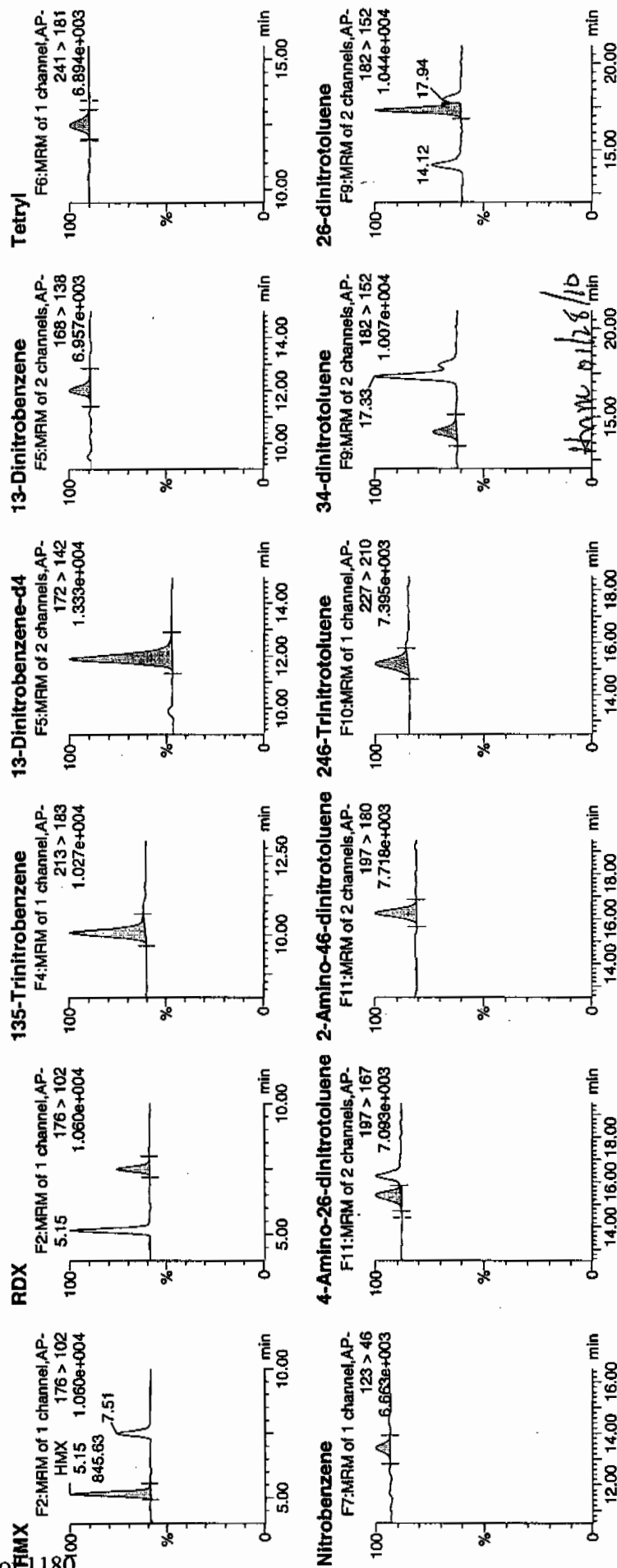
Date: 28-Jan-2010

Time: 09:40:48

ID: WXX100125-08CRI

Vial: 1:1,C

11/28/10

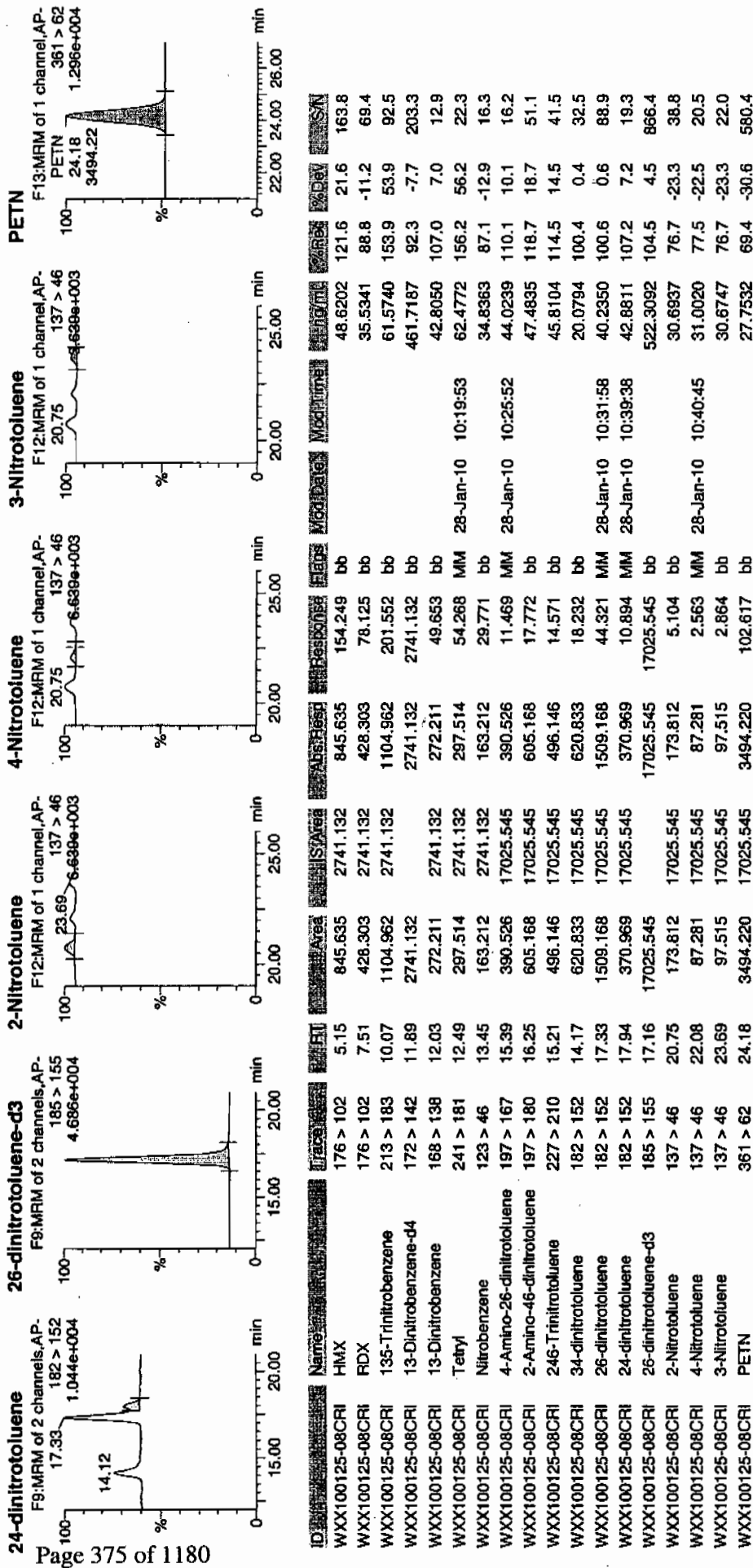


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Thu Jan 28 10:43:32 2010, Page 120 of 121

Dataset: C:\MASSLYNX\New_Exp\PRO012510expA2.qld, Time: Thu Jan 28 10:42:53 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/28/10
 Time of Injection 0940
 Standard Number WXX100125-08CRI
 Data File EXP0125144a

HMX	121.6
RDX	88.8
135-TNB	153.9
13-DNB	107.0
Tetryl	156.2
Nitrobenzene	87.1
4A-26-DNT	110.1
2A-46-DNT	118.7
246-TNT	114.5
34-DNT(surr)	100.4
26-DNT	100.6
24-DNT	107.2
2-NT	76.7
4-NT	77.5
3-NT	76.7
PETN	69.4

Total 1666.4

Average 104.2

*107P
1/28/10*

Home 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125155a

Analysis Date: 28-JAN-10 15:06

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	725.492	121	*
1,3-Dinitrobenzene-d4	500	408.832	82	
2,4,6-Trinitrotoluene	600	819.036	137	*
2,4-Dinitrotoluene	600	629.825	105	
2,6-Dinitrotoluene	600	622.367	104	
2,6-Dinitrotoluene-d3	500	405.179	81	
2-Amino-4,6-dinitrotoluene	600	764.727	127	*
3,4-Dinitrotoluene	300	334.075	111	
4-Amino-2,6-dinitrotoluene	600	718.695	120	
HMX	600	688.774	115	
Nitrobenzene	600	582.995	97	
PETN	600	663.272	111	
RDX	600	691.837	115	
Tetryl	600	670.811	112	
m-Dinitrobenzene	600	632.337	105	
m-Nitrotoluene	600	632.535	105	
o-Nitrotoluene	600	594.979	99	
p-Nitrotoluene	600	603.637	101	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
 GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

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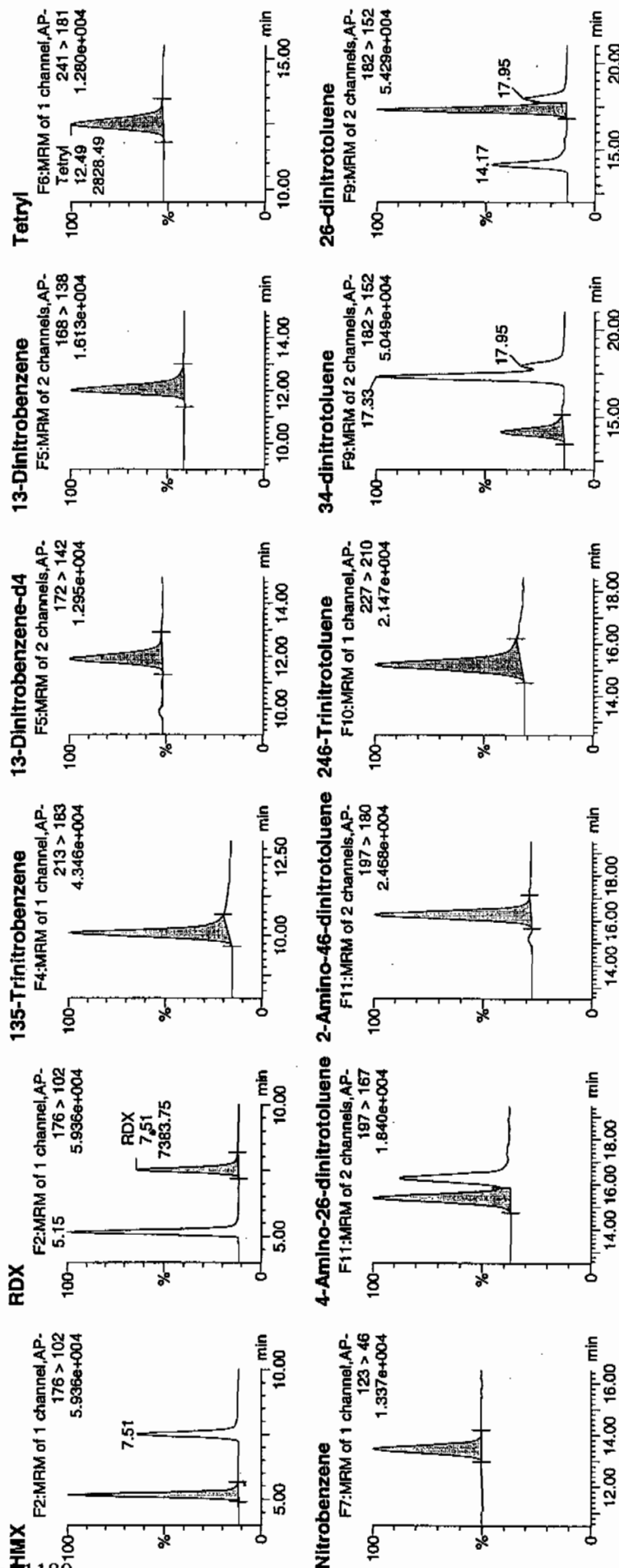
Date: 28-Jan-2010

Time: 15:06:01

ID: WXX100128-07CCV

Vial: 1:1,B

1/29/10

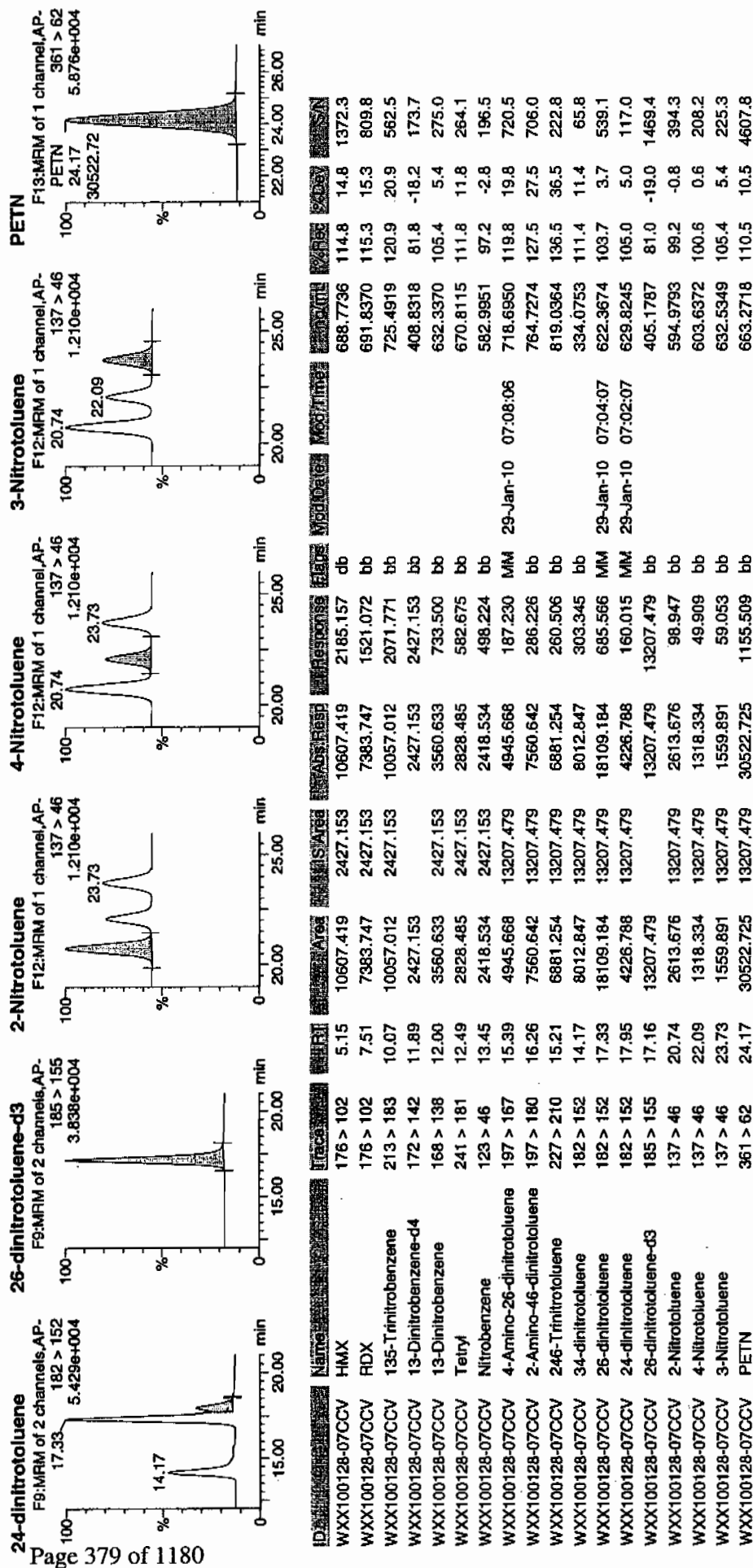


1/31/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/28/10
 Time of Injection: 1506
 Standard Number: WXX100128-07CCV
 Data File: EXP0125155a

HMX	114.8
RDX	115.3
135-TNB	120.9
13-DNB	105.4
Tetryl	111.8
Nitrobenzene	97.2
4A-26-DNT	119.8
2A-46-DNT	127.5
246-TNT	136.5
34-DNT(surr)	111.4
26-DNT	103.7
24-DNT	105.0
2-NT	99.2
4-NT	100.6
3-NT	105.4
PETN	110.5

1007
1/29/10

Total 1785.0

Average 111.6

Handwritten: 40.000 1/31/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125157a

Analysis Date: 28-JAN-10 16:05

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	48.507	121	
1,3-Dinitrobenzene-d4	500	499.262	100	
2,4,6-Trinitrotoluene	40	39.8	99	
2,4-Dinitrotoluene	40	33.656	84	
2,6-Dinitrotoluene	40	38.671	97	
2,6-Dinitrotoluene-d3	500	486.959	97	
2-Amino-4,6-dinitrotoluene	40	44.225	111	
3,4-Dinitrotoluene	20	20.49	102	
4-Amino-2,6-dinitrotoluene	40	43.122	108	
HMX	40	43.442	109	
Nitrobenzene	40	34.022	85	
PETN	40	28.129	70	
RDX	40	42.452	106	
Tetryl	40	53.094	133	*
m-Dinitrobenzene	40	38.088	95	
m-Nitrotoluene	40	40.962	102	
o-Nitrotoluene	40	37.089	93	
p-Nitrotoluene	40	33.466	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%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0125157a

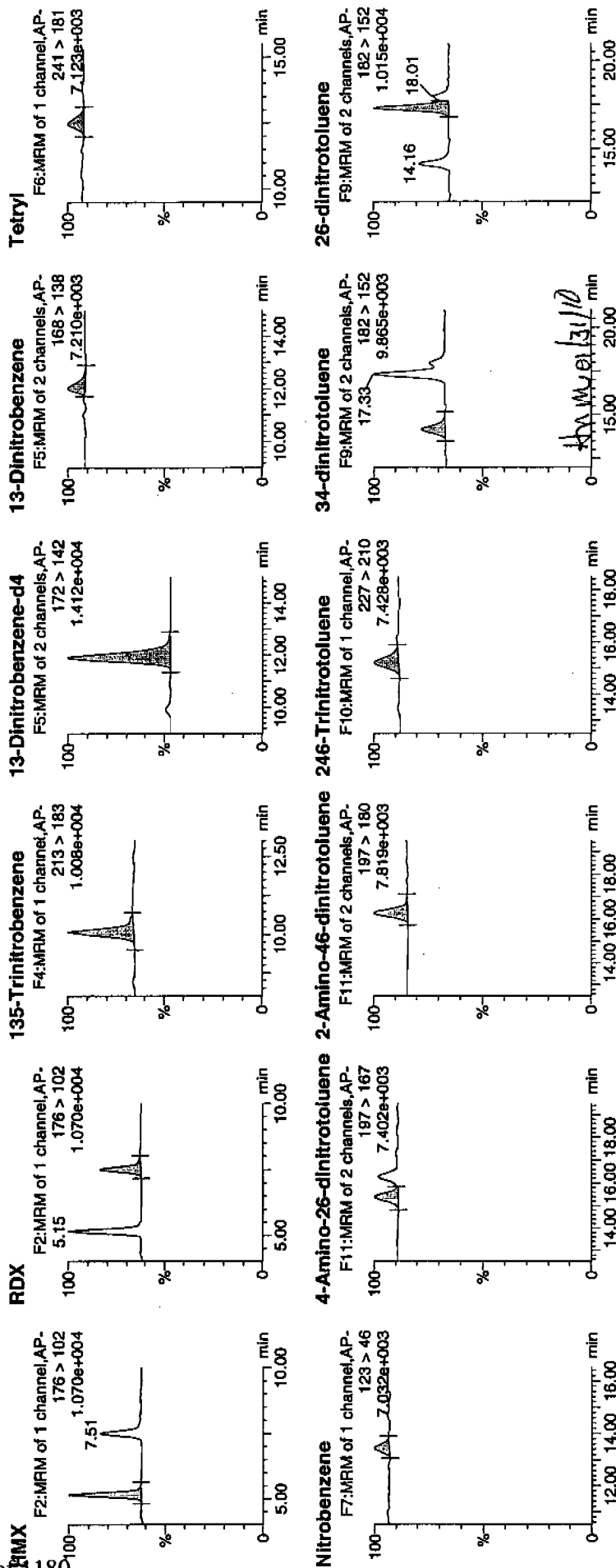
Date: 28-Jan-2010

Time: 16:05:06

ID: WXX100128-08CRI

Vial: 1:1,C

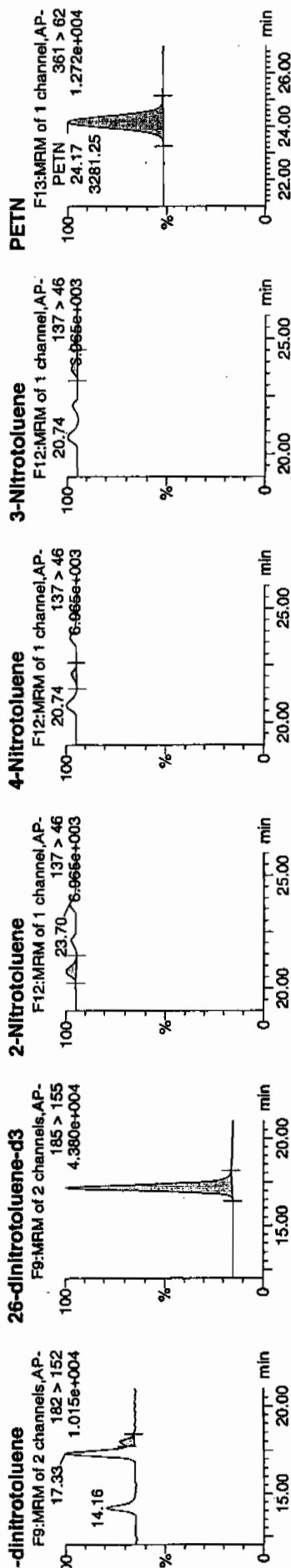
1/29/10



Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



Name	Trace	RT	Area	St Area	Ab Resp	Response	Flags	Mod Date	Mod Time	Volume	Area	% Off	SN
135-Tribromobenzene	176 > 102	5.15	817.009	2964.018	817.009	137.821	bb	29-Jan-10	07:08:13	43.4420	108.6	8.6	176.4
135-Tribromobenzene	176 > 102	7.51	553.294	2964.018	553.294	93.335	bb			42.4521	106.1	6.1	101.1
135-Tribromobenzene	213 > 183	10.07	976.607	2964.018	976.607	164.744	bb			48.5073	121.3	21.3	54.1
135-Tribromobenzene	172 > 142	11.90	2964.018		2964.018	2964.018	bb			499.2619	99.9	-0.1	433.1
135-Tribromobenzene	168 > 138	12.04	261.908	2964.018	261.908	44.181	bb			38.0878	95.2	-4.8	19.4
135-Tribromobenzene	241 > 181	12.49	273.391	2964.018	273.391	46.118	bb			53.0942	132.7	32.7	13.8
135-Tribromobenzene	123 > 46	13.45	172.360	2964.018	172.360	29.075	bb			34.0224	85.1	-14.9	10.3
135-Tribromobenzene	197 > 167	15.38	356.634	15873.256	356.634	11.234	MM	29-Jan-10	07:08:13	43.1217	107.8	7.8	26.7
135-Tribromobenzene	197 > 180	16.25	525.492	15873.256	525.492	16.553	bb			44.2250	110.6	10.6	46.4
135-Tribromobenzene	227 > 210	15.20	401.877	15873.256	401.877	12.659	bb			39.8000	99.5	-0.5	26.4
135-Tribromobenzene	182 > 152	14.16	590.651	15873.256	590.651	18.605	bb			20.4900	102.5	2.5	14.4
135-Tribromobenzene	182 > 152	17.33	1352.340	15873.256	1352.340	42.598	MM	29-Jan-10	07:04:22	38.6712	96.7	-3.3	43.0
135-Tribromobenzene	182 > 152	18.01	271.459	15873.256	271.459	8.551	MM	29-Jan-10	07:01:59	33.6564	84.1	-15.9	8.7
135-Tribromobenzene	185 > 155	17.16	15873.256		15873.256	15873.256	bb			486.9593	97.4	-2.6	2345.3
135-Tribromobenzene	137 > 46	20.74	195.811	15873.256	195.811	6.168	bb			37.0887	92.7	-7.3	55.7
135-Tribromobenzene	137 > 46	22.11	87.841	15873.256	87.841	2.767	bb			33.4658	83.7	-16.3	28.3
135-Tribromobenzene	137 > 46	23.70	121.404	15873.256	121.404	3.824	bb			40.9616	102.4	2.4	33.3
135-Tribromobenzene	361 > 62	24.17	3281.251	15873.256	3281.251	103.358	bb			28.1289	70.3	-29.7	526.1

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/28/10
 Time of Injection 1605
 Standard Number WXX100128-08CRI
 Data File EXP0125157a

HMX	108.6
RDX	106.1
135-TNB	121.3
13-DNB	95.2
Tetryl	132.7
Nitrobenzene	85.1
4A-26-DNT	107.8
2A-46-DNT	110.6
246-TNT	99.5
34-DNT(surr)	102.5
26-DNT	96.7
24-DNT	84.1
2-NT	92.7
4-NT	83.7
3-NT	102.4
PETN	70.3

WAT
1/28/10

Total 1599.3

Average 100.0

WAT 01/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125166a

Analysis Date: 28-JAN-10 20:30

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	668.964	111	
1,3-Dinitrobenzene-d4	500	501.231	100	
2,4,6-Trinitrotoluene	600	698.135	116	
2,4-Dinitrotoluene	600	613.976	102	
2,6-Dinitrotoluene	600	612.82	102	
2,6-Dinitrotoluene-d3	500	479.609	96	
2-Amino-4,6-dinitrotoluene	600	723.747	121	*
3,4-Dinitrotoluene	300	327.253	109	
4-Amino-2,6-dinitrotoluene	600	672.886	112	
HMX	600	676.021	113	
Nitrobenzene	600	540.553	90	
PETN	600	590.442	98	
RDX	600	695.663	116	
Tetryl	600	633.156	106	
m-Dinitrobenzene	600	607.58	101	
m-Nitrotoluene	600	559.459	93	
o-Nitrotoluene	600	535.969	89	
p-Nitrotoluene	600	572.193	95	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report GEL Laboratories, LLC / Analyst: Michael A. Penny

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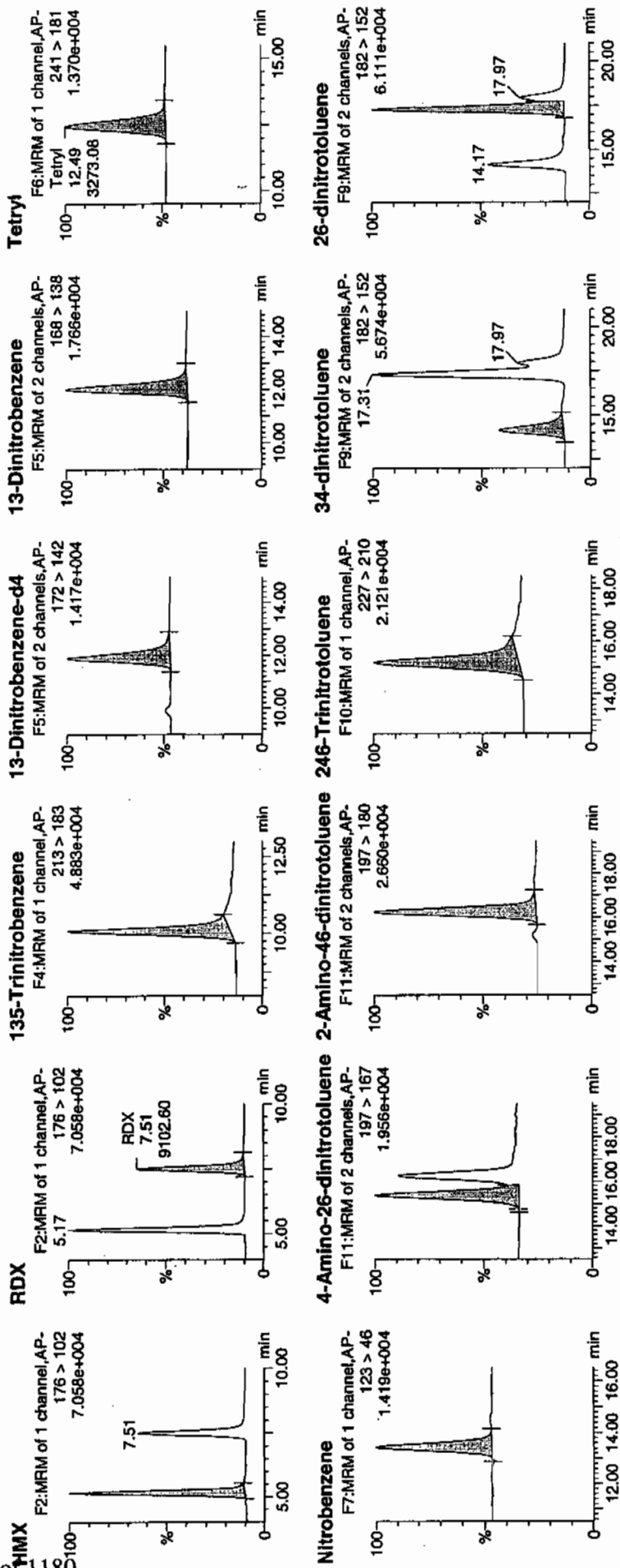
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Time: 20:30:38

ID: WXX100128-07CCV

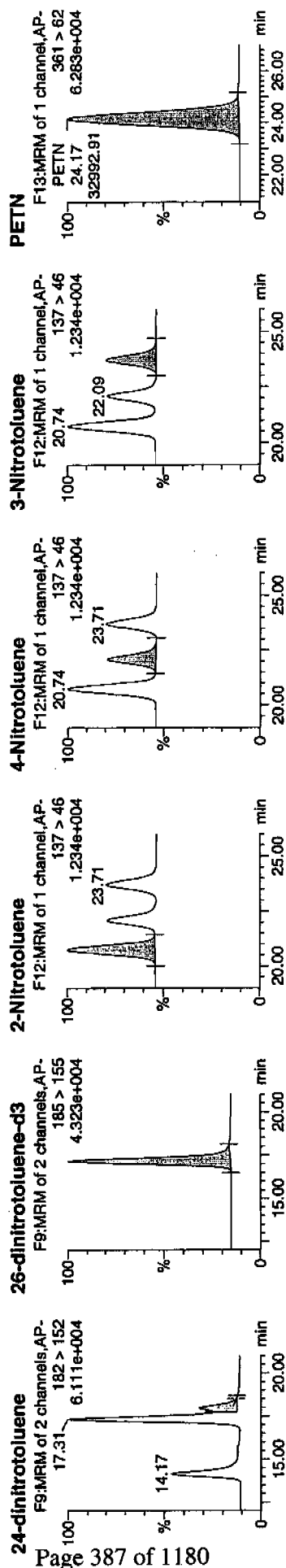
Val: 1:1,B

11/29/10



11/29/10

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



Name	Trace	RT	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	A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GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/28/10
 Time of Injection: 2030
 Standard Number: WXX100128-07CCV
 Data File: EXP0125166a

HMX	112.7
RDX	115.9
135-TNB	111.5
13-DNB	101.3
Tetryl	105.5
Nitrobenzene	90.1
4A-26-DNT	112.1
2A-46-DNT	120.6
246-TNT	116.4
34-DNT(surr)	109.1
26-DNT	102.1
24-DNT	102.3
2-NT	89.3
4-NT	95.4
3-NT	93.2
PETN	98.4

Handwritten: 11/28/10

Total 1675.9

Average 104.7

Handwritten: 11/28/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125168a

Analysis Date: 28-JAN-10 21:29

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	50.682	127	
1,3-Dinitrobenzene-d4	500	535.136	107	
2,4,6-Trinitrotoluene	40	40.043	100	
2,4-Dinitrotoluene	40	38.054	95	
2,6-Dinitrotoluene	40	37.555	94	
2,6-Dinitrotoluene-d3	500	534.891	107	
2-Amino-4,6-dinitrotoluene	40	38.434	96	
3,4-Dinitrotoluene	20	18.528	93	
4-Amino-2,6-dinitrotoluene	40	41.714	104	
HMX	40	44.117	110	
Nitrobenzene	40	45.833	115	
PETN	40	23.008	58	*
RDX	40	38.294	96	
Tetryl	40	34.969	87	
m-Dinitrobenzene	40	35.006	88	
m-Nitrotoluene	40	28.44	71	
o-Nitrotoluene	40	31.291	78	
p-Nitrotoluene	40	35.755	89	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125168a

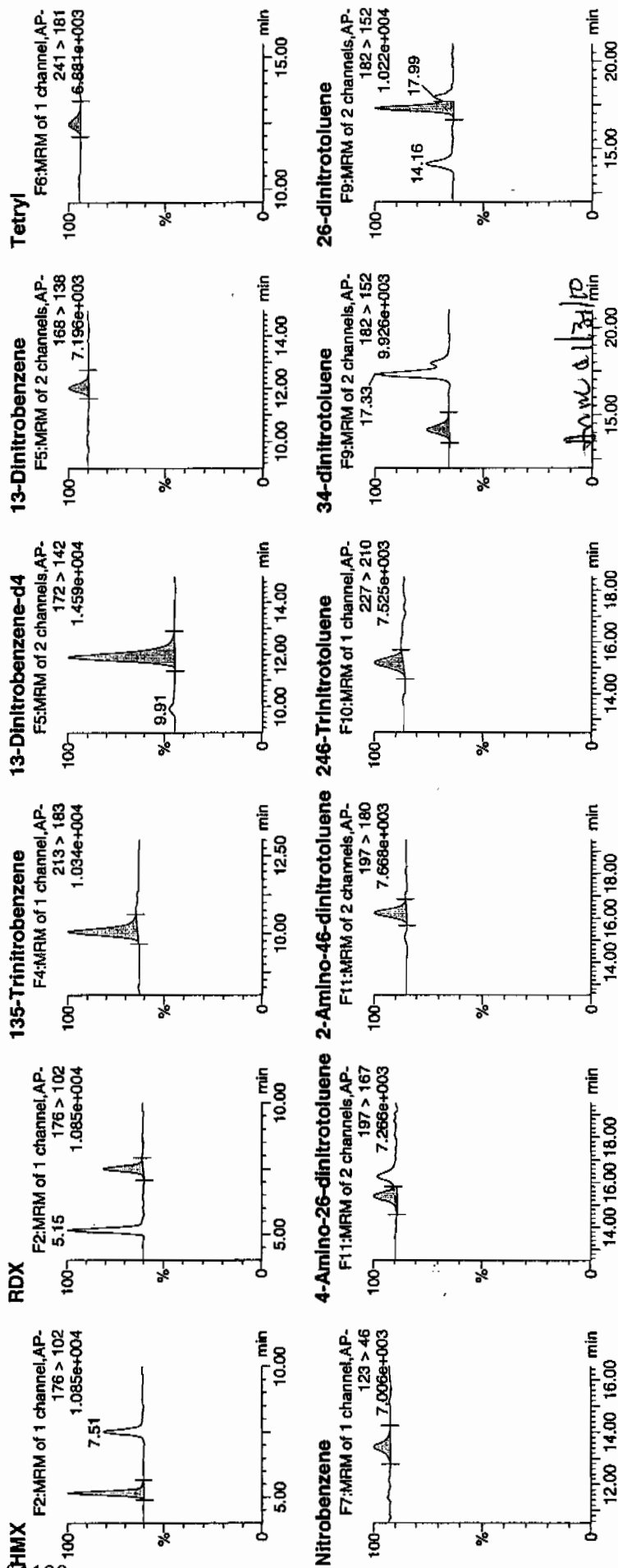
Date: 28-Jan-2010

Time: 21:29:35

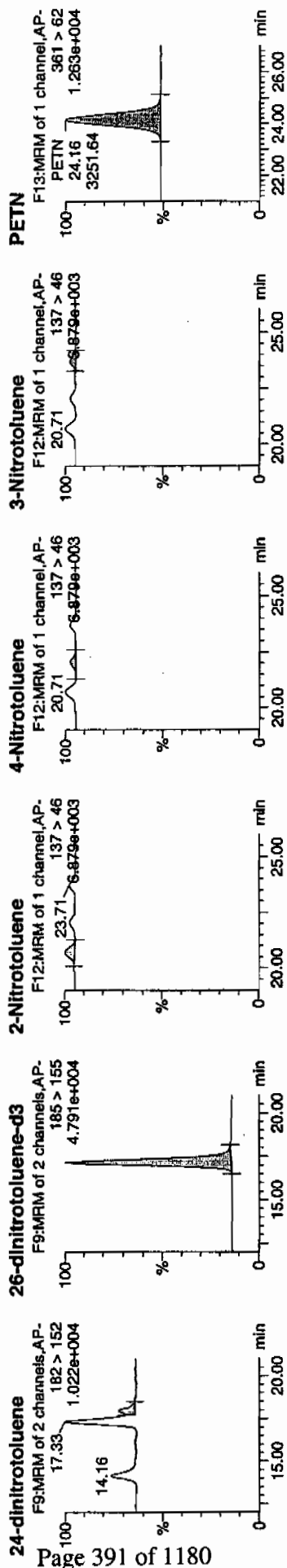
ID: WXX100128-08CRI

Vial: 1:1,C

WXX
1/29/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



Name	ID	Area	RT	Area	SA Area	Abundance	Response	Flags	Mod Date	Mod Time	Int. Mod.	PSC	Z-Dev	S/N
HMX	WXX100128-08CRI	176 > 102	5.15	889.321	3176.997	889.321	139.963	bb		44.1170	110.3	10.3	159.3	
RDX	WXX100128-08CRI	176 > 102	7.51	534.968	3176.997	534.968	84.194	bb		38.2944	95.7	-4.3	84.6	
135-Trinitrobenzene	WXX100128-08CRI	213 > 183	10.07	1085.703	3176.997	1085.703	170.889	bb		50.6818	126.7	26.7	92.2	
13-Dinitrobenzene-d4	WXX100128-08CRI	172 > 142	11.90	3176.997		3176.997	3176.997	bb		535.1362	107.0	7.0	338.2	
13-Dinitrobenzene	WXX100128-08CRI	168 > 138	12.00	258.013	3176.997	258.013	40.606	bb		35.0061	87.5	-12.5	18.2	
Tetryl	WXX100128-08CRI	241 > 181	12.45	193.001	3176.997	193.001	30.375	bb		34.9693	87.4	-12.6	15.1	
Nitrobenzene	WXX100128-08CRI	123 > 46	13.40	248.875	3176.997	248.875	39.168	bb		45.8326	114.6	14.6	14.3	
4-Amino-26-dinitrotoluene	WXX100128-08CRI	197 > 167	15.38	378.945	17435.660	378.945	10.867	MM	29-Jan-10	07:08:38	41.7136	104.3	4.3	20.7
2-Amino-46-dinitrotoluene	WXX100128-08CRI	197 > 180	16.25	501.626	17435.660	501.626	14.385	bb		38.4335	96.1	-3.9	44.4	
246-Trinitrotoluene	WXX100128-08CRI	227 > 210	15.20	444.130	17435.660	444.130	12.736	bb		40.0431	100.1	0.1	30.0	
34-dinitrotoluene	WXX100128-08CRI	182 > 152	14.16	586.664	17435.660	586.664	16.824	bb		18.5280	92.6	-7.4	9.6	
26-dinitrotoluene	WXX100128-08CRI	182 > 152	17.33	1442.559	17435.660	1442.559	41.368	MM	29-Jan-10	07:05:13	37.5546	93.9	-6.1	38.2
24-dinitrotoluene	WXX100128-08CRI	182 > 152	17.99	337.142	17435.660	337.142	9.688	MM	29-Jan-10	07:01:15	38.0543	95.1	-4.9	8.8
26-dinitrotoluene-d3	WXX100128-08CRI	185 > 155	17.16	17435.660		17435.660	17435.660	bb		534.8907	107.0	7.0	1283.8	
2-Nitrotoluene	WXX100128-08CRI	137 > 46	20.71	181.465	17435.660	181.465	5.204	bb		31.2914	78.2	-21.8	55.7	
4-Nitrotoluene	WXX100128-08CRI	137 > 46	22.06	103.088	17435.660	103.088	2.956	bb		35.7553	89.4	-10.6	30.1	
3-Nitrotoluene	WXX100128-08CRI	137 > 46	23.71	92.590	17435.660	92.590	2.655	bb		28.4404	71.1	-28.9	32.9	
PETN	WXX100128-08CRI	361 > 62	24.16	3251.640	17435.660	3251.640	93.247	bb		23.0077	57.5	-42.5	1155.1	

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/28/10
 Time of Injection 2129
 Standard Number WXX100128-08CRI
 Data File EXP0125168a

HMX	110.3
RDX	95.7
135-TNB	126.7
13-DNB	87.5
Tetryl	87.4
Nitrobenzene	114.6
4A-26-DNT	104.3
2A-46-DNT	96.1
246-TNT	100.1
34-DNT(surr)	92.6
26-DNT	93.9
24-DNT	95.1
2-NT	78.2
4-NT	89.4
3-NT	71.1
PETN	57.5

NOT
1/28/10

Total 1500.5

Average 93.8

Handwritten: 11/28/10
 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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125179a

Analysis Date: 29-JAN-10 02:54

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	693.885	116	
1,3-Dinitrobenzene-d4	500	440.796	88	
2,4,6-Trinitrotoluene	600	678.239	113	
2,4-Dinitrotoluene	600	623.98	104	
2,6-Dinitrotoluene	600	604.152	101	
2,6-Dinitrotoluene-d3	500	455.229	91	
2-Amino-4,6-dinitrotoluene	600	681.159	114	
3,4-Dinitrotoluene	300	331.129	110	
4-Amino-2,6-dinitrotoluene	600	678.045	113	
HMX	600	780.078	130	*
Nitrobenzene	600	600.679	100	
PETN	600	590.757	98	
RDX	600	803.101	134	*
Tetryl	600	613.613	102	
m-Dinitrobenzene	600	661.545	110	
m-Nitrotoluene	600	558.589	93	
o-Nitrotoluene	600	541.629	90	
p-Nitrotoluene	600	563.212	94	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

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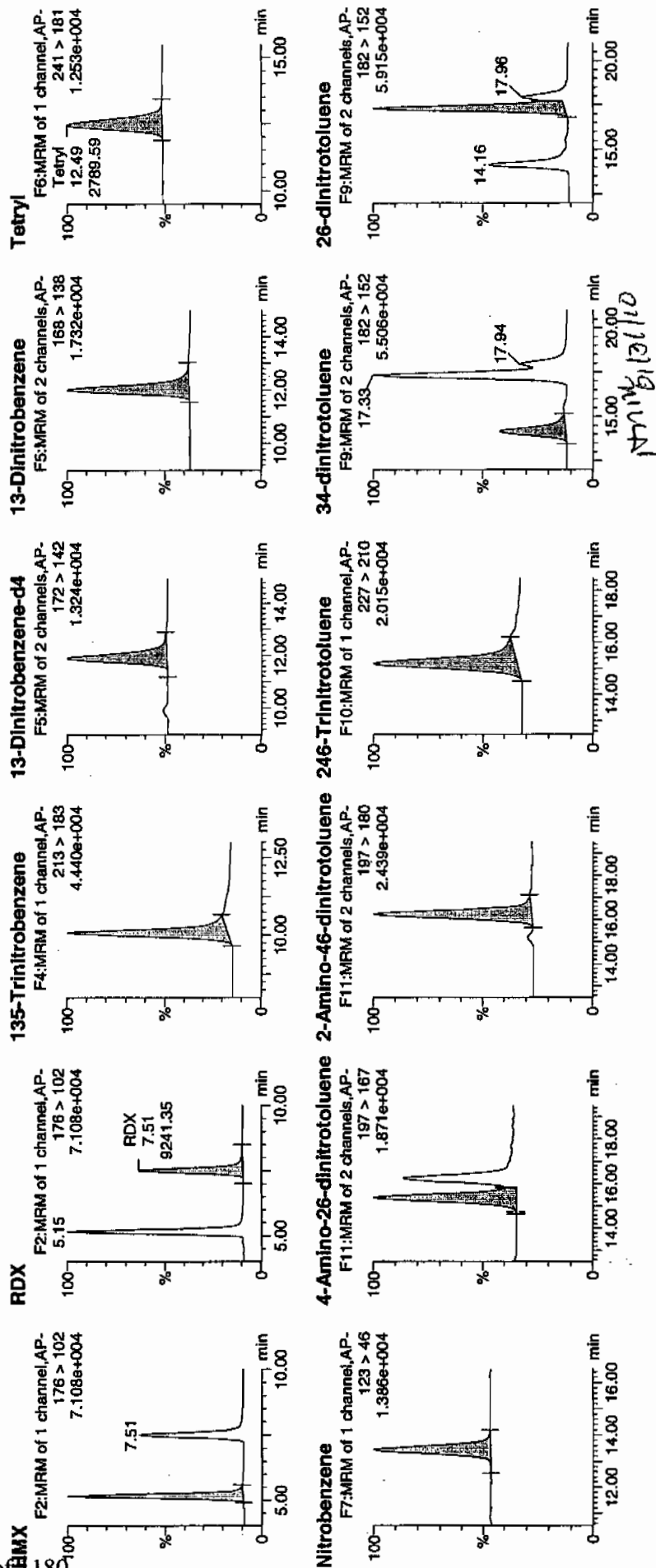
Date: 29-Jan-2010

Time: 02:54:06

ID: WXX100128-07CCV

Vial: 1:1,B

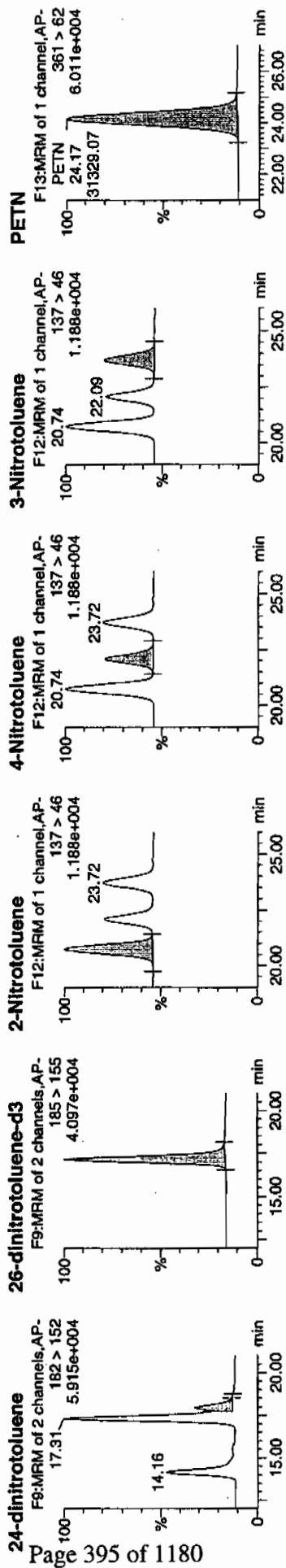
1/29/10
MMP



Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



ID	Name	Trace	RT	Area	StArea	Abs Resp	Response	Flags	Mod Date	Mod Time	IntTime	Rec	%Dev	SN
WXX100128-07CCV	HMx	176 > 102	5.15	12952.807	2616.915	12952.807	2474.824	bb			780.0783	130.0	30.0	694.3
WXX100128-07CCV	RDX	176 > 102	7.51	9241.353	2616.915	9241.353	1765.696	bb			803.1009	133.9	33.9	413.1
WXX100128-07CCV	135-Trinitrobenzene	213 > 183	10.07	10377.311	2616.915	10377.311	1982.737	bb			593.8853	115.6	15.6	808.6
WXX100128-07CCV	13-Dinitrobenzene-d4	172 > 142	11.90	2616.915		2616.915	2616.915	bb			440.7955	88.2	-11.8	833.6
WXX100128-07CCV	13-Dinitrobenzene	168 > 138	12.03	4016.339	2616.915	4016.339	767.380	bb			661.5448	110.3	10.3	431.3
WXX100128-07CCV	Tetryl	241 > 181	12.49	2789.591	2616.915	2789.591	532.992	bb			613.6132	102.3	2.3	192.2
WXX100128-07CCV	Nitrobenzene	123 > 46	13.45	2686.718	2616.915	2686.718	513.337	bb			600.6789	100.1	0.1	282.8
WXX100128-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.38	5242.310	14838.964	5242.310	176.640	MM	29-Jan-10	07:09:11	678.0453	113.0	13.0	187.0
WXX100128-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	7566.316	14838.964	7566.316	254.948	bb			681.1595	113.5	13.5	433.3
WXX100128-07CCV	246-Trinitrotoluene	227 > 210	15.20	6402.227	14838.964	6402.227	215.724	bb			678.2394	113.0	13.0	212.5
WXX100128-07CCV	34-dinitrotoluene	182 > 152	14.16	8923.248	14838.964	8923.248	300.670	bb			331.1287	110.4	10.4	652.1
WXX100128-07CCV	26-dinitrotoluene	182 > 152	17.31	19750.691	14838.964	19750.691	665.501	bd			604.1525	100.7	0.7	950.8
WXX100128-07CCV	24-dinitrotoluene	182 > 152	17.96	4704.842	14838.964	4704.842	158.530	MM	29-Jan-10	07:00:48	623.9798	104.0	4.0	217.1
WXX100128-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	14838.964		14838.964	14838.964	bb			455.2293	91.0	-9.0	806.2
WXX100128-07CCV	2-Nitrotoluene	137 > 46	20.74	2673.223	14838.964	2673.223	90.074	bb			541.6267	90.3	-9.7	338.8
WXX100128-07CCV	4-Nitrotoluene	137 > 46	22.09	1381.991	14838.964	1381.991	46.566	bb			563.2123	93.9	-6.1	183.2
WXX100128-07CCV	3-Nitrotoluene	137 > 46	23.72	1547.697	14838.964	1547.697	52.150	bb			558.5892	93.1	-6.9	190.3
WXX100128-07CCV	PETN	361 > 62	24.17	31329.068	14838.964	31329.068	1055.635	bb			590.7574	98.5	-1.5	1124.3

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/29/10
 Time of Injection: 0254
 Standard Number: WXX100128-07CCV
 Data File: EXP0125179a

HMX	130.0
RDX	133.9
135-TNB	115.6
13-DNB	110.3
Tetryl	102.3
Nitrobenzene	100.1
4A-26-DNT	113.0
2A-46-DNT	113.5
246-TNT	113.0
34-DNT(surr)	110.4
26-DNT	100.7
24-DNT	104.0
2-NT	90.3
4-NT	93.9
3-NT	93.1
PETN	98.5

WAT
1/29/10

Total 1722.6

Average 107.7

WAT 1/29/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125181a

Analysis Date: 29-JAN-10 03:53

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	52.245	131	*
1,3-Dinitrobenzene-d4	500	462.351	92	
2,4,6-Trinitrotoluene	40	44.081	110	
2,4-Dinitrotoluene	40	34.598	86	
2,6-Dinitrotoluene	40	40.068	100	
2,6-Dinitrotoluene-d3	500	462.209	92	
2-Amino-4,6-dinitrotoluene	40	43.63	109	
3,4-Dinitrotoluene	20	18.662	93	
4-Amino-2,6-dinitrotoluene	40	40.035	100	
HMX	40	48.55	121	
Nitrobenzene	40	38.762	97	
PETN	40	29.755	74	
RDX	40	42.988	107	
Tetryl	40	46.222	116	
m-Dinitrobenzene	40	42.28	106	
m-Nitrotoluene	40	33.043	83	
o-Nitrotoluene	40	37.281	93	
p-Nitrotoluene	40	45.498	114	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125181a

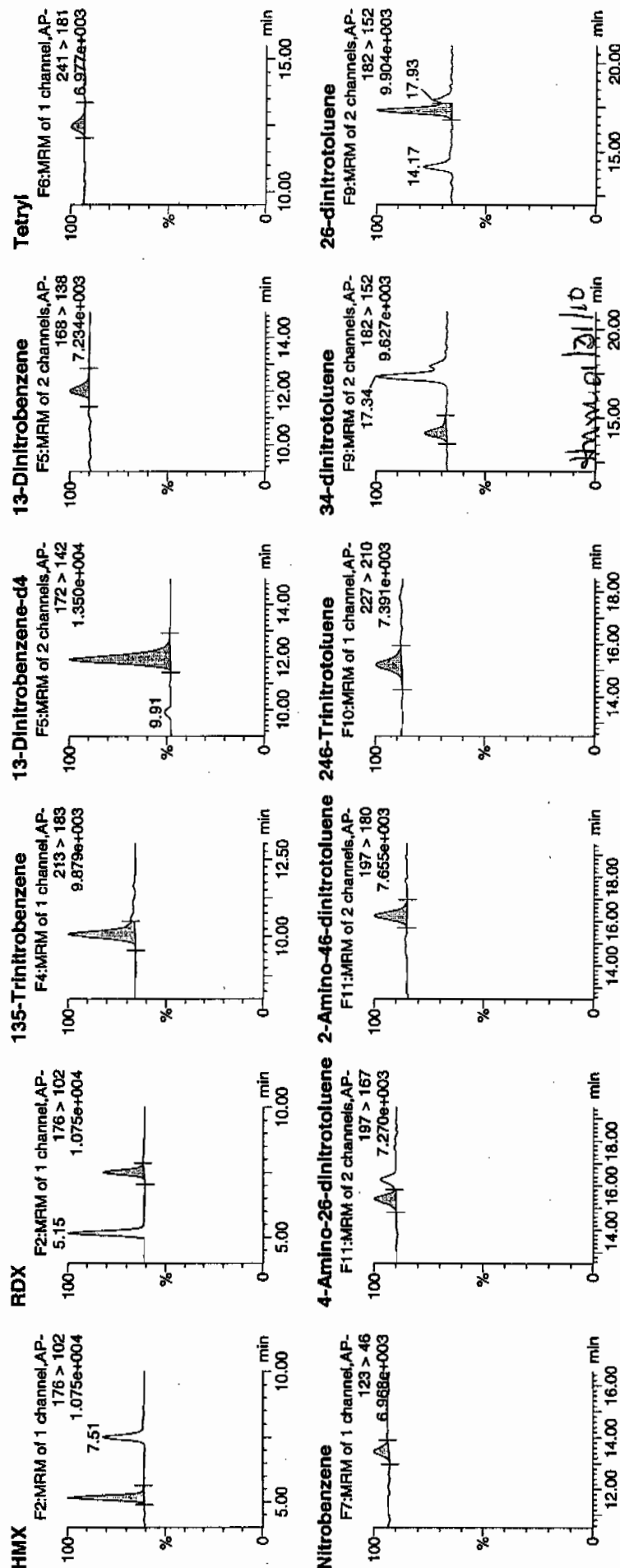
Date: 29-Jan-2010

Page Time: 03:53:04

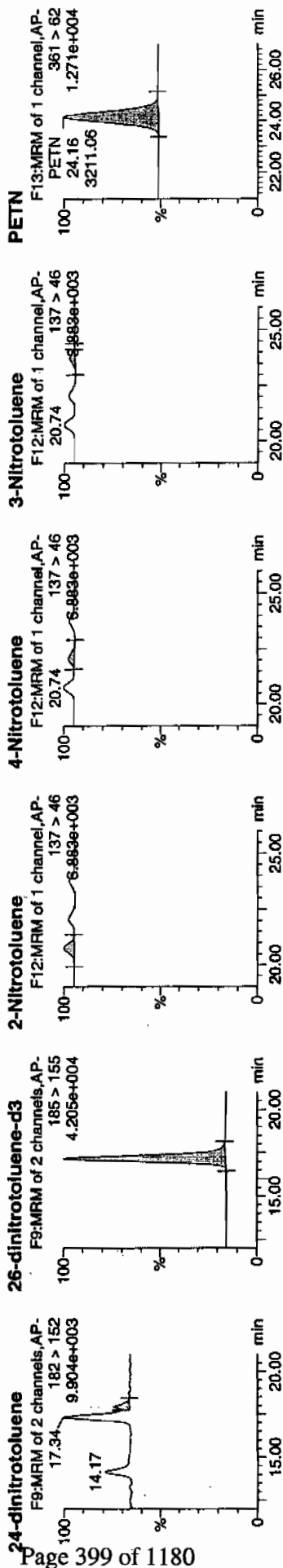
ID: WXX100128-08CRI

Vial: 1:1,C

1/29/10
1/29/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA3.qld, Time: Fri Jan 29 07:11:03 2010



ID	Name	Trace	RT	Area	ISArea	Abundance	Response	Flags	ModDate	ModTime	28Dec	29Dec	30Dec	31Dec
WXX100128-08CRI	HMX	176 > 102	5.15	845.578	2744.888	845.578	154.028	bb			48.5504	121.4	21.4	155.1
WXX100128-08CRI	ROX	176 > 102	7.51	518.853	2744.888	518.853	94.513	bb			42.9877	107.5	7.5	82.7
WXX100128-08CRI	135-Trinitrobenzene	213 > 183	10.07	962.204	2744.888	962.204	175.272	bd			52.2447	130.6	30.6	214.4
WXX100128-08CRI	13-Dinitrobenzene-d4	172 > 142	11.89	2744.888		2744.888	2744.888	bb			462.3514	92.5	-7.5	364.2
WXX100128-08CRI	13-Dinitrobenzene	168 > 138	12.00	269.240	2744.888	269.240	49.044	bb			42.2799	105.7	5.7	21.5
WXX100128-08CRI	Tetryl	241 > 181	12.45	220.407	2744.888	220.407	40.149	bb			46.2216	115.6	15.6	21.2
WXX100128-08CRI	Nitrobenzene	123 > 46	13.46	181.855	2744.888	181.855	33.126	bb			38.7624	96.9	-3.1	11.4
WXX100128-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.39	314.279	15066.474	314.279	10.430	MM	29-Jan-10	07:09:24	40.0353	100.1	0.1	23.4
WXX100128-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.23	492.072	15066.474	492.072	16.330	bb			43.6300	109.1	9.1	36.4
WXX100128-08CRI	246-Trinitrotoluene	227 > 210	15.21	422.481	15066.474	422.481	14.021	bb			44.0810	110.2	10.2	20.0
WXX100128-08CRI	34-dinitrotoluene	182 > 152	14.17	510.599	15066.474	510.599	16.945	bb			18.6615	93.3	-6.7	29.2
WXX100128-08CRI	26-dinitrotoluene	182 > 152	17.34	1329.975	15066.474	1329.975	44.137	MM	29-Jan-10	07:06:11	40.0682	100.2	0.2	69.3
WXX100128-08CRI	24-dinitrotoluene	182 > 152	17.93	264.873	15066.474	264.873	8.790	MM	29-Jan-10	06:58:29	34.5983	86.5	-13.5	16.9
WXX100128-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	15066.474		15066.474	15066.474	bb			462.2089	92.4	-7.6	1223.6
WXX100128-08CRI	2-Nitrotoluene	137 > 46	20.74	186.822	15066.474	186.822	6.200	bb			37.2809	93.2	-6.8	62.2
WXX100128-08CRI	4-Nitrotoluene	137 > 46	22.07	113.352	15066.474	113.352	3.762	bb			45.4976	113.7	13.7	34.8
WXX100128-08CRI	3-Nitrotoluene	137 > 46	23.76	92.956	15066.474	92.956	3.085	MM	29-Jan-10	06:57:46	33.0427	82.6	-17.4	31.5
WXX100128-08CRI	PETN	361 > 62	24.16	3211.061	15066.474	3211.061	106.563	bb			29.7551	74.4	-25.6	446.3

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/29/10
 Time of Injection 0353
 Standard Number WXX100128-08CRI
 Data File EXP0125181a

HMX	121.4
RDX	107.5
135-TNB	130.6
13-DNB	105.7
Tetryl	115.6
Nitrobenzene	96.9
4A-26-DNT	100.1
2A-46-DNT	109.1
246-TNT	110.2
34-DNT(surr)	93.3
26-DNT	100.2
24-DNT	86.5
2-NT	93.2
4-NT	113.7
3-NT	82.6
PETN	74.4

*mtf
1/29/10*

Total 1641.0

Average 102.6

100130/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125192a

Analysis Date: 29-JAN-10 09:17

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	659.219	110	
1,3-Dinitrobenzene-d4	500	485.21	97	
2,4,6-Trinitrotoluene	600	731.351	122	*
2,4-Dinitrotoluene	600	648.963	108	
2,6-Dinitrotoluene	600	648.843	108	
2,6-Dinitrotoluene-d3	500	454.865	91	
2-Amino-4,6-dinitrotoluene	600	707.583	118	
3,4-Dinitrotoluene	300	324.482	108	
4-Amino-2,6-dinitrotoluene	600	693.561	116	
HMX	600	714.05	119	
Nitrobenzene	600	533.013	89	
PETN	600	591.612	99	
RDX	600	682.073	114	
Tetryl	600	572.478	95	
m-Dinitrobenzene	600	633.214	106	
m-Nitrotoluene	600	548.448	91	
o-Nitrotoluene	600	541.245	90	
p-Nitrotoluene	600	542.177	90	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

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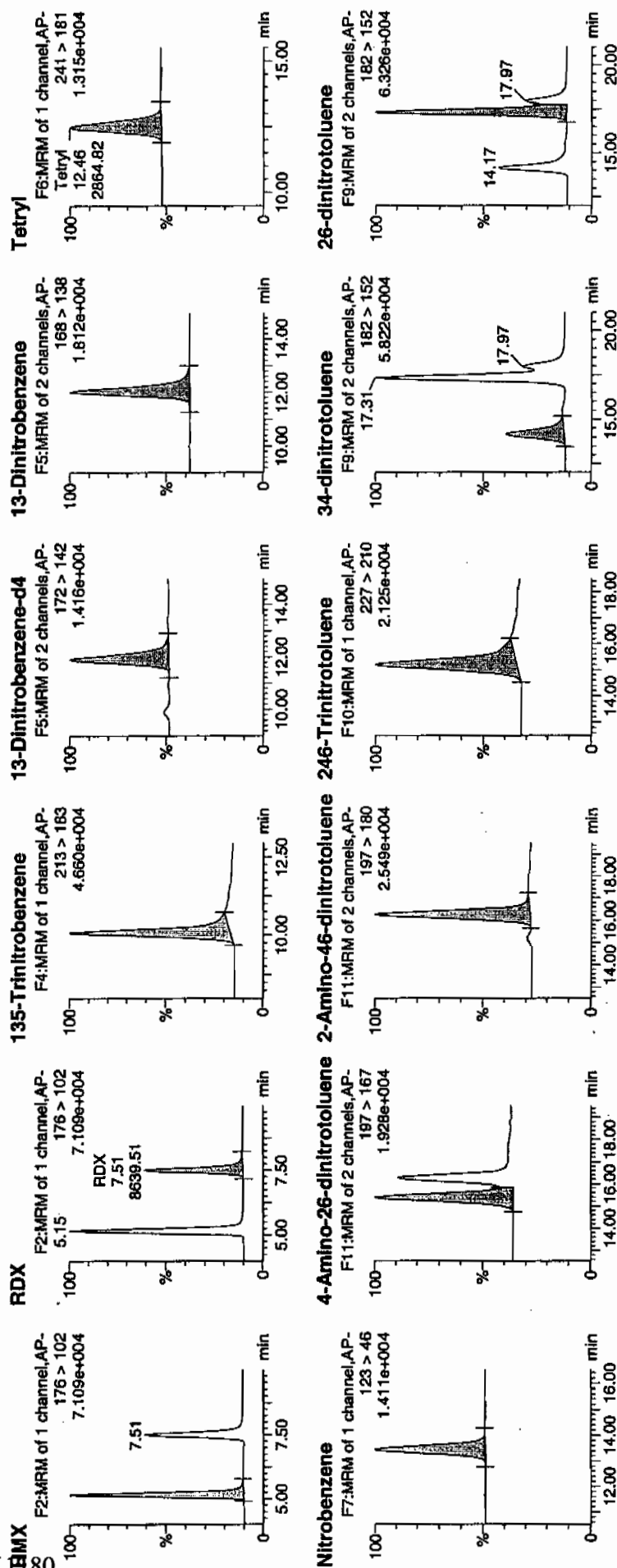
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Time: 09:17:44

ID: WXX100128-07CCV

Vial: 1:1,B

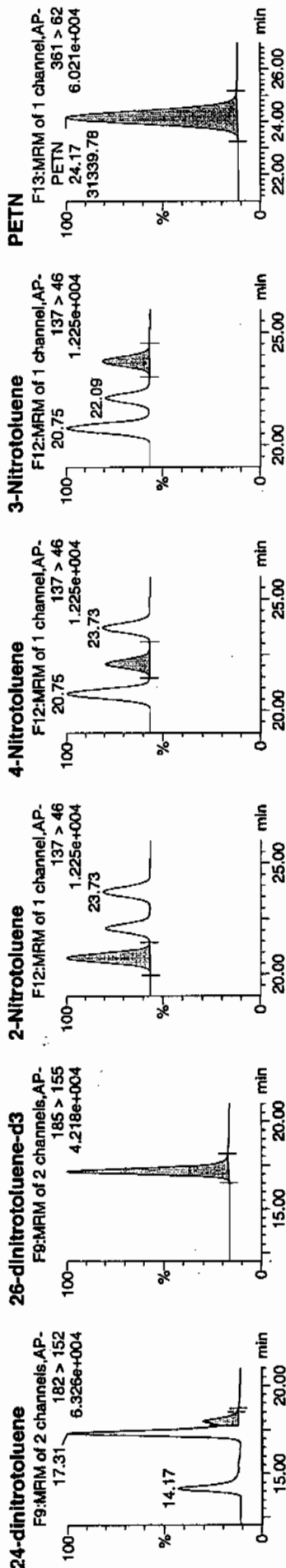
1/29/10
 MJP



hmm
 9/13/10

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010



ID	Name	Trace	Area	Water	Abundance	Residuals	Phase	ModTime	ModDate	%Rec	%Dev	SN
WXX100128-07CCV	HMX	176 > 102	5.15	13051.095	2880.596	13051.095	2265.346	db	714.0498	119.0	19.0	1309.8
WXX100128-07CCV	RDX	176 > 102	7.51	8639.514	2880.596	8639.514	1499.605	bb	682.0734	113.7	13.7	737.5
WXX100128-07CCV	135-Trinitrobenzene	213 > 183	10.08	10860.330	2880.596	10860.330	1885.084	bb	659.2188	109.9	9.9	322.8
WXX100128-07CCV	13-Dinitrobenzene-d4	172 > 142	11.90	2880.596		2880.596	2880.596	bb	485.2102	97.0	-3.0	301.6
WXX100128-07CCV	13-Dinitrobenzene	168 > 138	12.00	4231.698	2880.596	4231.698	734.518	bb	633.2145	105.5	5.5	401.3
WXX100128-07CCV	Tetryl	241 > 181	12.46	2864.821	2880.596	2864.821	497.262	bb	572.4781	95.4	-4.6	247.2
WXX100128-07CCV	Nitrobenzene	123 > 46	13.46	2624.280	2880.596	2624.280	455.510	bb	533.0129	88.8	-11.2	171.5
WXX100128-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.39	5357.976	14827.088	5357.976	180.682	MM	693.5608	115.6	15.6	187.7
WXX100128-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	7853.534	14827.088	7853.534	264.837	bb	707.5826	117.9	17.9	451.3
WXX100128-07CCV	246-Trinitrotoluene	227 > 210	15.21	6898.045	14827.088	6898.045	232.616	bb	731.3508	121.9	21.9	203.3
WXX100128-07CCV	34-dinitrotoluene	182 > 152	14.17	8737.130	14827.088	8737.130	294.634	bb	324.4818	108.2	8.2	481.4
WXX100128-07CCV	26-dinitrotoluene	182 > 152	17.31	21194.730	14827.088	21194.730	714.730	MM	648.8434	108.1	8.1	733.2
WXX100128-07CCV	24-dinitrotoluene	182 > 152	17.97	4889.304	14827.088	4889.304	164.877	MM	648.9634	108.2	8.2	151.7
WXX100128-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	14827.088	14827.088	14827.088	14827.088	bb	454.8650	91.0	-9.0	1341.9
WXX100128-07CCV	2-Nitrotoluene	137 > 46	20.75	2669.191	14827.088	2669.191	90.011	bb	541.2449	90.2	-9.8	117.5
WXX100128-07CCV	4-Nitrotoluene	137 > 46	22.09	1329.311	14827.088	1329.311	44.827	bb	542.1771	90.4	-9.6	61.4
WXX100128-07CCV	3-Nitrotoluene	137 > 46	23.73	1518.382	14827.088	1518.382	51.203	bb	548.4478	91.4	-8.6	65.6
WXX100128-07CCV	PETN	361 > 62	24.17	31339.783	14827.088	31339.783	1056.842	bb	591.6116	98.6	-14	6152.1

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/29/10
 Time of Injection: 0917
 Standard Number: WXX100128-07CCV
 Data File: EXP0125192a

HMX	119.0
RDX	113.7
135-TNB	109.9
13-DNB	105.5
Tetryl	95.4
Nitrobenzene	88.8
4A-26-DNT	115.6
2A-46-DNT	117.9
246-TNT	121.9
34-DNT(surr)	108.2
26-DNT	108.1
24-DNT	108.2
2-NT	90.2
4-NT	90.4
3-NT	91.4
PETN	98.6

Total 1682.8

Average 105.2

ICV Limits 85-115%
 CRI Limits 70-130%
 CCV Limits 85-115%

No single analyte > +/- 60%

WTP
 1/29/10

WXX100128-07CCV

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125194a

Analysis Date: 29-JAN-10 10:16

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	48.777	122	
1,3-Dinitrobenzene-d4	500	475.293	95	
2,4,6-Trinitrotoluene	40	42.23	106	
2,4-Dinitrotoluene	40	38.358	96	
2,6-Dinitrotoluene	40	38.828	97	
2,6-Dinitrotoluene-d3	500	454.754	91	
2-Amino-4,6-dinitrotoluene	40	47.076	118	
3,4-Dinitrotoluene	20	18.986	95	
4-Amino-2,6-dinitrotoluene	40	43.769	109	
HMX	40	45.789	114	
Nitrobenzene	40	29.921	75	
PETN	40	30.598	76	
RDX	40	42.011	105	
Tetryl	40	40.656	102	
m-Dinitrobenzene	40	41.817	105	
m-Nitrotoluene	40	34.401	86	
o-Nitrotoluene	40	34.132	85	
p-Nitrotoluene	40	32.943	82	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

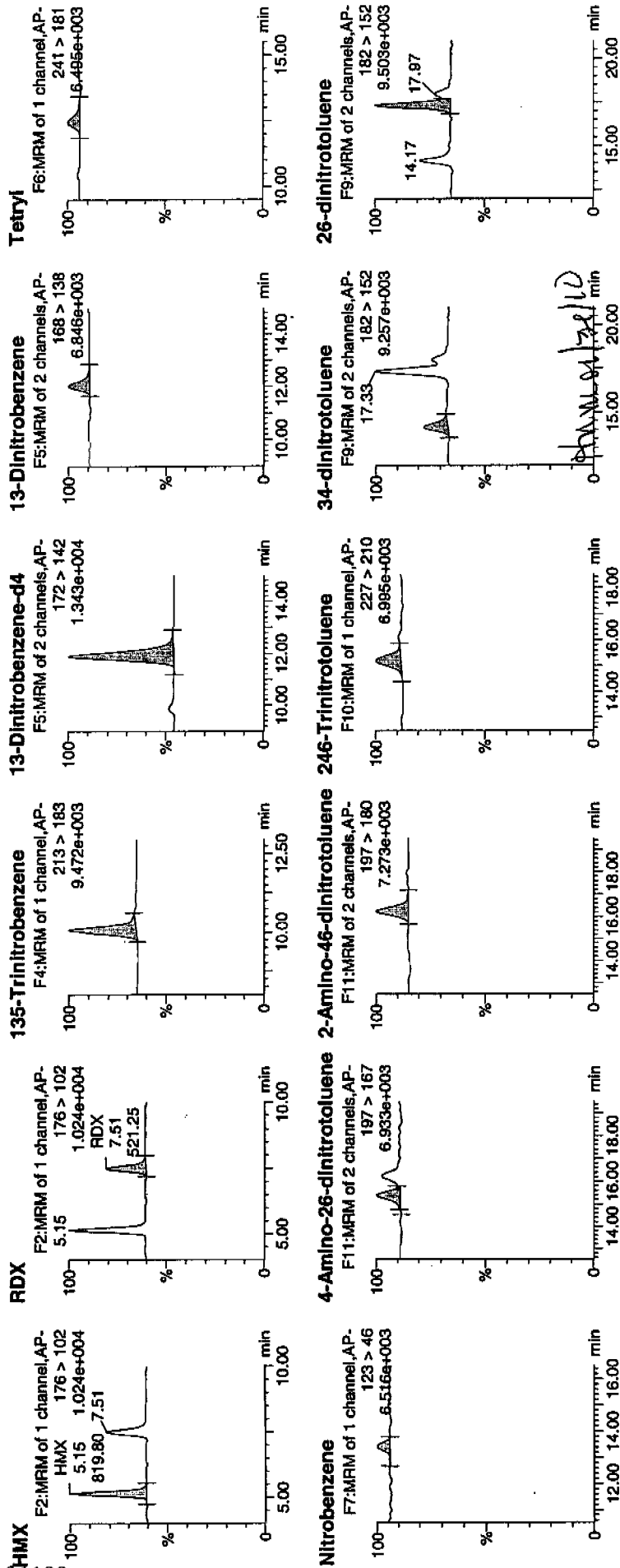
Date: 29-Jan-2010

Time: 10:16:47

ID: WXX100128-08CRI

Vial: 1:1,C

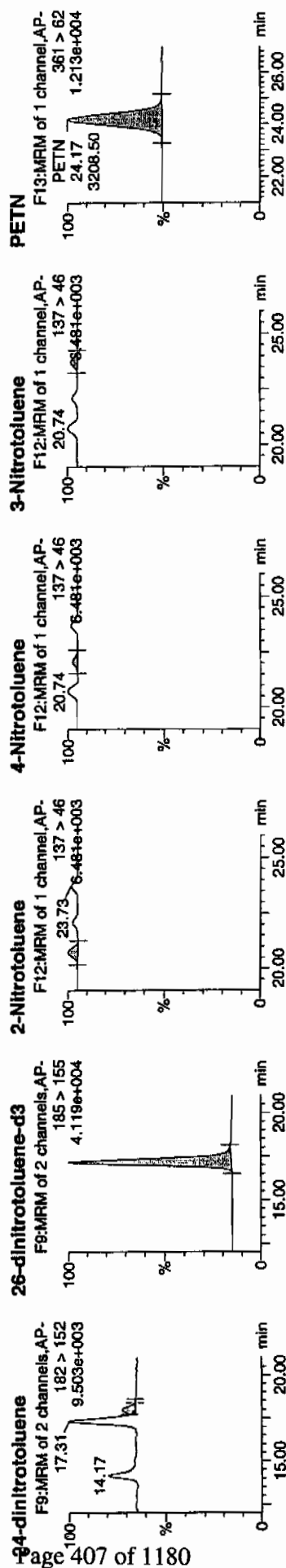
1/29/10



Printed: Fri Jan 29 17:42:56 2010, Page 26 of 51

Quantify Sample Report GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010



ID	Name	Trace	Area	IS Area	Ave Resp	Response	Flag	Mod Date	Mod Time	Form	%Rec	DDN	SSN
WXX100128-08CRI	HMX	176 > 102	5.15	819.804	2821.720	819.804	145.267	bb		45.7889	114.5	14.5	151.4
WXX100128-08CRI	RDX	176 > 102	7.51	521.253	2821.720	521.253	92.364	bb		42.0106	105.0	5.0	79.9
WXX100128-08CRI	135-Trinitrobenzene	213 > 183	10.07	934.006	2821.720	934.006	165.503	bb		48.7768	121.9	21.9	144.3
WXX100128-08CRI	13-Dinitrobenzene-d4	172 > 142	11.90	2821.720	2821.720	2821.720	2821.720	bb		475.2931	95.1	-4.9	491.1
WXX100128-08CRI	13-Dinitrobenzene	168 > 138	12.04	273.743	2821.720	273.743	48.506	bb		41.8165	104.5	4.5	18.5
WXX100128-08CRI	Tetryl	241 > 181	12.46	199.293	2821.720	199.293	35.314	bb		40.6557	101.6	1.6	16.2
WXX100128-08CRI	Nitrobenzene	123 > 46	13.41	144.303	2821.720	144.303	25.570	bb		29.9207	74.8	-25.2	10.6
WXX100128-08CRI	4-Amino-26-dinitrotoluene	197 > 167	15.39	338.044	14823.482	338.044	11.402	MM	29-Jan-10 17:25:17	43.7686	109.4	9.4	18.9
WXX100128-08CRI	2-Amino-46-dinitrotoluene	197 > 180	16.25	522.374	14823.482	522.374	17.620	bb		47.0760	117.7	17.7	35.3
WXX100128-08CRI	246-Trinitrotoluene	227 > 210	15.21	398.211	14823.482	398.211	13.432	bb		42.2298	105.6	5.6	24.2
WXX100128-08CRI	34-dinitrotoluene	182 > 152	14.17	511.096	14823.482	511.096	17.239	bb		18.9858	94.9	-5.1	35.6
WXX100128-08CRI	26-dinitrotoluene	182 > 152	17.31	1268.026	14823.482	1268.026	42.771	MM	29-Jan-10 17:35:35	38.8281	97.1	-2.9	89.1
WXX100128-08CRI	24-dinitrotoluene	182 > 152	17.97	288.922	14823.482	288.922	9.745	MM	29-Jan-10 17:37:14	38.3583	95.9	-4.1	17.7
WXX100128-08CRI	26-dinitrotoluene-d3	185 > 155	17.16	14823.482	14823.482	14823.482	14823.482	bb		454.7544	91.0	-9.0	1237.8
WXX100128-08CRI	2-Nitrotoluene	137 > 46	20.74	168.282	14823.482	168.282	5.676	bb		34.1317	85.3	-14.7	57.4
WXX100128-08CRI	4-Nitrotoluene	137 > 46	22.09	80.751	14823.482	80.751	2.724	bb		32.9434	82.4	-17.6	30.6
WXX100128-08CRI	3-Nitrotoluene	137 > 46	23.73	95.216	14823.482	95.216	3.212	bb		34.4009	86.0	-14.0	36.4
WXX100128-08CRI	PETN	361 > 62	24.17	3208.496	14823.482	3208.496	108.223	bb		30.5980	76.5	-23.5	648.1

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/29/10
 Time of Injection 1016
 Standard Number WXX100128-08CRI
 Data File EXP0125194a

HMX	114.5
RDX	105.0
135-TNB	121.9
13-DNB	104.5
Tetryl	101.6
Nitrobenzene	74.8
4A-26-DNT	109.4
2A-46-DNT	117.7
246-TNT	105.6
34-DNT(surr)	94.9
26-DNT	97.1
24-DNT	95.9
2-NT	85.3
4-NT	82.4
3-NT	86.0
PETN	76.5

Total 1573.1

Average 98.3

100%
1/29/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125204a

Analysis Date: 29-JAN-10 15:11

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	738.173	123	*
1,3-Dinitrobenzene-d4	500	472.42	94	
2,4,6-Trinitrotoluene	600	700.688	117	
2,4-Dinitrotoluene	600	654.353	109	
2,6-Dinitrotoluene	600	620.767	103	
2,6-Dinitrotoluene-d3	500	437.034	87	
2-Amino-4,6-dinitrotoluene	600	721.572	120	*
3,4-Dinitrotoluene	300	319.312	106	
4-Amino-2,6-dinitrotoluene	600	708.447	118	
HMX	600	717.24	120	
Nitrobenzene	600	535.048	89	
PETN	600	638.27	106	
RDX	600	747.295	125	*
Tetryl	600	591.727	99	
m-Dinitrobenzene	600	617.099	103	
m-Nitrotoluene	600	633.589	106	
o-Nitrotoluene	600	566.348	94	
p-Nitrotoluene	600	607.758	101	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125204a

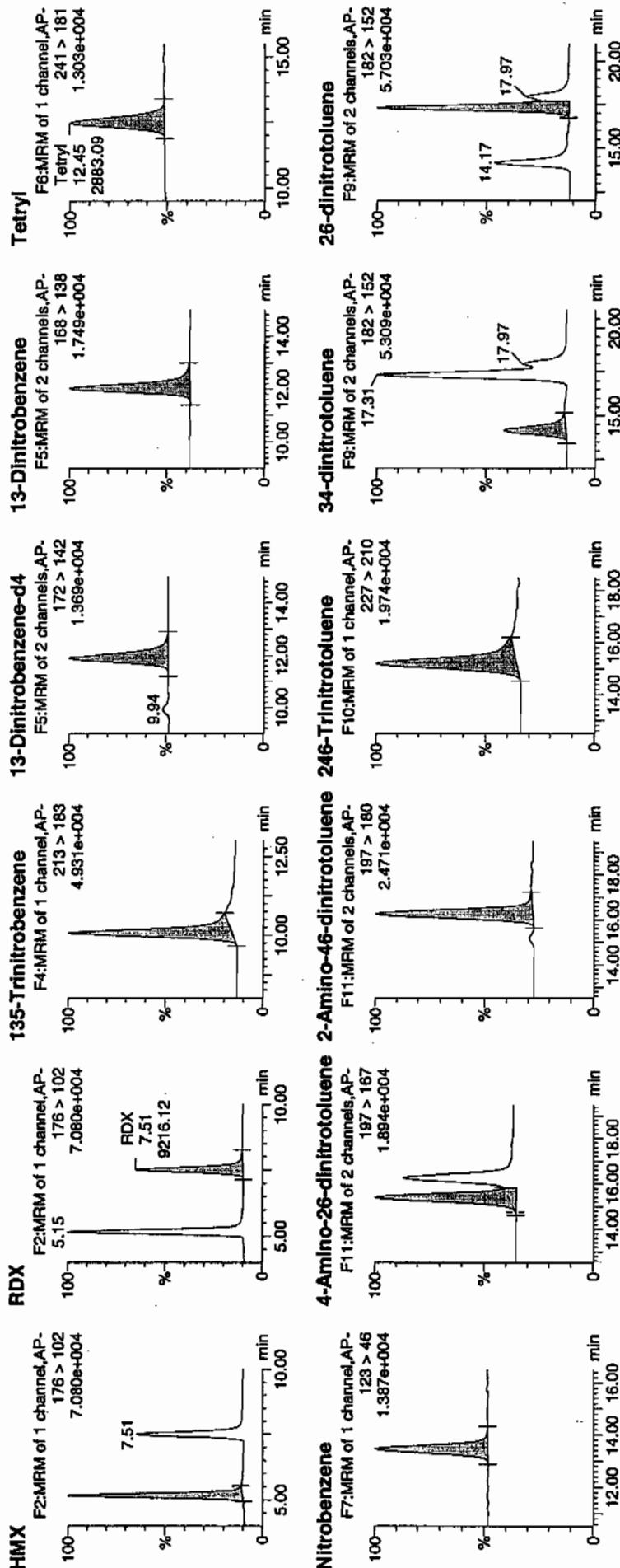
Date: 29-Jan-2010

Time: 15:11:37

ID: WXX100128-07CCV

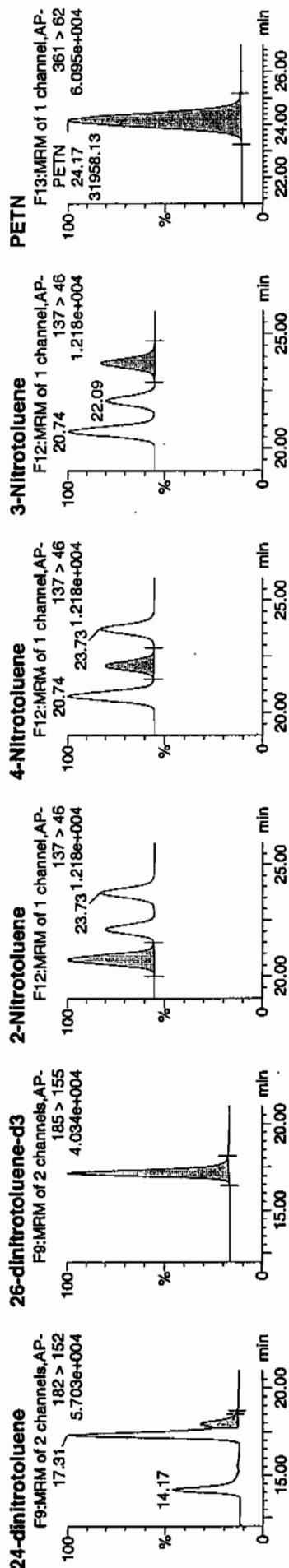
Vial: 1:1,B

NOT
1/29/10



AMW 013110

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010



ID	Name	Trace	File	Area	Star	Abs. Res	Response	Phase	Mod. Date	Mod. Time	Intensity	Area	Peak	Width	SN
WX100128-07CCV	HMZ	176 > 102	5.15	12763.826	2804.662	12763.826	2275.466	bb			717.2396	119.5	19.5	1845.4	
WX100128-07CCV	RDX	176 > 102	7.51	9216.123	2804.662	9216.123	1643.001	bb			747.2947	124.5	24.5	1122.3	
WX100128-07CCV	135-Trinitrobenzene	213 > 183	10.07	11821.611	2804.662	11821.611	2107.493	bb			738.1729	123.0	23.0	1208.9	
WX100128-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	2804.662	2804.662	2804.662	2804.662	bb			472.4198	94.5	-5.5	382.7	
WX100128-07CCV	13-Dinitrobenzene	168 > 138	12.03	4015.289	2804.662	4015.289	715.824	bb			617.0989	102.8	2.8	358.0	
WX100128-07CCV	Tetryl	241 > 181	12.45	2883.092	2804.662	2883.092	513.982	bb			591.7275	98.6	-1.4	212.6	
WX100128-07CCV	Nitrobenzene	123 > 46	13.45	2564.859	2804.662	2564.859	457.249	bb			535.0481	89.2	-10.8	179.1	
WX100128-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.39	5258.429	14245.854	5258.429	184.560	MM	29-Jan-10	17:25:02	708.4466	118.1	18.1	194.2	
WX100128-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	7694.847	14245.854	7694.847	270.073	bb			721.5716	120.3	20.3	250.9	
WX100128-07CCV	246-Trinitrotoluene	227 > 210	15.21	6349.767	14245.854	6349.767	222.864	bb			700.6883	116.8	16.8	210.1	
WX100128-07CCV	34-dinitrotoluene	182 > 152	14.17	8260.887	14245.854	8260.887	289.940	bb			319.3123	106.4	6.4	406.3	
WX100128-07CCV	26-dinitrotoluene	182 > 152	17.31	19482.717	14245.854	19482.717	683.803	MM	29-Jan-10	17:35:56	620.7674	103.5	3.5	1174.3	
WX100128-07CCV	28-dinitrotoluene	182 > 152	17.97	4736.655	14245.854	4736.655	166.247	MM	29-Jan-10	17:36:41	654.3533	109.1	9.1	252.8	
WX100128-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	14245.854	14245.854	14245.854	14245.854	bb			437.0339	87.4	-12.6	2117.3	
WX100128-07CCV	2-Nitrotoluene	137 > 46	20.74	2683.502	14245.854	2683.502	94.185	bb			566.3481	94.4	-5.6	129.5	
WX100128-07CCV	4-Nitrotoluene	137 > 46	22.09	1431.688	14245.854	1431.688	50.249	bb			607.7576	101.3	1.3	71.6	
WX100128-07CCV	3-Nitrotoluene	137 > 46	23.73	1685.335	14245.854	1685.335	59.152	bb			633.5894	105.6	5.6	80.2	
WX100128-07CCV	PETN	361 > 62	24.17	31958.129	14245.854	31958.129	1121.684	bb			638.2703	106.4	6.4	7262.5	

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/29/10
 Time of Injection: 1511
 Standard Number: WXX100128-07CCV
 Data File: EXP0125204a

HMX	119.5
RDX	124.5
135-TNB	123.0
13-DNB	102.8
Tetryl	98.6
Nitrobenzene	89.2
4A-26-DNT	118.1
2A-46-DNT	120.3
246-TNT	116.8
34-DNT(surr)	106.4
26-DNT	103.5
24-DNT	109.1
2-NT	94.4
4-NT	101.3
3-NT	105.6
PETN	106.4

*WXX
1/29/10*

Total 1739.5

Average 108.7 ✓

WXX 1/29/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125206a

Analysis Date: 29-JAN-10 16:10

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	54.269	136	*
1,3-Dinitrobenzene-d4	500	405.494	81	
2,4,6-Trinitrotoluene	40	38.033	95	
2,4-Dinitrotoluene	40	27.59	69	*
2,6-Dinitrotoluene	40	40.964	102	
2,6-Dinitrotoluene-d3	500	445.917	89	
2-Amino-4,6-dinitrotoluene	40	45.746	114	
3,4-Dinitrotoluene	20	20.457	102	
4-Amino-2,6-dinitrotoluene	40	42.305	106	
HMX	40	54.951	137	*
Nitrobenzene	40	49.324	123	
PETN	40	32.381	81	
RDX	40	42.281	106	
Tetryl	40	56.523	141	*
m-Dinitrobenzene	40	39.227	98	
m-Nitrotoluene	40	39.714	99	
o-Nitrotoluene	40	36.797	92	
p-Nitrotoluene	40	28.112	70	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125206a

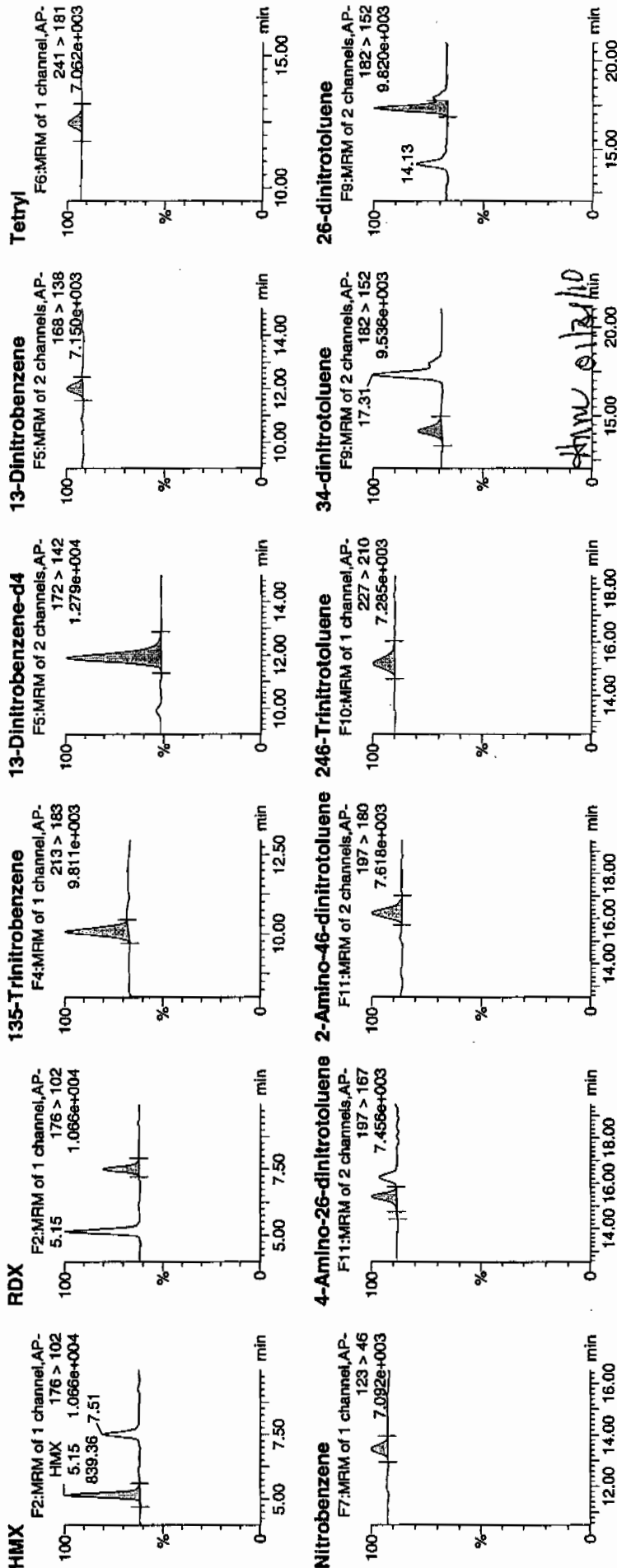
Date: 29-Jan-2010

Time: 16:10:40

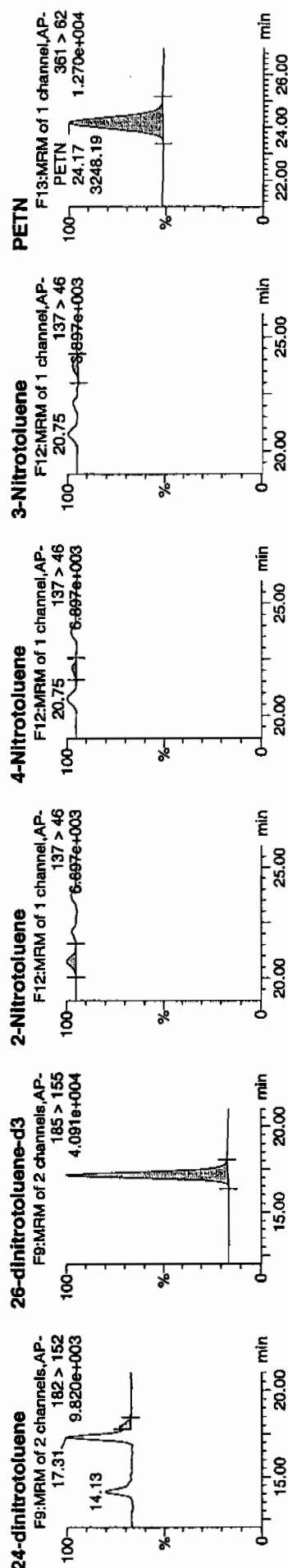
ID: WXX100128-08CRI

Vial: 1:1,C

1/29/10
10:17



Dataset: C:\MASSLYN\New_Exp.PRO\012510expA4.qld, Time: Fri Jan 29 17:40:23 2010



Name	ID	Trace	IRI	Area	SArea	Abundance	Response	ModDate	ModTime	Page	%Dev	SN
HMZ	WXX100128-08CRI	176 > 102	5.15	839.360	2407.339	839.360	174.334	bb	54.9509	137.4	37.4	65.4
RDX	WXX100128-08CRI	176 > 102	7.51	447.566	2407.339	447.566	92.959	bb	42.2809	105.7	5.7	31.1
135-Trinitrobenzene	WXX100128-08CRI	213 > 183	10.06	871.327	2407.339	871.327	180.973	bb	54.2686	135.7	35.7	76.7
13-Dinitrobenzene-d4	WXX100128-08CRI	172 > 142	11.91	2407.339		2407.339	2407.339	bb	405.4944	81.1	-18.9	183.4
13-Dinitrobenzene	WXX100128-08CRI	168 > 138	12.01	219.082	2407.339	219.082	45.503	bb	39.2273	98.1	-1.9	18.4
Tetryl	WXX100128-08CRI	241 > 181	12.46	236.384	2407.339	236.384	49.097	bb	56.5229	141.3	41.3	42.6
Nitrobenzene	WXX100128-08CRI	123 > 46	13.42	202.950	2407.339	202.950	42.152	bb	49.3244	123.3	23.3	24.8
4-Amino-26-dinitrotoluene	WXX100128-08CRI	197 > 167	15.40	320.388	14535.422	320.388	11.021	MM	29-Jan-10 17:24:50	42.3047	105.8	5.8
2-Amino-46-dinitrotoluene	WXX100128-08CRI	197 > 180	16.23	497.752	14535.422	497.752	17.122	bb	45.7460	114.4	14.4	58.7
246-Trinitrotoluene	WXX100128-08CRI	227 > 210	15.18	351.667	14535.422	351.667	12.097	bb	38.0329	95.1	-4.9	28.4
34-dinitrotoluene	WXX100128-08CRI	182 > 152	14.13	539.992	14535.422	539.992	18.575	bb	20.4568	102.3	2.3	52.7
26-dinitrotoluene	WXX100128-08CRI	182 > 152	17.31	1311.778	14535.422	1311.778	45.123	MM	29-Jan-10 17:36:08	40.9638	102.4	2.4
24-dinitrotoluene	WXX100128-08CRI	182 > 152	17.93	203.775	14535.422	203.775	7.010	MM	29-Jan-10 17:36:26	27.5900	69.0	-31.0
26-dinitrotoluene-d3	WXX100128-08CRI	185 > 155	17.16	14535.422		14535.422	14535.422	bb	445.9173	89.2	-10.8	550.1
2-Nitrotoluene	WXX100128-08CRI	137 > 46	20.75	177.896	14535.422	177.896	6.119	bb	36.7967	92.0	-8.0	47.1
4-Nitrotoluene	WXX100128-08CRI	137 > 46	22.12	67.569	14535.422	67.569	2.324	MM	29-Jan-10 17:39:23	28.1119	70.3	-29.7
3-Nitrotoluene	WXX100128-08CRI	137 > 46	23.73	107.786	14535.422	107.786	3.708	bb	39.7141	99.3	-0.7	26.1
PETN	WXX100128-08CRI	361 > 62	24.17	3248.191	14535.422	3248.191	111.734	bb	32.3812	81.0	-19.0	407.0

GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/29/10
 Time of Injection 1610
 Standard Number WXX100128-08CRI
 Data File EXP0125206a

HMX	137.4
RDX	105.7
135-TNB	135.7
13-DNB	98.1
Tetryl	141.3
Nitrobenzene	123.3
4A-26-DNT	105.8
2A-46-DNT	114.4
246-TNT	95.1
34-DNT(surr)	102.3
26-DNT	102.4
24-DNT	69.0
2-NT	92.0
4-NT	70.3
3-NT	99.3
PETN	81.0

Total 1673.1

Average 104.6

1/29/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125215a

Analysis Date: 29-JAN-10 20:36

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	740.529	123	*
1,3-Dinitrobenzene-d4	500	469.12	94	
2,4,6-Trinitrotoluene	600	596.016	99	
2,4-Dinitrotoluene	600	566.653	94	
2,6-Dinitrotoluene	600	608.922	101	
2,6-Dinitrotoluene-d3	500	534.373	107	
2-Amino-4,6-dinitrotoluene	600	637.224	106	
3,4-Dinitrotoluene	300	277.56	93	
4-Amino-2,6-dinitrotoluene	600	598.904	100	
HMX	600	698.813	116	
Nitrobenzene	600	539.159	90	
PETN	600	493.36	82	
RDX	600	765.654	128	*
Tetryl	600	594.694	99	
m-Dinitrobenzene	600	612.92	102	
m-Nitrotoluene	600	492.714	82	
o-Nitrotoluene	600	447.627	75	*
p-Nitrotoluene	600	456.461	76	*

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Printed: Sat Jan 30 10:07:34 2010, Page 17 of 71

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125215a

Date: 29-Jan-2010

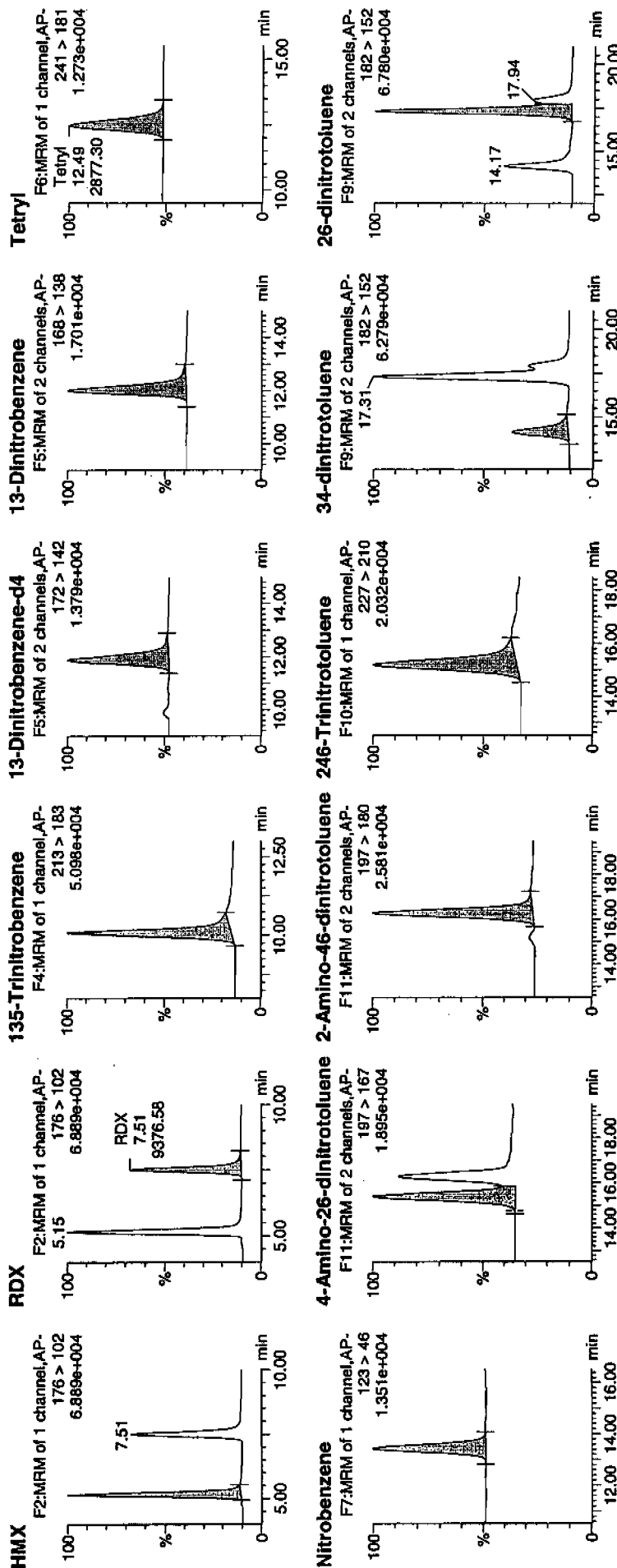
Time: 20:36:17

ID: WXX100128-07CCV

Vial: 1:1,B

1/30/10

Page 418 of 1180



Handwritten signature and date: 01/30/10

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

2,4-dinitrotoluene

4-Nitrotoluene

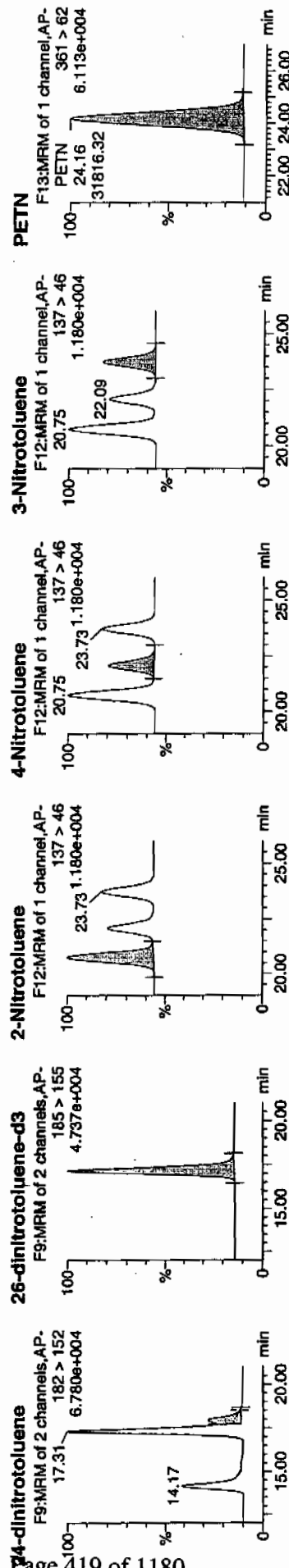
26-dinitrotoluene-d3

2-Nitrotoluene

4-Nitrotoluene

3-Nitrotoluene

PETN



Name	Trace	SI	Area	ISAT	Area/ISAT	Response	Half	Mold Date	Mold Time	Volume	Effice	2 Day	15 Day
WXX100128-07CCV	HMx	176 > 102	5.15	12349.028	2785.069	12349.028	2217.006	bb		698.8126	116.5	16.5	918.8
WXX100128-07CCV	RDX	176 > 102	7.51	9376.575	2785.069	9376.575	1683.365	bb		765.6538	127.6	27.6	588.8
WXX100128-07CCV	135-Trinitrobenzene	213 > 183	10.09	11776.004	2785.069	11776.004	2114.131	bb		740.5295	123.4	23.4	754.8
WXX100128-07CCV	13-Dinitrobenzene-d4	172 > 142	11.89	2785.069	2785.069	2785.069	2785.069	bb		469.1195	93.8	-6.2	318.3
WXX100128-07CCV	13-Dinitrobenzene	168 > 138	12.03	3960.238	2785.069	3960.238	710.977	bb		612.9201	102.2	2.2	450.0
WXX100128-07CCV	Tetryl	241 > 181	12.49	2877.303	2785.069	2877.303	516.559	bb		594.6938	99.1	-0.9	307.1
WXX100128-07CCV	Nitrobenzene	123 > 46	13.45	2566.510	2785.069	2566.510	460.762	bb		539.1590	89.9	-10.1	202.6
WXX100128-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.39	5435.452	17418.791	5435.452	156.023	MM	30-Jan-10	09:58:29	99.8	-0.2	264.0
WXX100128-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.25	8308.872	17418.791	8308.872	238.503	bb		637.2238	106.2	6.2	512.7
WXX100128-07CCV	246-Trinitrotoluene	227 > 210	15.21	8604.200	17418.791	8604.200	189.571	bb		596.0158	99.3	-0.7	140.7
WXX100128-07CCV	34-dinitrotoluene	182 > 152	14.17	8780.057	17418.791	8780.057	252.028	bb		277.5599	92.5	-7.5	316.2
WXX100128-07CCV	26-dinitrotoluene	182 > 152	17.31	23367.473	17418.791	23367.473	670.755	MM	30-Jan-10	10:01:49	101.5	1.5	505.9
WXX100128-07CCV	24-dinitrotoluene	182 > 152	17.94	5015.411	17418.791	5015.411	143.966	MM	30-Jan-10	10:05:46	94.4	-5.6	94.9
WXX100128-07CCV	26-dinitrotoluene-d3	185 > 155	17.16	17418.791	17418.791	17418.791	17418.791	bb		534.3792	106.9	6.9	1426.7
WXX100128-07CCV	2-Nitrotoluene	137 > 46	20.75	2593.369	17418.791	2593.369	74.442	bb		447.6271	74.6	-25.4	578.0
WXX100128-07CCV	4-Nitrotoluene	137 > 46	22.09	1314.775	17418.791	1314.775	37.740	bb		456.4612	76.1	-23.9	302.7
WXX100128-07CCV	3-Nitrotoluene	137 > 46	23.73	1602.516	17418.791	1602.516	46.000	bb		492.7136	82.1	-17.9	349.0
WXX100128-07CCV	PETN	361 > 62	24.16	31816.324	17418.791	31816.324	913.276	bb		493.3598	82.2	-17.8	4009.3

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/29/10
 Time of Injection: 2036
 Standard Number: WXX100128-07CCV
 Data File: EXP0125215a

HMX	116.5
RDX	127.6
135-TNB	123.4
13-DNB	102.2
Tetryl	99.1
Nitrobenzene	89.9
4A-26-DNT	99.8
2A-46-DNT	106.2
246-TNT	99.3
34-DNT(surr)	92.5
26-DNT	101.5
24-DNT	94.4
2-NT	74.6
4-NT	76.1
3-NT	82.1
PETN	82.2

Total 1567.4

Average 98.0

ICV Limits 85-115%

CRI Limits 70-130%

CCV Limits 85-115%

No single analyte > +/- 60%

1/30/10

WXX 01/31/10

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125217a

Analysis Date: 29-JAN-10 21:35

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	45.813	115	
1,3-Dinitrobenzene-d4	500	514.658	103	
2,4,6-Trinitrotoluene	40	32.321	81	
2,4-Dinitrotoluene	40	36.835	92	
2,6-Dinitrotoluene	40	39.093	98	
2,6-Dinitrotoluene-d3	500	527.397	105	
2-Amino-4,6-dinitrotoluene	40	40.471	101	
3,4-Dinitrotoluene	20	21.544	108	
4-Amino-2,6-dinitrotoluene	40	40.284	101	
HMX	40	48.901	122	
Nitrobenzene	40	39.725	99	
PETN	40	25.898	65	*
RDX	40	44.656	112	
Tetryl	40	42.758	107	
m-Dinitrobenzene	40	35.479	89	
m-Nitrotoluene	40	35.496	89	
o-Nitrotoluene	40	35.748	89	
p-Nitrotoluene	40	36.579	91	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125217a

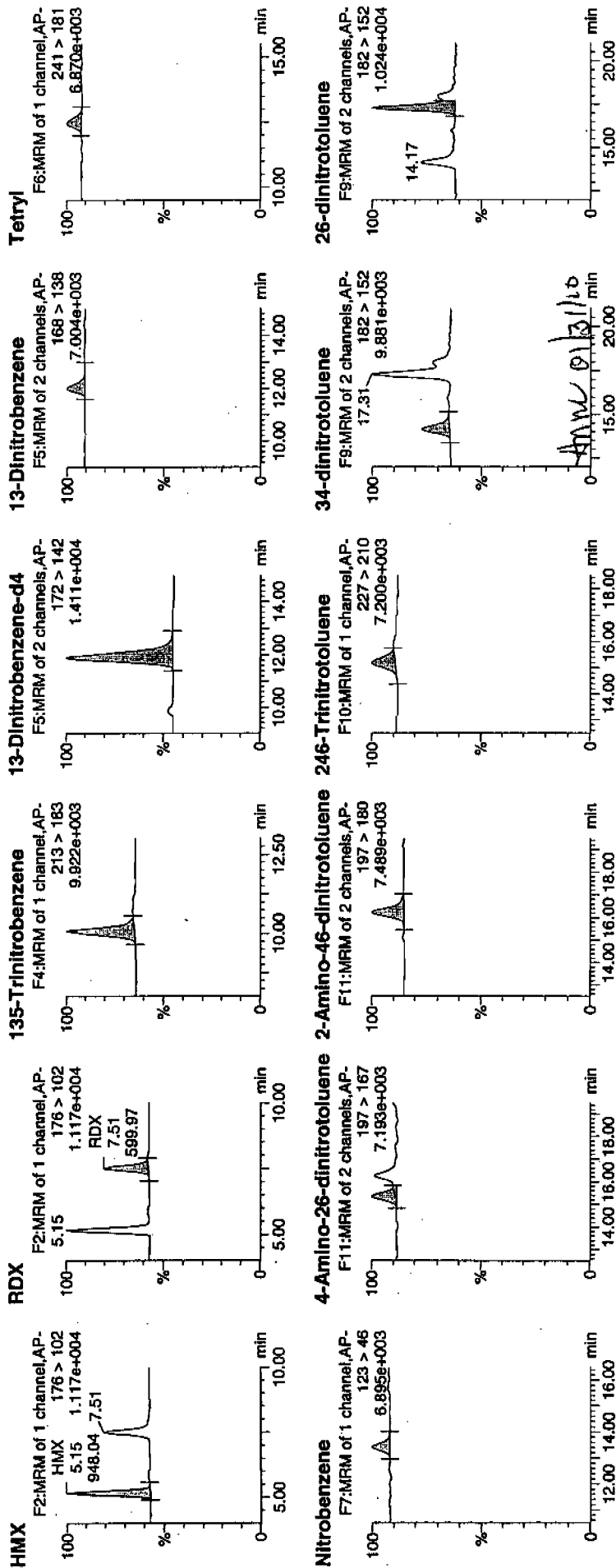
Date: 29-Jan-2010

Time: 21:35:21

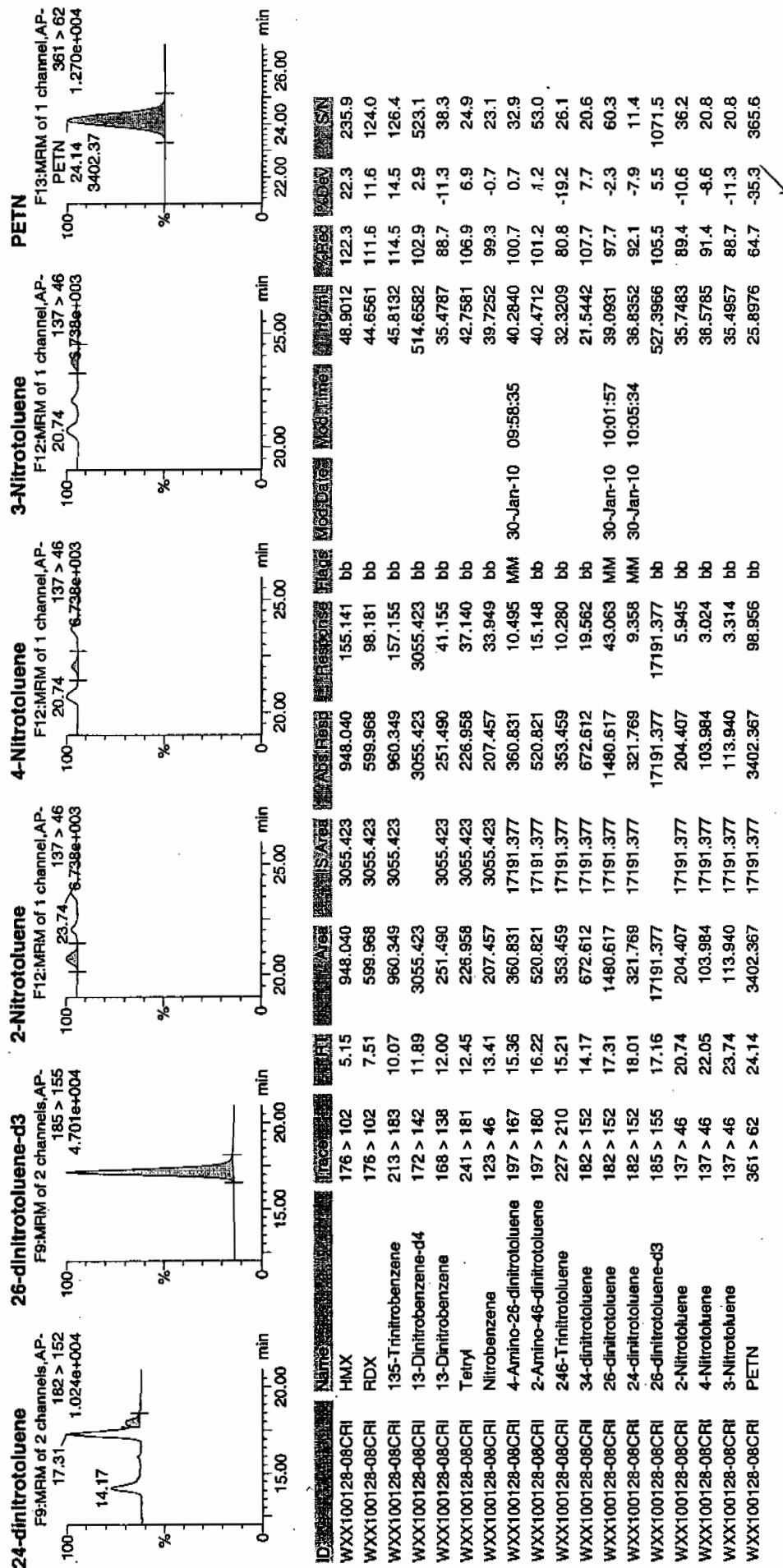
ID: WXX100128-08CRI

Vial: 1:1,C

1/30/10



Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/29/10
 Time of Injection 2135
 Standard Number WXX100128-08CRI
 Data File EXP0125217a

HMX	122.3
RDX	111.6
135-TNB	114.5
13-DNB	88.7
Tetryl	106.9
Nitrobenzene	99.3
4A-26-DNT	100.7
2A-46-DNT	101.2
246-TNT	80.8
34-DNT(surr)	107.7
26-DNT	97.7
24-DNT	92.1
2-NT	89.4
4-NT	91.4
3-NT	88.7
PETN	64.7

Total 1557.7

Average 97.4

Handwritten: 1/29/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0125228a

Analysis Date: 30-JAN-10 03:00

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	738.454	123	*
1,3-Dinitrobenzene-d4	500	426.766	85	
2,4,6-Trinitrotoluene	600	715.856	119	
2,4-Dinitrotoluene	600	634.373	106	
2,6-Dinitrotoluene	600	618.909	103	
2,6-Dinitrotoluene-d3	500	452.481	90	
2-Amino-4,6-dinitrotoluene	600	715.265	119	
3,4-Dinitrotoluene	300	339.99	113	
4-Amino-2,6-dinitrotoluene	600	699.509	117	
HMX	600	717.722	120	
Nitrobenzene	600	645.248	108	
PETN	600	655.849	109	
RDX	600	740.648	123	*
Tetryl	600	741.088	124	*
m-Dinitrobenzene	600	627.78	105	
m-Nitrotoluene	600	594.821	99	
o-Nitrotoluene	600	559.883	93	
p-Nitrotoluene	600	584.99	97	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125228a

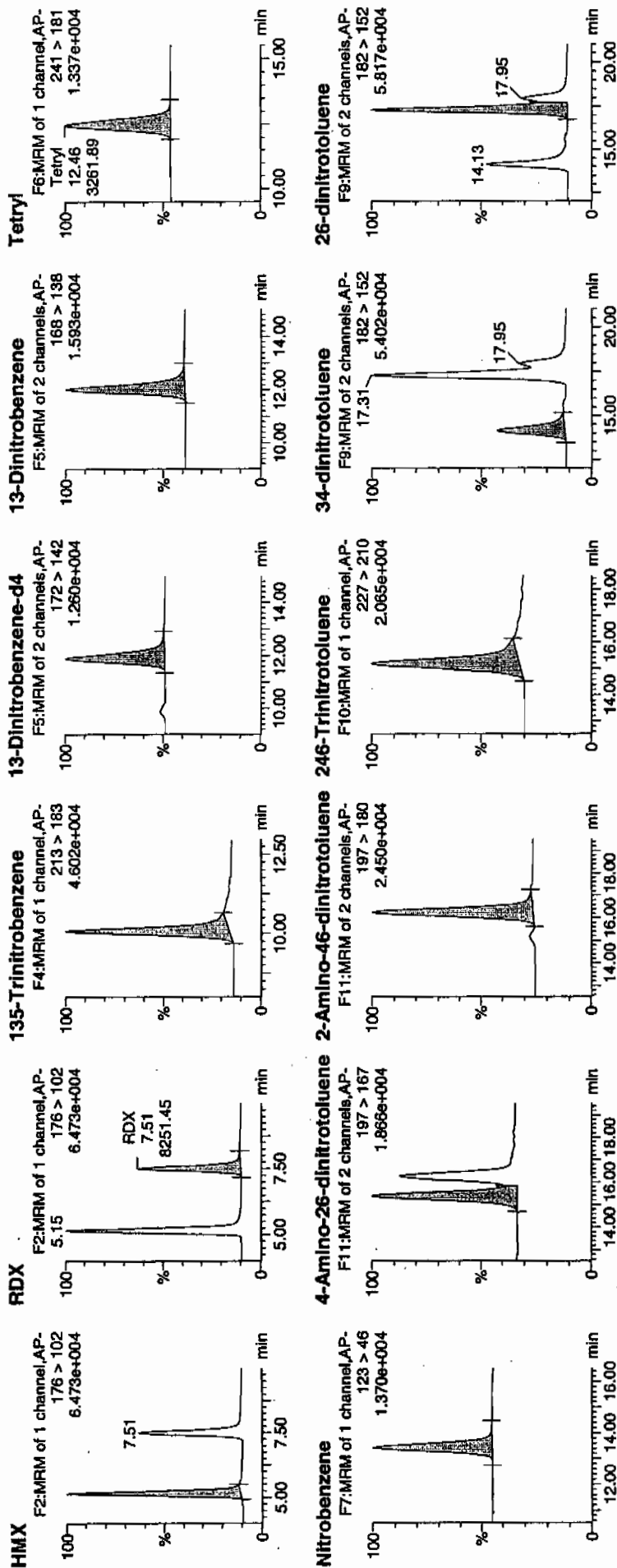
Date: 30-Jan-2010

Time: 03:00:08

ID: WXX100128-07CCV

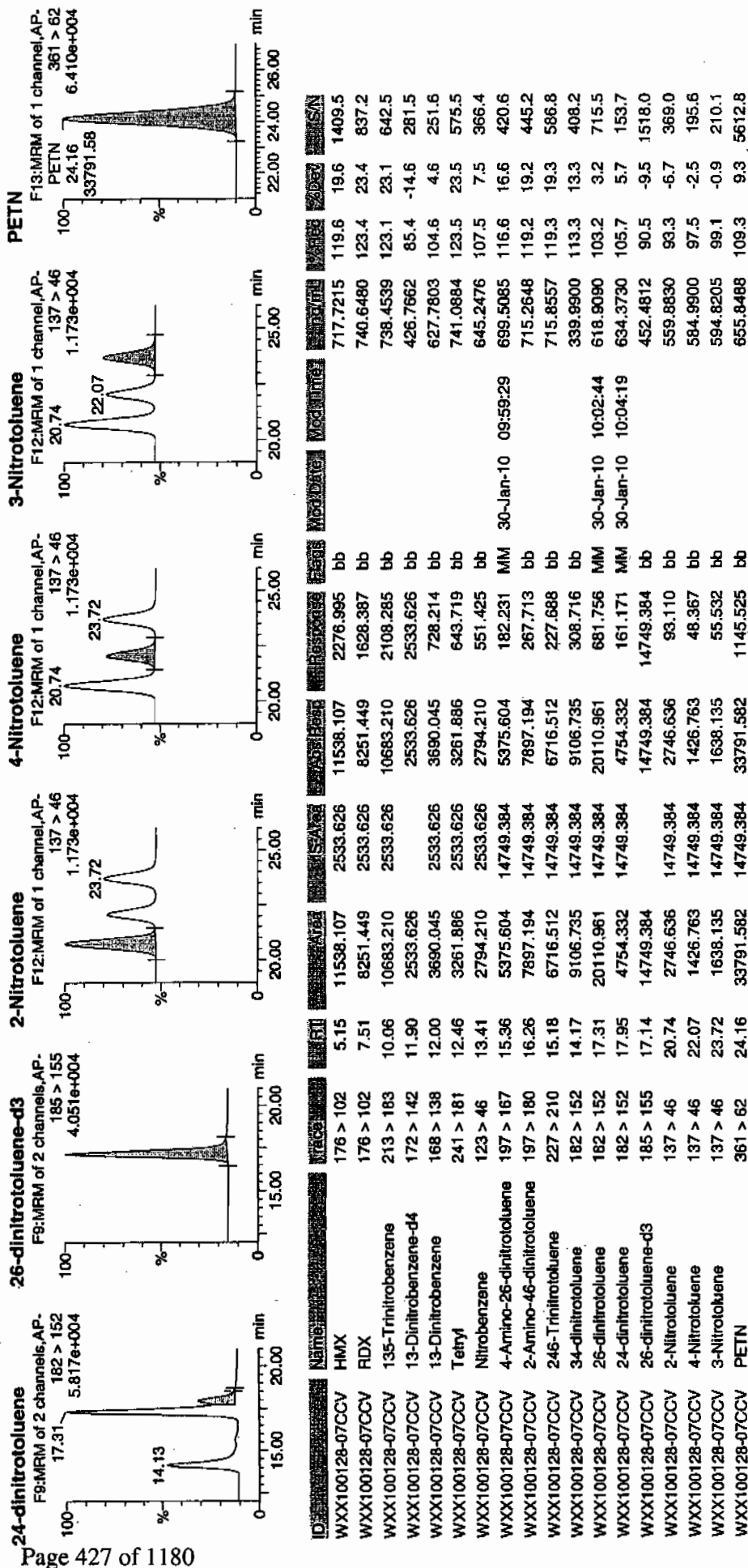
Vial: 1:1,B

11/2/10



Amw
8/13/10

Dataset: C:\WASSLYN\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 01/30/10
 Time of Injection: 0300
 Standard Number: WXX100128-07CCV
 Data File: EXP0125228a

HMX	119.6
RDX	123.4
135-TNB	123.1
13-DNB	104.6
Tetryl	123.5
Nitrobenzene	107.5
4A-26-DNT	116.6
2A-46-DNT	119.2
246-TNT	119.3
34-DNT(surr)	113.3
26-DNT	103.2
24-DNT	105.7
2-NT	93.3
4-NT	97.5
3-NT	99.1
PETN	109.3

WTF
1/30/10

Total 1778.2

Average 111.1

Home 01/30/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0125230a

Analysis Date: 30-JAN-10 03:59

LCMSMS ID: 903

Column ID Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	49.82	125	
1,3-Dinitrobenzene-d4	500	466.753	93	
2,4,6-Trinitrotoluene	40	35.201	88	
2,4-Dinitrotoluene	40	33.512	84	
2,6-Dinitrotoluene	40	38.736	97	
2,6-Dinitrotoluene-d3	500	471.294	94	
2-Amino-4,6-dinitrotoluene	40	39.718	99	
3,4-Dinitrotoluene	20	19.397	97	
4-Amino-2,6-dinitrotoluene	40	44.278	111	
HMX	40	37.74	94	
Nitrobenzene	40	36.598	91	
PETN	40	33.329	83	
RDX	40	43.234	108	
Tetryl	40	52.361	131	*
m-Dinitrobenzene	40	38.67	97	
m-Nitrotoluene	40	50.387	126	
o-Nitrotoluene	40	36.31	91	
p-Nitrotoluene	40	44.218	111	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene, 2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Printed: Sat Jan 30 10:07:34 2010, Page 47 of 71

Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO1012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP\PROData\EXP0125230a

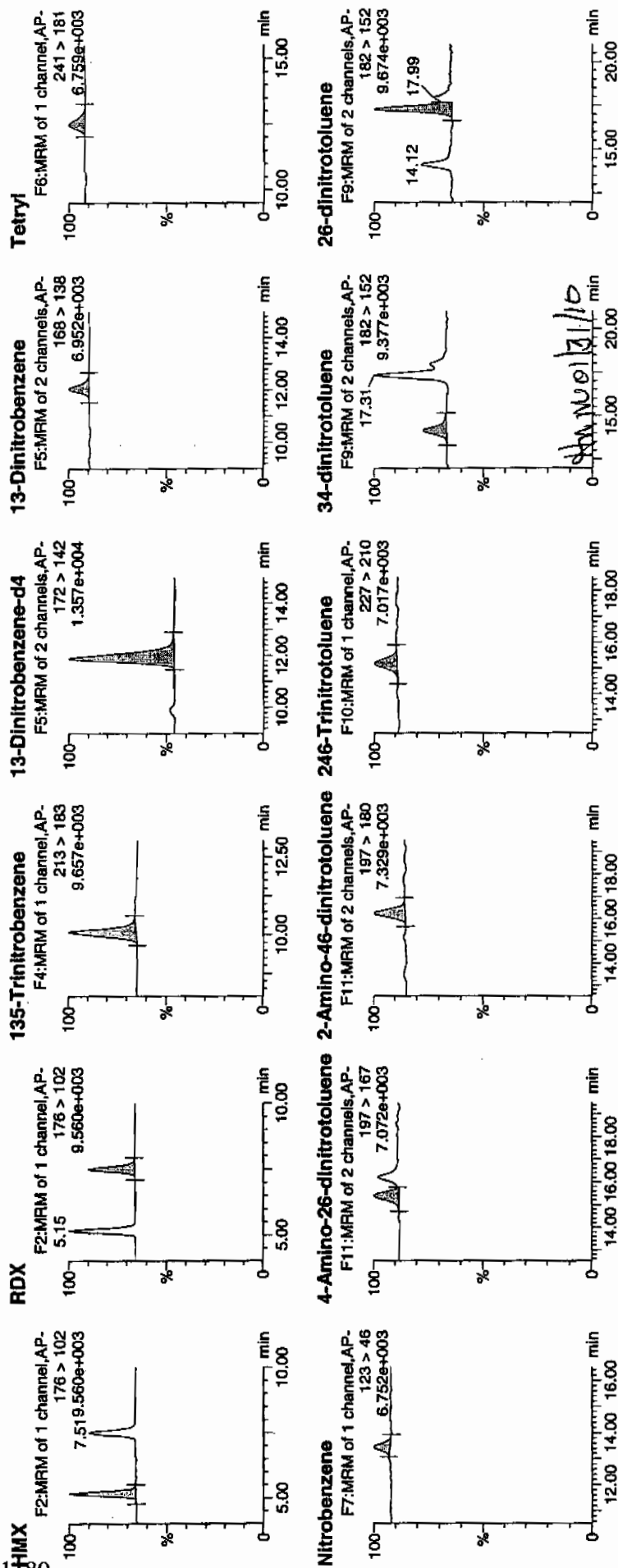
Date: 30-Jan-2010

Time: 03:59:12

ID: WXX100128-08CRI

Vial: 1:1,C

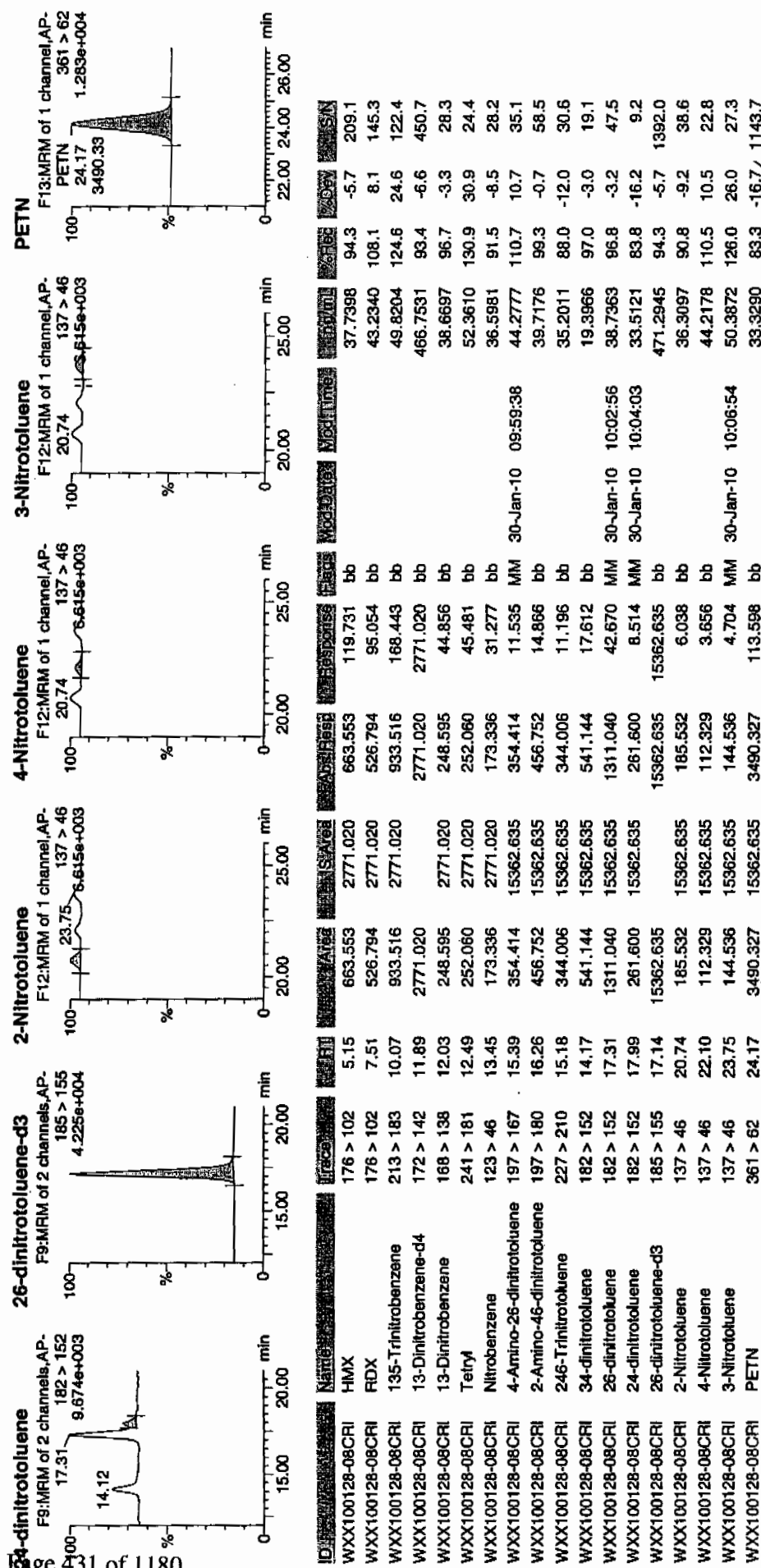
113010



Printed: Sat Jan 30 10:07:34 2010, Page 48 of 71

Quantity Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 01/30/10
 Time of Injection 0359
 Standard Number WXX100128-08CRI
 Data File EXP0125230a

HMX	94.3
RDX	108.1
135-TNB	124.6
13-DNB	96.7
Tetryl	130.9
Nitrobenzene	91.5
4A-26-DNT	110.7
2A-46-DNT	99.3
246-TNT	88.0
34-DNT(surr)	97.0
26-DNT	96.8
24-DNT	83.8
2-NT	90.8
4-NT	110.5
3-NT	126.0
PETN	83.3

NOT
11/2/10

Total 1632.3

Average 102.0

100% 01/31/10

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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250013.wiff

Analysis Date: 25-JAN-10 13:41

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	106	106	
3,4-Dinitrotoluene	50	46.7	94	
3,5-Dinitroaniline	100	104	104	
TATB	100	96.4	96	
tris(o-cresyl) phosphate	100	117	117	

Recovery Limits:

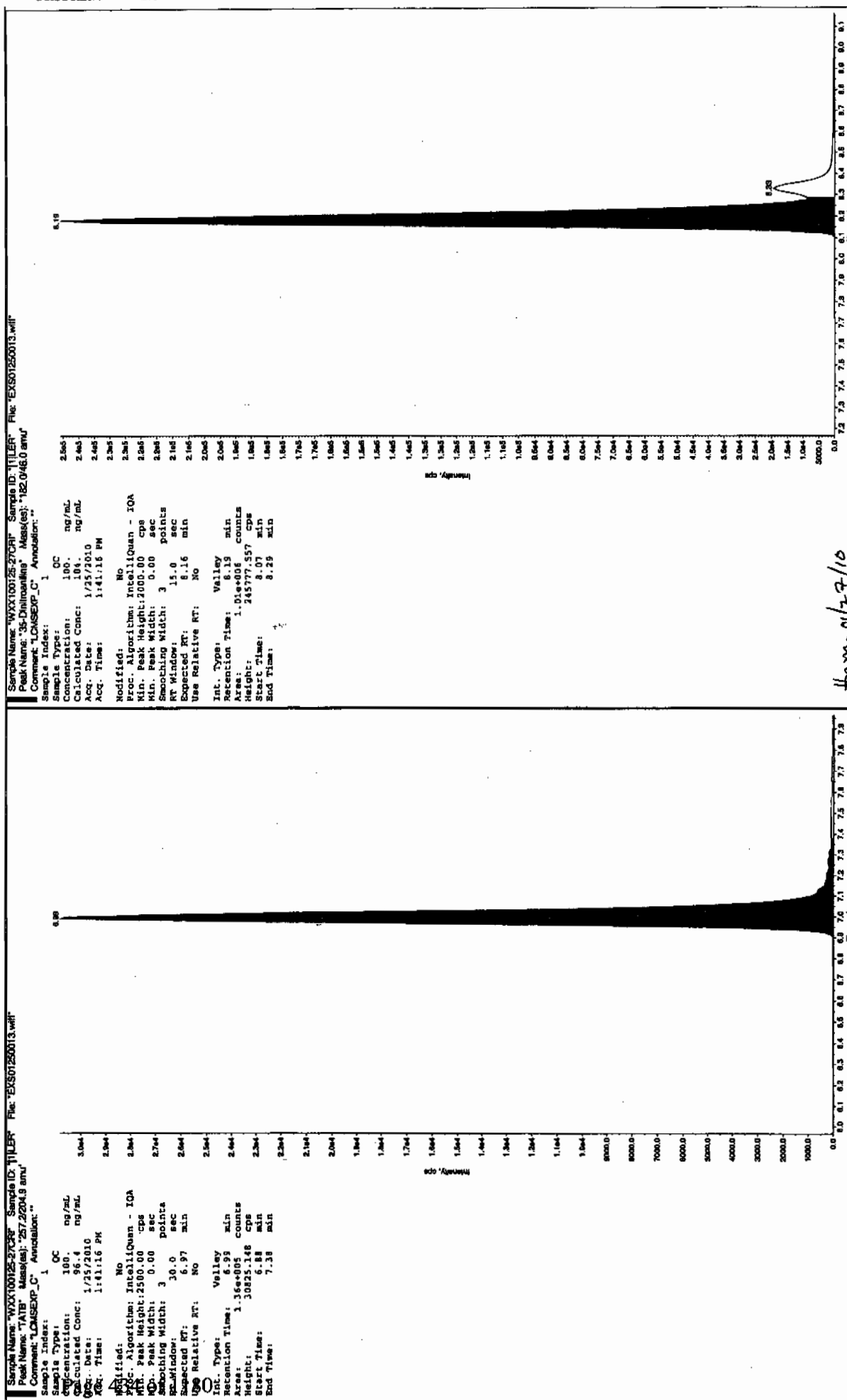
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

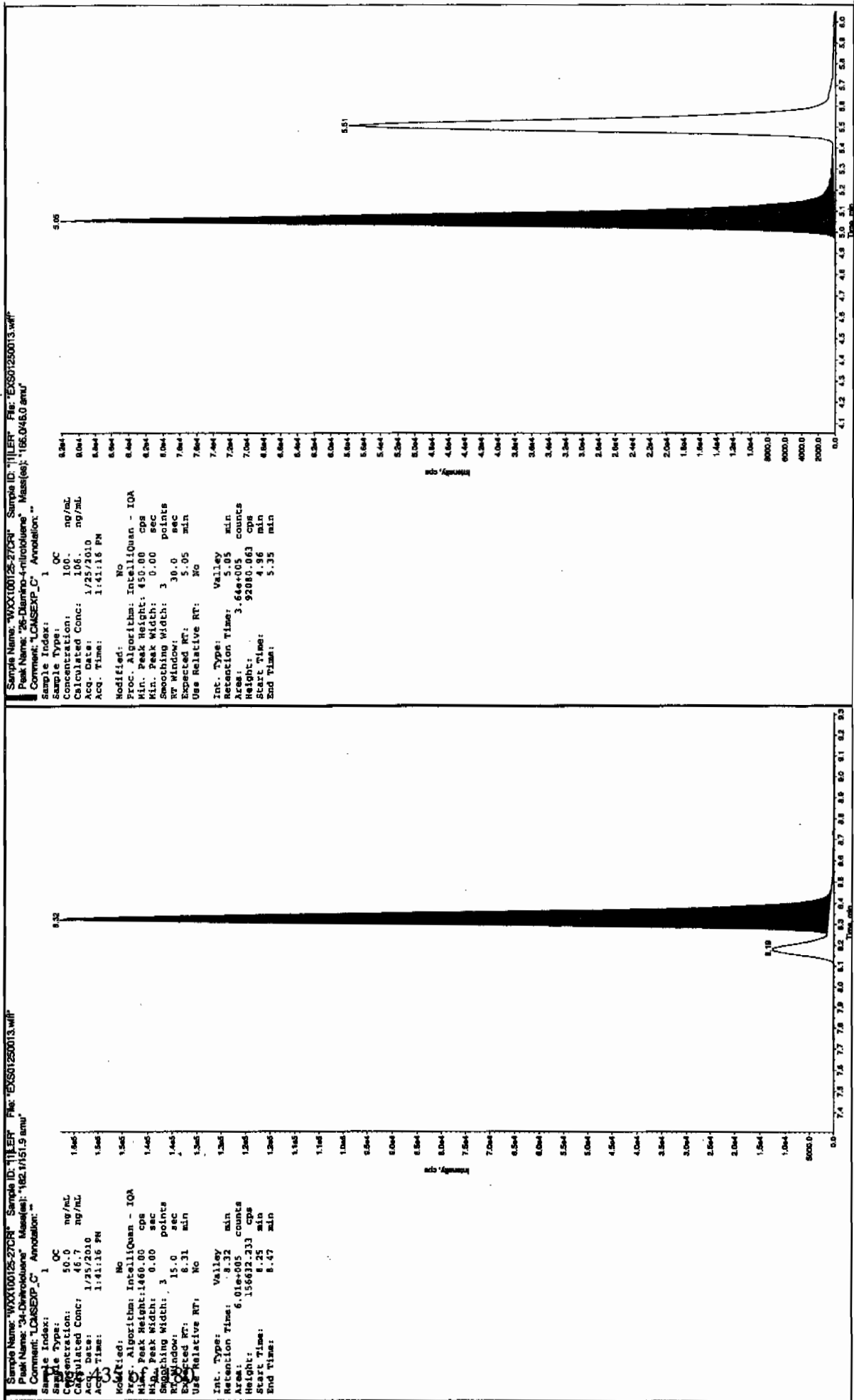
Column used to flag Recovery outside of Limits

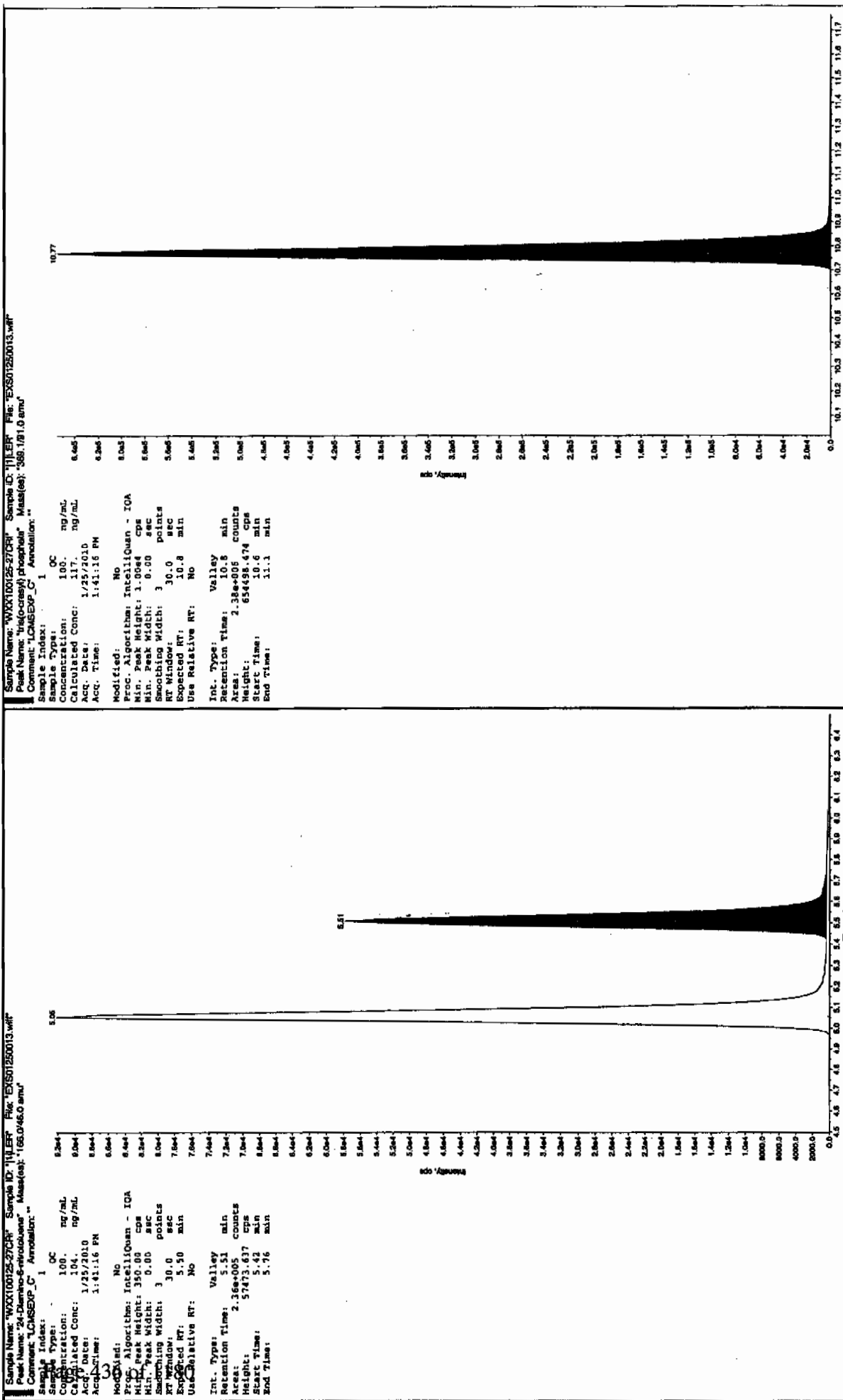
* Value outside of Recovery Limits

See 1/27/10



1/27/10





7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250024.wiff

Analysis Date: 25-JAN-10 16:33

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	456	91	
2,6-Diamino-4-nitrotoluene	500	429	86	
3,4-Dinitrotoluene	250	232	93	
3,5-Dinitroaniline	500	523	105	
TATB	500	534	107	
tris(o-cresyl) phosphate	500	455	91	

Recovery Limits:

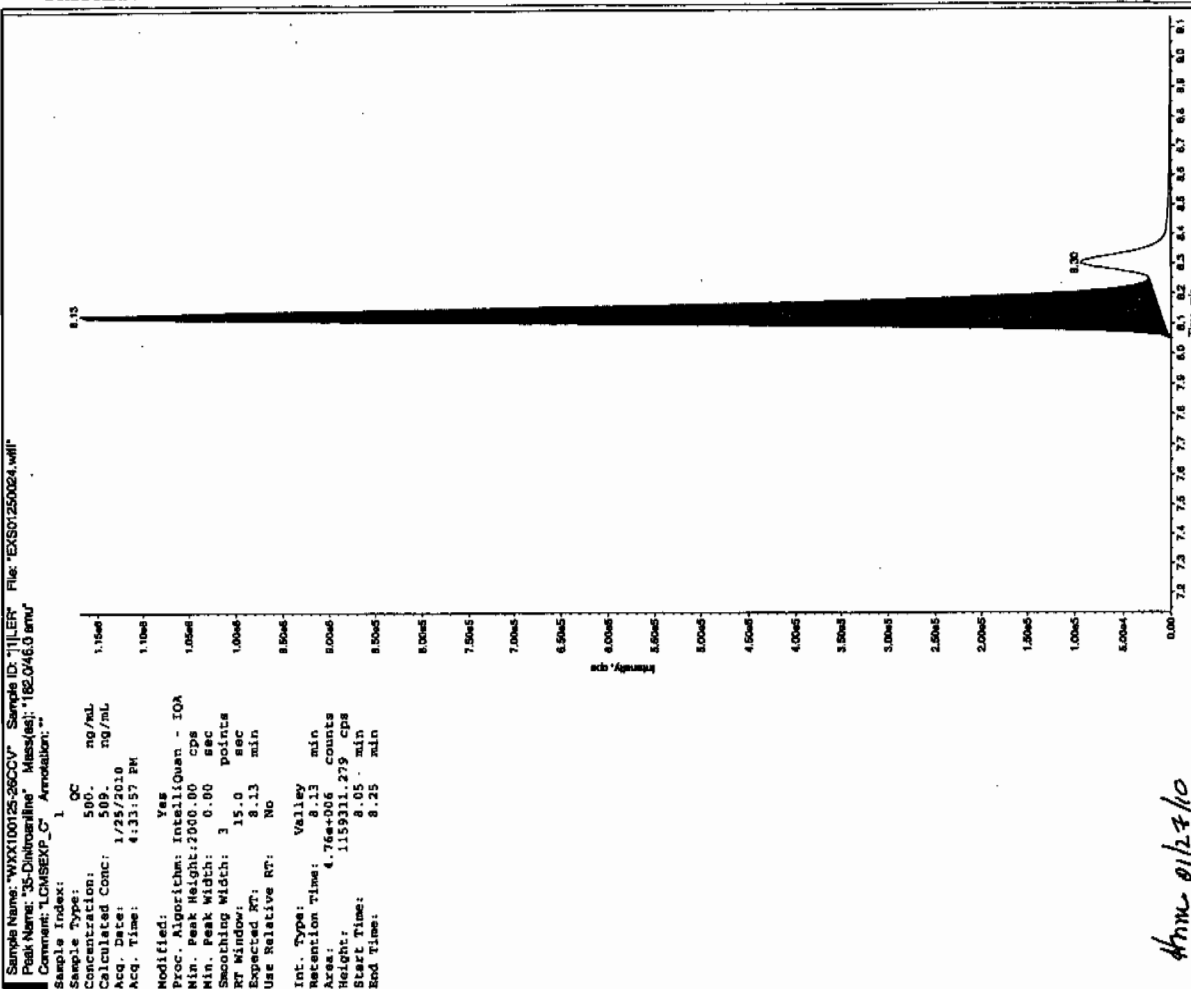
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

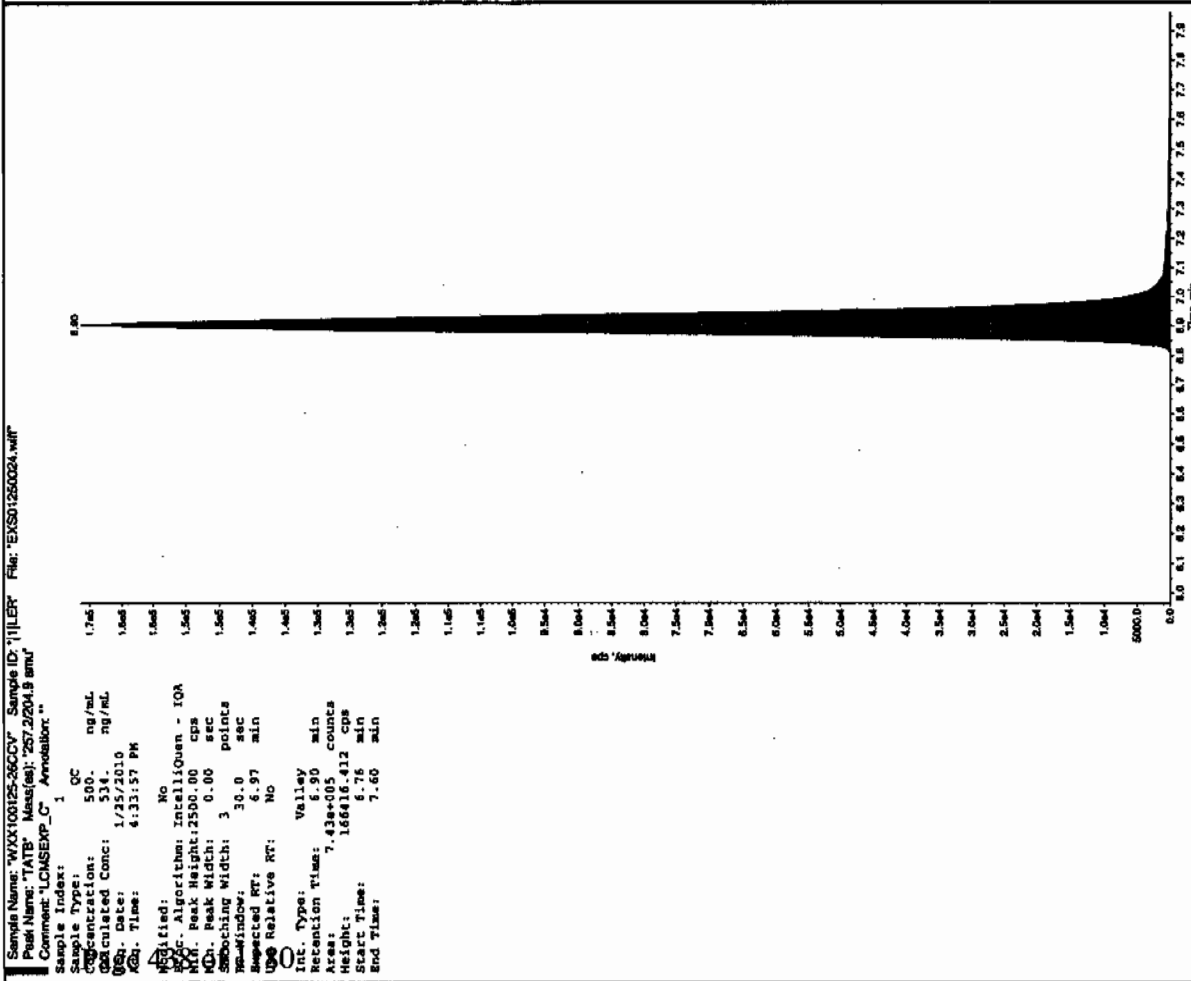
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

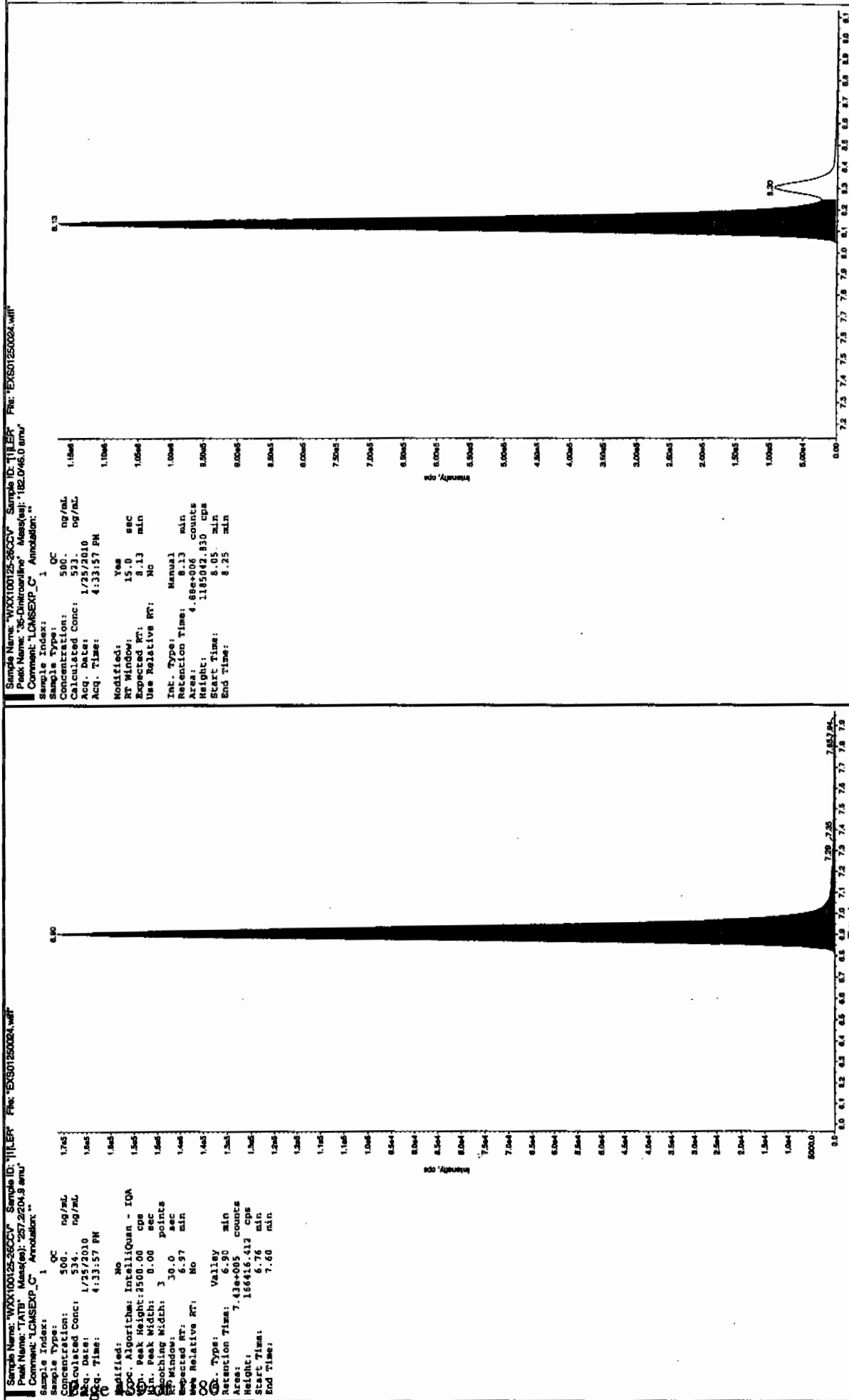
Before Jan 11/27/10



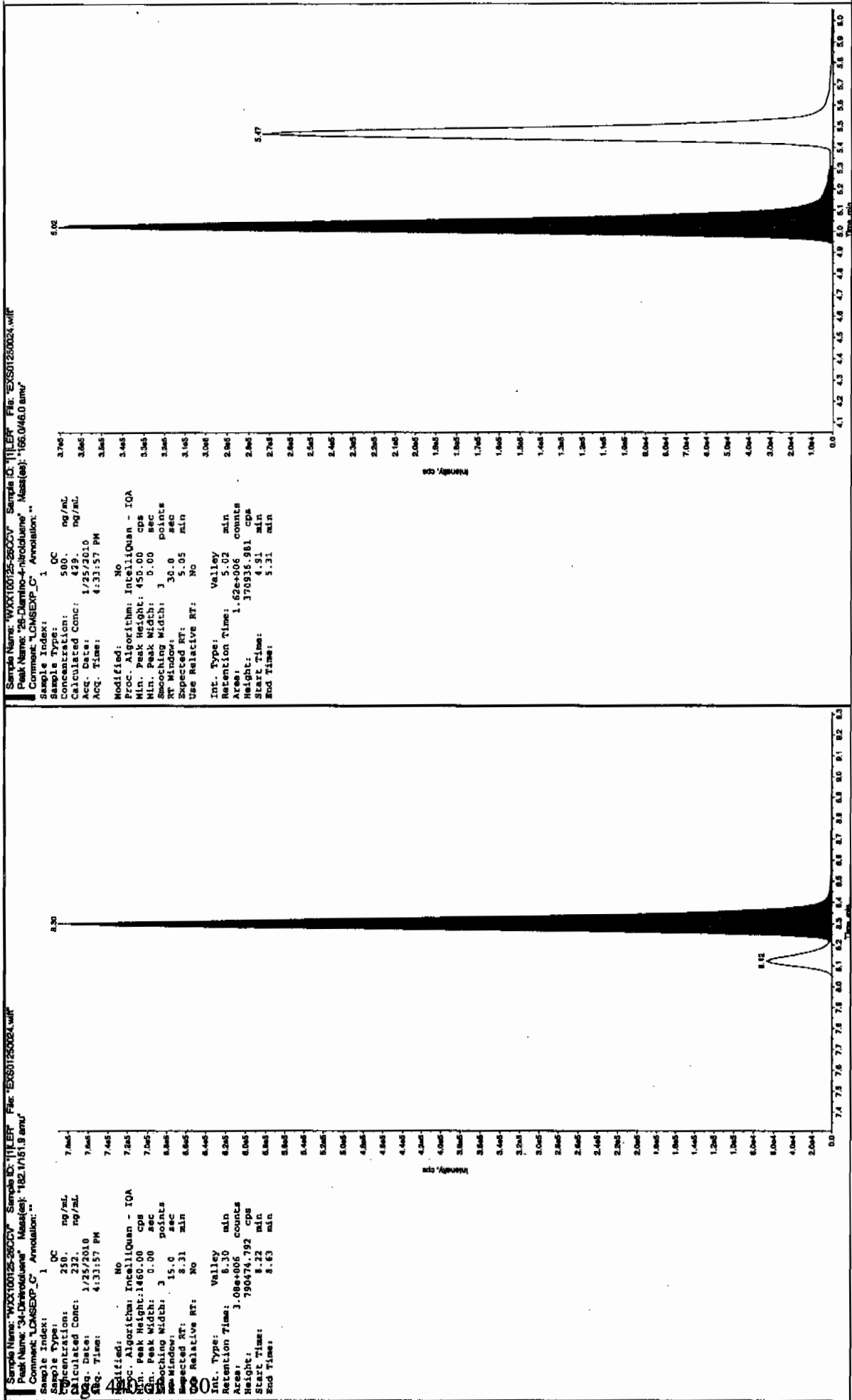
4mm 01/27/10

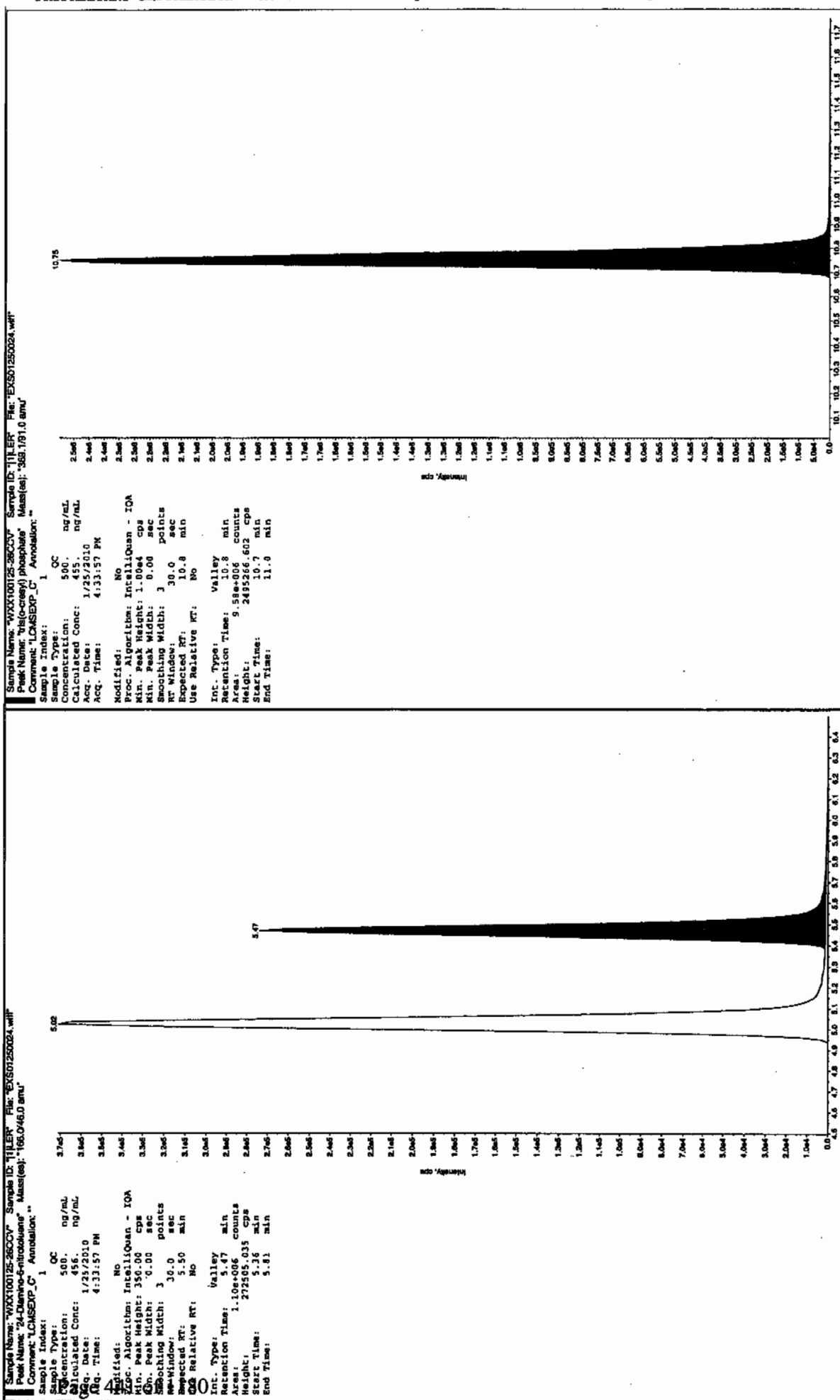


after Jan 12/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250026.wiff

Analysis Date: 25-JAN-10 17:05

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	104	104	
2,6-Diamino-4-nitrotoluene	100	108	108	
3,4-Dinitrotoluene	50	46.3	93	
3,5-Dinitroaniline	100	105	105	
TATB	100	99.8	100	
tris(o-cresyl) phosphate	100	110	110	

Recovery Limits:

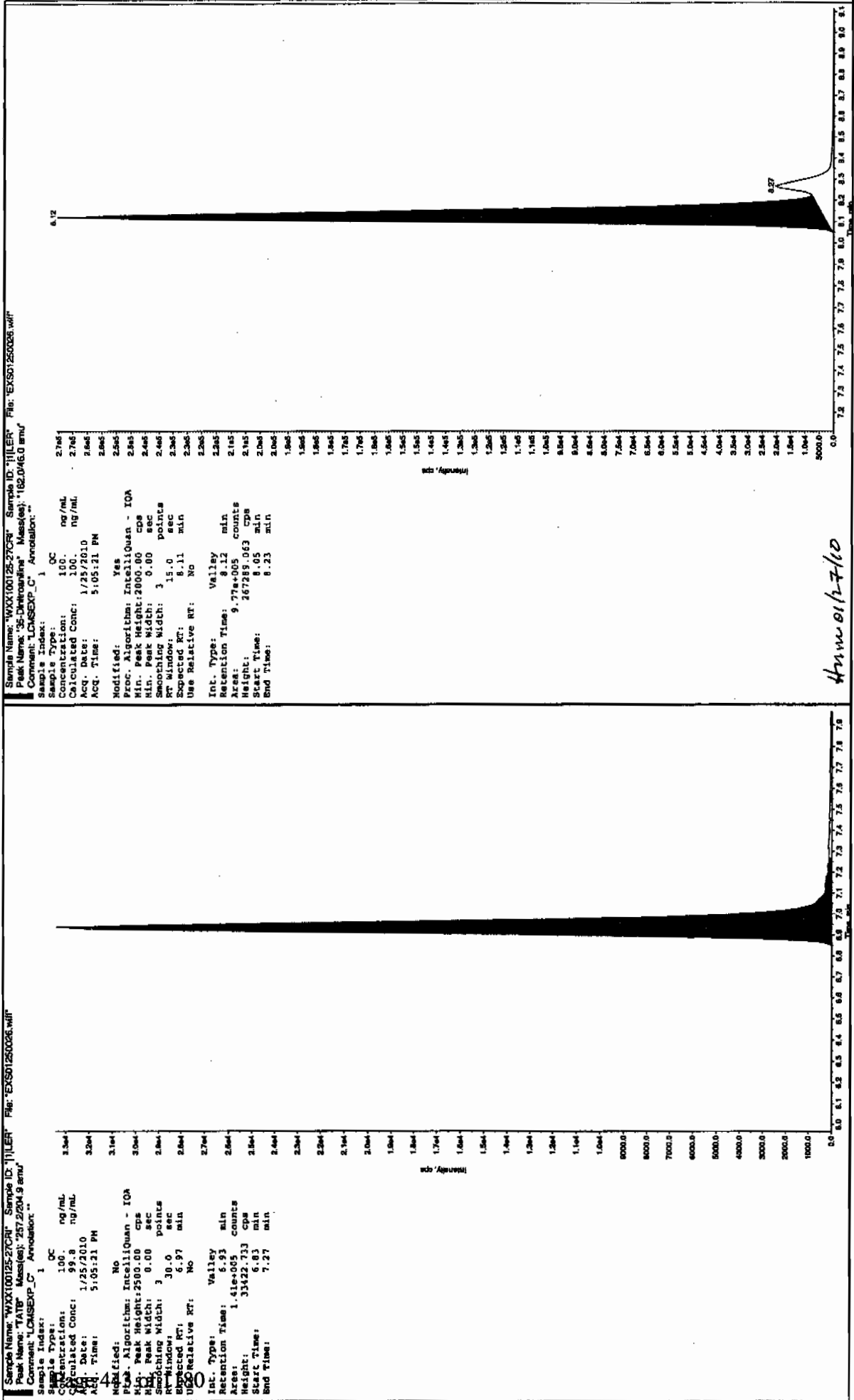
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

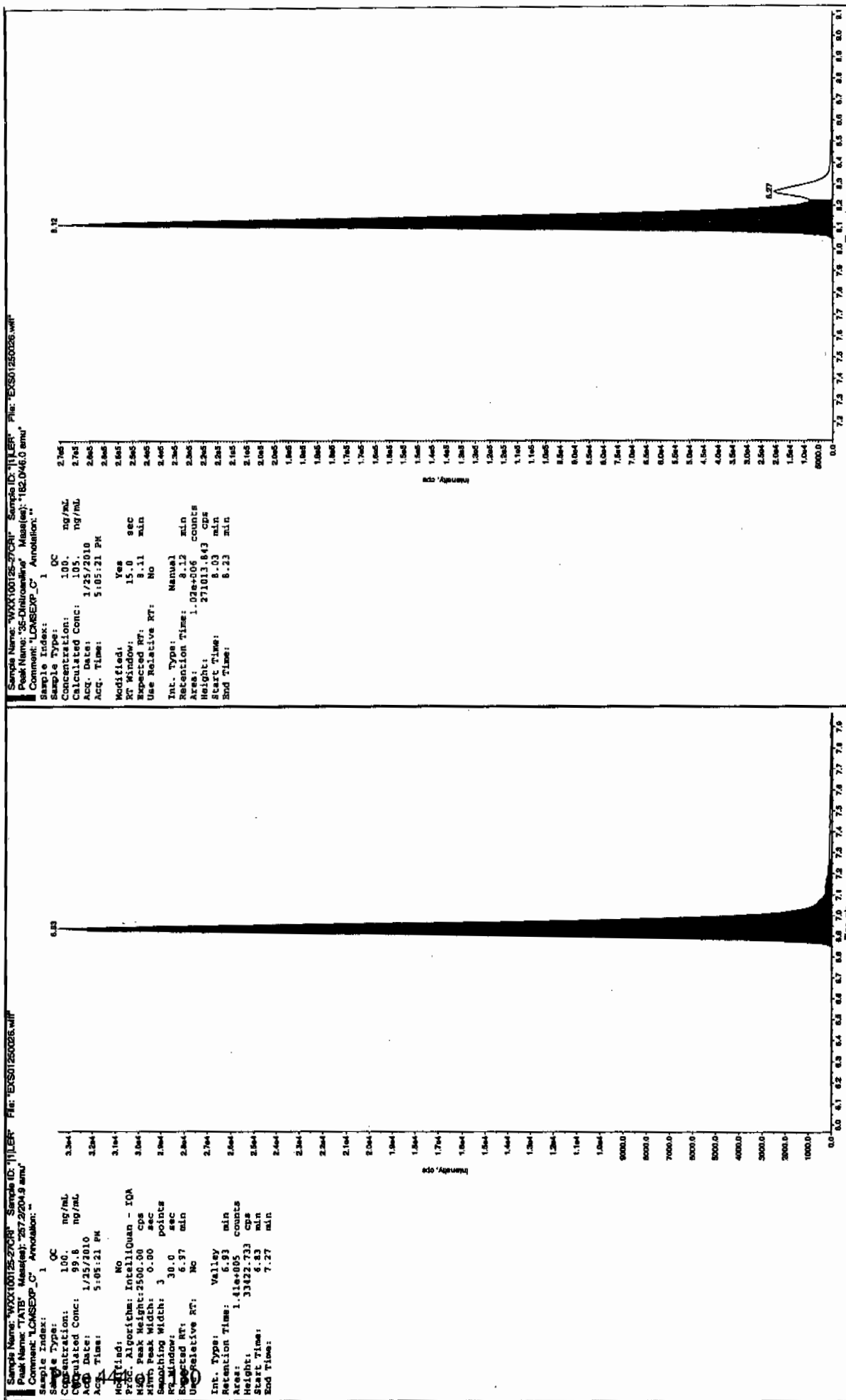
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

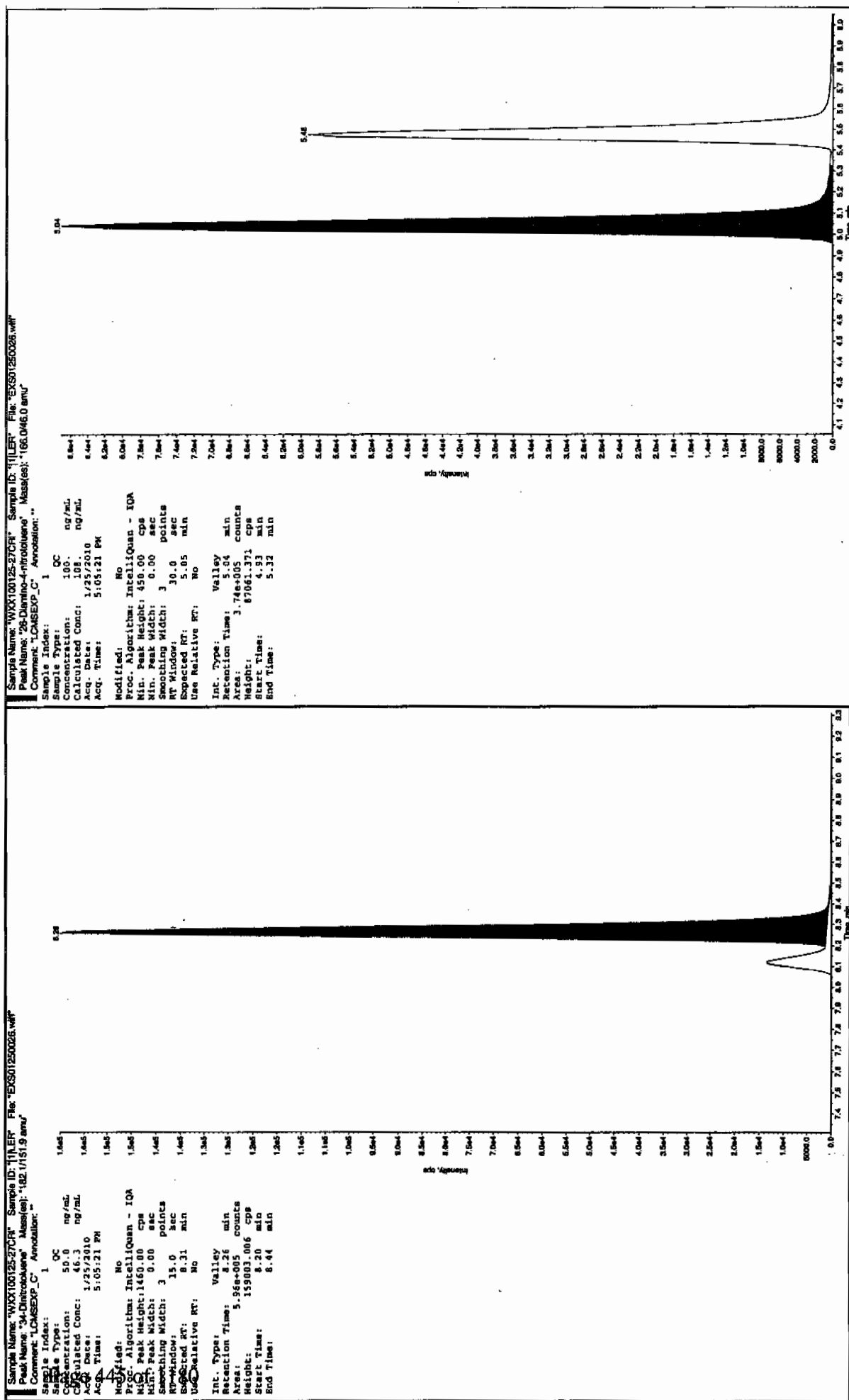
Before Jan 11/27/10

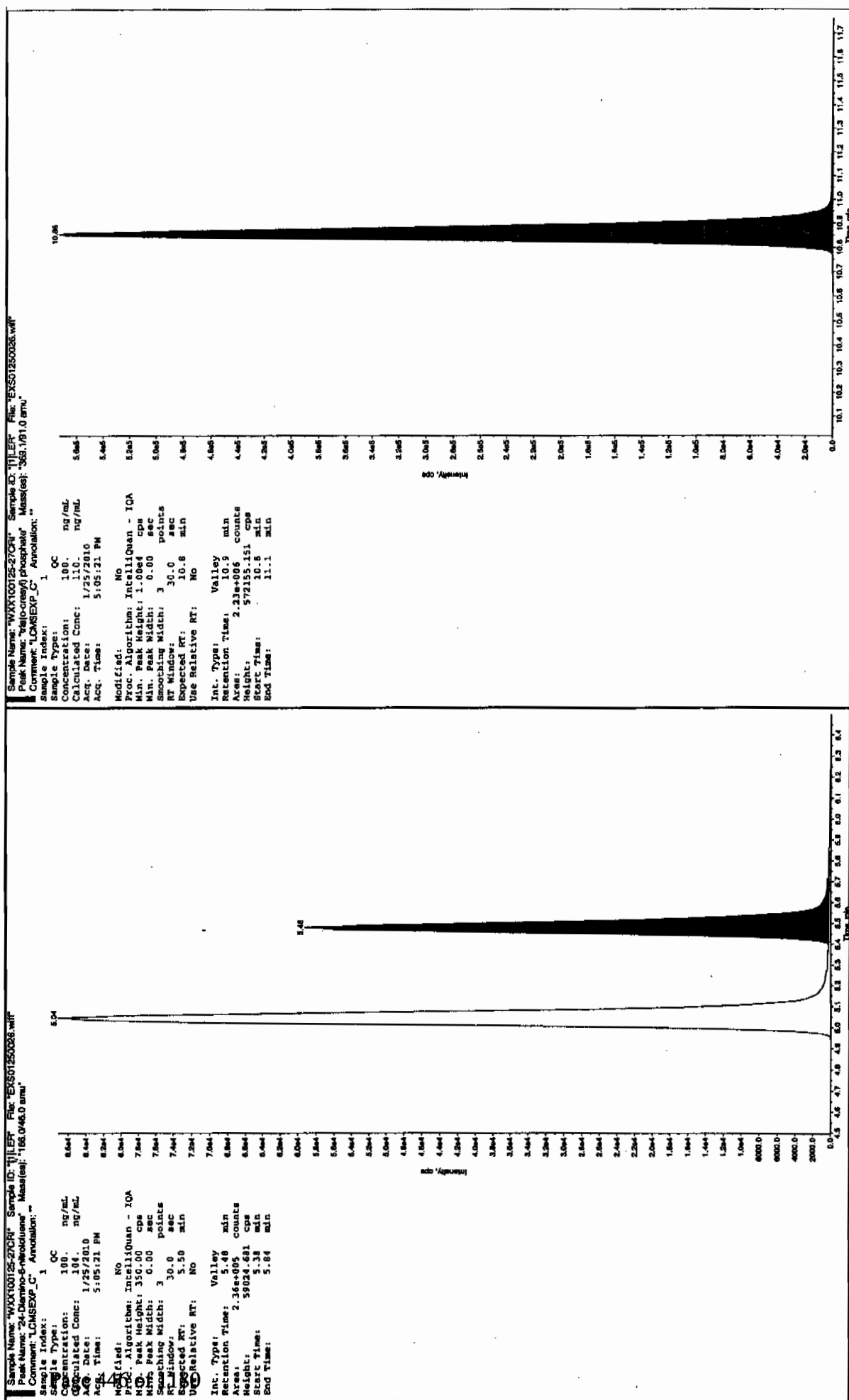


after Len 1b7110



*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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250037.wiff

Analysis Date: 25-JAN-10 19:58

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	471	94	
2,6-Diamino-4-nitrotoluene	500	433	87	
3,4-Dinitrotoluene	250	219	88	
3,5-Dinitroaniline	500	494	99	
TATB	500	508	102	
tris(o-cresyl) phosphate	500	486	97	

Recovery Limits:

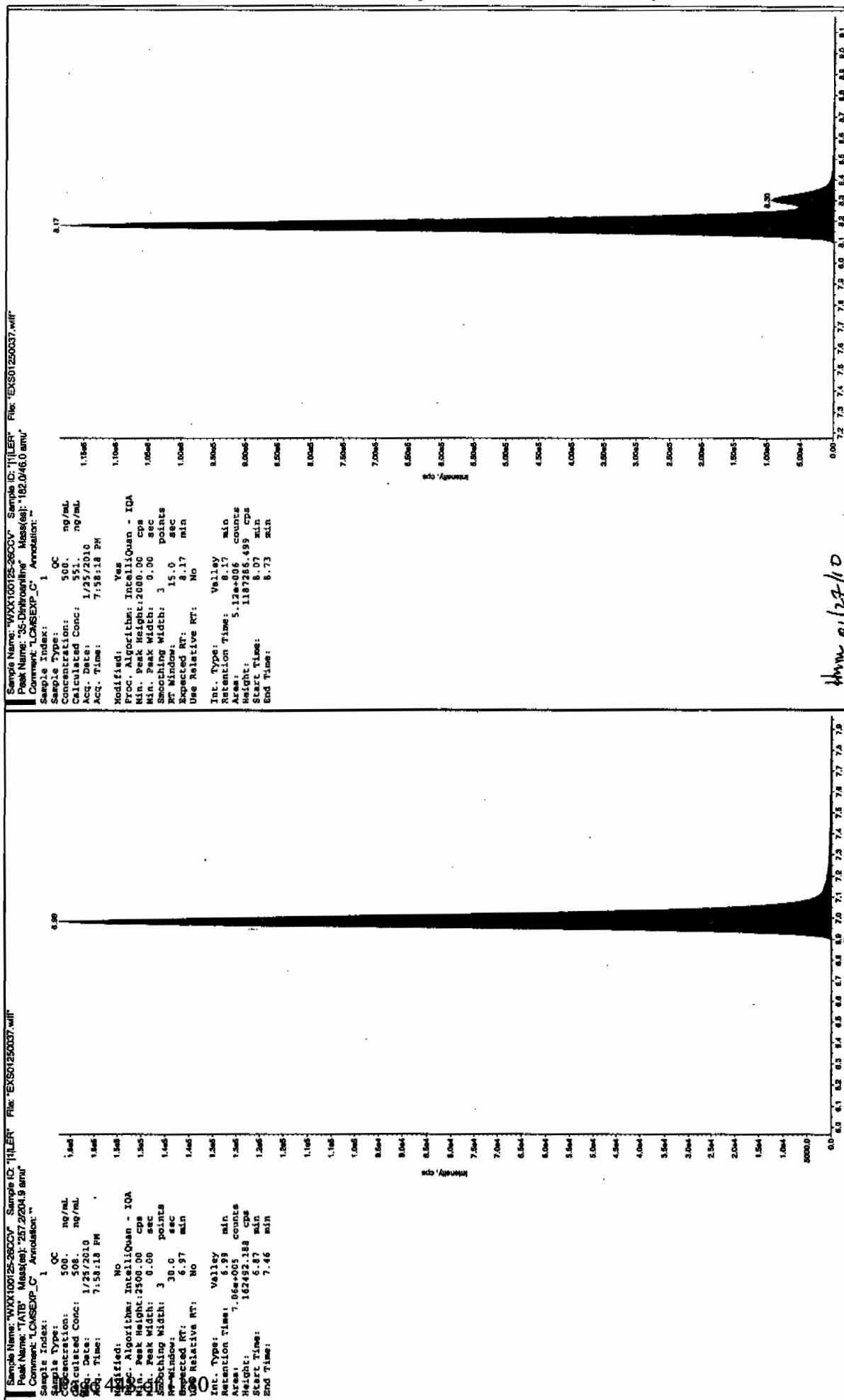
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

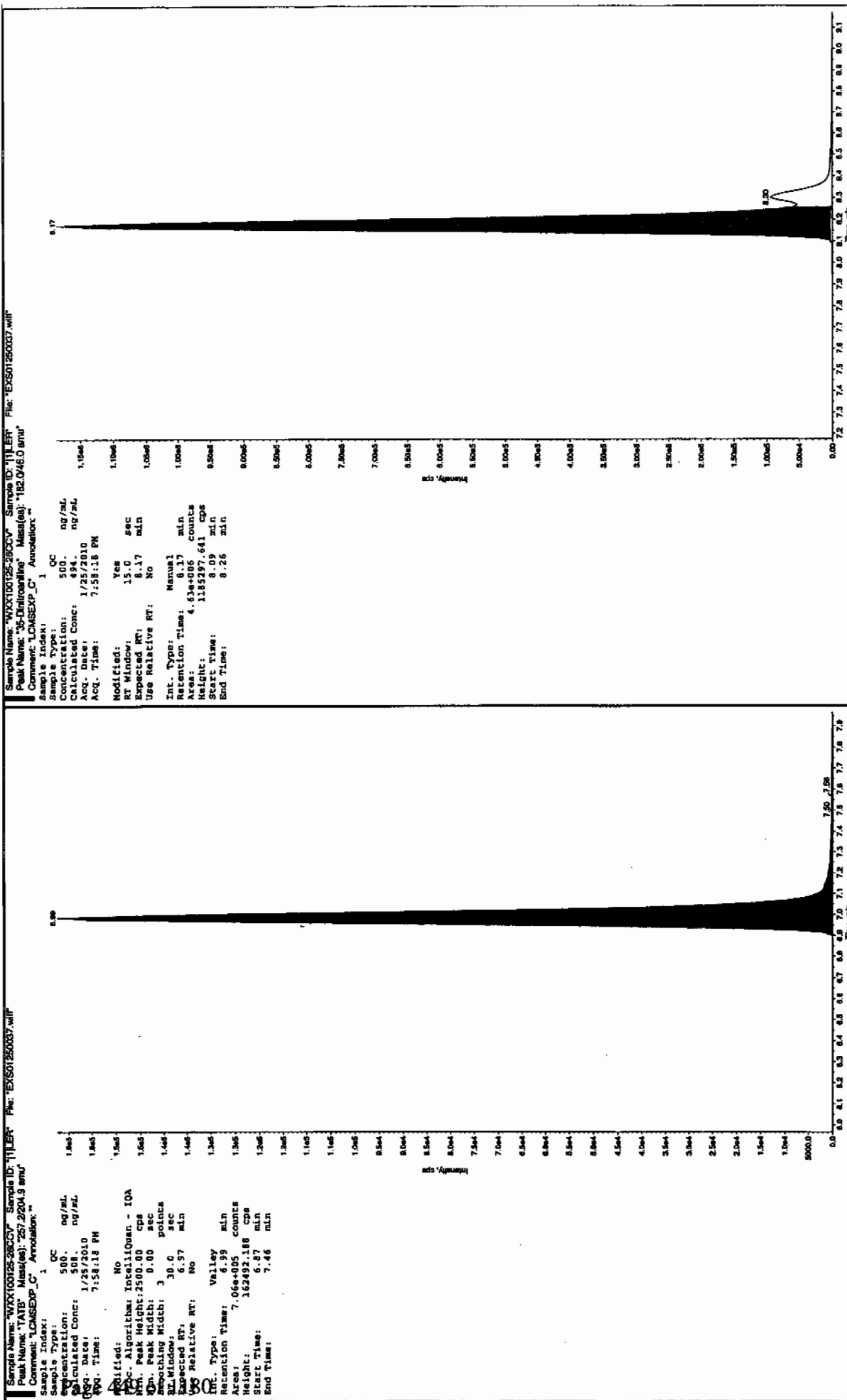
* Value outside of Recovery Limits

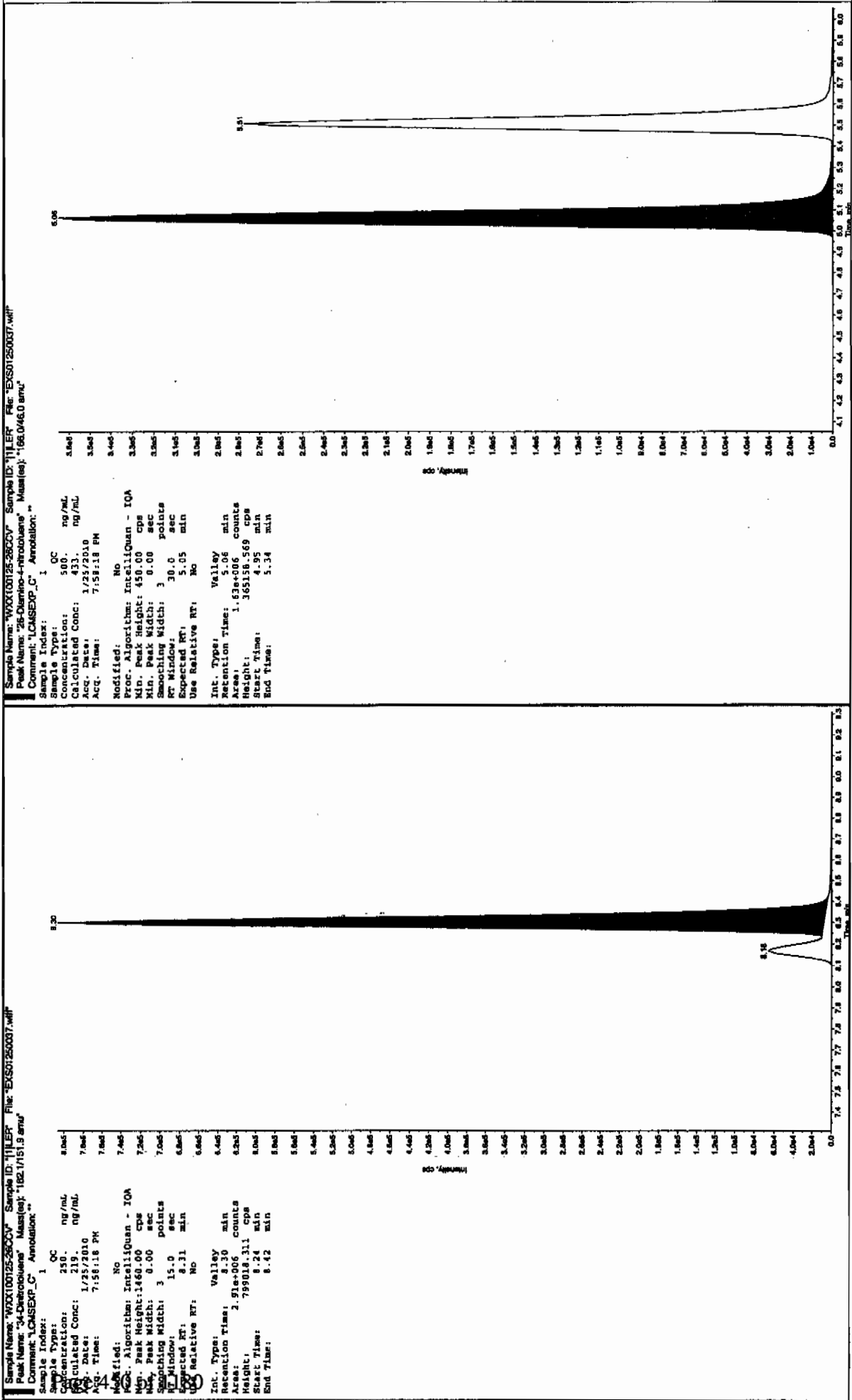
Before 11/27/10

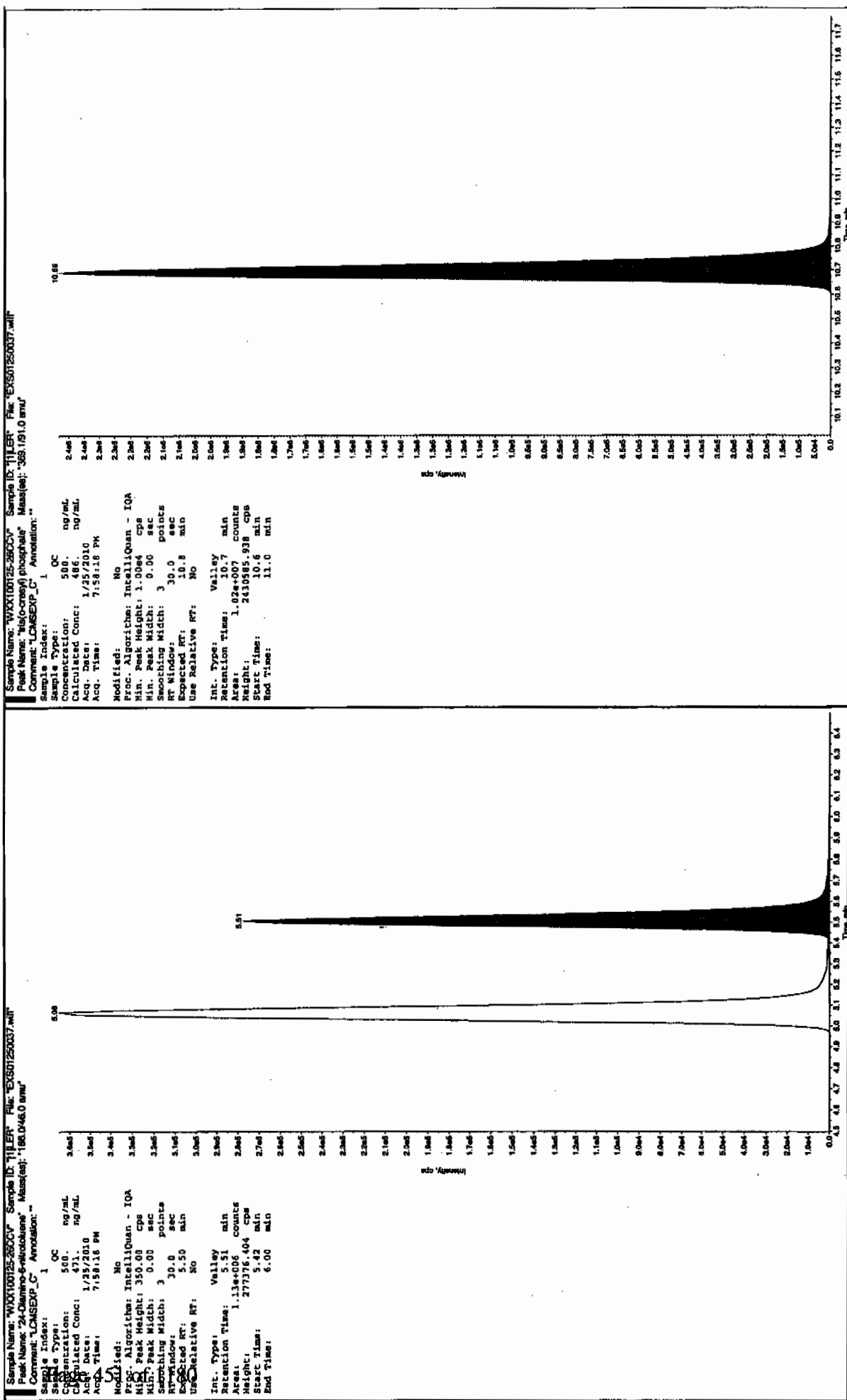


11/27/10

after Jan 1127110







7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250039.wiff

Analysis Date: 25-JAN-10 20:29

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	107	107	
2,6-Diamino-4-nitrotoluene	100	97.3	97	
3,4-Dinitrotoluene	50	46.6	93	
3,5-Dinitroaniline	100	104	104	
TATB	100	103	103	
tris(o-cresyl) phosphate	100	111	111	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

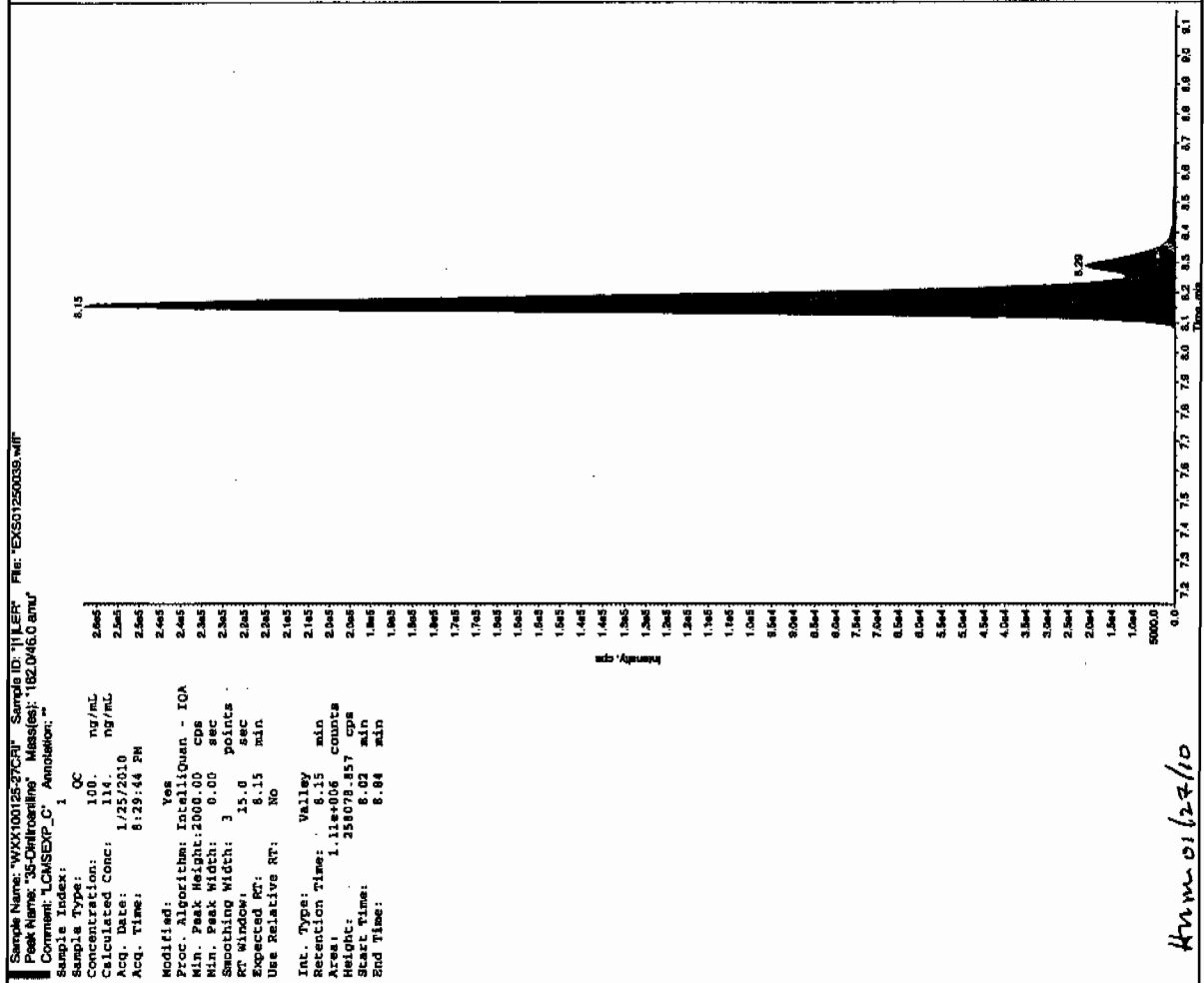
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

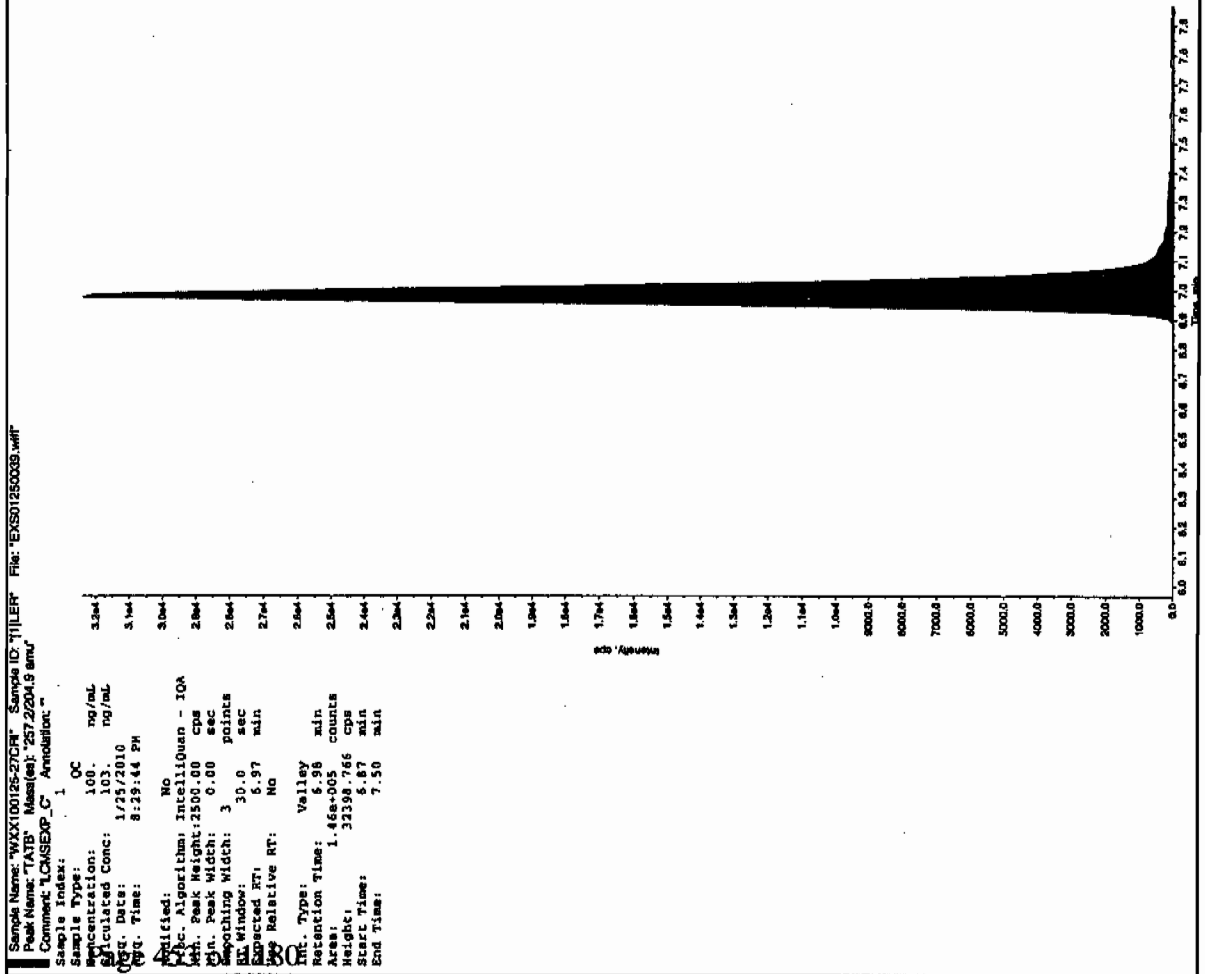
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Before Jan 11/27/10

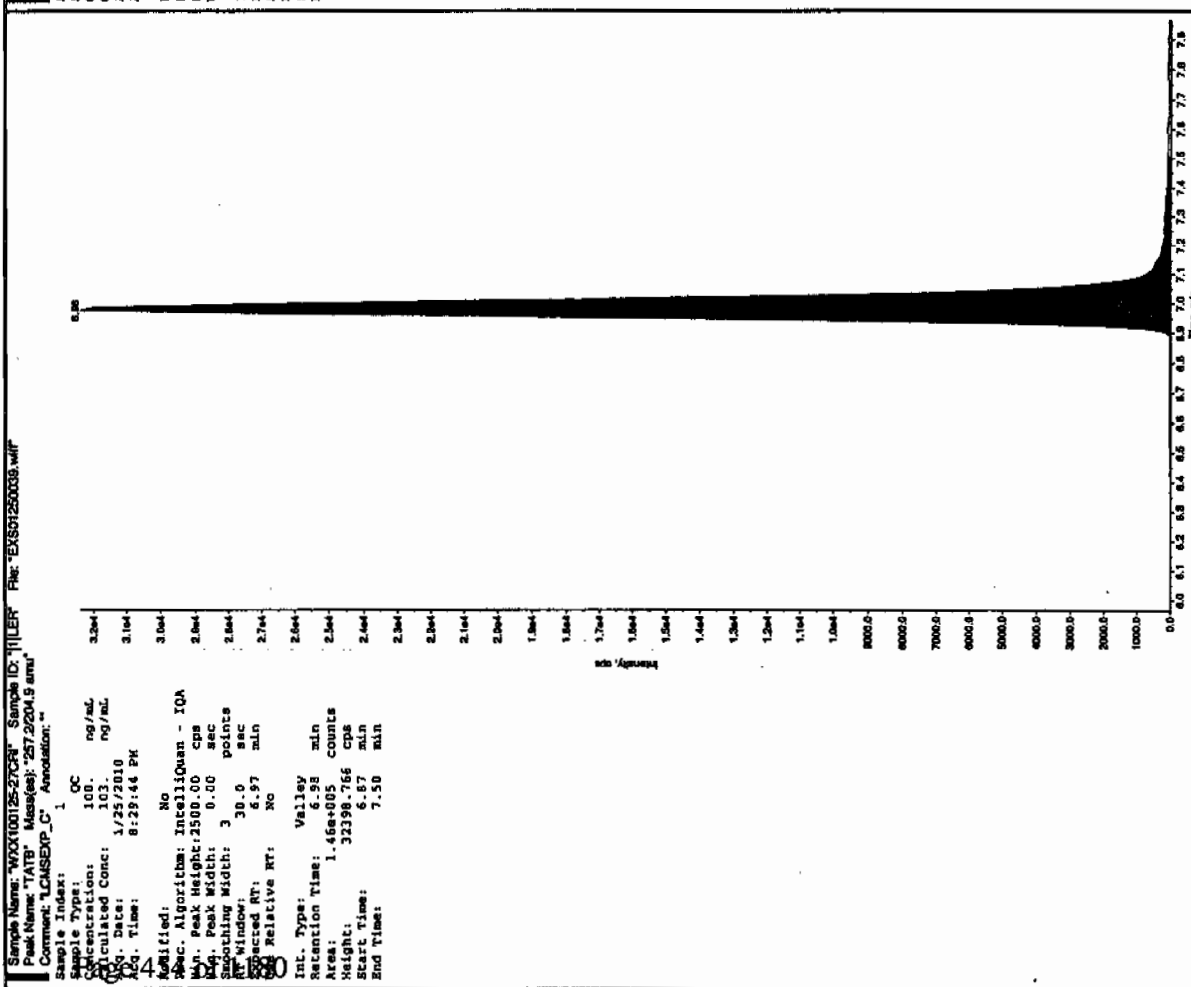
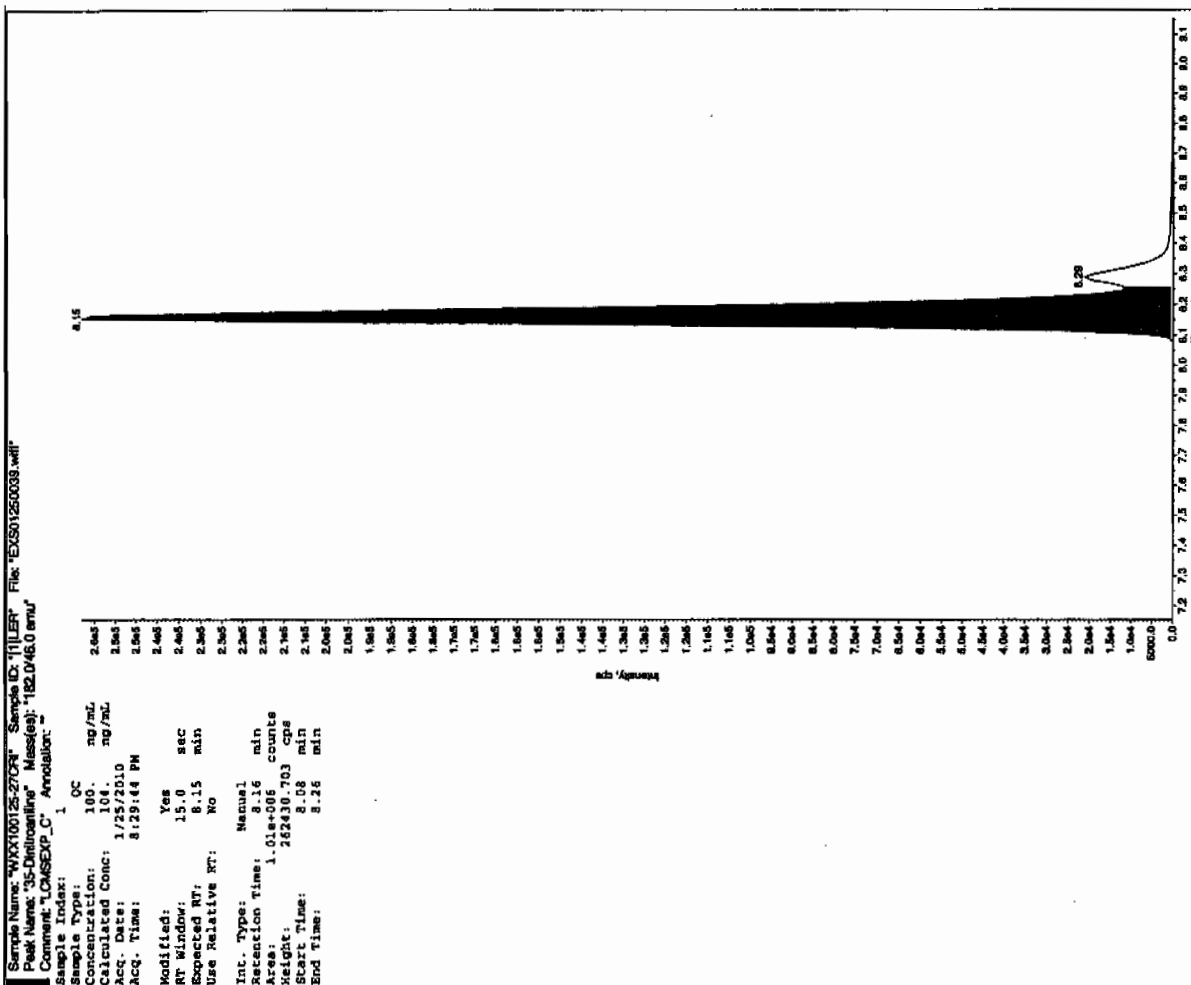


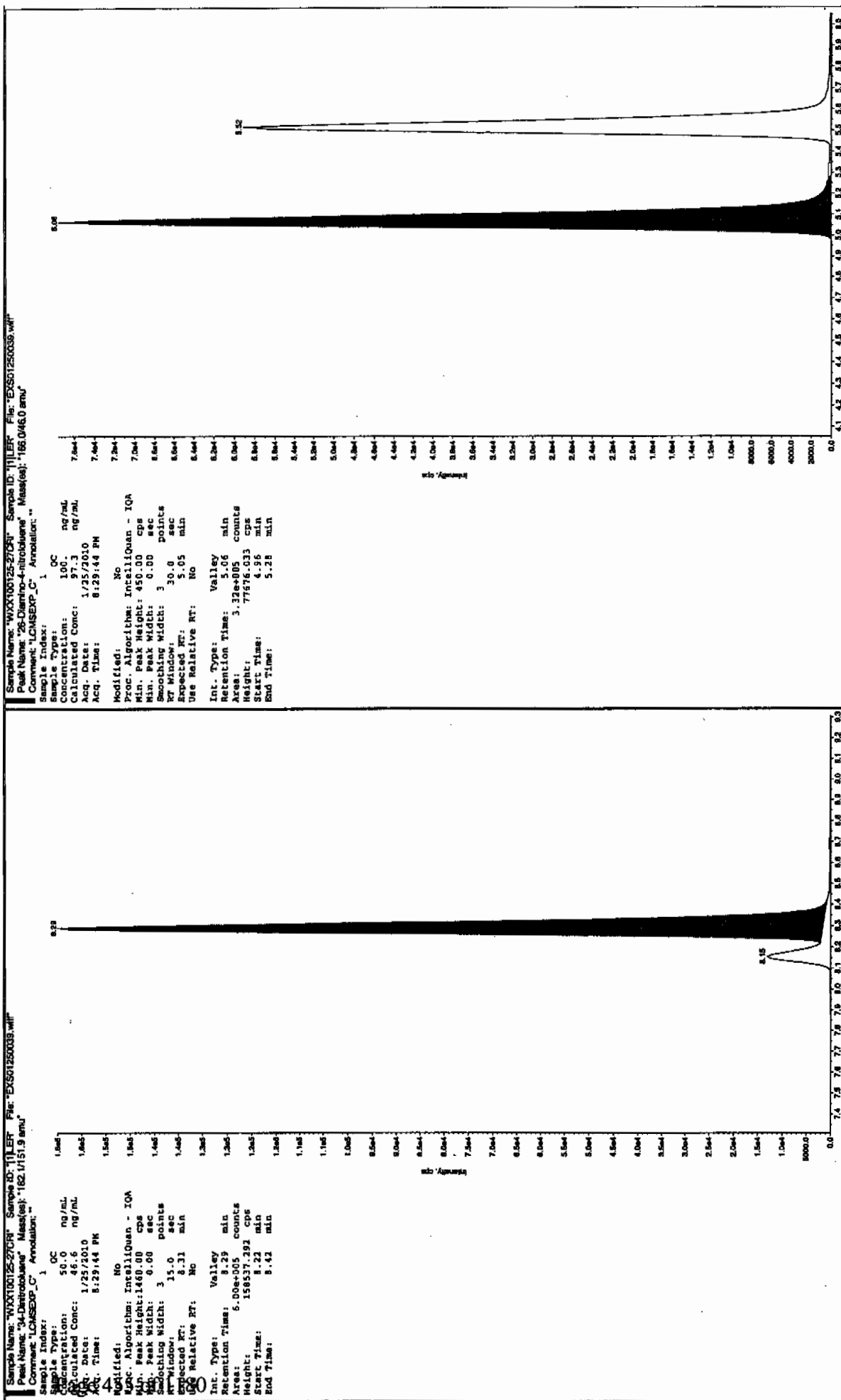
Ann. 01/27/10

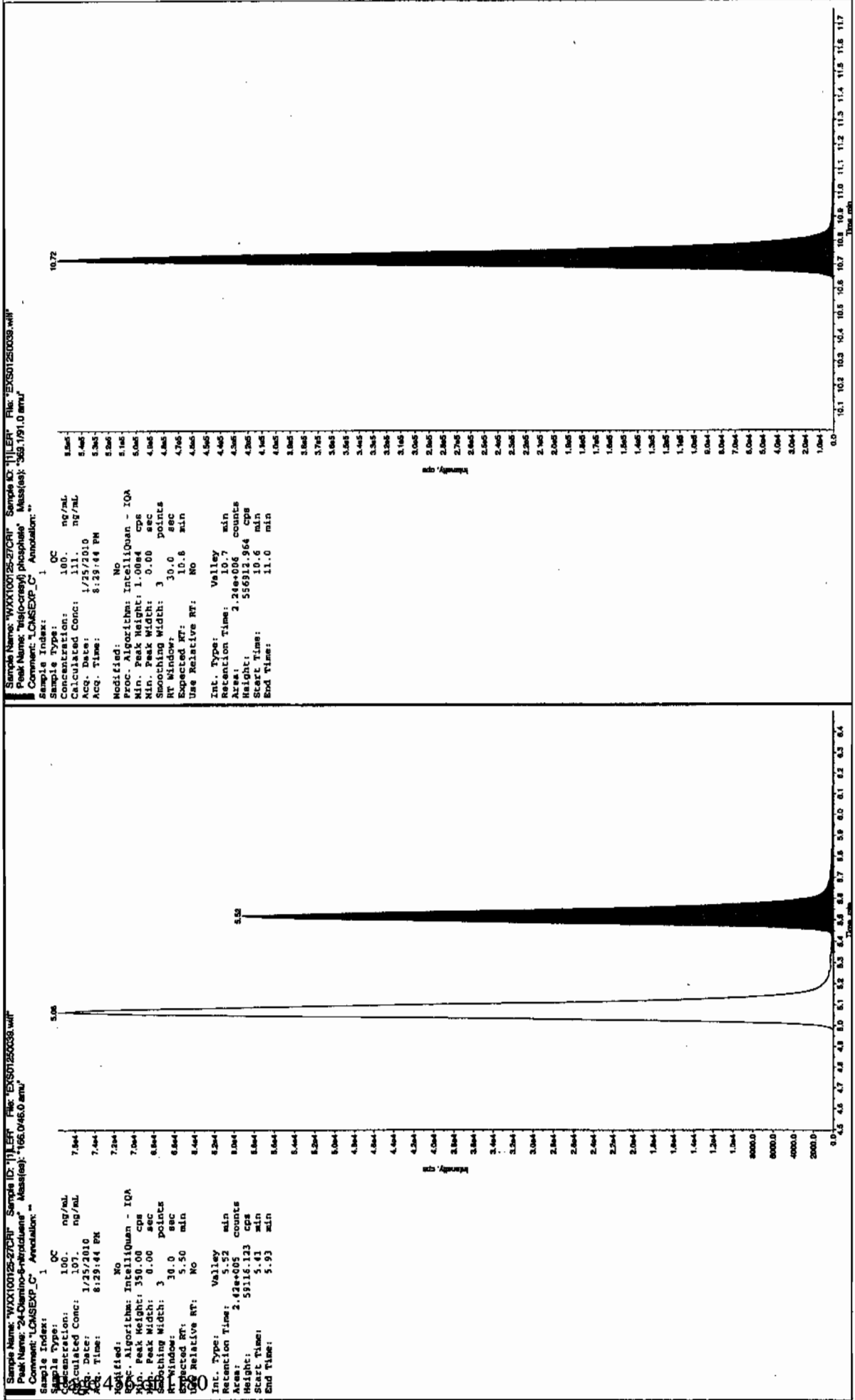


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

after 11/27/10







7A

Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250045.wiff

Analysis Date: 25-JAN-10 22:04

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	519	104	
2,6-Diamino-4-nitrotoluene	500	503	101	
3,4-Dinitrotoluene	250	214	85	
3,5-Dinitroaniline	500	499	100	
TATB	500	482	97	
tris(o-cresyl) phosphate	500	480	96	

Recovery Limits:

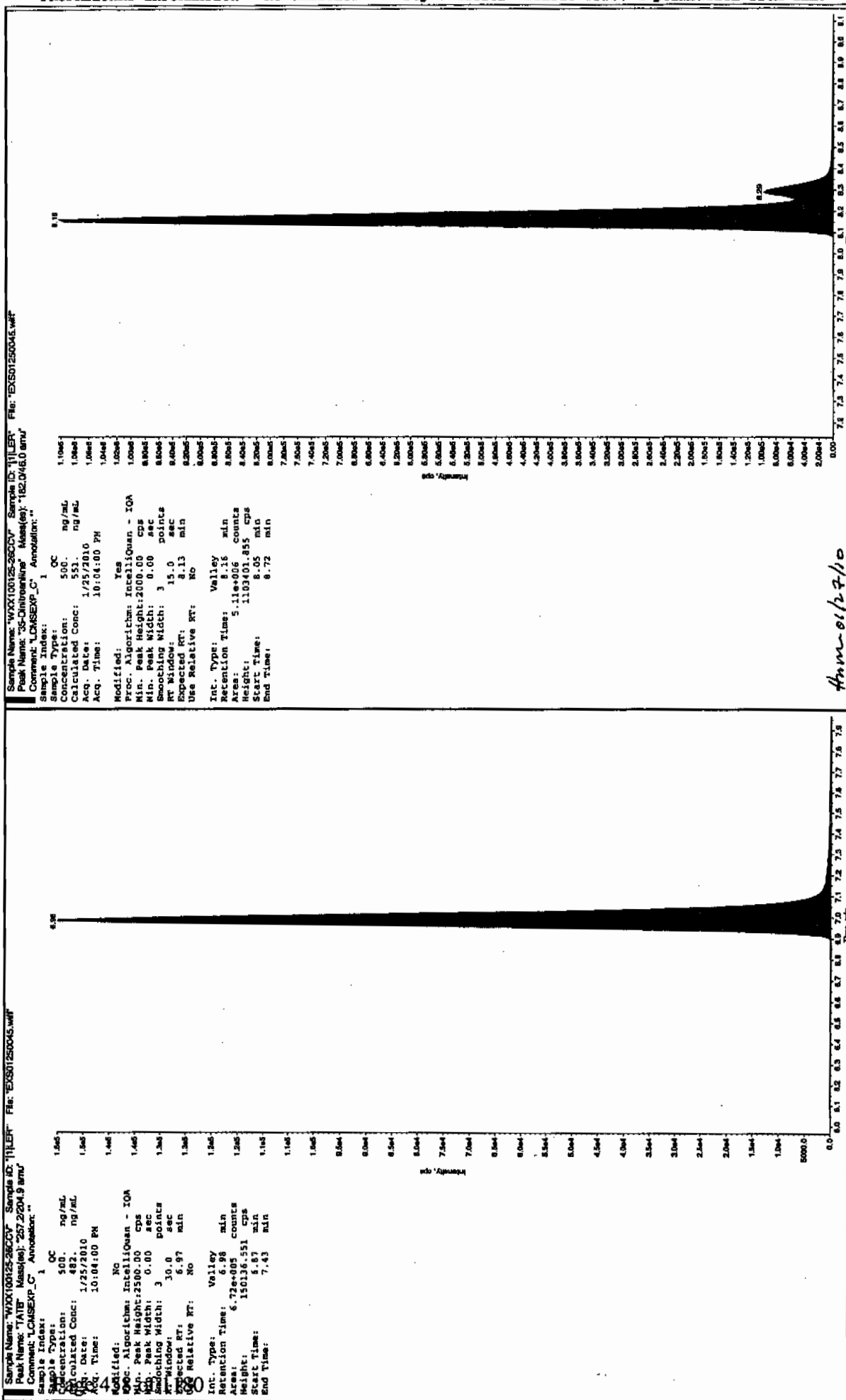
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

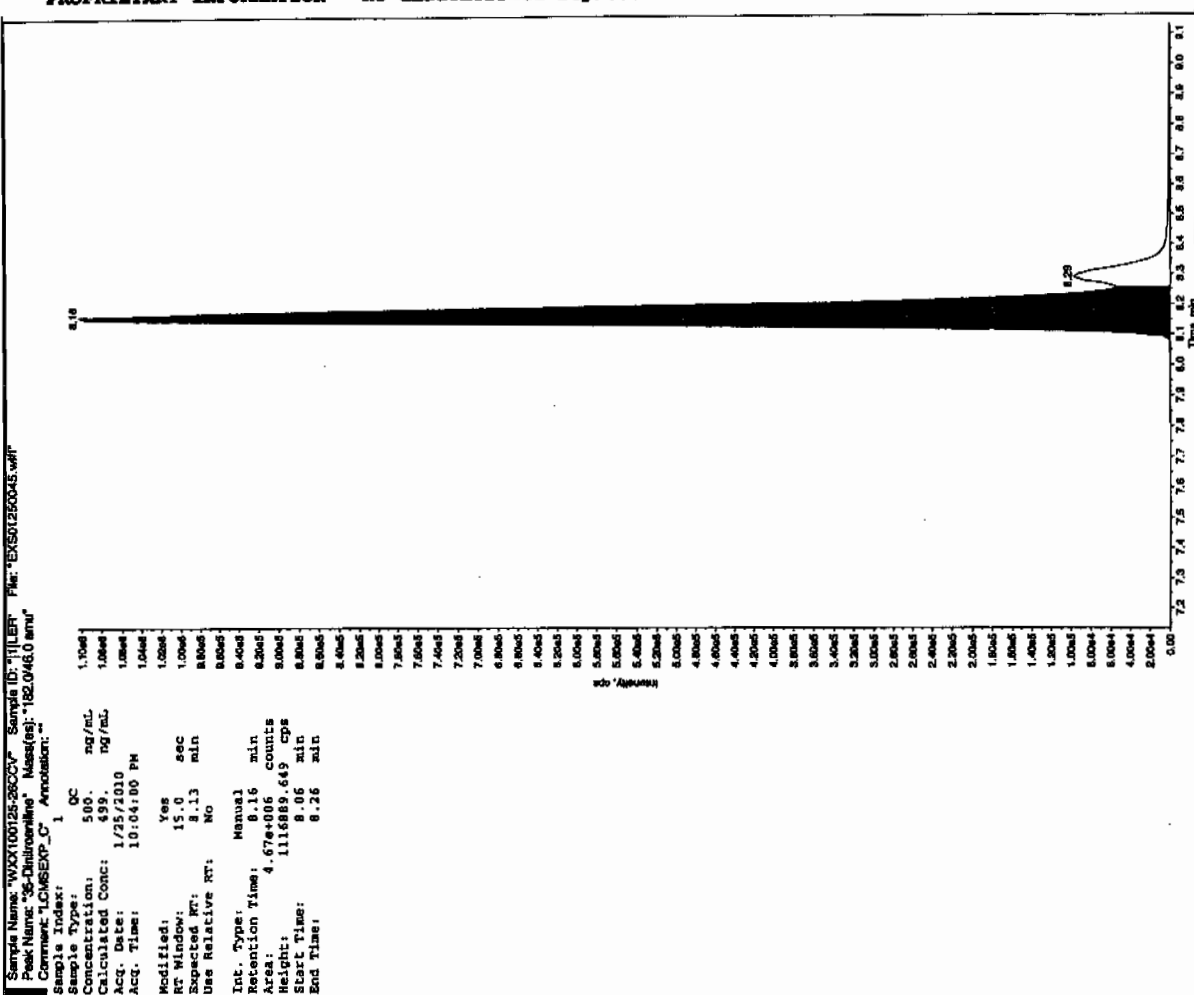
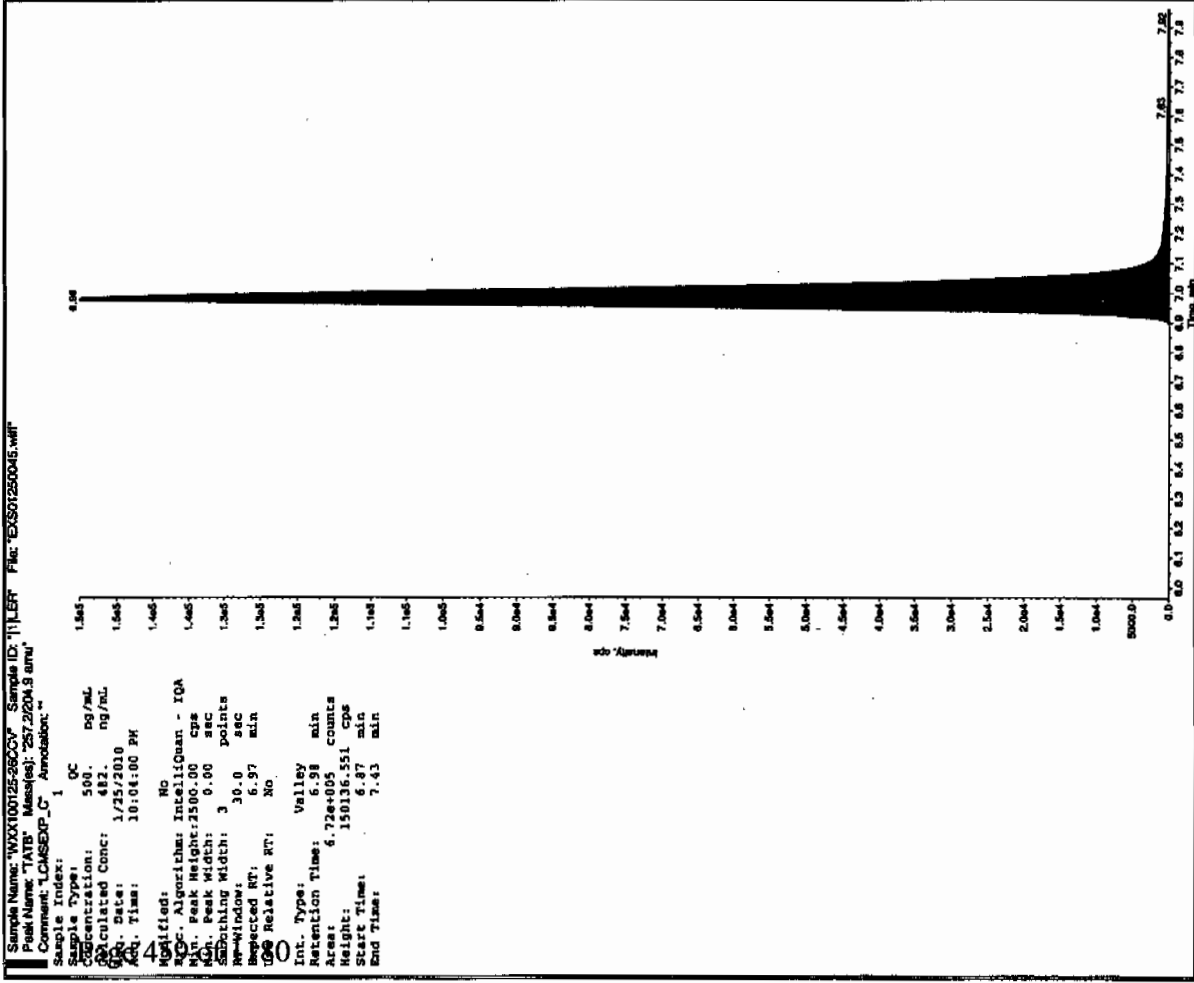
* Value outside of Recovery Limits

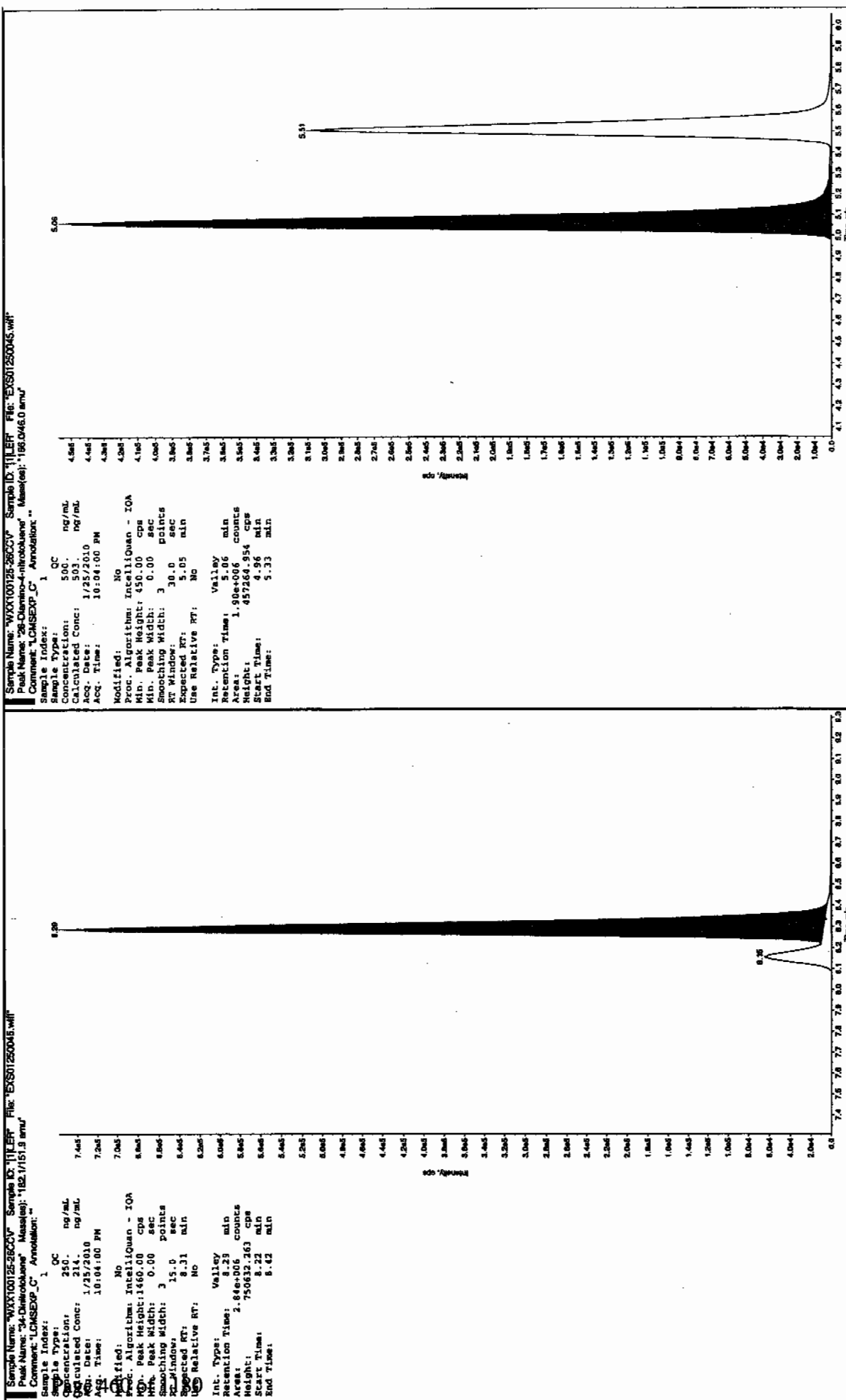
Before 12/7/10



After 01/27/10

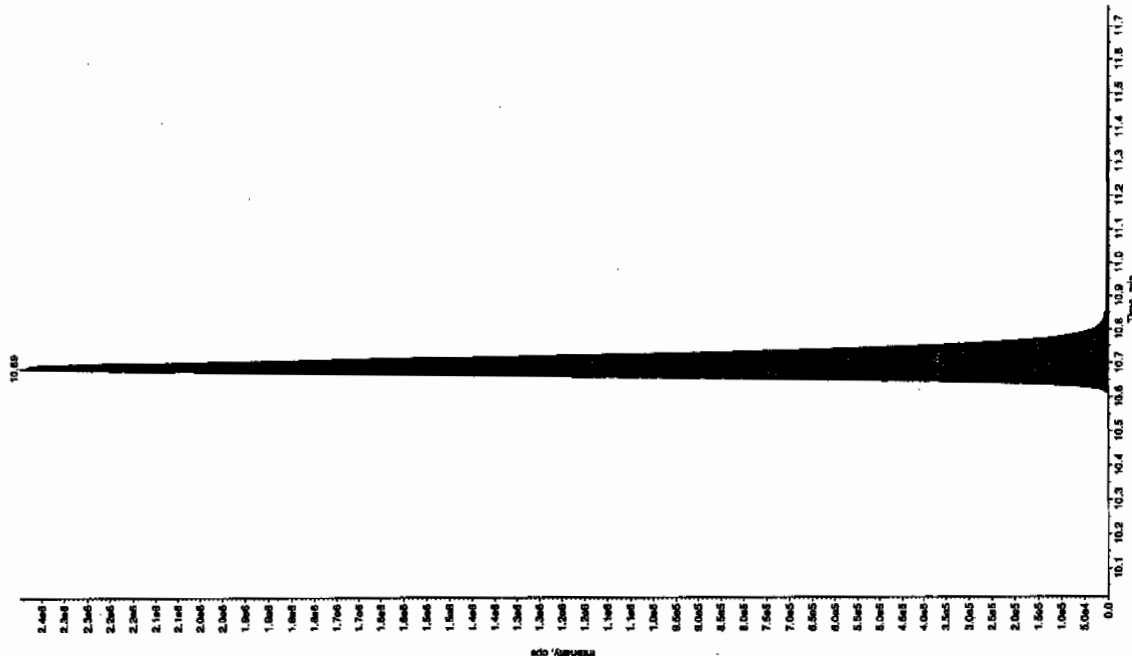
after Jan 11/27/10





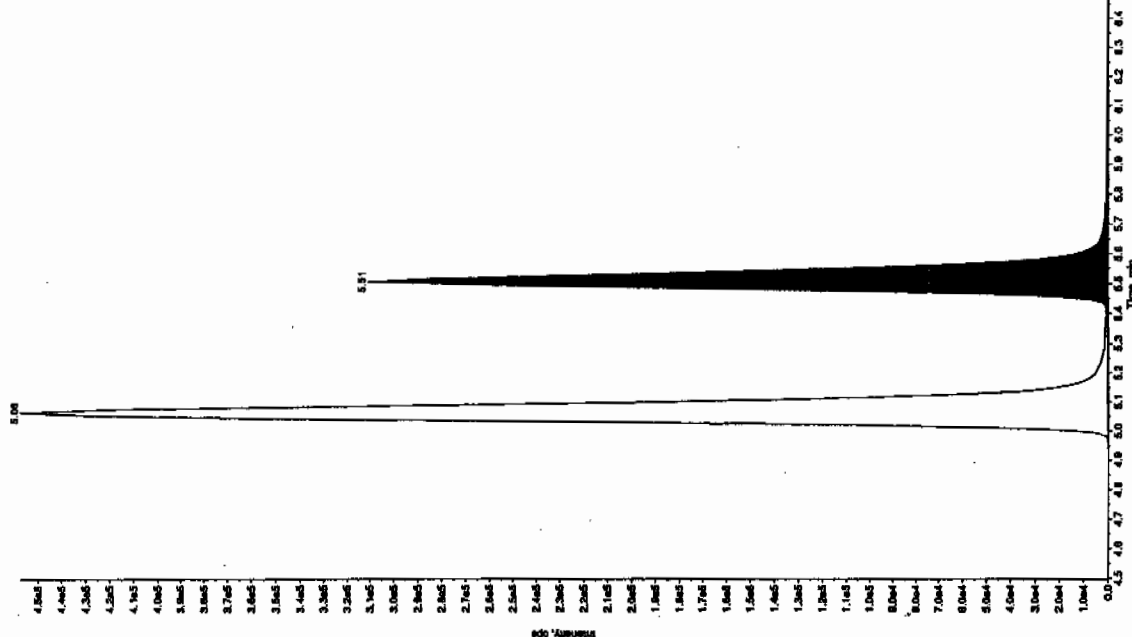
Sample Name: "WXX100125-25045" Sample ID: "111ER" File: "EX50125045.w" Peak Name: "1,3-bis(4-oxocyclohexyl) phosphazene" Mass(es): "389.191.0 amu" Comment: "LCMS-EXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 480. ng/mL
Acq. Date: 1/23/2010
Acq. Time: 10:04:00 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 1.00e4 cps
Min. Peak Width: 0.00 sec
Smoother Width: 3 points
RT Window: 30.0 sec
Expected RT: 10.8 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 10.7 min
Area: 1.01e+007 counts
Height: 2398185.742 cps
Start Time: 10.6 min
End Time: 11.0 min



Sample Name: "WXX100125-25045" Sample ID: "111ER" File: "EX50125045.w" Peak Name: "2,4-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu" Comment: "LCMS-EXP_C" Annotation: "

Sample Index: 1
Sample Type: QC
Concentration: 500. ng/mL
Calculated Conc: 519. ng/mL
Acq. Date: 1/23/2010
Acq. Time: 10:04:00 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 350.00 cps
Min. Peak Width: 0.00 sec
Smoother Width: 3 points
RT Window: 30.0 sec
Expected RT: 5.50 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 5.51 min
Area: 1.25e+006 counts
Height: 310563.934 cps
Start Time: 5.40 min
End Time: 5.62 min



7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250047.wiff

Analysis Date: 25-JAN-10 22:35

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	121	121	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.2	96	
3,5-Dinitroaniline	100	102	102	
TATB	100	101	101	
tris(o-cresyl) phosphate	100	113	113	

Recovery Limits:

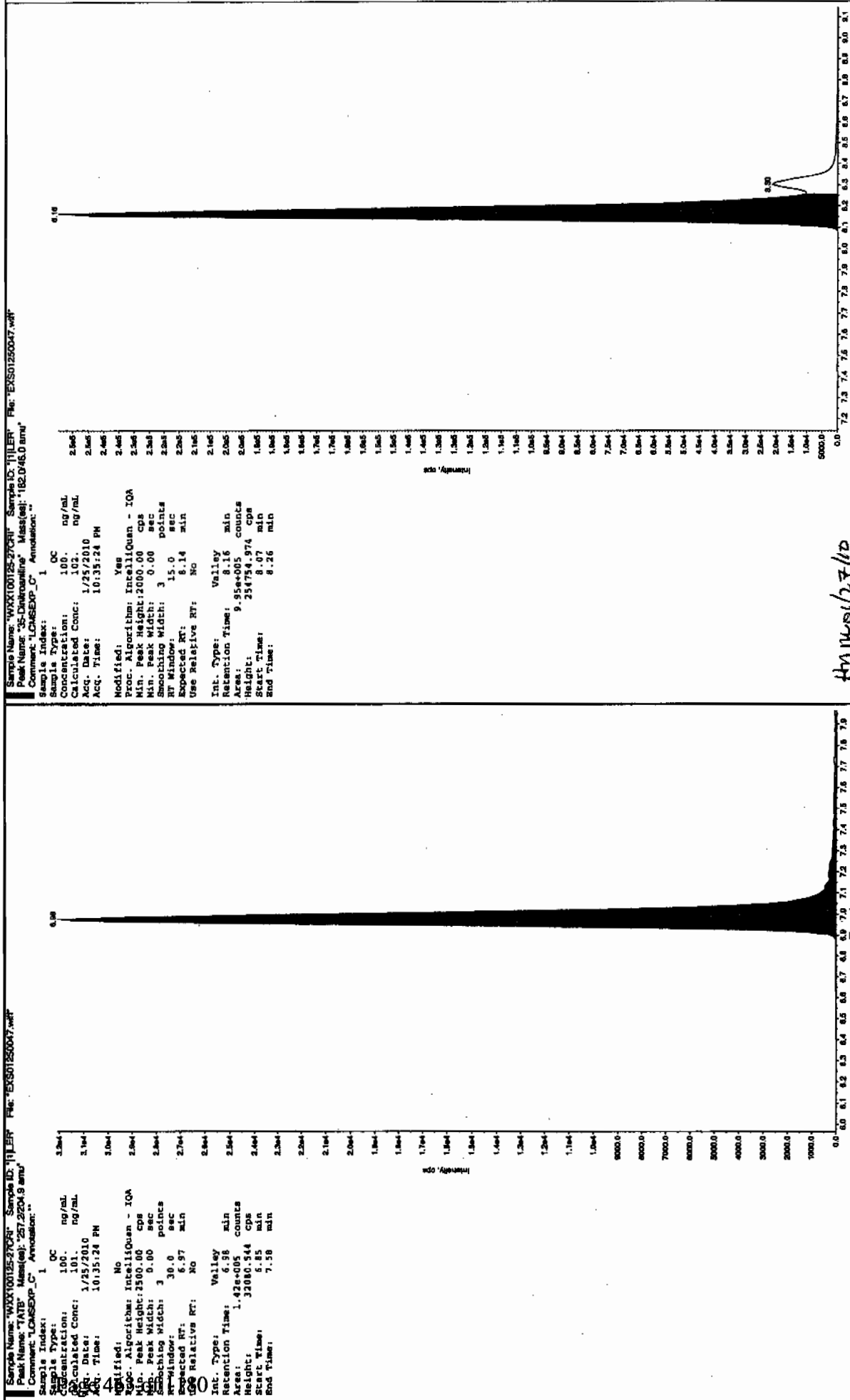
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

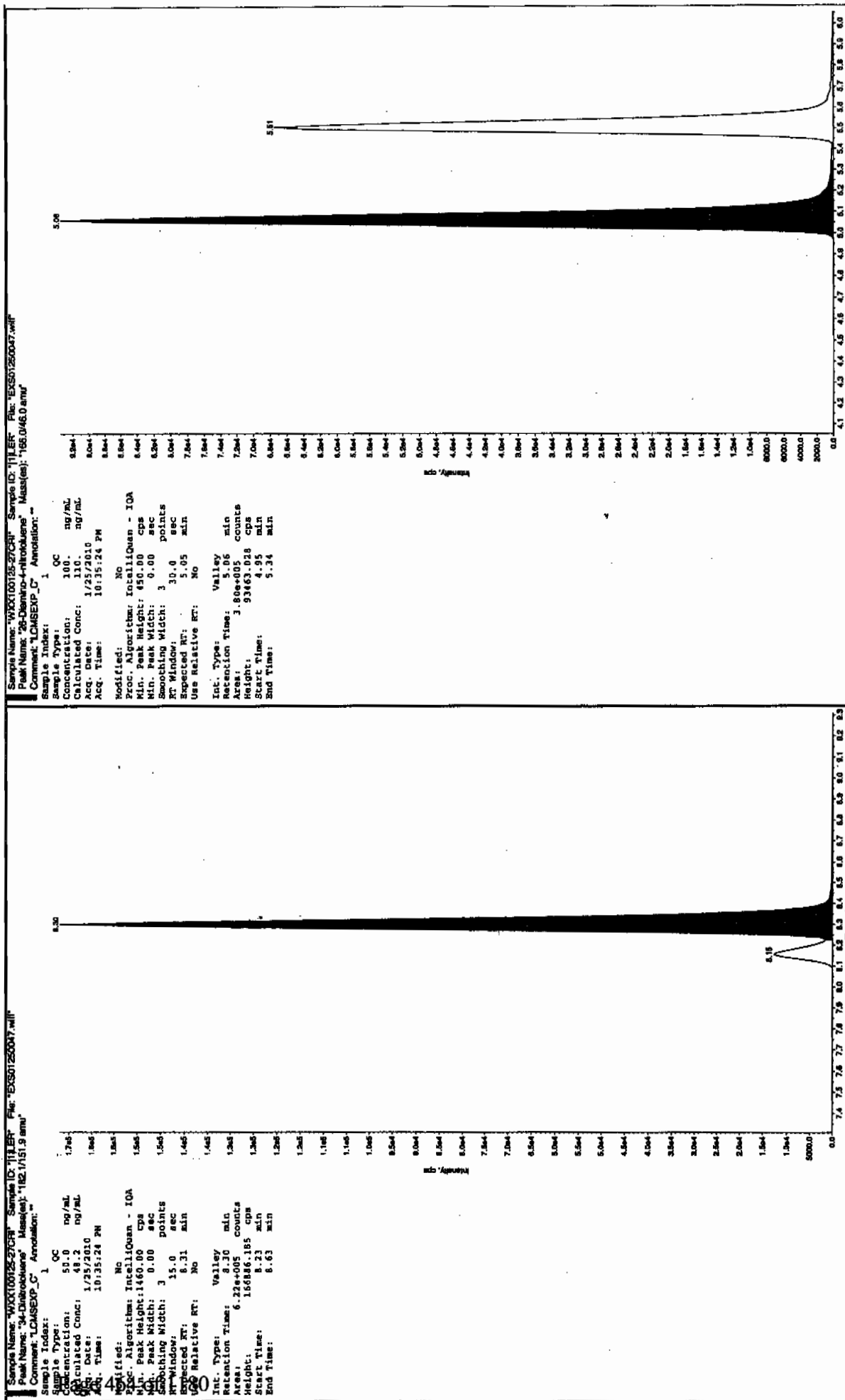
Column used to flag Recovery outside of Limits

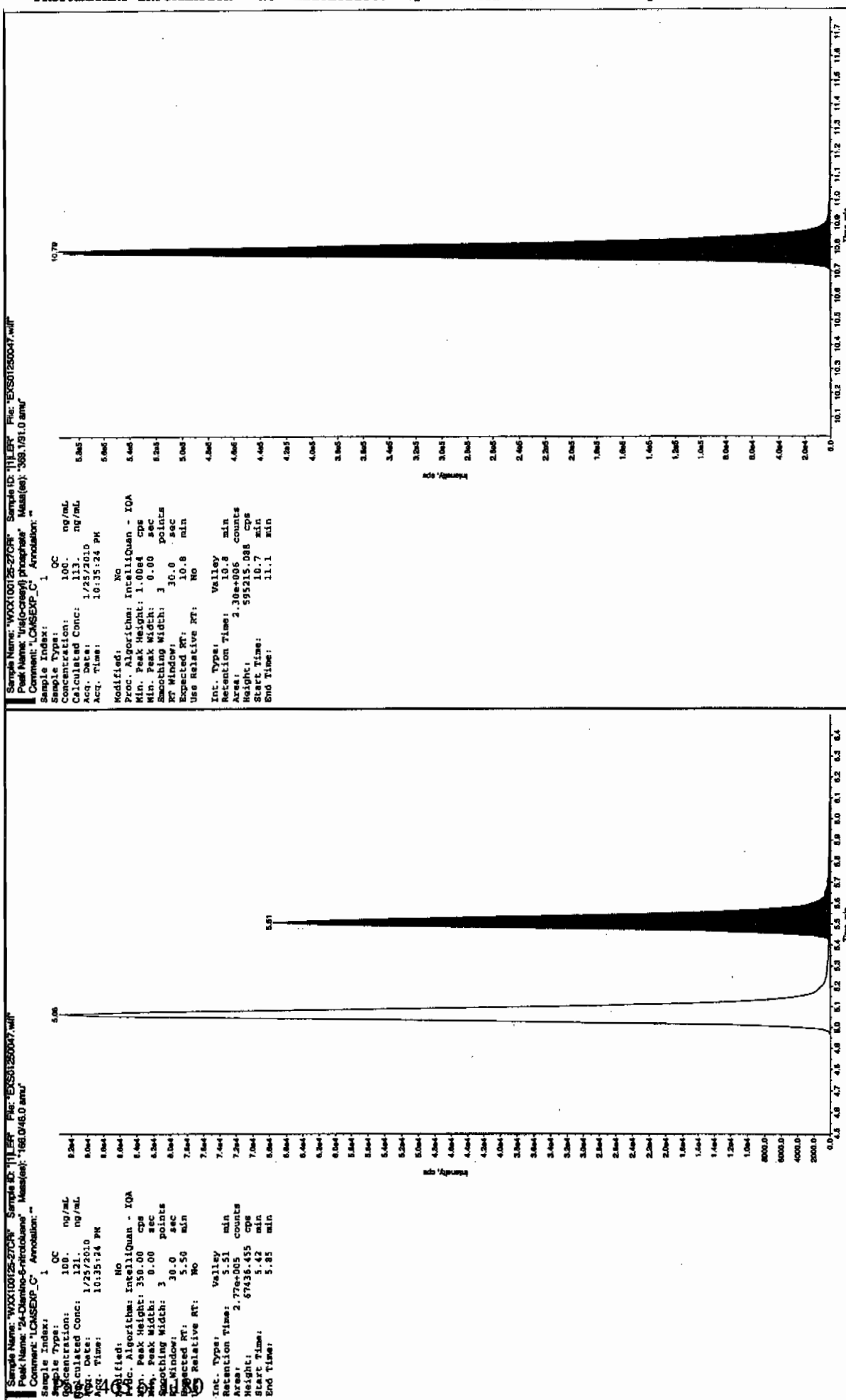
* Value outside of Recovery Limits

See 1/27/10



*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): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250058.wiff

Analysis Date: 26-JAN-10 01:28

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	510	102	
2,6-Diamino-4-nitrotoluene	500	472	95	
3,4-Dinitrotoluene	250	227	91	
3,5-Dinitroaniline	500	493	99	
TATB	500	507	101	
tris(o-cresyl) phosphate	500	483	97	

Recovery Limits:

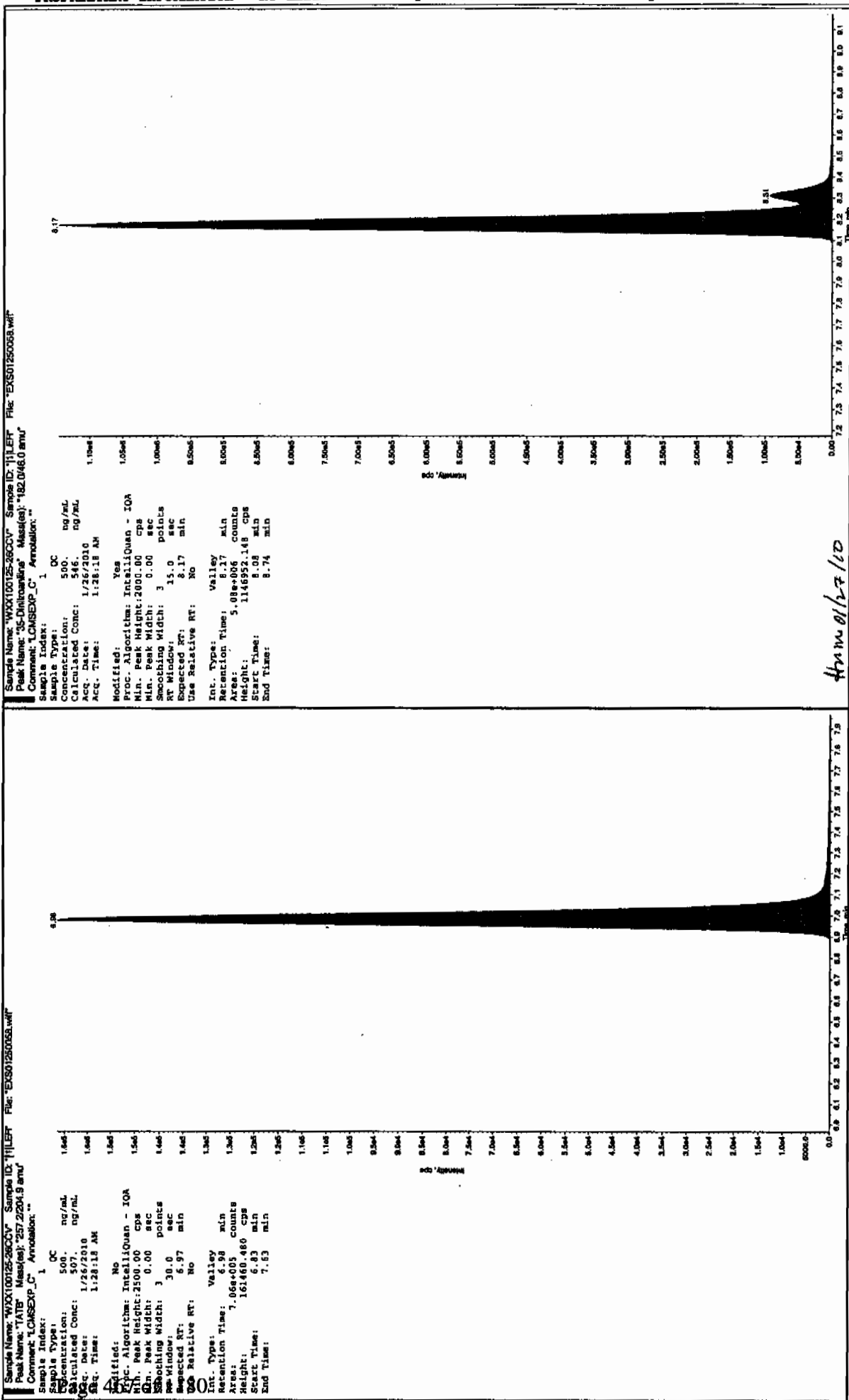
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

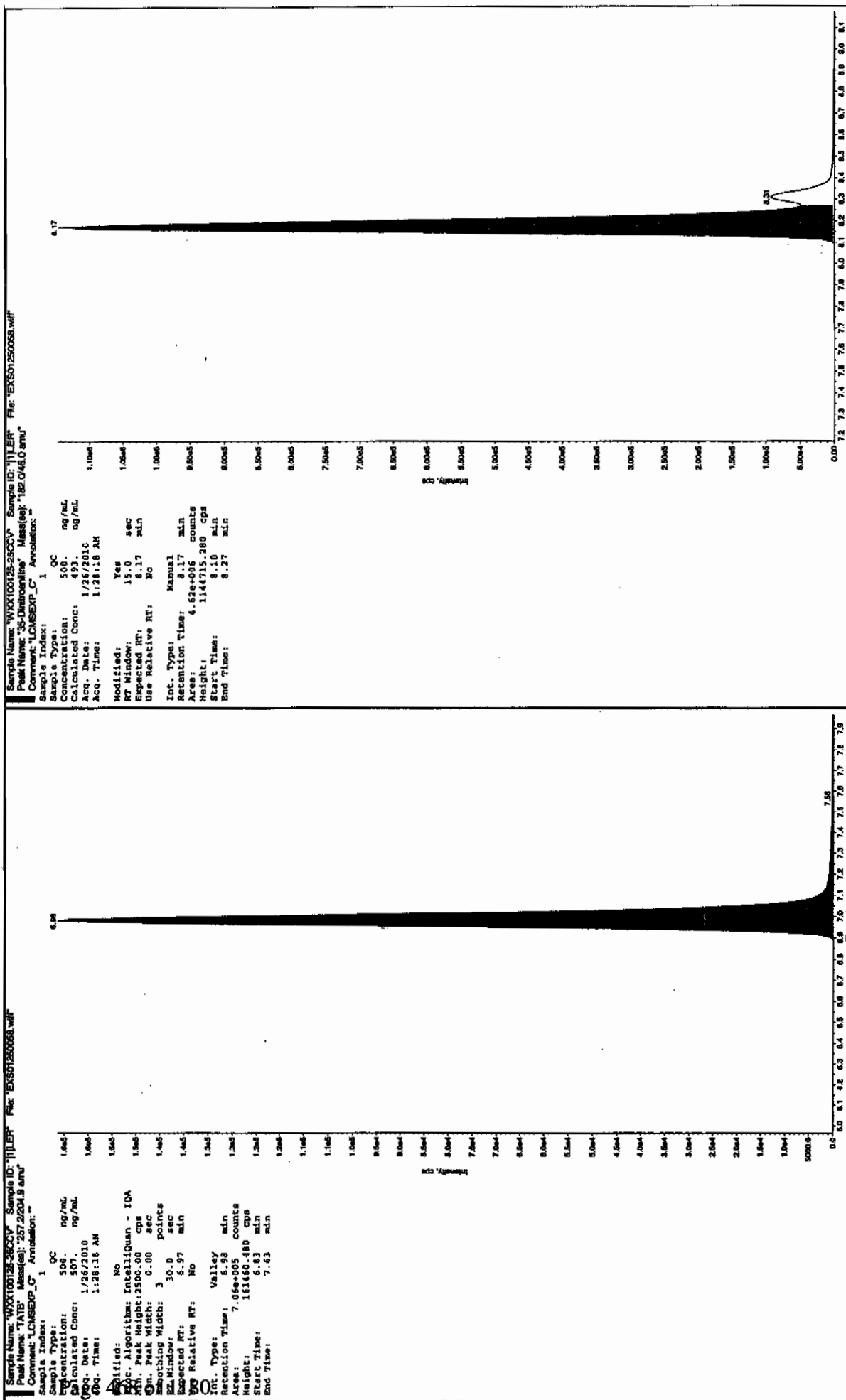
* Value outside of Recovery Limits

Before Scan 1127110

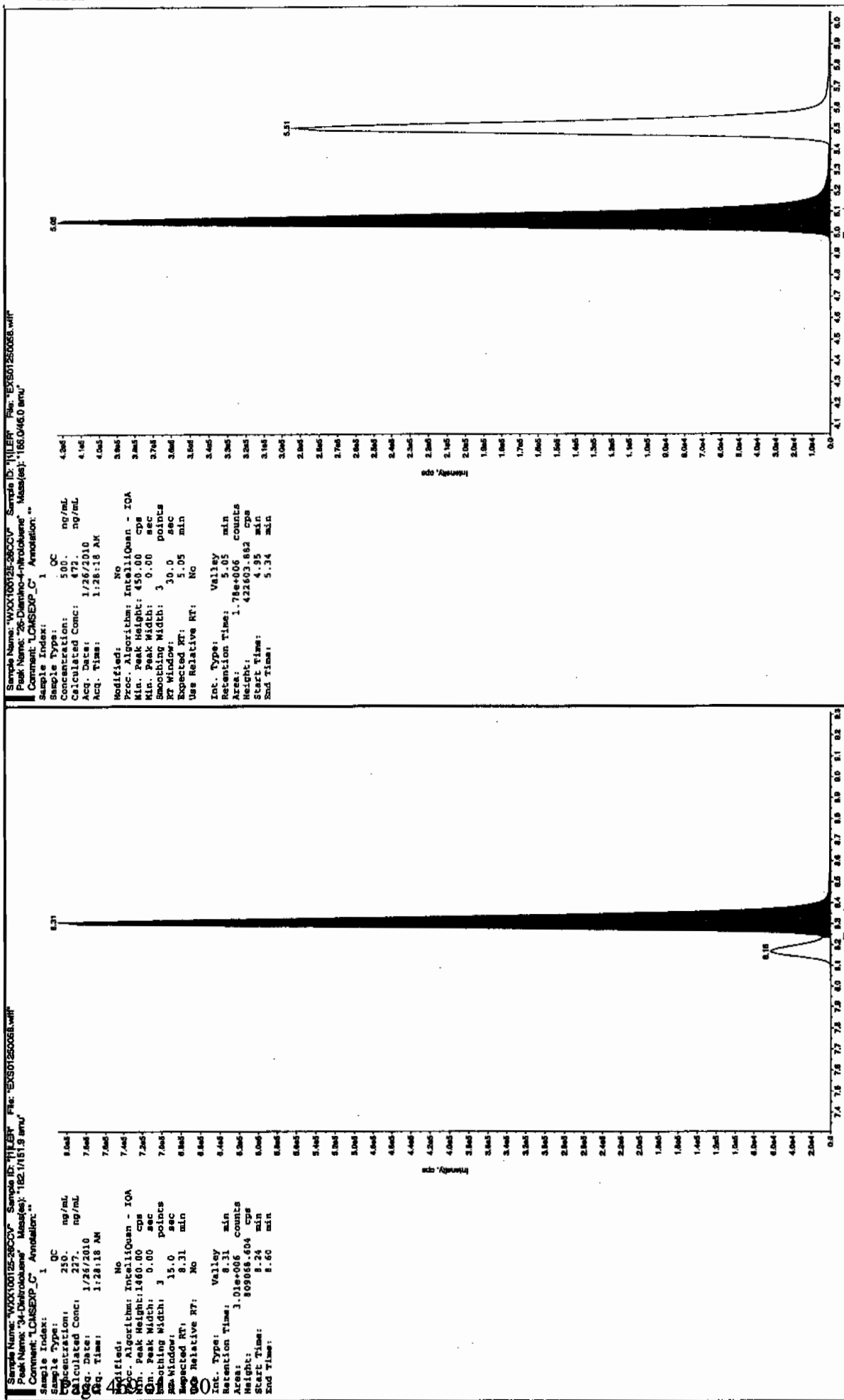


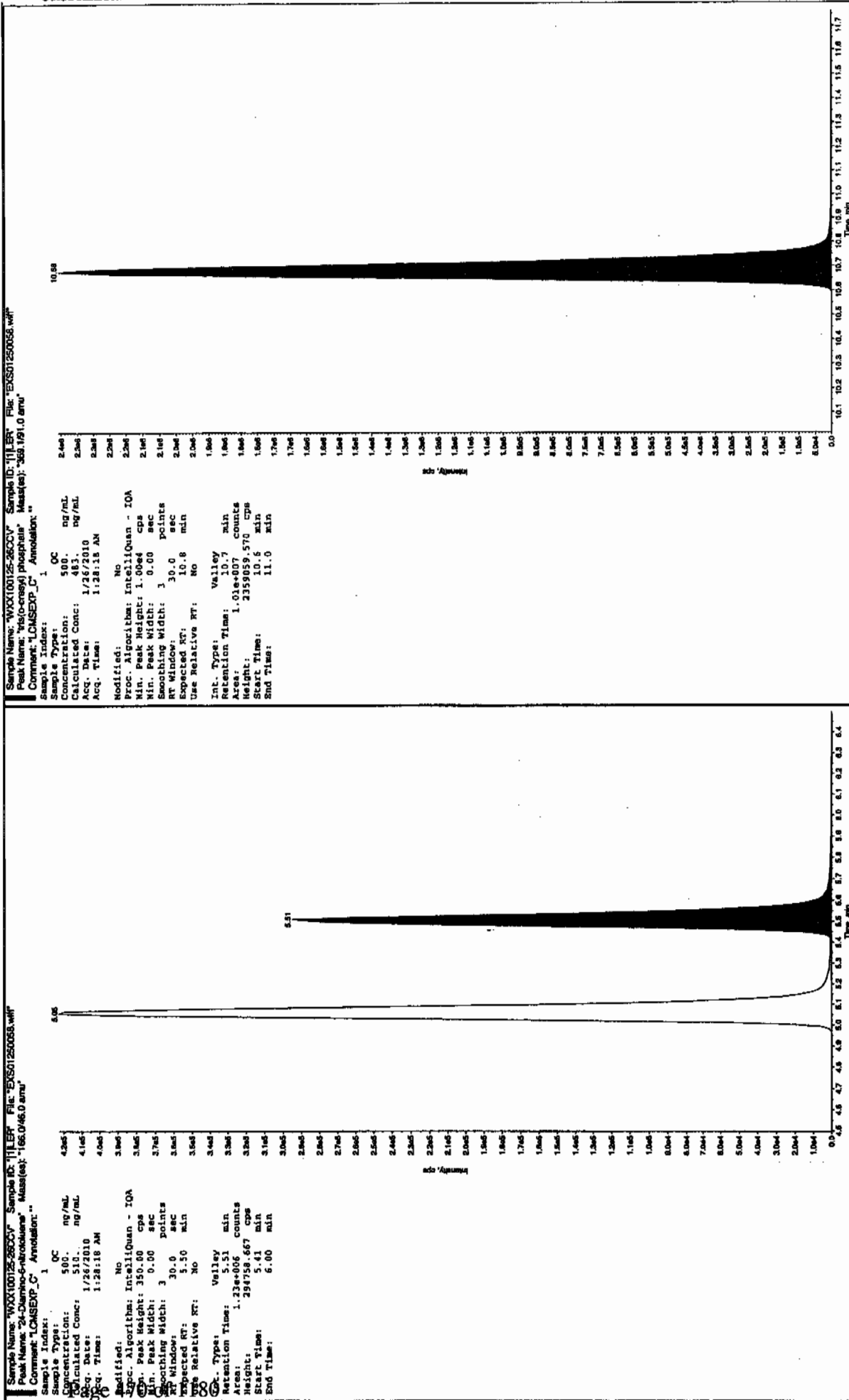
From 8/127/10

after Jan 11/27/10



*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250060.wiff

Analysis Date: 26-JAN-10 01:59

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	111	111	
2,6-Diamino-4-nitrotoluene	100	109	109	
3,4-Dinitrotoluene	50	47.7	95	
3,5-Dinitroaniline	100	103	103	
TATB	100	104	104	
tris(o-cresyl) phosphate	100	112	112	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

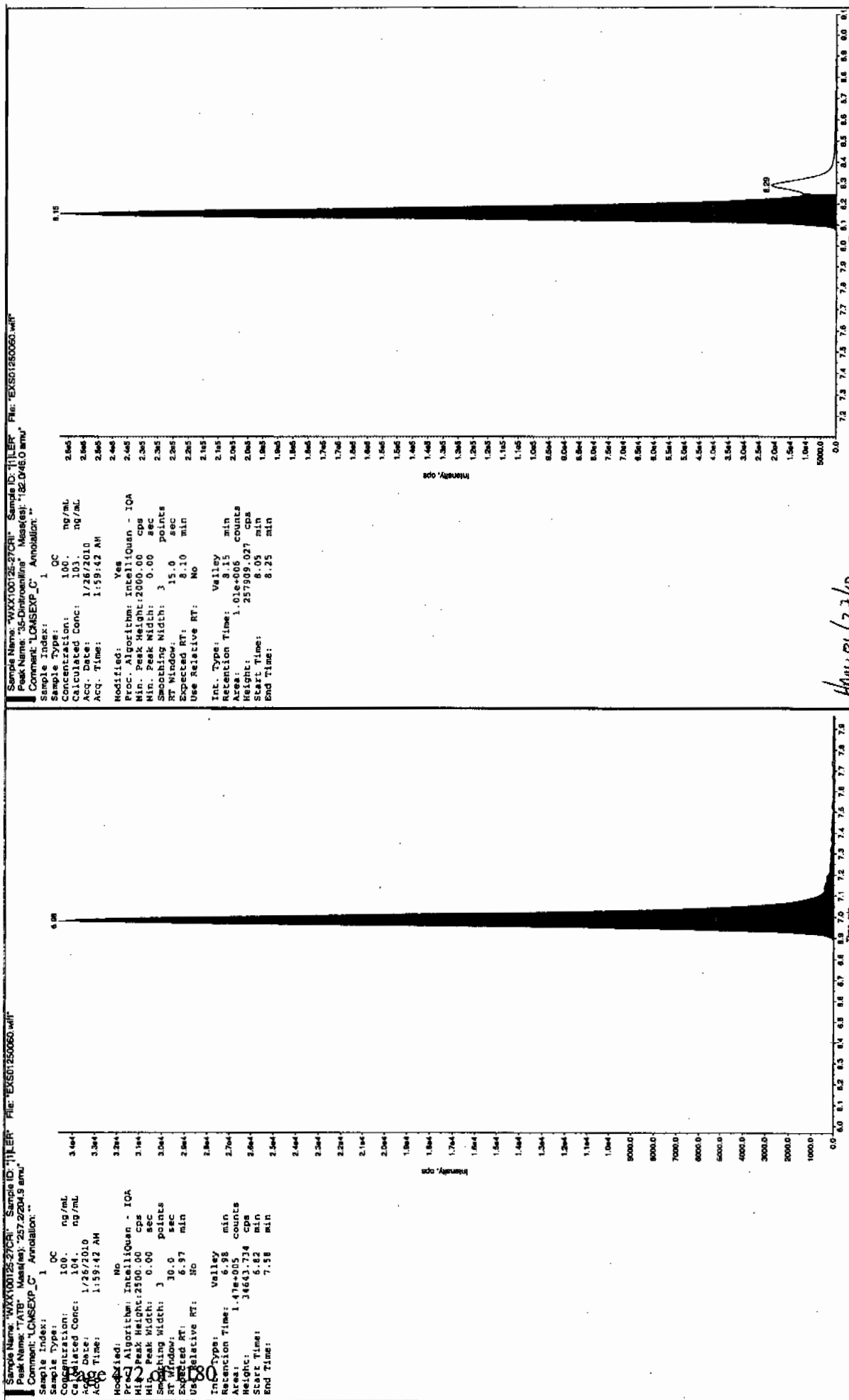
2,4-Diamino-6-nitrotoluene 50-150%

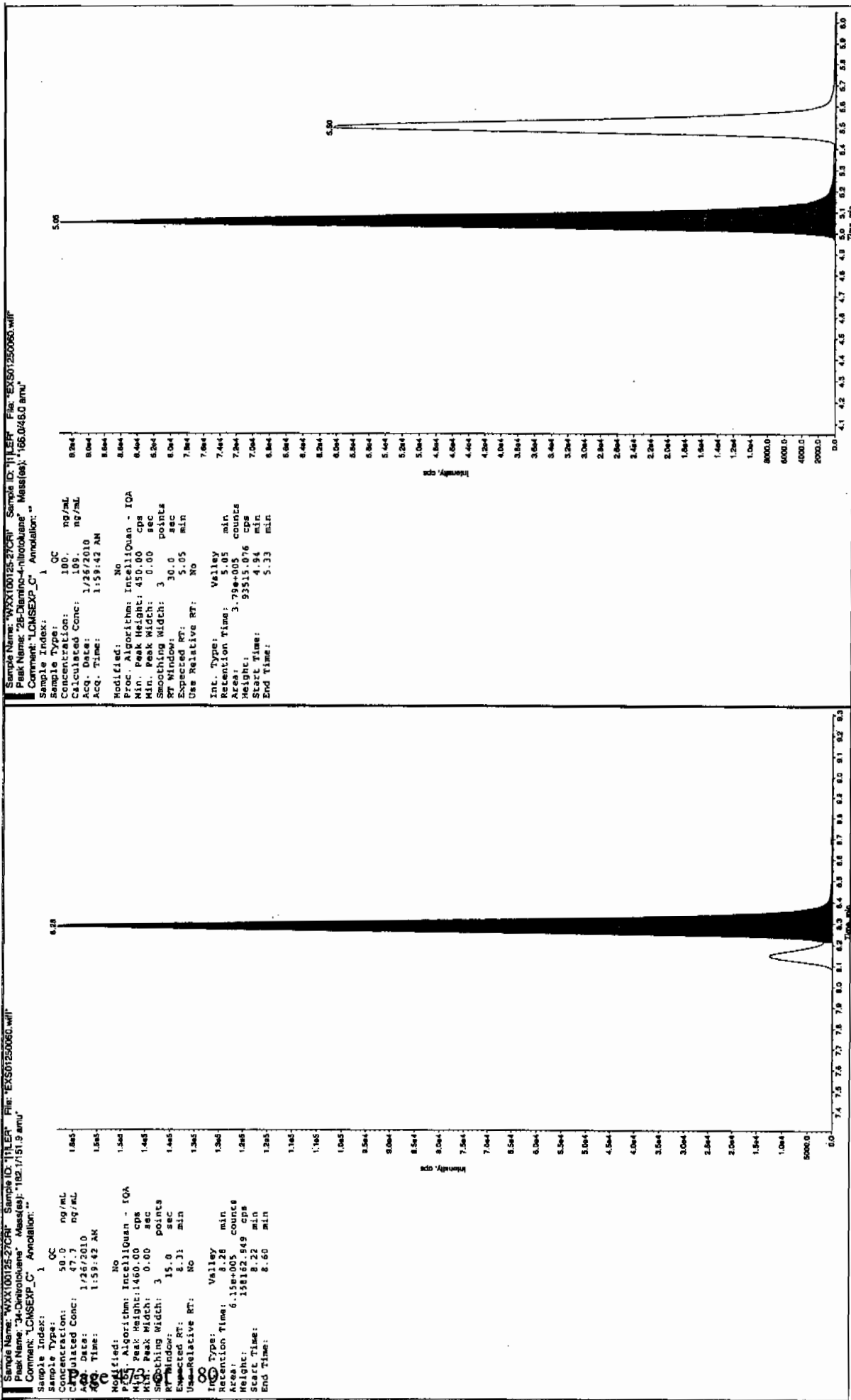
Other Target Analytes 70-130%

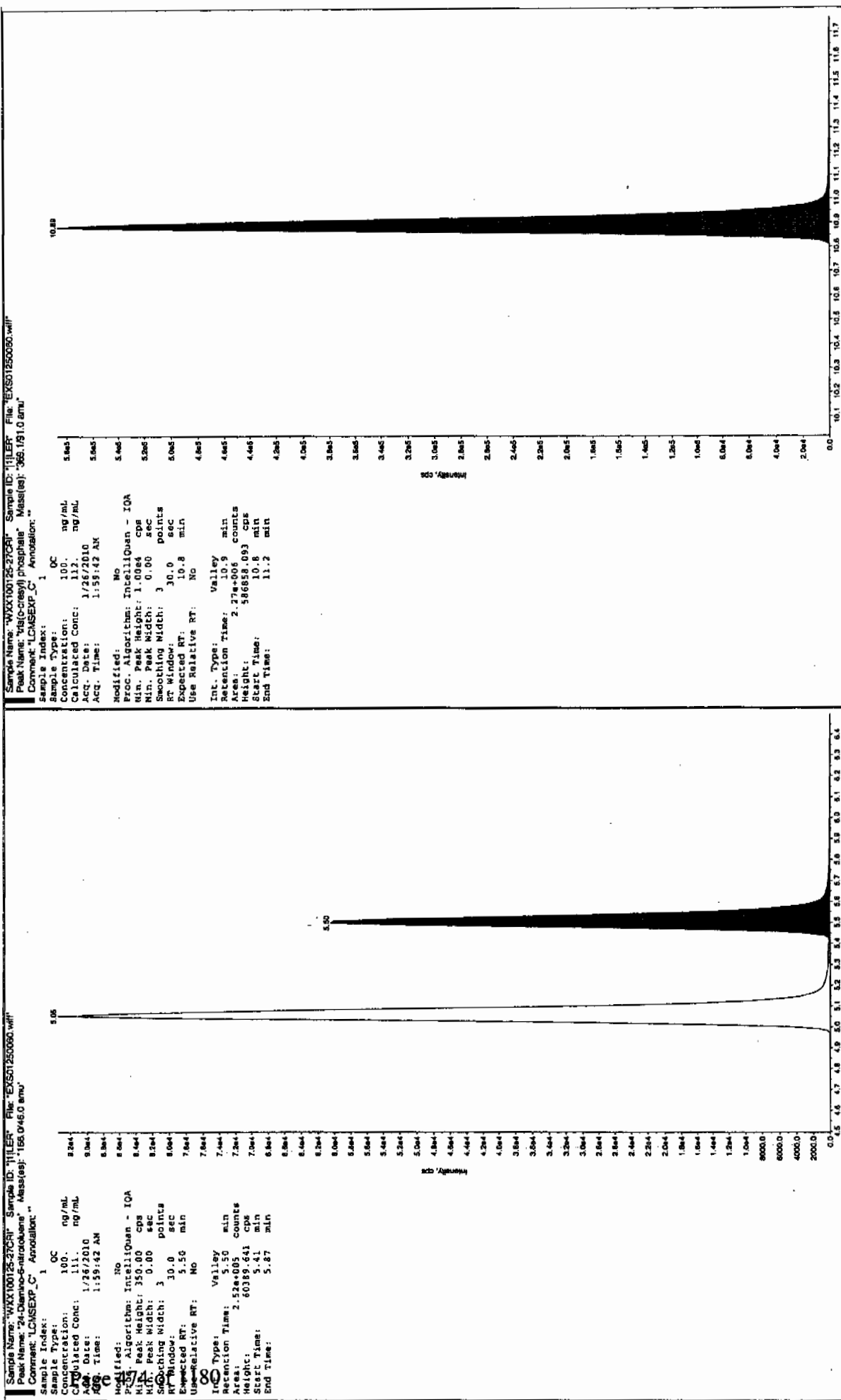
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Scan 1127110







7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250067.wiff

Analysis Date: 26-JAN-10 03:49

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	523	105	
2,6-Diamino-4-nitrotoluene	500	495	99	
3,4-Dinitrotoluene	250	228	91	
3,5-Dinitroaniline	500	513	103	
TATB	500	525	105	
tris(o-cresyl) phosphate	500	481	96	

Recovery Limits:

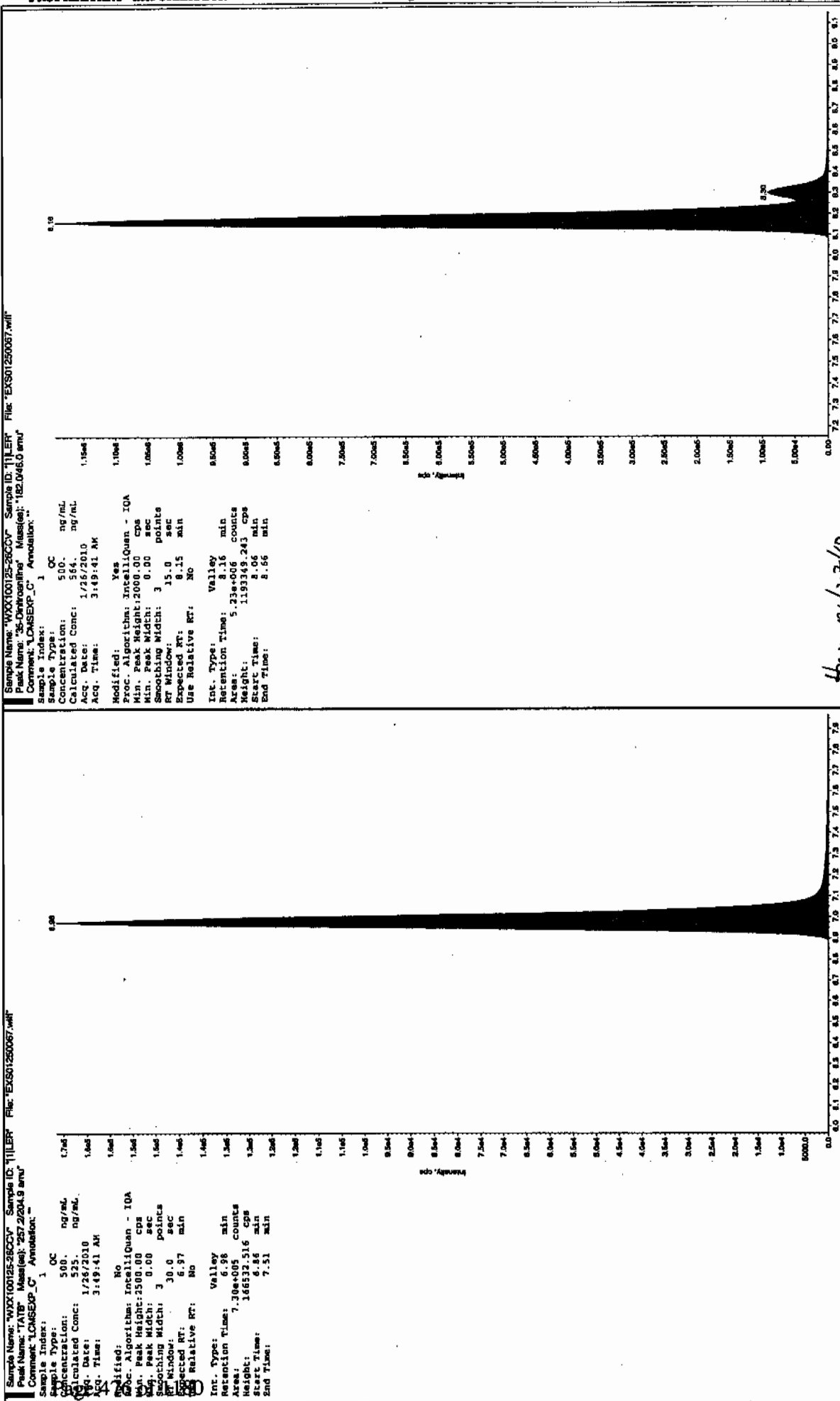
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

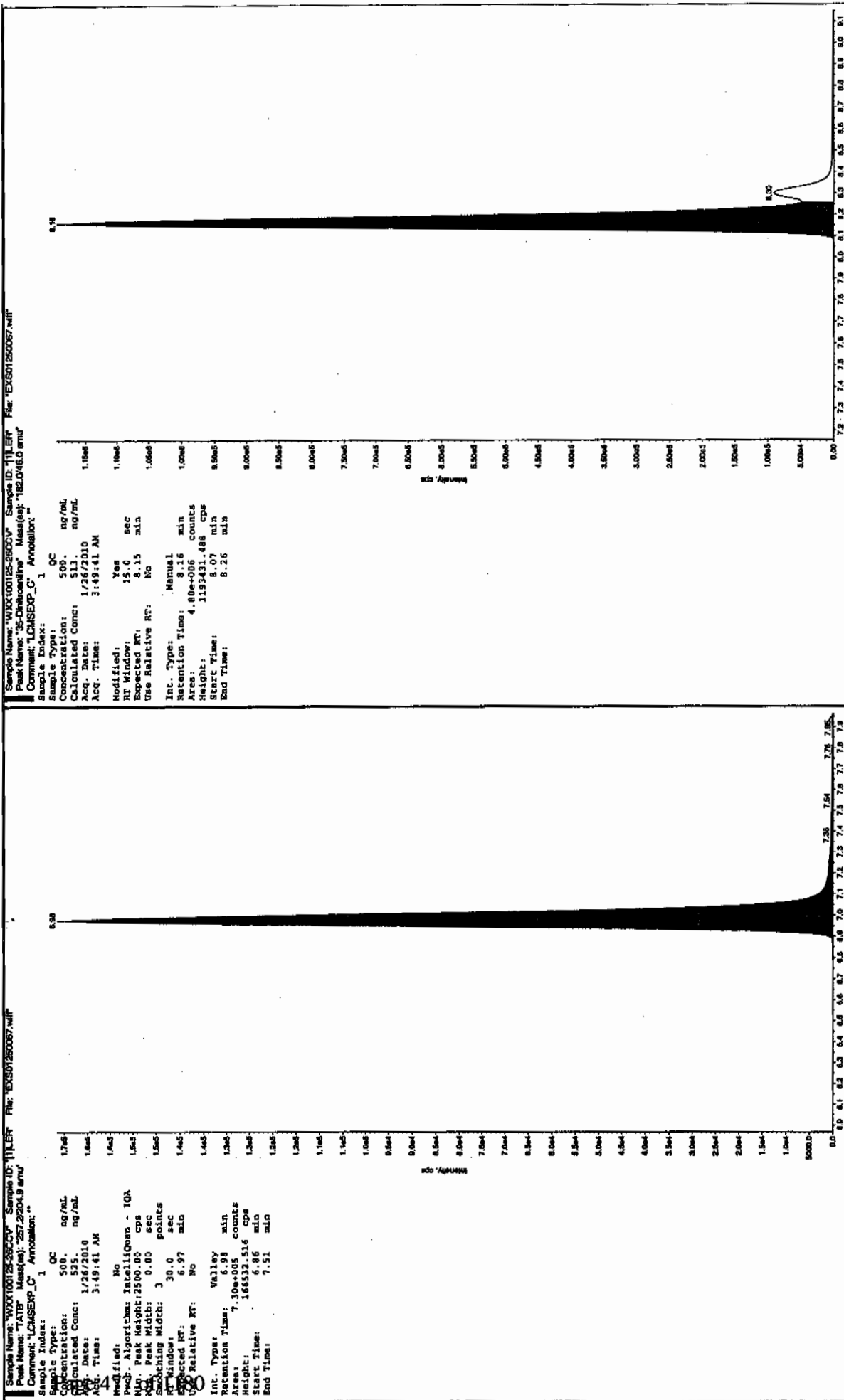
Column used to flag Recovery outside of Limits

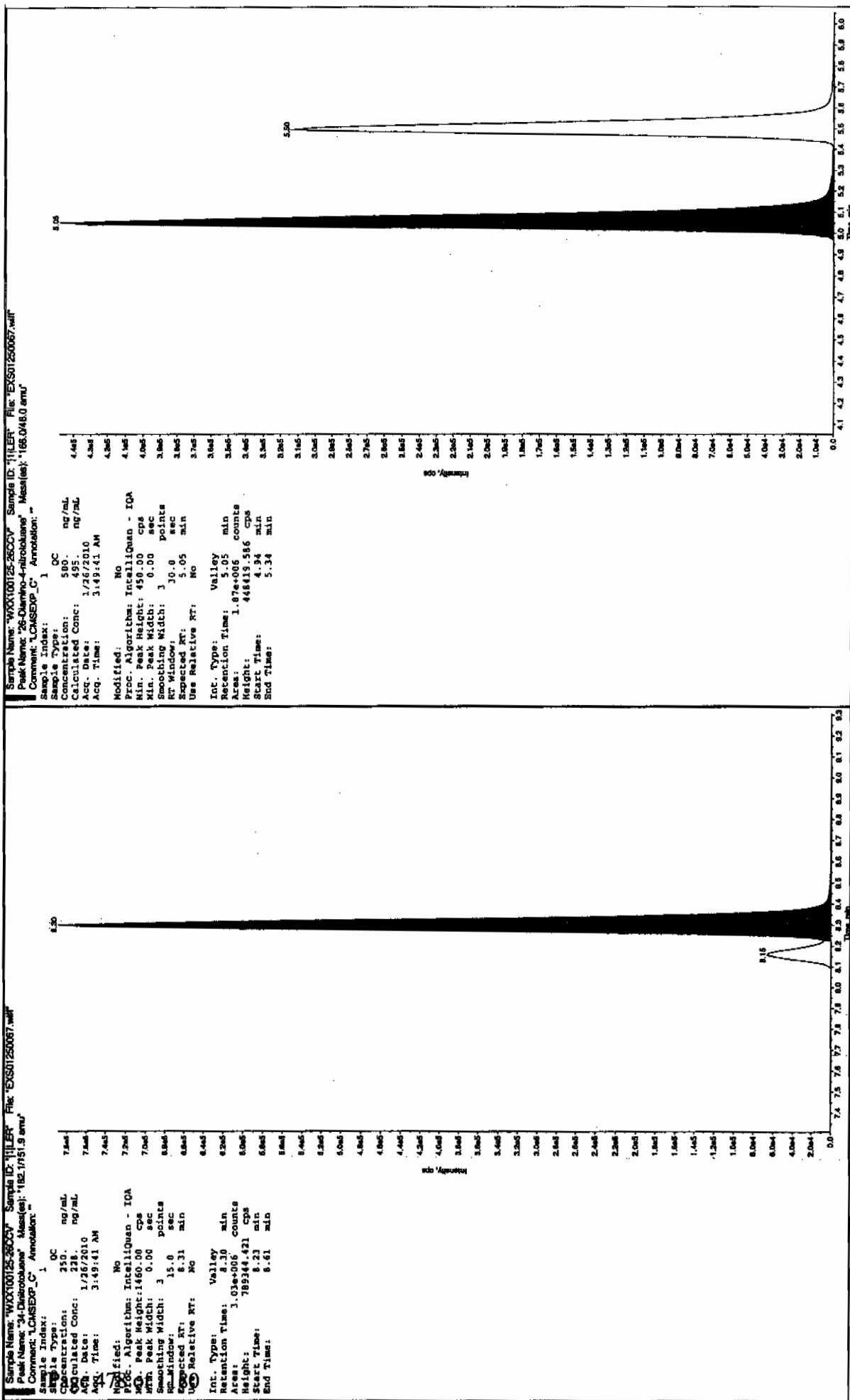
* Value outside of Recovery Limits

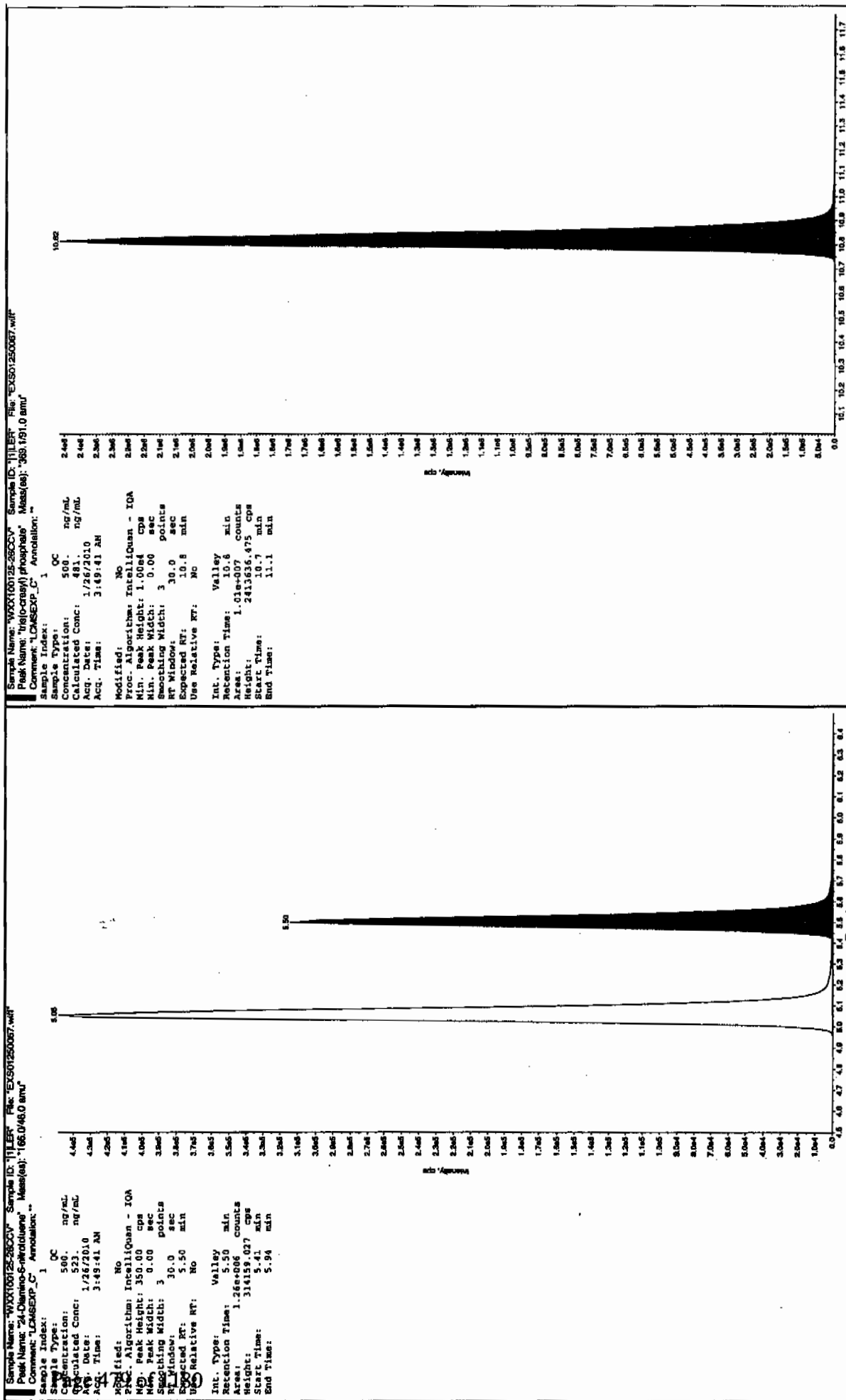
Before the 12710



after Jan 11/27/10







*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMMS#4

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250069.wiff

Analysis Date: 26-JAN-10 04:21

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	112	112	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.2	96	
3,5-Dinitroaniline	100	108	108	
TATB	100	107	107	
tris(o-cresyl) phosphate	100	111	111	

Recovery Limits:

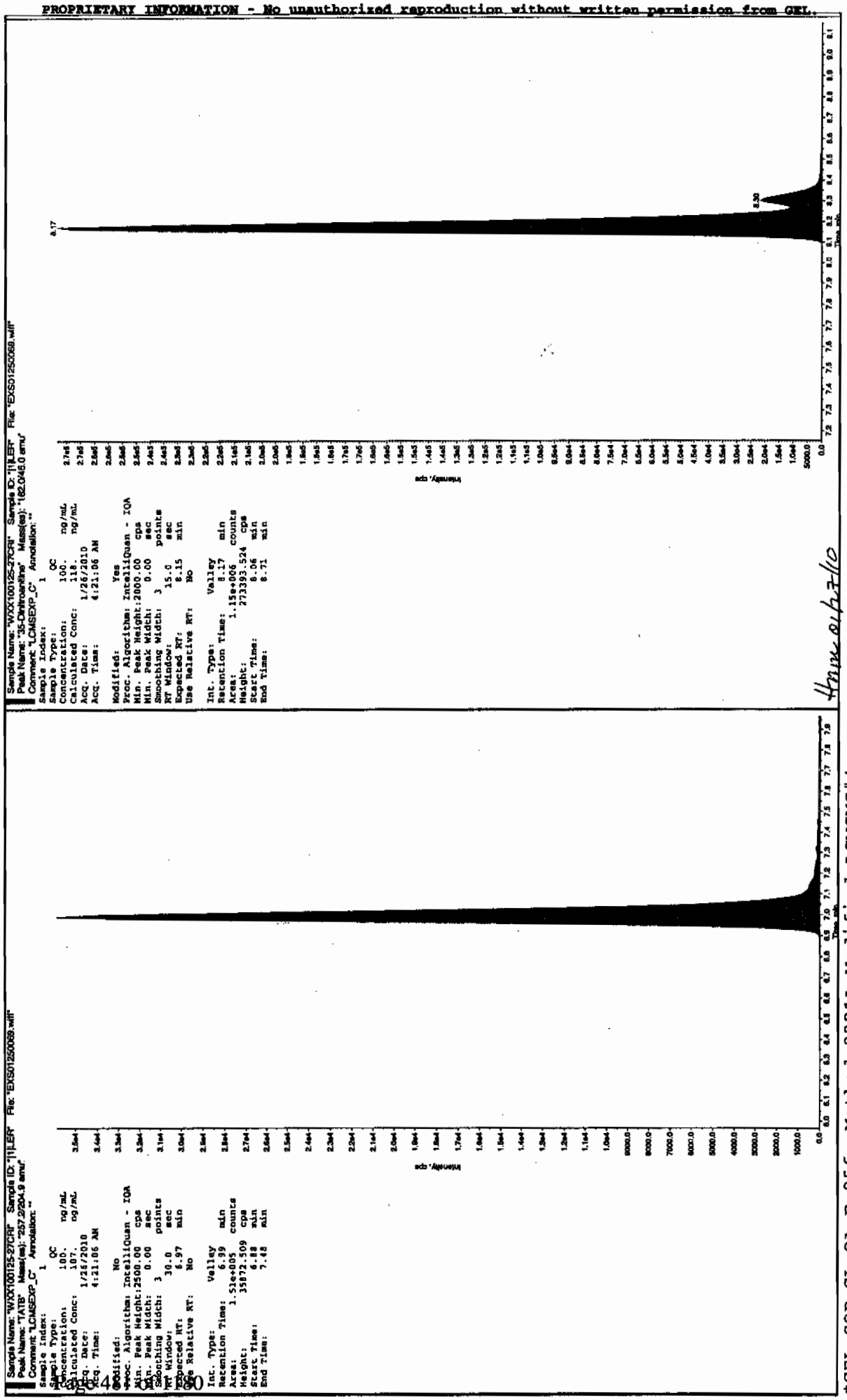
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

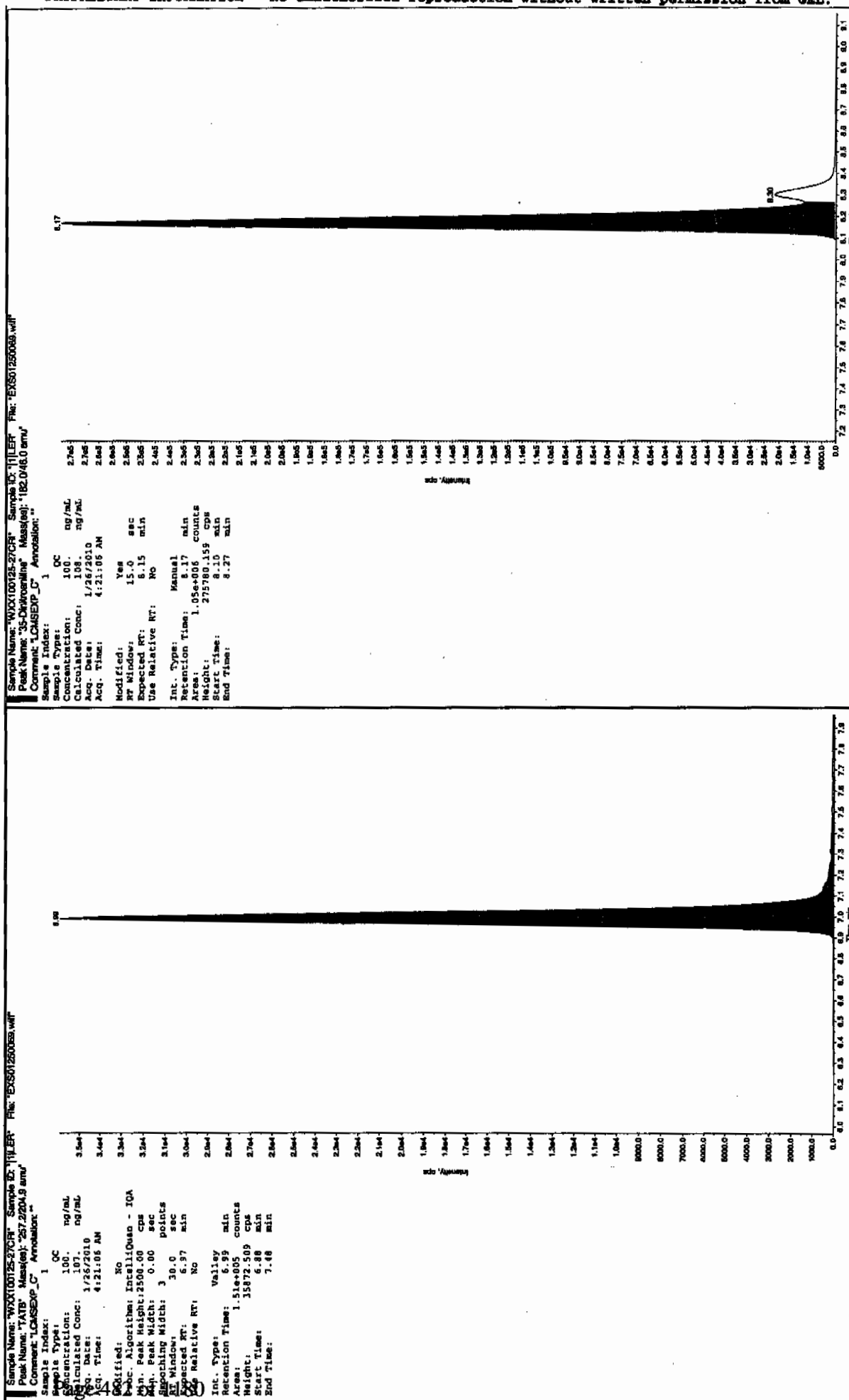
* Value outside of Recovery Limits

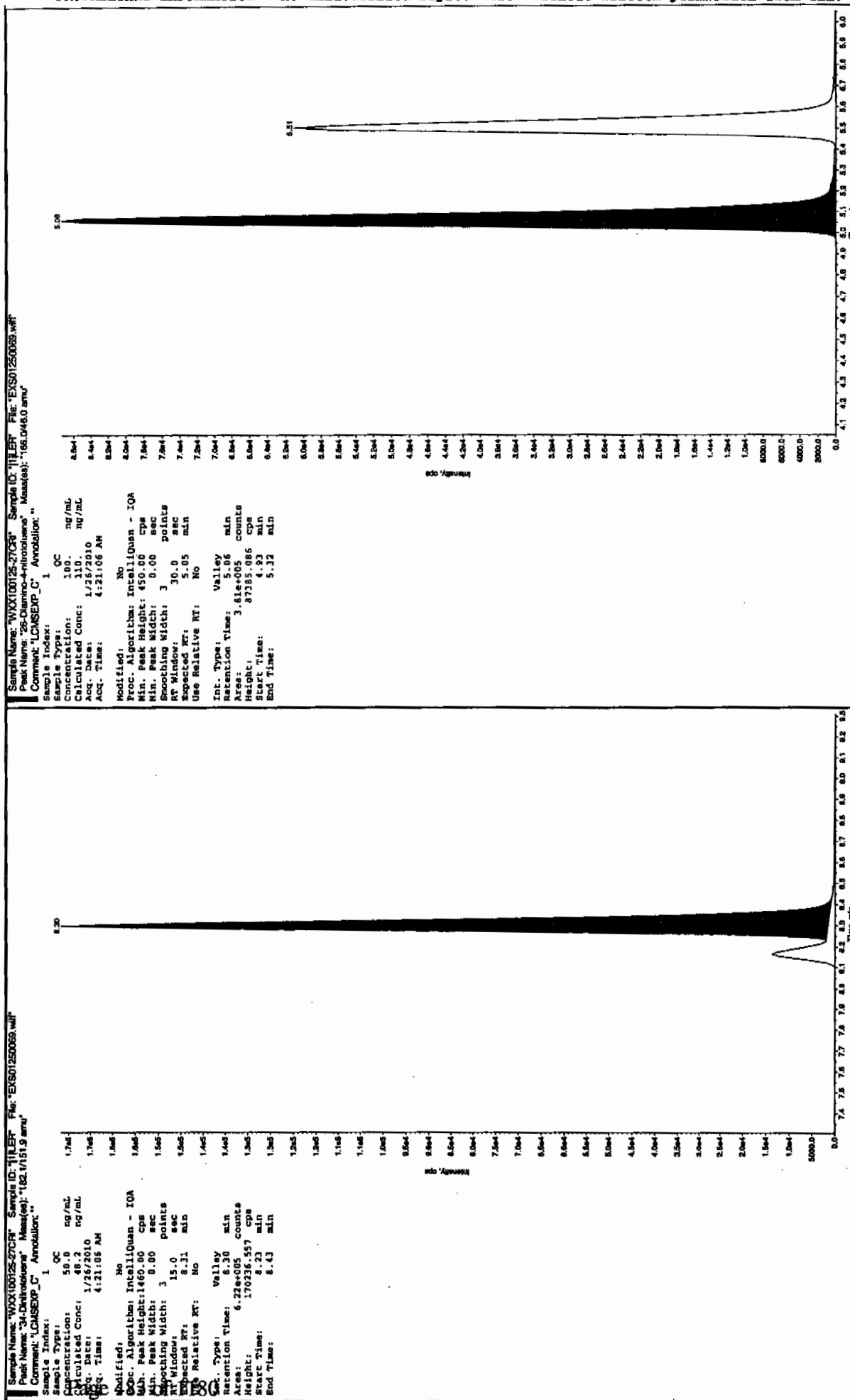
Before Jan 16 2010

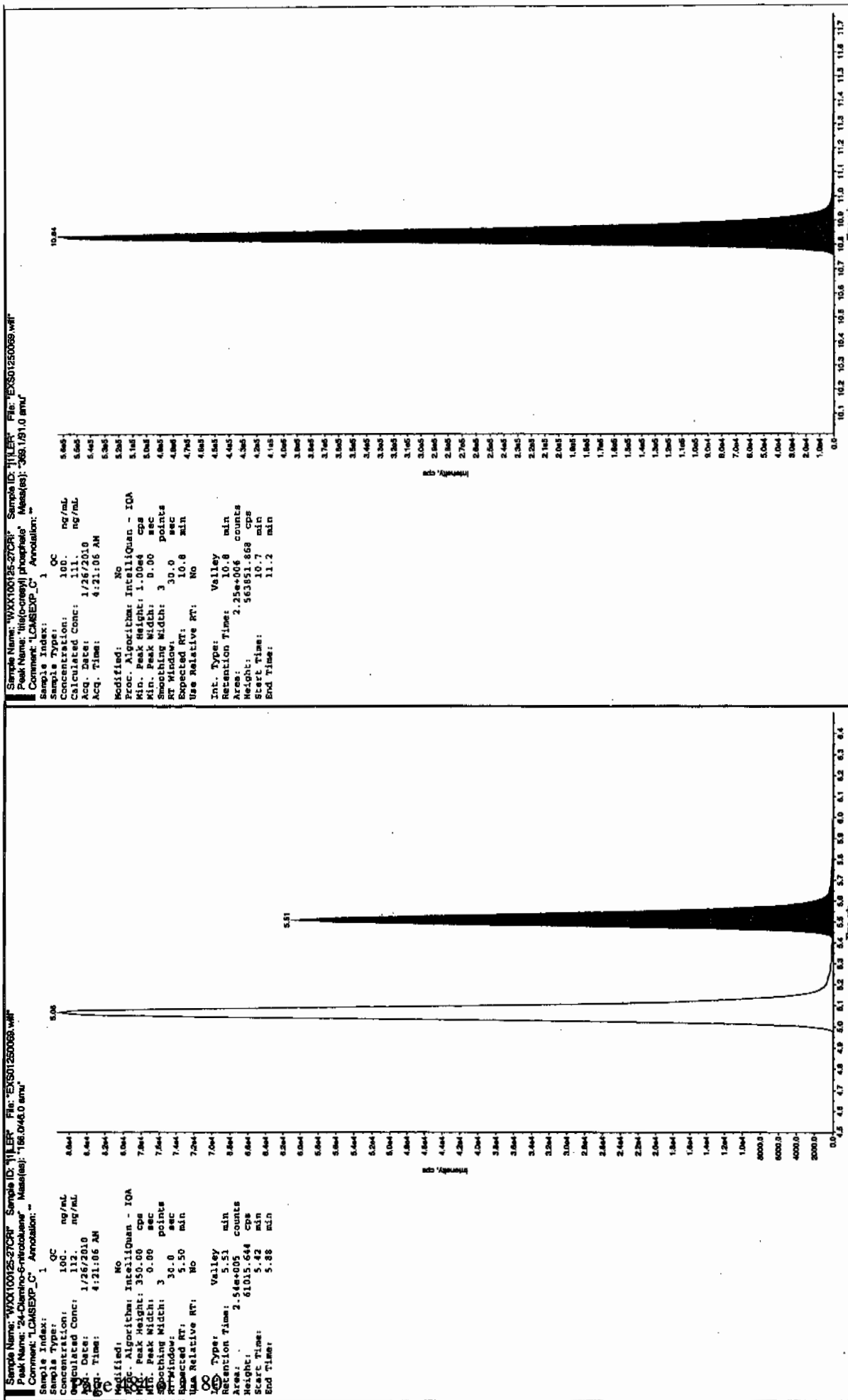


After Jan 16 2010

after Jan 11/27/10







7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250080.wiff

Analysis Date: 26-JAN-10 07:13

LCMSMS ID: 1358

Column ID: JSphere QDS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	506	101	
2,6-Diamino-4-nitrotoluene	500	493	99	
3,4-Dinitrotoluene	250	236	95	
3,5-Dinitroaniline	500	539	108	
TATB	500	538	108	
tris(o-cresyl) phosphate	500	504	101	

Recovery Limits:

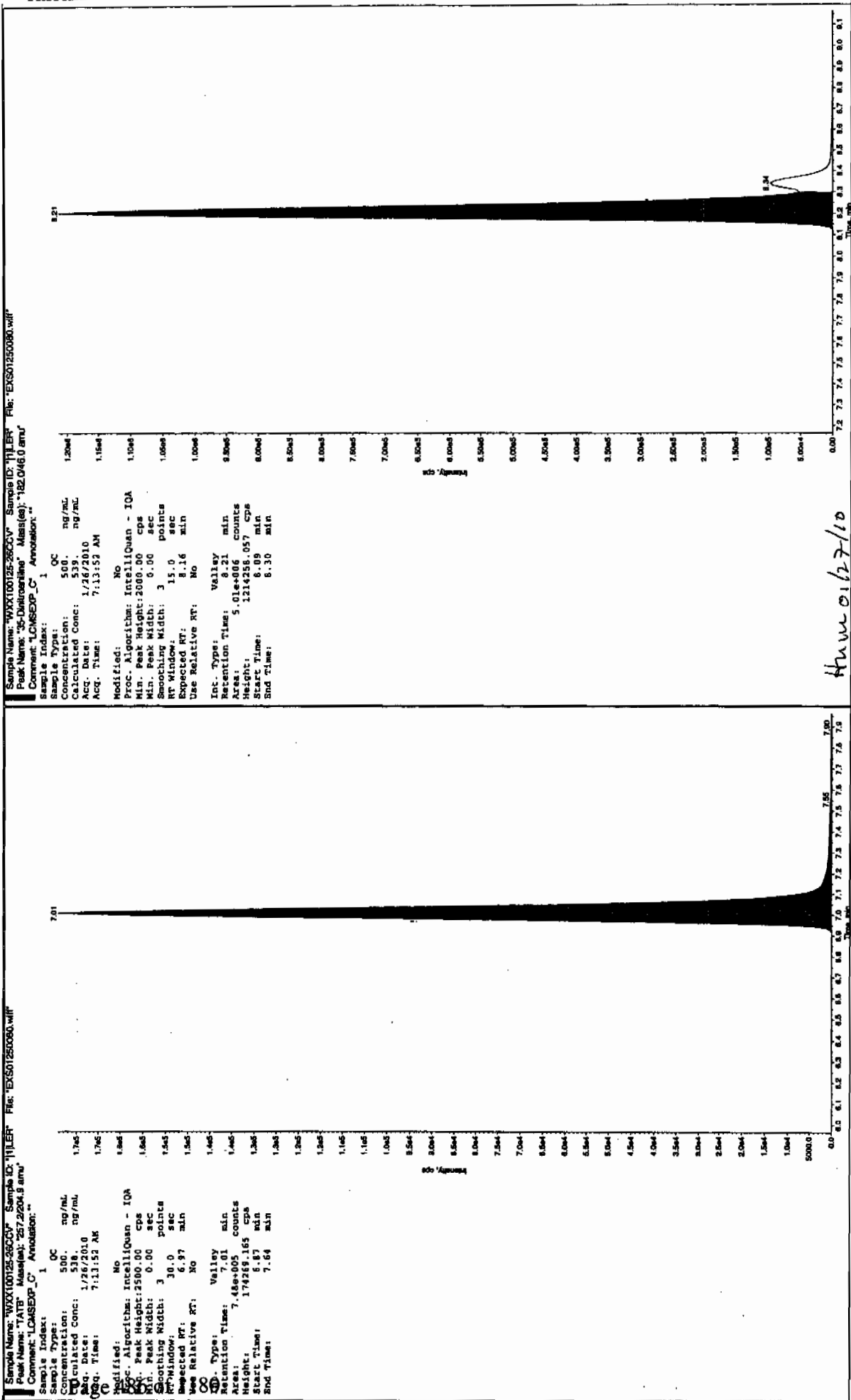
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

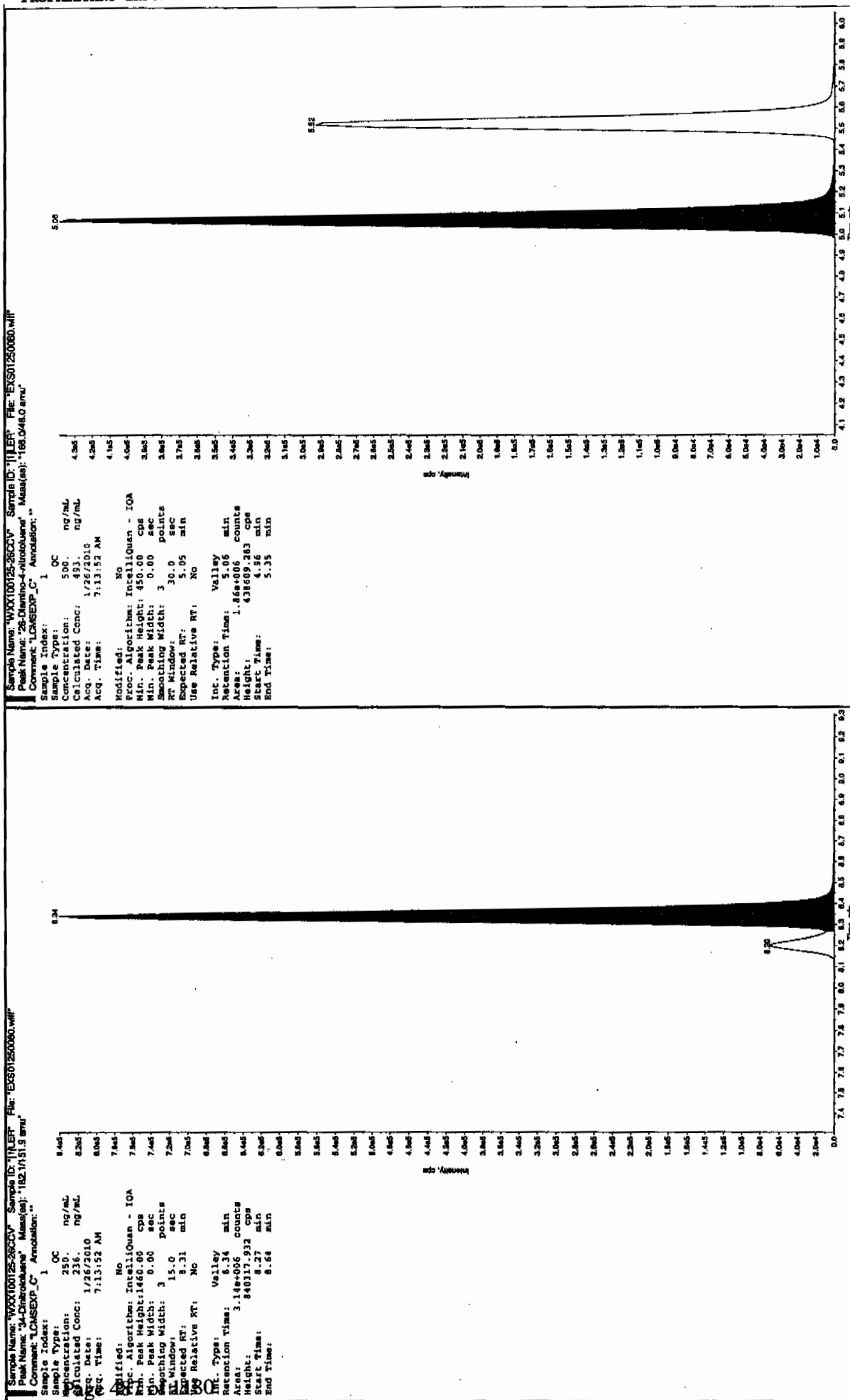
Other Target Analytes 80-120%

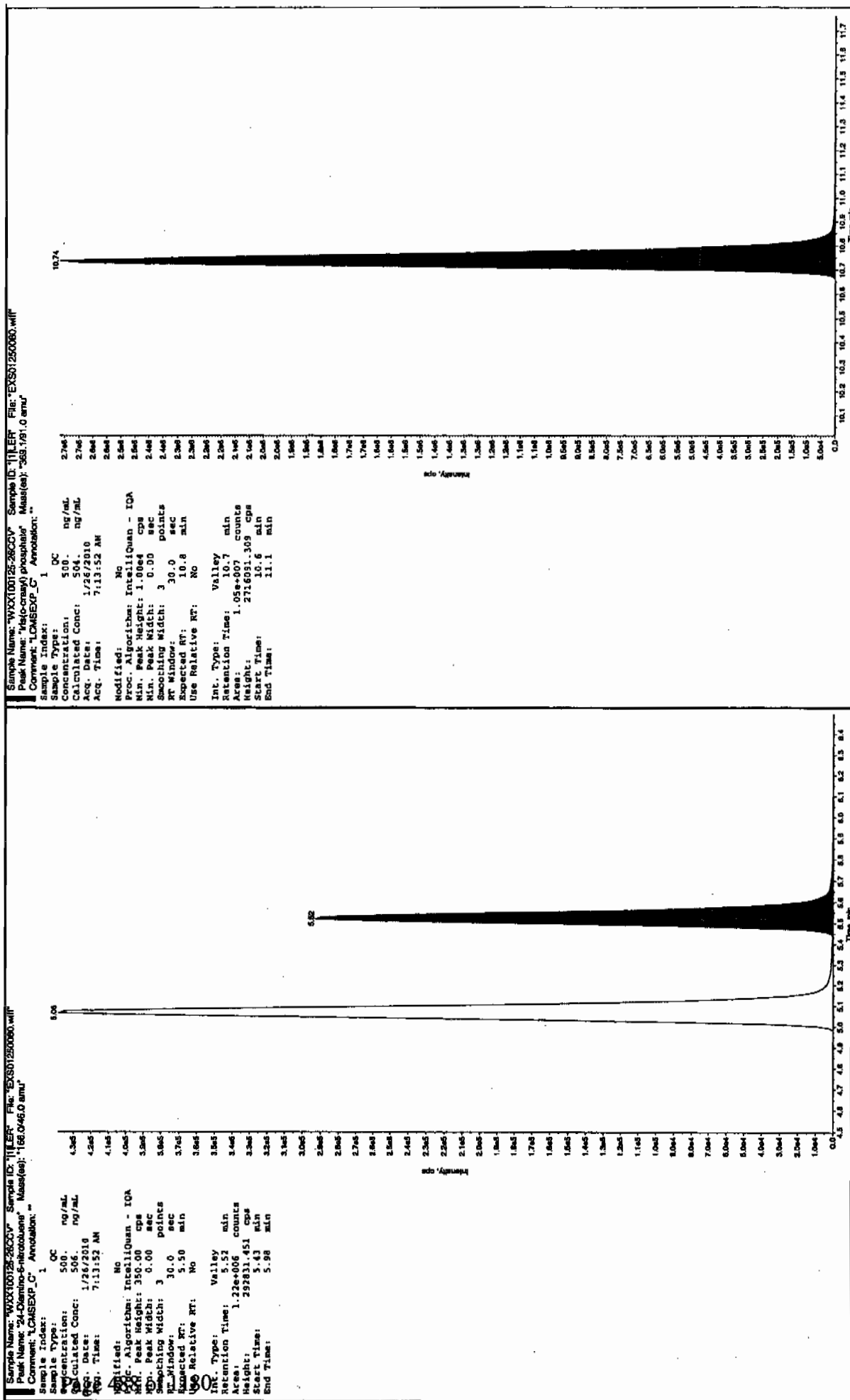
Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

See 1/27/10







7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250082.wiff

Analysis Date: 26-JAN-10 07:45

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	111	111	
2,6-Diamino-4-nitrotoluene	100	110	110	
3,4-Dinitrotoluene	50	48.5	97	
3,5-Dinitroaniline	100	109	109	
TATB	100	110	110	
tris(o-cresyl) phosphate	100	116	116	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

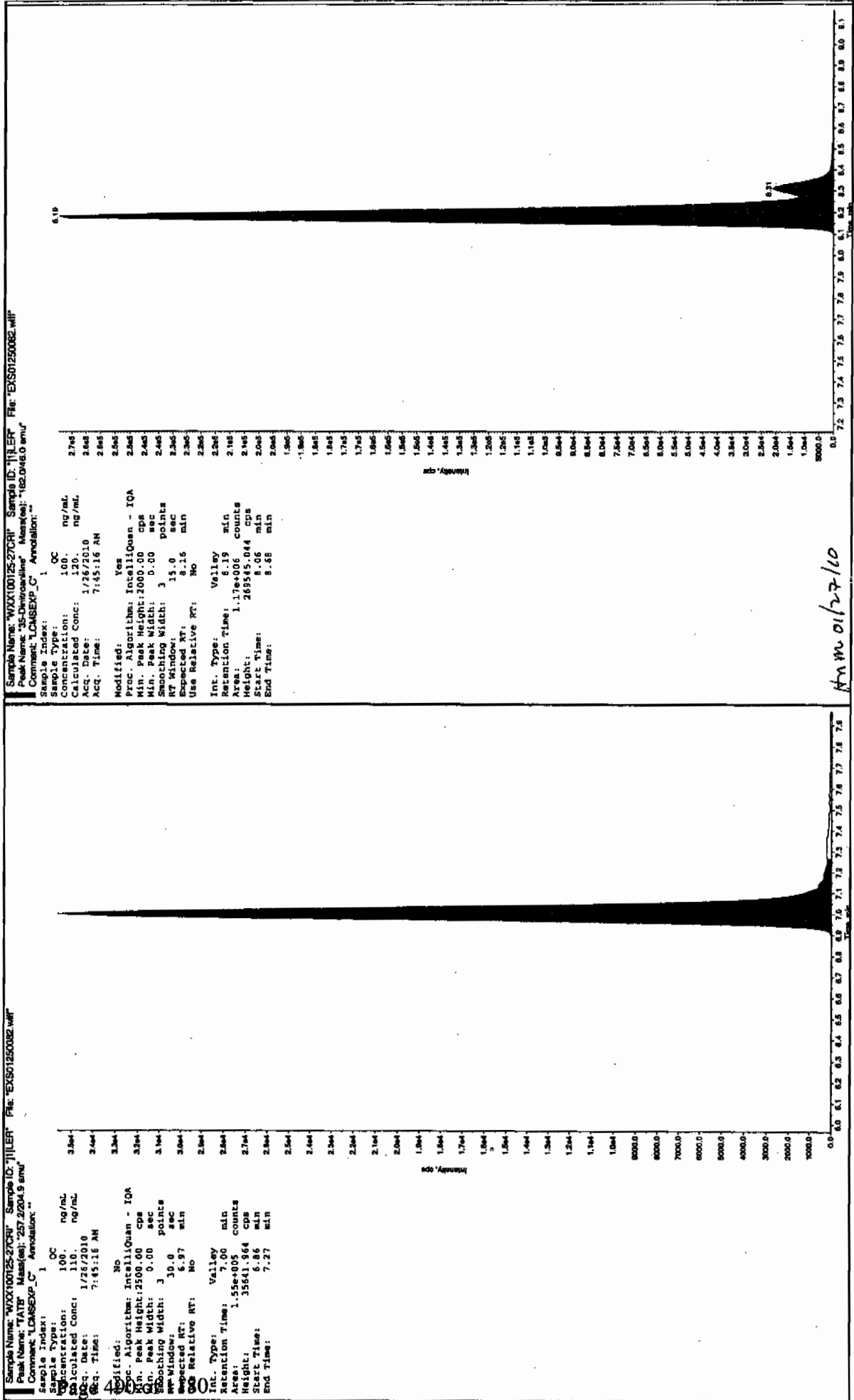
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

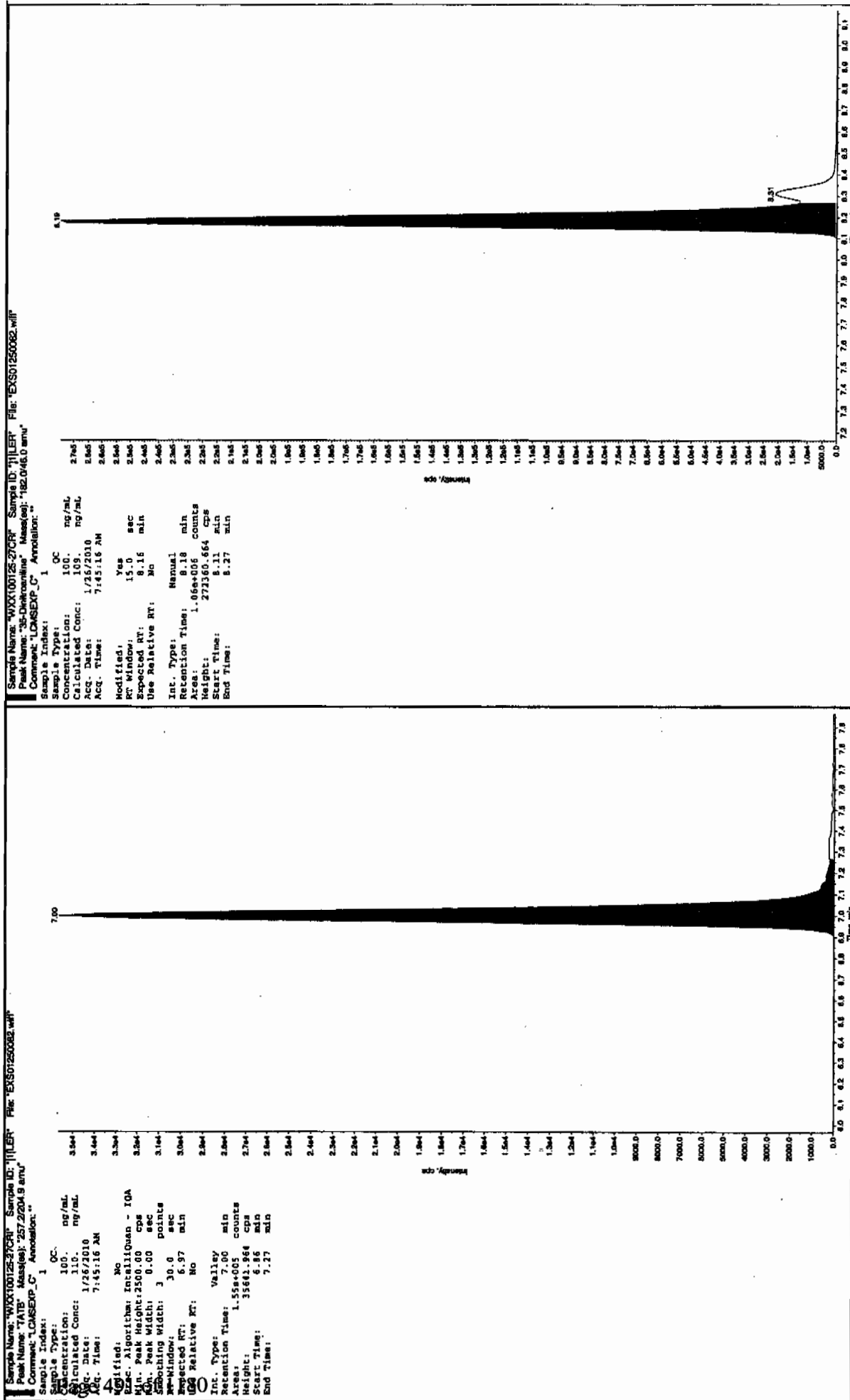
* Value outside of Recovery Limits

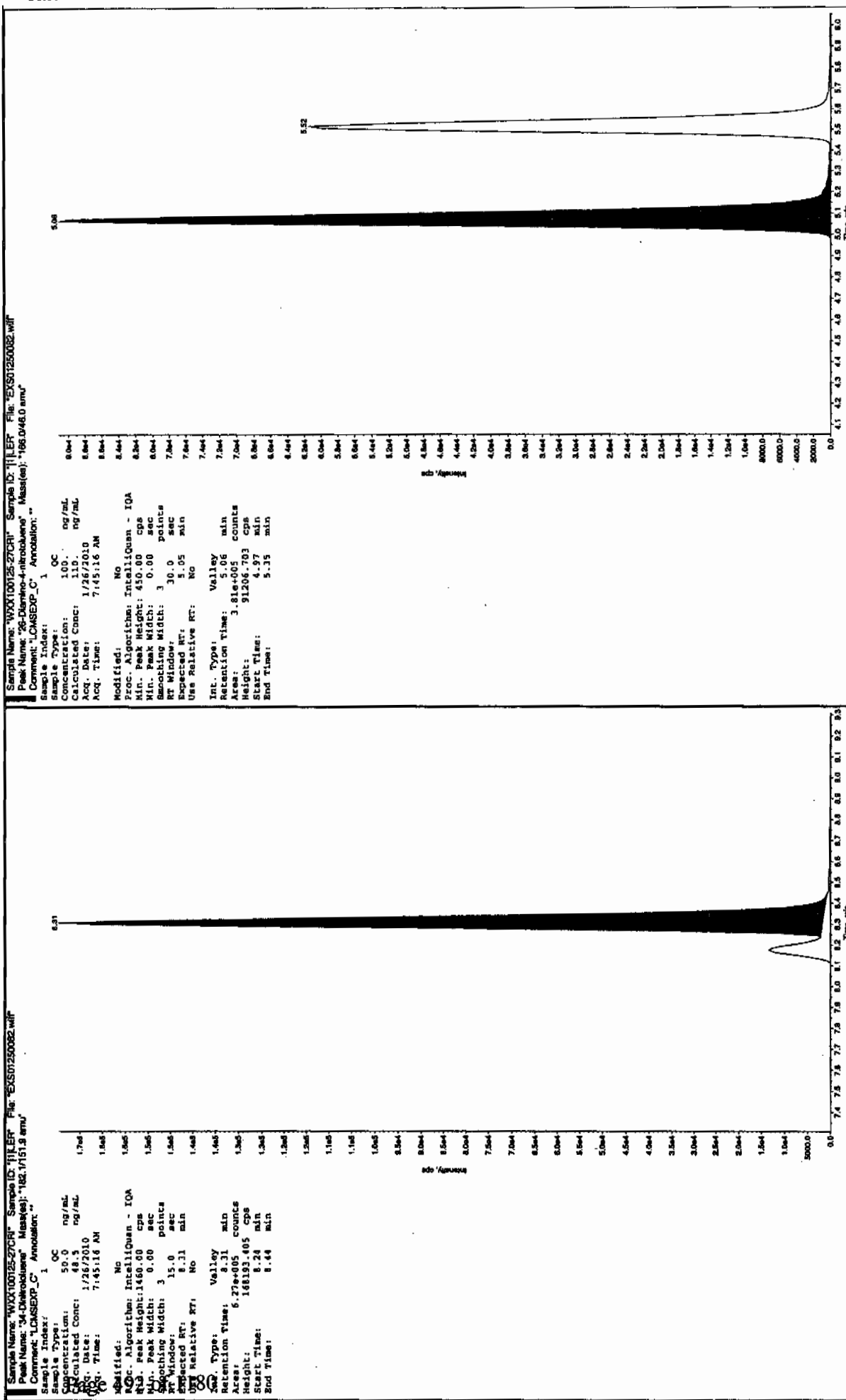
Before Scan 11/27/10

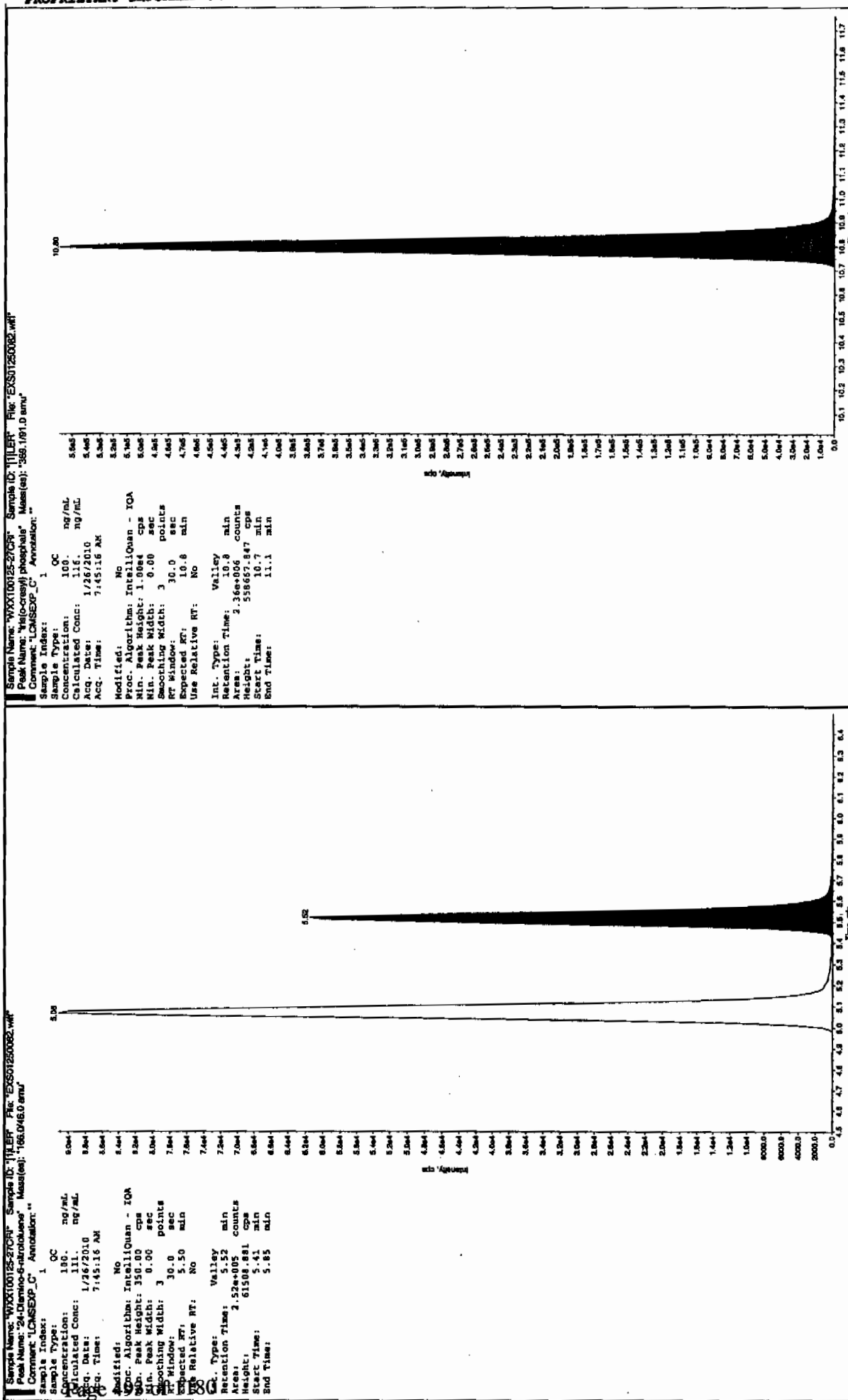


*GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

after clear 1127110







7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250093.wiff

Analysis Date: 26-JAN-10 10:37

LCMSMS ID: 1358

Column ID: Sphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	492	98	
2,6-Diamino-4-nitrotoluene	500	457	91	
3,4-Dinitrotoluene	250	226	90	
3,5-Dinitroaniline	500	545	109	
TATB	500	535	107	
tris(o-cresyl) phosphate	500	515	103	

Recovery Limits:

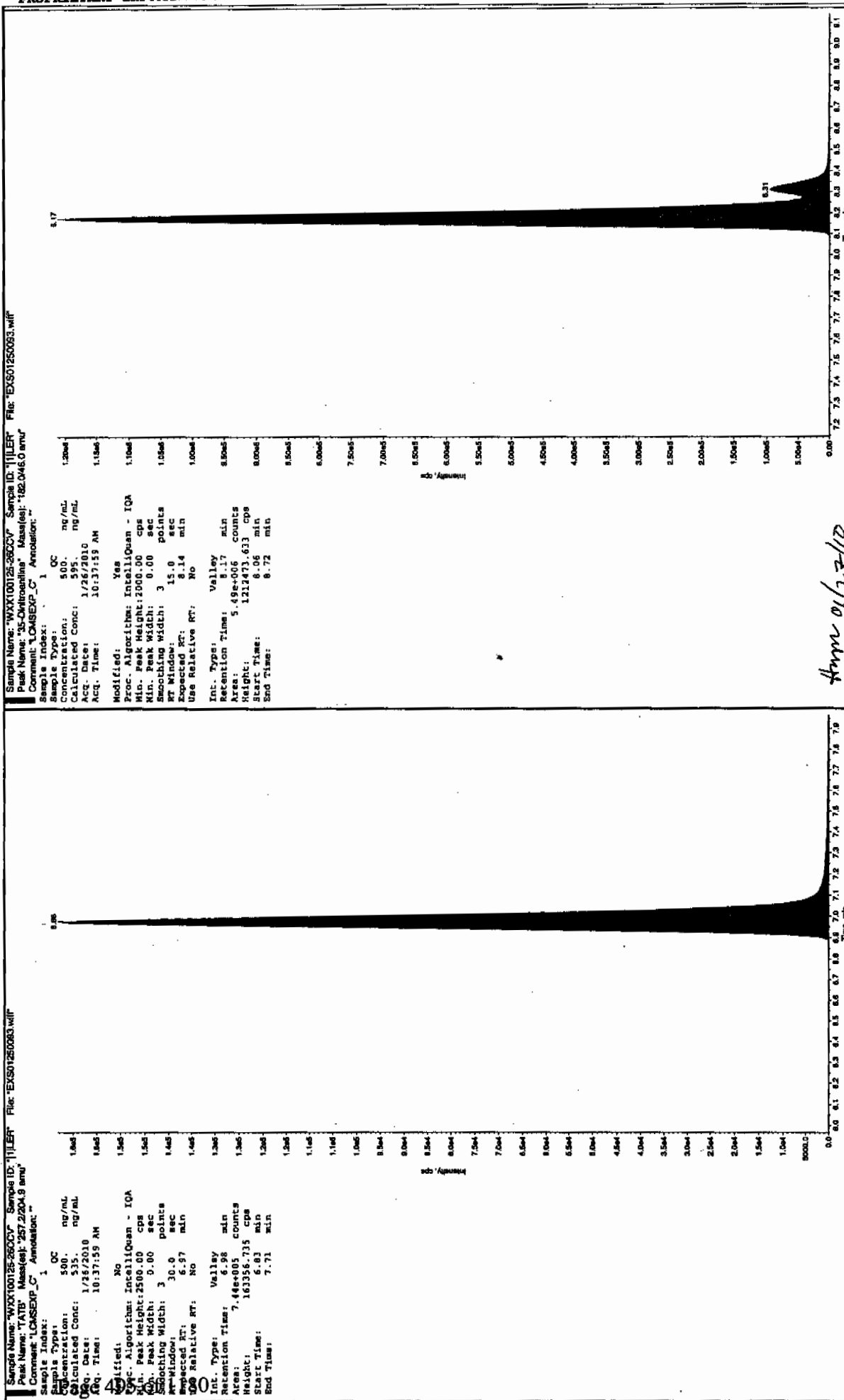
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

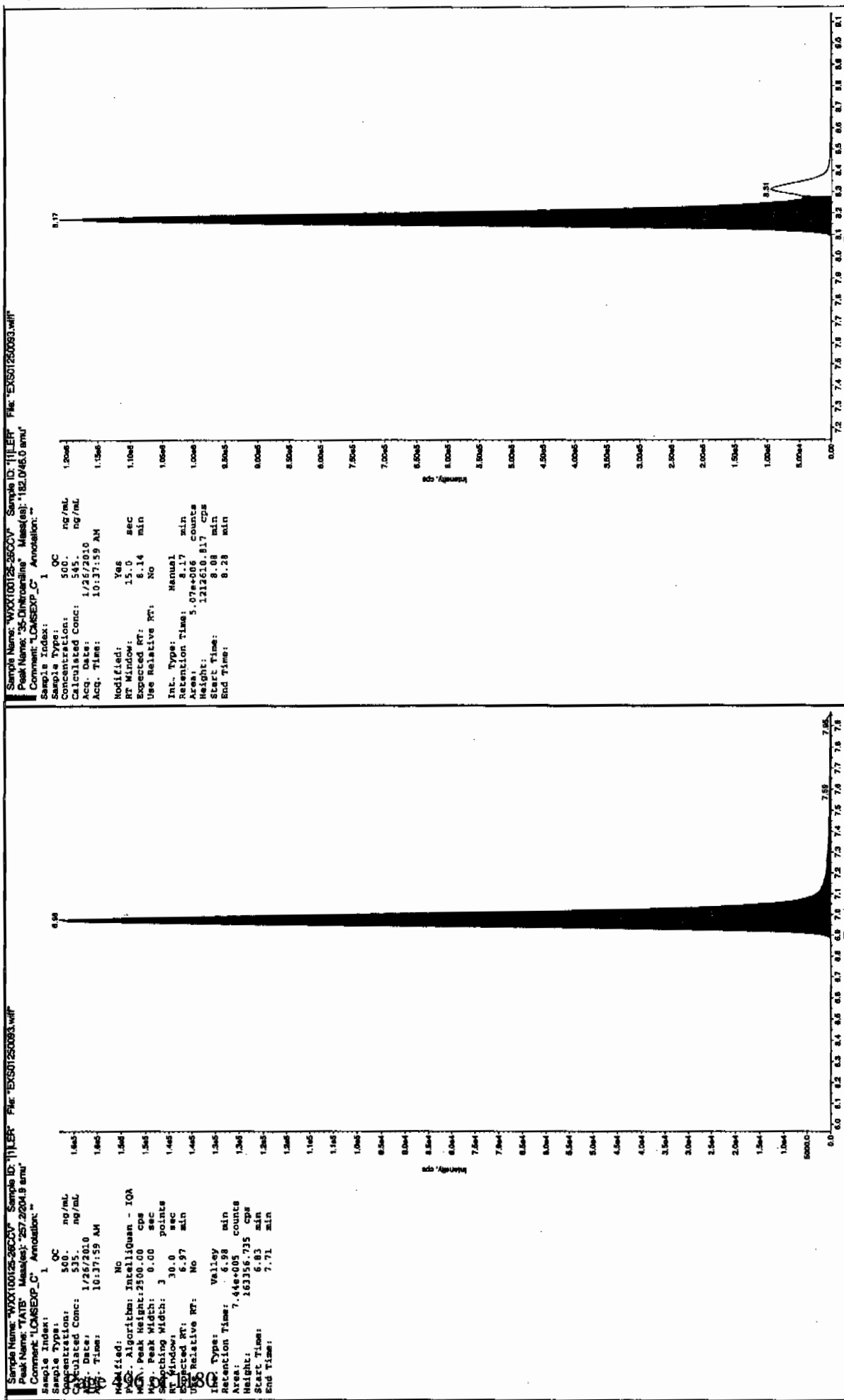
* Value outside of Recovery Limits

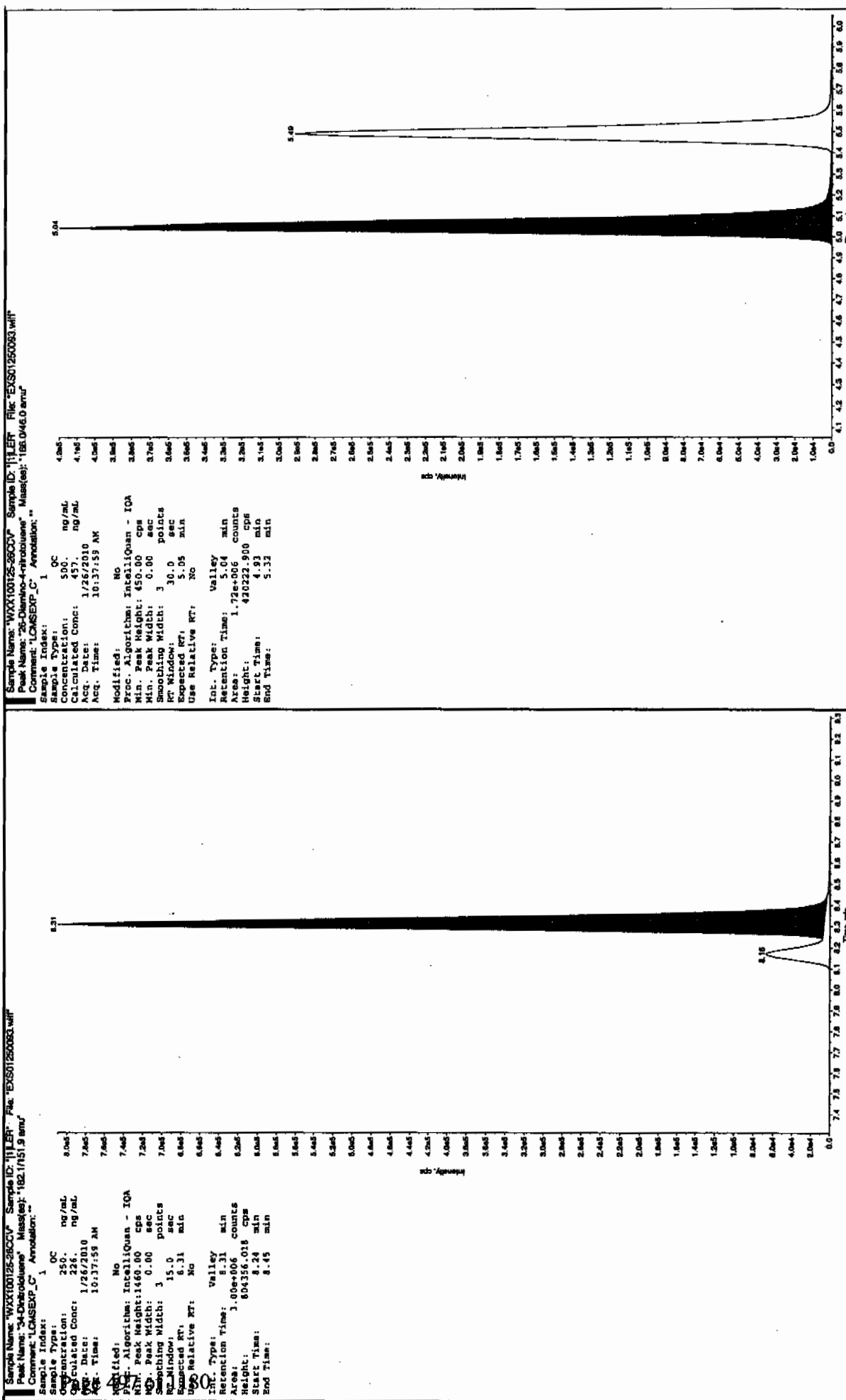
Before Jan 11/27/10

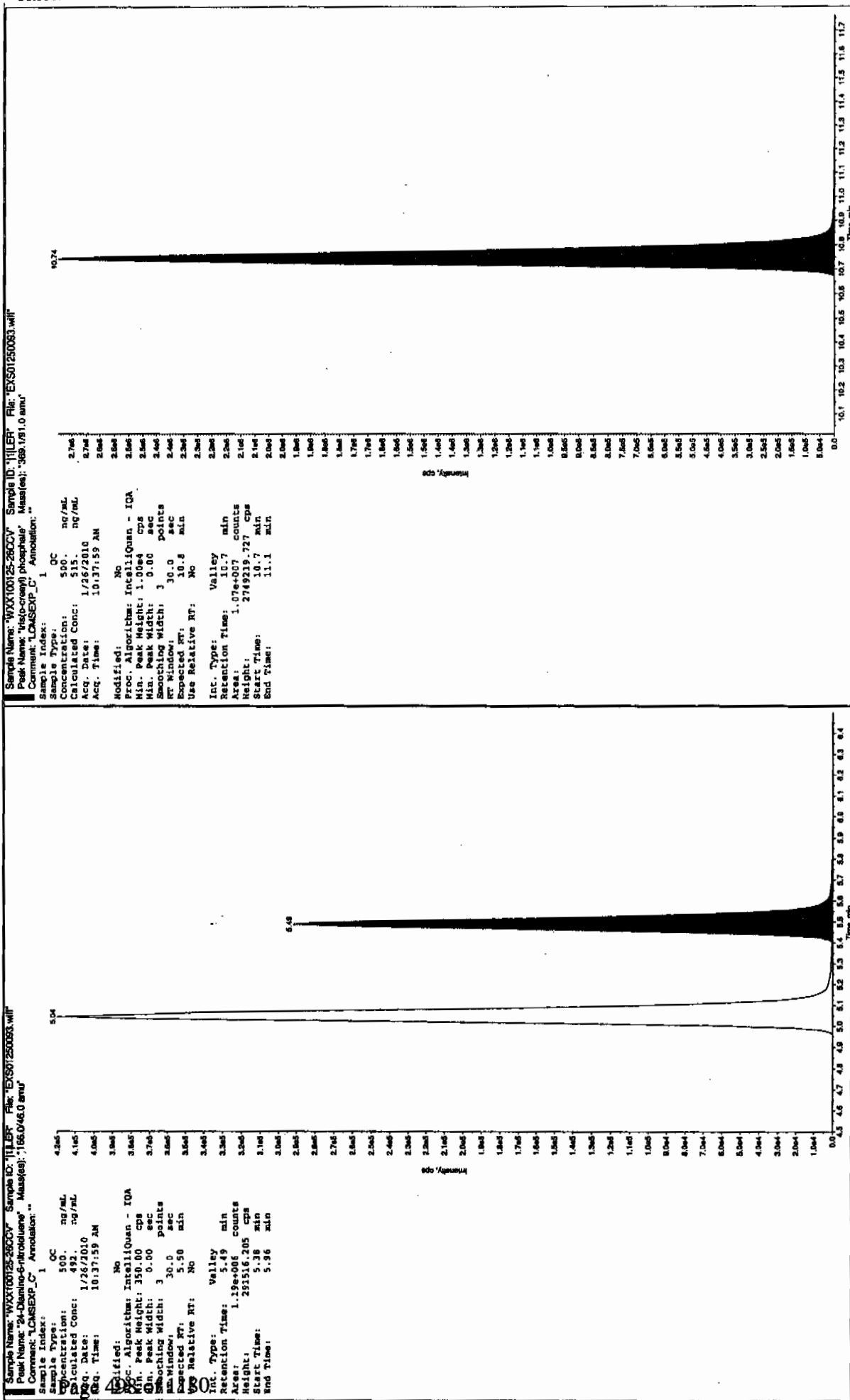


Ann 01/27/10

after Dec 11/27/10







7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250095.wiff

Analysis Date: 26-JAN-10 11:09

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	101	101	
2,6-Diamino-4-nitrotoluene	100	107	107	
3,4-Dinitrotoluene	50	50.1	100	
3,5-Dinitroaniline	100	110	110	
TATB	100	109	109	
tris(o-cresyl) phosphate	100	118	118	

Recovery Limits:

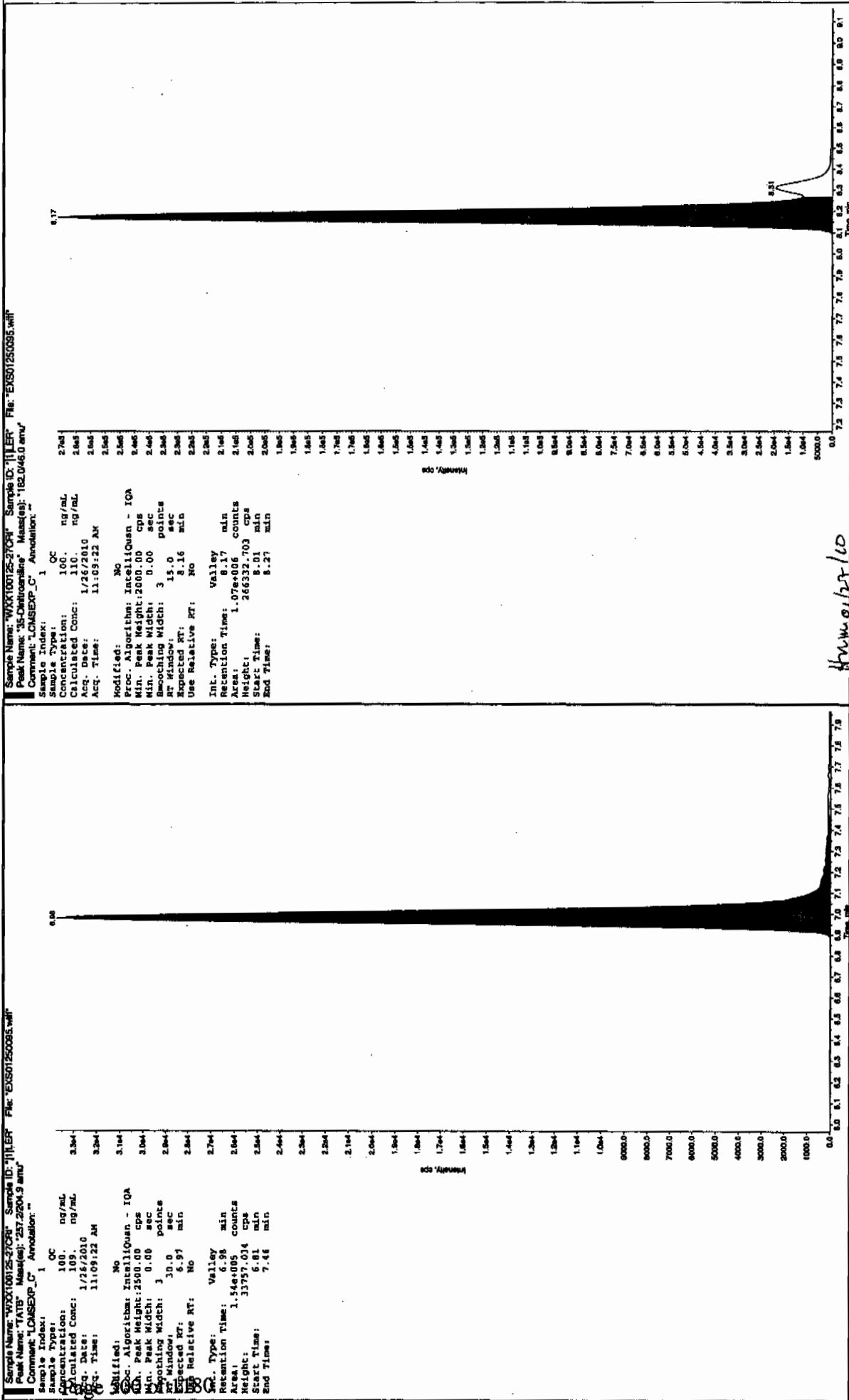
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

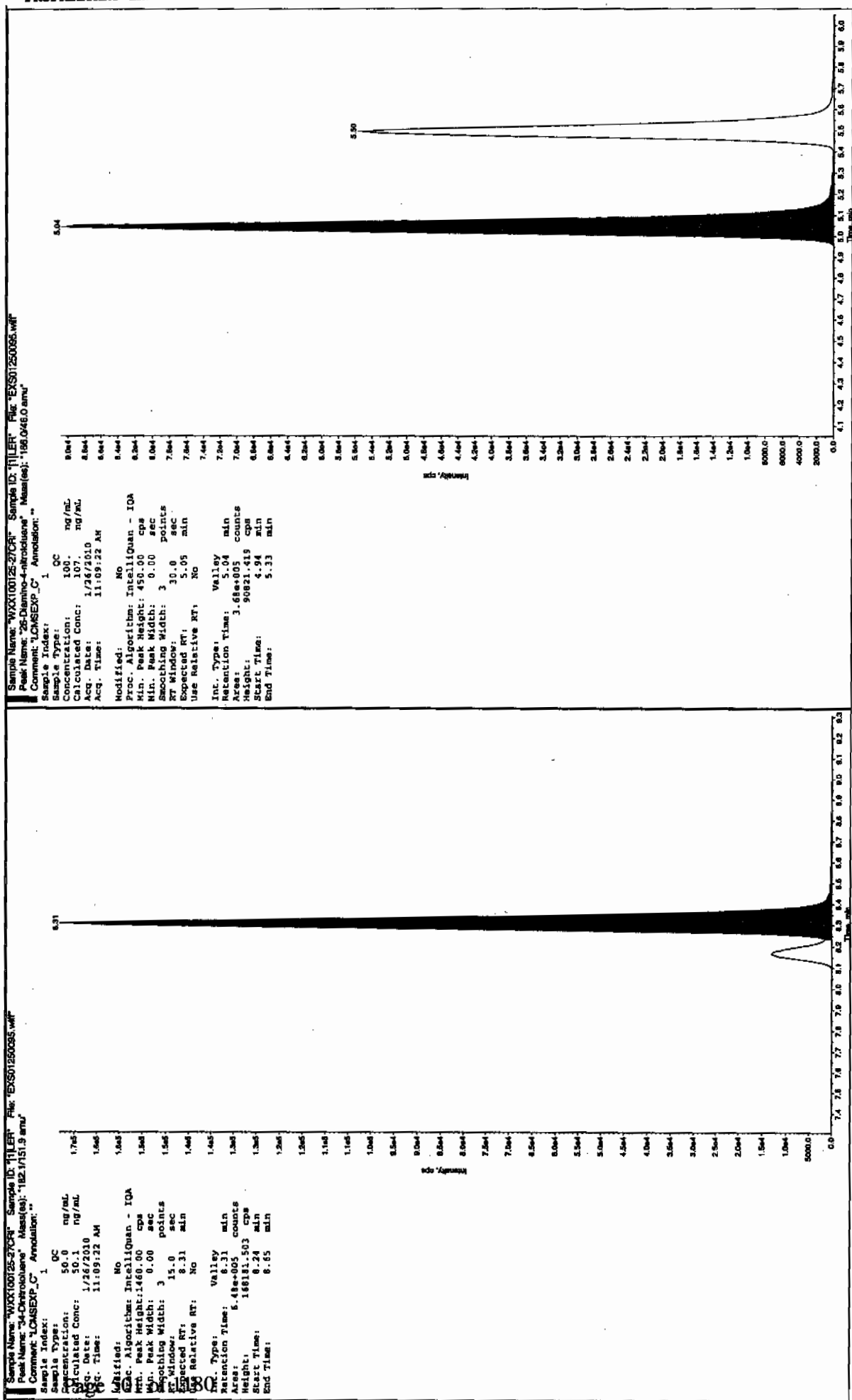
Column used to flag Recovery outside of Limits

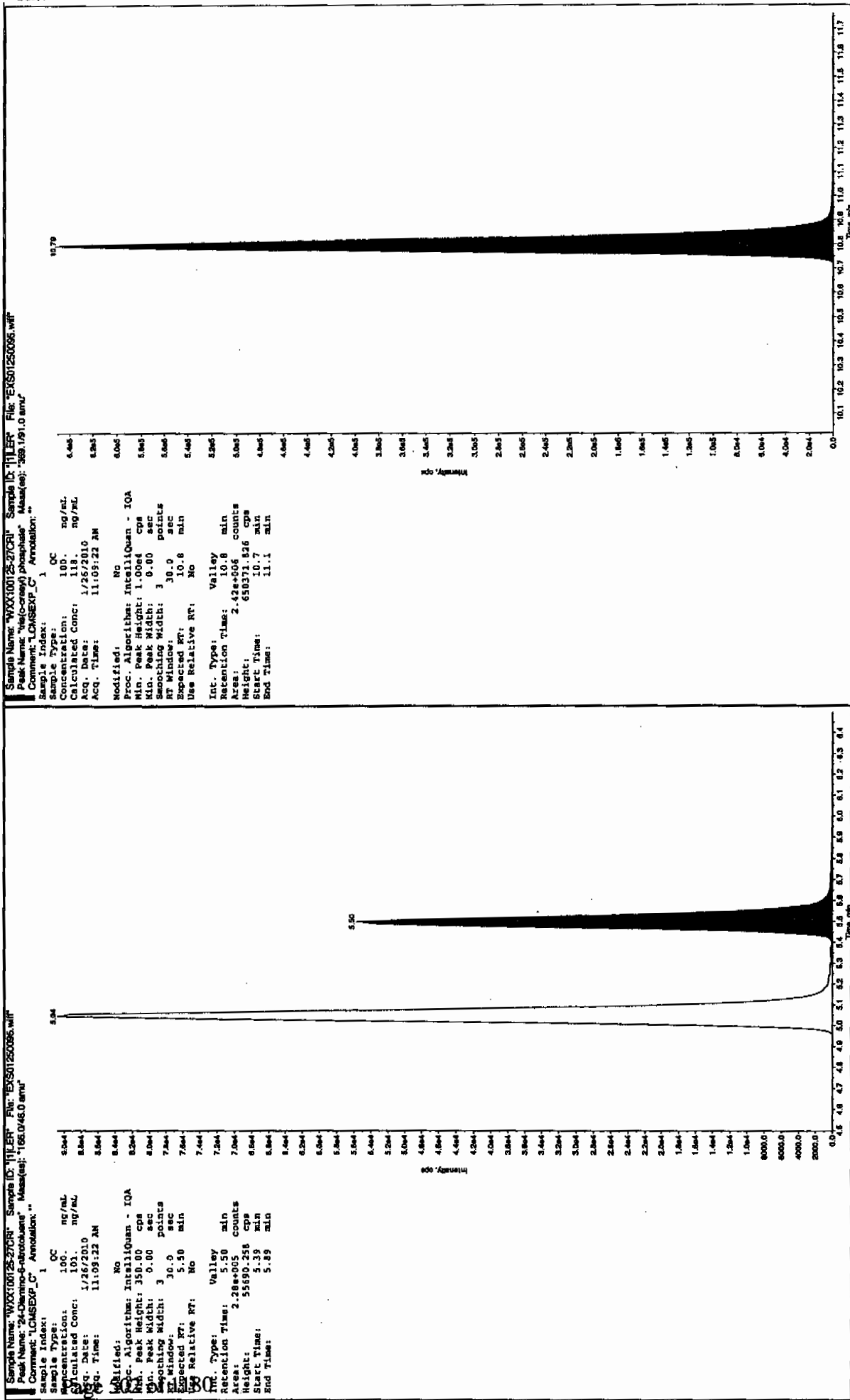
* Value outside of Recovery Limits

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7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS01250106.wiff

Analysis Date: 26-JAN-10 14:02

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	460	92	
2,6-Diamino-4-nitrotoluene	500	456	91	
3,4-Dinitrotoluene	250	219	87	
3,5-Dinitroaniline	500	505	101	
TATB	500	519	104	
tris(o-cresyl) phosphate	500	480	96	

Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,

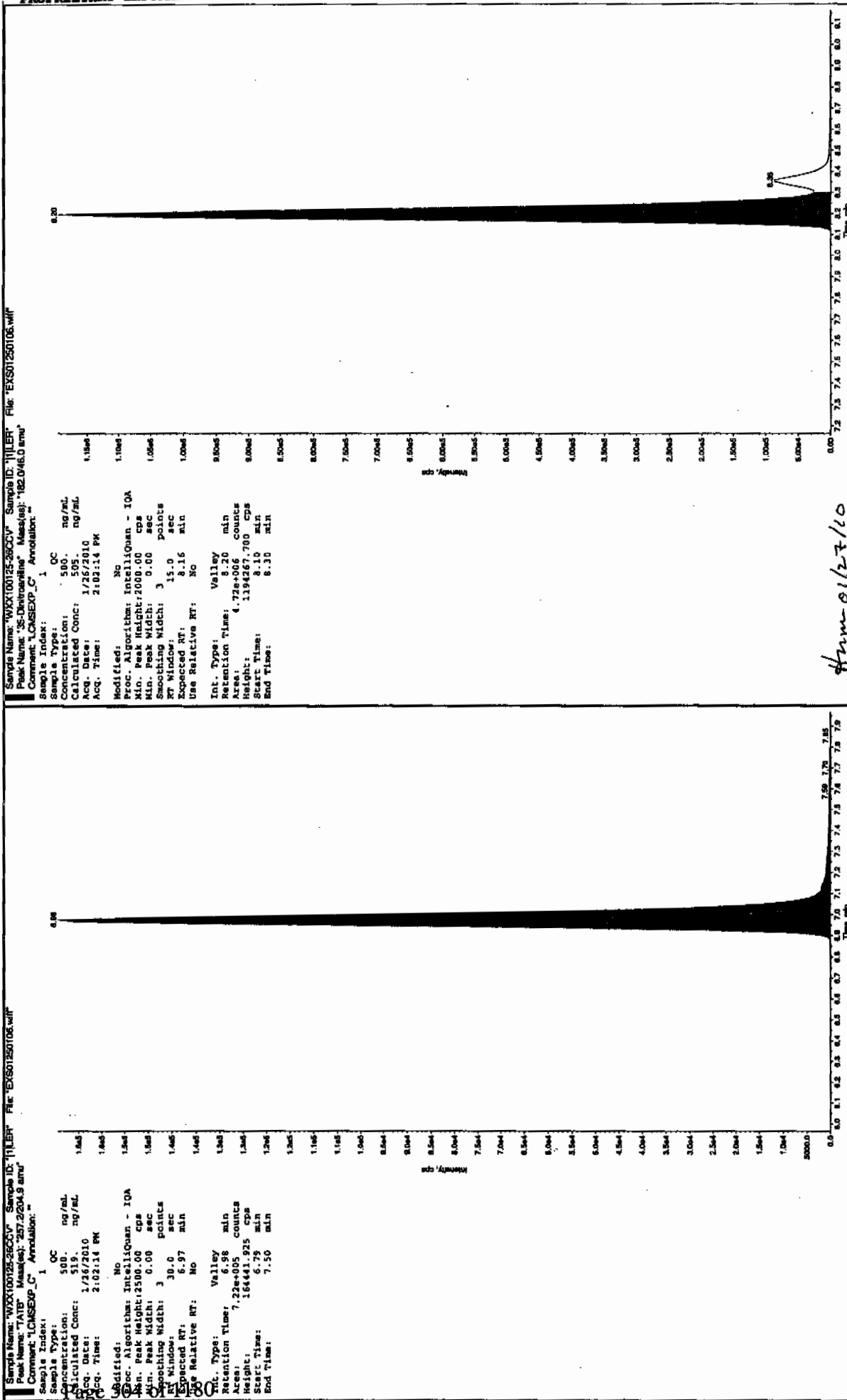
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

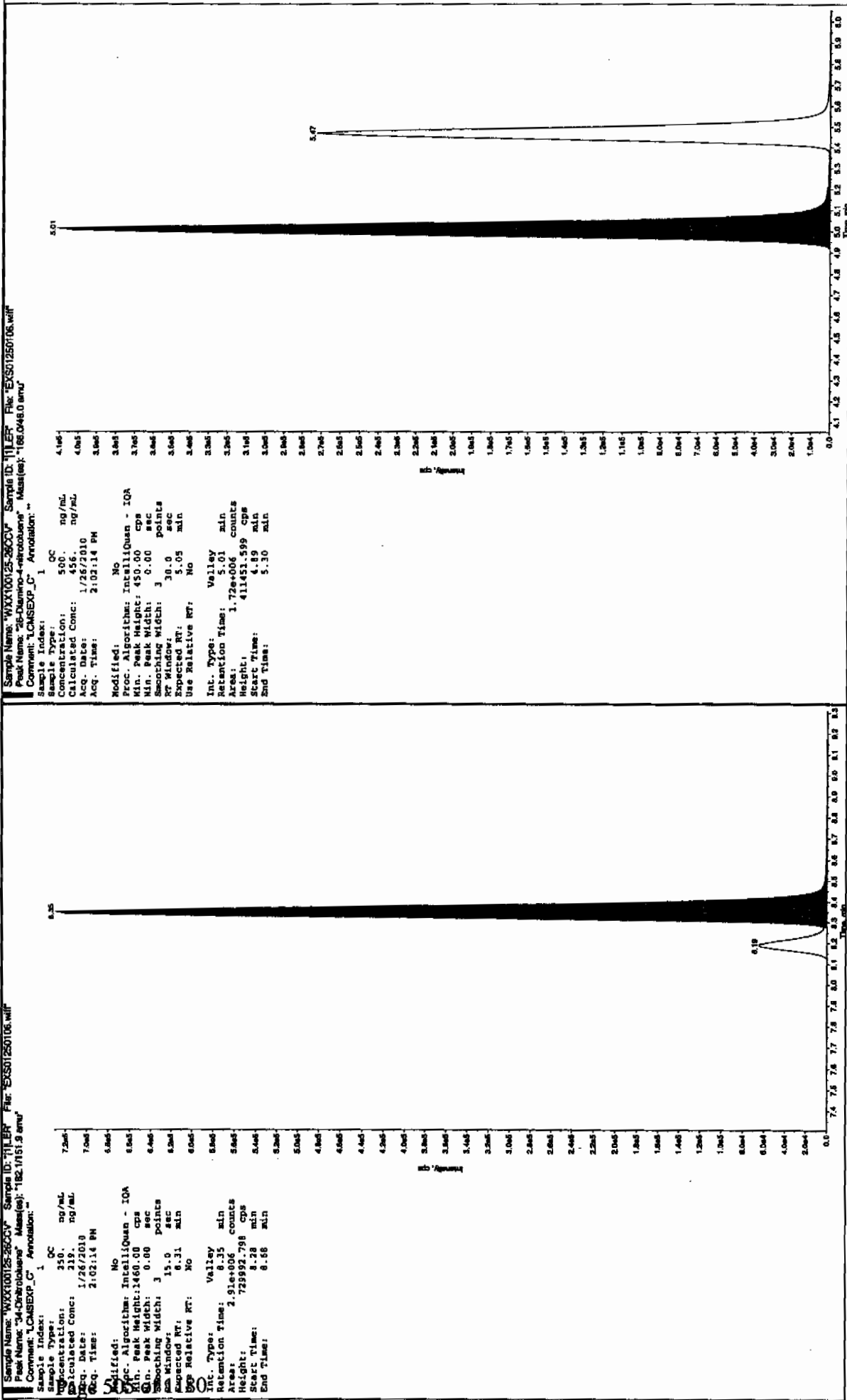
Column used to flag Recovery outside of Limits

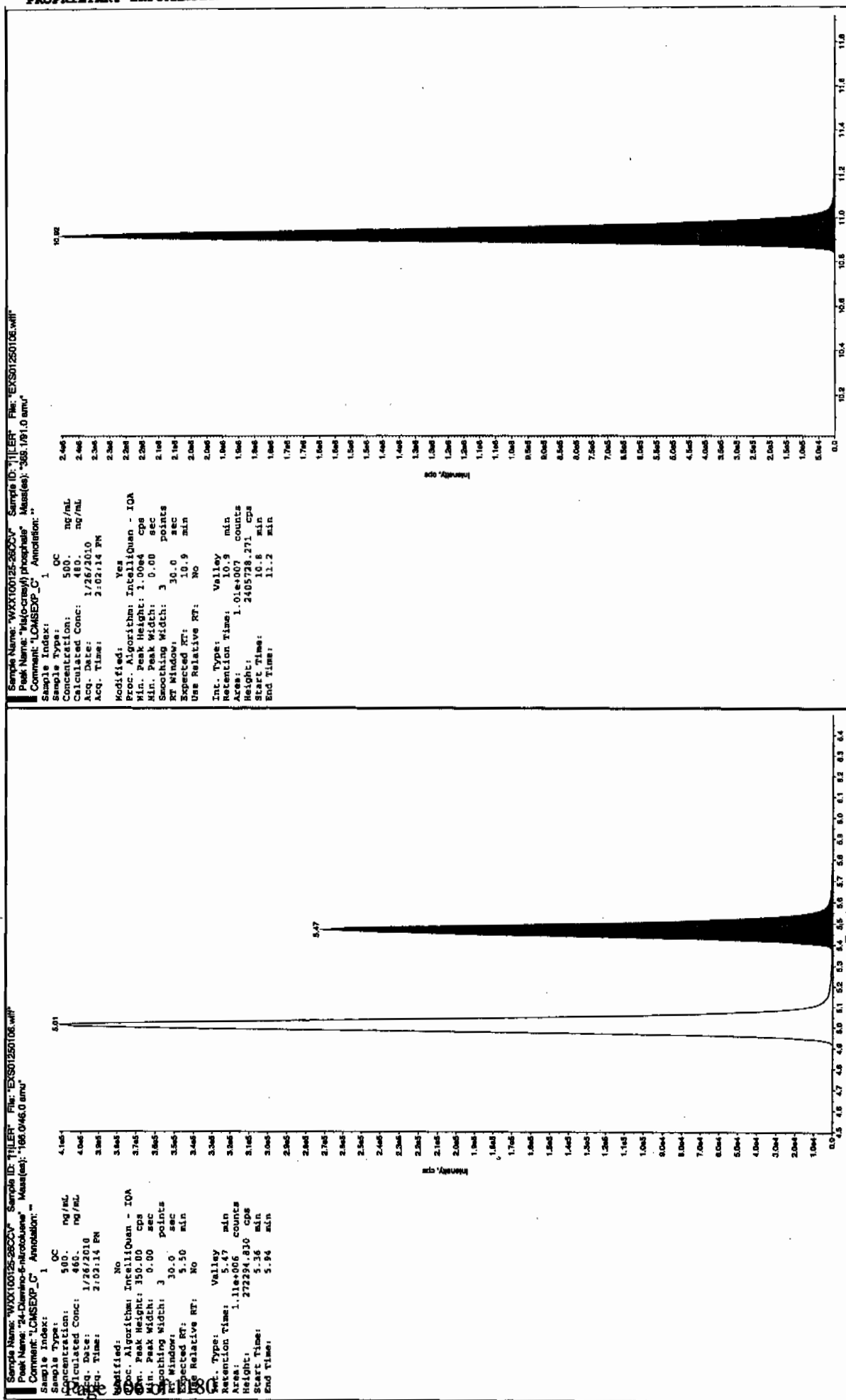
* Value outside of Recovery Limits

for 1/27/10



for 1/27/10





7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1209

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS01250108.wiff

Analysis Date: 26-JAN-10 14:33

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	101	101	
2,6-Diamino-4-nitrotoluene	100	95.8	96	
3,4-Dinitrotoluene	50	46.1	92	
3,5-Dinitroaniline	100	105	105	
TATB	100	105	105	
tris(o-cresyl) phosphate	100	112	112	

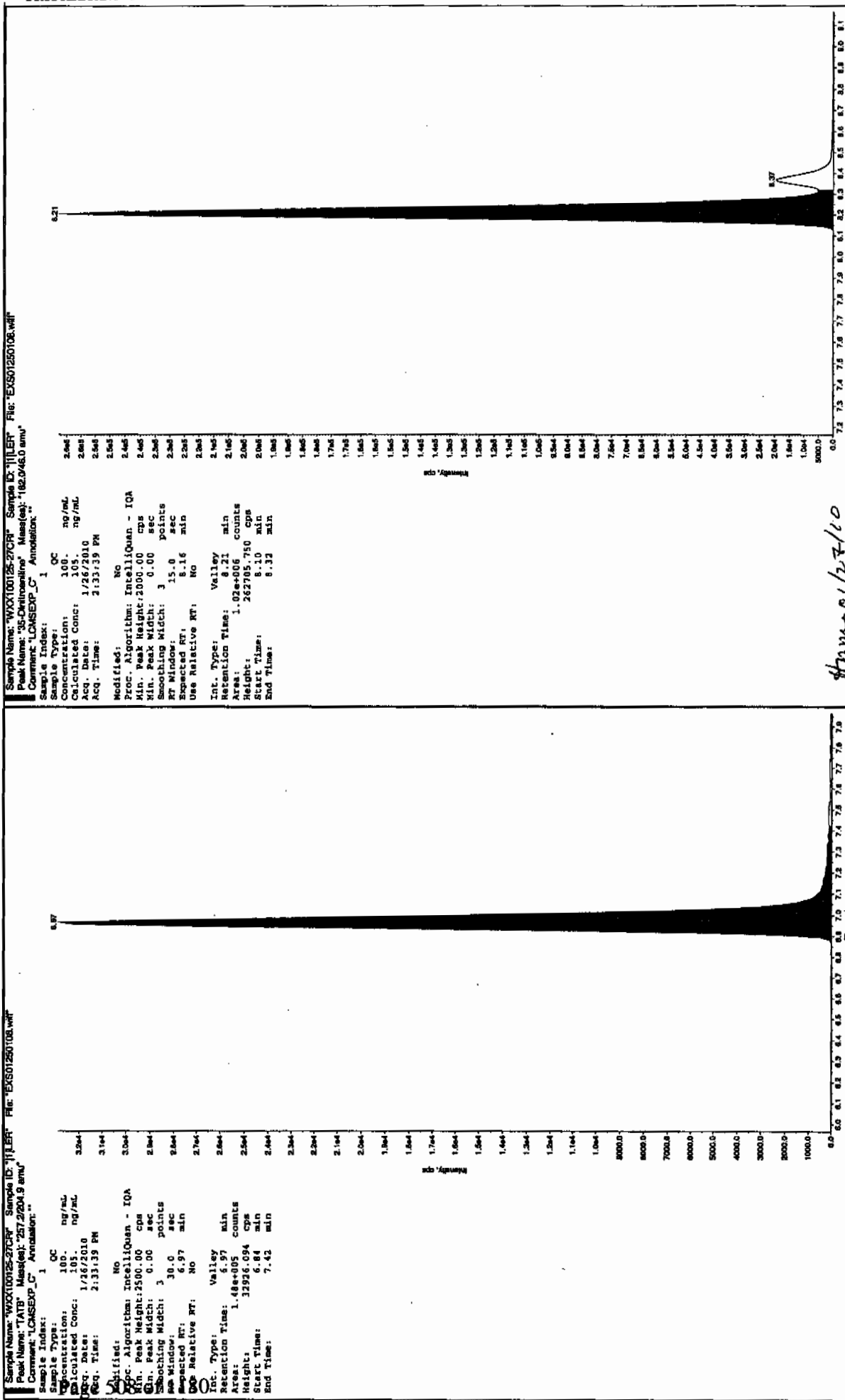
Recovery Limits:

3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

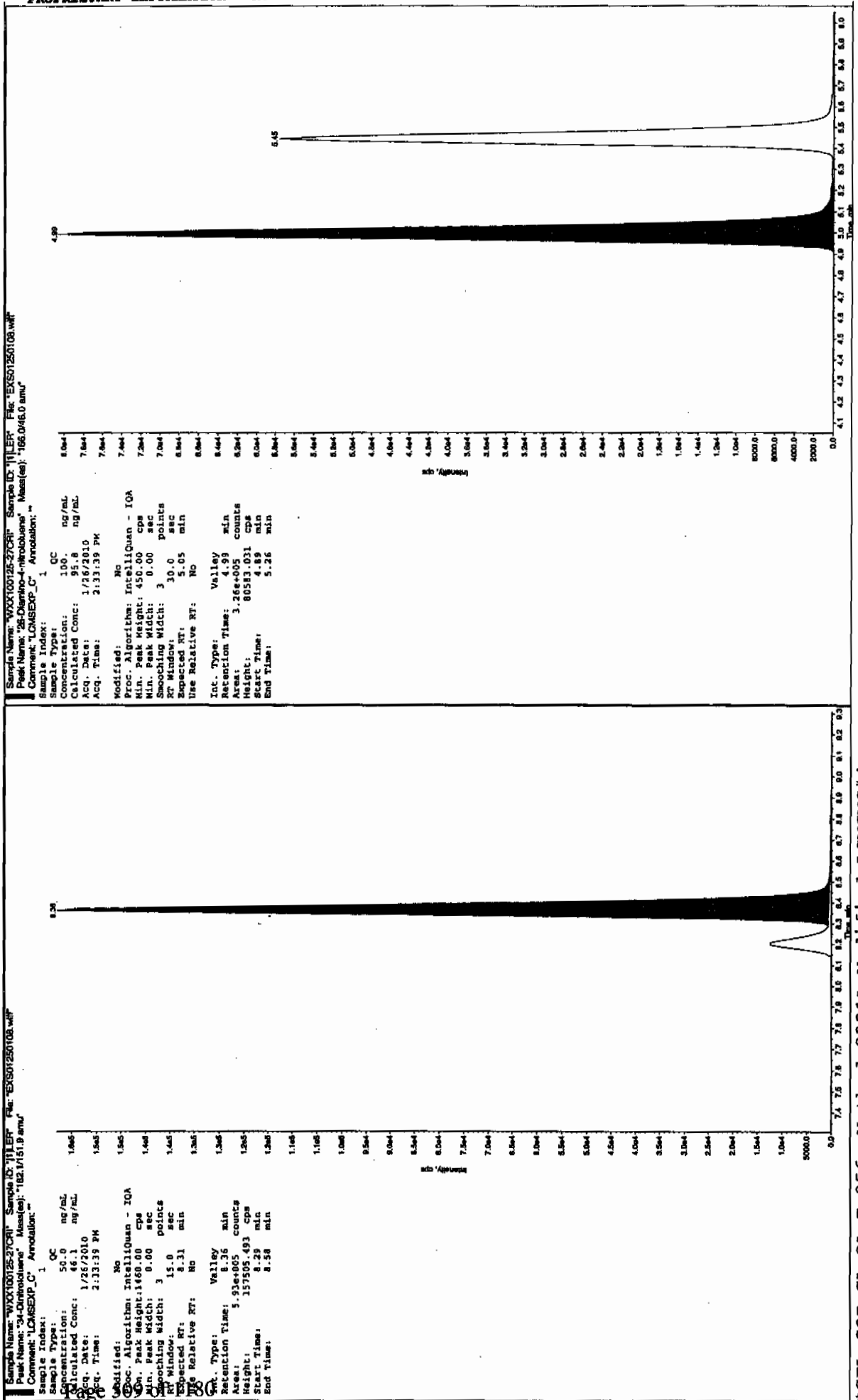
Column used to flag Recovery outside of Limits

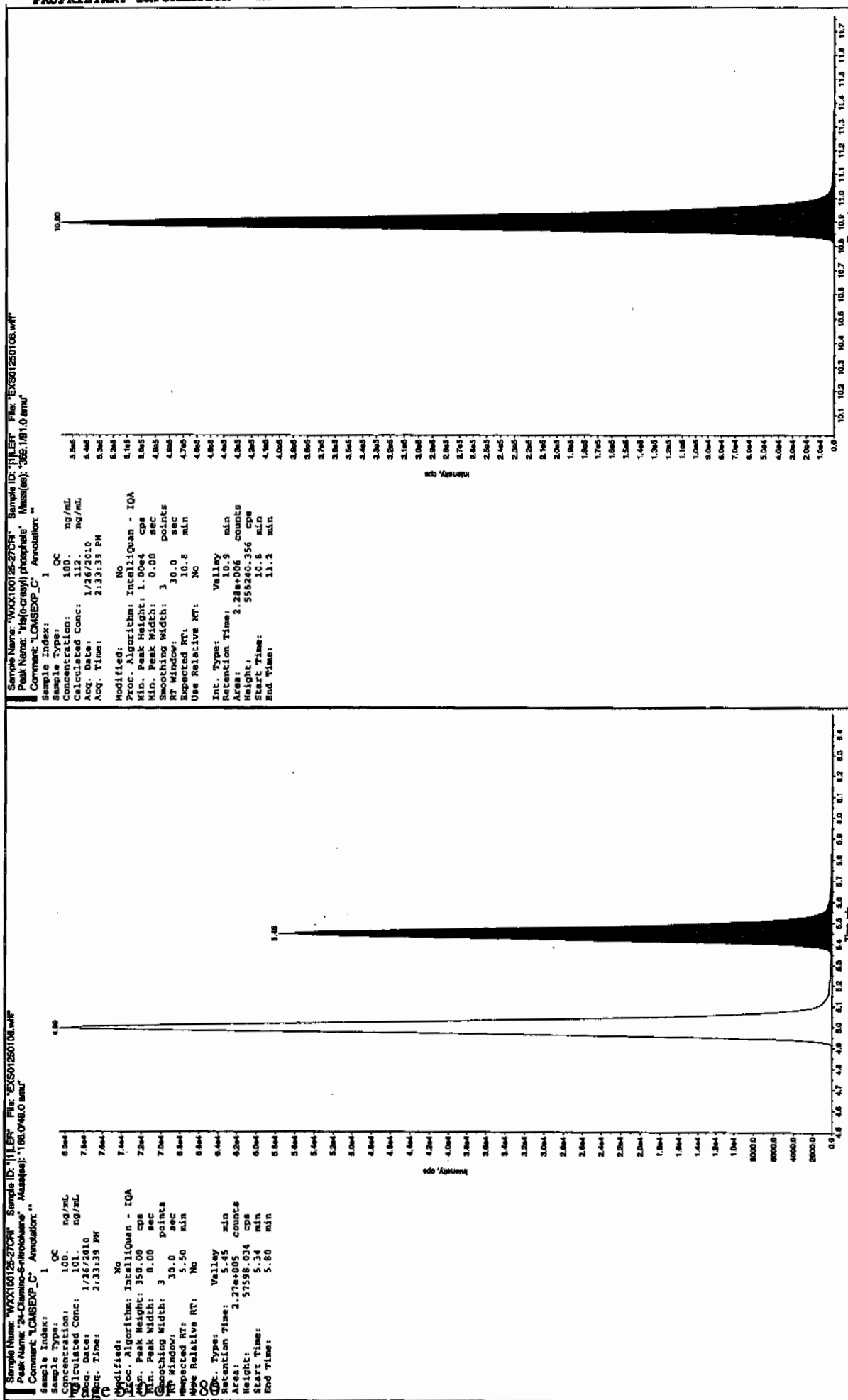
* Value outside of Recovery Limits



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Hyman 01/27/10





QUALITY CONTROL DATA

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 941657

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 1202015498

Sample Amount 2

Moisture:

Amount Units g

Date Received: 14-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125218a

Date Analyzed: 29-JAN-10 22:04

Units: ug/kg

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

*Concentration =

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

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125218a

Date: 29-Jan-2010

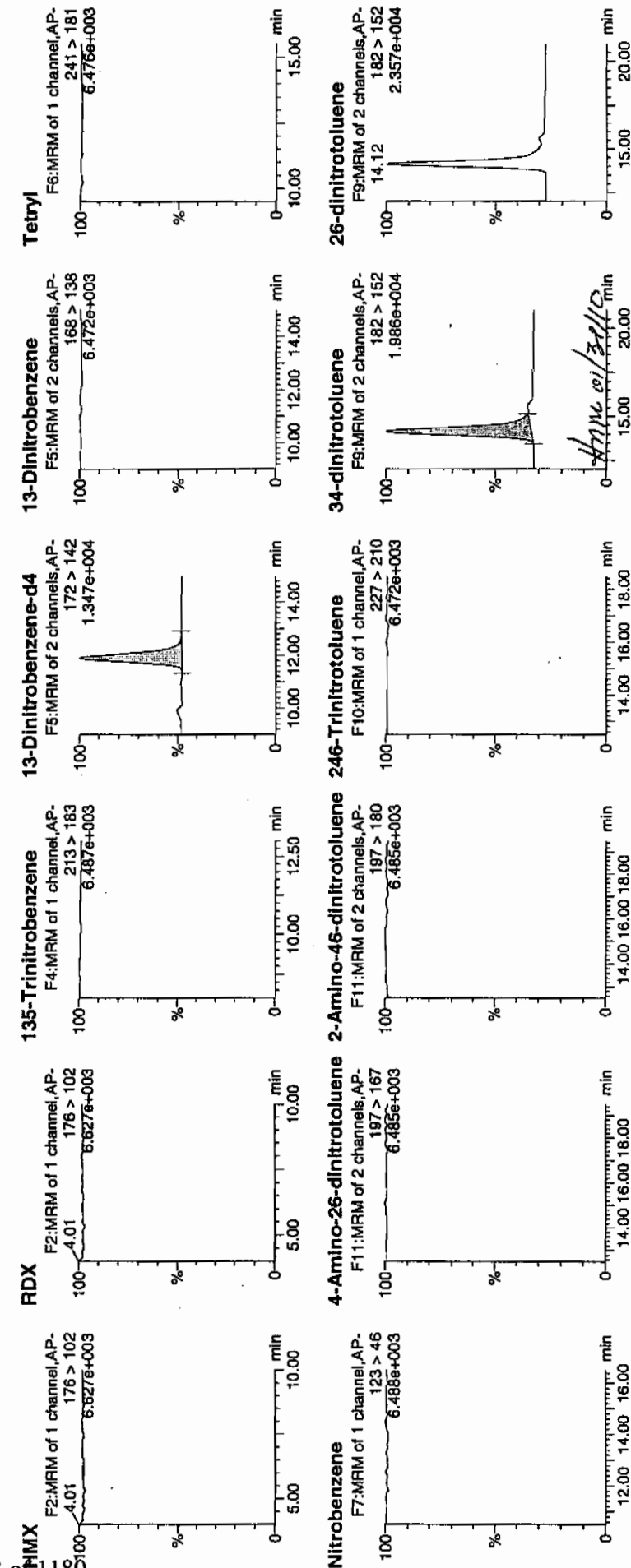
Time: 22:04:51

ID: 1202015498

Vial: 3:5,A

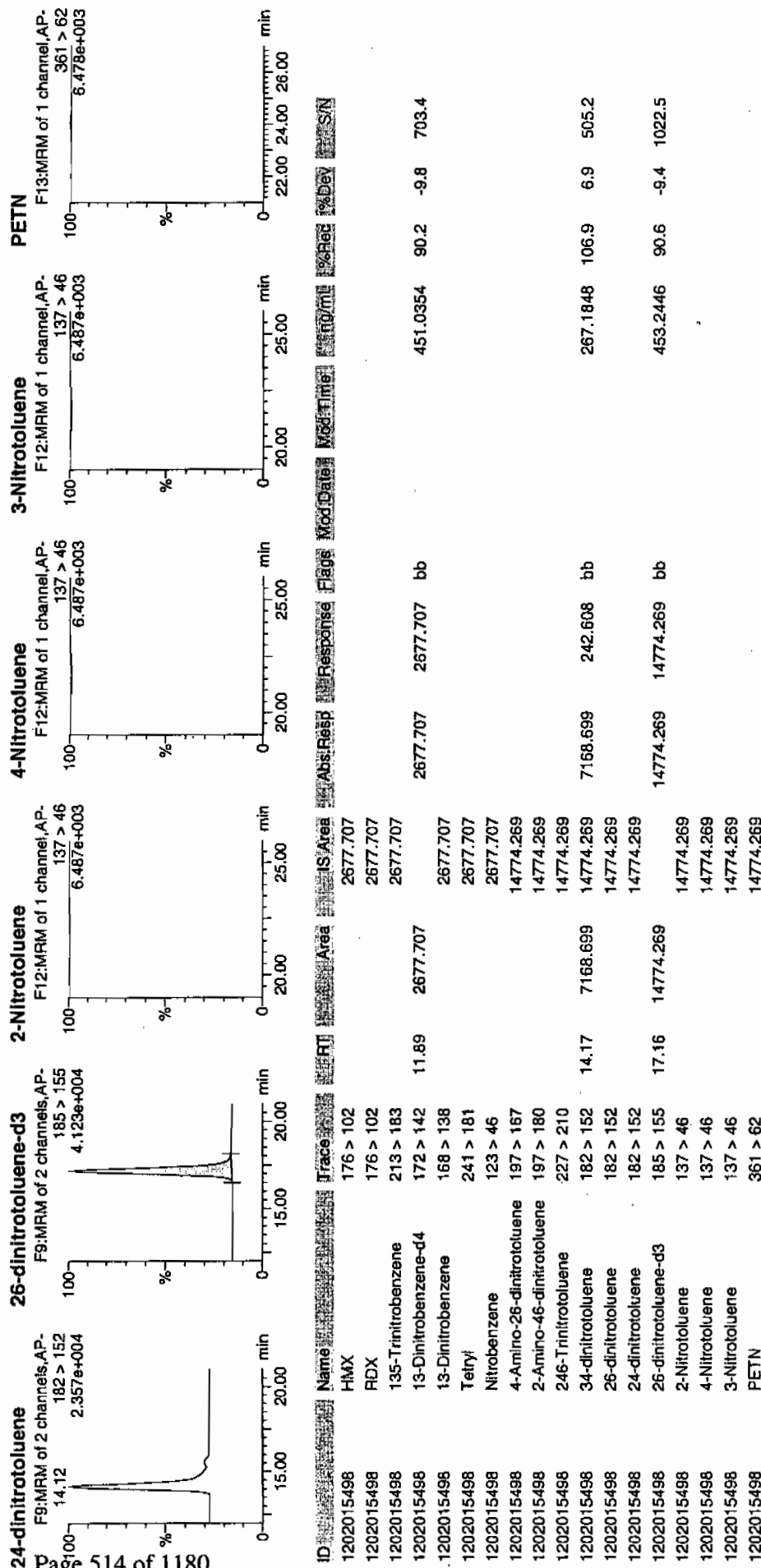
1477
1/30/10

LAB 941688 (8033) NB 121



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYN\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 941657

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 1202015498

Sample Amount 2

Moisture:

Amount Units g

Date Received: 14-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250098.wiff

Date Analyzed: 26-JAN-10 11:56

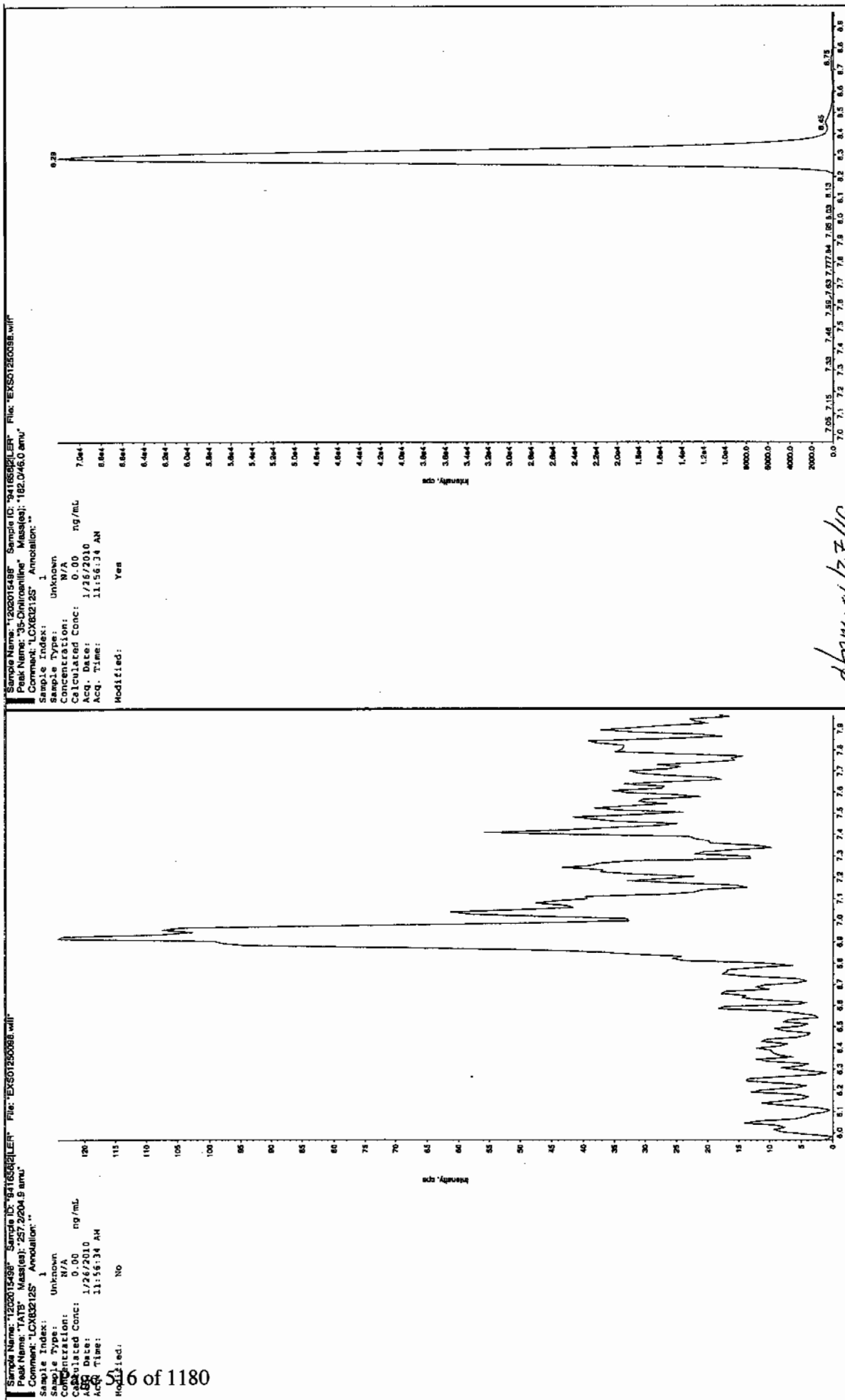
Units: ug/kg

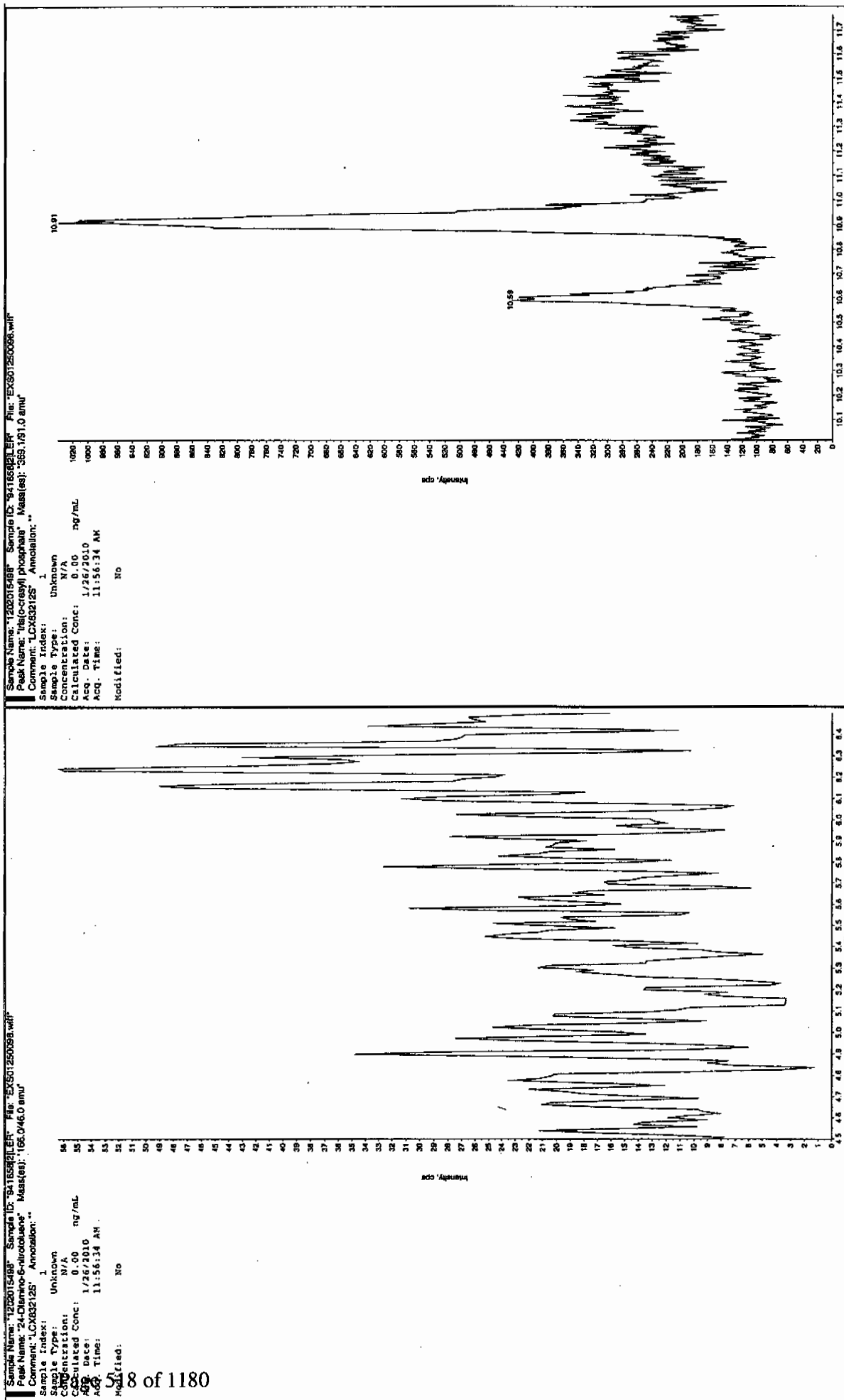
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

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

See 1/27/10





1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 941657

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 1202015499

Sample Amount 2

Moisture:

Amount Units g

Date Received: 14-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0125219a

Date Analyzed: 29-JAN-10 22:34

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	5280	
121-14-2	2,4-Dinitrotoluene	4480	
121-82-4	RDX	5240	
19406-51-0	4-Amino-2,6-dinitrotoluene	5830	
2691-41-0	HMX	4670	
35572-78-2	2-Amino-4,6-dinitrotoluene	5850	
479-45-8	Tetryl	2850	
606-20-2	2,6-Dinitrotoluene	4950	
78-11-5	PETN	5580	
88-72-2	o-Nitrotoluene	4520	
98-95-3	Nitrobenzene	4590	
99-08-1	m-Nitrotoluene	4780	
99-35-4	1,3,5-Trinitrobenzene	5120	
99-65-0	m-Dinitrobenzene	4920	
99-99-0	p-Nitrotoluene	4620	

*Concentration =

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

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125219a

Date: 29-Jan-2010

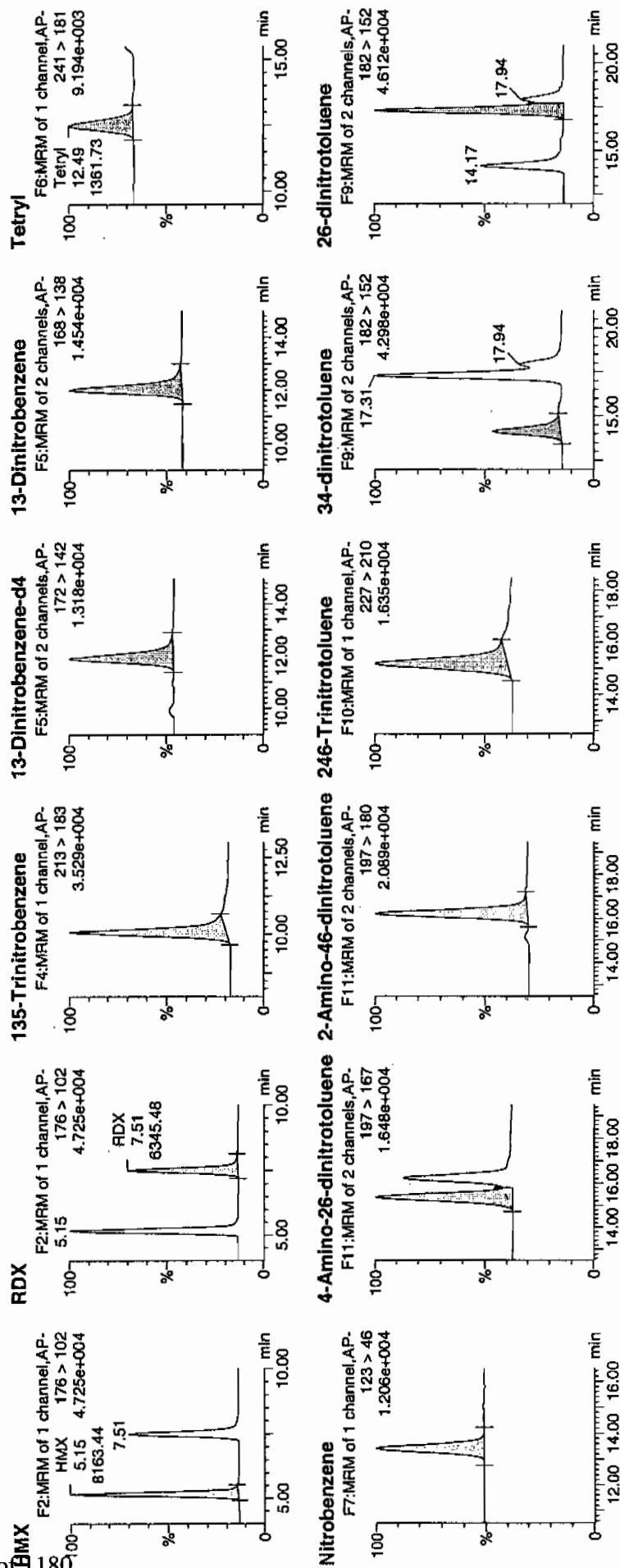
Time: 22:34:26

ID: 1202015499

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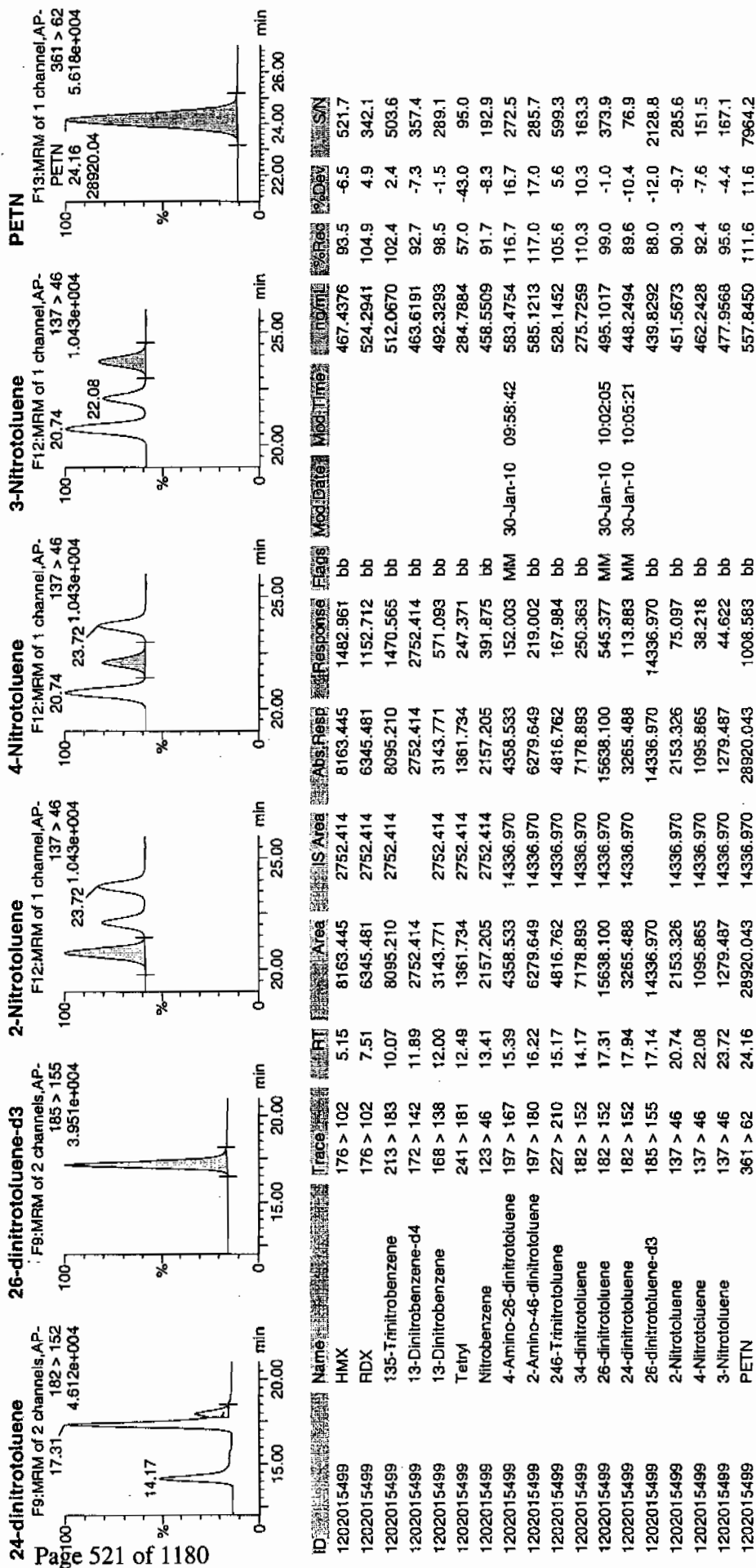
1/30/10

LC8/21



Handwritten signature

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 941657

Lab Code: GEL

GEL Job No (SDG) 10-1209

Matrix: SOIL

GEL Sample ID: 1202015499

Sample Amount 2

Moisture:

Amount Units g

Date Received: 14-JAN-10

Extraction Type Sonication

Extraction Batch ID: 941657

Concentrated Extract Volume (mL) 10

Date Extracted: 21-JAN-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS01250099.wiff

Date Analyzed: 26-JAN-10 12:12

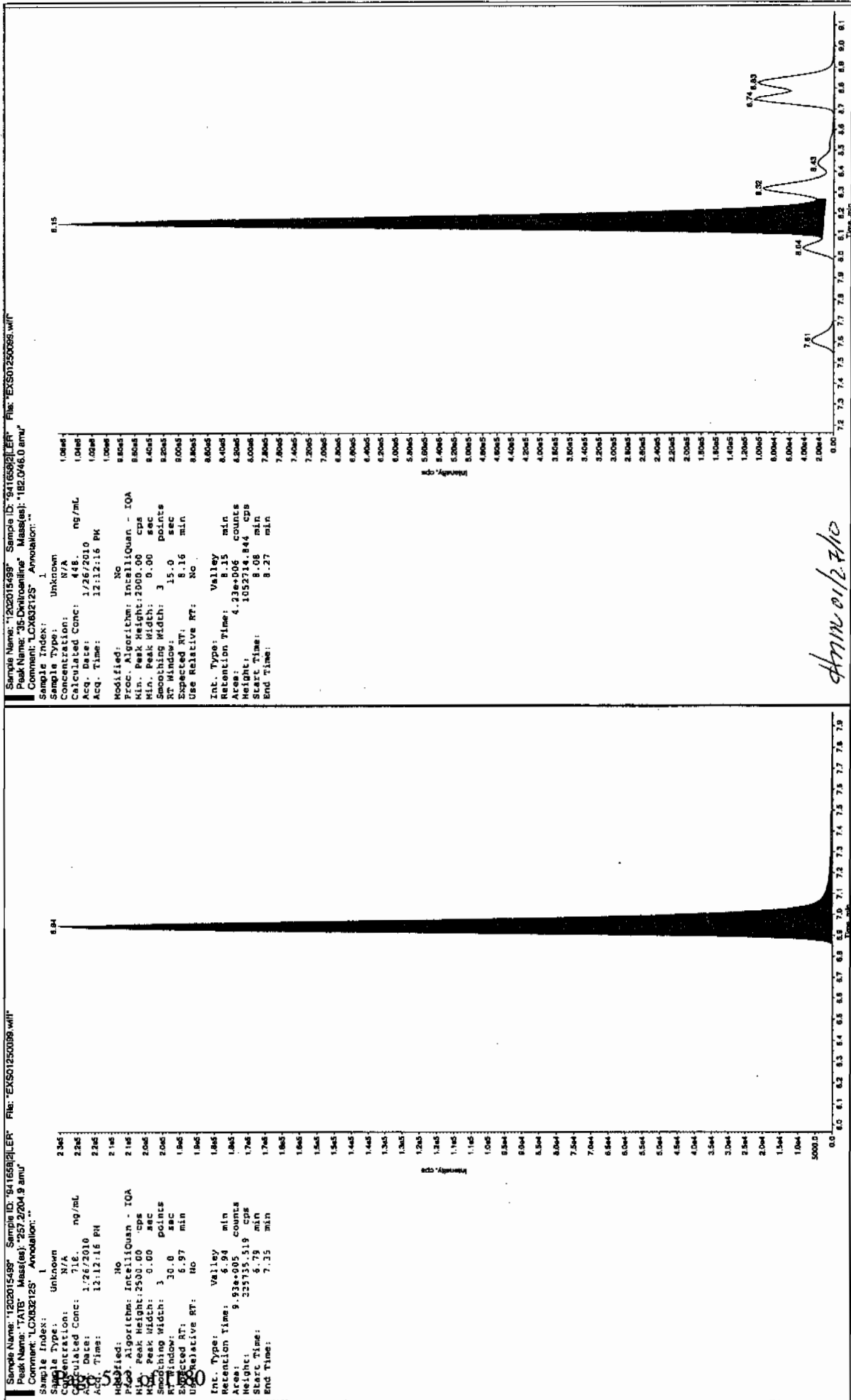
Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	7180	
59229-75-3	2,6-Diamino-4-nitrotoluene	4420	
618-87-1	3,5-Dinitroaniline	4620	
6629-29-4	2,4-Diamino-6-nitrotoluene	4330	
78-30-8	tris(o-cresyl) phosphate	4360	

*Concentration =

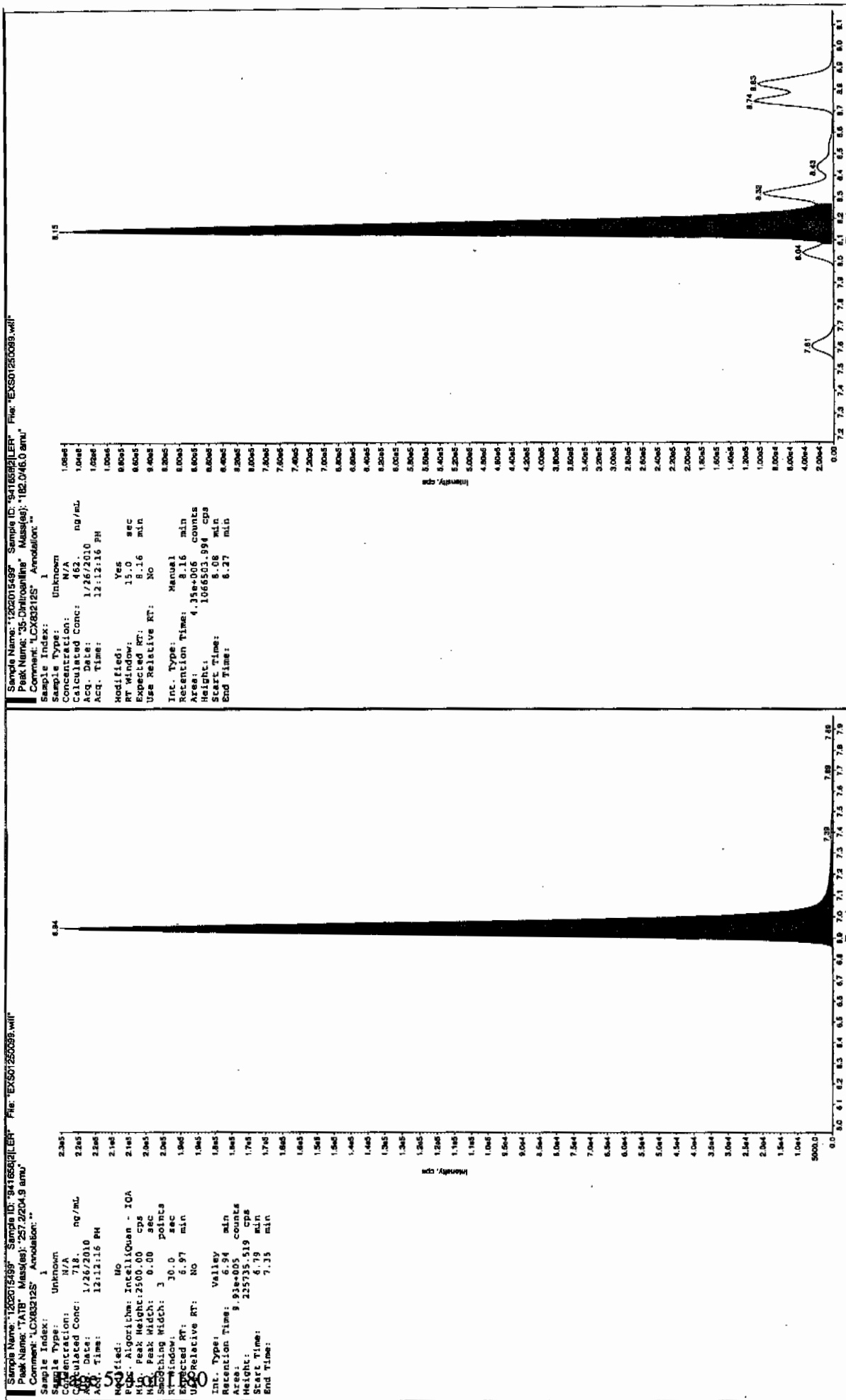
Instrument Value X $\frac{\text{Concentrated Extract Volume}}{\text{Sample Amount}}$ X Dilution Factor

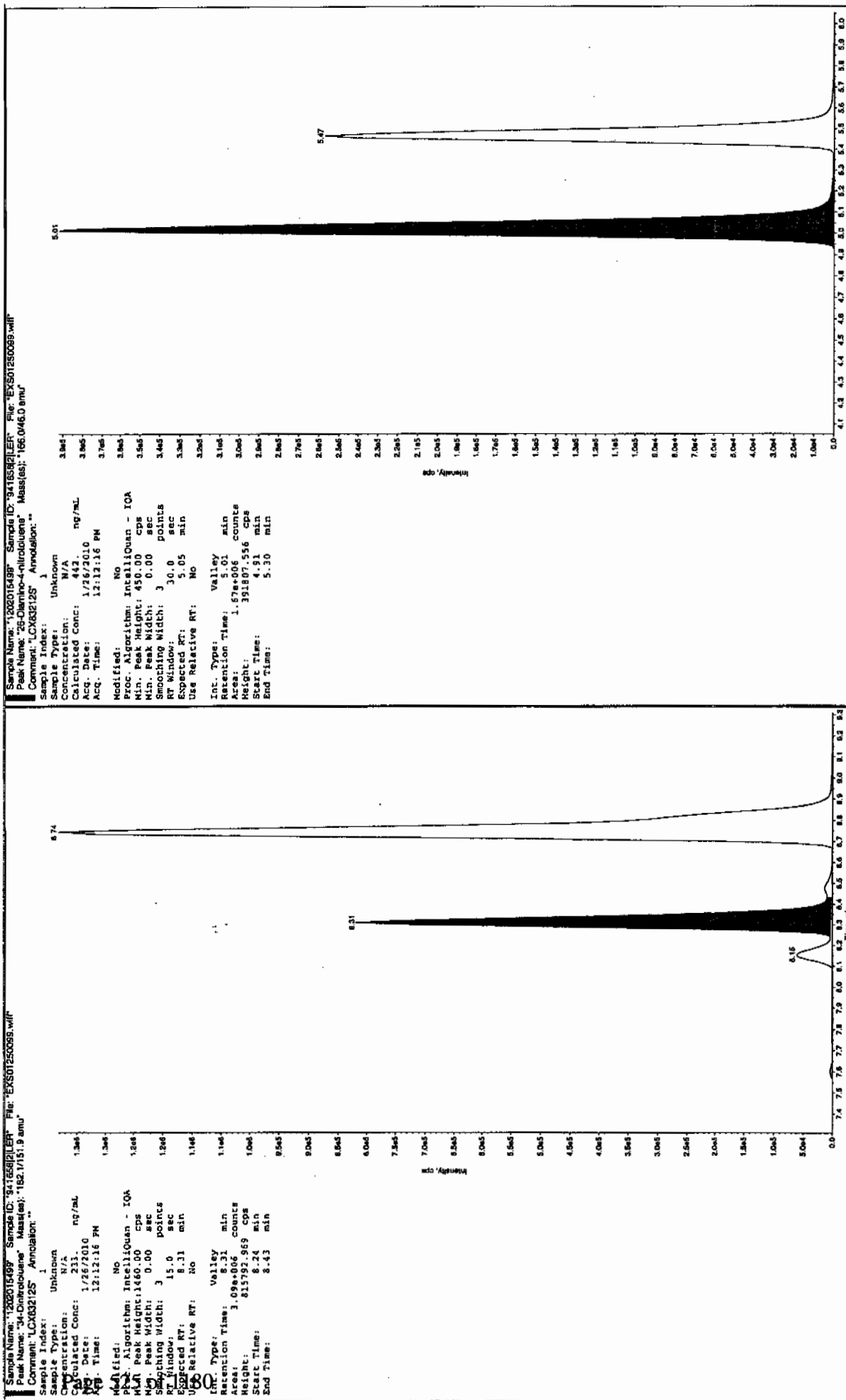
Before Scan 112710

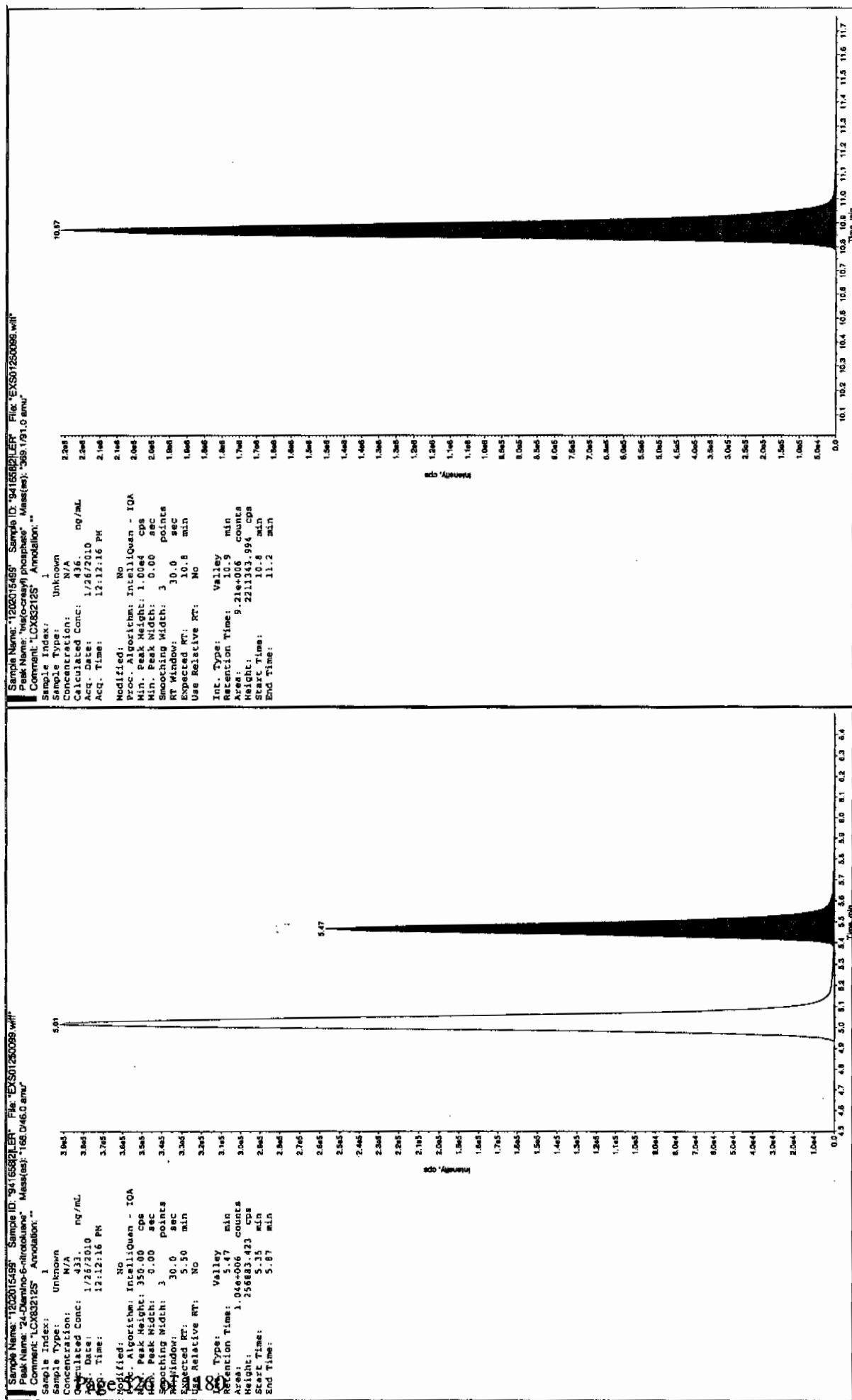


After Scan 112710

after Jan 11/27/10







*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: 941657
 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)
1202015498 MB	21-JAN-2010 16:28:35	2	10	5
1202015499 LCS	21-JAN-2010 16:28:35	2	10	5
244597001	21-JAN-2010 16:28:35	2	10	5
244599001	21-JAN-2010 16:28:35	2	10	5
1202015500 MS (244599001)	21-JAN-2010 16:28:35	2	10	5
1202015501 MSD (244599001)	21-JAN-2010 16:28:35	2	10	5
244599002	21-JAN-2010 16:28:35	2	10	5
244599003	21-JAN-2010 16:28:35	2	10	5
244599004	21-JAN-2010 16:28:35	2	10	5
244599005	21-JAN-2010 16:28:35	2	10	5
244599006	21-JAN-2010 16:28:35	2	10	5
244599007	21-JAN-2010 16:28:35	2	10	5
244599008	21-JAN-2010 16:28:35	2	10	5
244599009	21-JAN-2010 16:28:35	2	10	5
244599010	21-JAN-2010 16:28:35	2	10	5
244599011	21-JAN-2010 16:28:35	2	10	5
244599012	21-JAN-2010 16:28:35	2	10	5
244599013	21-JAN-2010 16:28:35	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202015499	8321 Explosives LCS	DCX091230-03	.1	mL	Final Solvent: ACN
LCS	1202015499	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MS	1202015500	8321 Explosives LCS	DCX091230-03	.1	mL	
MS	1202015500	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
MSD	1202015501	8321 Explosives LCS	DCX091230-03	.1	mL	
MSD	1202015501	8321 LANL Explosives Mix 10mg/L	UXX100108-01.1	1	mL	
SURR	Ali	3,4-Dinitrotoluene (8330 Sur.) 100ppm	DXP100121-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS #1

Date: 01/25/10
 Extr. Injection Volume: 50uL
 Sequence Number: 012510expA
 Initial Calibration Date: 01/25/10
 Method: SW846 8321A-Modified
 Int. Std.: UXX091230-01.3
 Mobile Phase Lot#: 1258263, 1236350
 Standard-Samp Reagent Lot#: 1253092, 1246195
 Reviewed BY: *shim*
 Date: *1/31/10*
 SOP: GL-OA-E-056 Rev.12
 Alt Check Std. ID: WXX100125-07 & WXX100128-07

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0125001a	XIBLK01	MAP	1/25/10 11:20			1		USE	B
EXP0125002a	XIBLK01	MAP	1/25/10 11:50			1		USE	B
EXP0125003a	WXXICAL-01	MAP	1/25/10 12:19			1		USE	I
EXP0125004a	WXXICAL-02	MAP	1/25/10 12:49			1		USE	I
EXP0125005a	WXXICAL-03	MAP	1/25/10 13:18			1		USE	I
EXP0125006a	WXXICAL-04	MAP	1/25/10 13:48			1		USE	I
EXP0125007a	WXXICAL-05	MAP	1/25/10 14:17			1		USE	I
EXP0125008a	WXXICAL-06	MAP	1/25/10 14:47			1		USE	I
EXP0125009a	XIBLK02	MAP	1/25/10 15:16			1		USE	B
EXP0125010a	WXXICV	MAP	1/25/10 15:46			1		USE	C
EXP0125011a	XIBLK03	MAP	1/25/10 16:15			1		USE	B
EXP0125012a	WXXCRI	MAP	1/25/10 16:45			1		USE	C
EXP0125013a	244613001	MAP	1/25/10 17:14	941662	10-1218	2	LANL	USE	S
EXP0125014a	244616002	MAP	1/25/10 17:44	941662	10-1219	2	LANL	USE	S
EXP0125015a	244616003	MAP	1/25/10 18:13	941662	10-1219	2	LANL	USE	S
EXP0125016a	244616004	MAP	1/25/10 18:43	941662	10-1219	2	LANL	USE	S
EXP0125017a	244616005	MAP	1/25/10 19:12	941662	10-1219	2	LANL	USE	S
EXP0125018a	244616006	MAP	1/25/10 19:42	941662	10-1219	2	LANL	USE	S
EXP0125019a	244620001	MAP	1/25/10 20:11	941662	10-1221	2	LANL	USE	S
EXP0125020a	244620002	MAP	1/25/10 20:41	941662	10-1221	2	LANL	USE	S
EXP0125021a	244620003	MAP	1/25/10 21:10	941662	10-1221	2	LANL	USE	S
EXP0125022a	244620004	MAP	1/25/10 21:40	941662	10-1221	2	LANL	USE	S
EXP0125023a	WXXCCV	MAP	1/25/10 22:09			1		USE	C
EXP0125024a	XIBLK04	MAP	1/25/10 22:39			1		USE	B
EXP0125025a	WXXCRI	MAP	1/25/10 23:08			1		USE	C
EXP0125026a	244620005	MAP	1/25/10 23:38	941662	10-1221	2	LANL	USE	S
EXP0125027a	244620006	MAP	1/26/10 0:07	941662	10-1221	2	LANL	USE	S
EXP0125028a	244623001	MAP	1/26/10 0:37	941662	10-1223	2	LANL	USE	S
EXP0125029a	244623002	MAP	1/26/10 1:06	941662	10-1223	2	LANL	USE	S

EXP0125030a	244623003	MAP	1/26/10 1:36	941662	10-1223	2	LANL	USE	S
EXP0125031a	244623004	MAP	1/26/10 2:05	941662	10-1223	2	LANL	USE	S
EXP0125032a	244623005	MAP	1/26/10 2:35	941662	10-1223	2	LANL	USE	S
EXP0125033a	244623006	MAP	1/26/10 3:04	941662	10-1223	2	LANL	USE	S
EXP0125034a	WXXCVC	MAP	1/26/10 3:34			1		USE	C
EXP0125035a	XIBLK05	MAP	1/26/10 4:03			1		USE	B
EXP0125036a	WXXCRI	MAP	1/26/10 4:33			1		USE	C
EXP0125037a	1202011683	MAP	1/26/10 5:02	940071	10-1131	2	LANL	USE	S
EXP0125038a	1202011684	MAP	1/26/10 5:32	940071	10-1131	2	LANL	USE	S
EXP0125039a	244126001	MAP	1/26/10 6:01	940071	10-1131	2	LANL	USE	S
EXP0125040a	1202011685	MAP	1/26/10 6:31	940071	10-1131	2	LANL	USE	S
EXP0125041a	1202011686	MAP	1/26/10 7:01	940071	10-1131	2	LANL	USE	S
EXP0125042a	244126002	MAP	1/26/10 7:30	940071	10-1131	2	LANL	USE	S
EXP0125043a	244126003	MAP	1/26/10 7:59	940071	10-1131	2	LANL	USE	S
EXP0125044a	244126004	MAP	1/26/10 8:29	940071	10-1131	2	LANL	USE	S
EXP0125045a	244126005	MAP	1/26/10 8:58	940071	10-1131	2	LANL	USE	S
EXP0125046a	244126006	MAP	1/26/10 9:28	940071	10-1131	2	LANL	USE	S
EXP0125047a	WXXCVC	MAP	1/26/10 9:58			1		USE	C
EXP0125048a	XIBLK06	MAP	1/26/10 10:27			1		USE	B
EXP0125049a	WXXCRI	MAP	1/26/10 10:57			1		USE	C
EXP0125050a	244126007	MAP	1/26/10 11:26	940071	10-1131	2	LANL	USE	S
EXP0125051a	244126008	MAP	1/26/10 11:56	940071	10-1131	2	LANL	USE	S
EXP0125052a	244126009	MAP	1/26/10 12:25	940071	10-1131	2	LANL	USE	S
EXP0125053a	244126010	MAP	1/26/10 12:55	940071	10-1131	2	LANL	USE	S
EXP0125054a	244126011	MAP	1/26/10 13:24	940071	10-1131	2	LANL	USE	S
EXP0125055a	244126012	MAP	1/26/10 13:54	940071	10-1131	2	LANL	USE	S
EXP0125056a	244126013	MAP	1/26/10 14:23	940071	10-1131	2	LANL	USE	S
EXP0125057a	244126014	MAP	1/26/10 14:53	940071	10-1131	2	LANL	USE	S
EXP0125058a	244126015	MAP	1/26/10 15:22	940071	10-1131	2	LANL	USE	S
EXP0125059a	244126016	MAP	1/26/10 15:51	940071	10-1131	2	LANL	USE	S
EXP0125060a	WXXCVC	MAP	1/26/10 16:21			1		USE	C
EXP0125061a	XIBLK07	MAP	1/26/10 16:50			1		USE	B
EXP0125062a	WXXCRI	MAP	1/26/10 17:20			1		USE	C
EXP0125063a	244126017	MAP	1/26/10 17:49	940071	10-1131	2	LANL	USE	S
EXP0125064a	244126018	MAP	1/26/10 18:19	940071	10-1131	2	LANL	USE	S
EXP0125065a	244126019	MAP	1/26/10 18:49	940071	10-1131	2	LANL	USE	S
EXP0125066a	244126020	MAP	1/26/10 19:18	940071	10-1131	2	LANL	USE	S

EXP0125104a	244142013	MAP	1/27/10 14:00	940057	10-1127	2	LANL	USE	S
EXP0125105a	244142014	MAP	1/27/10 14:30	940057	10-1127	2	LANL	USE	S
EXP0125106a	244142015	MAP	1/27/10 14:59	940057	10-1127	2	LANL	USE	S
EXP0125107a	244142016	MAP	1/27/10 15:29	940057	10-1127	2	LANL	USE	S
EXP0125108a	WXXC0V	MAP	1/27/10 15:58			1		USE	C
EXP0125109a	XIBLK12	MAP	1/27/10 16:28			1		USE	B
EXP0125110a	WXXCRI	MAP	1/27/10 16:57			1		USE	C
EXP0125111a	244142017	MAP	1/27/10 17:27	940057	10-1127	2	LANL	USE	S
EXP0125112a	244142018	MAP	1/27/10 17:56	940057	10-1127	2	LANL	USE	S
EXP0125113a	244142005	MAP	1/27/10 18:26	940057	10-1127	25	LANL	USE	S
EXP0125114a	XIBLK13	MAP	1/27/10 18:55			1		USE	B
EXP0125115a	1202011638	MAP	1/27/10 19:25	940049	10-1126	2	LANL	USE	S
EXP0125116a	WXXC0V	MAP	1/27/10 19:54			1		USE	C
EXP0125117a	XIBLK14	MAP	1/27/10 20:24			1		USE	B
EXP0125118a	WXXCRI	MAP	1/27/10 20:53			1		USE	C
EXP0125119a	1202012974	MAP	1/27/10 21:23	940579	10-1160-1	2	LANL	USE	S
EXP0125120a	1202012975	MAP	1/27/10 21:52	940579	10-1160-1	2	LANL	USE	S
EXP0125121a	244210001	MAP	1/27/10 22:22	940579	10-1160-1	2	LANL	USE	S
EXP0125122a	1202012976	MAP	1/27/10 22:51	940579	10-1160-1	2	LANL	USE	S
EXP0125123a	1202012977	MAP	1/27/10 23:21	940579	10-1160-1	2	LANL	USE	S
EXP0125124a	244210002	MAP	1/27/10 23:50	940579	10-1160-1	2	LANL	USE	S
EXP0125125a	244210003	MAP	1/28/10 0:20	940579	10-1160-1	2	LANL	USE	S
EXP0125126a	244210004	MAP	1/28/10 0:49	940579	10-1160-1	2	LANL	USE	S
EXP0125127a	244210005	MAP	1/28/10 1:19	940579	10-1160-1	2	LANL	USE	S
EXP0125128a	244210006	MAP	1/28/10 1:48	940579	10-1160-1	2	LANL	USE	S
EXP0125129a	WXXC0V	MAP	1/28/10 2:18			1		USE	C
EXP0125130a	XIBLK15	MAP	1/28/10 2:47			1		USE	B
EXP0125131a	WXXCRI	MAP	1/28/10 3:17			1		USE	C
EXP0125132a	244210007	MAP	1/28/10 3:46	940579	10-1160-1	2	LANL	USE	S
EXP0125133a	244210008	MAP	1/28/10 4:16	940579	10-1160-1	2	LANL	USE	S
EXP0125134a	244210009	MAP	1/28/10 4:45	940579	10-1160-1	2	LANL	USE	S
EXP0125135a	244210010	MAP	1/28/10 5:15	940579	10-1160-1	2	LANL	USE	S
EXP0125136a	244210011	MAP	1/28/10 5:44	940579	10-1160-1	2	LANL	USE	S
EXP0125137a	244210012	MAP	1/28/10 6:14	940579	10-1160-1	2	LANL	USE	S
EXP0125138a	244210013	MAP	1/28/10 6:43	940579	10-1160-1	2	LANL	USE	S
EXP0125139a	244210014	MAP	1/28/10 7:13	940579	10-1160-1	2	LANL	USE	S
EXP0125140a	244210015	MAP	1/28/10 7:42	940579	10-1160-1	2	LANL	USE	S

EXP0125141a	244142017	MAP	1/28/10 8:12	940057	10-1127	10	LANL	USE	S
EXP0125142a	WXCCV	MAP	1/28/10 8:41			1		USE	C
EXP0125143a	XIBLK16	MAP	1/28/10 9:11			1		USE	B
EXP0125144a	WXCCV	MAP	1/28/10 9:40			1		USE	C
EXP0125145a	1202021910	MAP	1/28/10 10:10	944248	Various	2	LANL	USE	S
EXP0125146a	1202021911	MAP	1/28/10 10:40	944248	Various	2	LANL	USE	S
EXP0125147a	245098001	MAP	1/28/10 11:10	944248	10-1336	2	LANL	USE	S
EXP0125148a	245126002	MAP	1/28/10 11:39	944248	10-1334	2	LANL	USE	S
EXP0125149a	245126003	MAP	1/28/10 12:09	944248	10-1334	2	LANL	USE	S
EXP0125150a	245126004	MAP	1/28/10 12:38	944248	10-1334	2	LANL	USE	S
EXP0125151a	245126005	MAP	1/28/10 13:08	944248	10-1334	2	LANL	USE	S
EXP0125152a	245143002	MAP	1/28/10 13:37	944248	10-1337	2	LANL	USE	S
EXP0125153a	1202021912	MAP	1/28/10 14:07	944248	10-1337	2	LANL	USE	S
EXP0125154a	1202021913	MAP	1/28/10 14:36	944248	10-1337	2	LANL	USE	S
EXP0125155a	WXCCV	MAP	1/28/10 15:06			1		USE	C
EXP0125156a	XIBLK17	MAP	1/28/10 15:35			1		USE	B
EXP0125157a	WXCCV	MAP	1/28/10 16:05			1		USE	C
EXP0125158a	245143003	MAP	1/28/10 16:34	944248	10-1337	2	LANL	USE	S
EXP0125159a	XIBLK18	MAP	1/28/10 17:04			1		USE	B
EXP0125160a	1202017304	MAP	1/28/10 17:33	942337	Various	2	LANL	USE	S
EXP0125161a	1202017305	MAP	1/28/10 18:03	942337	Various	2	LANL	USE	S
EXP0125162a	244909001	MAP	1/28/10 18:32	942337	10-1279	2	LANL	USE	S
EXP0125163a	244909002	MAP	1/28/10 19:02	942337	10-1279	2	LANL	USE	S
EXP0125164a	244909003	MAP	1/28/10 19:31	942337	10-1279	2	LANL	USE	S
EXP0125165a	244909004	MAP	1/28/10 20:01	942337	10-1279	2	LANL	USE	S
EXP0125166a	WXCCV	MAP	1/28/10 20:30			1		USE	C
EXP0125167a	XIBLK19	MAP	1/28/10 21:00			1		USE	B
EXP0125168a	WXCCV	MAP	1/28/10 21:29			1		USE	C
EXP0125169a	244910002	MAP	1/28/10 21:59	942337	10-1281	2	LANL	USE	S
EXP0125170a	1202017306	MAP	1/28/10 22:28	942337	10-1281	2	LANL	USE	S
EXP0125171a	1202017307	MAP	1/28/10 22:58	942337	10-1281	2	LANL	USE	S
EXP0125172a	244910003	MAP	1/28/10 23:27	942337	10-1281	2	LANL	USE	S
EXP0125173a	244910004	MAP	1/28/10 23:57	942337	10-1281	2	LANL	USE	S
EXP0125174a	244910005	MAP	1/29/10 0:26	942337	10-1281	2	LANL	USE	S
EXP0125175a	244910006	MAP	1/29/10 0:56	942337	10-1281	2	LANL	USE	S
EXP0125176a	244910007	MAP	1/29/10 1:25	942337	10-1281	2	LANL	USE	S
EXP0125177a	244910008	MAP	1/29/10 1:55	942337	10-1281	2	LANL	USE	S

EXP0125178a	244910009	MAP	1/29/10 2:24	942337	10-1281	2	LANL	USE	S
EXP0125179a	WXXCCV	MAP	1/29/10 2:54			1		USE	C
EXP0125180a	XIBLK20	MAP	1/29/10 3:23			1		USE	B
EXP0125181a	WXXCRI	MAP	1/29/10 3:53			1		USE	C
EXP0125182a	1202017308	MAP	1/29/10 4:22	942339	Various	2	LANL	USE	S
EXP0125183a	1202017309	MAP	1/29/10 4:52	942339	Various	2	LANL	USE	S
EXP0125184a	244916002	MAP	1/29/10 5:21	942339	10-1284	2	LANL	USE	S
EXP0125185a	244916003	MAP	1/29/10 5:51	942339	10-1284	2	LANL	USE	S
EXP0125186a	244917002	MAP	1/29/10 6:20	942339	10-1285	2	LANL	USE	S
EXP0125187a	244917003	MAP	1/29/10 6:50	942339	10-1285	2	LANL	USE	S
EXP0125188a	244917004	MAP	1/29/10 7:19	942339	10-1285	2	LANL	USE	S
EXP0125189a	244923001	MAP	1/29/10 7:49	942339	10-1287	2	LANL	USE	S
EXP0125190a	1202017310	MAP	1/29/10 8:18	942339	10-1287	2	LANL	USE	S
EXP0125191a	1202017311	MAP	1/29/10 8:48	942339	10-1287	2	LANL	USE	S
EXP0125192a	WXXCCV	MAP	1/29/10 9:17			1		USE	C
EXP0125193a	XIBLK21	MAP	1/29/10 9:47			1		USE	B
EXP0125194a	WXXCRI	MAP	1/29/10 10:16			1		USE	C
EXP0125195a	244923002	MAP	1/29/10 10:46	942339	10-1287	2	LANL	USE	S
EXP0125196a	244923003	MAP	1/29/10 11:15	942339	10-1287	2	LANL	USE	S
EXP0125197a	244923004	MAP	1/29/10 11:45	942339	10-1287	2	LANL	USE	S
EXP0125198a	244923005	MAP	1/29/10 12:14	942339	10-1287	2	LANL	USE	S
EXP0125199a	244923006	MAP	1/29/10 12:44	942339	10-1287	2	LANL	USE	S
EXP0125200a	244923007	MAP	1/29/10 13:13	942339	10-1287	2	LANL	USE	S
EXP0125201a	244923008	MAP	1/29/10 13:43	942339	10-1287	2	LANL	USE	S
EXP0125202a	244923009	MAP	1/29/10 14:12	942339	10-1287	2	LANL	USE	S
EXP0125203a	244923010	MAP	1/29/10 14:42	942339	10-1287	2	LANL	USE	S
EXP0125204a	WXXCCV	MAP	1/29/10 15:11			1		USE	C
EXP0125205a	XIBLK22	MAP	1/29/10 15:41			1		USE	B
EXP0125206a	WXXCRI	MAP	1/29/10 16:10			1		USE	C
EXP0125207a	1202011616	MAP	1/29/10 16:40	940042	Various	2	LANL	USE	S
EXP0125208a	1202011617	MAP	1/29/10 17:09	940042	Various	2	LANL	USE	S
EXP0125209a	244234005	MAP	1/29/10 17:39	940042	10-1168	2	LANL	USE	S
EXP0125210a	1202011618	MAP	1/29/10 18:08	940042	10-1168	2	LANL	USE	S
EXP0125211a	1202011619	MAP	1/29/10 18:38	940042	10-1168	2	LANL	USE	S
EXP0125212a	244234012	MAP	1/29/10 19:07	940042	10-1168	2	LANL	USE	S
EXP0125213a	244234016	MAP	1/29/10 19:37	940042	10-1168	2	LANL	USE	S
EXP0125214a	244239006	MAP	1/29/10 20:06	940042	10-1171	2	LANL	USE	S

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 01/25/10

Extr. Injection Volume: 10uL

Sequence Number: 012510exs

Initial Calibration Date: 012510

Method: 8321A-Modified

Int. Std.: N/A

Mobile Phase Lot#: 1250738, 1246467

Standard-Samp Reagent Lot#: 1246195, 1253092

Reviewed By: *hmc*

Date: 01/27/10

SOP: GL-OA-E-056 Rev.12

Alt Check Std. ID: WXX100125-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS01250001.wiff	XIBLK01	LER	1/25/2010 10:28			1		USE	B
EXS01250002.wiff	XIBLK01	LER	1/25/2010 10:46			1		USE	B
EXS01250003.wiff	WXXICAL-19	LER	1/25/2010 11:02			1		USE	I
EXS01250004.wiff	WXXICAL-20	LER	1/25/2010 11:18			1		USE	I
EXS01250005.wiff	WXXICAL-21	LER	1/25/2010 11:33			1		USE	I
EXS01250006.wiff	WXXICAL-22	LER	1/25/2010 11:51			1		USE	I
EXS01250007.wiff	WXXICAL-23	LER	1/25/2010 12:07			1		USE	I
EXS01250008.wiff	WXXICAL-24	LER	1/25/2010 12:22			1		USE	I
EXS01250009.wiff	WXXICAL-25	LER	1/25/2010 12:38			1		USE	I
EXS01250010.wiff	XIBLK02	LER	1/25/2010 12:54			1		USE	B
EXS01250011.wiff	WXXICV	LER	1/25/2010 13:09			1		USE	C
EXS01250012.wiff	XIBLK03	LER	1/25/2010 13:25			1		USE	B
EXS01250013.wiff	WXXCRI	LER	1/25/2010 13:41			1		USE	C
EXS01250014.wiff	1202015503	LER	1/25/2010 13:56	941660	VARIOUS	2	LANL	USE	S
EXS01250015.wiff	1202015504	LER	1/25/2010 14:12	941660	10-1214	2	LANL	USE	S
EXS01250016.wiff	XIBLK04	LER	1/25/2010 14:28			1		USE	B
EXS01250017.wiff	1202017300	LER	1/25/2010 14:44	942335	VARIOUS	2	LANL	USE	S
EXS01250018.wiff	1202017301	LER	1/25/2010 14:59	942335	VARIOUS	2	LANL	USE	S
EXS01250019.wiff	244847001	LER	1/25/2010 15:15	942335	10-1262	2	LANL	USE	S
EXS01250020.wiff	1202017302	LER	1/25/2010 15:31	942335	10-1262	2	LANL	USE	S
EXS01250021.wiff	1202017303	LER	1/25/2010 15:46	942335	10-1262	2	LANL	USE	S
EXS01250022.wiff	244847002	LER	1/25/2010 16:02	942335	10-1262	2	LANL	DUSE-RA	S
EXS01250023.wiff	244847003	LER	1/25/2010 16:18	942335	10-1262	2	LANL	USE	S
EXS01250024.wiff	WXXCCV	LER	1/25/2010 16:33			1		USE	C
EXS01250025.wiff	XIBLK05	LER	1/25/2010 16:49			1		USE	B
EXS01250026.wiff	WXXCRI	LER	1/25/2010 17:05			1		USE	C
EXS01250027.wiff	244847004	LER	1/25/2010 17:21	942335	10-1262	2	LANL	USE	S
EXS01250028.wiff	244852001	LER	1/25/2010 17:36	942335	10-1263	2	LANL	USE	S
EXS01250029.wiff	244852002	LER	1/25/2010 17:52	942335	10-1263	2	LANL	USE	S
EXS01250030.wiff	244852003	LER	1/25/2010 18:08	942335	10-1263	2	LANL	USE	S

EXS01250031.wiff	244852004	LER	1/25/2010 18:24	942335	10-1263	2	LANL	USE	S
EXS01250032.wiff	244881001	LER	1/25/2010 18:39	942335	10-1264-1	2	LANL	USE	S
EXS01250033.wiff	244881002	LER	1/25/2010 18:55	942335	10-1264-1	2	LANL	USE	S
EXS01250034.wiff	244881003	LER	1/25/2010 19:11	942335	10-1264-1	2	LANL	USE	S
EXS01250035.wiff	244881004	LER	1/25/2010 19:26	942335	10-1264-1	2	LANL	USE	S
EXS01250036.wiff	244905001	LER	1/25/2010 19:42	942335	10-1277	2	LANL	USE	S
EXS01250037.wiff	WXXCCV	LER	1/25/2010 19:58			1		USE	C
EXS01250038.wiff	XIBLK06	LER	1/25/2010 20:14			1		USE	B
EXS01250039.wiff	WXXCRI	LER	1/25/2010 20:29			1		USE	C
EXS01250040.wiff	244905002	LER	1/25/2010 20:45	942335	10-1277	2	LANL	USE	S
EXS01250041.wiff	244905003	LER	1/25/2010 21:01	942335	10-1277	2	LANL	USE	S
EXS01250042.wiff	244905004	LER	1/25/2010 21:16	942335	10-1277	2	LANL	USE	S
EXS01250043.wiff	244905005	LER	1/25/2010 21:32	942335	10-1277	2	LANL	USE	S
EXS01250044.wiff	244905006	LER	1/25/2010 21:48	942335	10-1277	2	LANL	USE	S
EXS01250045.wiff	WXXCCV	LER	1/25/2010 22:04			1		USE	C
EXS01250046.wiff	XIBLK07	LER	1/25/2010 22:19			1		USE	B
EXS01250047.wiff	WXXCRI	LER	1/25/2010 22:35			1		USE	C
EXS01250048.wiff	1202017304	LER	1/25/2010 22:51	942337	VARIOUS	2	LANL	USE	S
EXS01250049.wiff	1202017305	LER	1/25/2010 23:06	942337	VARIOUS	2	LANL	USE	S
EXS01250050.wiff	244909001	LER	1/25/2010 23:22	942337	10-1279	2	LANL	USE	S
EXS01250051.wiff	244909002	LER	1/25/2010 23:38	942337	10-1279	2	LANL	USE	S
EXS01250052.wiff	244909003	LER	1/25/2010 23:54	942337	10-1279	2	LANL	USE	S
EXS01250053.wiff	244909004	LER	1/26/2010 0:09	942337	10-1279	2	LANL	USE	S
EXS01250054.wiff	244910002	LER	1/26/2010 0:25	942337	10-1281	2	LANL	USE	S
EXS01250055.wiff	1202017306	LER	1/26/2010 0:41	942337	10-1281	2	LANL	USE	S
EXS01250056.wiff	1202017307	LER	1/26/2010 0:56	942337	10-1281	2	LANL	USE	S
EXS01250057.wiff	244910003	LER	1/26/2010 1:12	942337	10-1281	2	LANL	USE	S
EXS01250058.wiff	WXXCCV	LER	1/26/2010 1:28			1		USE	C
EXS01250059.wiff	XIBLK08	LER	1/26/2010 1:44			1		USE	B
EXS01250060.wiff	WXXCRI	LER	1/26/2010 1:59			1		USE	C
EXS01250061.wiff	244910004	LER	1/26/2010 2:15	942337	10-1281	2	LANL	USE	S
EXS01250062.wiff	244910005	LER	1/26/2010 2:31	942337	10-1281	2	LANL	USE	S
EXS01250063.wiff	244910006	LER	1/26/2010 2:46	942337	10-1281	2	LANL	USE	S
EXS01250064.wiff	244910007	LER	1/26/2010 3:02	942337	10-1281	2	LANL	USE	S
EXS01250065.wiff	244910008	LER	1/26/2010 3:18	942337	10-1281	2	LANL	USE	S
EXS01250066.wiff	244910009	LER	1/26/2010 3:33	942337	10-1281	2	LANL	USE	S
EXS01250067.wiff	WXXCCV	LER	1/26/2010 3:49			1		USE	C

[illegible]

EXS01250105.wiff	244599003	LER	1/26/2010 13:46	941658	10-1210	2	LANL	USE	S
EXS01250106.wiff	WXXCCV	LER	1/26/2010 14:02		1			USE	C
EXS01250107.wiff	XIBLK13	LER	1/26/2010 14:17		1			USE	B
EXS01250108.wiff	WXXCRI	LER	1/26/2010 14:33		1			USE	C
EXS01250109.wiff	244599004	LER	1/26/2010 14:49	941658	10-1210	2	LANL	USE	S
EXS01250110.wiff	244599005	LER	1/26/2010 15:05	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250111.wiff	244599006	LER	1/26/2010 15:20	941658	10-1210	2	LANL	USE	S
EXS01250112.wiff	244599007	LER	1/26/2010 15:36	941658	10-1210	2	LANL	USE	S
EXS01250113.wiff	244599008	LER	1/26/2010 15:52	941658	10-1210	2	LANL	USE	S
EXS01250114.wiff	244599009	LER	1/26/2010 16:07	941658	10-1210	2	LANL	USE	S
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EXS01250116.wiff	244599011	LER	1/26/2010 16:39	941658	10-1210	2	LANL	USE	S
EXS01250117.wiff	244599012	LER	1/26/2010 16:55	941658	10-1210	2	LANL	USE	S
EXS01250118.wiff	244599013	LER	1/26/2010 17:10	941658	10-1210	2	LANL	DUSE-RA	S
EXS01250119.wiff	WXXCCV	LER	1/26/2010 17:26		1			USE	C
EXS01250120.wiff	XIBLK14	LER	1/26/2010 17:42		1			USE	B
EXS01250121.wiff	WXXCRI	LER	1/26/2010 17:57		1			USE	C
EXS01250122.wiff	1202017308	LER	1/26/2010 18:13	942339	VARIOUS	2	LANL	USE	S
EXS01250123.wiff	1202017309	LER	1/26/2010 18:29	942339	VARIOUS	2	LANL	USE	S
EXS01250124.wiff	244916002	LER	1/26/2010 18:45	942339	10-1284	2	LANL	USE	S
EXS01250125.wiff	244916003	LER	1/26/2010 19:00	942339	10-1284	2	LANL	USE	S
EXS01250126.wiff	244917002	LER	1/26/2010 19:16	942339	10-1285	2	LANL	USE	S
EXS01250127.wiff	244917003	LER	1/26/2010 19:32	942339	10-1285	2	LANL	USE	S
EXS01250128.wiff	244917004	LER	1/26/2010 19:47	942339	10-1285	2	LANL	USE	S
EXS01250129.wiff	244923001	LER	1/26/2010 20:03	942339	10-1287	2	LANL	USE	S
EXS01250130.wiff	1202017310	LER	1/26/2010 20:19	942339	10-1287	2	LANL	USE	S
EXS01250131.wiff	1202017311	LER	1/26/2010 20:34	942339	10-1287	2	LANL	USE	S
EXS01250132.wiff	WXXCCV	LER	1/26/2010 20:50		1			USE	C
EXS01250133.wiff	XIBLK15	LER	1/26/2010 21:06		1			USE	B
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EXS01250137.wiff	244923004	LER	1/26/2010 22:09	942339	10-1287	2	LANL	USE	S
EXS01250138.wiff	244923005	LER	1/26/2010 22:24	942339	10-1287	2	LANL	USE	S
EXS01250139.wiff	244923006	LER	1/26/2010 22:40	942339	10-1287	2	LANL	USE	S
EXS01250140.wiff	244923007	LER	1/26/2010 22:56	942339	10-1287	2	LANL	USE	S
EXS01250141.wiff	244923008	LER	1/26/2010 23:12	942339	10-1287	2	LANL	USE	S

EXS01250142.wiff	244923009	LER	1/26/2010 23:27	942339	10-1287	2	LANL	USE	S
EXS01250143.wiff	244923010	LER	1/26/2010 23:43	942339	10-1287	2	LANL	USE	S
EXS01250144.wiff	WXXCCV	LER	1/26/2010 23:59			1		USE	C
EXS01250145.wiff	XIBLK16	LER	1/27/2010 0:14			1		USE	B
EXS01250146.wiff	WXXCRI	LER	1/27/2010 0:30			1		USE	C
EXS01250147.wiff	UXX100108-01.2	LER	1/27/2010 0:46	SCREEN	SOLID	2	O2SI	USE	S
EXS01250148.wiff	244599005	LER	1/27/2010 1:02	941658	10-1210	2	LANL	USE	S
EXS01250149.wiff	244599010	LER	1/27/2010 1:17	941658	10-1210	2	LANL	USE	S
EXS01250150.wiff	WXXCCV	LER	1/27/2010 1:33			1		USE	C
EXS01250151.wiff	XIBLK17	LER	1/27/2010 1:49			1		USE	B
EXS01250152.wiff	WXXCRI	LER	1/27/2010 2:04			1		USE	C

Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0125222a

Date: 30-Jan-2010

Time: 00:03:11

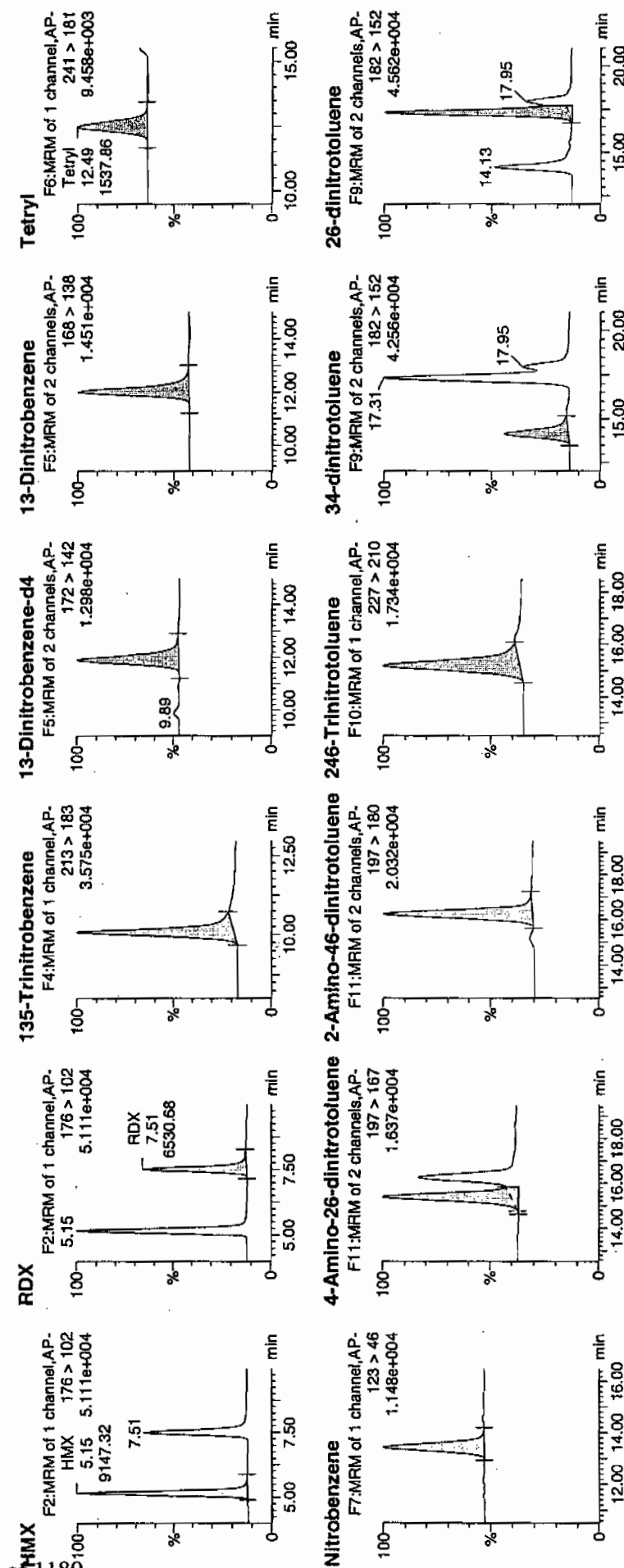
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Vial: 3:5,E

14577
1/30/10

244579001MS | 21

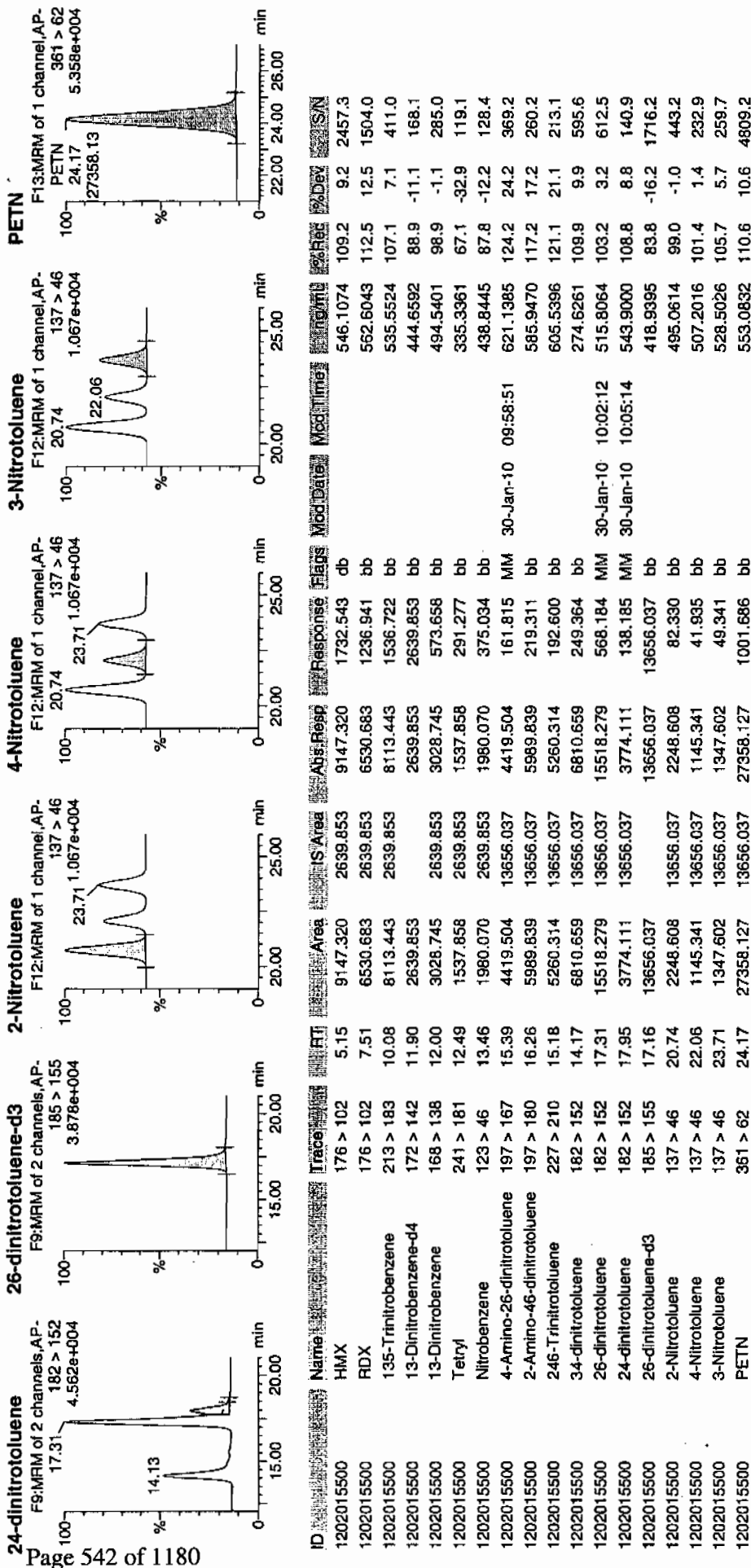
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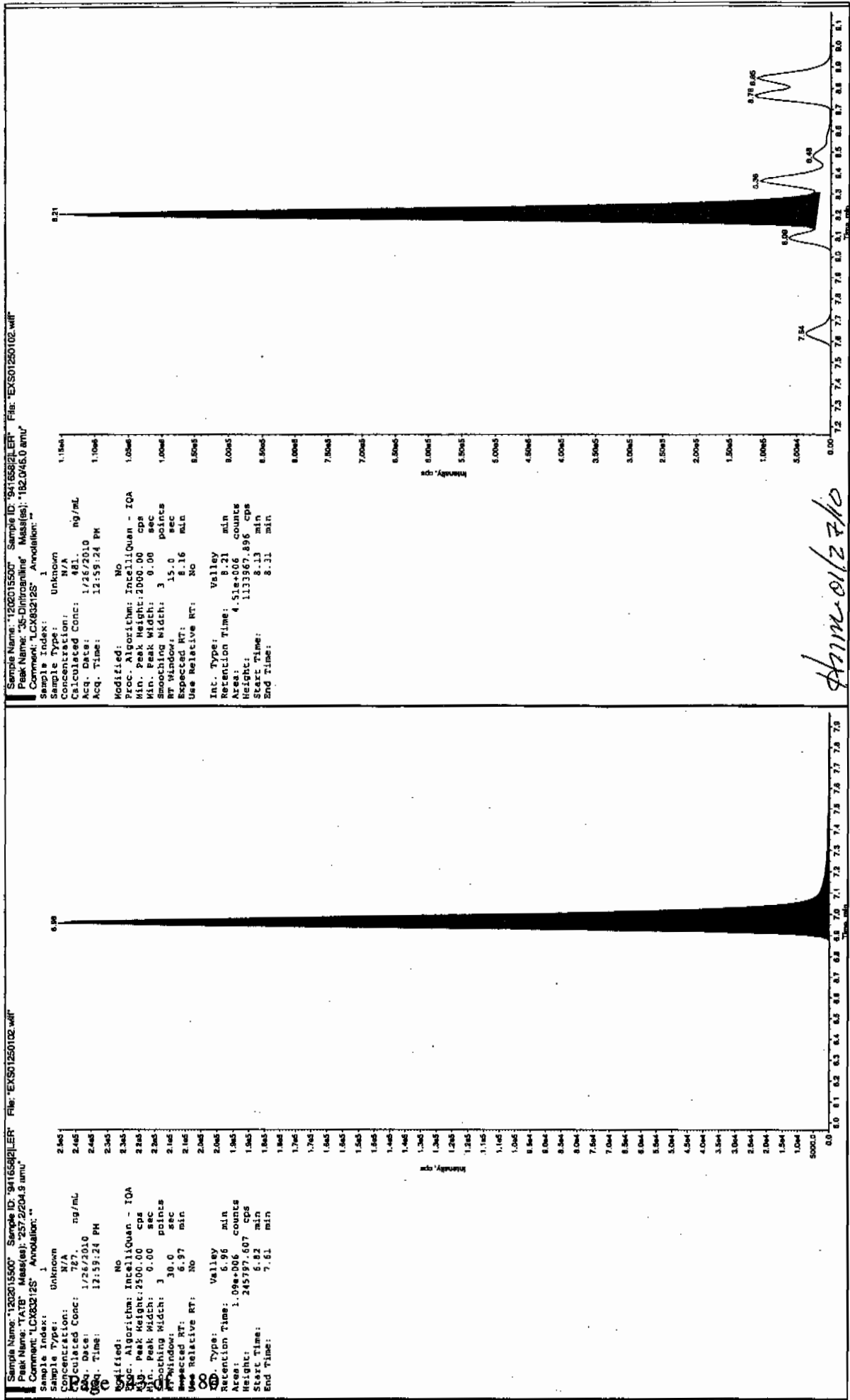
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Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



Before scan 112710

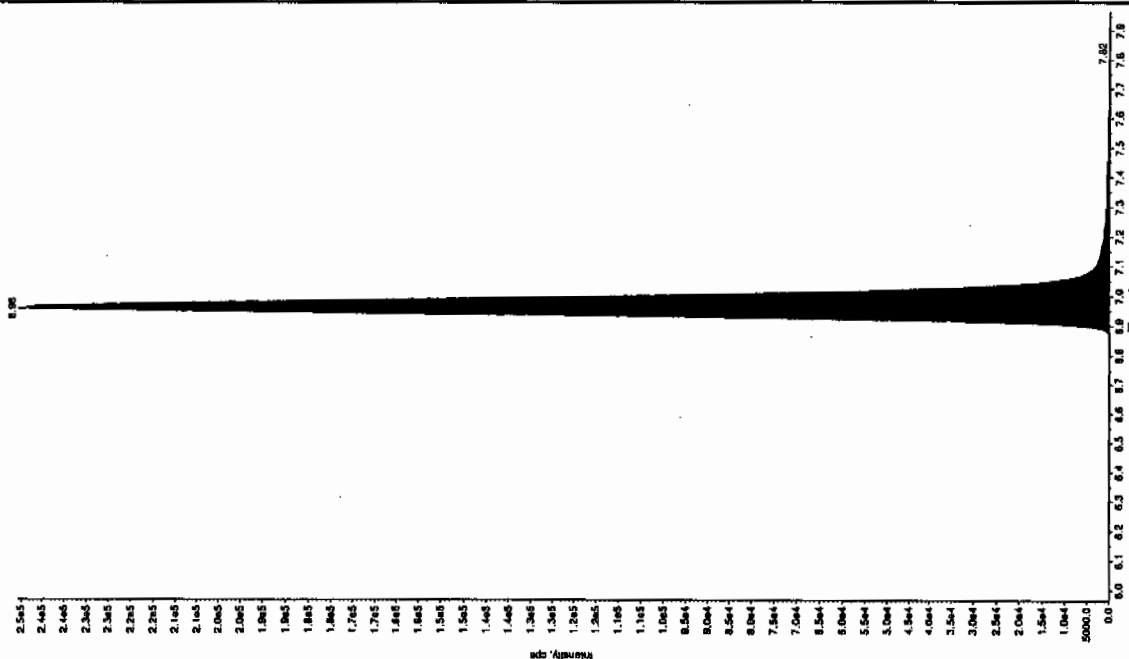


After scan 112710

after Jan 11/27/10

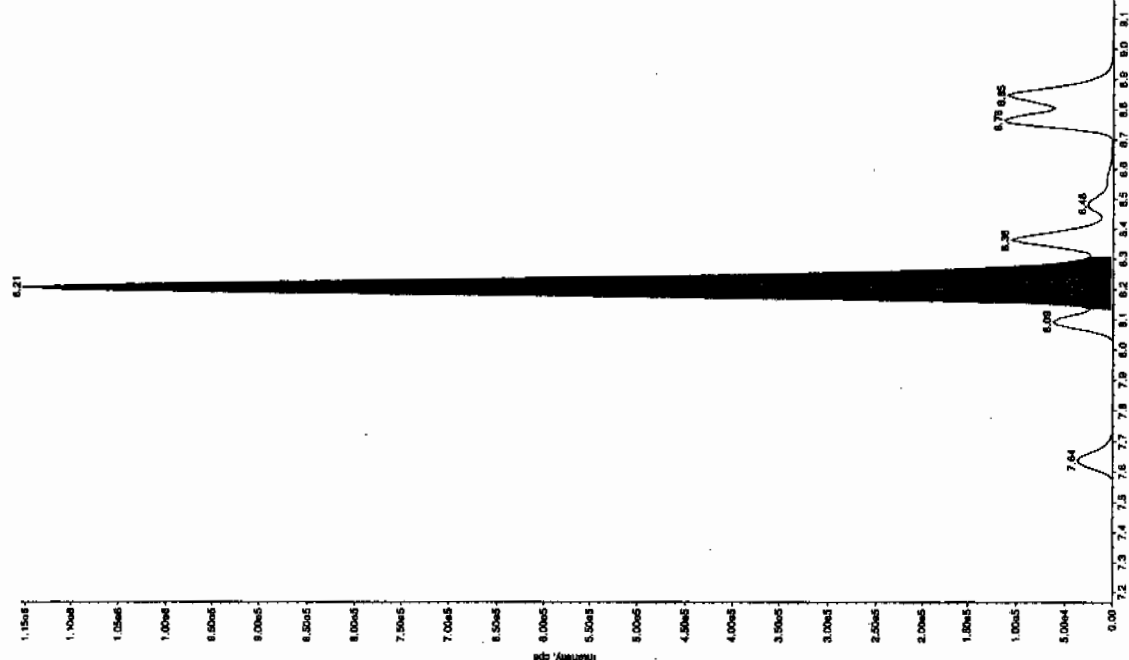
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 Peak Name: "35-Dinitrobenzyl" Mass(es): "257.2204.9 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 787 ng/mL
 Calculated Conc: 1/26/2010
 Acq. Date: 12/29/24 PM
 Acq. Time: 12/29/24 PM
 Modified: No
 Algorithm: IntelliQuan - IQA
 Peak Weight: 2500.00 cps
 Peak Width: 0.00 sec
 Peak Width: 3 points
 Peak Width: 30.0 sec
 Peak Width: 6.97 min
 Expected RT: No
 Use Relative RT: No
 Type: Valley
 Retention Time: 6.96 min
 Area: 1.09e+006 counts
 Height: 245721.607 cps
 Start Time: 6.82 min
 End Time: 7.01 min



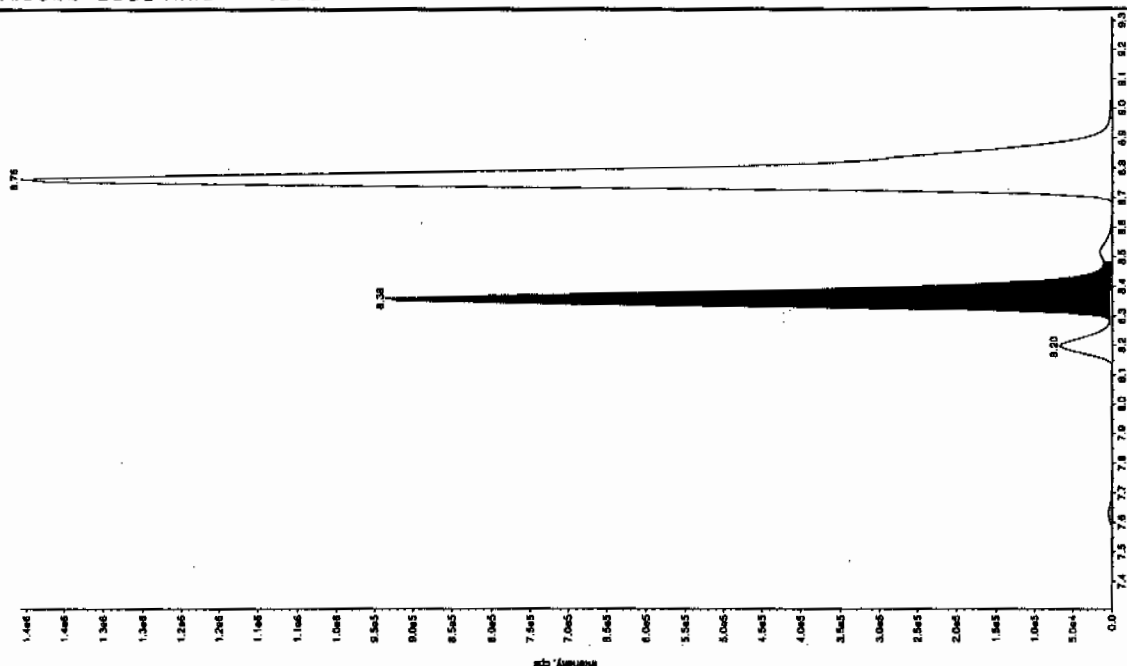
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 Peak Name: "35-Dinitrobenzyl" Mass(es): "182.046.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 502 ng/mL
 Acq. Date: 1/26/2010
 Acq. Time: 12/29/24 PM
 Modified: Yes
 Algorithm: Manual
 Peak Weight: 15.0 sec
 Peak Width: 8.16 min
 Expected RT: No
 Use Relative RT: No
 Type: Manual
 Retention Time: 8.20 min
 Area: 4.69e+006 counts
 Height: 1154781.546 cps
 Start Time: 8.13 min
 End Time: 8.31 min



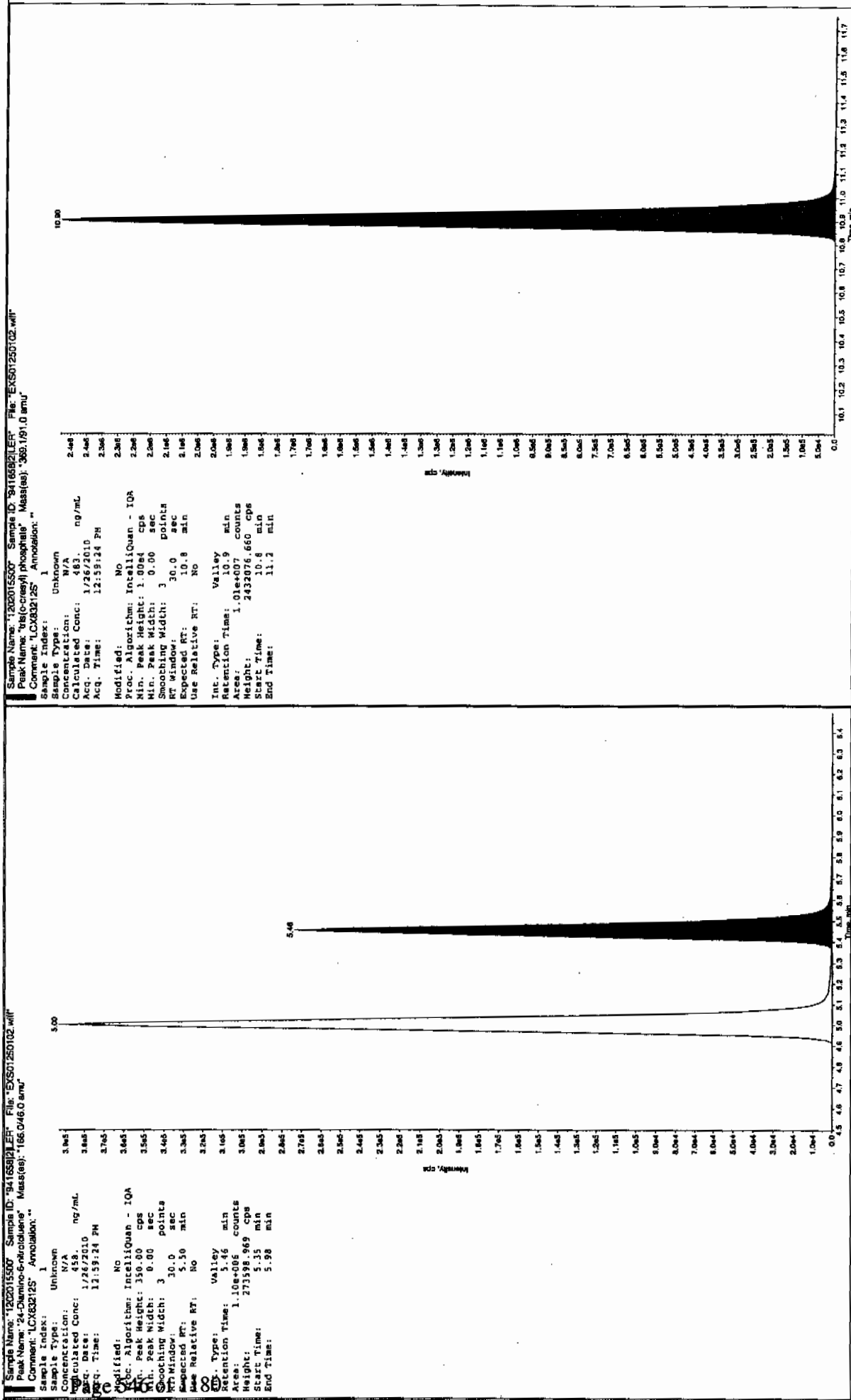
Sample Name: "1202015500" Sample ID: "94155821ER" File: "EXS01250102.wif"
 Peak Name: "26-Dimetho-4-alkololane" Mass(es): "166.046.0 amu"
 Comment: "LCX83212S" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 17272010 ng/mL
 Acq. Date: 12/27/2010
 Acq. Time: 12:59:24 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: 5.00 min
 Area: 1.59e+006 counts
 Height: 393627.686 cps
 Start Time: 4.90 min
 End Time: 5.26 min



Sample Name: "1202015500" Sample ID: "94155821ER" File: "EXS01250102.wif"
 Peak Name: "34-Dimetho-4-alkololane" Mass(es): "182.1151.9 amu"
 Comment: "LCX83212S" Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 2222010 ng/mL
 Acq. Date: 12/27/2010
 Acq. Time: 12:59:24 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 15.0 sec
 Expected RT: 8.31 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.36 min
 Area: 3.46e+006 counts
 Height: 92237.122 cps
 Start Time: 8.28 min
 End Time: 8.48 min



Quantify Sample Report
GEL Laboratories, LLC / Analyst: Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\12510expA5.qld, Time: Sat Jan 30 10:06:54 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0125223a

Date: 30-Jan-2010

Time: 00:32:40

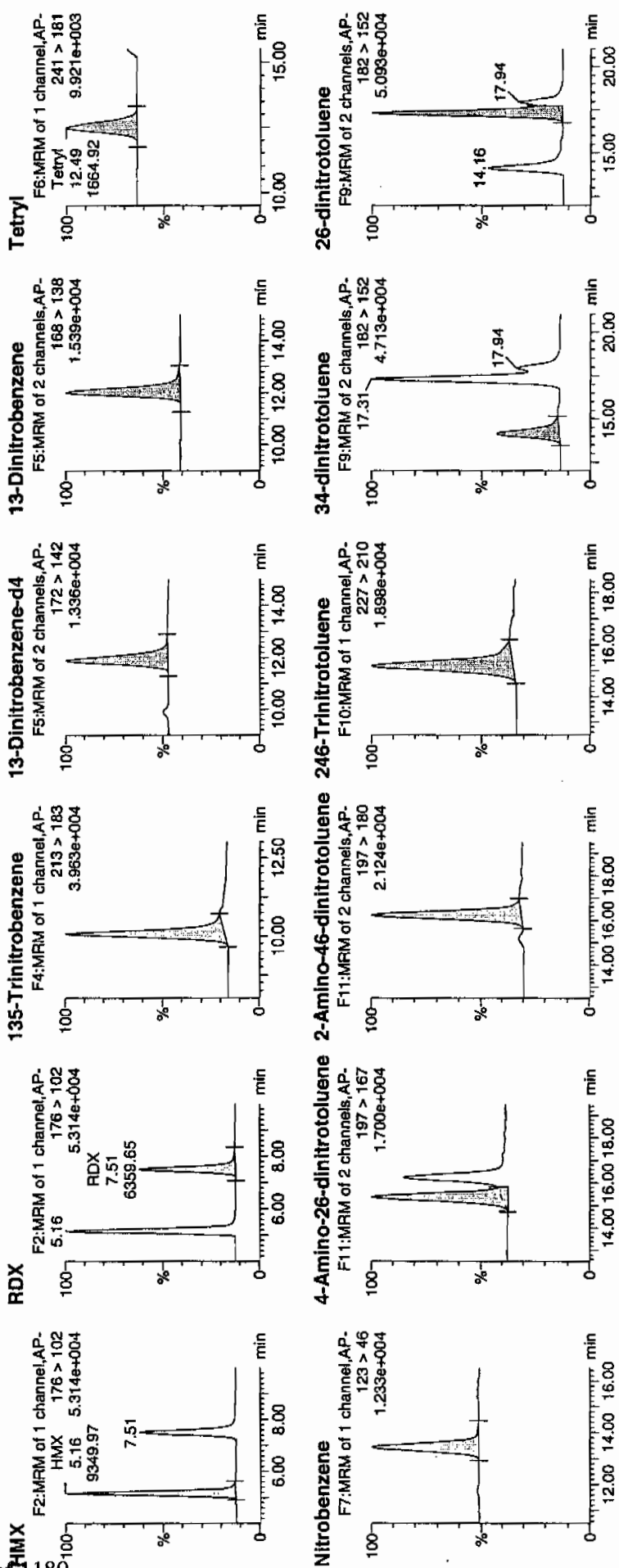
ID: 1202015501

Val: 3:5,F

24459001 MSB 121

WADW 941658 / SOLV

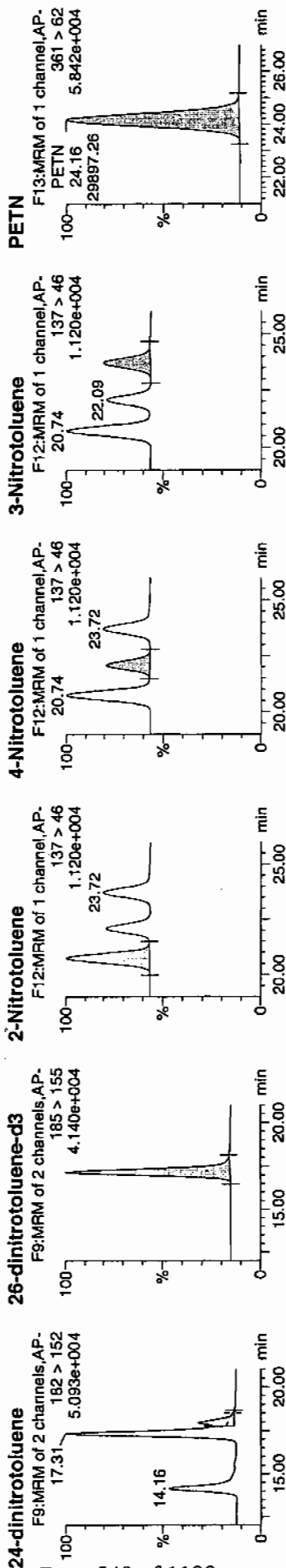
MSB 1/30/10



MSB 6/13/10

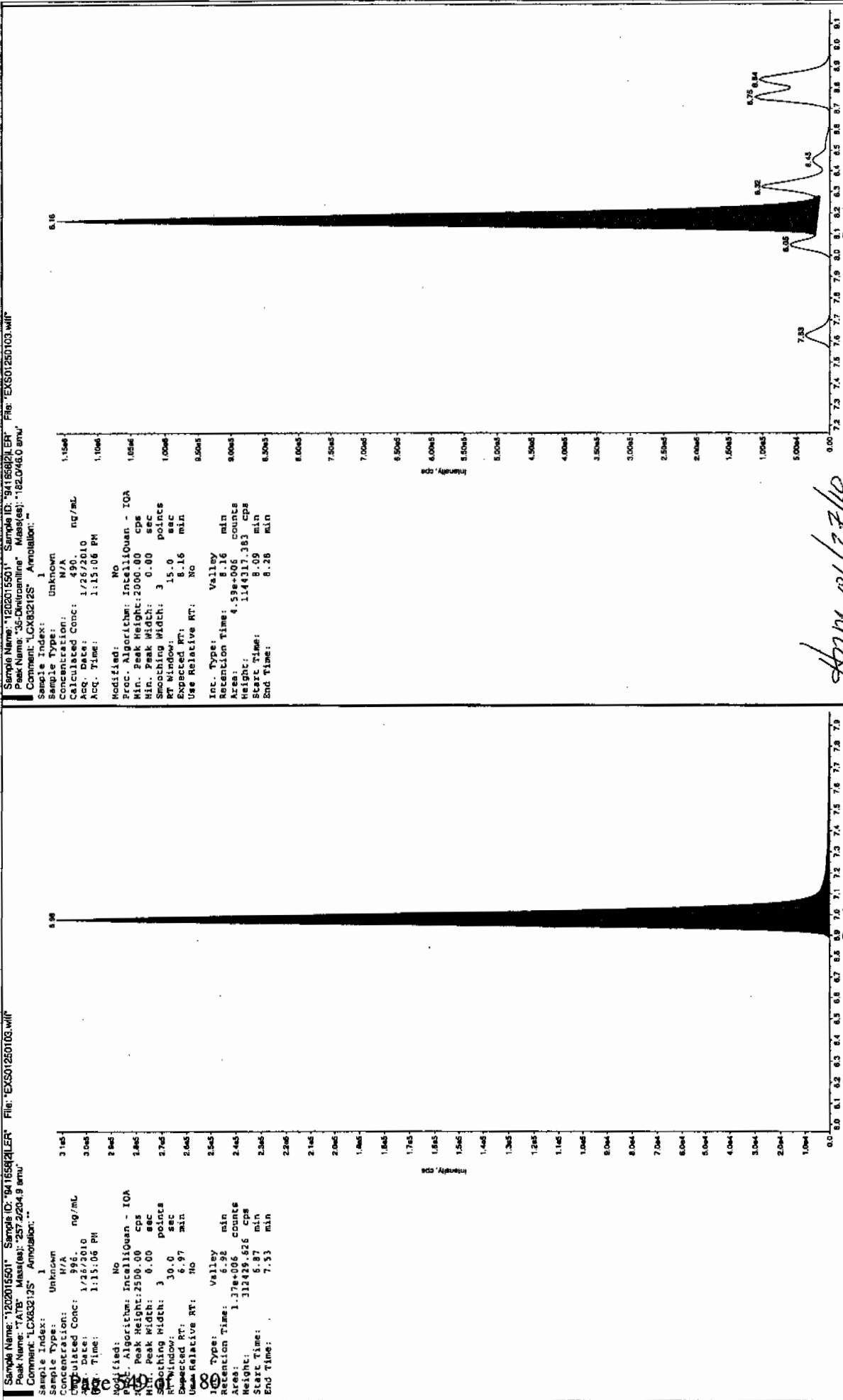
Quantify Sample Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\012510expA5.qld, Time: Sat Jan 30 10:06:54 2010



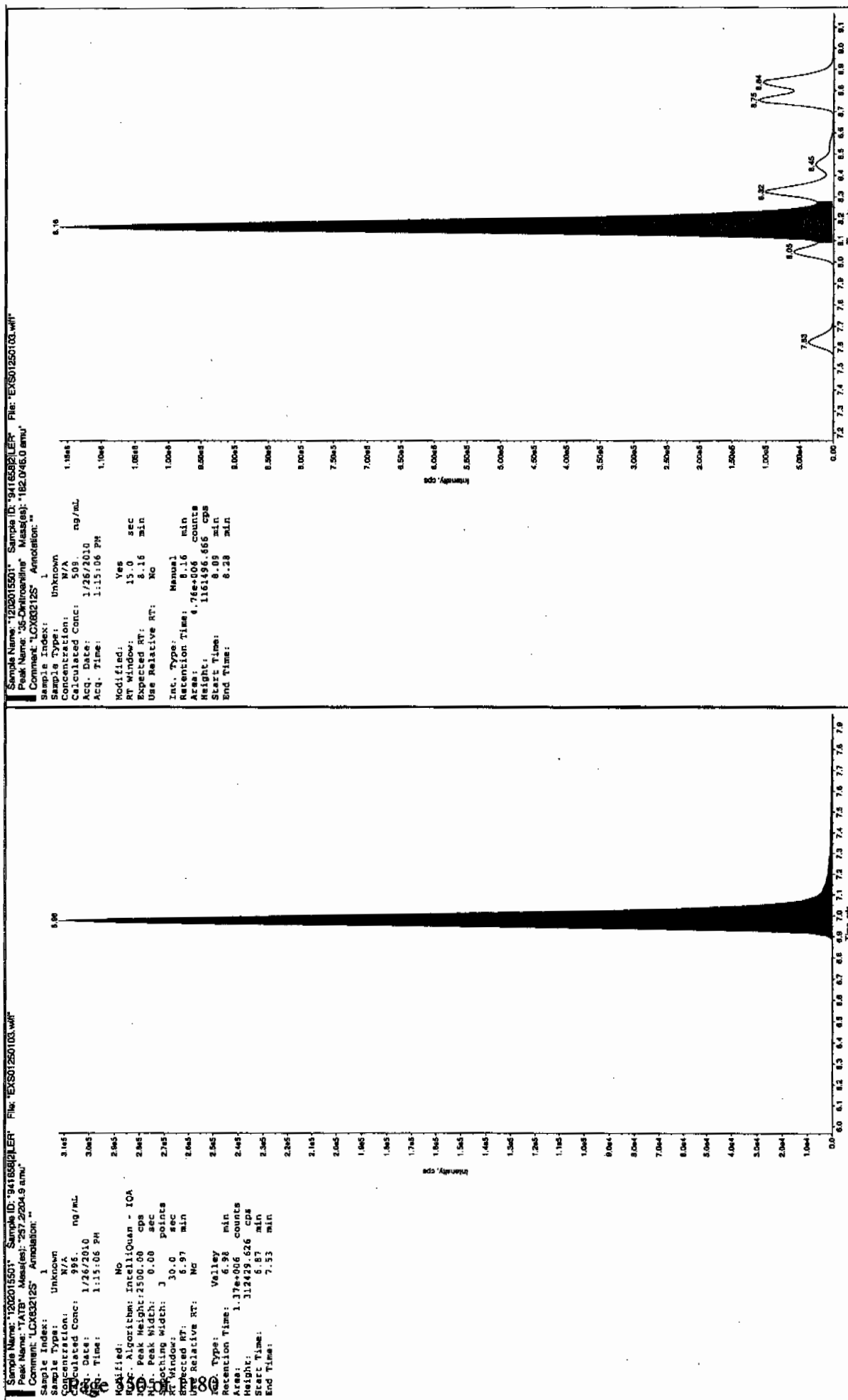
ID	Name	Trace	RT	Area	IS Area	Abs. Resp	Response	Flags	Mod Date	Mod Time	Int. Conc	% Rec	% Dev	SN
1202015501	HMX	176 > 102	5.16	9349.974	2702.086	9349.974	1730.140	bb			545.3498	109.1	9.1	1045.1
1202015501	RDX	176 > 102	7.51	6359.647	2702.086	6359.647	1176.803	bb			535.2516	107.1	7.1	592.9
1202015501	135-Trinitrobenzene	213 > 183	10.07	9054.854	2702.086	9054.854	1675.530	bb			584.8284	117.0	17.0	494.8
1202015501	13-Dinitrobenzene-d4	172 > 142	11.90	2702.086		2702.086	2702.086	bb			455.1418	91.0	-9.0	199.5
1202015501	13-Dinitrobenzene	168 > 138	12.00	3344.426	2702.086	3344.426	618.860	bb			533.5080	106.7	6.7	233.9
1202015501	Tetryl	241 > 181	12.49	1664.918	2702.086	1664.918	308.080	bb			354.6806	70.9	-29.1	245.7
1202015501	Nitrobenzene	123 > 46	13.45	2236.006	2702.086	2236.006	413.756	bb			484.1542	96.8	-3.2	150.1
1202015501	4-Amino-26-dinitrotoluene	197 > 167	15.38	4603.471	15164.872	4603.471	151.781	MM	30-Jan-10	09:59:01	582.6212	116.5	16.5	333.5
1202015501	2-Amino-46-dinitrotoluene	197 > 180	16.25	6173.954	15164.872	6173.954	203.561	bb			543.8668	108.8	8.8	533.6
1202015501	246-Trinitrotoluene	227 > 210	15.20	6003.207	15164.872	6003.207	197.931	bb			622.3005	124.5	24.5	808.7
1202015501	34-dinitrotoluene	182 > 152	14.16	7403.660	15164.872	7403.660	244.106	bb			288.8346	107.5	7.5	331.9
1202015501	26-dinitrotoluene	182 > 152	17.31	16952.838	15164.872	16952.838	558.951	MM	30-Jan-10	10:02:20	507.4246	101.5	1.5	672.3
1202015501	24-dinitrotoluene	182 > 152	17.94	3667.481	15164.872	3667.481	120.920	MM	30-Jan-10	10:04:46	475.9465	95.2	-4.8	143.6
1202015501	26-dinitrotoluene-d3	185 > 155	17.16	15164.872		15164.872	15164.872	bb			465.2275	93.0	-7.0	972.4
1202015501	2-Nitrotoluene	137 > 46	20.74	2424.714	15164.872	2424.714	79.945	bb			480.7196	96.1	-3.9	217.5
1202015501	4-Nitrotoluene	137 > 46	22.09	1194.392	15164.872	1194.392	39.380	bb			476.2978	95.3	-4.7	111.8
1202015501	3-Nitrotoluene	137 > 46	23.72	1385.692	15164.872	1385.692	45.688	bb			489.3709	97.9	-2.1	119.9
1202015501	PETN	361 > 62	24.16	29897.258	15164.872	29897.258	985.741	bb			542.1324	108.4	8.4	7491.1

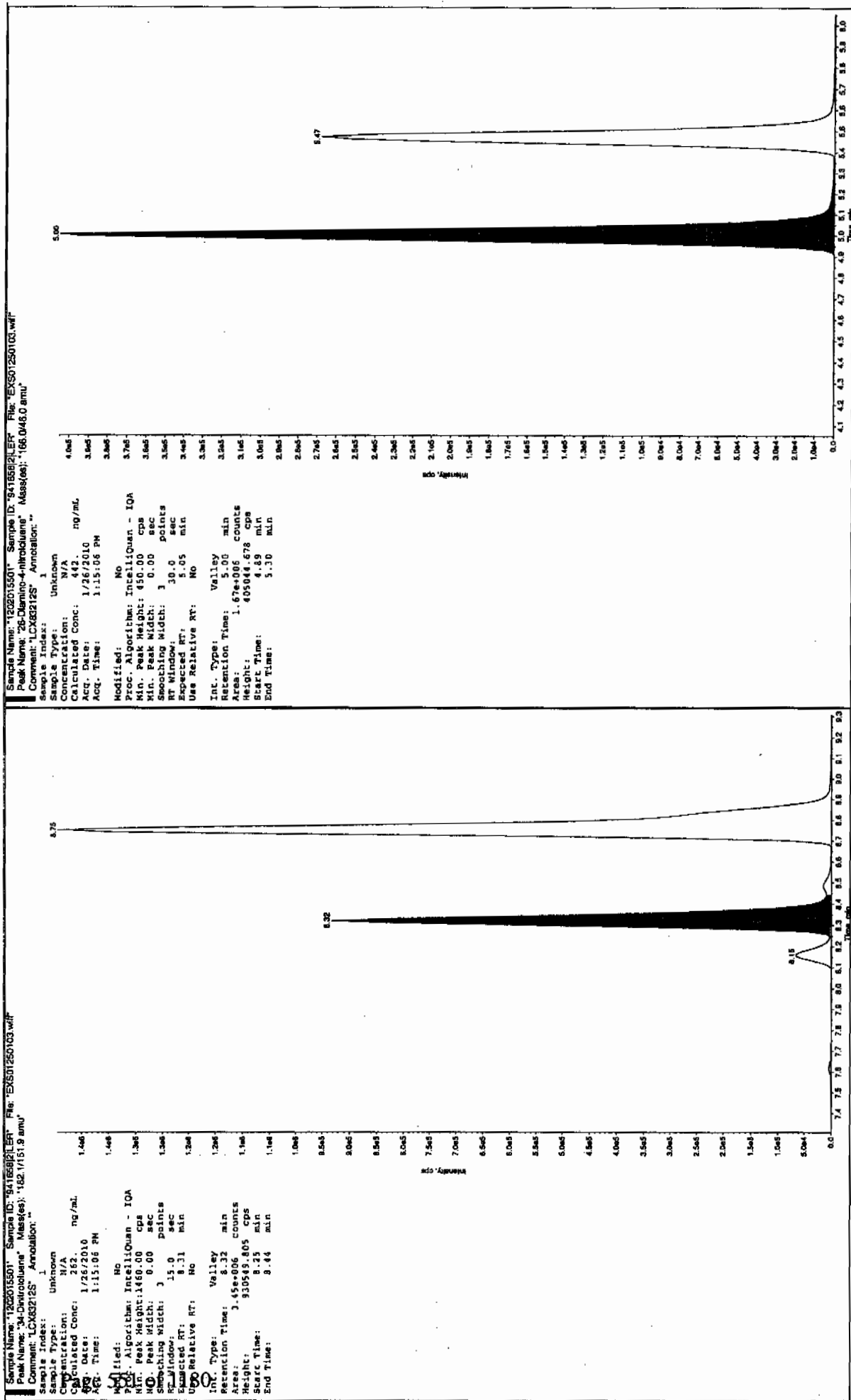
Before Jan 16/10

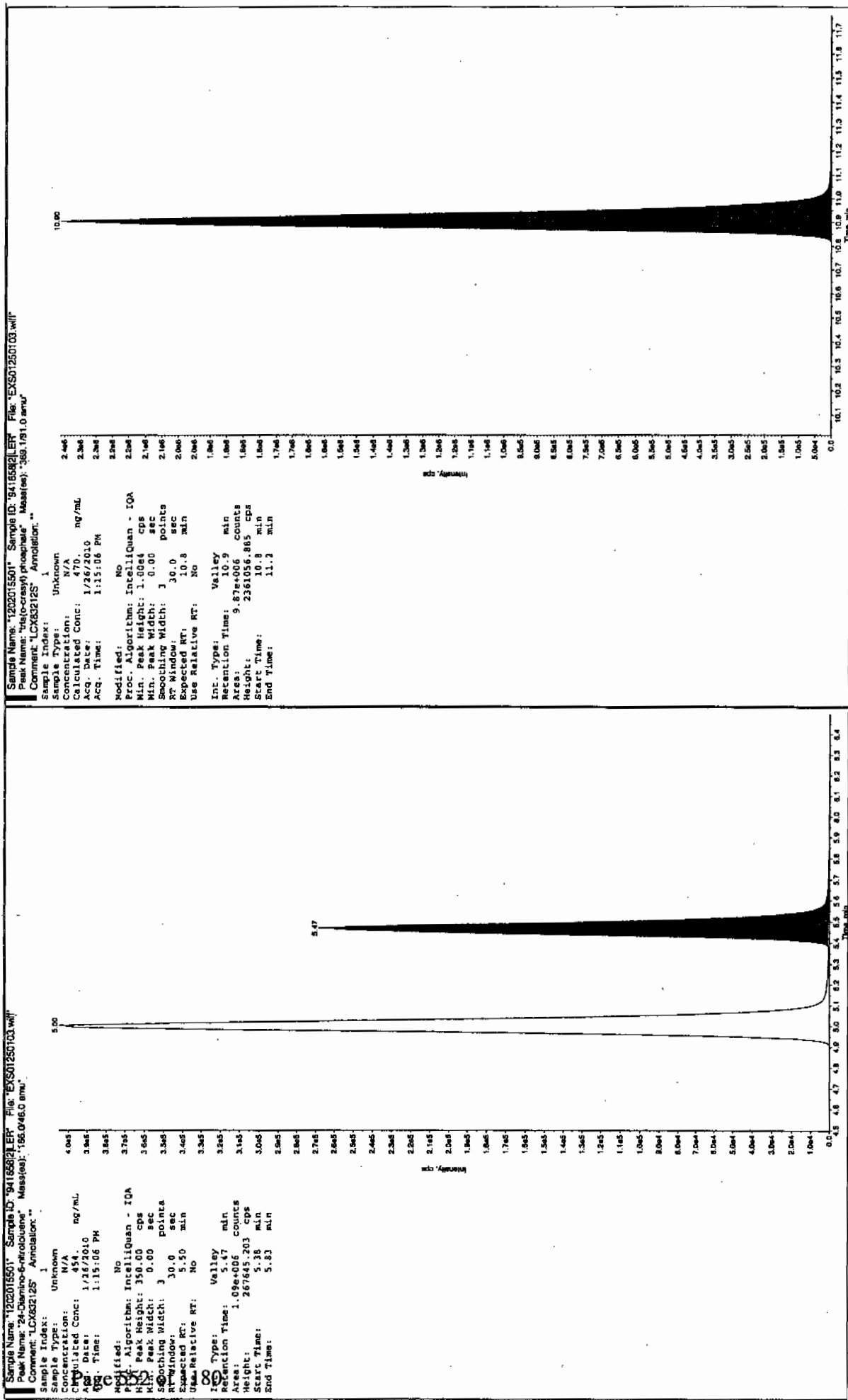


After Jan 16/10

after 2an 11/27/10







GEL Laboratories LLC
Form GEL-DER

DER Report No.: 785184

Revision No.: 1

DATA EXCEPTION REPORT

Mo.Day Yr. 30-JAN-10	Division: Federal	Quality Criteria: Specifications	Type: Process
Instrument Type: LC-MS/MS	Test / Method: SW846 8321A Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 941658	Sample Numbers: 1202015501		
Potentially affected work order(s)(SDG): 244597(10-1209),244599(10-1210) Application Issues: Failed Recovery for MSD/PSD			
Specification and Requirements		DER Disposition:	
Exception Description: 1. The Matrix Spike Duplicate (1202015501) did not meet spike recovery limits for TATB at 199%. The recovery limits are 44-166%.		1. Since the Laboratory Control Sample and the Matrix Spike met acceptance limits for TATB, the data are reported with the appropriate DER. The discrepancy is noted in the case narrative.	

Originator's Name:
Michael Penny 30-JAN-10

Data Validator/Group Leader:
Herbert Maier 31-JAN-10

Metals Analysis

Case Narrative

**Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1209**

Sample Analysis

Sample ID	Client ID
244597001	RE12-10-7722
1202015701	Method Blank (MB) ICP
1202015706	Laboratory Control Sample (LCS)
1202015703	244597001(RE12-10-7722L) Serial Dilution (SD)
1202015702	244597001(RE12-10-7722D) Sample Duplicate (DUP)
1202015704	244597001(RE12-10-7722S) Matrix Spike (MS)
1202015705	244597001(RE12-10-7722SD) Matrix Spike Duplicate (MSD)
1202015711	Method Blank (MB) ICP-MS
1202015716	Laboratory Control Sample (LCS)
1202015713	244597001(RE12-10-7722L) Serial Dilution (SD)
1202015712	244597001(RE12-10-7722D) Sample Duplicate (DUP)
1202015714	244597001(RE12-10-7722S) Matrix Spike (MS)
1202015715	244597001(RE12-10-7722SD) Matrix Spike Duplicate (MSD)
1202019739	Method Blank (MB) CVAA
1202019740	Laboratory Control Sample (LCS)
1202019743	244622001(RE46-10-10052L) Serial Dilution (SD)
1202019741	244622001(RE46-10-10052D) Sample Duplicate (DUP)
1202019742	244622001(RE46-10-10052S) Matrix Spike (MS)
1202019744	244622001(RE46-10-10052SD) Matrix Spike Duplicate (MSD)

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

Method/Analysis Information

Analytical Batch: 941739, 941743 and 943299
Prep Batch : 941736, 941742 and 943296
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 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 6100E inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 360+/-7 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-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 spike recoveries met the acceptance limits.

Quality Control (QC) Sample Statement

The following samples were selected as the quality control (QC) samples for this SDG: 244597001 and 244622001.

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 barium, calcium, magnesium, manganese and potassium, as indicated by the "N" qualifiers.

Matrix Spike Duplicate (MSD) Recovery Statement

The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes with the exception of magnesium and potassium, as indicated by the "N" qualifiers.

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent difference (RPD) obtained from the designated matrix spike duplicate (MSD) is evaluated based on acceptance criteria of 20%. The RPD between qualifying elements results in the MS and MSD were within the acceptance limits of 20% with the exception of calcium, magnesium and manganese, as indicated by the "*" qualifiers.

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 \pm RL is used to evaluate the DUP results. All applicable analytes met these requirements with the exception of barium, calcium, magnesium, manganese, potassium, beryllium and uranium, 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).

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: 782034 and 784661. A copy of each DER is included in the Miscellaneous Data section of this package.

Additional Comments

Additional comments were not required for this SDG.

Certification Statement

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

Review Validation:

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

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

Reviewer: Kristen Hanson Date: 2/4/10

Sample Data Summary

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1209

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 244597001

BASIS: Dry Weight

DATE COLLECTED 07-JAN-10

CLIENT ID: RE12-10-7722

LEVEL: Low

DATE RECEIVED 13-JAN-10

MATRIX: SOIL

%SOLIDS: 88

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2230000	ug/Kg		7690	22600	22600	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-36-0	Antimony	1130	ug/Kg	U	373	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-38-2	Arsenic	0.774	mg/kg	J	0.223	1.11	1.11	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-39-3	Barium	19600	ug/Kg	*N	113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-41-7	Beryllium	0.197	mg/kg	*	0.0223	0.111	0.111	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-43-9	Cadmium	566	ug/Kg	U	113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-70-2	Calcium	526000	ug/Kg	*N	9050	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-47-3	Chromium	2330	ug/Kg		170	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-48-4	Cobalt	888	ug/Kg		170	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-50-8	Copper	2120	ug/Kg		339	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-89-6	Iron	8080000	ug/Kg		9050	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-92-1	Lead	6710	ug/Kg		283	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-95-4	Magnesium	320000	ug/Kg	*N	9620	33900	33900	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-96-5	Manganese	145000	ug/Kg	*N	226	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739
7439-97-6	Mercury	4.74	ug/kg	J	4.61	13.6	13.6	1	AV	JXLI	01/28/10 11:44	012810S1-3	943299
7440-02-0	Nickel	1.76	mg/kg		0.111	0.446	0.446	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-09-7	Potassium	321000	ug/Kg	*N	7240	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7782-49-2	Selenium	1.11	mg/kg	U	0.557	1.11	1.11	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-22-4	Silver	592	ug/Kg		113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-23-5	Sodium	52900	ug/Kg		7920	28300	28300	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-28-0	Thallium	0.0849	mg/kg	J	0.0668	0.223	0.223	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-61-1	Uranium	2.08	mg/kg	*	0.0147	0.0446	0.0446	2	MS	SKJ	01/20/10 20:23	100120-2	941743
7440-62-2	Vanadium	7520	ug/Kg		113	566	566	1	P	HSC	01/28/10 12:34	012810-1	941739
7440-66-6	Zinc	26300	ug/Kg		373	1130	1130	1	P	HSC	01/28/10 12:34	012810-1	941739

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
941739	941736	SW846 3050B	0.505	g	50	mL	01/20/10	AXG2
941743	941742	SW846 3050B	0.513	g	50	mL	01/20/10	AXG2
943299	943296	SW846 7471A Prep	0.506	g	30	mL	01/27/10	TXB3

Quality Control Summary

METALS

-2a-

Initial and Continuing Calibration Verification

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA3

Sample ID	Analyte	Result	Units	True Value	Units	% Recovery	Acceptance Window (%R)	M	Analysis Date/Time	Run Number
ICV01										
	Arsenic	48.7	ug/L	50	ug/L	97.4	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Beryllium	51.3	ug/L	50	ug/L	102.6	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Nickel	51.9	ug/L	50	ug/L	103.7	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Selenium	48.3	ug/L	50	ug/L	96.6	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Thallium	48	ug/L	50	ug/L	96.1	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Uranium	51.6	ug/L	50	ug/L	103.2	90.0 - 110.0	MS	20-JAN-10 19:08	100120-2
	Mercury	5.1	ug/L	5	ug/L	101.9	90.0 - 110.0	AV	28-JAN-10 09:05	012810S1-3
	Aluminum	4900	ug/L	5000	ug/L	98	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Antimony	494	ug/L	500	ug/L	98.8	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Barium	480	ug/L	500	ug/L	96	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Cadmium	459	ug/L	500	ug/L	91.8	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Calcium	4940	ug/L	5000	ug/L	98.9	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Chromium	459	ug/L	500	ug/L	91.9	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Cobalt	473	ug/L	500	ug/L	94.6	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Copper	477	ug/L	500	ug/L	95.5	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Iron	5120	ug/L	5000	ug/L	102.4	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Lead	475	ug/L	500	ug/L	95	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Magnesium	5340	ug/L	5000	ug/L	106.9	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Manganese	483	ug/L	500	ug/L	96.6	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Potassium	2430	ug/L	2500	ug/L	97.2	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Silver	250	ug/L	250	ug/L	99.8	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Sodium	2380	ug/L	2500	ug/L	95.4	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Vanadium	485	ug/L	500	ug/L	97.1	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
	Zinc	475	ug/L	500	ug/L	95	90.0 - 110.0	P	28-JAN-10 10:35	012810-1
CCV01										
	Arsenic	48	ug/L	50	ug/L	96	90.0 - 110.0	MS	20-JAN-10 19:39	100120-2
	Beryllium	49.3	ug/L	50	ug/L	98.5	90.0 - 110.0	MS	20-JAN-10 19:39	100120-2
	Nickel	52.2	ug/L	50	ug/L	104.3	90.0 - 110.0	MS	20-JAN-10 19:39	100120-2
	Selenium	47.8	ug/L	50	ug/L	95.6	90.0 - 110.0	MS	20-JAN-10 19:39	100120-2
	Thallium	47.3	ug/L	50	ug/L	94.6	90.0 - 110.0	MS	20-JAN-10 19:39	100120-2

METALS

-2a-

Initial and Continuing Calibration Verification

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Uranium	51.3	ug/L	50	ug/L	102.5	90.0 – 110.0	MS	20-JAN-10 19:39	100120-2
	Mercury	5.06	ug/L	5	ug/L	101.2	80.0 – 120.0	AV	28-JAN-10 09:10	012810S1-3
	Aluminum	4880	ug/L	5000	ug/L	97.6	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Antimony	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Barium	467	ug/L	500	ug/L	93.4	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Cadmium	469	ug/L	500	ug/L	93.9	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Calcium	5020	ug/L	5000	ug/L	100.4	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Chromium	466	ug/L	500	ug/L	93.3	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Cobalt	466	ug/L	500	ug/L	93.2	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Copper	460	ug/L	500	ug/L	92.1	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Iron	5120	ug/L	5000	ug/L	102.5	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Lead	472	ug/L	500	ug/L	94.3	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Magnesium	5310	ug/L	5000	ug/L	106.2	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Manganese	467	ug/L	500	ug/L	93.5	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Potassium	5090	ug/L	5000	ug/L	101.8	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Silver	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Sodium	9570	ug/L	10000	ug/L	95.7	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Vanadium	470	ug/L	500	ug/L	94	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
	Zinc	466	ug/L	500	ug/L	93.3	90.0 – 110.0	P	28-JAN-10 11:21	012810-1
CCV02	Arsenic	50.5	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Beryllium	50.6	ug/L	50	ug/L	101.3	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Nickel	52.7	ug/L	50	ug/L	105.5	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Selenium	49.5	ug/L	50	ug/L	99.1	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Thallium	48.4	ug/L	50	ug/L	96.8	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Uranium	51.6	ug/L	50	ug/L	103.1	90.0 – 110.0	MS	20-JAN-10 19:58	100120-2
	Mercury	5.01	ug/L	5	ug/L	100.2	80.0 – 120.0	AV	28-JAN-10 09:30	012810S1-3
	Aluminum	4790	ug/L	5000	ug/L	95.8	90.0 – 110.0	P	28-JAN-10 11:58	012810-1
	Antimony	490	ug/L	500	ug/L	98	90.0 – 110.0	P	28-JAN-10 11:58	012810-1
	Barium	471	ug/L	500	ug/L	94.2	90.0 – 110.0	P	28-JAN-10 11:58	012810-1

METALS

-2a-

Initial and Continuing Calibration Verification

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Cadmium	474	ug/L	500	ug/L	94.8	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Calcium	4940	ug/L	5000	ug/L	98.7	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Chromium	471	ug/L	500	ug/L	94.2	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Cobalt	471	ug/L	500	ug/L	94.2	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Copper	465	ug/L	500	ug/L	93	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Iron	5200	ug/L	5000	ug/L	104	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Lead	471	ug/L	500	ug/L	94.2	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Magnesium	5180	ug/L	5000	ug/L	103.7	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Manganese	471	ug/L	500	ug/L	94.1	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Potassium	4930	ug/L	5000	ug/L	98.6	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Silver	485	ug/L	500	ug/L	97	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Sodium	10500	ug/L	10000	ug/L	104.9	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Vanadium	475	ug/L	500	ug/L	95	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
	Zinc	470	ug/L	500	ug/L	94	90.0 - 110.0	P	28-JAN-10 11:58	012810-1
CCV03	Arsenic	48.4	ug/L	50	ug/L	96.8	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Beryllium	50.4	ug/L	50	ug/L	100.9	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Nickel	52.3	ug/L	50	ug/L	104.7	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Selenium	47.9	ug/L	50	ug/L	95.8	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Thallium	47.4	ug/L	50	ug/L	94.7	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Uranium	50	ug/L	50	ug/L	99.9	90.0 - 110.0	MS	20-JAN-10 20:54	100120-2
	Mercury	5.11	ug/L	5	ug/L	102.2	80.0 - 120.0	AV	28-JAN-10 09:50	012810S1-3
	Aluminum	4850	ug/L	5000	ug/L	96.9	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Antimony	493	ug/L	500	ug/L	98.7	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Barium	474	ug/L	500	ug/L	94.7	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Cadmium	475	ug/L	500	ug/L	95	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Calcium	5000	ug/L	5000	ug/L	100.1	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Chromium	471	ug/L	500	ug/L	94.1	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Cobalt	474	ug/L	500	ug/L	94.9	90.0 - 110.0	P	28-JAN-10 13:09	012810-1
	Copper	469	ug/L	500	ug/L	93.9	90.0 - 110.0	P	28-JAN-10 13:09	012810-1

METALS

-2a-

Initial and Continuing Calibration Verification

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS4,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Iron	5190	ug/L	5000	ug/L	103.8	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Lead	472	ug/L	500	ug/L	94.4	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Magnesium	5270	ug/L	5000	ug/L	105.3	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Manganese	472	ug/L	500	ug/L	94.5	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Potassium	5000	ug/L	5000	ug/L	100	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Silver	486	ug/L	500	ug/L	97.3	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Sodium	9910	ug/L	10000	ug/L	99.1	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Vanadium	475	ug/L	500	ug/L	95	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
	Zinc	470	ug/L	500	ug/L	93.9	90.0 – 110.0	P	28-JAN-10 13:09	012810-1
CCV04										
	Mercury	5.17	ug/L	5	ug/L	103.5	80.0 – 120.0	AV	28-JAN-10 10:10	012810S1-3
CCV05										
	Mercury	5.17	ug/L	5	ug/L	103.5	80.0 – 120.0	AV	28-JAN-10 10:30	012810S1-3
CCV06										
	Mercury	5.08	ug/L	5	ug/L	101.6	80.0 – 120.0	AV	28-JAN-10 10:50	012810S1-3
CCV07										
	Mercury	5.05	ug/L	5	ug/L	100.9	80.0 – 120.0	AV	28-JAN-10 11:10	012810S1-3
CCV08										
	Mercury	4.99	ug/L	5	ug/L	99.9	80.0 – 120.0	AV	28-JAN-10 11:30	012810S1-3
CCV09										
	Mercury	5.02	ug/L	5	ug/L	100.4	80.0 – 120.0	AV	28-JAN-10 11:51	012810S1-3
CCV10										
	Mercury	5	ug/L	5	ug/L	100	80.0 – 120.0	AV	28-JAN-10 12:11	012810S1-3

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS4,OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Nickel	2.2	ug/L	2	ug/L	110.1	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Thallium	1.03	ug/L	1	ug/L	103	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Arsenic	6.26	ug/L	5	ug/L	125.2	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Beryllium	.456	ug/L	.5	ug/L	91.2	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Selenium	5	ug/L	5	ug/L	100.1	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Uranium	.214	ug/L	.2	ug/L	107	70.0 - 130.0	MS	20-JAN-10 19:21	100120-2
	Mercury	.159	ug/L	.2	ug/L	79.5	70.0 - 130.0	AV	28-JAN-10 09:08	012810S1-3
PQL01										
	Aluminum	191	ug/L	200	ug/L	95.7	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Iron	100	ug/L	100	ug/L	100.2	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Lead	9.52	ug/L	10	ug/L	95.2	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Magnesium	236	ug/L	300	ug/L	78.8	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Manganese	9.82	ug/L	10	ug/L	98.2	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Potassium	166	ug/L	150	ug/L	110.7	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Silver	5.1	ug/L	5	ug/L	102.1	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Sodium	269	ug/L	300	ug/L	89.8	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Antimony	8.43	ug/L	10	ug/L	84.3	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Barium	4.84	ug/L	5	ug/L	96.8	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Cadmium	4.69	ug/L	5	ug/L	93.8	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Chromium	4.82	ug/L	5	ug/L	96.5	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Cobalt	4.74	ug/L	5	ug/L	94.8	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Copper	8.93	ug/L	10	ug/L	89.3	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Vanadium	5.01	ug/L	5	ug/L	100.1	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Zinc	9.34	ug/L	10	ug/L	93.4	70.0 - 130.0	P	28-JAN-10 10:49	012810-1
	Calcium	190	ug/L	200	ug/L	95.2	70.0 - 130.0	P	28-JAN-10 10:49	012810-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
ICB01										
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	20-JAN-10 19:15	100120-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	20-JAN-10 19:15	100120-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	20-JAN-10 19:15	100120-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	20-JAN-10 19:15	100120-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	20-JAN-10 19:15	100120-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	20-JAN-10 19:15	100120-2
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 09:06	012810S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	28-JAN-10 10:42	012810-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 10:42	012810-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 10:42	012810-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	28-JAN-10 10:42	012810-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 10:42	012810-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	28-JAN-10 10:42	012810-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	28-JAN-10 10:42	012810-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	28-JAN-10 10:42	012810-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	28-JAN-10 10:42	012810-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	28-JAN-10 10:42	012810-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 10:42	012810-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 10:42	012810-1
CCB01										
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	20-JAN-10 19:46	100120-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	20-JAN-10 19:46	100120-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	20-JAN-10 19:46	100120-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	20-JAN-10 19:46	100120-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	20-JAN-10 19:46	100120-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	20-JAN-10 19:46	100120-2

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 09:11	012810S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	28-JAN-10 11:28	012810-1
	Antimony	8.75	+/-10	J	3.3	10.0	SOL	P	28-JAN-10 11:28	012810-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 11:28	012810-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	28-JAN-10 11:28	012810-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 11:28	012810-1
	Lead	3.82	+/-10	J	2.5	10.0	SOL	P	28-JAN-10 11:28	012810-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	28-JAN-10 11:28	012810-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	28-JAN-10 11:28	012810-1
	Potassium	90.8	+/-250	J	64.0	250	SOL	P	28-JAN-10 11:28	012810-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	28-JAN-10 11:28	012810-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 11:28	012810-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 11:28	012810-1
CCB02	Arsenic	-1.15	+/-5	J	1.0	5.0	SOL	MS	20-JAN-10 20:04	100120-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	20-JAN-10 20:04	100120-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	20-JAN-10 20:04	100120-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	20-JAN-10 20:04	100120-2
	Thallium	0.47	+/-1	J	0.3	1.0	SOL	MS	20-JAN-10 20:04	100120-2
	Uranium	0.18	+/-2	J	0.066	0.2	SOL	MS	20-JAN-10 20:04	100120-2
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 09:31	012810S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	28-JAN-10 12:05	012810-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 12:05	012810-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 12:05	012810-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	28-JAN-10 12:05	012810-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 12:05	012810-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	28-JAN-10 12:05	012810-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	28-JAN-10 12:05	012810-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	28-JAN-10 12:05	012810-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	28-JAN-10 12:05	012810-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	28-JAN-10 12:05	012810-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 12:05	012810-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 12:05	012810-1
CCB03	Arsenic	-1.58	+/-5	J	1.0	5.0	SOL	MS	20-JAN-10 21:00	100120-2
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	20-JAN-10 21:00	100120-2
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	20-JAN-10 21:00	100120-2
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	20-JAN-10 21:00	100120-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	20-JAN-10 21:00	100120-2
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	20-JAN-10 21:00	100120-2
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 09:52	012810S1-3
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	28-JAN-10 13:16	012810-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 13:16	012810-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 13:16	012810-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	28-JAN-10 13:16	012810-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	28-JAN-10 13:16	012810-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	28-JAN-10 13:16	012810-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	28-JAN-10 13:16	012810-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result ug/L</u>	<u>Acceptance</u>	<u>Conc Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run</u>
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	28-JAN-10 13:16	012810-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	28-JAN-10 13:16	012810-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	28-JAN-10 13:16	012810-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	28-JAN-10 13:16	012810-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	28-JAN-10 13:16	012810-1
CCB04	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 10:12	012810S1-3
CCB05	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 10:32	012810S1-3
CCB06	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 10:52	012810S1-3
CCB07	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 11:12	012810S1-3
CCB08	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 11:32	012810S1-3
CCB09	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 11:52	012810S1-3
CCB10	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	28-JAN-10 12:13	012810S1-3

METALS
-3b-
PREPARATION BLANK SUMMARY

SDG NO. 10-1209
Contract: LANL01004
Matrix: SOIL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>Acceptance Window</u>	<u>Conc Qual</u>	<u>M</u>	<u>MDL</u>	<u>RDL</u>
1202015701	Aluminum	6630	ug/Kg	+/-19500	U	P	6630	19500
	Antimony	380	ug/Kg	+/-975	J	P	322	975
	Barium	97.5	ug/Kg	+/-487	U	P	97.5	487
	Cadmium	97.5	ug/Kg	+/-487	U	P	97.5	487
	Calcium	7800	ug/Kg	+/-24400	U	P	7800	24400
	Chromium	146	ug/Kg	+/-487	U	P	146	487
	Cobalt	146	ug/Kg	+/-487	U	P	146	487
	Copper	292	ug/Kg	+/-975	U	P	292	975
	Iron	7800	ug/Kg	+/-24400	U	P	7800	24400
	Lead	252	ug/Kg	+/-975	J	P	244	975
	Magnesium	8280	ug/Kg	+/-29200	U	P	8280	29200
	Manganese	195	ug/Kg	+/-975	U	P	195	975
	Potassium	6240	ug/Kg	+/-24400	U	P	6240	24400
	Silver	97.5	ug/Kg	+/-487	U	P	97.5	487
	Sodium	6820	ug/Kg	+/-24400	U	P	6820	24400
	Vanadium	97.5	ug/Kg	+/-487	U	P	97.5	487
	Zinc	322	ug/Kg	+/-975	U	P	322	975
1202015711	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
1202019739	Mercury	3.73	ug/kg	+/-11	U	AV	3.73	11

METALS

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Interference Check Sample

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA3

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01									
	Aluminum	527000	ug/L	500000	ug/L	105	80.0 – 120.0	28-JAN-10 10:56	012810-1
	Antimony	-1.45	ug/L					28-JAN-10 10:56	012810-1
	Barium	1.26	ug/L					28-JAN-10 10:56	012810-1
	Cadmium	-0.219	ug/L					28-JAN-10 10:56	012810-1
	Calcium	485000	ug/L	500000	ug/L	97.1	80.0 – 120.0	28-JAN-10 10:56	012810-1
	Chromium	1.74	ug/L					28-JAN-10 10:56	012810-1
	Cobalt	-1.82	ug/L					28-JAN-10 10:56	012810-1
	Copper	4.74	ug/L					28-JAN-10 10:56	012810-1
	Iron	188000	ug/L	200000	ug/L	94.2	80.0 – 120.0	28-JAN-10 10:56	012810-1
	Lead	10.0	ug/L					28-JAN-10 10:56	012810-1
	Magnesium	499000	ug/L	500000	ug/L	99.9	80.0 – 120.0	28-JAN-10 10:56	012810-1
	Manganese	-3.41	ug/L					28-JAN-10 10:56	012810-1
	Potassium	-137.0	ug/L					28-JAN-10 10:56	012810-1
	Silver	4.62	ug/L					28-JAN-10 10:56	012810-1
	Sodium	-5.06	ug/L					28-JAN-10 10:56	012810-1
	Vanadium	-1.43	ug/L					28-JAN-10 10:56	012810-1
	Zinc	8.02	ug/L					28-JAN-10 10:56	012810-1
ICSAB01									
	Aluminum	528000	ug/L	500000	ug/L	106	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Antimony	542	ug/L	500	ug/L	108	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Barium	476	ug/L	500	ug/L	95.2	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Cadmium	433	ug/L	500	ug/L	86.5	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Calcium	484000	ug/L	500000	ug/L	96.7	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Chromium	458	ug/L	500	ug/L	91.7	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Cobalt	427	ug/L	500	ug/L	85.4	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Copper	543	ug/L	500	ug/L	109	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Iron	188000	ug/L	200000	ug/L	93.8	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Lead	455	ug/L	500	ug/L	91.1	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Magnesium	501000	ug/L	500000	ug/L	100	80.0 – 120.0	28-JAN-10 11:02	012810-1

METALS
-4-
Interference Check Sample

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

ICS:

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
	Manganese	462	ug/L	500	ug/L	92.4	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Potassium	5350	ug/L	5000	ug/L	107	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Silver	268	ug/L	250	ug/L	107	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Sodium	5430	ug/L	5000	ug/L	109	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Vanadium	478	ug/L	500	ug/L	95.6	80.0 – 120.0	28-JAN-10 11:02	012810-1
	Zinc	482	ug/L	500	ug/L	96.5	80.0 – 120.0	28-JAN-10 11:02	012810-1

METALS

-4-

Interference Check Sample

SDG No: 10-1209

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS4

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICSA01									
	Arsenic	-1.02	ug/L					20-JAN-10 19:27	100120-2
	Beryllium	0.027	ug/L					20-JAN-10 19:27	100120-2
	Nickel	3.93	ug/L					20-JAN-10 19:27	100120-2
	Selenium	-0.933	ug/L					20-JAN-10 19:27	100120-2
	Thallium	0.014	ug/L					20-JAN-10 19:27	100120-2
	Uranium	-0.004	ug/L					20-JAN-10 19:27	100120-2
ICSAB01									
	Arsenic	20.9	ug/L	20	ug/L	104	80.0 - 120.0	20-JAN-10 19:33	100120-2
	Beryllium	19.0	ug/L	20	ug/L	95.1	80.0 - 120.0	20-JAN-10 19:33	100120-2
	Nickel	22.5	ug/L	22.7	ug/L	99.1	80.0 - 120.0	20-JAN-10 19:33	100120-2
	Selenium	20.9	ug/L	20	ug/L	105	80.0 - 120.0	20-JAN-10 19:33	100120-2
	Thallium	17.0	ug/L	20	ug/L	85	80.0 - 120.0	20-JAN-10 19:33	100120-2
	Uranium	19.4	ug/L	20	ug/L	96.8	80.0 - 120.0	20-JAN-10 19:33	100120-2

METALS

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Matrix Spike Summary

SDG NO. 10-1209

Client ID RE12-10-7722S

Contract: LANL01004

Level: Low

Matrix: SOIL

% Solids: 88

Sample ID: 244597001

Spike ID: 1202015704

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Barium	ug/Kg	75-125	89600		19600		55600	126	N	P
Cadmium	ug/Kg	75-125	53700		113	U	55600	96.6		P
Calcium	ug/Kg	75-125	1490000		526000		556000	173	N	P
Chromium	ug/Kg	75-125	57300		2330		55600	98.9		P
Cobalt	ug/Kg	75-125	54000		888		55600	95.5		P
Copper	ug/Kg	75-125	60500		2120		55600	105		P
Iron	ug/Kg		11400000		8080000		556000	601	N/A	P
Lead	ug/Kg	75-125	61800		6710		55600	99.2		P
Magnesium	ug/Kg	75-125	1580000		320000		556000	226	N	P
Manganese	ug/Kg	75-125	271000		145000		55600	227	N	P
Potassium	ug/Kg	75-125	1340000		321000		556000	184	N	P
Silver	ug/Kg	75-125	56700		592		55600	101		P
Sodium	ug/Kg	75-125	652000		52900		556000	108		P
Vanadium	ug/Kg	75-125	67000		7520		55600	107		P
Zinc	ug/Kg	75-125	90400		26300		55600	115		P
Aluminum	ug/Kg		5720000		2230000		556000	629	N/A	P
Antimony	ug/Kg	75-125	54900		373	U	55600	98.7		P

METALS

-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1209 Client ID RE12-10-7722SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 244597001 Spike ID: 1202015705

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg		4960000		2230000		555000	492	N/A	P
Antimony	ug/Kg	75-125	51400		373	U	55500	92.6		P
Barium	ug/Kg	75-125	75500		19600		55500	101		P
Cadmium	ug/Kg	75-125	51000		113	U	55500	92		P
Calcium	ug/Kg	75-125	1200000		526000		555000	121		P
Chromium	ug/Kg	75-125	55200		2330		55500	95.3		P
Cobalt	ug/Kg	75-125	51000		888		55500	90.3		P
Copper	ug/Kg	75-125	56800		2120		55500	98.6		P
Iron	ug/Kg		10900000		8080000		555000	517	N/A	P
Lead	ug/Kg	75-125	56600		6710		55500	89.9		P
Magnesium	ug/Kg	75-125	1240000		320000		555000	165	N	P
Manganese	ug/Kg	75-125	187000		145000		55500	75.9		P
Potassium	ug/Kg	75-125	1110000		321000		555000	143	N	P
Silver	ug/Kg	75-125	54000		592		55500	96.3		P
Sodium	ug/Kg	75-125	659000		52900		555000	109		P
Vanadium	ug/Kg	75-125	60000		7520		55500	94.7		P
Zinc	ug/Kg	75-125	78900		26300		55500	94.7		P

METALS

-5a-

Matrix Spike Summary

SDG NO. 10-1209

Client ID RE12-10-7722S

Contract: LANL01004

Level: Low

Matrix: SOIL

% Solids: 88

Sample ID: 244597001

Spike ID: 1202015714

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Arsenic	mg/kg	75-125	10.8		0.774	J	8.91	113		MS
Beryllium	mg/kg	75-125	5.41		0.197		5.57	93.6		MS
Nickel	mg/kg	75-125	7.89		1.76		5.57	110		MS
Selenium	mg/kg	75-125	2.15		0.557	U	2.23	94.5		MS
Thallium	mg/kg	75-125	9.69		0.0849	J	11.1	86.3		MS
Uranium	mg/kg	75-125	7.18		2.08		5.57	91.5		MS

METALS

-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1209 Client ID RE12-10-7722SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 88

Sample ID: 244597001 Spike ID: 1202015715

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Selenium	mg/kg	75-125	2.16		0.557	U	2.23	95.2		MS
Thallium	mg/kg	75-125	10.1		0.0849	J	11.1	89.8		MS
Uranium	mg/kg	75-125	7.54		2.08		5.57	97.9		MS
Arsenic	mg/kg	75-125	9.83		0.774	J	8.91	102		MS
Beryllium	mg/kg	75-125	5.52		0.197		5.57	95.6		MS
Nickel	mg/kg	75-125	7.91		1.76		5.57	111		MS

METALS

-5a-

Matrix Spike Summary

SDG NO. 10-1209

Client ID RE46-10-10052S

Contract: LANL01004

Level: Low

Matrix: SOIL

% Solids: 96.6

Sample ID: 244622001

Spike ID: 1202019742

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75-125	135		10.2	J	117	107		AV

METALS

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Matrix Spike Duplicate Summary

SDG NO. 10-1209 Client ID RE46-10-10052SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 96.6

Sample ID: 244622001 Spike ID: 1202019744

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75-125	135		10.2	J	116	107		AV

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7722D

Sample ID: 244597001

Duplicate ID: 1202015702

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20%	2230000		2340000		4.85		P
Antimony	ug/Kg		373 U		369 U				P
Barium	ug/Kg	+/-20%	19600		26900		31.3	*	P
Cadmium	ug/Kg		113 U		112 U				P
Calcium	ug/Kg	+/-20%	526000		670000		24.1	*	P
Chromium	ug/Kg	+/-559	2330		2580		10.3		P
Cobalt	ug/Kg	+/-559	888		1110		22.6		P
Copper	ug/Kg	+/-1120	2120		2420		13.1		P
Iron	ug/Kg	+/-20%	8080000		7680000		5		P
Lead	ug/Kg	+/-20%	6710		6340		5.77		P
Magnesium	ug/Kg	+/-20%	320000		486000		41.4	*	P
Manganese	ug/Kg	+/-20%	145000		186000		24.8	*	P
Potassium	ug/Kg	+/-20%	321000		425000		27.9	*	P
Silver	ug/Kg	+/-559	592		512 J		14.5		P
Sodium	ug/Kg	+/-28000	52900		46300		13.4		P
Vanadium	ug/Kg	+/-20%	7520		6450		15.2		P
Zinc	ug/Kg	+/-20%	26300		26500		.767		P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7722SD

Sample ID: 1202015704

Duplicate ID: 1202015705

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	5720000		4960000		14.3		P
Antimony	ug/Kg	+/-20	54900		51400		6.56		P
Barium	ug/Kg	+/-20	89600		75500		17		P
Cadmium	ug/Kg	+/-20	53700		51000		5.13		P
Calcium	ug/Kg	+/-20	1490000		1200000		21.4	*	P
Chromium	ug/Kg	+/-20	57300		55200		3.73		P
Cobalt	ug/Kg	+/-20	54000		51000		5.76		P
Copper	ug/Kg	+/-20	60500		56800		6.25		P
Iron	ug/Kg	+/-20	11400000		10900000		4.24		P
Lead	ug/Kg	+/-20	61800		56600		8.88		P
Magnesium	ug/Kg	+/-20	1580000		1240000		24.1	*	P
Manganese	ug/Kg	+/-20	271000		187000		36.8	*	P
Potassium	ug/Kg	+/-20	1340000		1110000		18.7		P
Silver	ug/Kg	+/-20	56700		54000		4.84		P
Sodium	ug/Kg	+/-20	652000		659000		.939		P
Vanadium	ug/Kg	+/-20	67000		60000		10.9		P
Zinc	ug/Kg	+/-20	90400		78900		13.7		P

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7722D

Sample ID: 244597001

Duplicate ID: 1202015712

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1.13	0.774 J		1.71		75.3		MS
Beryllium	mg/kg	+/-1.13	0.197		0.369		60.8	*	MS
Nickel	mg/kg	+/-452	1.76		1.85		4.97		MS
Selenium	mg/kg		0.557 U		0.565 U				MS
Thallium	mg/kg		0.0849 J		0.0678 U		200		MS
Uranium	mg/kg	+/-20%	2.08		2.58		21.1	*	MS

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE12-10-7722SD

Sample ID: 1202015714

Duplicate ID: 1202015715

Percent Solids for Dup: 88

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-20	10.8		9.83		9.6		MS
Beryllium	mg/kg	+/-20	5.41		5.52		2.07		MS
Nickel	mg/kg	+/-20	7.89		7.91		.313		MS
Selenium	mg/kg	+/-20	2.15		2.16		.796		MS
Thallium	mg/kg	+/-20	9.69		10.1		3.94		MS
Uranium	mg/kg	+/-20	7.18		7.54		4.82		MS

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE46-10-10052D

Sample ID: 244622001

Duplicate ID: 1202019741

Percent Solids for Dup: 96.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-12	10.2 J		10.5 J		2.83		AV

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1209

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE46-10-10052SD

Sample ID: 1202019742

Duplicate ID: 1202019744

Percent Solids for Dup: 96.6

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-20	135		135		.16		AV

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1209

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202015706								
	Aluminum	ug/Kg	10500000	8470000		80.6	56-144	P
	Antimony	ug/Kg	173000	140000		80.9	71-130	P
	Barium	ug/Kg	198000	176000		89	80-120	P
	Cadmium	ug/Kg	60700	53200		87.7	81-120	P
	Calcium	ug/Kg	9870000	9900000		100	83-117	P
	Chromium	ug/Kg	236000	218000		92.5	80-120	P
	Cobalt	ug/Kg	91200	83900		92	81-120	P
	Copper	ug/Kg	174000	172000		99	81-118	P
	Iron	ug/Kg	18000000	18200000		101	51-149	P
	Lead	ug/Kg	86000	74900		87.1	79-121	P
	Magnesium	ug/Kg	4000000	3740000		93.5	79-122	P
	Manganese	ug/Kg	558000	498000		89.3	81-119	P
	Potassium	ug/Kg	4300000	4020000		93.5	74-127	P
	Silver	ug/Kg	30100	29500		98.1	66-134	P
	Sodium	ug/Kg	1020000	1040000		102	74-127	P
	Vanadium	ug/Kg	115000	110000		95.9	79-121	P
	Zinc	ug/Kg	594000	536000		90.2	80-121	P

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1209

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202015716								
	Arsenic	mg/kg	104	112		107	83-120	MS
	Beryllium	mg/kg	77.6	83.4		107	81.2-126.8	MS
	Nickel	mg/kg	134	152		114	83.3-121.4	MS
	Selenium	mg/kg	286	304		106	80.2-125.9	MS
	Thallium	mg/kg	121	124		103	78-123.2	MS
	Uranium	mg/kg	2.13	1.93		90.8	61.9-130.7	MS

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1209

Contract: LANL01004

Aqueous LCS Source:

Solid LCS Source: ERA

<u>Sample ID</u>	<u>Analyte</u>	<u>Units</u>	<u>True Value</u>	<u>Result</u>	<u>C</u>	<u>% Recovery</u>	<u>Acceptance Limit</u>	<u>M</u>
1202019740	Mercury	ug/kg	5150	5400		105	71.6-128.3	AV

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1209 Client ID RE12-10-7722L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 244597001 Serial Dilution ID: 1202015703

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	19700		18700		5.33		10	P
Antimony	3.3	U	16.5	U				P
Barium	173		180		3.76		10	P
Cadmium	1	U	5	U				P
Calcium	4650		4550		2.15		10	P
Chromium	20.6		21.3	J	3.16			P
Cobalt	7.85		8	J	1.91			P
Copper	18.8		22.7	J	20.7			P
Iron	71400		68500		4.06		10	P
Lead	59.3		59		.506			P
Magnesium	2830		2620		7.6			P
Manganese	1280		1340		4.3		10	P
Potassium	2840		2710		4.75			P
Silver	5.23		5	U	100			P
Sodium	467		422	J	9.74			P
Vanadium	66.4		69.5		4.67		10	P
Zinc	233		241		3.22		10	P

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1209

Client ID. RE12-10-7722L

Contract: LANL01004

Matrix: SOLID

Level: Low

Sample ID: 244597001

Serial Dilution ID: 1202015713

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Arsenic	3.48	J	5	U	100			MS
Beryllium	.884		.515	J	41.7			MS
Nickel	7.88		8.35	J	5.96			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.381	J	1.5	U	100			MS
Uranium	9.36		9.75		4.17		10	MS

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1209 **Client ID** RE46-10-10052L**Contract:** LANL01004**Matrix:** SOLID **Level:** Low**Sample ID:** 244622001 **Serial Dilution ID:** 1202019743

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Mercury	.178	J	.34	U	100			AV

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1209

Method Type: P

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number	941736						
1202015701	MB for batch 941736	MB	S	20-JAN-10	.513g	50mL	
1202015706	LCS for batch 941736	LCS	S	20-JAN-10	.502g	50mL	
1202015704	RE12-10-7722S	MS	S	20-JAN-10	.514g	50mL	
1202015705	RE12-10-7722SD	MSD	S	20-JAN-10	.515g	50mL	
1202015702	RE12-10-7722D	DUP	S	20-JAN-10	.511g	50mL	
244597001	RE12-10-7722	SAMPLE	S	20-JAN-10	.505g	50mL	

SW846

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1209

Method Type: MS

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 941742							
1202015711	MB for batch 941742	MB	S	20-JAN-10	.51g	50mL	
1202015716	LCS for batch 941742	LCS	S	20-JAN-10	.515g	50mL	
1202015714	RE12-10-7722S	MS	S	20-JAN-10	.513g	50mL	
1202015715	RE12-10-7722SD	MSD	S	20-JAN-10	.513g	50mL	
1202015712	RE12-10-7722D	DUP	S	20-JAN-10	.506g	50mL	
244597001	RE12-10-7722	SAMPLE	S	20-JAN-10	.513g	50mL	

SW846

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1209

Method Type: AV

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Client ID</u>	<u>Sample Type</u>	<u>Matrix</u>	<u>Prep Date</u>	<u>Initial Sample Size</u>	<u>Final Sample Volume</u>	<u>Percent Solids</u>
Batch Number 943296							
1202019739	MB for batch 943296	MB	S	27-JAN-10	.547g	30mL	
1202019740	LCS for batch 943296	LCS	S	27-JAN-10	.203g	30mL	
1202019742	RE46-10-10052S	MS	S	27-JAN-10	.531g	30mL	
1202019744	RE46-10-10052SD	MSD	S	27-JAN-10	.536g	30mL	
1202019741	RE46-10-10052D	DUP	S	27-JAN-10	.516g	30mL	
244597001	RE12-10-7722	SAMPLE	S	27-JAN-10	.506g	30mL	

SW846

Metals
-14-
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA3

Start Date: 28-JAN-10

End Date: 28-JAN-10

Client Sdg: 10-1209

Method P

Data File: 012810-1

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	Ti	U	V	Zn
S0.0	1	10:02	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	10:09		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	10:16	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	10:23	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	10:30	X						X				X		X							X				
ICV01	1	10:35	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	10:42	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	10:49	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	10:56	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	11:02	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	11:08	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	11:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV01	1	11:21	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	11:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	11:44	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR04	1	11:51	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	11:58	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	12:05	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015701	1	12:21	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015706	1	12:28	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
244597001	1	12:34	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015702	1	12:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015704	1	12:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015705	1	12:55	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202015703	5	13:02	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV03	1	13:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	13:16	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

Metals
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Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: HG3

Start Date: 28-JAN-10

End Date: 28-JAN-10

Client Sdg: 10-1209

Method AV

Data File: 012810S1-3

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	08:55															X									
S0.2	1	08:56															X									
S0.5	1	08:58															X									
S2.0	1	09:00															X									
S5.0	1	09:01															X									
S10.0	1	09:03															X									
ICV01	1	09:05															X									
ICB01	1	09:06															X									
CRDL01	1	09:08															X									
CCV01	1	09:10															X									
CCB01	1	09:11															X									
ZZZZZZ	1	09:13																								
ZZZZZZ	10	09:15																								
ZZZZZZ	1	09:17																								
ZZZZZZ	1	09:18																								
ZZZZZZ	1	09:20																								
ZZZZZZ	1	09:21																								
ZZZZZZ	5	09:23																								
ZZZZZZ	1	09:25																								
ZZZZZZ	1	09:26																								
ZZZZZZ	1	09:28																								
CCV02	1	09:30															X									
CCB02	1	09:31															X									
ZZZZZZ	1	09:33																								
ZZZZZZ	1	09:35																								
ZZZZZZ	1	09:36																								
ZZZZZZ	1	09:38																								
ZZZZZZ	1	09:40																								
ZZZZZZ	1	09:42																								
ZZZZZZ	1	09:43																								
ZZZZZZ	1	09:45																								
ZZZZZZ	1	09:47																								
ZZZZZZ	1	09:48																								
CCV03	1	09:50															X									
CCB03	1	09:52															X									
ZZZZZZ	1	09:53																								
ZZZZZZ	1	09:55																								
ZZZZZZ	10	09:57																								
ZZZZZZ	1	09:58																								
ZZZZZZ	1	10:00																								

Samp No.	D/F	Run Time
ZZZZZZ	1	10:02
ZZZZZZ	1	10:03
ZZZZZZ	1	10:05
ZZZZZZ	1	10:07
ZZZZZZ	1	10:08
CCV04	1	10:10
CCB04	1	10:12
ZZZZZZ	1	10:13
ZZZZZZ	1	10:15
ZZZZZZ	1	10:17
ZZZZZZ	1	10:18
ZZZZZZ	1	10:20
ZZZZZZ	1	10:22
ZZZZZZ	1	10:23
ZZZZZZ	1	10:25
ZZZZZZ	1	10:27
ZZZZZZ	1	10:28
CCV05	1	10:30
CCB05	1	10:32
ZZZZZZ	1	10:33
ZZZZZZ	1	10:35
ZZZZZZ	1	10:37
ZZZZZZ	5	10:38
ZZZZZZ	1	10:40
ZZZZZZ	1	10:42
ZZZZZZ	1	10:43
ZZZZZZ	10	10:45
ZZZZZZ	1	10:47
ZZZZZZ	1	10:48
CCV06	1	10:50
CCB06	1	10:52
ZZZZZZ	1	10:54
ZZZZZZ	1	10:55
ZZZZZZ	5	10:57
ZZZZZZ	1	10:59
ZZZZZZ	1	11:00
ZZZZZZ	1	11:02
ZZZZZZ	1	11:04
ZZZZZZ	1	11:05
ZZZZZZ	1	11:07

Metals
-14-
Analysis Run Log

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
ZZZZZZ	1	11:09																								
CCV07	1	11:10																X								
CCB07	1	11:12																X								
ZZZZZZ	1	11:14																								
ZZZZZZ	1	11:15																								
ZZZZZZ	1	11:17																								
ZZZZZZ	1	11:19																								
ZZZZZZ	1	11:20																								
ZZZZZZ	1	11:22																								
1202019739	1	11:24																X								
1202019740	10	11:25																X								
ZZZZZZ	1	11:27																								
ZZZZZZ	1	11:29																								
CCV08	1	11:30																X								
CCB08	1	11:32																X								
ZZZZZZ	1	11:34																								
ZZZZZZ	1	11:36																								
ZZZZZZ	1	11:37																								
ZZZZZZ	1	11:39																								
ZZZZZZ	1	11:41																								
ZZZZZZ	1	11:42																								
244597001	1	11:44																X								
ZZZZZZ	1	11:46																								
ZZZZZZ	1	11:47																								
ZZZZZZ	1	11:49																								
CCV09	1	11:51																X								
CCB09	1	11:52																X								
1202019741	1	11:54																X								
1202019742	1	11:56																X								
1202019744	1	11:57																X								
1202019743	5	11:59																X								
ZZZZZZ	1	12:01																								
ZZZZZZ	1	12:03																								
ZZZZZZ	1	12:04																								
ZZZZZZ	1	12:06																								
ZZZZZZ	1	12:08																								
ZZZZZZ	1	12:09																								
CCV10	1	12:11																X								
CCB10	1	12:13																X								

Metals
-14-
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS4

Start Date: 20-JAN-10

End Date: 20-JAN-10

Client Sdg: 10-1209

Method MS

Data File: 100120-2

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	Ti	U	V	Zn
S0.0	1	18:50			X		X											X	X			X	X			
S10	1	18:56			X		X											X	X			X	X			
S100	1	19:02			X		X											X	X			X	X			
ICV01	1	19:08			X		X											X	X			X	X			
ICB01	1	19:15			X		X											X	X			X	X			
CRDL01	1	19:21			X		X											X	X			X	X			
ICSA01	1	19:27			X		X											X	X			X	X			
ICSAB01	1	19:33			X		X											X	X			X	X			
CCV01	1	19:39			X		X											X	X			X	X			
CCB01	1	19:46			X		X											X	X			X	X			
LR01	1	19:52			X		X											X	X			X	X			
CCV02	1	19:58			X		X											X	X			X	X			
CCB02	1	20:04			X		X											X	X			X	X			
1202015711	2	20:10			X		X											X	X			X	X			
1202015716	40	20:17			X		X											X	X			X	X			
244597001	2	20:23			X		X											X	X			X	X			
1202015712	2	20:29			X		X											X	X			X	X			
1202015714	2	20:35			X		X											X	X			X	X			
1202015715	2	20:41			X		X											X	X			X	X			
1202015713	10	20:48			X		X											X	X			X	X			
CCV03	1	20:54			X		X											X	X			X	X			
CCB03	1	21:00			X		X											X	X			X	X			

Standards

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1209

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP/MS	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
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. 10-1209

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 15-JUN-09

		<u>Wavelength</u> (nm)	<u>MDL</u> ug/L	<u>RDL</u> ug/L
MERCURY	<u>Analyte</u>			
SOLID	Mercury		0.068	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1209

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP	<u>Analyte</u>	<u>Wavelength</u>	<u>MDL</u>	<u>RDL</u>
		<u>(nm)</u>	<u>ug/L</u>	<u>ug/L</u>
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

METALS
-11-
Interelement Correction Factors

Lab Code: GEL

GEL Job No: 10-1209

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

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	0.02697	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	-0.48147	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.21356	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.05186	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.18741	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL

GEL Job No: 10-1209

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Boron	Cadmium	Chromium	Cobalt	Copper
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	2.85580	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.44491	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-29.9151	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.57616
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.60374	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	198.62
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	4.37985	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.36147	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	2.23785	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.36818	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.35273

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1209**Contract: **LANL01004**Instrument: **OPTIMA3**Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Iron	Lead	Magnesium	Manganese	Molybdenum
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	48.4946
Antimony	206.836	-0.02515	0.00000	0.00000	0.00000	-20.5057
Arsenic	188.979	-0.23424	0.00000	0.00000	0.00000	2.41902
Barium	233.527	-0.03042	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.16240	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.10329	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	-0.01944	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.01444	0.00000	0.00000	0.00000	-2.33100
Copper	324.752	-0.05293	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.09554	0.00000	0.00000	0.00000	-2.48774
Magnesium	279.077	1.04597	0.00000	0.00000	0.00000	-10.4683
Manganese	257.61	-0.09877	0.00000	0.04089	0.00000	0.00000
Molybdenum	202.031	-0.07763	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.80543	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.39429	1.18725
Selenium	196.026	-3.27508	0.00000	0.00000	0.00000	-3.07287
Silica	251.611	0.00000	0.00000	0.00000	0.00000	27.2377
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	12.3082
Silver	328.068	-0.32385	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-4.77918	0.00000
Tin	189.927	-0.01682	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.08168	0.00000	0.00000
Uranium	409.014	0.11400	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.14564	0.00000	-0.01931	0.00000	-14.1293
Zinc	213.857	0.09701	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL

GEL Job No: 10-1209

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: 01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Nickel	Phosphorous	Potassium	Selenium	Silicon
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	-0.84443	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	-0.63547	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	6.37026	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1209**

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates: **01-NOV-09**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Silver	Strontium	Sulfur	Thallium	Tin
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-15.4932
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	-9.37529
Potassium	766.49	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL

GEL Job No:

10-1209

Contract: LANL01004

Instrument: OPTIMA3

Effective Dates:

01-NOV-09

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Titanium	Uranium	Vanadium	Zinc
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	3.30431	0.00000	-2.81282	0.00000
Arsenic	188.979	-8.66313	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	-2.20293	0.00000
Beryllium	313.107	-2.27027	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	-0.19473	0.00000	0.00000
Chromium	267.716	0.00000	0.39645	-1.41250	0.00000
Cobalt	228.616	2.09497	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.55360	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000
Potassium	766.49	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000
Silica	251.611	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.81635	-4.04400	0.00000
Strontium	421.552	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-8.29801	0.00000	1.88584	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.43915	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	1.05947	-1.91382	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000

METALS
-12-
Linear Ranges

SDG NO. 10-1209

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA3

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	20	500000	ug/L	01-NOV-09
Antimony	20	10000	ug/L	01-NOV-09
Arsenic	20	10000	ug/L	01-NOV-09
Barium	20	15000	ug/L	01-NOV-09
Beryllium	20	3000	ug/L	01-NOV-09
Cadmium	20	10000	ug/L	01-NOV-09
Calcium	20	500000	ug/L	01-NOV-09
Chromium	20	25000	ug/L	01-NOV-09
Cobalt	20	10000	ug/L	01-NOV-09
Copper	20	20000	ug/L	01-NOV-09
Iron	20	500000	ug/L	01-NOV-09
Lead	20	25000	ug/L	01-NOV-09
Magnesium	20	500000	ug/L	01-NOV-09
Manganese	20	10000	ug/L	01-NOV-09
Nickel	20	10000	ug/L	01-NOV-09
Potassium	20	300000	ug/L	01-NOV-09
Selenium	20	10000	ug/L	01-NOV-09
Silver	20	1000	ug/L	01-NOV-09
Sodium	20	500000	ug/L	01-NOV-09
Thallium	20	10000	ug/L	01-NOV-09
Uranium	20	15000	ug/L	01-NOV-09
Vanadium	20	10000	ug/L	01-NOV-09
Zinc	20	15000	ug/L	01-NOV-09

METALS
-12-
Linear Ranges

SDG NO. 10-1209

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS4

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Nickel	1000	1000	ug/L	01-NOV-09
Potassium	1	50000	ug/L	01-NOV-09
Selenium	1000	500	ug/L	01-NOV-09
Silver	1000	250	ug/L	01-NOV-09
Sodium	1	50000	ug/L	01-NOV-09
Thallium	1000	500	ug/L	01-NOV-09
Uranium	1000	5000	ug/L	01-NOV-09
Vanadium	1000	100	ug/L	01-NOV-09
Zinc	1000	2500	ug/L	01-NOV-09
Manganese	1000	1000	ug/L	01-NOV-09
Aluminum	1	50000	ug/L	01-NOV-09
Antimony	1000	250	ug/L	01-NOV-09
Arsenic	1000	1000	ug/L	01-NOV-09
Barium	1000	1000	ug/L	01-NOV-09
Beryllium	1000	1000	ug/L	01-NOV-09
Cadmium	1000	1000	ug/L	01-NOV-09
Calcium	500	50000	ug/L	01-NOV-09
Chromium	1000	1000	ug/L	01-NOV-09
Cobalt	1000	1000	ug/L	01-NOV-09
Copper	1000	1000	ug/L	01-NOV-09
Iron	500	50000	ug/L	01-NOV-09
Lead	1000	5000	ug/L	01-NOV-09
Magnesium	1	50000	ug/L	01-NOV-09

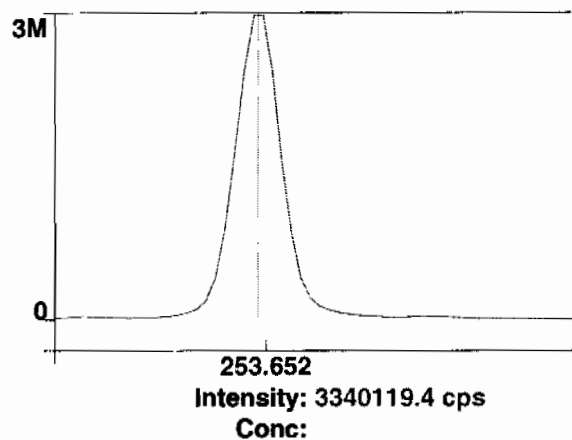
Raw Data

Method: Hg_ReAlign
Result: 020310

Sample ID: Hg_ReAlign

Hg 253.652

Rep: 1



1

1/28/2010 10:00:55 Hg ReAlign... Actual peak offset (nm): -0.009
Drift (nm): 0.000 Slit adjustment: 2

Analysis Begun

Start Time: 1/28/2010 10:02:02 Plasma On Time: 00:00:00
Logged In Analyst: Optima3 Technique: ICP Continuous
Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012810.sif

Batch ID:

Results Data Set: 012810

Results Library: C:\pe\Optima3\Results\Results.mdb

Method Loaded

Method Name: General Eng.2AX

IEC File: 011110.iec

Method Description:

Method Last Saved: 1/27/2010 11:56:23

MSF File:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153 Radial	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 317.933 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Sample ID: S0

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/28/2010 10:02:04

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: S0

Net

Corrected

Calib.

Analysis

Repl#	Analyte	Intensity	Intensity	Conc. Units	Time
1	Sc Radial	5611.1	5611.1	0.000 %	10:03:57
1	Y RADIAL	6130.1	6130.1	0.000 %	10:03:57
1	Al 396.153Radial†	13.1	13.1	[0.00] ug/L	10:04:17
1	Ca 317.933Radial†	28.5	28.3	[0.00] ug/L	10:04:17
1	Fe 238.204 Radial†	8.2	8.1	[0.00] ug/L	10:04:17
1	K 766.490 Radial†	2450.4	2439.0	[0.00] ug/L	10:03:57
1	Mg 279.077 IEC†	3.5	3.5	[0.00] ug/L	10:04:17
1	Na 589.592 Radial†	-1029.9	-1025.1	[0.00] ug/L	10:03:57
1	Sr 421.552†	4.8	4.8	[0.00] ug/L	10:03:57
1	Sc 361.383	983317.9	983317.9	0.0000 %	10:05:14
1	Y 371.029	870601.0	870601.0	0.0000 %	10:05:14
1	Ag 328.068†	365.8	366.0	[0.00] ug/L	10:05:19
1	As 188.979†	-35.1	-35.1	[0.00] ug/L	10:05:39
1	B 249.677†	-273.6	-273.8	[0.00] ug/L	10:05:39
1	Ba 233.527†	-5.7	-5.7	[0.00] ug/L	10:05:39
1	Be 313.107†	-5094.3	-5098.0	[0.00] ug/L	10:05:19
1	Cd 226.502†	-194.0	-194.1	[0.00] ug/L	10:05:39
1	Co 228.616†	-74.9	-74.9	[0.00] ug/L	10:05:39
1	Cr 267.716†	70.1	70.1	[0.00] ug/L	10:05:39
1	Cu 324.752†	9088.5	9095.0	[0.00] ug/L	10:05:19
1	Mn 257.610†	531.1	531.5	[0.00] ug/L	10:05:39
1	Mo 202.031†	27.5	27.5	[0.00] ug/L	10:05:39
1	Ni 231.604†	111.2	111.3	[0.00] ug/L	10:05:39
1	P 214.914†	234.3	234.5	[0.00] ug/L	10:05:39
1	Pb 220.353†	-58.1	-58.1	[0.00] ug/L	10:05:39
1	S 181.975 Axial†	69.6	69.6	[0.00] ug/L	10:05:39
1	Sb 206.836†	33.3	33.3	[0.00] ug/L	10:05:39
1	Se 196.026†	-25.5	-25.5	[0.00] ug/L	10:05:39
1	Si 251.611†	458.8	459.1	[0.00] ug/L	10:05:39
1	Sn 189.927†	-5.2	-5.2	[0.00] ug/L	10:05:39
1	Ti 334.940†	-935.0	-935.7	[0.00] ug/L	10:05:19
1	Tl 190.801†	-41.7	-41.7	[0.00] ug/L	10:05:39
1	U 409.014†	-1445.0	-1446.0	[0.00] ug/L	10:05:14
1	V 292.402†	-1417.5	-1418.5	[0.00] ug/L	10:05:19
1	Zn 213.857†	741.6	742.1	[0.00] ug/L	10:05:39
1	SiO2†	486.1	486.4	[0.00] ug/L	10:07:00
2	Sc Radial	5626.9	5626.9	0.000 %	10:04:22
2	Y RADIAL	6146.6	6146.6	0.000 %	10:04:22
2	Al 396.153Radial†	4.5	4.5	[0.00] ug/L	10:04:42
2	Ca 317.933Radial†	25.1	24.9	[0.00] ug/L	10:04:42
2	Fe 238.204 Radial†	8.4	8.3	[0.00] ug/L	10:04:42
2	K 766.490 Radial†	2325.2	2307.9	[0.00] ug/L	10:04:22
2	Mg 279.077 IEC†	1.6	1.6	[0.00] ug/L	10:04:42
2	Na 589.592 Radial†	-1049.6	-1041.8	[0.00] ug/L	10:04:22
2	Sr 421.552†	13.4	13.3	[0.00] ug/L	10:04:22
2	Sc 361.383	979736.0	979736.0	0.0000 %	10:05:44
2	Y 371.029	869243.8	869243.8	0.0000 %	10:05:44
2	Ag 328.068†	288.4	289.7	[0.00] ug/L	10:05:49
2	As 188.979†	-33.7	-33.8	[0.00] ug/L	10:06:09
2	B 249.677†	-276.4	-277.6	[0.00] ug/L	10:06:09
2	Ba 233.527†	-2.8	-2.8	[0.00] ug/L	10:06:09
2	Be 313.107†	-5010.0	-5032.0	[0.00] ug/L	10:05:49
2	Cd 226.502†	-211.8	-212.8	[0.00] ug/L	10:06:09
2	Co 228.616†	-65.5	-65.8	[0.00] ug/L	10:06:09
2	Cr 267.716†	86.1	86.5	[0.00] ug/L	10:06:09
2	Cu 324.752†	9112.9	9152.9	[0.00] ug/L	10:05:49
2	Mn 257.610†	528.3	530.6	[0.00] ug/L	10:06:09
2	Mo 202.031†	17.9	18.0	[0.00] ug/L	10:06:09
2	Ni 231.604†	120.4	120.9	[0.00] ug/L	10:06:09
2	P 214.914†	244.0	245.1	[0.00] ug/L	10:06:09
2	Pb 220.353†	-50.0	-50.2	[0.00] ug/L	10:06:09
2	S 181.975 Axial†	60.1	60.4	[0.00] ug/L	10:06:09
2	Sb 206.836†	31.8	32.0	[0.00] ug/L	10:06:09
2	Se 196.026†	-20.7	-20.8	[0.00] ug/L	10:06:09
2	Si 251.611†	458.5	460.5	[0.00] ug/L	10:06:09
2	Sn 189.927†	-1.8	-1.8	[0.00] ug/L	10:06:09
2	Ti 334.940†	-919.1	-923.1	[0.00] ug/L	10:05:49
2	Tl 190.801†	-37.0	-37.2	[0.00] ug/L	10:06:09
2	U 409.014†	-1449.7	-1456.1	[0.00] ug/L	10:05:44
2	V 292.402†	-1483.7	-1490.2	[0.00] ug/L	10:05:49

2	Zn 213.857†	734.0	737.2	[0.00]	ug/L	10:06:09
2	SiO2†	474.8	476.9	[0.00]	ug/L	10:07:20
3	Sc Radial	5517.0	5517.0	0.000	%	10:04:47
3	Y RADIAL	5974.2	5974.2	0.000	%	10:04:47
3	Al 396.153Radial†	-6.2	-6.3	[0.00]	ug/L	10:05:07
3	Ca 317.933Radial†	26.8	27.1	[0.00]	ug/L	10:05:07
3	Fe 238.204 Radial†	8.7	8.8	[0.00]	ug/L	10:05:07
3	K 766.490 Radial†	2409.1	2438.8	[0.00]	ug/L	10:04:47
3	Mg 279.077 IEC†	2.0	2.0	[0.00]	ug/L	10:05:07
3	Na 589.592 Radial†	-1004.8	-1017.2	[0.00]	ug/L	10:04:47
3	Sr 421.552†	15.2	15.4	[0.00]	ug/L	10:04:47
3	Sc 361.383	989033.8	989033.8	0.0000	%	10:06:14
3	Y 371.029	876797.5	876797.5	0.0000	%	10:06:14
3	Ag 328.068†	308.8	307.2	[0.00]	ug/L	10:06:20
3	As 188.979†	-32.7	-32.5	[0.00]	ug/L	10:06:40
3	B 249.677†	-309.0	-307.4	[0.00]	ug/L	10:06:40
3	Ba 233.527†	-5.3	-5.2	[0.00]	ug/L	10:06:40
3	Be 313.107†	-5100.0	-5074.2	[0.00]	ug/L	10:06:20
3	Cd 226.502†	-192.1	-191.2	[0.00]	ug/L	10:06:40
3	Co 228.616†	-75.1	-74.7	[0.00]	ug/L	10:06:40
3	Cr 267.716†	100.5	100.0	[0.00]	ug/L	10:06:40
3	Cu 324.752†	9208.3	9161.7	[0.00]	ug/L	10:06:20
3	Mn 257.610†	539.4	536.7	[0.00]	ug/L	10:06:40
3	Mo 202.031†	23.5	23.4	[0.00]	ug/L	10:06:40
3	Ni 231.604†	98.2	97.7	[0.00]	ug/L	10:06:40
3	P 214.914†	240.2	239.0	[0.00]	ug/L	10:06:40
3	Pb 220.353†	-67.0	-66.7	[0.00]	ug/L	10:06:40
3	S 181.975 Axial†	73.8	73.4	[0.00]	ug/L	10:06:40
3	Sb 206.836†	40.4	40.1	[0.00]	ug/L	10:06:40
3	Se 196.026†	-17.2	-17.1	[0.00]	ug/L	10:06:40
3	Si 251.611†	463.6	461.2	[0.00]	ug/L	10:06:40
3	Sn 189.927†	-6.8	-6.8	[0.00]	ug/L	10:06:40
3	Ti 334.940†	-874.8	-870.4	[0.00]	ug/L	10:06:20
3	Tl 190.801†	-40.5	-40.3	[0.00]	ug/L	10:06:40
3	U 409.014†	-1258.5	-1252.1	[0.00]	ug/L	10:06:14
3	V 292.402†	-1419.7	-1412.5	[0.00]	ug/L	10:06:20
3	Zn 213.857†	752.6	748.8	[0.00]	ug/L	10:06:40
3	SiO2†	467.4	465.0	[0.00]	ug/L	10:07:40

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	984029.2	4689.51	0.48%	0.0000 %
Sc Radial	5585.0	59.44	1.06%	0.000 %
Y 371.029	872214.1	4026.90	0.46%	0.0000 %
Y RADIAL	6083.6	95.15	1.56%	0.000 %
Ag 328.068†	321.0	39.98	12.46%	[0.00] ug/L
Al 396.153Radial†	3.7	9.72	259.67%	[0.00] ug/L
As 188.979†	-33.8	1.30	3.83%	[0.00] ug/L
B 249.677†	-286.3	18.43	6.44%	[0.00] ug/L
Ba 233.527†	-4.6	1.55	33.96%	[0.00] ug/L
Be 313.107†	-5068.1	33.42	0.66%	[0.00] ug/L
Ca 317.933Radial†	26.8	1.73	6.48%	[0.00] ug/L
Cd 226.502†	-199.4	11.70	5.87%	[0.00] ug/L
Co 228.616†	-71.8	5.23	7.29%	[0.00] ug/L
Cr 267.716†	85.5	14.95	17.48%	[0.00] ug/L
Cu 324.752†	9136.5	36.21	0.40%	[0.00] ug/L
Fe 238.204 Radial†	8.4	0.32	3.82%	[0.00] ug/L
K 766.490 Radial†	2395.2	75.63	3.16%	[0.00] ug/L
Mg 279.077 IEC†	2.4	1.00	41.90%	[0.00] ug/L
Mn 257.610†	533.0	3.27	0.61%	[0.00] ug/L
Mo 202.031†	23.0	4.78	20.83%	[0.00] ug/L
Na 589.592 Radial†	-1028.0	12.54	1.22%	[0.00] ug/L
Ni 231.604†	110.0	11.67	10.61%	[0.00] ug/L
P 214.914†	239.5	5.31	2.22%	[0.00] ug/L
Pb 220.353†	-58.4	8.24	14.12%	[0.00] ug/L
S 181.975 Axial†	67.8	6.70	9.89%	[0.00] ug/L
Sb 206.836†	35.1	4.38	12.47%	[0.00] ug/L
Se 196.026†	-21.1	4.22	19.96%	[0.00] ug/L
Si 251.611†	460.3	1.08	0.24%	[0.00] ug/L

Sn 189.927†	-4.6	2.55	55.53%	[0.00]	ug/L
Sr 421.552†	11.2	5.64	50.43%	[0.00]	ug/L
Ti 334.940†	-909.7	34.64	3.81%	[0.00]	ug/L
Tl 190.801†	-39.8	2.32	5.83%	[0.00]	ug/L
U 409.014†	-1384.7	114.96	8.30%	[0.00]	ug/L
V 292.402†	-1440.4	43.26	3.00%	[0.00]	ug/L
Zn 213.857†	742.7	5.84	0.79%	[0.00]	ug/L
SiO2†	476.1	10.74	2.26%	[0.00]	ug/L

Sequence No.: 2
 Sample ID: S0.1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 2
 Date Collected: 1/28/2010 10:09:52
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: S0.1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc Radial	5539.5	5539.5	99.2 %	10:11:50
1	Y RADIAL	6000.3	6000.3	98.63 %	10:11:50
1	K 766.490 Radial†	8277.8	5950.6	[1000] ug/L	10:11:45
1	Sr 421.552†	16331.1	16454.0	[100] ug/L	10:11:50
1	Sc 361.383	979976.8	979976.8	99.588 %	10:12:16
1	Y 371.029	866571.7	866571.7	99.353 %	10:12:16
1	Ag 328.068†	24184.2	23963.2	[100] ug/L	10:12:21
1	As 188.979†	214.5	249.2	[100] ug/L	10:12:41
1	B 249.677†	4088.2	4391.4	[100] ug/L	10:12:21
1	Ba 233.527†	12940.8	12998.9	[100] ug/L	10:12:21
1	Be 313.107†	284283.2	290526.8	[100] ug/L	10:12:16
1	Cd 226.502†	9092.8	9329.8	[100] ug/L	10:12:21
1	Co 228.616†	4641.6	4732.6	[100] ug/L	10:12:41
1	Cr 267.716†	9591.3	9545.4	[100] ug/L	10:12:21
1	Cu 324.752†	44167.1	35213.2	[100] ug/L	10:12:21
1	Mn 257.610†	90979.7	90822.9	[100] ug/L	10:12:21
1	Mo 202.031†	1502.4	1485.6	[100] ug/L	10:12:41
1	Ni 231.604†	4148.8	4056.0	[100] ug/L	10:12:41
1	P 214.914†	1158.3	923.6	[500] ug/L	10:12:41
1	Pb 220.353†	762.0	823.5	[100] ug/L	10:12:41
1	S 181.975 Axial†	211.0	144.1	[200] ug/L	10:12:41
1	Sb 206.836†	329.6	295.8	[100] ug/L	10:12:41
1	Se 196.026†	150.9	172.6	[100] ug/L	10:12:41
1	Si 251.611†	16988.7	16598.7	[500] ug/L	10:12:21
1	Sn 189.927†	552.8	559.7	[100] ug/L	10:12:41
1	Ti 334.940†	64227.9	65403.2	[100] ug/L	10:12:21
1	Tl 190.801†	282.5	323.4	[100] ug/L	10:12:41
1	U 409.014†	2650.9	4046.6	[100] ug/L	10:12:16
1	V 292.402†	14816.5	16318.2	[100] ug/L	10:12:21
1	Zn 213.857†	11694.1	10999.7	[100] ug/L	10:12:21
1	SiO2†	17339.4	16935.0	[1069.5] ug/L	10:13:48
2	Sc Radial	5566.1	5566.1	99.7 %	10:12:00
2	Y RADIAL	6026.9	6026.9	99.07 %	10:12:00
2	K 766.490 Radial†	8327.5	5960.7	[1000] ug/L	10:11:55
2	Sr 421.552†	16330.1	16374.5	[100] ug/L	10:12:00
2	Sc 361.383	977205.9	977205.9	99.307 %	10:12:47
2	Y 371.029	865537.9	865537.9	99.235 %	10:12:47
2	Ag 328.068†	24501.2	24351.3	[100] ug/L	10:12:52
2	As 188.979†	213.5	248.8	[100] ug/L	10:13:12
2	B 249.677†	4222.7	4538.4	[100] ug/L	10:12:52
2	Ba 233.527†	13051.8	13147.5	[100] ug/L	10:12:52
2	Be 313.107†	283149.1	290194.2	[100] ug/L	10:12:47
2	Cd 226.502†	9115.9	9378.9	[100] ug/L	10:12:52
2	Co 228.616†	4625.7	4729.8	[100] ug/L	10:13:12
2	Cr 267.716†	9692.8	9674.9	[100] ug/L	10:12:52
2	Cu 324.752†	45001.7	36179.4	[100] ug/L	10:12:52
2	Mn 257.610†	92069.2	92179.1	[100] ug/L	10:12:52
2	Mo 202.031†	1510.6	1498.2	[100] ug/L	10:13:12
2	Ni 231.604†	4174.6	4093.8	[100] ug/L	10:13:12
2	P 214.914†	1144.4	912.9	[500] ug/L	10:13:12
2	Pb 220.353†	755.0	818.7	[100] ug/L	10:13:12
2	S 181.975 Axial†	219.8	153.5	[200] ug/L	10:13:12
2	Sb 206.836†	326.5	293.6	[100] ug/L	10:13:12
2	Se 196.026†	147.0	169.1	[100] ug/L	10:13:12
2	Si 251.611†	17232.2	16892.3	[500] ug/L	10:12:52
2	Sn 189.927†	551.2	559.6	[100] ug/L	10:13:12
2	Ti 334.940†	65183.6	66548.5	[100] ug/L	10:12:52
2	Tl 190.801†	283.0	324.8	[100] ug/L	10:13:12
2	U 409.014†	2540.8	3943.2	[100] ug/L	10:12:47

2	V 292.402†	15114.6	16660.6	[100]	ug/L	10:12:52
2	Zn 213.857†	11769.8	11109.3	[100]	ug/L	10:12:52
2	SiO2†	17150.1	16793.7	[1069.5]	ug/L	10:13:53
3	Sc Radial	5628.9	5628.9	101	%	10:12:10
3	Y RADIAL	6119.6	6119.6	100.6	%	10:12:10
3	K 766.490 Radial†	8163.7	5704.8	[1000]	ug/L	10:12:05
3	Sr 421.552†	16582.6	16442.0	[100]	ug/L	10:12:10
3	Sc 361.383	982747.2	982747.2	99.870	%	10:13:17
3	Y 371.029	869713.2	869713.2	99.713	%	10:13:17
3	Ag 328.068†	24507.8	24218.8	[100]	ug/L	10:13:22
3	As 188.979†	218.5	252.6	[100]	ug/L	10:13:42
3	B 249.677†	4200.8	4492.6	[100]	ug/L	10:13:22
3	Ba 233.527†	13130.1	13151.8	[100]	ug/L	10:13:22
3	Be 313.107†	285001.6	290441.4	[100]	ug/L	10:13:17
3	Cd 226.502†	9191.1	9402.5	[100]	ug/L	10:13:22
3	Co 228.616†	4646.2	4724.1	[100]	ug/L	10:13:42
3	Cr 267.716†	9669.3	9596.4	[100]	ug/L	10:13:22
3	Cu 324.752†	44962.3	35884.4	[100]	ug/L	10:13:22
3	Mn 257.610†	92310.3	91897.8	[100]	ug/L	10:13:22
3	Mo 202.031†	1496.7	1475.7	[100]	ug/L	10:13:42
3	Ni 231.604†	4133.9	4029.4	[100]	ug/L	10:13:42
3	P 214.914†	1134.1	896.1	[500]	ug/L	10:13:42
3	Pb 220.353†	764.2	823.6	[100]	ug/L	10:13:42
3	S 181.975 Axial†	207.2	139.7	[200]	ug/L	10:13:42
3	Sb 206.836†	326.7	292.0	[100]	ug/L	10:13:42
3	Se 196.026†	155.3	176.6	[100]	ug/L	10:13:42
3	Si 251.611†	17191.9	16754.1	[500]	ug/L	10:13:22
3	Sn 189.927†	548.8	554.1	[100]	ug/L	10:13:42
3	Ti 334.940†	65214.4	66209.2	[100]	ug/L	10:13:22
3	Tl 190.801†	279.9	320.0	[100]	ug/L	10:13:42
3	U 409.014†	2795.3	4183.6	[100]	ug/L	10:13:17
3	V 292.402†	15083.1	16543.2	[100]	ug/L	10:13:22
3	Zn 213.857†	11821.6	11094.3	[100]	ug/L	10:13:22
3	SiO2†	17357.3	16903.8	[1069.5]	ug/L	10:13:58

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Sc 361.383	979976.6	2770.62	0.28%	99.588	%
Sc Radial	5578.2	45.90	0.82%	99.9	%
Y 371.029	867274.2	2174.51	0.25%	99.434	%
Y RADIAL	6049.0	62.62	1.04%	99.43	%
Ag 328.068†	24177.8	197.28	0.82%	[100]	ug/L
As 188.979†	250.2	2.07	0.83%	[100]	ug/L
B 249.677†	4474.1	75.21	1.68%	[100]	ug/L
Ba 233.527†	13099.4	87.05	0.66%	[100]	ug/L
Be 313.107†	290387.5	172.73	0.06%	[100]	ug/L
Cd 226.502†	9370.4	37.09	0.40%	[100]	ug/L
Co 228.616†	4728.8	4.35	0.09%	[100]	ug/L
Cr 267.716†	9605.6	65.24	0.68%	[100]	ug/L
Cu 324.752†	35759.0	495.16	1.38%	[100]	ug/L
K 766.490 Radial†	5872.0	144.90	2.47%	[1000]	ug/L
Mn 257.610†	91633.3	715.74	0.78%	[100]	ug/L
Mo 202.031†	1486.5	11.29	0.76%	[100]	ug/L
Ni 231.604†	4059.7	32.37	0.80%	[100]	ug/L
P 214.914†	910.9	13.86	1.52%	[500]	ug/L
Pb 220.353†	821.9	2.84	0.34%	[100]	ug/L
S 181.975 Axial†	145.8	7.08	4.86%	[200]	ug/L
Sb 206.836†	293.8	1.92	0.65%	[100]	ug/L
Se 196.026†	172.8	3.73	2.16%	[100]	ug/L
Si 251.611†	16748.4	146.87	0.88%	[500]	ug/L
Sn 189.927†	557.8	3.20	0.57%	[100]	ug/L
Sr 421.552†	16423.5	42.88	0.26%	[100]	ug/L
Ti 334.940†	66053.6	588.29	0.89%	[100]	ug/L
Tl 190.801†	322.7	2.45	0.76%	[100]	ug/L
U 409.014†	4057.8	120.60	2.97%	[100]	ug/L
V 292.402†	16507.3	173.98	1.05%	[100]	ug/L
Zn 213.857†	11067.8	59.40	0.54%	[100]	ug/L
SiO2†	16877.5	74.21	0.44%	[1069.5]	ug/L

Sequence No.: 3
 Sample ID: S0.5
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 3
 Date Collected: 1/28/2010 10:16:08
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Analysis Time
1	Sc Radial	5470.0	5470.0	97.9 %		10:18:00
1	Y RADIAL	5904.8	5904.8	97.06 %		10:18:00
1	Al 396.153Radial†	7022.7	7166.7	[5000] ug/L		10:18:00
1	Ca 317.933Radial†	3333.4	3376.8	[5000] ug/L		10:18:20
1	K 766.490 Radial†	31950.4	30227.1	[5000] ug/L		10:18:00
1	Mg 279.077 IEC†	164.3	165.4	[5000] ug/L		10:18:20
1	Sr 421.552†	83381.5	85123.8	[500] ug/L		10:18:00
1	Sc 361.383	973680.9	973680.9	98.948 %		10:19:18
1	Y 371.029	854154.1	854154.1	97.929 %		10:19:18
1	Ag 328.068†	125593.5	126607.3	[500] ug/L		10:19:23
1	As 188.979†	1264.6	1311.8	[500] ug/L		10:19:43
1	B 249.677†	23104.7	23636.5	[500] ug/L		10:19:23
1	Ba 233.527†	66301.0	67010.2	[500] ug/L		10:19:23
1	Be 313.107†	1483393.5	1504227.1	[500] ug/L		10:19:18
1	Cd 226.502†	47137.0	47837.3	[500] ug/L		10:19:23
1	Co 228.616†	24312.7	24642.9	[500] ug/L		10:19:23
1	Cr 267.716†	48309.1	48737.0	[500] ug/L		10:19:23
1	Cu 324.752†	192244.2	185150.8	[500] ug/L		10:19:23
1	Mn 257.610†	467133.7	471565.5	[500] ug/L		10:19:18
1	Mo 202.031†	7733.8	7793.0	[500] ug/L		10:19:43
1	Ni 231.604†	21028.6	21142.1	[500] ug/L		10:19:23
1	P 214.914†	4898.4	4711.0	[2500] ug/L		10:19:43
1	Pb 220.353†	4136.9	4239.2	[500] ug/L		10:19:43
1	S 181.975 Axial†	842.3	783.4	[1000] ug/L		10:19:43
1	Sb 206.836†	1616.0	1598.0	[500] ug/L		10:19:43
1	Se 196.026†	892.5	923.1	[500] ug/L		10:19:43
1	Si 251.611†	89631.4	90123.7	[2500] ug/L		10:19:23
1	Sn 189.927†	2899.2	2934.6	[500] ug/L		10:19:43
1	Ti 334.940†	350239.0	354871.1	[500] ug/L		10:19:18
1	Tl 190.801†	1598.9	1655.7	[500] ug/L		10:19:43
1	U 409.014†	19431.8	21023.0	[500] ug/L		10:19:23
1	V 292.402†	82233.4	84547.8	[500] ug/L		10:19:23
1	Zn 213.857†	56983.5	56846.4	[500] ug/L		10:19:23
1	SiO2†	89125.8	89597.0	[5347.5] ug/L		10:20:51
2	Sc Radial	5485.3	5485.3	98.2 %		10:18:25
2	Y RADIAL	5927.2	5927.2	97.43 %		10:18:25
2	Al 396.153Radial†	7091.0	7216.2	[5000] ug/L		10:18:25
2	Ca 317.933Radial†	3309.8	3343.2	[5000] ug/L		10:18:45
2	K 766.490 Radial†	32043.0	30230.6	[5000] ug/L		10:18:25
2	Mg 279.077 IEC†	162.7	163.3	[5000] ug/L		10:18:45
2	Sr 421.552†	83914.9	85430.0	[500] ug/L		10:18:25
2	Sc 361.383	971216.1	971216.1	98.698 %		10:19:49
2	Y 371.029	852413.1	852413.1	97.730 %		10:19:49
2	Ag 328.068†	127153.6	128510.2	[500] ug/L		10:19:54
2	As 188.979†	1246.9	1297.2	[500] ug/L		10:20:14
2	B 249.677†	23531.4	24128.1	[500] ug/L		10:19:54
2	Ba 233.527†	67157.6	68048.2	[500] ug/L		10:19:54
2	Be 313.107†	1479757.9	1504348.4	[500] ug/L		10:19:49
2	Cd 226.502†	47724.3	48553.2	[500] ug/L		10:19:54
2	Co 228.616†	24547.2	24942.8	[500] ug/L		10:19:54
2	Cr 267.716†	48943.8	49504.0	[500] ug/L		10:19:54
2	Cu 324.752†	195067.0	188503.9	[500] ug/L		10:19:54
2	Mn 257.610†	465127.8	470731.2	[500] ug/L		10:19:49
2	Mo 202.031†	7685.8	7764.2	[500] ug/L		10:20:14
2	Ni 231.604†	21301.1	21472.1	[500] ug/L		10:19:54
2	P 214.914†	4911.1	4736.4	[2500] ug/L		10:20:14
2	Pb 220.353†	4118.5	4231.2	[500] ug/L		10:20:14
2	S 181.975 Axial†	841.3	784.6	[1000] ug/L		10:20:14
2	Sb 206.836†	1616.2	1602.4	[500] ug/L		10:20:14

2	Se 196.026†	881.3	914.0	[500]	ug/L	10:20:14
2	Si 251.611†	90974.6	91714.5	[2500]	ug/L	10:19:54
2	Sn 189.927†	2892.6	2935.4	[500]	ug/L	10:20:14
2	Ti 334.940†	348096.7	353598.8	[500]	ug/L	10:19:49
2	Tl 190.801†	1595.5	1656.3	[500]	ug/L	10:20:14
2	U 409.014†	19459.1	21100.6	[500]	ug/L	10:19:54
2	V 292.402†	83108.8	85645.6	[500]	ug/L	10:19:54
2	Zn 213.857†	57712.4	57731.1	[500]	ug/L	10:19:54
2	SiO2†	89807.7	90516.4	[5347.5]	ug/L	10:20:56
3	Sc Radial	5415.3	5415.3	97.0	%	10:18:50
3	Y RADIAL	5870.4	5870.4	96.50	%	10:18:50
3	Al 396.153Radial†	6955.4	7169.7	[5000]	ug/L	10:18:50
3	Ca 317.933Radial†	3283.8	3359.9	[5000]	ug/L	10:19:10
3	K 766.490 Radial†	31587.2	30182.3	[5000]	ug/L	10:18:50
3	Mg 279.077 IEC†	161.4	164.1	[5000]	ug/L	10:19:10
3	Sr 421.552†	82304.8	84873.9	[500]	ug/L	10:18:50
3	Sc 361.383	976872.6	976872.6	99.273	%	10:20:20
3	Y 371.029	856369.4	856369.4	98.183	%	10:20:20
3	Ag 328.068†	125717.5	126317.5	[500]	ug/L	10:20:25
3	As 188.979†	1252.6	1295.6	[500]	ug/L	10:20:46
3	B 249.677†	23267.5	23724.2	[500]	ug/L	10:20:25
3	Ba 233.527†	66414.8	66906.0	[500]	ug/L	10:20:25
3	Be 313.107†	1478371.3	1494270.1	[500]	ug/L	10:20:20
3	Cd 226.502†	47423.3	47970.1	[500]	ug/L	10:20:25
3	Co 228.616†	24432.3	24683.1	[500]	ug/L	10:20:25
3	Cr 267.716†	48591.0	48861.4	[500]	ug/L	10:20:25
3	Cu 324.752†	192315.0	184587.4	[500]	ug/L	10:20:25
3	Mn 257.610†	466857.5	469744.8	[500]	ug/L	10:20:20
3	Mo 202.031†	7661.7	7694.9	[500]	ug/L	10:20:46
3	Ni 231.604†	21183.2	21228.4	[500]	ug/L	10:20:25
3	P 214.914†	4872.1	4668.3	[2500]	ug/L	10:20:46
3	Pb 220.353†	4111.7	4200.2	[500]	ug/L	10:20:46
3	S 181.975 Axial†	839.8	778.1	[1000]	ug/L	10:20:46
3	Sb 206.836†	1608.2	1584.8	[500]	ug/L	10:20:46
3	Se 196.026†	887.8	915.4	[500]	ug/L	10:20:46
3	Si 251.611†	89874.3	90072.4	[2500]	ug/L	10:20:25
3	Sn 189.927†	2862.0	2887.6	[500]	ug/L	10:20:46
3	Ti 334.940†	349778.4	353250.6	[500]	ug/L	10:20:20
3	Tl 190.801†	1580.5	1631.8	[500]	ug/L	10:20:46
3	U 409.014†	19498.6	21026.2	[500]	ug/L	10:20:25
3	V 292.402†	82476.2	84520.8	[500]	ug/L	10:20:25
3	Zn 213.857†	57145.2	56821.2	[500]	ug/L	10:20:25
3	SiO2†	89561.7	89741.7	[5347.5]	ug/L	10:21:01

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Sc 361.383	973923.2	2836.03	0.29%	98.973	%
Sc Radial	5456.8	36.81	0.67%	97.7	%
Y 371.029	854312.2	1982.90	0.23%	97.948	%
Y RADIAL	5900.8	28.61	0.48%	97.00	%
Ag 328.068†	127145.0	1191.13	0.94%	[500]	ug/L
Al 396.153Radial†	7184.2	27.76	0.39%	[5000]	ug/L
As 188.979†	1301.5	8.95	0.69%	[500]	ug/L
B 249.677†	23829.6	262.21	1.10%	[500]	ug/L
Ba 233.527†	67321.5	631.54	0.94%	[500]	ug/L
Be 313.107†	1500948.5	5784.02	0.39%	[500]	ug/L
Ca 317.933Radial†	3360.0	16.79	0.50%	[5000]	ug/L
Cd 226.502†	48120.2	380.85	0.79%	[500]	ug/L
Co 228.616†	24756.3	162.82	0.66%	[500]	ug/L
Cr 267.716†	49034.1	411.62	0.84%	[500]	ug/L
Cu 324.752†	186080.7	2117.37	1.14%	[500]	ug/L
K 766.490 Radial†	30213.3	26.97	0.09%	[5000]	ug/L
Mg 279.077 IEC†	164.3	1.06	0.64%	[5000]	ug/L
Mn 257.610†	470680.5	911.41	0.19%	[500]	ug/L
Mo 202.031†	7750.7	50.45	0.65%	[500]	ug/L
Ni 231.604†	21280.9	171.15	0.80%	[500]	ug/L
P 214.914†	4705.2	34.40	0.73%	[2500]	ug/L
Pb 220.353†	4223.5	20.59	0.49%	[500]	ug/L
S 181.975 Axial†	782.1	3.46	0.44%	[1000]	ug/L

Sb 206.836†	1595.1	9.14	0.57%	[500]	ug/L
Se 196.026†	917.5	4.90	0.53%	[500]	ug/L
Si 251.611†	90636.9	933.62	1.03%	[2500]	ug/L
Sn 189.927†	2919.2	27.37	0.94%	[500]	ug/L
Sr 421.552†	85142.6	278.50	0.33%	[500]	ug/L
Ti 334.940†	353906.8	853.01	0.24%	[500]	ug/L
Tl 190.801†	1647.9	13.97	0.85%	[500]	ug/L
U 409.014†	21049.9	43.89	0.21%	[500]	ug/L
V 292.402†	84904.7	641.75	0.76%	[500]	ug/L
Zn 213.857†	57132.9	518.19	0.91%	[500]	ug/L
SiO2†	89951.7	494.37	0.55%	[5347.5]	ug/L

Sequence No.: 4
 Sample ID: SCAL
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 4
 Date Collected: 1/28/2010 10:23:12
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Analysis Time
1	Sc Radial	5428.6	5428.6	97.2 %		10:25:25
1	Y RADIAL	5831.4	5831.4	95.85 %		10:25:25
1	Al 396.153Radial†	13899.0	14295.9	[10000] ug/L		10:25:05
1	Ca 317.933Radial†	6519.2	6680.4	[10000] ug/L		10:25:25
1	Fe 238.204 Radial†	1193.3	1219.3	[10000] ug/L		10:25:25
1	K 766.490 Radial†	60669.5	60022.9	[10000] ug/L		10:25:05
1	Mg 279.077 IEC†	319.4	326.2	[10000] ug/L		10:25:25
1	Na 589.592 Radial†	35357.5	37404.7	[10000] ug/L		10:25:05
1	Sr 421.552†	166454.8	171241.3	[1000] ug/L		10:25:05
1	Sc 361.383	890354.9	890354.9	90.481 %		10:26:28
1	Y 371.029	807932.7	807932.7	92.630 %		10:26:28
1	Ag 328.068†	240164.5	265111.2	[1000] ug/L		10:26:28
1	As 188.979†	2507.5	2805.1	[1000] ug/L		10:26:48
1	B 249.677†	46072.1	51205.6	[1000] ug/L		10:26:28
1	Ba 233.527†	130347.4	144065.9	[1000] ug/L		10:26:28
1	Be 313.107†	2918205.6	3230298.4	[1000] ug/L		10:26:23
1	Cd 226.502†	92203.8	102103.9	[1000] ug/L		10:26:28
1	Co 228.616†	47786.6	52886.0	[1000] ug/L		10:26:28
1	Cr 267.716†	95035.3	104948.5	[1000] ug/L		10:26:28
1	Cu 324.752†	372989.7	403095.5	[1000] ug/L		10:26:28
1	Mn 257.610†	912916.0	1008431.1	[1000] ug/L		10:26:23
1	Mo 202.031†	14907.8	16453.3	[1000] ug/L		10:26:48
1	Ni 231.604†	40979.0	45180.4	[1000] ug/L		10:26:28
1	P 214.914†	9457.5	10213.0	[5000] ug/L		10:26:48
1	Pb 220.353†	8186.8	9106.5	[1000] ug/L		10:26:48
1	S 181.975 Axial†	1573.9	1671.7	[2000] ug/L		10:26:48
1	Sb 206.836†	3079.2	3368.0	[1000] ug/L		10:26:48
1	Se 196.026†	1742.3	1946.7	[1000] ug/L		10:26:48
1	Si 251.611†	170273.5	187727.7	[5000] ug/L		10:26:28
1	Sn 189.927†	5578.9	6170.4	[1000] ug/L		10:26:48
1	Ti 334.940†	659841.8	730173.6	[1000] ug/L		10:26:28
1	Tl 190.801†	3156.5	3528.4	[1000] ug/L		10:26:48
1	U 409.014†	39498.8	45039.2	[1000] ug/L		10:26:28
1	V 292.402†	163876.4	182558.3	[1000] ug/L		10:26:28
1	Zn 213.857†	110609.9	121504.4	[1000] ug/L		10:26:28
1	SiO2†	172548.5	190226.3	[10695] ug/L		10:27:57
2	Sc Radial	5406.0	5406.0	96.8 %		10:25:50
2	Y RADIAL	5819.7	5819.7	95.66 %		10:25:50
2	Al 396.153Radial†	13974.4	14433.4	[10000] ug/L		10:25:30
2	Ca 317.933Radial†	6500.4	6688.8	[10000] ug/L		10:25:50
2	Fe 238.204 Radial†	1194.4	1225.5	[10000] ug/L		10:25:50
2	K 766.490 Radial†	61192.4	60823.6	[10000] ug/L		10:25:30
2	Mg 279.077 IEC†	317.2	325.3	[10000] ug/L		10:25:50
2	Na 589.592 Radial†	35631.9	37839.9	[10000] ug/L		10:25:30
2	Sr 421.552†	167666.3	173207.5	[1000] ug/L		10:25:30
2	Sc 361.383	889821.6	889821.6	90.426 %		10:27:00
2	Y 371.029	807745.9	807745.9	92.609 %		10:27:00
2	Ag 328.068†	239767.5	264831.3	[1000] ug/L		10:27:00
2	As 188.979†	2502.3	2801.0	[1000] ug/L		10:27:20
2	B 249.677†	46106.5	51274.2	[1000] ug/L		10:27:00
2	Ba 233.527†	130445.7	144260.8	[1000] ug/L		10:27:00
2	Be 313.107†	2917365.7	3231302.6	[1000] ug/L		10:26:54
2	Cd 226.502†	92243.0	102208.3	[1000] ug/L		10:27:00
2	Co 228.616†	47843.1	52980.1	[1000] ug/L		10:27:00
2	Cr 267.716†	95194.0	105186.9	[1000] ug/L		10:27:00
2	Cu 324.752†	371843.4	402074.8	[1000] ug/L		10:27:00
2	Mn 257.610†	914680.0	1010986.5	[1000] ug/L		10:26:54
2	Mo 202.031†	14825.9	16372.6	[1000] ug/L		10:27:20
2	Ni 231.604†	41023.4	45256.7	[1000] ug/L		10:27:00

2	P 214.914†	9426.1	10184.6	[5000] ug/L	10:27:20
2	Pb 220.353†	8208.7	9136.1	[1000] ug/L	10:27:20
2	S 181.975 Axial†	1560.5	1657.9	[2000] ug/L	10:27:20
2	Sb 206.836†	3071.8	3361.9	[1000] ug/L	10:27:20
2	Se 196.026†	1739.3	1944.6	[1000] ug/L	10:27:20
2	Si 251.611†	170060.2	187604.6	[5000] ug/L	10:27:00
2	Sn 189.927†	5588.6	6184.9	[1000] ug/L	10:27:20
2	Ti 334.940†	659101.8	729792.3	[1000] ug/L	10:27:00
2	Tl 190.801†	3181.1	3557.7	[1000] ug/L	10:27:20
2	U 409.014†	39375.3	44928.8	[1000] ug/L	10:27:00
2	V 292.402†	163708.4	182481.1	[1000] ug/L	10:27:00
2	Zn 213.857†	110669.4	121643.6	[1000] ug/L	10:27:00
2	SiO2†	169744.7	187239.9	[10695] ug/L	10:28:02
3	Sc Radial	5451.1	5451.1	97.6 %	10:26:15
3	Y RADIAL	5869.3	5869.3	96.48 %	10:26:15
3	Al 396.153Radial†	14032.6	14373.5	[10000] ug/L	10:25:55
3	Ca 317.933Radial†	6546.0	6680.0	[10000] ug/L	10:26:15
3	Fe 238.204 Radial†	1193.3	1214.2	[10000] ug/L	10:26:15
3	K 766.490 Radial†	61260.4	60369.7	[10000] ug/L	10:25:55
3	Mg 279.077 IEC†	317.0	322.4	[10000] ug/L	10:26:15
3	Na 589.592 Radial†	35503.6	37403.6	[10000] ug/L	10:25:55
3	Sr 421.552†	168169.7	172288.8	[1000] ug/L	10:25:55
3	Sc 361.383	890814.1	890814.1	90.527 %	10:27:31
3	Y 371.029	809156.2	809156.2	92.770 %	10:27:31
3	Ag 328.068†	240672.4	265535.5	[1000] ug/L	10:27:31
3	As 188.979†	2493.5	2788.3	[1000] ug/L	10:27:51
3	B 249.677†	46217.3	51339.8	[1000] ug/L	10:27:31
3	Ba 233.527†	131044.2	144761.3	[1000] ug/L	10:27:31
3	Be 313.107†	2914422.2	3224456.6	[1000] ug/L	10:27:26
3	Cd 226.502†	92903.8	102824.7	[1000] ug/L	10:27:31
3	Co 228.616†	48002.5	53097.3	[1000] ug/L	10:27:31
3	Cr 267.716†	95787.3	105725.0	[1000] ug/L	10:27:31
3	Cu 324.752†	371909.8	401690.0	[1000] ug/L	10:27:31
3	Mn 257.610†	913291.0	1008325.2	[1000] ug/L	10:27:26
3	Mo 202.031†	14841.0	16371.0	[1000] ug/L	10:27:51
3	Ni 231.604†	41332.6	45547.7	[1000] ug/L	10:27:31
3	P 214.914†	9405.6	10150.3	[5000] ug/L	10:27:51
3	Pb 220.353†	8154.0	9065.6	[1000] ug/L	10:27:51
3	S 181.975 Axial†	1558.0	1653.2	[2000] ug/L	10:27:51
3	Sb 206.836†	3068.2	3354.2	[1000] ug/L	10:27:51
3	Se 196.026†	1750.2	1954.5	[1000] ug/L	10:27:51
3	Si 251.611†	170726.3	188130.9	[5000] ug/L	10:27:31
3	Sn 189.927†	5556.1	6142.1	[1000] ug/L	10:27:51
3	Ti 334.940†	661615.7	731757.2	[1000] ug/L	10:27:31
3	Tl 190.801†	3161.7	3532.3	[1000] ug/L	10:27:51
3	U 409.014†	39436.0	44947.3	[1000] ug/L	10:27:31
3	V 292.402†	164841.7	183531.2	[1000] ug/L	10:27:31
3	Zn 213.857†	111168.5	122058.5	[1000] ug/L	10:27:31
3	SiO2†	169296.5	186535.6	[10695] ug/L	10:28:07

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	890330.2	496.70	0.06%	90.478 %
Sc Radial	5428.6	22.57	0.42%	97.2 %
Y 371.029	808278.3	766.03	0.09%	92.670 %
Y RADIAL	5840.1	25.97	0.44%	96.00 %
Ag 328.068†	265159.3	354.54	0.13%	[1000] ug/L
Al 396.153Radial†	14367.6	68.96	0.48%	[10000] ug/L
As 188.979†	2798.1	8.77	0.31%	[1000] ug/L
B 249.677†	51273.2	67.10	0.13%	[1000] ug/L
Ba 233.527†	144362.7	358.70	0.25%	[1000] ug/L
Be 313.107†	3228685.9	3696.89	0.11%	[1000] ug/L
Ca 317.933Radial†	6683.1	5.01	0.07%	[10000] ug/L
Cd 226.502†	102379.0	389.50	0.38%	[1000] ug/L
Co 228.616†	52987.8	105.87	0.20%	[1000] ug/L
Cr 267.716†	105286.8	397.80	0.38%	[1000] ug/L
Cu 324.752†	402286.8	726.31	0.18%	[1000] ug/L
Fe 238.204 Radial†	1219.7	5.67	0.47%	[10000] ug/L
K 766.490 Radial†	60405.4	401.52	0.66%	[10000] ug/L

Mg 279.077 IEC†	324.6	1.99	0.61%	[10000]	ug/L
Mn 257.610†	1009247.6	1506.87	0.15%	[1000]	ug/L
Mo 202.031†	16399.0	47.07	0.29%	[1000]	ug/L
Na 589.592 Radial†	37549.4	251.59	0.67%	[10000]	ug/L
Ni 231.604†	45328.3	193.82	0.43%	[1000]	ug/L
P 214.914†	10182.6	31.37	0.31%	[5000]	ug/L
Pb 220.353†	9102.7	35.42	0.39%	[1000]	ug/L
S 181.975 Axial†	1660.9	9.62	0.58%	[2000]	ug/L
Sb 206.836†	3361.4	6.92	0.21%	[1000]	ug/L
Se 196.026†	1948.6	5.25	0.27%	[1000]	ug/L
Si 251.611†	187821.1	275.29	0.15%	[5000]	ug/L
Sn 189.927†	6165.8	21.76	0.35%	[1000]	ug/L
Sr 421.552†	172245.9	983.78	0.57%	[1000]	ug/L
Ti 334.940†	730574.4	1041.99	0.14%	[1000]	ug/L
Tl 190.801†	3539.4	15.91	0.45%	[1000]	ug/L
U 409.014†	44971.8	59.10	0.13%	[1000]	ug/L
V 292.402†	182856.9	585.29	0.32%	[1000]	ug/L
Zn 213.857†	121735.5	288.24	0.24%	[1000]	ug/L
SiO2†	188000.6	1959.40	1.04%	[10695]	ug/L

Sequence No.: 5
 Sample ID: S10
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 5
 Date Collected: 1/28/2010 10:30:19
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Analysis Time
1	Sc Radial	5413.8	5413.8	96.9 %		10:32:32
1	Y RADIAL	5831.1	5831.1	95.85 %		10:32:32
1	Al 396.153Radial†	69951.8	72160.0	[50000] ug/L		10:32:12
1	Ca 317.933Radial†	31922.8	32905.4	[50000] ug/L		10:32:12
1	Fe 238.204 Radial†	2285.9	2349.8	[20000] ug/L		10:32:32
1	Mg 279.077 IEC†	1477.5	1521.9	[50000] ug/L		10:32:32
1	Na 589.592 Radial†	71916.4	75218.5	[20000] ug/L		10:32:12
1	Sc 361.383	954592.9	954592.9	97.009 %		10:33:29
1	Y 371.029	831254.9	831254.9	95.304 %		10:33:29
2	Sc Radial	5390.5	5390.5	96.5 %		10:32:57
2	Y RADIAL	5815.5	5815.5	95.59 %		10:32:57
2	Al 396.153Radial†	70126.9	72653.3	[50000] ug/L		10:32:37
2	Ca 317.933Radial†	31919.6	33044.5	[50000] ug/L		10:32:37
2	Fe 238.204 Radial†	2269.9	2343.3	[20000] ug/L		10:32:57
2	Mg 279.077 IEC†	1475.8	1526.7	[50000] ug/L		10:32:57
2	Na 589.592 Radial†	71719.4	75335.1	[20000] ug/L		10:32:37
2	Sc 361.383	943638.9	943638.9	95.895 %		10:33:35
2	Y 371.029	822406.1	822406.1	94.289 %		10:33:35
3	Sc Radial	5414.0	5414.0	96.9 %		10:33:22
3	Y RADIAL	5858.3	5858.3	96.30 %		10:33:22
3	Al 396.153Radial†	69461.0	71651.1	[50000] ug/L		10:33:02
3	Ca 317.933Radial†	31643.4	32616.1	[50000] ug/L		10:33:02
3	Fe 238.204 Radial†	2295.0	2359.1	[20000] ug/L		10:33:22
3	Mg 279.077 IEC†	1488.6	1533.2	[50000] ug/L		10:33:22
3	Na 589.592 Radial†	70686.0	73946.6	[20000] ug/L		10:33:02
3	Sc 361.383	948215.2	948215.2	96.360 %		10:33:41
3	Y 371.029	825816.7	825816.7	94.681 %		10:33:41

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib. Units
Sc 361.383	948815.7	5501.62	0.58%	96.421 %	
Sc Radial	5406.1	13.51	0.25%	96.8 %	
Y 371.029	826492.5	4462.97	0.54%	94.758 %	
Y RADIAL	5835.0	21.67	0.37%	95.91 %	
Al 396.153Radial†	72154.8	501.11	0.69%	[50000] ug/L	
Ca 317.933Radial†	32855.4	218.54	0.67%	[50000] ug/L	
Fe 238.204 Radial†	2350.7	7.94	0.34%	[20000] ug/L	
Mg 279.077 IEC†	1527.2	5.68	0.37%	[50000] ug/L	
Na 589.592 Radial†	74833.4	770.17	1.03%	[20000] ug/L	

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	262.8	0.00000	0.999839	
Al 396.153Radial 3	3	Lin Thru 0	0.0	1.443	0.00000	1.000000	
As 188.979	3	Lin Thru 0	0.0	2.757	0.00000	0.999569	
B 249.677	3	Lin Thru 0	0.0	50.50	0.00000	0.999542	
Ba 233.527	3	Lin Thru 0	0.0	142.3	0.00000	0.999605	
Be 313.107	3	Lin Thru 0	0.0	3181	0.00000	0.999567	
Ca 317.933Radial 3	3	Lin Thru 0	0.0	0.6577	0.00000	0.999992	
Cd 226.502	3	Lin Thru 0	0.0	101.1	0.00000	0.999686	
Co 228.616	3	Lin Thru 0	0.0	52.25	0.00000	0.999613	
Cr 267.716	3	Lin Thru 0	0.0	103.8	0.00000	0.999594	
Cu 324.752	3	Lin Thru 0	0.0	396.0	0.00000	0.999503	
Fe 238.204 Radia 2	2	Lin Thru 0	0.0	0.1184	0.00000	0.999888	
K 766.490 Radial 3	3	Lin Thru 0	0.0	6.040	0.00000	0.999997	

Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0306	0.00000	0.999903
Mn 257.610	3	Lin Thru 0	0.0	995.0	0.00000	0.999606
Mo 202.031	3	Lin Thru 0	0.0	16.21	0.00000	0.999729
Na 589.592 Radia	2	Lin Thru 0	0.0	3.744	0.00000	0.999999
Ni 231.604	3	Lin Thru 0	0.0	44.74	0.00000	0.999662
P 214.914	3	Lin Thru 0	0.0	2.004	0.00000	0.999496
Pb 220.353	3	Lin Thru 0	0.0	8.966	0.00000	0.999548
S 181.975 Axial	3	Lin Thru 0	0.0	0.8201	0.00000	0.999674
Sb 206.836	3	Lin Thru 0	0.0	3.324	0.00000	0.999736
Se 196.026	3	Lin Thru 0	0.0	1.924	0.00000	0.999682
Si 251.611	3	Lin Thru 0	0.0	37.27	0.00000	0.999861
Sn 189.927	3	Lin Thru 0	0.0	6.096	0.00000	0.999742
Sr 421.552	3	Lin Thru 0	0.0	171.8	0.00000	0.999982
Ti 334.940	3	Lin Thru 0	0.0	725.5	0.00000	0.999890
Tl 190.801	3	Lin Thru 0	0.0	3.489	0.00000	0.999591
U 409.014	3	Lin Thru 0	0.0	44.37	0.00000	0.999638
V 292.402	3	Lin Thru 0	0.0	180.1	0.00000	0.999556
Zn 213.857	3	Lin Thru 0	0.0	120.2	0.00000	0.999669
SiO2	3	Lin Thru 0	0.0	17.41	0.00000	0.999815

Sequence No.: 6
 Sample ID: ICV
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 9
 Date Collected: 1/28/2010 10:35:52
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5666.4	5666.4	101 %		10:37:45
1	Y RADIAL	6154.1	6154.1	101.2 %		10:37:45
1	Al 396.153Radial†	7116.3	7010.4	4833.9 ug/L	4833.9 ppb	10:37:45
1	Ca 317.933Radial†	3285.8	3211.8	4883.6 ug/L	4883.6 ppb	10:38:05
1	Fe 238.204 Radial†	614.0	596.8	5053.4 ug/L	5053.4 ppb	10:38:05
1	K 766.490 Radial†	17115.2	14474.2	2393.2 ug/L	2393.2 ppb	10:37:45
1	Mg 279.077 IEC†	165.4	160.7	5244.4 ug/L	5244.4 ppb	10:38:05
1	Na 589.592 Radial†	7963.3	8877.0	2370.8 ug/L	2370.8 ppb	10:37:45
1	Sr 421.552†	88308.5	87029.2	506.56 ug/L	506.56 ppb	10:37:45
1	Sc 361.383	973322.5	973322.5	98.912 %		10:39:02
1	Y 371.029	856390.1	856390.1	98.186 %		10:39:02
1	Ag 328.068†	64523.8	64912.6	250.12 ug/L	250.12 ppb	10:39:02
1	As 188.979†	1193.1	1240.0	453.87 ug/L	453.87 ppb	10:39:23
1	B 249.677†	24043.9	24594.6	484.81 ug/L	484.81 ppb	10:39:02
1	Ba 233.527†	67605.0	68353.2	481.46 ug/L	481.46 ppb	10:39:02
1	Be 313.107†	765394.7	778882.3	245.94 ug/L	245.94 ppb	10:39:02
1	Cd 226.502†	45927.4	46631.9	461.15 ug/L	461.15 ppb	10:39:23
1	Co 228.616†	24440.2	24780.8	474.39 ug/L	474.39 ppb	10:39:23
1	Cr 267.716†	47286.7	47721.3	460.42 ug/L	460.42 ppb	10:39:02
1	Cu 324.752†	196287.9	189310.6	478.13 ug/L	478.13 ppb	10:39:02
1	Mn 257.610†	477158.5	481874.4	484.56 ug/L	484.56 ppb	10:39:02
1	Mo 202.031†	8276.5	8344.6	515.27 ug/L	515.27 ppb	10:39:23
1	Ni 231.604†	21035.4	21156.8	472.58 ug/L	472.58 ppb	10:39:23
1	P 214.914†	4930.9	4745.7	2274.9 ug/L	2274.9 ppb	10:39:23
1	Pb 220.353†	4148.8	4252.8	476.00 ug/L	476.00 ppb	10:39:23
1	S 181.975 Axial†	1987.3	1941.3	2366.4 ug/L	2366.4 ppb	10:39:23
1	Sb 206.836†	1608.8	1591.4	497.41 ug/L	497.41 ppb	10:39:23
1	Se 196.026†	4553.9	4625.1	2422.1 ug/L	2422.1 ppb	10:39:23
1	Si 251.611†	171074.2	172495.8	4621.7 ug/L	4621.7 ppb	10:39:02
1	Sn 189.927†	3090.4	3129.0	514.09 ug/L	514.09 ppb	10:39:23
1	Ti 334.940†	344437.9	349136.5	481.09 ug/L	481.09 ppb	10:39:02
1	Tl 190.801†	1675.9	1734.1	500.41 ug/L	500.41 ppb	10:39:23
1	U 409.014†	18610.9	20200.3	453.70 ug/L	453.70 ppb	10:39:02
1	V 292.402†	83926.0	86289.6	485.88 ug/L	485.88 ppb	10:39:02
1	Zn 213.857†	57758.2	57650.9	475.61 ug/L	475.61 ppb	10:39:02
1	SiO2†	169535.0	170923.8	9801.4 ug/L	9801.4 ppb	10:40:20
2	Sc Radial	5575.1	5575.1	99.8 %		10:38:10
2	Y RADIAL	6011.7	6011.7	98.82 %		10:38:10
2	Al 396.153Radial†	7157.4	7166.4	4942.3 ug/L	4942.3 ppb	10:38:10
2	Ca 317.933Radial†	3263.0	3242.0	4929.5 ug/L	4929.5 ppb	10:38:30
2	Fe 238.204 Radial†	612.1	604.7	5120.7 ug/L	5120.7 ppb	10:38:30
2	K 766.490 Radial†	17232.0	14867.4	2458.3 ug/L	2458.3 ppb	10:38:10
2	Mg 279.077 IEC†	166.7	164.6	5372.7 ug/L	5372.7 ppb	10:38:30
2	Na 589.592 Radial†	7883.6	8925.6	2383.8 ug/L	2383.8 ppb	10:38:10
2	Sr 421.552†	88037.8	88182.7	513.27 ug/L	513.27 ppb	10:38:10
2	Sc 361.383	983646.7	983646.7	99.961 %		10:39:28
2	Y 371.029	866950.3	866950.3	99.396 %		10:39:28
2	Ag 328.068†	64938.8	64643.0	249.11 ug/L	249.11 ppb	10:39:28
2	As 188.979†	1184.6	1218.9	446.20 ug/L	446.20 ppb	10:39:49
2	B 249.677†	24212.1	24507.8	483.09 ug/L	483.09 ppb	10:39:28
2	Ba 233.527†	67945.3	67976.3	478.81 ug/L	478.81 ppb	10:39:28
2	Be 313.107†	770952.5	776320.4	245.13 ug/L	245.13 ppb	10:39:28
2	Cd 226.502†	45748.1	45965.2	454.54 ug/L	454.54 ppb	10:39:49
2	Co 228.616†	24430.6	24511.9	469.24 ug/L	469.24 ppb	10:39:49
2	Cr 267.716†	47489.9	47422.8	457.54 ug/L	457.54 ppb	10:39:28
2	Cu 324.752†	198387.8	189328.4	478.17 ug/L	478.17 ppb	10:39:28
2	Mn 257.610†	479430.3	479083.8	481.76 ug/L	481.76 ppb	10:39:28
2	Mo 202.031†	8291.5	8271.7	510.78 ug/L	510.78 ppb	10:39:49
2	Ni 231.604†	20972.1	20870.3	466.18 ug/L	466.18 ppb	10:39:49

2	P 214.914†	4909.4	4671.8	2237.9 ug/L	2237.9 ppb	10:39:49
2	Pb 220.353†	4141.5	4201.4	470.28 ug/L	470.28 ppb	10:39:49
2	S 181.975 Axial†	1970.0	1903.0	2319.6 ug/L	2319.6 ppb	10:39:49
2	Sb 206.836†	1588.9	1554.4	486.04 ug/L	486.04 ppb	10:39:49
2	Se 196.026†	4535.0	4557.9	2387.3 ug/L	2387.3 ppb	10:39:49
2	Si 251.611†	172226.7	171833.4	4604.0 ug/L	4604.0 ppb	10:39:28
2	Sn 189.927†	3070.5	3076.3	505.46 ug/L	505.46 ppb	10:39:49
2	Ti 334.940†	346760.7	347805.3	479.26 ug/L	479.26 ppb	10:39:28
2	Tl 190.801†	1680.7	1721.1	496.66 ug/L	496.66 ppb	10:39:49
2	U 409.014†	18930.9	20323.0	456.46 ug/L	456.46 ppb	10:39:28
2	V 292.402†	84583.2	86056.5	484.53 ug/L	484.53 ppb	10:39:28
2	Zn 213.857†	58108.3	57388.2	473.46 ug/L	473.46 ppb	10:39:28
2	SiO2†	171880.8	171471.5	9832.9 ug/L	9832.9 ppb	10:40:25
3	Sc Radial	5485.7	5485.7	98.2 %		10:38:35
3	Y RADIAL	5950.1	5950.1	97.81 %		10:38:35
3	Al 396.153Radial†	7020.8	7144.3	4926.6 ug/L	4926.6 ppb	10:38:35
3	Ca 317.933Radial†	3269.9	3302.4	5021.3 ug/L	5021.3 ppb	10:38:55
3	Fe 238.204 Radial†	610.2	612.8	5188.8 ug/L	5188.8 ppb	10:38:55
3	K 766.490 Radial†	16830.3	14739.9	2437.1 ug/L	2437.1 ppb	10:38:35
3	Mg 279.077 IEC†	165.3	165.9	5414.3 ug/L	5414.3 ppb	10:38:55
3	Na 589.592 Radial†	7812.0	8981.5	2398.7 ug/L	2398.7 ppb	10:38:35
3	Sr 421.552†	86681.9	88240.7	513.61 ug/L	513.61 ppb	10:38:35
3	Sc 361.383	973918.5	973918.5	98.973 %		10:39:54
3	Y 371.029	859357.5	859357.5	98.526 %		10:39:54
3	Ag 328.068†	64380.7	64728.1	249.46 ug/L	249.46 ppb	10:39:54
3	As 188.979†	1188.1	1234.2	451.78 ug/L	451.78 ppb	10:40:15
3	B 249.677†	24007.1	24542.6	483.75 ug/L	483.75 ppb	10:39:54
3	Ba 233.527†	67430.8	68135.4	479.93 ug/L	479.93 ppb	10:39:54
3	Be 313.107†	767334.0	780368.2	246.40 ug/L	246.40 ppb	10:39:54
3	Cd 226.502†	45997.5	46674.4	461.56 ug/L	461.56 ppb	10:40:15
3	Co 228.616†	24501.4	24827.6	475.29 ug/L	475.29 ppb	10:40:15
3	Cr 267.716†	47279.2	47684.5	460.07 ug/L	460.07 ppb	10:39:54
3	Cu 324.752†	195635.8	188530.2	476.16 ug/L	476.16 ppb	10:39:54
3	Mn 257.610†	476213.4	480624.3	483.31 ug/L	483.31 ppb	10:39:54
3	Mo 202.031†	8301.3	8364.5	516.51 ug/L	516.51 ppb	10:40:15
3	Ni 231.604†	21043.4	21151.9	472.47 ug/L	472.47 ppb	10:40:15
3	P 214.914†	4916.8	4728.3	2266.6 ug/L	2266.6 ppb	10:40:15
3	Pb 220.353†	4172.9	4274.6	478.44 ug/L	478.44 ppb	10:40:15
3	S 181.975 Axial†	1983.3	1936.1	2360.0 ug/L	2360.0 ppb	10:40:15
3	Sb 206.836†	1611.9	1593.5	498.09 ug/L	498.09 ppb	10:40:15
3	Se 196.026†	4557.4	4625.8	2422.9 ug/L	2422.9 ppb	10:40:15
3	Si 251.611†	170488.0	171797.6	4602.9 ug/L	4602.9 ppb	10:39:54
3	Sn 189.927†	3094.4	3131.2	514.48 ug/L	514.48 ppb	10:40:15
3	Ti 334.940†	343587.7	348064.4	479.62 ug/L	479.62 ppb	10:39:54
3	Tl 190.801†	1671.9	1729.0	498.91 ug/L	498.91 ppb	10:40:15
3	U 409.014†	18505.0	20081.8	451.01 ug/L	451.01 ppb	10:39:54
3	V 292.402†	83964.4	86276.5	485.81 ug/L	485.81 ppb	10:39:54
3	Zn 213.857†	57781.5	57638.7	475.50 ug/L	475.50 ppb	10:39:54
3	SiO2†	171326.0	172628.5	9899.2 ug/L	9899.2 ppb	10:40:31

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	976962.5	99.282 %	0.5890			0.59%
Sc Radial	5575.7	99.8 %	1.62			1.62%
Y 371.029	860899.3	98.703 %	0.6244			0.63%
Y RADIAL	6038.6	99.26 %	1.720			1.73%
Ag 328.068†	64761.2	249.56 ug/L	0.514	249.56 ppb	0.514	0.21%
QC value within limits for Ag 328.068 Recovery = 99.82%						
Al 396.153Radial†	7107.0	4900.9 ug/L	58.57	4900.9 ppb	58.57	1.20%
QC value within limits for Al 396.153Radial Recovery = 98.02%						
As 188.979†	1231.1	450.62 ug/L	3.963	450.62 ppb	3.963	0.88%
QC value within limits for As 188.979 Recovery = 90.12%						
B 249.677†	24548.4	483.89 ug/L	0.865	483.89 ppb	0.865	0.18%
QC value within limits for B 249.677 Recovery = 96.78%						
Ba 233.527†	68155.0	480.07 ug/L	1.329	480.07 ppb	1.329	0.28%
QC value within limits for Ba 233.527 Recovery = 96.01%						
Be 313.107†	778523.6	245.82 ug/L	0.644	245.82 ppb	0.644	0.26%
QC value within limits for Be 313.107 Recovery = 98.33%						
Ca 317.933Radial†	3252.1	4944.8 ug/L	70.13	4944.8 ppb	70.13	1.42%

QC value within limits for Ca 317.933 Radial Recovery = 98.90%									
Cd	226.502†	46423.8	459.08 ug/L	3.936	459.08 ppb	3.936	0.86%		
QC value within limits for Cd 226.502 Recovery = 91.82%									
Co	228.616†	24706.8	472.97 ug/L	3.267	472.97 ppb	3.267	0.69%		
QC value within limits for Co 228.616 Recovery = 94.59%									
Cr	267.716†	47609.6	459.34 ug/L	1.570	459.34 ppb	1.570	0.34%		
QC value within limits for Cr 267.716 Recovery = 91.87%									
Cu	324.752†	189056.4	477.49 ug/L	1.147	477.49 ppb	1.147	0.24%		
QC value within limits for Cu 324.752 Recovery = 95.50%									
Fe	238.204 Radial†	604.8	5121.0 ug/L	67.71	5121.0 ppb	67.71	1.32%		
QC value within limits for Fe 238.204 Radial Recovery = 102.42%									
K	766.490 Radial†	14693.8	2429.5 ug/L	33.20	2429.5 ppb	33.20	1.37%		
QC value within limits for K 766.490 Radial Recovery = 97.18%									
Mg	279.077 IEC†	163.7	5343.8 ug/L	88.56	5343.8 ppb	88.56	1.66%		
QC value within limits for Mg 279.077 IEC Recovery = 106.88%									
Mn	257.610†	480527.5	483.21 ug/L	1.404	483.21 ppb	1.404	0.29%		
QC value within limits for Mn 257.610 Recovery = 96.64%									
Mo	202.031†	8327.0	514.19 ug/L	3.015	514.19 ppb	3.015	0.59%		
QC value within limits for Mo 202.031 Recovery = 102.84%									
Na	589.592 Radial†	8928.1	2384.4 ug/L	13.97	2384.4 ppb	13.97	0.59%		
QC value within limits for Na 589.592 Radial Recovery = 95.38%									
Ni	231.604†	21059.7	470.41 ug/L	3.664	470.41 ppb	3.664	0.78%		
QC value within limits for Ni 231.604 Recovery = 94.08%									
P	214.914†	4715.3	2259.8 ug/L	19.39	2259.8 ppb	19.39	0.86%		
QC value within limits for P 214.914 Recovery = 90.39%									
Pb	220.353†	4242.9	474.90 ug/L	4.191	474.90 ppb	4.191	0.88%		
QC value within limits for Pb 220.353 Recovery = 94.98%									
S	181.975 Axial†	1926.8	2348.7 ug/L	25.36	2348.7 ppb	25.36	1.08%		
QC value within limits for S 181.975 Axial Recovery = 93.95%									
Sb	206.836†	1579.8	493.85 ug/L	6.769	493.85 ppb	6.769	1.37%		
QC value within limits for Sb 206.836 Recovery = 98.77%									
Se	196.026†	4602.9	2410.8 ug/L	20.29	2410.8 ppb	20.29	0.84%		
QC value within limits for Se 196.026 Recovery = 96.43%									
Si	251.611†	172042.3	4609.5 ug/L	10.54	4609.5 ppb	10.54	0.23%		
QC value within limits for Si 251.611 Recovery = 92.19%									
Sn	189.927†	3112.1	511.34 ug/L	5.101	511.34 ppb	5.101	1.00%		
QC value within limits for Sn 189.927 Recovery = 102.27%									
Sr	421.552†	87817.5	511.14 ug/L	3.977	511.14 ppb	3.977	0.78%		
QC value within limits for Sr 421.552 Recovery = 102.23%									
Ti	334.940†	348335.4	479.99 ug/L	0.973	479.99 ppb	0.973	0.20%		
QC value within limits for Ti 334.940 Recovery = 96.00%									
Tl	190.801†	1728.1	498.66 ug/L	1.886	498.66 ppb	1.886	0.38%		
QC value within limits for Tl 190.801 Recovery = 99.73%									
U	409.014†	20201.7	453.72 ug/L	2.725	453.72 ppb	2.725	0.60%		
QC value within limits for U 409.014 Recovery = 90.74%									
V	292.402†	86207.5	485.41 ug/L	0.762	485.41 ppb	0.762	0.16%		
QC value within limits for V 292.402 Recovery = 97.08%									
Zn	213.857†	57559.2	474.86 ug/L	1.211	474.86 ppb	1.211	0.26%		
QC value within limits for Zn 213.857 Recovery = 94.97%									
SiO2†		171674.6	9844.5 ug/L	49.94	9844.5 ppb	49.94	0.51%		
QC value within limits for SiO2 Recovery = 92.05%									

All analyte(s) passed QC.

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 1/28/2010 10:42:41

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: ICB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5686.2	5686.2	102 %		10:44:34
1	Y RADIAL	6184.8	6184.8	101.7 %		10:44:34
1	Al 396.153Radial†	4.1	0.3	0.1714 ug/L	0.1714 ppb	10:44:54
1	Ca 317.933Radial†	24.4	-2.8	-4.2245 ug/L	-4.2245 ppb	10:44:54
1	Fe 238.204 Radial†	10.3	1.7	14.647 ug/L	14.647 ppb	10:44:54
1	K 766.490 Radial†	2471.6	32.4	5.3812 ug/L	5.3812 ppb	10:44:34
1	Mg 279.077 IEC†	3.4	1.0	32.650 ug/L	32.650 ppb	10:44:54
1	Na 589.592 Radial†	-1156.0	-107.4	-28.686 ug/L	-28.686 ppb	10:44:34
1	Sr 421.552†	2.5	-8.8	-0.0510 ug/L	-0.0510 ppb	10:44:34
1	Sc 361.383	983291.4	983291.4	99.925 %		10:45:51
1	Y 371.029	872805.7	872805.7	100.07 %		10:45:51
1	Ag 328.068†	329.5	8.8	0.0416 ug/L	0.0416 ppb	10:45:56
1	As 188.979†	-30.8	3.1	1.1096 ug/L	1.1096 ppb	10:46:16
1	B 249.677†	-86.9	199.3	3.9435 ug/L	3.9435 ppb	10:46:16
1	Ba 233.527†	-15.6	-11.0	-0.0772 ug/L	-0.0772 ppb	10:46:16
1	Be 313.107†	-4982.7	81.6	0.0255 ug/L	0.0255 ppb	10:45:56
1	Cd 226.502†	-215.8	-16.6	-0.1673 ug/L	-0.1673 ppb	10:46:16
1	Co 228.616†	-69.0	2.8	0.0534 ug/L	0.0534 ppb	10:46:16
1	Cr 267.716†	71.2	-14.3	-0.1357 ug/L	-0.1357 ppb	10:46:16
1	Cu 324.752†	8892.9	-237.0	-0.5948 ug/L	-0.5948 ppb	10:45:56
1	Mn 257.610†	508.0	-24.6	-0.0246 ug/L	-0.0246 ppb	10:46:16
1	Mo 202.031†	27.8	4.9	0.3039 ug/L	0.3039 ppb	10:46:16
1	Ni 231.604†	94.6	-15.3	-0.3415 ug/L	-0.3415 ppb	10:46:16
1	P 214.914†	238.9	-0.5	-0.1036 ug/L	-0.1036 ppb	10:46:16
1	Pb 220.353†	-60.2	-1.9	-0.2132 ug/L	-0.2132 ppb	10:46:16
1	S 181.975 Axial†	63.9	-3.9	-4.7457 ug/L	-4.7457 ppb	10:46:16
1	Sb 206.836†	35.5	0.4	0.1509 ug/L	0.1509 ppb	10:46:16
1	Se 196.026†	-13.3	7.9	4.1301 ug/L	4.1301 ppb	10:46:16
1	Si 251.611†	492.0	32.1	0.8576 ug/L	0.8576 ppb	10:46:16
1	Sn 189.927†	5.6	10.2	1.6684 ug/L	1.6684 ppb	10:46:16
1	Ti 334.940†	-950.1	-41.1	-0.0575 ug/L	-0.0575 ppb	10:45:56
1	Tl 190.801†	-30.0	9.8	2.8022 ug/L	2.8022 ppb	10:46:16
1	U 409.014†	-1612.1	-228.6	-5.1544 ug/L	-5.1544 ppb	10:45:56
1	V 292.402†	-1478.0	-38.7	-0.2217 ug/L	-0.2217 ppb	10:45:56
1	Zn 213.857†	670.9	-71.3	-0.5917 ug/L	-0.5917 ppb	10:46:16
1	SiO2†	452.9	-22.8	-1.3197 ug/L	-1.3197 ppb	10:47:22
2	Sc Radial	5691.9	5691.9	102 %		10:44:59
2	Y RADIAL	6172.4	6172.4	101.5 %		10:44:59
2	Al 396.153Radial†	6.9	3.0	2.0936 ug/L	2.0936 ppb	10:45:19
2	Ca 317.933Radial†	18.4	-8.7	-13.225 ug/L	-13.225 ppb	10:45:19
2	Fe 238.204 Radial†	9.1	0.5	4.2772 ug/L	4.2772 ppb	10:45:19
2	K 766.490 Radial†	2534.3	91.5	15.165 ug/L	15.165 ppb	10:44:59
2	Mg 279.077 IEC†	4.7	2.2	73.217 ug/L	73.217 ppb	10:45:19
2	Na 589.592 Radial†	-1121.5	-72.4	-19.347 ug/L	-19.347 ppb	10:44:59
2	Sr 421.552†	42.7	30.8	0.1791 ug/L	0.1791 ppb	10:44:59
2	Sc 361.383	994278.3	994278.3	101.04 %		10:46:21
2	Y 371.029	883411.0	883411.0	101.28 %		10:46:21
2	Ag 328.068†	500.8	174.7	0.6704 ug/L	0.6704 ppb	10:46:26
2	As 188.979†	-27.2	6.9	2.5192 ug/L	2.5192 ppb	10:46:46
2	B 249.677†	-87.0	200.2	3.9627 ug/L	3.9627 ppb	10:46:46
2	Ba 233.527†	-0.9	3.7	0.0266 ug/L	0.0266 ppb	10:46:46
2	Be 313.107†	-4948.0	171.1	0.0538 ug/L	0.0538 ppb	10:46:26
2	Cd 226.502†	-193.8	7.5	0.0730 ug/L	0.0730 ppb	10:46:46
2	Co 228.616†	-58.1	14.3	0.2743 ug/L	0.2743 ppb	10:46:46
2	Cr 267.716†	74.6	-11.7	-0.1104 ug/L	-0.1104 ppb	10:46:46
2	Cu 324.752†	9114.7	-115.8	-0.2900 ug/L	-0.2900 ppb	10:46:26
2	Mn 257.610†	508.6	-29.6	-0.0323 ug/L	-0.0323 ppb	10:46:46
2	Mo 202.031†	28.6	5.3	0.3290 ug/L	0.3290 ppb	10:46:46
2	Ni 231.604†	108.7	-2.4	-0.0533 ug/L	-0.0533 ppb	10:46:46

2	P 214.914†	228.4	-13.5	-6.6569 ug/L	-6.6569 ppb	10:46:46
2	Pb 220.353†	-64.0	-5.0	-0.5515 ug/L	-0.5515 ppb	10:46:46
2	S 181.975 Axial†	68.8	0.3	0.3585 ug/L	0.3585 ppb	10:46:46
2	Sb 206.836†	40.2	4.6	1.4313 ug/L	1.4313 ppb	10:46:46
2	Se 196.026†	-25.4	-4.0	-2.0644 ug/L	-2.0644 ppb	10:46:46
2	Si 251.611†	495.5	30.1	0.8046 ug/L	0.8046 ppb	10:46:46
2	Sn 189.927†	8.8	13.3	2.1757 ug/L	2.1757 ppb	10:46:46
2	Ti 334.940†	-922.7	-3.5	-0.0107 ug/L	-0.0107 ppb	10:46:26
2	Tl 190.801†	-38.8	1.3	0.3852 ug/L	0.3852 ppb	10:46:46
2	U 409.014†	-1581.8	-180.8	-4.0755 ug/L	-4.0755 ppb	10:46:26
2	V 292.402†	-1417.3	37.7	0.2069 ug/L	0.2069 ppb	10:46:26
2	Zn 213.857†	680.9	-68.8	-0.5722 ug/L	-0.5722 ppb	10:46:46
2	SiO2†	544.4	62.7	3.5929 ug/L	3.5929 ppb	10:47:27
3	Sc Radial	5669.0	5669.0	102 %		10:45:24
3	Y RADIAL	6192.4	6192.4	101.8 %		10:45:24
3	Al 396.153Radial†	20.5	16.5	11.424 ug/L	11.424 ppb	10:45:44
3	Ca 317.933Radial†	20.6	-6.5	-9.8351 ug/L	-9.8351 ppb	10:45:44
3	Fe 238.204 Radial†	10.2	1.7	14.005 ug/L	14.005 ppb	10:45:44
3	K 766.490 Radial†	2419.6	-11.5	-1.8795 ug/L	-1.8795 ppb	10:45:24
3	Mg 279.077 IEC†	4.3	1.8	59.476 ug/L	59.476 ppb	10:45:44
3	Na 589.592 Radial†	-1188.8	-143.2	-38.235 ug/L	-38.235 ppb	10:45:24
3	Sr 421.552†	-0.8	-12.0	-0.0697 ug/L	-0.0697 ppb	10:45:24
3	Sc 361.383	995295.6	995295.6	101.14 %		10:46:52
3	Y 371.029	883624.2	883624.2	101.31 %		10:46:52
3	Ag 328.068†	408.9	83.3	0.3253 ug/L	0.3253 ppb	10:46:57
3	As 188.979†	-27.7	6.4	2.3300 ug/L	2.3300 ppb	10:47:17
3	B 249.677†	-121.7	166.0	3.2834 ug/L	3.2834 ppb	10:47:17
3	Ba 233.527†	-9.4	-4.7	-0.0328 ug/L	-0.0328 ppb	10:47:17
3	Be 313.107†	-4833.1	289.7	0.0908 ug/L	0.0908 ppb	10:46:57
3	Cd 226.502†	-203.6	-2.0	-0.0222 ug/L	-0.0222 ppb	10:47:17
3	Co 228.616†	-60.7	11.8	0.2264 ug/L	0.2264 ppb	10:47:17
3	Cr 267.716†	85.3	-1.2	-0.0100 ug/L	-0.0100 ppb	10:47:17
3	Cu 324.752†	9047.5	-191.4	-0.4803 ug/L	-0.4803 ppb	10:46:57
3	Mn 257.610†	506.8	-31.9	-0.0331 ug/L	-0.0331 ppb	10:47:17
3	Mo 202.031†	22.9	-0.3	-0.0165 ug/L	-0.0165 ppb	10:47:17
3	Ni 231.604†	91.3	-19.7	-0.4412 ug/L	-0.4412 ppb	10:47:17
3	P 214.914†	237.4	-4.8	-2.2889 ug/L	-2.2889 ppb	10:47:17
3	Pb 220.353†	-49.5	9.4	1.0543 ug/L	1.0543 ppb	10:47:17
3	S 181.975 Axial†	62.3	-6.2	-7.5941 ug/L	-7.5941 ppb	10:47:17
3	Sb 206.836†	39.6	4.0	1.2214 ug/L	1.2214 ppb	10:47:17
3	Se 196.026†	-23.7	-2.3	-1.1231 ug/L	-1.1231 ppb	10:47:17
3	Si 251.611†	478.8	13.1	0.3514 ug/L	0.3514 ppb	10:47:17
3	Sn 189.927†	2.1	6.6	1.0867 ug/L	1.0867 ppb	10:47:17
3	Ti 334.940†	-1004.9	-83.7	-0.1196 ug/L	-0.1196 ppb	10:46:57
3	Tl 190.801†	-33.6	6.6	1.8780 ug/L	1.8780 ppb	10:47:17
3	U 409.014†	-1602.6	-199.7	-4.5034 ug/L	-4.5034 ppb	10:46:57
3	V 292.402†	-1452.7	4.2	0.0135 ug/L	0.0135 ppb	10:46:57
3	Zn 213.857†	667.2	-83.1	-0.6890 ug/L	-0.6890 ppb	10:47:17
3	SiO2†	533.3	51.1	2.9352 ug/L	2.9352 ppb	10:47:32

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	990955.1	100.70 %	0.676			0.67%
Sc Radial	5682.3	102 %	0.2			0.21%
Y 371.029	879946.9	100.89 %	0.709			0.70%
Y RADIAL	6183.2	101.6 %	0.17			0.16%
Ag 328.068†	88.9	0.3457 ug/L	0.31493	0.3457 ppb	0.31493	91.09%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	6.6	4.5630 ug/L	6.01900	4.5630 ppb	6.01900	131.91%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	5.5	1.9863 ug/L	0.76507	1.9863 ppb	0.76507	38.52%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	188.5	3.7299 ug/L	0.38675	3.7299 ppb	0.38675	10.37%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-4.0	-0.0278 ug/L	0.05209	-0.0278 ppb	0.05209	187.24%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	180.8	0.0567 ug/L	0.03273	0.0567 ppb	0.03273	57.73%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-6.0	-9.0948 ug/L	4.54563	-9.0948 ppb	4.54563	49.98%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	-3.7	-0.0388 ug/L	0.12103	-0.0388 ppb	0.12103	311.71%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	9.6	0.1847 ug/L	0.11621	0.1847 ppb	0.11621	62.92%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-9.1	-0.0854 ug/L	0.06651	-0.0854 ppb	0.06651	77.92%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-181.4	-0.4550 ug/L	0.15396	-0.4550 ppb	0.15396	33.84%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	1.3	10.976 ug/L	5.8105	10.976 ppb	5.8105	52.94%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	37.5	6.2222 ug/L	8.55325	6.2222 ppb	8.55325	137.46%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	1.7	55.114 ug/L	20.6321	55.114 ppb	20.6321	37.44%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-28.7	-0.0300 ug/L	0.00470	-0.0300 ppb	0.00470	15.67%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	3.3	0.2055 ug/L	0.19260	0.2055 ppb	0.19260	93.74%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-107.7	-28.756 ug/L	9.4442	-28.756 ppb	9.4442	32.84%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-12.5	-0.2787 ug/L	0.20143	-0.2787 ppb	0.20143	72.28%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-6.2	-3.0164 ug/L	3.33667	-3.0164 ppb	3.33667	110.62%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	0.9	0.0965 ug/L	0.84653	0.0965 ppb	0.84653	877.02%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-3.3	-3.9937 ug/L	4.02927	-3.9937 ppb	4.02927	100.89%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	3.0	0.9345 ug/L	0.68672	0.9345 ppb	0.68672	73.48%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	0.5	0.3142 ug/L	3.33800	0.3142 ppb	3.33800	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	25.1	0.6712 ug/L	0.27825	0.6712 ppb	0.27825	41.46%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	10.0	1.6436 ug/L	0.54494	1.6436 ppb	0.54494	33.15%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	3.3	0.0195 ug/L	0.13857	0.0195 ppb	0.13857	711.66%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-42.8	-0.0626 ug/L	0.05462	-0.0626 ppb	0.05462	87.22%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	5.9	1.6885 ug/L	1.21961	1.6885 ppb	1.21961	72.23%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-203.1	-4.5778 ug/L	0.54328	-4.5778 ppb	0.54328	11.87%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	1.1	-0.0004 ug/L	0.21460	-0.0004 ppb	0.21460	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	-74.4	-0.6177 ug/L	0.06257	-0.6177 ppb	0.06257	10.13%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	30.3	1.7361 ug/L	2.66677	1.7361 ppb	2.66677	153.60%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

Sequence No.: 8
 Sample ID: PQL
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 11
 Date Collected: 1/28/2010 10:49:43
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: PQL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5602.9	5602.9	100 %		10:51:36
1	Y RADIAL	6128.2	6128.2	100.7 %		10:51:36
1	Al 396.153Radial†	296.0	291.4	201.46 ug/L	201.46 ppb	10:51:36
1	Ca 317.933Radial†	150.5	123.2	187.35 ug/L	187.35 ppb	10:51:56
1	Fe 238.204 Radial†	20.9	12.4	104.99 ug/L	104.99 ppb	10:51:56
1	K 766.490 Radial†	3397.2	991.2	163.93 ug/L	163.93 ppb	10:51:36
1	Mg 279.077 IEC†	8.2	5.8	189.13 ug/L	189.13 ppb	10:51:56
1	Na 589.592 Radial†	11.9	1039.9	277.72 ug/L	277.72 ppb	10:51:36
1	Sr 421.552†	879.0	865.1	5.0341 ug/L	5.0341 ppb	10:51:36
1	Sc 361.383	988055.0	988055.0	100.41 %		10:52:53
1	Y 371.029	877501.6	877501.6	100.61 %		10:52:53
1	Ag 328.068†	1725.5	1397.4	5.3307 ug/L	5.3307 ppb	10:52:58
1	As 188.979†	42.4	76.1	27.639 ug/L	27.639 ppb	10:53:18
1	B 249.677†	2164.8	2442.3	48.327 ug/L	48.327 ppb	10:52:58
1	Ba 233.527†	684.1	685.9	4.8317 ug/L	4.8317 ppb	10:53:18
1	Be 313.107†	10256.9	15283.1	4.8152 ug/L	4.8152 ppb	10:52:58
1	Cd 226.502†	270.4	468.7	4.6370 ug/L	4.6370 ppb	10:53:18
1	Co 228.616†	177.5	248.6	4.7694 ug/L	4.7694 ppb	10:53:18
1	Cr 267.716†	605.3	517.3	4.9755 ug/L	4.9755 ppb	10:53:18
1	Cu 324.752†	12731.0	3542.6	8.9286 ug/L	8.9286 ppb	10:52:58
1	Mn 257.610†	10353.9	9778.8	9.8301 ug/L	9.8301 ppb	10:52:58
1	Mo 202.031†	183.3	159.6	9.8555 ug/L	9.8555 ppb	10:53:18
1	Ni 231.604†	331.8	220.5	4.9243 ug/L	4.9243 ppb	10:53:18
1	P 214.914†	512.2	270.6	133.29 ug/L	133.29 ppb	10:53:18
1	Pb 220.353†	21.3	79.5	8.9271 ug/L	8.9271 ppb	10:53:18
1	S 181.975 Axial†	148.5	80.1	97.590 ug/L	97.590 ppb	10:53:18
1	Sb 206.836†	60.1	24.7	7.8056 ug/L	7.8056 ppb	10:53:18
1	Se 196.026†	34.6	55.6	29.275 ug/L	29.275 ppb	10:53:18
1	Si 251.611†	3930.8	3454.5	92.562 ug/L	92.562 ppb	10:53:18
1	Sn 189.927†	62.6	67.0	11.014 ug/L	11.014 ppb	10:53:18
1	Ti 334.940†	2579.1	3478.4	4.7834 ug/L	4.7834 ppb	10:52:58
1	Tl 190.801†	37.1	76.7	22.049 ug/L	22.049 ppb	10:53:18
1	U 409.014†	525.6	1908.2	42.986 ug/L	42.986 ppb	10:52:58
1	V 292.402†	-677.7	765.4	4.4523 ug/L	4.4523 ppb	10:52:58
1	Zn 213.857†	1896.7	1146.3	9.4856 ug/L	9.4856 ppb	10:53:18
1	SiO2†	4084.2	3591.4	205.97 ug/L	205.97 ppb	10:54:24
2	Sc Radial	5919.5	5919.5	106 %		10:52:02
2	Y RADIAL	6454.9	6454.9	106.1 %		10:52:02
2	Al 396.153Radial†	294.3	273.9	189.36 ug/L	189.36 ppb	10:52:02
2	Ca 317.933Radial†	157.2	121.5	184.79 ug/L	184.79 ppb	10:52:22
2	Fe 238.204 Radial†	19.8	10.3	86.975 ug/L	86.975 ppb	10:52:22
2	K 766.490 Radial†	3548.2	952.5	157.53 ug/L	157.53 ppb	10:52:02
2	Mg 279.077 IEC†	9.7	6.8	221.72 ug/L	221.72 ppb	10:52:22
2	Na 589.592 Radial†	-77.5	954.9	255.03 ug/L	255.03 ppb	10:52:02
2	Sr 421.552†	874.4	813.8	4.7358 ug/L	4.7358 ppb	10:52:02
2	Sc 361.383	994048.2	994048.2	101.02 %		10:53:23
2	Y 371.029	883464.1	883464.1	101.29 %		10:53:23
2	Ag 328.068†	1714.1	1375.8	5.2473 ug/L	5.2473 ppb	10:53:29
2	As 188.979†	46.2	79.6	28.897 ug/L	28.897 ppb	10:53:49
2	B 249.677†	2133.2	2398.0	47.453 ug/L	47.453 ppb	10:53:29
2	Ba 233.527†	684.2	681.9	4.8048 ug/L	4.8048 ppb	10:53:49
2	Be 313.107†	10217.5	15182.6	4.7834 ug/L	4.7834 ppb	10:53:29
2	Cd 226.502†	279.7	476.3	4.7137 ug/L	4.7137 ppb	10:53:49
2	Co 228.616†	177.6	247.6	4.7497 ug/L	4.7497 ppb	10:53:49
2	Cr 267.716†	576.2	484.9	4.6644 ug/L	4.6644 ppb	10:53:49
2	Cu 324.752†	12716.1	3451.4	8.6979 ug/L	8.6979 ppb	10:53:29
2	Mn 257.610†	10344.6	9707.4	9.7553 ug/L	9.7553 ppb	10:53:29
2	Mo 202.031†	182.9	158.1	9.7612 ug/L	9.7612 ppb	10:53:49
2	Ni 231.604†	335.8	222.4	4.9678 ug/L	4.9678 ppb	10:53:49

2	P 214.914†	518.4	273.7	134.88 ug/L	134.88 ppb	10:53:49
2	Pb 220.353†	34.4	92.4	10.358 ug/L	10.358 ppb	10:53:49
2	S 181.975 Axial†	135.7	66.5	81.046 ug/L	81.046 ppb	10:53:49
2	Sb 206.836†	62.0	26.3	8.2580 ug/L	8.2580 ppb	10:53:49
2	Se 196.026†	39.9	60.6	31.823 ug/L	31.823 ppb	10:53:49
2	Si 251.611†	3921.5	3421.7	91.683 ug/L	91.683 ppb	10:53:49
2	Sn 189.927†	56.9	60.9	10.024 ug/L	10.024 ppb	10:53:49
2	Ti 334.940†	2538.8	3422.9	4.7046 ug/L	4.7046 ppb	10:53:29
2	Tl 190.801†	34.3	73.7	21.194 ug/L	21.194 ppb	10:53:49
2	U 409.014†	484.0	1863.9	41.990 ug/L	41.990 ppb	10:53:29
2	V 292.402†	-511.4	934.2	5.3892 ug/L	5.3892 ppb	10:53:29
2	Zn 213.857†	1879.2	1117.6	9.2484 ug/L	9.2484 ppb	10:53:49
2	SiO2†	4059.6	3542.6	203.17 ug/L	203.17 ppb	10:54:29
3	Sc Radial	5653.0	5653.0	101 %		10:52:27
3	Y RADIAL	6175.2	6175.2	101.5 %		10:52:27
3	Al 396.153Radial†	272.0	265.0	183.21 ug/L	183.21 ppb	10:52:27
3	Ca 317.933Radial†	159.7	131.0	199.16 ug/L	199.16 ppb	10:52:47
3	Fe 238.204 Radial†	21.5	12.8	108.49 ug/L	108.49 ppb	10:52:47
3	K 766.490 Radial†	3504.8	1067.5	176.56 ug/L	176.56 ppb	10:52:27
3	Mg 279.077 IEC†	11.7	9.1	297.96 ug/L	297.96 ppb	10:52:47
3	Na 589.592 Radial†	2.5	1030.5	275.23 ug/L	275.23 ppb	10:52:27
3	Sr 421.552†	862.7	841.1	4.8948 ug/L	4.8948 ppb	10:52:27
3	Sc 361.383	991879.2	991879.2	100.80 %		10:53:54
3	Y 371.029	878943.5	878943.5	100.77 %		10:53:54
3	Ag 328.068†	1573.3	1239.9	4.7362 ug/L	4.7362 ppb	10:53:59
3	As 188.979†	42.6	76.1	27.641 ug/L	27.641 ppb	10:54:19
3	B 249.677†	2109.8	2379.4	47.081 ug/L	47.081 ppb	10:53:59
3	Ba 233.527†	693.8	692.9	4.8826 ug/L	4.8826 ppb	10:54:19
3	Be 313.107†	10120.0	15107.9	4.7603 ug/L	4.7603 ppb	10:53:59
3	Cd 226.502†	280.0	477.1	4.7195 ug/L	4.7195 ppb	10:54:19
3	Co 228.616†	174.4	244.9	4.6970 ug/L	4.6970 ppb	10:54:19
3	Cr 267.716†	592.1	501.9	4.8286 ug/L	4.8286 ppb	10:54:19
3	Cu 324.752†	12870.2	3631.8	9.1548 ug/L	9.1548 ppb	10:53:59
3	Mn 257.610†	10442.5	9826.9	9.8744 ug/L	9.8744 ppb	10:53:59
3	Mo 202.031†	179.5	155.1	9.5825 ug/L	9.5825 ppb	10:54:19
3	Ni 231.604†	336.9	224.2	5.0092 ug/L	5.0092 ppb	10:54:19
3	P 214.914†	519.5	275.8	135.87 ug/L	135.87 ppb	10:54:19
3	Pb 220.353†	24.6	82.7	9.2793 ug/L	9.2793 ppb	10:54:19
3	S 181.975 Axial†	137.9	69.0	84.102 ug/L	84.102 ppb	10:54:19
3	Sb 206.836†	65.1	29.4	9.2159 ug/L	9.2159 ppb	10:54:19
3	Se 196.026†	23.5	44.5	23.505 ug/L	23.505 ppb	10:54:19
3	Si 251.611†	3921.8	3430.5	91.920 ug/L	91.920 ppb	10:54:19
3	Sn 189.927†	60.2	64.3	10.579 ug/L	10.579 ppb	10:54:19
3	Ti 334.940†	2626.0	3514.9	4.8271 ug/L	4.8271 ppb	10:53:59
3	Tl 190.801†	24.9	64.5	18.542 ug/L	18.542 ppb	10:54:19
3	U 409.014†	470.4	1851.4	41.705 ug/L	41.705 ppb	10:53:59
3	V 292.402†	-547.9	896.9	5.1774 ug/L	5.1774 ppb	10:53:59
3	Zn 213.857†	1878.8	1121.2	9.2758 ug/L	9.2758 ppb	10:54:19
3	SiO2†	4058.7	3550.4	203.62 ug/L	203.62 ppb	10:54:34

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	991327.5	100.74 %	0.308			0.31%
Sc Radial	5725.1	103 %	3.0			2.97%
Y 371.029	879969.8	100.89 %	0.357			0.35%
Y RADIAL	6252.8	102.8 %	2.90			2.82%
Ag 328.068†	1337.7	5.1047 ug/L	0.32187	5.1047 ppb	0.32187	6.31%
QC value within limits for Ag 328.068 Recovery = 102.09%						
Al 396.153Radial†	276.7	191.34 ug/L	9.287	191.34 ppb	9.287	4.85%
QC value within limits for Al 396.153Radial Recovery = 95.67%						
As 188.979†	77.2	28.059 ug/L	0.7255	28.059 ppb	0.7255	2.59%
QC value within limits for As 188.979 Recovery = 93.53%						
B 249.677†	2406.5	47.620 ug/L	0.6396	47.620 ppb	0.6396	1.34%
QC value within limits for B 249.677 Recovery = 95.24%						
Ba 233.527†	686.9	4.8397 ug/L	0.03952	4.8397 ppb	0.03952	0.82%
QC value within limits for Ba 233.527 Recovery = 96.79%						
Be 313.107†	15191.2	4.7863 ug/L	0.02759	4.7863 ppb	0.02759	0.58%
QC value within limits for Be 313.107 Recovery = 95.73%						
Ca 317.933Radial†	125.2	190.43 ug/L	7.666	190.43 ppb	7.666	4.03%

QC value within limits for Ca 317.933 Radial Recovery = 95.22%							
Cd	226.502†	474.0	4.6900 ug/L	0.04604	4.6900 ppb	0.04604	0.98%
QC value within limits for Cd 226.502 Recovery = 93.80%							
Co	228.616†	247.0	4.7387 ug/L	0.03743	4.7387 ppb	0.03743	0.79%
QC value within limits for Co 228.616 Recovery = 94.77%							
Cr	267.716†	501.3	4.8228 ug/L	0.15564	4.8228 ppb	0.15564	3.23%
QC value within limits for Cr 267.716 Recovery = 96.46%							
Cu	324.752†	3541.9	8.9271 ug/L	0.22844	8.9271 ppb	0.22844	2.56%
QC value within limits for Cu 324.752 Recovery = 89.27%							
Fe	238.204 Radial†	11.8	100.15 ug/L	11.546	100.15 ppb	11.546	11.53%
QC value within limits for Fe 238.204 Radial Recovery = 100.15%							
K	766.490 Radial†	1003.7	166.01 ug/L	9.682	166.01 ppb	9.682	5.83%
QC value within limits for K 766.490 Radial Recovery = 110.67%							
Mg	279.077 IEC†	7.2	236.27 ug/L	55.853	236.27 ppb	55.853	23.64%
QC value within limits for Mg 279.077 IEC Recovery = 78.76%							
Mn	257.610†	9771.0	9.8199 ug/L	0.06024	9.8199 ppb	0.06024	0.61%
QC value within limits for Mn 257.610 Recovery = 98.20%							
Mo	202.031†	157.6	9.7331 ug/L	0.13865	9.7331 ppb	0.13865	1.42%
QC value within limits for Mo 202.031 Recovery = 97.33%							
Na	589.592 Radial†	1008.4	269.33 ug/L	12.445	269.33 ppb	12.445	4.62%
QC value within limits for Na 589.592 Radial Recovery = 89.78%							
Ni	231.604†	222.4	4.9671 ug/L	0.04245	4.9671 ppb	0.04245	0.85%
QC value within limits for Ni 231.604 Recovery = 99.34%							
P	214.914†	273.4	134.68 ug/L	1.301	134.68 ppb	1.301	0.97%
QC value within limits for P 214.914 Recovery = 89.79%							
Pb	220.353†	84.9	9.5213 ug/L	0.74536	9.5213 ppb	0.74536	7.83%
QC value within limits for Pb 220.353 Recovery = 95.21%							
S	181.975 Axial†	71.8	87.579 ug/L	8.8032	87.579 ppb	8.8032	10.05%
QC value within limits for S 181.975 Axial Recovery = 87.58%							
Sb	206.836†	26.8	8.4265 ug/L	0.72010	8.4265 ppb	0.72010	8.55%
QC value within limits for Sb 206.836 Recovery = 84.26%							
Se	196.026†	53.5	28.201 ug/L	4.2621	28.201 ppb	4.2621	15.11%
QC value within limits for Se 196.026 Recovery = 94.00%							
Si	251.611†	3435.5	92.055 ug/L	0.4546	92.055 ppb	0.4546	0.49%
QC value within limits for Si 251.611 Recovery = 92.06%							
Sn	189.927†	64.1	10.539 ug/L	0.4963	10.539 ppb	0.4963	4.71%
QC value within limits for Sn 189.927 Recovery = 105.39%							
Sr	421.552†	840.0	4.8882 ug/L	0.14925	4.8882 ppb	0.14925	3.05%
QC value within limits for Sr 421.552 Recovery = 97.76%							
Ti	334.940†	3472.1	4.7717 ug/L	0.06212	4.7717 ppb	0.06212	1.30%
QC value within limits for Ti 334.940 Recovery = 95.43%							
Tl	190.801†	71.7	20.595 ug/L	1.8287	20.595 ppb	1.8287	8.88%
QC value within limits for Tl 190.801 Recovery = 102.98%							
U	409.014†	1874.5	42.227 ug/L	0.6728	42.227 ppb	0.6728	1.59%
QC value within limits for U 409.014 Recovery = 84.45%							
V	292.402†	865.5	5.0063 ug/L	0.49134	5.0063 ppb	0.49134	9.81%
QC value within limits for V 292.402 Recovery = 100.13%							
Zn	213.857†	1128.4	9.3366 ug/L	0.12974	9.3366 ppb	0.12974	1.39%
QC value within limits for Zn 213.857 Recovery = 93.37%							
SiO2†		3561.5	204.26 ug/L	1.502	204.26 ppb	1.502	0.74%
QC value within limits for SiO2 Recovery = 95.89%							

All analyte(s) passed QC.

Sequence No.: 9
 Sample ID: ICSA
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 13
 Date Collected: 1/28/2010 10:56:46
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: ICSA

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5058.1	5058.1	90.6 %		10:58:44
1	Y RADIAL	5462.8	5462.8	89.80 %		10:58:44
1	Al 396.153Radial†	675980.6	746391.1	517320 ug/L	517320 ppb	10:58:39
1	Ca 317.933Radial†	283669.5	313191.4	476210 ug/L	476210 ppb	10:58:39
1	Fe 238.204 Radial†	19947.5	22017.0	185920 ug/L	185920 ppb	10:58:44
1	K 766.490 Radial†	2166.9	-2.5	-159.71 ug/L	-159.71 ppb	10:58:44
1	Mg 279.077 IEC†	13699.8	15124.4	493420 ug/L	493420 ppb	10:58:44
1	Na 589.592 Radial†	-887.9	47.7	12.735 ug/L	12.735 ppb	10:58:44
1	Sr 421.552†	564.7	612.3	0.0084 ug/L	0.0084 ppb	10:58:44
1	Sc 361.383	810985.7	810985.7	82.415 %		10:59:11
1	Y 371.029	702259.5	702259.5	80.515 %		10:59:11
1	Ag 328.068†	-10676.9	-13276.1	3.2650 ug/L	3.2650 ppb	10:59:11
1	As 188.979†	-93.7	-79.9	14.369 ug/L	14.369 ppb	10:59:32
1	B 249.677†	647.6	1072.1	-8.9667 ug/L	-8.9667 ppb	10:59:11
1	Ba 233.527†	-518.5	-624.5	1.3059 ug/L	1.3059 ppb	10:59:32
1	Be 313.107†	-5132.0	-1159.0	-0.4247 ug/L	-0.4247 ppb	10:59:11
1	Cd 226.502†	1474.3	1988.2	0.4713 ug/L	0.4713 ppb	10:59:32
1	Co 228.616†	-20.9	46.4	-1.7785 ug/L	-1.7785 ppb	10:59:32
1	Cr 267.716†	-111.8	-221.2	1.4940 ug/L	1.4940 ppb	10:59:32
1	Cu 324.752†	5879.5	-2002.5	4.7669 ug/L	4.7669 ppb	10:59:11
1	Mn 257.610†	-816.3	-1523.5	-3.3512 ug/L	-3.3512 ppb	10:59:11
1	Mo 202.031†	-190.5	-254.1	4.4222 ug/L	4.4222 ppb	10:59:32
1	Ni 231.604†	202.4	135.6	3.0306 ug/L	3.0306 ppb	10:59:32
1	P 214.914†	197.6	0.2	-20.299 ug/L	-20.299 ppb	10:59:32
1	Pb 220.353†	-740.4	-840.0	8.0121 ug/L	8.0121 ppb	10:59:32
1	S 181.975 Axial†	111.8	67.9	-14.187 ug/L	-14.187 ppb	10:59:32
1	Sb 206.836†	67.3	46.5	3.4169 ug/L	3.4169 ppb	10:59:32
1	Se 196.026†	-1013.8	-1209.0	19.318 ug/L	19.318 ppb	10:59:32
1	Si 251.611†	499.7	146.1	4.1126 ug/L	4.1126 ppb	10:59:32
1	Sn 189.927†	-361.7	-434.3	4.2539 ug/L	4.2539 ppb	10:59:32
1	Ti 334.940†	-16643.6	-19285.2	-3.0396 ug/L	-3.0396 ppb	10:59:11
1	Tl 190.801†	-81.8	-59.5	-17.314 ug/L	-17.314 ppb	10:59:32
1	U 409.014†	-60.3	1311.6	8.3719 ug/L	8.3719 ppb	10:59:11
1	V 292.402†	1327.1	3050.7	-0.7443 ug/L	-0.7443 ppb	10:59:32
1	Zn 213.857†	3260.1	3213.0	8.6909 ug/L	8.6909 ppb	10:59:32
1	SiO2†	465.3	88.5	5.5103 ug/L	5.5103 ppb	11:00:28
2	Sc Radial	4935.4	4935.4	88.4 %		10:58:55
2	Y RADIAL	5353.5	5353.5	88.00 %		10:58:55
2	Al 396.153Radial†	667492.7	755345.8	523530 ug/L	523530 ppb	10:58:50
2	Ca 317.933Radial†	280061.9	316897.4	481840 ug/L	481840 ppb	10:58:50
2	Fe 238.204 Radial†	19671.4	22252.2	187900 ug/L	187900 ppb	10:58:55
2	K 766.490 Radial†	2333.7	245.6	-120.49 ug/L	-120.49 ppb	10:58:55
2	Mg 279.077 IEC†	13502.3	15277.1	498400 ug/L	498400 ppb	10:58:55
2	Na 589.592 Radial†	-928.3	-22.5	-6.0050 ug/L	-6.0050 ppb	10:58:55
2	Sr 421.552†	574.4	638.8	0.1206 ug/L	0.1206 ppb	10:58:55
2	Sc 361.383	815137.5	815137.5	82.837 %		10:59:37
2	Y 371.029	706389.1	706389.1	80.988 %		10:59:37
2	Ag 328.068†	-10854.8	-13424.8	3.2631 ug/L	3.2631 ppb	10:59:37
2	As 188.979†	-83.9	-67.5	19.339 ug/L	19.339 ppb	10:59:57
2	B 249.677†	888.9	1359.3	-3.6025 ug/L	-3.6025 ppb	10:59:37
2	Ba 233.527†	-555.2	-665.7	1.0763 ug/L	1.0763 ppb	10:59:57
2	Be 313.107†	-5218.4	-1231.6	-0.4487 ug/L	-0.4487 ppb	10:59:37
2	Cd 226.502†	1448.4	1947.8	-0.1333 ug/L	-0.1333 ppb	10:59:57
2	Co 228.616†	-16.3	52.2	-1.7002 ug/L	-1.7002 ppb	10:59:57
2	Cr 267.716†	-109.0	-217.1	1.5713 ug/L	1.5713 ppb	10:59:57
2	Cu 324.752†	5942.2	-1963.2	4.9709 ug/L	4.9709 ppb	10:59:37
2	Mn 257.610†	-868.6	-1581.5	-3.4172 ug/L	-3.4172 ppb	10:59:37
2	Mo 202.031†	-212.8	-279.8	3.0565 ug/L	3.0565 ppb	10:59:57
2	Ni 231.604†	202.2	134.1	2.9967 ug/L	2.9967 ppb	10:59:57

2	P 214.914†	194.3	-5.0	-22.962 ug/L	-22.962 ppb	10:59:57
2	Pb 220.353†	-771.3	-872.7	5.6039 ug/L	5.6039 ppb	10:59:57
2	S 181.975 Axial†	101.8	55.1	-30.900 ug/L	-30.900 ppb	10:59:57
2	Sb 206.836†	41.5	14.9	-6.1708 ug/L	-6.1708 ppb	10:59:57
2	Se 196.026†	-1040.0	-1234.4	13.102 ug/L	13.102 ppb	10:59:57
2	Si 251.611†	427.8	56.1	1.7183 ug/L	1.7183 ppb	10:59:57
2	Sn 189.927†	-346.1	-413.2	8.5989 ug/L	8.5989 ppb	10:59:57
2	Ti 334.940†	-17043.0	-19664.4	-3.2141 ug/L	-3.2141 ppb	10:59:37
2	Tl 190.801†	-88.8	-67.4	-19.594 ug/L	-19.594 ppb	10:59:57
2	U 409.014†	-28.7	1350.0	9.0124 ug/L	9.0124 ppb	10:59:37
2	V 292.402†	1270.7	2974.4	-1.3807 ug/L	-1.3807 ppb	10:59:57
2	Zn 213.857†	3294.1	3233.9	8.6718 ug/L	8.6718 ppb	10:59:57
2	SiO2†	451.8	69.3	4.4517 ug/L	4.4517 ppb	11:00:33
3	Sc Radial	4791.6	4791.6	85.8 %		10:59:05
3	Y RADIAL	5194.7	5194.7	85.39 %		10:59:05
3	Al 396.153Radial†	669051.9	779827.7	540500 ug/L	540500 ppb	10:59:00
3	Ca 317.933Radial†	280919.1	327406.0	497820 ug/L	497820 ppb	10:59:00
3	Fe 238.204 Radial†	19440.3	22650.7	191270 ug/L	191270 ppb	10:59:05
3	K 766.490 Radial†	2247.3	224.2	-129.37 ug/L	-129.37 ppb	10:59:05
3	Mg 279.077 IEC†	13316.4	15518.9	506290 ug/L	506290 ppb	10:59:05
3	Na 589.592 Radial†	-952.4	-82.0	-21.908 ug/L	-21.908 ppb	10:59:05
3	Sr 421.552†	600.7	689.0	0.2936 ug/L	0.2936 ppb	10:59:05
3	Sc 361.383	851975.7	851975.7	86.580 %		11:00:02
3	Y 371.029	749569.9	749569.9	85.939 %		11:00:02
3	Ag 328.068†	-10616.9	-12583.5	7.3362 ug/L	7.3362 ppb	11:00:02
3	As 188.979†	-103.6	-85.8	13.509 ug/L	13.509 ppb	11:00:23
3	B 249.677†	715.8	1113.0	-9.0262 ug/L	-9.0262 ppb	11:00:02
3	Ba 233.527†	-552.9	-634.1	1.3998 ug/L	1.3998 ppb	11:00:23
3	Be 313.107†	-5202.3	-940.5	-0.3538 ug/L	-0.3538 ppb	11:00:02
3	Cd 226.502†	1468.9	1896.0	-0.9941 ug/L	-0.9941 ppb	11:00:23
3	Co 228.616†	-27.3	40.2	-1.9766 ug/L	-1.9766 ppb	11:00:23
3	Cr 267.716†	-66.9	-162.8	2.1594 ug/L	2.1594 ppb	11:00:23
3	Cu 324.752†	5976.8	-2233.3	4.4674 ug/L	4.4674 ppb	11:00:02
3	Mn 257.610†	-952.7	-1633.4	-3.4595 ug/L	-3.4595 ppb	11:00:02
3	Mo 202.031†	-196.4	-249.8	5.3577 ug/L	5.3577 ppb	11:00:23
3	Ni 231.604†	222.6	147.1	3.2872 ug/L	3.2872 ppb	11:00:23
3	P 214.914†	178.7	-33.1	-35.296 ug/L	-35.296 ppb	11:00:23
3	Pb 220.353†	-750.5	-808.4	16.385 ug/L	16.385 ppb	11:00:23
3	S 181.975 Axial†	101.6	49.5	-40.921 ug/L	-40.921 ppb	11:00:23
3	Sb 206.836†	57.5	31.3	-1.5822 ug/L	-1.5822 ppb	11:00:23
3	Se 196.026†	-1030.5	-1169.1	59.228 ug/L	59.228 ppb	11:00:23
3	Si 251.611†	414.8	18.8	0.6941 ug/L	0.6941 ppb	11:00:23
3	Sn 189.927†	-357.2	-408.0	11.941 ug/L	11.941 ppb	11:00:23
3	Ti 334.940†	-16871.9	-18577.3	-0.2165 ug/L	-0.2165 ppb	11:00:02
3	Tl 190.801†	-89.5	-63.6	-18.488 ug/L	-18.488 ppb	11:00:23
3	U 409.014†	-77.6	1295.1	7.3894 ug/L	7.3894 ppb	11:00:02
3	V 292.402†	1253.2	2887.8	-2.1772 ug/L	-2.1772 ppb	11:00:23
3	Zn 213.857†	3272.5	3037.1	6.7065 ug/L	6.7065 ppb	11:00:23
3	SiO2†	458.9	53.9	3.5176 ug/L	3.5176 ppb	11:00:38

Mean Data: ICSEA

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	826033.0	83.944 %	2.2929			2.73%
Sc Radial	4928.4	88.2 %	2.39			2.71%
Y 371.029	719406.2	82.480 %	3.0043			3.64%
Y RADIAL	5337.0	87.73 %	2.216			2.53%
Ag 328.068†	-13094.8	4.6214 ug/L	2.35104	4.6214 ppb	2.35104	50.87%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	760521.5	527120 ug/L	11996.7	527120 ppb	11996.7	2.28%
QC value within limits for Al 396.153Radial Recovery = 105.42%						
As 188.979†	-77.7	15.739 ug/L	3.1474	15.739 ppb	3.1474	20.00%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	1181.5	-7.1985 ug/L	3.11431	-7.1985 ppb	3.11431	43.26%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-641.4	1.2607 ug/L	0.16640	1.2607 ppb	0.16640	13.20%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-1110.4	-0.4091 ug/L	0.04934	-0.4091 ppb	0.04934	12.06%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	319165.0	485290 ug/L	11211.6	485290 ppb	11211.6	2.31%

QC value within limits for Ca 317.933 Radial Recovery = 97.06%

Cd 226.502† 1944.0 -0.2187 ug/L 0.73641 -0.2187 ppb 0.73641 336.74%

QC value within limits for Cd 226.502 Recovery = Not calculated

Co 228.616† 46.3 -1.8184 ug/L 0.14243 -1.8184 ppb 0.14243 7.83%

QC value within limits for Co 228.616 Recovery = Not calculated

Cr 267.716† -200.4 1.7415 ug/L 0.36389 1.7415 ppb 0.36389 20.89%

QC value within limits for Cr 267.716 Recovery = Not calculated

Cu 324.752† -2066.3 4.7351 ug/L 0.25325 4.7351 ppb 0.25325 5.35%

QC value within limits for Cu 324.752 Recovery = Not calculated

Fe 238.204 Radial† 22306.6 188360 ug/L 2705.3 188360 ppb 2705.3 1.44%

QC value within limits for Fe 238.204 Radial Recovery = 94.18%

K 766.490 Radial† 155.8 -136.52 ug/L 20.561 -136.52 ppb 20.561 15.06%

QC value within limits for K 766.490 Radial Recovery = Not calculated

Mg 279.077 IEC† 15306.8 499370 ug/L 6488.7 499370 ppb 6488.7 1.30%

QC value within limits for Mg 279.077 IEC Recovery = 99.87%

Mn 257.610† -1579.5 -3.4093 ug/L 0.05457 -3.4093 ppb 0.05457 1.60%

QC value within limits for Mn 257.610 Recovery = Not calculated

Mo 202.031† -261.2 4.2788 ug/L 1.15728 4.2788 ppb 1.15728 27.05%

QC value within limits for Mo 202.031 Recovery = Not calculated

Na 589.592 Radial† -18.9 -5.0593 ug/L 17.34077 -5.0593 ppb 17.34077 342.75%

QC value within limits for Na 589.592 Radial Recovery = Not calculated

Ni 231.604† 138.9 3.1048 ug/L 0.15886 3.1048 ppb 0.15886 5.12%

QC value within limits for Ni 231.604 Recovery = Not calculated

P 214.914† -12.6 -26.186 ug/L 8.0015 -26.186 ppb 8.0015 30.56%

QC value within limits for P 214.914 Recovery = Not calculated

Pb 220.353† -840.4 10.000 ug/L 5.6587 10.000 ppb 5.6587 56.59%

QC value within limits for Pb 220.353 Recovery = Not calculated

S 181.975 Axial† 57.5 -28.669 ug/L 13.5059 -28.669 ppb 13.5059 47.11%

QC value within limits for S 181.975 Axial Recovery = Not calculated

Sb 206.836† 30.9 -1.4454 ug/L 4.79530 -1.4454 ppb 4.79530 331.77%

QC value within limits for Sb 206.836 Recovery = Not calculated

Se 196.026† -1204.2 30.549 ug/L 25.0300 30.549 ppb 25.0300 81.93%

QC value within limits for Se 196.026 Recovery = Not calculated

Si 251.611† 73.7 2.1750 ug/L 1.75439 2.1750 ppb 1.75439 80.66%

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927† -418.5 8.2648 ug/L 3.85465 8.2648 ppb 3.85465 46.64%

QC value within limits for Sn 189.927 Recovery = Not calculated

Sr 421.552† 646.7 0.1409 ug/L 0.14368 0.1409 ppb 0.14368 102.01%

QC value within limits for Sr 421.552 Recovery = Not calculated

Ti 334.940† -19175.6 -2.1567 ug/L 1.68253 -2.1567 ppb 1.68253 78.01%

QC value within limits for Ti 334.940 Recovery = Not calculated

Tl 190.801† -63.5 -18.465 ug/L 1.1402 -18.465 ppb 1.1402 6.18%

QC value within limits for Tl 190.801 Recovery = Not calculated

U 409.014† 1318.9 8.2579 ug/L 0.81750 8.2579 ppb 0.81750 9.90%

QC value within limits for U 409.014 Recovery = Not calculated

V 292.402† 2971.0 -1.4340 ug/L 0.71794 -1.4340 ppb 0.71794 50.06%

QC value within limits for V 292.402 Recovery = Not calculated

Zn 213.857† 3161.3 8.0231 ug/L 1.14021 8.0231 ppb 1.14021 14.21%

QC value within limits for Zn 213.857 Recovery = Not calculated

SiO2† 70.6 4.4932 ug/L 0.99699 4.4932 ppb 0.99699 22.19%

QC value within limits for SiO2 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 10
 Sample ID: ICSAB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 14
 Date Collected: 1/28/2010 11:02:50
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: ICSAB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4905.7	4905.7	87.8 %		11:04:47
1	Y RADIAL	5325.9	5325.9	87.55 %		11:04:47
1	Al 396.153Radial†	664955.3	757037.2	524680 ug/L	524680 ppb	11:04:42
1	Ca 317.933Radial†	277964.4	316431.3	481140 ug/L	481140 ppb	11:04:42
1	Fe 238.204 Radial†	19539.0	22236.4	187780 ug/L	187780 ppb	11:04:47
1	K 766.490 Radial†	31142.5	33060.0	5310.1 ug/L	5310.1 ppb	11:04:42
1	Mg 279.077 IEC†	13459.7	15321.3	499850 ug/L	499850 ppb	11:04:47
1	Na 589.592 Radial†	16930.0	20302.5	5422.2 ug/L	5422.2 ppb	11:04:47
1	Sr 421.552†	75544.2	85994.7	496.98 ug/L	496.98 ppb	11:04:42
1	Sc 361.383	836968.8	836968.8	85.055 %		11:05:15
1	Y 371.029	724264.0	724264.0	83.037 %		11:05:15
1	Ag 328.068†	47713.6	55776.2	268.07 ug/L	268.07 ppb	11:05:15
1	As 188.979†	1056.3	1275.7	509.69 ug/L	509.69 ppb	11:05:35
1	B 249.677†	21995.6	26146.6	486.00 ug/L	486.00 ppb	11:05:15
1	Ba 233.527†	56644.5	66601.8	474.73 ug/L	474.73 ppb	11:05:15
1	Be 313.107†	620409.1	734486.7	231.96 ug/L	231.96 ppb	11:05:15
1	Cd 226.502†	38476.0	45435.8	430.42 ug/L	430.42 ppb	11:05:35
1	Co 228.616†	18946.4	22347.2	425.04 ug/L	425.04 ppb	11:05:35
1	Cr 267.716†	40019.0	46965.1	456.69 ug/L	456.69 ppb	11:05:15
1	Cu 324.752†	187767.0	211622.3	544.13 ug/L	544.13 ppb	11:05:15
1	Mn 257.610†	392218.9	460601.1	461.00 ug/L	461.00 ppb	11:05:15
1	Mo 202.031†	6205.8	7273.3	469.03 ug/L	469.03 ppb	11:05:35
1	Ni 231.604†	16080.2	18795.6	419.83 ug/L	419.83 ppb	11:05:35
1	P 214.914†	4296.9	4812.4	2278.4 ug/L	2278.4 ppb	11:05:35
1	Pb 220.353†	2612.1	3129.4	453.09 ug/L	453.09 ppb	11:05:35
1	S 181.975 Axial†	1885.4	2148.8	2522.0 ug/L	2522.0 ppb	11:05:35
1	Sb 206.836†	1543.8	1779.9	541.60 ug/L	541.60 ppb	11:05:35
1	Se 196.026†	3033.9	3588.1	2520.3 ug/L	2520.3 ppb	11:05:35
1	Si 251.611†	163369.2	191613.8	5135.4 ug/L	5135.4 ppb	11:05:15
1	Sn 189.927†	2068.1	2436.1	475.88 ug/L	475.88 ppb	11:05:35
1	Ti 334.940†	290822.0	342830.9	495.86 ug/L	495.86 ppb	11:05:15
1	Tl 190.801†	1280.4	1545.2	446.26 ug/L	446.26 ppb	11:05:35
1	U 409.014†	17156.6	21555.8	463.43 ug/L	463.43 ppb	11:05:15
1	V 292.402†	73626.2	88003.2	477.47 ug/L	477.47 ppb	11:05:15
1	Zn 213.857†	51960.4	60347.4	480.59 ug/L	480.59 ppb	11:05:15
1	SiO2†	161597.3	189514.8	10871 ug/L	10871 ppb	11:06:33
2	Sc Radial	4862.8	4862.8	87.1 %		11:04:58
2	Y RADIAL	5288.1	5288.1	86.92 %		11:04:58
2	Al 396.153Radial†	673105.5	773074.3	535800 ug/L	535800 ppb	11:04:53
2	Ca 317.933Radial†	280882.1	322573.1	490470 ug/L	490470 ppb	11:04:53
2	Fe 238.204 Radial†	19420.4	22296.4	188290 ug/L	188290 ppb	11:04:58
2	K 766.490 Radial†	31521.0	33807.4	5430.7 ug/L	5430.7 ppb	11:04:53
2	Mg 279.077 IEC†	13447.2	15442.0	503790 ug/L	503790 ppb	11:04:58
2	Na 589.592 Radial†	16776.9	20296.7	5420.7 ug/L	5420.7 ppb	11:04:58
2	Sr 421.552†	76480.4	87828.4	507.58 ug/L	507.58 ppb	11:04:53
2	Sc 361.383	831520.1	831520.1	84.502 %		11:05:41
2	Y 371.029	719267.4	719267.4	82.465 %		11:05:41
2	Ag 328.068†	47469.5	55854.8	268.41 ug/L	268.41 ppb	11:05:41
2	As 188.979†	1026.2	1248.3	499.85 ug/L	499.85 ppb	11:06:01
2	B 249.677†	21929.8	26238.2	487.72 ug/L	487.72 ppb	11:05:41
2	Ba 233.527†	56385.0	66731.2	475.66 ug/L	475.66 ppb	11:05:41
2	Be 313.107†	617825.5	736209.0	232.51 ug/L	232.51 ppb	11:05:41
2	Cd 226.502†	38474.5	45730.5	433.28 ug/L	433.28 ppb	11:06:01
2	Co 228.616†	18939.7	22485.2	427.68 ug/L	427.68 ppb	11:06:01
2	Cr 267.716†	39925.4	47162.6	458.60 ug/L	458.60 ppb	11:05:41
2	Cu 324.752†	186295.5	211327.4	543.41 ug/L	543.41 ppb	11:05:41
2	Mn 257.610†	390799.0	461942.5	462.23 ug/L	462.23 ppb	11:05:41
2	Mo 202.031†	6215.6	7332.6	472.84 ug/L	472.84 ppb	11:06:01
2	Ni 231.604†	16099.9	18942.8	423.12 ug/L	423.12 ppb	11:06:01

2	P 214.914†	4344.3	4901.5	2325.4 ug/L	2325.4 ppb	11:06:01
2	Pb 220.353†	2615.3	3153.3	458.27 ug/L	458.27 ppb	11:06:01
2	S 181.975 Axial†	1877.2	2153.7	2525.8 ug/L	2525.8 ppb	11:06:01
2	Sb 206.836†	1538.3	1785.3	543.12 ug/L	543.12 ppb	11:06:01
2	Se 196.026†	3012.1	3585.7	2521.4 ug/L	2521.4 ppb	11:06:01
2	Si 251.611†	162548.1	191900.8	5143.1 ug/L	5143.1 ppb	11:05:41
2	Sn 189.927†	2092.2	2480.5	484.60 ug/L	484.60 ppb	11:06:01
2	Ti 334.940†	289171.2	343117.8	497.18 ug/L	497.18 ppb	11:05:41
2	Tl 190.801†	1254.1	1523.8	440.13 ug/L	440.13 ppb	11:06:01
2	U 409.014†	16941.5	21433.5	460.61 ug/L	460.61 ppb	11:05:41
2	V 292.402†	73238.6	88111.7	478.12 ug/L	478.12 ppb	11:05:41
2	Zn 213.857†	51820.2	60581.8	482.47 ug/L	482.47 ppb	11:05:41
2	SiO2†	162651.0	192006.7	11014 ug/L	11014 ppb	11:06:38
3	Sc Radial	4908.3	4908.3	87.9 %		11:05:08
3	Y RADIAL	5366.9	5366.9	88.22 %		11:05:08
3	Al 396.153Radial†	664626.8	756262.5	524140 ug/L	524140 ppb	11:05:03
3	Ca 317.933Radial†	277170.0	315359.7	479510 ug/L	479510 ppb	11:05:03
3	Fe 238.204 Radial†	19421.9	22091.4	186560 ug/L	186560 ppb	11:05:08
3	K 766.490 Radial†	31182.8	33087.1	5315.1 ug/L	5315.1 ppb	11:05:03
3	Mg 279.077 IEC†	13436.2	15286.4	498710 ug/L	498710 ppb	11:05:08
3	Na 589.592 Radial†	16999.1	20370.9	5440.5 ug/L	5440.5 ppb	11:05:08
3	Sr 421.552†	75443.9	85834.9	496.06 ug/L	496.06 ppb	11:05:03
3	Sc 361.383	828897.6	828897.6	84.235 %		11:06:07
3	Y 371.029	715787.2	715787.2	82.066 %		11:06:07
3	Ag 328.068†	47140.9	55642.5	267.19 ug/L	267.19 ppb	11:06:07
3	As 188.979†	1041.1	1269.8	507.26 ug/L	507.26 ppb	11:06:27
3	B 249.677†	21827.3	26198.7	487.22 ug/L	487.22 ppb	11:06:07
3	Ba 233.527†	56387.7	66945.5	477.11 ug/L	477.11 ppb	11:06:07
3	Be 313.107†	615580.9	735857.5	232.40 ug/L	232.40 ppb	11:06:07
3	Cd 226.502†	38401.6	45787.9	434.03 ug/L	434.03 ppb	11:06:27
3	Co 228.616†	18928.9	22543.3	428.82 ug/L	428.82 ppb	11:06:27
3	Cr 267.716†	39880.1	47258.2	459.49 ug/L	459.49 ppb	11:06:07
3	Cu 324.752†	185484.0	211061.5	542.65 ug/L	542.65 ppb	11:06:07
3	Mn 257.610†	390472.4	463018.0	463.35 ug/L	463.35 ppb	11:06:07
3	Mo 202.031†	6227.0	7369.5	474.85 ug/L	474.85 ppb	11:06:27
3	Ni 231.604†	16057.4	18952.6	423.34 ug/L	423.34 ppb	11:06:27
3	P 214.914†	4325.1	4895.1	2320.8 ug/L	2320.8 ppb	11:06:27
3	Pb 220.353†	2598.5	3143.2	454.61 ug/L	454.61 ppb	11:06:27
3	S 181.975 Axial†	1902.7	2191.0	2573.5 ug/L	2573.5 ppb	11:06:27
3	Sb 206.836†	1525.6	1776.0	540.64 ug/L	540.64 ppb	11:06:27
3	Se 196.026†	3025.5	3612.9	2529.0 ug/L	2529.0 ppb	11:06:27
3	Si 251.611†	162193.7	192088.6	5148.1 ug/L	5148.1 ppb	11:06:07
3	Sn 189.927†	2082.9	2477.4	482.39 ug/L	482.39 ppb	11:06:27
3	Ti 334.940†	289402.0	344474.6	498.00 ug/L	498.00 ppb	11:06:07
3	Tl 190.801†	1273.0	1551.0	447.94 ug/L	447.94 ppb	11:06:27
3	U 409.014†	16966.3	21526.4	462.90 ug/L	462.90 ppb	11:06:07
3	V 292.402†	73069.7	88185.5	478.72 ug/L	478.72 ppb	11:06:07
3	Zn 213.857†	51764.8	60710.0	483.70 ug/L	483.70 ppb	11:06:07
3	SiO2†	162641.4	192604.3	11048 ug/L	11048 ppb	11:06:44

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	832462.2	84.597 %	0.4184			0.49%
Sc Radial	4892.2	87.6 %	0.46			0.52%
Y 371.029	719772.8	82.522 %	0.4885			0.59%
Y RADIAL	5327.0	87.56 %	0.648			0.74%
Ag 328.068†	55757.8	267.89 ug/L	0.629	267.89 ppb	0.629	0.23%
QC value within limits for Ag 328.068 Recovery = 107.16%						
Al 396.153Radial†	762124.6	528210 ug/L	6577.9	528210 ppb	6577.9	1.25%
QC value within limits for Al 396.153Radial Recovery = 105.64%						
As 188.979†	1264.6	505.60 ug/L	5.125	505.60 ppb	5.125	1.01%
QC value within limits for As 188.979 Recovery = 101.12%						
B 249.677†	26194.5	486.98 ug/L	0.886	486.98 ppb	0.886	0.18%
QC value within limits for B 249.677 Recovery = 97.40%						
Ba 233.527†	66759.5	475.84 ug/L	1.200	475.84 ppb	1.200	0.25%
QC value within limits for Ba 233.527 Recovery = 95.17%						
Be 313.107†	735517.8	232.29 ug/L	0.287	232.29 ppb	0.287	0.12%
QC value within limits for Be 313.107 Recovery = 92.92%						
Ca 317.933Radial†	318121.4	483710 ug/L	5918.3	483710 ppb	5918.3	1.22%

QC value within limits for Ca 317.933 Radial Recovery = 96.74%					
Cd 226.502†	45651.4	432.57 ug/L	1.906	432.57 ppb	1.906 0.44%
QC value within limits for Cd 226.502 Recovery = 86.51%					
Co 228.616†	22458.6	427.18 ug/L	1.939	427.18 ppb	1.939 0.45%
QC value within limits for Co 228.616 Recovery = 85.44%					
Cr 267.716†	47128.6	458.26 ug/L	1.432	458.26 ppb	1.432 0.31%
QC value within limits for Cr 267.716 Recovery = 91.65%					
Cu 324.752†	211337.1	543.40 ug/L	0.740	543.40 ppb	0.740 0.14%
QC value within limits for Cu 324.752 Recovery = 108.68%					
Fe 238.204 Radial†	22208.1	187540 ug/L	890.3	187540 ppb	890.3 0.47%
QC value within limits for Fe 238.204 Radial Recovery = 93.77%					
K 766.490 Radial†	33318.2	5352.0 ug/L	68.24	5352.0 ppb	68.24 1.28%
QC value within limits for K 766.490 Radial Recovery = 107.04%					
Mg 279.077 IEC†	15349.9	500780 ug/L	2663.5	500780 ppb	2663.5 0.53%
QC value within limits for Mg 279.077 IEC Recovery = 100.16%					
Mn 257.610†	461853.9	462.19 ug/L	1.178	462.19 ppb	1.178 0.25%
QC value within limits for Mn 257.610 Recovery = 92.44%					
Mo 202.031†	7325.1	472.24 ug/L	2.957	472.24 ppb	2.957 0.63%
QC value within limits for Mo 202.031 Recovery = 94.45%					
Na 589.592 Radial†	20323.4	5427.8 ug/L	11.02	5427.8 ppb	11.02 0.20%
QC value within limits for Na 589.592 Radial Recovery = 108.56%					
Ni 231.604†	18897.0	422.10 ug/L	1.965	422.10 ppb	1.965 0.47%
QC value within limits for Ni 231.604 Recovery = 84.42%					
P 214.914†	4869.7	2308.2 ug/L	25.95	2308.2 ppb	25.95 1.12%
QC value within limits for P 214.914 Recovery = 92.33%					
Pb 220.353†	3142.0	455.32 ug/L	2.659	455.32 ppb	2.659 0.58%
QC value within limits for Pb 220.353 Recovery = 91.06%					
S 181.975 Axial†	2164.5	2540.4 ug/L	28.70	2540.4 ppb	28.70 1.13%
QC value within limits for S 181.975 Axial Recovery = 101.62%					
Sb 206.836†	1780.4	541.79 ug/L	1.250	541.79 ppb	1.250 0.23%
QC value within limits for Sb 206.836 Recovery = 108.36%					
Se 196.026†	3595.6	2523.6 ug/L	4.77	2523.6 ppb	4.77 0.19%
QC value within limits for Se 196.026 Recovery = 100.94%					
Si 251.611†	191867.8	5142.2 ug/L	6.38	5142.2 ppb	6.38 0.12%
QC value within limits for Si 251.611 Recovery = 102.84%					
Sn 189.927†	2464.7	480.96 ug/L	4.533	480.96 ppb	4.533 0.94%
QC value within limits for Sn 189.927 Recovery = 96.19%					
Sr 421.552†	86552.7	500.21 ug/L	6.404	500.21 ppb	6.404 1.28%
QC value within limits for Sr 421.552 Recovery = 100.04%					
Ti 334.940†	343474.4	497.01 ug/L	1.080	497.01 ppb	1.080 0.22%
QC value within limits for Ti 334.940 Recovery = 99.40%					
Tl 190.801†	1540.0	444.77 ug/L	4.110	444.77 ppb	4.110 0.92%
QC value within limits for Tl 190.801 Recovery = 88.95%					
U 409.014†	21505.2	462.32 ug/L	1.498	462.32 ppb	1.498 0.32%
QC value within limits for U 409.014 Recovery = 92.46%					
V 292.402†	88100.1	478.11 ug/L	0.624	478.11 ppb	0.624 0.13%
QC value within limits for V 292.402 Recovery = 95.62%					
Zn 213.857†	60546.4	482.25 ug/L	1.569	482.25 ppb	1.569 0.33%
QC value within limits for Zn 213.857 Recovery = 96.45%					
SiO2†	191375.2	10978 ug/L	94.0	10978 ppb	94.0 0.86%
QC value within limits for SiO2 Recovery = 102.64%					
All analyte(s) passed QC.					

Sequence No.: 11
 Sample ID: LR1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 15
 Date Collected: 1/28/2010 11:08:54
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	4801.0	4801.0	86.0 %		11:10:51
1	Y RADIAL	5243.1	5243.1	86.18 %		11:10:51
1	Al 396.153Radial†	650822.2	757093.8	524740 ug/L	524740 ppb	11:10:46
1	Ca 317.933Radial†	272307.8	316747.3	481620 ug/L	481620 ppb	11:10:46
1	Fe 238.204 Radial†	45151.3	52515.8	443460 ug/L	443460 ppb	11:10:51
1	K 766.490 Radial†	2622.7	655.8	-255.91 ug/L	-255.91 ppb	11:10:51
1	Mg 279.077 IEC†	13214.2	15369.7	501160 ug/L	501160 ppb	11:10:51
1	Na 589.592 Radial†	1677860.1	1952872.6	521560 ug/L	521560 ppb	11:10:46
1	Sr 421.552†	826.1	949.8	1.9326 ug/L	1.9326 ppb	11:10:51
1	Sc 361.383	709571.4	709571.4	72.109 %		11:11:20
1	Y 371.029	615310.1	615310.1	70.546 %		11:11:20
1	Ag 328.068†	-26423.7	-36965.2	-15.933 ug/L	-15.933 ppb	11:11:20
1	As 188.979†	-192.7	-233.4	19.117 ug/L	19.117 ppb	11:11:40
1	B 249.677†	2003.0	3064.1	-11.365 ug/L	-11.365 ppb	11:11:20
1	Ba 233.527†	-1565.4	-2166.3	-1.6516 ug/L	-1.6516 ppb	11:11:40
1	Be 313.107†	-12423.9	-12161.3	-3.8721 ug/L	-3.8721 ppb	11:11:20
1	Cd 226.502†	3739.0	5384.5	10.441 ug/L	10.441 ppb	11:11:40
1	Co 228.616†	190.9	336.5	-0.0194 ug/L	-0.0194 ppb	11:11:40
1	Cr 267.716†	64.3	3.7	2.6375 ug/L	2.6375 ppb	11:11:40
1	Cu 324.752†	2540.7	-5613.1	0.8263 ug/L	0.8263 ppb	11:11:20
1	Mn 257.610†	-27349.7	-38461.4	-15.364 ug/L	-15.364 ppb	11:11:20
1	Mo 202.031†	-451.3	-648.8	0.1307 ug/L	0.1307 ppb	11:11:40
1	Ni 231.604†	287.7	289.1	6.4568 ug/L	6.4568 ppb	11:11:40
1	P 214.914†	579.9	564.7	57.435 ug/L	57.435 ppb	11:11:40
1	Pb 220.353†	-520.1	-663.0	4.7875 ug/L	4.7875 ppb	11:11:40
1	S 181.975 Axial†	132.8	116.3	43.521 ug/L	43.521 ppb	11:11:40
1	Sb 206.836†	61.8	50.6	10.222 ug/L	10.222 ppb	11:11:40
1	Se 196.026†	-2427.9	-3345.9	-239.09 ug/L	-239.09 ppb	11:11:40
1	Si 251.611†	-477.4	-1122.3	-29.619 ug/L	-29.619 ppb	11:11:40
1	Sn 189.927†	-389.3	-535.2	-7.1495 ug/L	-7.1495 ppb	11:11:40
1	Ti 334.940†	-11985.6	-15711.9	-4.7495 ug/L	-4.7495 ppb	11:11:20
1	Tl 190.801†	-108.6	-110.9	-32.239 ug/L	-32.239 ppb	11:11:40
1	U 409.014†	488477.5	678802.3	15249 ug/L	15249 ppb	11:11:20
1	V 292.402†	3481.5	6268.5	8.6398 ug/L	8.6398 ppb	11:11:20
1	Zn 213.857†	6213.2	7873.7	22.484 ug/L	22.484 ppb	11:11:40
1	SiO2†	-544.1	-1230.7	-69.583 ug/L	-69.583 ppb	11:12:37
2	Sc Radial	4759.7	4759.7	85.2 %		11:11:02
2	Y RADIAL	5176.6	5176.6	85.09 %		11:11:02
2	Al 396.153Radial†	650715.1	763541.8	529210 ug/L	529210 ppb	11:10:57
2	Ca 317.933Radial†	272544.2	319775.1	486220 ug/L	486220 ppb	11:10:57
2	Fe 238.204 Radial†	44678.9	52417.6	442630 ug/L	442630 ppb	11:11:02
2	K 766.490 Radial†	2582.2	634.8	-262.37 ug/L	-262.37 ppb	11:11:02
2	Mg 279.077 IEC†	13086.6	15353.3	500620 ug/L	500620 ppb	11:11:02
2	Na 589.592 Radial†	1675154.4	1966645.0	525230 ug/L	525230 ppb	11:10:57
2	Sr 421.552†	816.3	946.6	1.8796 ug/L	1.8796 ppb	11:11:02
2	Sc 361.383	781859.3	781859.3	79.455 %		11:11:45
2	Y 371.029	678097.0	678097.0	77.744 %		11:11:45
2	Ag 328.068†	-25619.3	-32564.8	1.9014 ug/L	1.9014 ppb	11:11:45
2	As 188.979†	-185.4	-199.6	31.241 ug/L	31.241 ppb	11:12:05
2	B 249.677†	1891.8	2667.2	-19.087 ug/L	-19.087 ppb	11:11:45
2	Ba 233.527†	-1529.4	-1920.3	0.0399 ug/L	0.0399 ppb	11:12:05
2	Be 313.107†	-12296.2	-10407.6	-3.3120 ug/L	-3.3120 ppb	11:11:45
2	Cd 226.502†	3779.9	4956.6	5.9483 ug/L	5.9483 ppb	11:12:05
2	Co 228.616†	211.1	337.5	0.0059 ug/L	0.0059 ppb	11:12:05
2	Cr 267.716†	73.1	6.5	3.3425 ug/L	3.3425 ppb	11:12:05
2	Cu 324.752†	2762.0	-5660.4	1.6416 ug/L	1.6416 ppb	11:11:45
2	Mn 257.610†	-26920.7	-34414.7	-11.357 ug/L	-11.357 ppb	11:11:45
2	Mo 202.031†	-480.7	-628.0	1.4033 ug/L	1.4033 ppb	11:12:05
2	Ni 231.604†	264.2	222.6	4.9706 ug/L	4.9706 ppb	11:12:05

2	P 214.914†	598.1	513.2	33.596 ug/L	33.596 ppb	11:12:05
2	Pb 220.353†	-542.1	-624.0	10.259 ug/L	10.259 ppb	11:12:05
2	S 181.975 Axial†	130.7	96.7	18.718 ug/L	18.718 ppb	11:12:05
2	Sb 206.836†	56.0	35.4	5.6138 ug/L	5.6138 ppb	11:12:05
2	Se 196.026†	-2439.9	-3049.6	-87.594 ug/L	-87.594 ppb	11:12:05
2	Si 251.611†	-502.9	-1093.2	-28.855 ug/L	-28.855 ppb	11:12:05
2	Sn 189.927†	-391.3	-487.8	1.3122 ug/L	1.3122 ppb	11:12:05
2	Ti 334.940†	-10960.2	-12884.6	0.5849 ug/L	0.5849 ppb	11:11:45
2	Tl 190.801†	-111.3	-100.3	-29.144 ug/L	-29.144 ppb	11:12:05
2	U 409.014†	475926.3	600374.1	13482 ug/L	13482 ppb	11:11:45
2	V 292.402†	3100.1	5342.1	0.2384 ug/L	0.2384 ppb	11:11:45
2	Zn 213.857†	6241.2	7112.3	16.238 ug/L	16.238 ppb	11:12:05
2	SiO2†	-412.2	-994.9	-56.080 ug/L	-56.080 ppb	11:12:42
3	Sc Radial	4894.5	4894.5	87.6 %		11:11:12
3	Y RADIAL	5351.3	5351.3	87.96 %		11:11:12
3	Al 396.153Radial†	653172.4	745322.4	516580 ug/L	516580 ppb	11:11:07
3	Ca 317.933Radial†	272820.2	311284.7	473310 ug/L	473310 ppb	11:11:07
3	Fe 238.204 Radial†	44724.4	51026.0	430880 ug/L	430880 ppb	11:11:12
3	K 766.490 Radial†	2544.7	508.5	-274.71 ug/L	-274.71 ppb	11:11:12
3	Mg 279.077 IEC†	13064.7	14905.6	486020 ug/L	486020 ppb	11:11:12
3	Na 589.592 Radial†	1686844.1	1925863.0	514340 ug/L	514340 ppb	11:11:07
3	Sr 421.552†	823.0	928.0	1.8674 ug/L	1.8674 ppb	11:11:12
3	Sc 361.383	804982.1	804982.1	81.805 %		11:12:11
3	Y 371.029	697795.7	697795.7	80.003 %		11:12:11
3	Ag 328.068†	-25445.0	-31425.5	2.9267 ug/L	2.9267 ppb	11:12:11
3	As 188.979†	-186.7	-194.4	30.335 ug/L	30.335 ppb	11:12:31
3	B 249.677†	1828.0	2520.8	-20.079 ug/L	-20.079 ppb	11:12:11
3	Ba 233.527†	-1594.4	-1944.4	-0.4922 ug/L	-0.4922 ppb	11:12:31
3	Be 313.107†	-12213.1	-9861.5	-3.1433 ug/L	-3.1433 ppb	11:12:11
3	Cd 226.502†	3715.6	4741.4	4.9547 ug/L	4.9547 ppb	11:12:31
3	Co 228.616†	228.1	350.6	0.4337 ug/L	0.4337 ppb	11:12:31
3	Cr 267.716†	51.7	-22.3	2.9934 ug/L	2.9934 ppb	11:12:31
3	Cu 324.752†	2696.1	-5840.7	0.7880 ug/L	0.7880 ppb	11:12:11
3	Mn 257.610†	-27106.1	-33668.1	-11.170 ug/L	-11.170 ppb	11:12:11
3	Mo 202.031†	-468.8	-596.0	2.3093 ug/L	2.3093 ppb	11:12:31
3	Ni 231.604†	283.8	237.0	5.2926 ug/L	5.2926 ppb	11:12:31
3	P 214.914†	645.4	549.4	58.125 ug/L	58.125 ppb	11:12:31
3	Pb 220.353†	-512.9	-568.6	14.625 ug/L	14.625 ppb	11:12:31
3	S 181.975 Axial†	131.7	93.2	16.803 ug/L	16.803 ppb	11:12:31
3	Sb 206.836†	75.6	57.3	12.350 ug/L	12.350 ppb	11:12:31
3	Se 196.026†	-2434.9	-2955.3	-78.247 ug/L	-78.247 ppb	11:12:31
3	Si 251.611†	-514.8	-1089.6	-28.780 ug/L	-28.780 ppb	11:12:31
3	Sn 189.927†	-381.9	-462.3	3.3413 ug/L	3.3413 ppb	11:12:31
3	Ti 334.940†	-12044.9	-13814.2	-1.0570 ug/L	-1.0570 ppb	11:12:11
3	Tl 190.801†	-121.7	-109.0	-31.654 ug/L	-31.654 ppb	11:12:31
3	U 409.014†	475329.4	582438.7	13079 ug/L	13079 ppb	11:12:11
3	V 292.402†	2840.1	4912.2	-1.4634 ug/L	-1.4634 ppb	11:12:11
3	Zn 213.857†	6251.2	6898.9	15.601 ug/L	15.601 ppb	11:12:31
3	SiO2†	-469.4	-1049.9	-59.290 ug/L	-59.290 ppb	11:12:47

Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	765471.0	77.789 %		5.0580			6.50%
Sc Radial	4818.4	86.3 %		1.24			1.43%
Y 371.029	663734.3	76.098 %		4.9389			6.49%
Y RADIAL	5257.0	86.41 %		1.450			1.68%
Ag 328.068†	-33651.8	-3.7017 ug/L		10.60506	-3.7017 ppb	10.60506	286.50%
Al 396.153Radial†	755319.3	523510 ug/L		6403.2	523510 ppb	6403.2	1.22%
QC value within limits for Al 396.153Radial Recovery = 104.70%							
As 188.979†	-209.1	26.898 ug/L		6.7535	26.898 ppb	6.7535	25.11%
B 249.677†	2750.7	-16.843 ug/L		4.7707	-16.843 ppb	4.7707	28.32%
Ba 233.527†	-2010.4	-0.7013 ug/L		0.86492	-0.7013 ppb	0.86492	123.33%
Be 313.107†	-10810.1	-3.4425 ug/L		0.38155	-3.4425 ppb	0.38155	11.08%
Ca 317.933Radial†	315935.7	480380 ug/L		6542.8	480380 ppb	6542.8	1.36%
QC value within limits for Ca 317.933Radial Recovery = 96.08%							
Cd 226.502†	5027.5	7.1147 ug/L		2.92325	7.1147 ppb	2.92325	41.09%
Co 228.616†	341.5	0.1401 ug/L		0.25464	0.1401 ppb	0.25464	181.78%
Cr 267.716†	-4.0	2.9911 ug/L		0.35249	2.9911 ppb	0.35249	11.78%
Cu 324.752†	-5704.7	1.0853 ug/L		0.48214	1.0853 ppb	0.48214	44.42%

Fe 238.204 Radial†	51986.5	438990 ug/L	7035.9	438990 ppb	7035.9	1.60%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 87.80%						
K 766.490 Radial†	599.7	-264.33 ug/L	9.551	-264.33 ppb	9.551	3.61%
Mg 279.077 IEC†	15209.5	495940 ug/L	8586.9	495940 ppb	8586.9	1.73%
QC value within limits for Mg 279.077 IEC Recovery = 99.19%						
Mn 257.610†	-35514.7	-12.631 ug/L	2.3692	-12.631 ppb	2.3692	18.76%
Mo 202.031†	-624.2	1.2811 ug/L	1.09445	1.2811 ppb	1.09445	85.43%
Na 589.592 Radial†	1948460.2	520380 ug/L	5540.6	520380 ppb	5540.6	1.06%
QC value within limits for Na 589.592 Radial Recovery = 104.08%						
Ni 231.604†	249.5	5.5733 ug/L	0.78190	5.5733 ppb	0.78190	14.03%
P 214.914†	542.5	49.719 ug/L	13.9671	49.719 ppb	13.9671	28.09%
Pb 220.353†	-618.5	9.8907 ug/L	4.92928	9.8907 ppb	4.92928	49.84%
S 181.975 Axial†	102.1	26.348 ug/L	14.9039	26.348 ppb	14.9039	56.57%
Sb 206.836†	47.8	9.3953 ug/L	3.44353	9.3953 ppb	3.44353	36.65%
Se 196.026†	-3116.9	-134.98 ug/L	90.284	-134.98 ppb	90.284	66.89%
Si 251.611†	-1101.7	-29.085 ug/L	0.4645	-29.085 ppb	0.4645	1.60%
Sn 189.927†	-495.1	-0.8320 ug/L	5.56438	-0.8320 ppb	5.56438	668.82%
Sr 421.552†	941.5	1.8932 ug/L	0.03466	1.8932 ppb	0.03466	1.83%
Ti 334.940†	-14136.9	-1.7405 ug/L	2.73207	-1.7405 ppb	2.73207	156.97%
Tl 190.801†	-106.7	-31.012 ug/L	1.6442	-31.012 ppb	1.6442	5.30%
U 409.014†	620538.4	13936 ug/L	1154.6	13936 ppb	1154.6	8.28%
QC value within limits for U 409.014 Recovery = 92.91%						
V 292.402†	5507.6	2.4716 ug/L	5.40919	2.4716 ppb	5.40919	218.85%
Zn 213.857†	7295.0	18.108 ug/L	3.8036	18.108 ppb	3.8036	21.01%
SiO2†	-1091.9	-61.651 ug/L	7.0545	-61.651 ppb	7.0545	11.44%

QC Failed. Continue with analysis.

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 16

Date Collected: 1/28/2010 11:14:56

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5319.8	5319.8	95.3 %		11:16:54
1	Y RADIAL	5731.8	5731.8	94.22 %		11:16:54
1	Al 396.153Radial†	634.2	662.1	15.121 ug/L	15.121 ppb	11:16:54
1	Ca 317.933Radial†	35.0	10.0	15.190 ug/L	15.190 ppb	11:17:14
1	Fe 238.204 Radial†	-21.6	-31.1	1.6416 ug/L	1.6416 ppb	11:17:14
1	K 766.490 Radial†	1712678.6	1795669.7	297300 ug/L	297300 ppb	11:16:49
1	Mg 279.077 IEC†	-6.3	-9.0	-198.69 ug/L	-198.69 ppb	11:17:14
1	Na 589.592 Radial†	-605.9	391.9	104.67 ug/L	104.67 ppb	11:16:54
1	Sr 421.552†	1576772.7	1655372.1	9635.8 ug/L	9635.8 ppb	11:16:49
1	Sc 361.383	929238.3	929238.3	94.432 %		11:18:31
1	Y 371.029	803702.2	803702.2	92.145 %		11:18:31
1	Ag 328.068†	-8330.8	-9143.0	2.9682 ug/L	2.9682 ppb	11:18:36
1	As 188.979†	23248.3	24652.9	9002.4 ug/L	9002.4 ppb	11:18:36
1	B 249.677†	223988.4	237481.8	4677.0 ug/L	4677.0 ppb	11:18:31
1	Ba 233.527†	1798123.0	1904150.8	13399 ug/L	13399 ppb	11:18:31
1	Be 313.107†	8003957.7	8480965.3	2687.8 ug/L	2687.8 ppb	11:18:25
1	Cd 226.502†	861651.4	912656.5	9033.8 ug/L	9033.8 ppb	11:18:31
1	Co 228.616†	435708.3	461470.9	8829.3 ug/L	8829.3 ppb	11:18:36
1	Cr 267.716†	2182347.8	2310940.6	22281 ug/L	22281 ppb	11:18:31
1	Cu 324.752†	7231891.7	7649171.1	19318 ug/L	19318 ppb	11:18:25
1	Mn 257.610†	8407526.1	8902728.4	8947.1 ug/L	8947.1 ppb	11:18:25
1	Mo 202.031†	140088.6	148325.7	9151.0 ug/L	9151.0 ppb	11:18:36
1	Ni 231.604†	384673.9	407245.6	9096.8 ug/L	9096.8 ppb	11:18:31
1	P 214.914†	31920.5	33563.1	13002 ug/L	13002 ppb	11:18:36
1	Pb 220.353†	194669.4	206206.1	23011 ug/L	23011 ppb	11:18:36
1	S 181.975 Axial†	39024.5	41257.7	50311 ug/L	50311 ppb	11:18:36
1	Sb 206.836†	32049.1	33903.7	10542 ug/L	10542 ppb	11:18:36
1	Se 196.026†	17563.0	18619.8	9703.4 ug/L	9703.4 ppb	11:18:36
1	Si 251.611†	1596277.2	1689938.6	45228 ug/L	45228 ppb	11:18:31
1	Sn 189.927†	56678.9	60025.5	9846.4 ug/L	9846.4 ppb	11:18:36
1	Ti 334.940†	6560959.2	6948724.6	9569.8 ug/L	9569.8 ppb	11:18:25
1	Tl 190.801†	30342.6	32171.4	9287.7 ug/L	9287.7 ppb	11:18:36
1	U 409.014†	192.5	1588.5	-13.997 ug/L	-13.997 ppb	11:18:36
1	V 292.402†	1591568.4	1686852.9	9475.9 ug/L	9475.9 ppb	11:18:31
1	Zn 213.857†	1477399.9	1563769.6	12929 ug/L	12929 ppb	11:18:31
1	SiO2†	1622701.5	1717905.2	98402 ug/L	98402 ppb	11:19:24
2	Sc Radial	5325.0	5325.0	95.3 %		11:17:24
2	Y RADIAL	5724.3	5724.3	94.09 %		11:17:24
2	Al 396.153Radial†	628.2	655.1	7.8555 ug/L	7.8555 ppb	11:17:24
2	Ca 317.933Radial†	38.0	13.1	19.853 ug/L	19.853 ppb	11:17:44
2	Fe 238.204 Radial†	-19.0	-28.3	26.520 ug/L	26.520 ppb	11:17:44
2	K 766.490 Radial†	1746846.2	1829742.3	302940 ug/L	302940 ppb	11:17:19
2	Mg 279.077 IEC†	-5.0	-7.6	-151.60 ug/L	-151.60 ppb	11:17:44
2	Na 589.592 Radial†	-715.0	278.1	74.281 ug/L	74.281 ppb	11:17:24
2	Sr 421.552†	1609708.6	1688292.9	9827.5 ug/L	9827.5 ppb	11:17:19
2	Sc 361.383	922281.9	922281.9	93.725 %		11:18:51
2	Y 371.029	799286.1	799286.1	91.639 %		11:18:51
2	Ag 328.068†	-8286.9	-9162.7	2.9304 ug/L	2.9304 ppb	11:18:56
2	As 188.979†	23230.4	24819.5	9063.0 ug/L	9063.0 ppb	11:18:56
2	B 249.677†	222269.9	237437.3	4676.0 ug/L	4676.0 ppb	11:18:51
2	Ba 233.527†	1782740.2	1902100.3	13385 ug/L	13385 ppb	11:18:51
2	Be 313.107†	7995104.5	8535449.4	2705.0 ug/L	2705.0 ppb	11:18:45
2	Cd 226.502†	854726.5	912150.3	9028.8 ug/L	9028.8 ppb	11:18:51
2	Co 228.616†	434465.6	463625.1	8870.5 ug/L	8870.5 ppb	11:18:56
2	Cr 267.716†	2167844.3	2312897.1	22299 ug/L	22299 ppb	11:18:51
2	Cu 324.752†	7190192.5	7662443.5	19352 ug/L	19352 ppb	11:18:45
2	Mn 257.610†	8373679.1	8933768.8	8978.3 ug/L	8978.3 ppb	11:18:45
2	Mo 202.031†	139800.4	149137.2	9201.0 ug/L	9201.0 ppb	11:18:56
2	Ni 231.604†	381422.2	406848.6	9087.9 ug/L	9087.9 ppb	11:18:51

2	P 214.914†	31775.7	33663.6	13046 ug/L	13046 ppb	11:18:56
2	Pb 220.353†	194125.9	207181.1	23120 ug/L	23120 ppb	11:18:56
2	S 181.975 Axial†	38920.3	41458.3	50555 ug/L	50555 ppb	11:18:56
2	Sb 206.836†	31980.3	34086.3	10599 ug/L	10599 ppb	11:18:56
2	Se 196.026†	17499.3	18692.0	9741.1 ug/L	9741.1 ppb	11:18:56
2	Si 251.611†	1581646.0	1687077.9	45151 ug/L	45151 ppb	11:18:51
2	Sn 189.927†	56572.3	60364.5	9902.0 ug/L	9902.0 ppb	11:18:56
2	Ti 334.940†	6531345.1	6969532.2	9598.4 ug/L	9598.4 ppb	11:18:45
2	Tl 190.801†	30347.8	32419.3	9358.9 ug/L	9358.9 ppb	11:18:56
2	U 409.014†	165.3	1561.1	-14.659 ug/L	-14.659 ppb	11:18:56
2	V 292.402†	1580862.2	1688142.3	9483.7 ug/L	9483.7 ppb	11:18:51
2	Zn 213.857†	1466673.9	1564125.9	12932 ug/L	12932 ppb	11:18:51
2	SiO2†	1613067.3	1720587.0	98555 ug/L	98555 ppb	11:19:31
3	Sc Radial	5269.8	5269.8	94.4 %		11:17:55
3	Y RADIAL	5661.8	5661.8	93.07 %		11:17:55
3	Al 396.153Radial†	625.6	659.2	4.5890 ug/L	4.5890 ppb	11:17:55
3	Ca 317.933Radial†	33.8	9.0	13.733 ug/L	13.733 ppb	11:18:15
3	Fe 238.204 Radial†	-20.2	-29.8	17.393 ug/L	17.393 ppb	11:18:15
3	K 766.490 Radial†	1716505.1	1816802.3	300800 ug/L	300800 ppb	11:17:50
3	Mg 279.077 IEC†	-3.9	-6.5	-113.66 ug/L	-113.66 ppb	11:18:15
3	Na 589.592 Radial†	-696.8	289.5	77.317 ug/L	77.317 ppb	11:17:55
3	Sr 421.552†	1575274.0	1669505.9	9718.1 ug/L	9718.1 ppb	11:17:50
3	Sc 361.383	919806.3	919806.3	93.473 %		11:19:11
3	Y 371.029	796979.7	796979.7	91.374 %		11:19:11
3	Ag 328.068†	-8365.2	-9270.3	2.5417 ug/L	2.5417 ppb	11:19:16
3	As 188.979†	23554.4	25232.8	9212.9 ug/L	9212.9 ppb	11:19:16
3	B 249.677†	221433.0	237180.3	4670.6 ug/L	4670.6 ppb	11:19:11
3	Ba 233.527†	1782591.4	1907060.6	13420 ug/L	13420 ppb	11:19:11
3	Be 313.107†	8003252.1	8567125.6	2715.0 ug/L	2715.0 ppb	11:19:04
3	Cd 226.502†	856673.0	916687.3	9073.7 ug/L	9073.7 ppb	11:19:11
3	Co 228.616†	439343.2	470090.9	8994.5 ug/L	8994.5 ppb	11:19:16
3	Cr 267.716†	2167783.5	2319057.7	22359 ug/L	22359 ppb	11:19:11
3	Cu 324.752†	7210573.2	7704895.4	19459 ug/L	19459 ppb	11:19:04
3	Mn 257.610†	8372627.3	8956690.5	9001.3 ug/L	9001.3 ppb	11:19:04
3	Mo 202.031†	141341.4	151187.3	9327.5 ug/L	9327.5 ppb	11:19:16
3	Ni 231.604†	382075.9	408643.3	9127.9 ug/L	9127.9 ppb	11:19:11
3	P 214.914†	32211.8	34221.4	13304 ug/L	13304 ppb	11:19:16
3	Pb 220.353†	196230.9	209990.5	23434 ug/L	23434 ppb	11:19:16
3	S 181.975 Axial†	39421.2	42105.9	51345 ug/L	51345 ppb	11:19:16
3	Sb 206.836†	32428.9	34658.0	10775 ug/L	10775 ppb	11:19:16
3	Se 196.026†	17705.0	18962.3	9882.0 ug/L	9882.0 ppb	11:19:16
3	Si 251.611†	1576954.5	1686600.9	45136 ug/L	45136 ppb	11:19:11
3	Sn 189.927†	57056.1	61044.5	10014 ug/L	10014 ppb	11:19:16
3	Ti 334.940†	6535524.9	6992760.1	9630.4 ug/L	9630.4 ppb	11:19:04
3	Tl 190.801†	30692.3	32875.1	9489.4 ug/L	9489.4 ppb	11:19:16
3	U 409.014†	204.9	1603.9	-13.827 ug/L	-13.827 ppb	11:19:16
3	V 292.402†	1577675.3	1689272.6	9491.7 ug/L	9491.7 ppb	11:19:11
3	Zn 213.857†	1468275.6	1570051.2	12981 ug/L	12981 ppb	11:19:11
3	SiO2†	1608405.2	1720231.7	98531 ug/L	98531 ppb	11:19:38

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	923775.5	93.877 %	0.4970			0.53%
Sc Radial	5304.9	95.0 %	0.55			0.58%
Y 371.029	799989.4	91.719 %	0.3916			0.43%
Y RADIAL	5705.9	93.79 %	0.632			0.67%
Ag 328.068†	-9192.0	2.8134 ug/L	0.23611	2.8134 ppb	0.23611	8.39%
Al 396.153Radial†	658.8	9.1885 ug/L	5.39105	9.1885 ppb	5.39105	58.67%
As 188.979†	24901.8	9092.8 ug/L	108.33	9092.8 ppb	108.33	1.19%
QC value within limits for As 188.979 Recovery = 90.93%						
B 249.677†	237366.4	4674.5 ug/L	3.47	4674.5 ppb	3.47	0.07%
QC value within limits for B 249.677 Recovery = 93.49%						
Ba 233.527†	1904437.2	13401 ug/L	17.5	13401 ppb	17.5	0.13%
QC value less than the lower limit for Ba 233.527 Recovery = 89.34%						
Be 313.107†	8527846.8	2702.6 ug/L	13.77	2702.6 ppb	13.77	0.51%
QC value within limits for Be 313.107 Recovery = 90.09%						
Ca 317.933Radial†	10.7	16.259 ug/L	3.1966	16.259 ppb	3.1966	19.66%
Cd 226.502†	913831.4	9045.4 ug/L	24.61	9045.4 ppb	24.61	0.27%
QC value within limits for Cd 226.502 Recovery = 90.45%						

Co 228.616†	465062.3	8898.1 ug/L	85.99	8898.1 ppb	85.99	0.97%
QC value less than the lower limit for Co 228.616 Recovery = 88.98%						
Cr 267.716†	2314298.5	22313 ug/L	40.8	22313 ppb	40.8	0.18%
QC value less than the lower limit for Cr 267.716 Recovery = 89.25%						
Cu 324.752†	7672170.0	19376 ug/L	73.5	19376 ppb	73.5	0.38%
QC value within limits for Cu 324.752 Recovery = 96.88%						
Fe 238.204 Radial†	-29.7	15.185 ug/L	12.5853	15.185 ppb	12.5853	82.88%
K 766.490 Radial†	1814071.4	300350 ug/L	2847.8	300350 ppb	2847.8	0.95%
QC value within limits for K 766.490 Radial Recovery = 100.12%						
Mg 279.077 IEC†	-7.7	-154.65 ug/L	42.598	-154.65 ppb	42.598	27.55%
Mn 257.610†	8931062.6	8975.6 ug/L	27.22	8975.6 ppb	27.22	0.30%
QC value less than the lower limit for Mn 257.610 Recovery = 89.76%						
Mo 202.031†	149550.1	9226.5 ug/L	90.99	9226.5 ppb	90.99	0.99%
QC value within limits for Mo 202.031 Recovery = 92.27%						
Na 589.592 Radial†	319.8	85.422 ug/L	16.7359	85.422 ppb	16.7359	19.59%
Ni 231.604†	407579.2	9104.2 ug/L	21.02	9104.2 ppb	21.02	0.23%
QC value within limits for Ni 231.604 Recovery = 91.04%						
P 214.914†	33816.0	13117 ug/L	163.2	13117 ppb	163.2	1.24%
QC value less than the lower limit for P 214.914 Recovery = 87.45%						
Pb 220.353†	207792.6	23189 ug/L	219.3	23189 ppb	219.3	0.95%
QC value within limits for Pb 220.353 Recovery = 92.75%						
S 181.975 Axial†	41607.3	50737 ug/L	540.6	50737 ppb	540.6	1.07%
QC value within limits for S 181.975 Axial Recovery = 101.47%						
Sb 206.836†	34216.0	10639 ug/L	121.5	10639 ppb	121.5	1.14%
QC value within limits for Sb 206.836 Recovery = 106.39%						
Se 196.026†	18758.0	9775.5 ug/L	94.12	9775.5 ppb	94.12	0.96%
QC value within limits for Se 196.026 Recovery = 97.75%						
Si 251.611†	1687872.4	45172 ug/L	49.3	45172 ppb	49.3	0.11%
QC value within limits for Si 251.611 Recovery = 90.34%						
Sn 189.927†	60478.2	9920.7 ug/L	85.12	9920.7 ppb	85.12	0.86%
QC value within limits for Sn 189.927 Recovery = 99.21%						
Sr 421.552†	1671057.0	9727.1 ug/L	96.13	9727.1 ppb	96.13	0.99%
QC value within limits for Sr 421.552 Recovery = 97.27%						
Ti 334.940†	6970339.0	9599.5 ug/L	30.35	9599.5 ppb	30.35	0.32%
QC value within limits for Ti 334.940 Recovery = 96.00%						
Tl 190.801†	32488.6	9378.7 ug/L	102.30	9378.7 ppb	102.30	1.09%
QC value within limits for Tl 190.801 Recovery = 93.79%						
U 409.014†	1584.5	-14.161 ug/L	0.4397	-14.161 ppb	0.4397	3.10%
V 292.402†	1688089.3	9483.7 ug/L	7.92	9483.7 ppb	7.92	0.08%
QC value within limits for V 292.402 Recovery = 94.84%						
Zn 213.857†	1565982.2	12948 ug/L	29.1	12948 ppb	29.1	0.23%
QC value less than the lower limit for Zn 213.857 Recovery = 86.32%						
SiO2†	1719574.6	98496 ug/L	82.1	98496 ppb	82.1	0.08%
QC value within limits for SiO2 Recovery = 92.05%						
QC Failed. Continue with analysis.						

Sequence No.: 13
 Sample ID: CCV
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 7
 Date Collected: 1/28/2010 11:21:49
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5467.5	5467.5	97.9 %		11:23:41
1	Y RADIAL	5942.2	5942.2	97.68 %		11:23:41
1	Al 396.153Radial†	6924.8	7069.9	4877.1 ug/L	4877.1 ppb	11:23:41
1	Ca 317.933Radial†	3259.4	3302.7	5021.8 ug/L	5021.8 ppb	11:24:01
1	Fe 238.204 Radial†	600.7	605.2	5124.7 ug/L	5124.7 ppb	11:24:01
1	K 766.490 Radial†	32395.4	30696.6	5076.4 ug/L	5076.4 ppb	11:23:41
1	Mg 279.077 IEC†	162.8	163.9	5349.7 ug/L	5349.7 ppb	11:24:01
1	Na 589.592 Radial†	34018.1	35777.5	9555.1 ug/L	9555.1 ppb	11:23:41
1	Sr 421.552†	81368.6	83106.7	483.72 ug/L	483.72 ppb	11:23:41
1	Sc 361.383	970532.0	970532.0	98.628 %		11:24:59
1	Y 371.029	850970.2	850970.2	97.564 %		11:24:59
1	Ag 328.068†	125856.3	127285.6	487.42 ug/L	487.42 ppb	11:25:04
1	As 188.979†	1336.6	1389.1	508.04 ug/L	508.04 ppb	11:25:24
1	B 249.677†	24630.4	25259.2	497.96 ug/L	497.96 ppb	11:25:04
1	Ba 233.527†	66460.7	67389.5	474.67 ug/L	474.67 ppb	11:25:04
1	Be 313.107†	1456837.8	1482166.1	467.02 ug/L	467.02 ppb	11:24:59
1	Cd 226.502†	47375.1	48233.3	476.99 ug/L	476.99 ppb	11:25:04
1	Co 228.616†	24343.6	24753.9	473.77 ug/L	473.77 ppb	11:25:04
1	Cr 267.716†	48511.6	49100.7	473.70 ug/L	473.70 ppb	11:25:04
1	Cu 324.752†	192246.9	185784.0	469.21 ug/L	469.21 ppb	11:25:04
1	Mn 257.610†	460081.4	465946.8	468.56 ug/L	468.56 ppb	11:24:59
1	Mo 202.031†	7622.1	7705.2	475.83 ug/L	475.83 ppb	11:25:24
1	Ni 231.604†	21135.3	21319.3	476.21 ug/L	476.21 ppb	11:25:04
1	P 214.914†	4859.7	4687.7	2247.4 ug/L	2247.4 ppb	11:25:24
1	Pb 220.353†	4161.3	4277.6	478.67 ug/L	478.67 ppb	11:25:24
1	S 181.975 Axial†	835.8	779.6	949.76 ug/L	949.76 ppb	11:25:24
1	Sb 206.836†	1645.8	1633.5	508.75 ug/L	508.75 ppb	11:25:24
1	Se 196.026†	884.1	917.5	495.47 ug/L	495.47 ppb	11:25:24
1	Si 251.611†	90226.3	91020.8	2436.2 ug/L	2436.2 ppb	11:25:04
1	Sn 189.927†	2883.3	2928.0	481.14 ug/L	481.14 ppb	11:25:24
1	Ti 334.940†	344142.5	349838.3	482.06 ug/L	482.06 ppb	11:24:59
1	Tl 190.801†	1582.4	1644.1	474.56 ug/L	474.56 ppb	11:25:24
1	U 409.014†	19264.3	20916.9	469.81 ug/L	469.81 ppb	11:25:04
1	V 292.402†	82274.3	84858.9	477.40 ug/L	477.40 ppb	11:25:04
1	Zn 213.857†	57392.8	57448.3	473.91 ug/L	473.91 ppb	11:25:04
1	SiO2†	89230.1	89994.9	5155.1 ug/L	5155.1 ppb	11:26:32
2	Sc Radial	5439.0	5439.0	97.4 %		11:24:06
2	Y RADIAL	5901.7	5901.7	97.01 %		11:24:06
2	Al 396.153Radial†	6907.8	7089.5	4890.9 ug/L	4890.9 ppb	11:24:06
2	Ca 317.933Radial†	3257.4	3318.1	5045.2 ug/L	5045.2 ppb	11:24:26
2	Fe 238.204 Radial†	599.7	607.4	5143.1 ug/L	5143.1 ppb	11:24:26
2	K 766.490 Radial†	32353.0	30826.2	5097.8 ug/L	5097.8 ppb	11:24:06
2	Mg 279.077 IEC†	161.7	163.7	5341.5 ug/L	5341.5 ppb	11:24:26
2	Na 589.592 Radial†	33843.8	35780.3	9555.9 ug/L	9555.9 ppb	11:24:06
2	Sr 421.552†	80930.6	83091.7	483.64 ug/L	483.64 ppb	11:24:06
2	Sc 361.383	987924.7	987924.7	100.40 %		11:25:30
2	Y 371.029	867120.1	867120.1	99.416 %		11:25:30
2	Ag 328.068†	125083.1	124268.9	475.91 ug/L	475.91 ppb	11:25:35
2	As 188.979†	1322.9	1351.5	494.42 ug/L	494.42 ppb	11:25:55
2	B 249.677†	24368.4	24558.6	484.11 ug/L	484.11 ppb	11:25:35
2	Ba 233.527†	66064.4	65808.4	463.54 ug/L	463.54 ppb	11:25:35
2	Be 313.107†	1479870.2	1479103.1	466.06 ug/L	466.06 ppb	11:25:30
2	Cd 226.502†	47057.1	47070.9	465.48 ug/L	465.48 ppb	11:25:35
2	Co 228.616†	24198.9	24175.3	462.69 ug/L	462.69 ppb	11:25:35
2	Cr 267.716†	48280.3	48004.4	463.12 ug/L	463.12 ppb	11:25:35
2	Cu 324.752†	191165.9	181275.6	457.83 ug/L	457.83 ppb	11:25:35
2	Mn 257.610†	466426.7	464054.6	466.66 ug/L	466.66 ppb	11:25:30
2	Mo 202.031†	7677.5	7624.3	470.84 ug/L	470.84 ppb	11:25:55
2	Ni 231.604†	21021.8	20828.9	465.26 ug/L	465.26 ppb	11:25:35

2	P 214.914†	4855.9	4597.2	2204.4 ug/L	2204.4 ppb	11:25:55
2	Pb 220.353†	4136.2	4178.2	467.59 ug/L	467.59 ppb	11:25:55
2	S 181.975 Axial†	827.8	756.8	921.89 ug/L	921.89 ppb	11:25:55
2	Sb 206.836†	1657.0	1615.3	502.95 ug/L	502.95 ppb	11:25:55
2	Se 196.026†	889.6	907.2	490.17 ug/L	490.17 ppb	11:25:55
2	Si 251.611†	89749.4	88935.2	2380.3 ug/L	2380.3 ppb	11:25:35
2	Sn 189.927†	2865.4	2858.7	469.79 ug/L	469.79 ppb	11:25:55
2	Ti 334.940†	349318.2	348850.5	480.71 ug/L	480.71 ppb	11:25:30
2	Tl 190.801†	1569.5	1603.1	462.85 ug/L	462.85 ppb	11:25:55
2	U 409.014†	19171.3	20480.4	459.99 ug/L	459.99 ppb	11:25:35
2	V 292.402†	81937.2	83054.5	467.29 ug/L	467.29 ppb	11:25:35
2	Zn 213.857†	57116.9	56148.9	463.18 ug/L	463.18 ppb	11:25:35
2	SiO2†	89138.9	88311.3	5058.5 ug/L	5058.5 ppb	11:26:37
3	Sc Radial	5443.1	5443.1	97.5 %		11:24:31
3	Y RADIAL	5902.9	5902.9	97.03 %		11:24:31
3	Al 396.153Radial†	6881.7	7057.4	4868.7 ug/L	4868.7 ppb	11:24:31
3	Ca 317.933Radial†	3225.3	3282.7	4991.3 ug/L	4991.3 ppb	11:24:51
3	Fe 238.204 Radial†	596.0	603.1	5106.5 ug/L	5106.5 ppb	11:24:51
3	K 766.490 Radial†	32318.5	30766.1	5087.9 ug/L	5087.9 ppb	11:24:31
3	Mg 279.077 IEC†	158.9	160.6	5241.8 ug/L	5241.8 ppb	11:24:51
3	Na 589.592 Radial†	34015.2	35930.2	9595.9 ug/L	9595.9 ppb	11:24:31
3	Sr 421.552†	81060.1	83162.7	484.05 ug/L	484.05 ppb	11:24:31
3	Sc 361.383	986126.4	986126.4	100.21 %		11:26:01
3	Y 371.029	865834.5	865834.5	99.269 %		11:26:01
3	Ag 328.068†	124382.1	123796.5	474.10 ug/L	474.10 ppb	11:26:06
3	As 188.979†	1318.8	1349.8	493.81 ug/L	493.81 ppb	11:26:26
3	B 249.677†	24211.7	24446.5	481.90 ug/L	481.90 ppb	11:26:06
3	Ba 233.527†	65745.0	65609.8	462.14 ug/L	462.14 ppb	11:26:06
3	Be 313.107†	1479950.8	1481871.5	466.93 ug/L	466.93 ppb	11:26:01
3	Cd 226.502†	46945.6	47045.1	465.23 ug/L	465.23 ppb	11:26:06
3	Co 228.616†	24097.8	24118.4	461.60 ug/L	461.60 ppb	11:26:06
3	Cr 267.716†	48079.4	47891.6	462.03 ug/L	462.03 ppb	11:26:06
3	Cu 324.752†	189463.0	179923.5	454.42 ug/L	454.42 ppb	11:26:06
3	Mn 257.610†	465928.9	464405.1	467.01 ug/L	467.01 ppb	11:26:01
3	Mo 202.031†	7641.9	7602.7	469.51 ug/L	469.51 ppb	11:26:26
3	Ni 231.604†	20901.4	20746.9	463.42 ug/L	463.42 ppb	11:26:06
3	P 214.914†	4833.8	4584.0	2198.5 ug/L	2198.5 ppb	11:26:26
3	Pb 220.353†	4134.7	4184.2	468.26 ug/L	468.26 ppb	11:26:26
3	S 181.975 Axial†	825.3	755.8	920.72 ug/L	920.72 ppb	11:26:26
3	Sb 206.836†	1626.7	1588.1	494.75 ug/L	494.75 ppb	11:26:26
3	Se 196.026†	879.2	898.5	485.51 ug/L	485.51 ppb	11:26:26
3	Si 251.611†	89152.6	88502.7	2368.7 ug/L	2368.7 ppb	11:26:06
3	Sn 189.927†	2868.2	2866.7	471.09 ug/L	471.09 ppb	11:26:26
3	Ti 334.940†	348830.3	348998.2	480.92 ug/L	480.92 ppb	11:26:01
3	Tl 190.801†	1572.9	1609.3	464.63 ug/L	464.63 ppb	11:26:26
3	U 409.014†	19076.3	20420.5	458.65 ug/L	458.65 ppb	11:26:06
3	V 292.402†	81316.9	82584.4	464.67 ug/L	464.67 ppb	11:26:06
3	Zn 213.857†	56829.4	55965.8	461.68 ug/L	461.68 ppb	11:26:06
3	SiO2†	88553.0	87888.6	5034.3 ug/L	5034.3 ppb	11:26:42

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	981527.7	99.746 %	0.9720			0.97%
Sc Radial	5449.9	97.6 %	0.28			0.28%
Y 371.029	861308.2	98.750 %	1.0291			1.04%
Y RADIAL	5915.6	97.24 %	0.379			0.39%
Ag 328.068†	125117.0	479.14 ug/L	7.225	479.14 ppb	7.225	1.51%
QC value within limits for Ag 328.068 Recovery = 95.83%						
Al 396.153Radial†	7072.3	4878.9 ug/L	11.18	4878.9 ppb	11.18	0.23%
QC value within limits for Al 396.153Radial Recovery = 97.58%						
As 188.979†	1363.5	498.76 ug/L	8.042	498.76 ppb	8.042	1.61%
QC value within limits for As 188.979 Recovery = 99.75%						
B 249.677†	24754.8	487.99 ug/L	8.702	487.99 ppb	8.702	1.78%
QC value within limits for B 249.677 Recovery = 97.60%						
Ba 233.527†	66269.3	466.79 ug/L	6.867	466.79 ppb	6.867	1.47%
QC value within limits for Ba 233.527 Recovery = 93.36%						
Be 313.107†	1481046.9	466.67 ug/L	0.532	466.67 ppb	0.532	0.11%
QC value within limits for Be 313.107 Recovery = 93.33%						
Ca 317.933Radial†	3301.2	5019.4 ug/L	27.02	5019.4 ppb	27.02	0.54%

QC value within limits for Ca 317.933 Radial Recovery = 100.39%

Cd 226.502†	47449.8	469.23 ug/L	6.719	469.23 ppb	6.719	1.43%
QC value within limits for Cd 226.502 Recovery = 93.85%						
Co 228.616†	24349.2	466.02 ug/L	6.737	466.02 ppb	6.737	1.45%
QC value within limits for Co 228.616 Recovery = 93.20%						
Cr 267.716†	48332.3	466.28 ug/L	6.443	466.28 ppb	6.443	1.38%
QC value within limits for Cr 267.716 Recovery = 93.26%						
Cu 324.752†	182327.7	460.49 ug/L	7.747	460.49 ppb	7.747	1.68%
QC value within limits for Cu 324.752 Recovery = 92.10%						
Fe 238.204 Radial†	605.2	5124.8 ug/L	18.29	5124.8 ppb	18.29	0.36%
QC value within limits for Fe 238.204 Radial Recovery = 102.50%						
K 766.490 Radial†	30763.0	5087.4 ug/L	10.74	5087.4 ppb	10.74	0.21%
QC value within limits for K 766.490 Radial Recovery = 101.75%						
Mg 279.077 IEC†	162.7	5311.0 ug/L	60.10	5311.0 ppb	60.10	1.13%
QC value within limits for Mg 279.077 IEC Recovery = 106.22%						
Mn 257.610†	464802.2	467.41 ug/L	1.010	467.41 ppb	1.010	0.22%
QC value within limits for Mn 257.610 Recovery = 93.48%						
Mo 202.031†	7644.1	472.06 ug/L	3.333	472.06 ppb	3.333	0.71%
QC value within limits for Mo 202.031 Recovery = 94.41%						
Na 589.592 Radial†	35829.3	9569.0 ug/L	23.34	9569.0 ppb	23.34	0.24%
QC value within limits for Na 589.592 Radial Recovery = 95.69%						
Ni 231.604†	20965.0	468.30 ug/L	6.913	468.30 ppb	6.913	1.48%
QC value within limits for Ni 231.604 Recovery = 93.66%						
P 214.914†	4623.0	2216.8 ug/L	26.70	2216.8 ppb	26.70	1.20%
QC value less than the lower limit for P 214.914 Recovery = 88.67%						
Pb 220.353†	4213.3	471.51 ug/L	6.216	471.51 ppb	6.216	1.32%
QC value within limits for Pb 220.353 Recovery = 94.30%						
S 181.975 Axial†	764.1	930.79 ug/L	16.441	930.79 ppb	16.441	1.77%
QC value within limits for S 181.975 Axial Recovery = 93.08%						
Sb 206.836†	1612.3	502.15 ug/L	7.033	502.15 ppb	7.033	1.40%
QC value within limits for Sb 206.836 Recovery = 100.43%						
Se 196.026†	907.7	490.38 ug/L	4.985	490.38 ppb	4.985	1.02%
QC value within limits for Se 196.026 Recovery = 98.08%						
Si 251.611†	89486.3	2395.1 ug/L	36.08	2395.1 ppb	36.08	1.51%
QC value within limits for Si 251.611 Recovery = 95.80%						
Sn 189.927†	2884.5	474.01 ug/L	6.213	474.01 ppb	6.213	1.31%
QC value within limits for Sn 189.927 Recovery = 94.80%						
Sr 421.552†	83120.4	483.80 ug/L	0.218	483.80 ppb	0.218	0.05%
QC value within limits for Sr 421.552 Recovery = 96.76%						
Ti 334.940†	349229.0	481.23 ug/L	0.727	481.23 ppb	0.727	0.15%
QC value within limits for Ti 334.940 Recovery = 96.25%						
Tl 190.801†	1618.8	467.34 ug/L	6.313	467.34 ppb	6.313	1.35%
QC value within limits for Tl 190.801 Recovery = 93.47%						
U 409.014†	20605.9	462.82 ug/L	6.093	462.82 ppb	6.093	1.32%
QC value within limits for U 409.014 Recovery = 92.56%						
V 292.402†	83499.3	469.79 ug/L	6.722	469.79 ppb	6.722	1.43%
QC value within limits for V 292.402 Recovery = 93.96%						
Zn 213.857†	56521.0	466.26 ug/L	6.671	466.26 ppb	6.671	1.43%
QC value within limits for Zn 213.857 Recovery = 93.25%						
SiO2†	88731.6	5082.6 ug/L	63.90	5082.6 ppb	63.90	1.26%
QC value within limits for SiO2 Recovery = 95.05%						

QC Failed. Continue with analysis.

Sequence No.: 14
 Sample ID: CCB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 8
 Date Collected: 1/28/2010 11:28:52
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5535.3	5535.3	99.1 %		11:30:45
1	Y RADIAL	6033.1	6033.1	99.17 %		11:30:45
1	Al 396.153Radial†	18.0	14.4	9.9392 ug/L	9.9392 ppb	11:31:05
1	Ca 317.933Radial†	30.1	3.6	5.4288 ug/L	5.4288 ppb	11:31:05
1	Fe 238.204 Radial†	7.8	-0.6	-4.6629 ug/L	-4.6629 ppb	11:31:05
1	K 766.490 Radial†	2918.5	549.5	90.975 ug/L	90.975 ppb	11:30:45
1	Mg 279.077 IEC†	0.4	-2.0	-65.249 ug/L	-65.249 ppb	11:31:05
1	Na 589.592 Radial†	-1037.4	-18.7	-4.9888 ug/L	-4.9888 ppb	11:30:45
1	Sr 421.552†	57.3	46.6	0.2714 ug/L	0.2714 ppb	11:30:45
1	Sc 361.383	969797.9	969797.9	98.554 %		11:32:02
1	Y 371.029	859727.6	859727.6	98.568 %		11:32:02
1	Ag 328.068†	452.1	137.7	0.5253 ug/L	0.5253 ppb	11:32:07
1	As 188.979†	8.2	42.1	15.270 ug/L	15.270 ppb	11:32:27
1	B 249.677†	559.3	853.8	16.906 ug/L	16.906 ppb	11:32:27
1	Ba 233.527†	27.1	32.1	0.2248 ug/L	0.2248 ppb	11:32:27
1	Be 313.107†	-4925.8	70.0	0.0221 ug/L	0.0221 ppb	11:32:07
1	Cd 226.502†	-144.0	53.2	0.5265 ug/L	0.5265 ppb	11:32:27
1	Co 228.616†	-63.3	7.6	0.1478 ug/L	0.1478 ppb	11:32:27
1	Cr 267.716†	87.0	2.8	0.0281 ug/L	0.0281 ppb	11:32:27
1	Cu 324.752†	9399.5	400.9	1.0144 ug/L	1.0144 ppb	11:32:07
1	Mn 257.610†	581.7	57.3	0.0597 ug/L	0.0597 ppb	11:32:27
1	Mo 202.031†	34.4	11.9	0.7359 ug/L	0.7359 ppb	11:32:27
1	Ni 231.604†	119.1	10.8	0.2422 ug/L	0.2422 ppb	11:32:27
1	P 214.914†	230.4	-5.7	-3.0066 ug/L	-3.0066 ppb	11:32:27
1	Pb 220.353†	-20.3	37.8	4.2172 ug/L	4.2172 ppb	11:32:27
1	S 181.975 Axial†	46.1	-21.0	-25.668 ug/L	-25.668 ppb	11:32:27
1	Sb 206.836†	61.2	26.9	8.1678 ug/L	8.1678 ppb	11:32:27
1	Se 196.026†	-17.0	3.9	2.0152 ug/L	2.0152 ppb	11:32:27
1	Si 251.611†	628.0	177.0	4.7393 ug/L	4.7393 ppb	11:32:27
1	Sn 189.927†	13.8	18.6	3.0523 ug/L	3.0523 ppb	11:32:27
1	Ti 334.940†	-878.8	18.0	0.0327 ug/L	0.0327 ppb	11:32:07
1	Tl 190.801†	-40.6	-1.4	-0.4036 ug/L	-0.4036 ppb	11:32:27
1	U 409.014†	-1540.8	-178.6	-4.0260 ug/L	-4.0260 ppb	11:32:07
1	V 292.402†	-1439.8	-20.5	-0.1118 ug/L	-0.1118 ppb	11:32:07
1	Zn 213.857†	887.2	157.5	1.3082 ug/L	1.3082 ppb	11:32:27
1	SiO2†	637.4	170.6	9.7788 ug/L	9.7788 ppb	11:33:33
2	Sc Radial	5492.4	5492.4	98.3 %		11:31:10
2	Y RADIAL	5986.8	5986.8	98.41 %		11:31:10
2	Al 396.153Radial†	4.7	1.0	0.6963 ug/L	0.6963 ppb	11:31:30
2	Ca 317.933Radial†	26.2	-0.2	-0.2318 ug/L	-0.2318 ppb	11:31:30
2	Fe 238.204 Radial†	8.5	0.2	1.5678 ug/L	1.5678 ppb	11:31:30
2	K 766.490 Radial†	2960.7	615.4	101.89 ug/L	101.89 ppb	11:31:10
2	Mg 279.077 IEC†	1.5	-0.8	-26.773 ug/L	-26.773 ppb	11:31:30
2	Na 589.592 Radial†	-1012.3	-1.3	-0.3524 ug/L	-0.3524 ppb	11:31:10
2	Sr 421.552†	52.5	42.2	0.2455 ug/L	0.2455 ppb	11:31:10
2	Sc 361.383	964187.2	964187.2	97.984 %		11:32:32
2	Y 371.029	856634.3	856634.3	98.214 %		11:32:32
2	Ag 328.068†	342.1	28.1	0.1083 ug/L	0.1083 ppb	11:32:37
2	As 188.979†	15.4	49.6	17.978 ug/L	17.978 ppb	11:32:57
2	B 249.677†	520.8	817.8	16.192 ug/L	16.192 ppb	11:32:57
2	Ba 233.527†	11.6	16.4	0.1151 ug/L	0.1151 ppb	11:32:57
2	Be 313.107†	-4928.6	38.0	0.0117 ug/L	0.0117 ppb	11:32:37
2	Cd 226.502†	-166.2	29.7	0.2935 ug/L	0.2935 ppb	11:32:57
2	Co 228.616†	-77.0	-6.8	-0.1289 ug/L	-0.1289 ppb	11:32:57
2	Cr 267.716†	108.7	25.4	0.2455 ug/L	0.2455 ppb	11:32:57
2	Cu 324.752†	9211.4	264.4	0.6685 ug/L	0.6685 ppb	11:32:37
2	Mn 257.610†	573.6	52.5	0.0540 ug/L	0.0540 ppb	11:32:57
2	Mo 202.031†	29.0	6.6	0.4077 ug/L	0.4077 ppb	11:32:57
2	Ni 231.604†	108.2	0.5	0.0102 ug/L	0.0102 ppb	11:32:57

2	P 214.914†	225.9	-9.0	-4.6191 ug/L	-4.6191 ppb	11:32:57
2	Pb 220.353†	-33.1	24.5	2.7384 ug/L	2.7384 ppb	11:32:57
2	S 181.975 Axial†	60.1	-6.5	-7.8801 ug/L	-7.8801 ppb	11:32:57
2	Sb 206.836†	63.8	29.9	9.0425 ug/L	9.0425 ppb	11:32:57
2	Se 196.026†	-18.1	2.7	1.3954 ug/L	1.3954 ppb	11:32:57
2	Si 251.611†	602.2	154.3	4.1358 ug/L	4.1358 ppb	11:32:57
2	Sn 189.927†	5.3	10.0	1.6378 ug/L	1.6378 ppb	11:32:57
2	Ti 334.940†	-961.8	-71.9	-0.0965 ug/L	-0.0965 ppb	11:32:37
2	Tl 190.801†	-30.2	8.9	2.5562 ug/L	2.5562 ppb	11:32:57
2	U 409.014†	-1404.9	-49.1	-1.1076 ug/L	-1.1076 ppb	11:32:37
2	V 292.402†	-1414.7	-3.4	-0.0157 ug/L	-0.0157 ppb	11:32:37
2	Zn 213.857†	869.5	144.7	1.2032 ug/L	1.2032 ppb	11:32:57
2	SiO2†	623.7	160.4	9.2024 ug/L	9.2024 ppb	11:33:38
3	Sc Radial	5558.9	5558.9	99.5 %		11:31:35
3	Y RADIAL	6027.8	6027.8	99.08 %		11:31:35
3	Al 396.153Radial†	3.9	0.2	0.1211 ug/L	0.1211 ppb	11:31:55
3	Ca 317.933Radial†	23.6	-3.1	-4.7093 ug/L	-4.7093 ppb	11:31:55
3	Fe 238.204 Radial†	7.7	-0.6	-5.3106 ug/L	-5.3106 ppb	11:31:55
3	K 766.490 Radial†	2862.2	480.4	79.536 ug/L	79.536 ppb	11:31:35
3	Mg 279.077 IEC†	5.5	3.1	102.63 ug/L	102.63 ppb	11:31:55
3	Na 589.592 Radial†	-973.1	50.4	13.460 ug/L	13.460 ppb	11:31:35
3	Sr 421.552†	22.2	11.2	0.0650 ug/L	0.0650 ppb	11:31:35
3	Sc 361.383	960320.4	960320.4	97.591 %		11:33:02
3	Y 371.029	852729.1	852729.1	97.766 %		11:33:02
3	Ag 328.068†	307.3	-6.1	-0.0213 ug/L	-0.0213 ppb	11:33:07
3	As 188.979†	13.5	47.7	17.286 ug/L	17.286 ppb	11:33:28
3	B 249.677†	472.0	769.9	15.245 ug/L	15.245 ppb	11:33:28
3	Ba 233.527†	22.5	27.6	0.1937 ug/L	0.1937 ppb	11:33:28
3	Be 313.107†	-4859.5	88.6	0.0277 ug/L	0.0277 ppb	11:33:07
3	Cd 226.502†	-163.6	31.7	0.3125 ug/L	0.3125 ppb	11:33:28
3	Co 228.616†	-59.4	11.0	0.2117 ug/L	0.2117 ppb	11:33:28
3	Cr 267.716†	108.4	25.6	0.2482 ug/L	0.2482 ppb	11:33:28
3	Cu 324.752†	9123.5	212.2	0.5385 ug/L	0.5385 ppb	11:33:07
3	Mn 257.610†	599.4	81.2	0.0769 ug/L	0.0769 ppb	11:33:28
3	Mo 202.031†	31.4	9.2	0.5653 ug/L	0.5653 ppb	11:33:28
3	Ni 231.604†	89.5	-18.3	-0.4082 ug/L	-0.4082 ppb	11:33:28
3	P 214.914†	256.2	23.0	11.408 ug/L	11.408 ppb	11:33:28
3	Pb 220.353†	-17.6	40.3	4.4940 ug/L	4.4940 ppb	11:33:28
3	S 181.975 Axial†	48.8	-17.8	-21.701 ug/L	-21.701 ppb	11:33:28
3	Sb 206.836†	63.3	29.7	9.0305 ug/L	9.0305 ppb	11:33:28
3	Se 196.026†	-23.7	-3.1	-1.6284 ug/L	-1.6284 ppb	11:33:28
3	Si 251.611†	614.9	169.8	4.5498 ug/L	4.5498 ppb	11:33:28
3	Sn 189.927†	22.4	27.6	4.5201 ug/L	4.5201 ppb	11:33:28
3	Ti 334.940†	-933.9	-47.3	-0.0720 ug/L	-0.0720 ppb	11:33:07
3	Tl 190.801†	-39.4	-0.7	-0.1898 ug/L	-0.1898 ppb	11:33:28
3	U 409.014†	-1570.5	-224.5	-5.0604 ug/L	-5.0604 ppb	11:33:07
3	V 292.402†	-1423.0	-17.7	-0.0974 ug/L	-0.0974 ppb	11:33:07
3	Zn 213.857†	871.1	149.9	1.2498 ug/L	1.2498 ppb	11:33:28
3	SiO2†	622.0	161.2	9.2428 ug/L	9.2428 ppb	11:33:43

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	964768.5	98.043 %	0.4843			0.49%
Sc Radial	5528.9	99.0 %	0.60			0.61%
Y 371.029	856363.7	98.183 %	0.4021			0.41%
Y RADIAL	6015.9	98.89 %	0.416			0.42%
Ag 328.068†	53.2	0.2041 ug/L	0.28564	0.2041 ppb	0.28564	139.94%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	5.2	3.5855 ug/L	5.50995	3.5855 ppb	5.50995	153.67%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	46.4	16.845 ug/L	1.4070	16.845 ppb	1.4070	8.35%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	813.8	16.114 ug/L	0.8334	16.114 ppb	0.8334	5.17%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	25.4	0.1779 ug/L	0.05653	0.1779 ppb	0.05653	31.78%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	65.5	0.0205 ug/L	0.00811	0.0205 ppb	0.00811	39.56%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	0.1	0.1626 ug/L	5.08050	0.1626 ppb	5.08050	>999.9%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated									
Cd	226.502†	38.2	0.3775 ug/L	0.12935	0.3775 ppb	0.12935	34.26%		
QC value within limits for Cd 226.502 Recovery = Not calculated									
Co	228.616†	3.9	0.0769 ug/L	0.18101	0.0769 ppb	0.18101	235.47%		
QC value within limits for Co 228.616 Recovery = Not calculated									
Cr	267.716†	17.9	0.1739 ug/L	0.12626	0.1739 ppb	0.12626	72.60%		
QC value within limits for Cr 267.716 Recovery = Not calculated									
Cu	324.752†	292.5	0.7405 ug/L	0.24600	0.7405 ppb	0.24600	33.22%		
QC value within limits for Cu 324.752 Recovery = Not calculated									
Fe	238.204 Radial†	-0.3	-2.8019 ug/L	3.79808	-2.8019 ppb	3.79808	135.55%		
QC value within limits for Fe 238.204 Radial Recovery = Not calculated									
K	766.490 Radial†	548.4	90.801 ug/L	11.1782	90.801 ppb	11.1782	12.31%		
QC value within limits for K 766.490 Radial Recovery = Not calculated									
Mg	279.077 IEC†	0.1	3.5369 ug/L	87.94906	3.5369 ppb	87.94906	>999.9%		
QC value within limits for Mg 279.077 IEC Recovery = Not calculated									
Mn	257.610†	63.7	0.0635 ug/L	0.01191	0.0635 ppb	0.01191	18.74%		
QC value within limits for Mn 257.610 Recovery = Not calculated									
Mo	202.031†	9.2	0.5696 ug/L	0.16416	0.5696 ppb	0.16416	28.82%		
QC value within limits for Mo 202.031 Recovery = Not calculated									
Na	589.592 Radial†	10.1	2.7064 ug/L	9.59742	2.7064 ppb	9.59742	354.62%		
QC value within limits for Na 589.592 Radial Recovery = Not calculated									
Ni	231.604†	-2.3	-0.0519 ug/L	0.32963	-0.0519 ppb	0.32963	634.53%		
QC value within limits for Ni 231.604 Recovery = Not calculated									
P	214.914†	2.8	1.2609 ug/L	8.82490	1.2609 ppb	8.82490	699.89%		
QC value within limits for P 214.914 Recovery = Not calculated									
Pb	220.353†	34.2	3.8165 ug/L	0.94391	3.8165 ppb	0.94391	24.73%		
QC value within limits for Pb 220.353 Recovery = Not calculated									
S	181.975 Axial†	-15.1	-18.416 ug/L	9.3379	-18.416 ppb	9.3379	50.70%		
QC value within limits for S 181.975 Axial Recovery = Not calculated									
Sb	206.836†	28.9	8.7469 ug/L	0.50162	8.7469 ppb	0.50162	5.73%		
QC value within limits for Sb 206.836 Recovery = Not calculated									
Se	196.026†	1.2	0.5941 ug/L	1.94947	0.5941 ppb	1.94947	328.17%		
QC value within limits for Se 196.026 Recovery = Not calculated									
Si	251.611†	167.1	4.4749 ug/L	0.30863	4.4749 ppb	0.30863	6.90%		
QC value within limits for Si 251.611 Recovery = Not calculated									
Sn	189.927†	18.7	3.0701 ug/L	1.44126	3.0701 ppb	1.44126	46.95%		
QC value within limits for Sn 189.927 Recovery = Not calculated									
Sr	421.552†	33.3	0.1940 ug/L	0.11243	0.1940 ppb	0.11243	57.96%		
QC value within limits for Sr 421.552 Recovery = Not calculated									
Ti	334.940†	-33.7	-0.0453 ug/L	0.06863	-0.0453 ppb	0.06863	151.57%		
QC value within limits for Ti 334.940 Recovery = Not calculated									
Tl	190.801†	2.3	0.6542 ug/L	1.65058	0.6542 ppb	1.65058	252.29%		
QC value within limits for Tl 190.801 Recovery = Not calculated									
U	409.014†	-150.8	-3.3980 ug/L	2.04987	-3.3980 ppb	2.04987	60.33%		
QC value within limits for U 409.014 Recovery = Not calculated									
V	292.402†	-13.9	-0.0749 ug/L	0.05182	-0.0749 ppb	0.05182	69.14%		
QC value within limits for V 292.402 Recovery = Not calculated									
Zn	213.857†	150.7	1.2537 ug/L	0.05262	1.2537 ppb	0.05262	4.20%		
QC value within limits for Zn 213.857 Recovery = Not calculated									
SiO2†		164.1	9.4080 ug/L	0.32175	9.4080 ppb	0.32175	3.42%		
QC value within limits for SiO2 Recovery = Not calculated									
All analyte(s) passed QC.									

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Analysis Begun

Start Time: 1/28/2010 11:44:15

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012810.sif

Batch ID:

Results Data Set: 012810

Results Library: C:\pe\Optima3\Results\Results.mdb
=====

Method Loaded

Method Name: General Eng.2AX

Method Last Saved: 1/28/2010 10:07:42

IEC File: 011110.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc Radial	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc Radial	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc Radial	Yes
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

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Sequence No.: 1

Autosampler Location: 36

Sample ID: LR1

Date Collected: 1/28/2010 11:44:16

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib.	Sample Conc. Units	Analysis Time
1	Sc Radial	5328.5	5328.5	95.4 %			11:46:10
1	Y RADIAL	5806.5	5806.5	95.45 %			11:46:10
1	Al 396.153Radial†	-7.2	-11.3	-6.7254 ug/L		-6.7254 ppb	11:46:30

1	Ca 317.933Radial†	13.8	-12.3	-18.696 ug/L	-18.696 ppb	11:46:30
1	Fe 238.204 Radial†	43808.6	45909.6	387670 ug/L	387670 ppb	11:46:10
1	K 766.490 Radial†	2306.8	22.7	3.8153 ug/L	3.8153 ppb	11:46:10
1	Mg 279.077 IEC†	14.0	12.3	-5.4983 ug/L	-5.4983 ppb	11:46:30
1	Na 589.592 Radial†	-1025.6	-46.9	-12.534 ug/L	-12.534 ppb	11:46:10
1	Sr 421.552†	89.3	82.4	0.4799 ug/L	0.4799 ppb	11:46:10
1	Sc 361.383	926901.1	926901.1	94.194 %		11:47:27
1	Y 371.029	817719.4	817719.4	93.752 %		11:47:27
1	Ag 328.068†	-28600.5	-30684.3	8.9680 ug/L	8.9680 ppb	11:47:27
1	As 188.979†	-190.7	-168.6	29.711 ug/L	29.711 ppb	11:47:47
1	B 249.677†	2792.7	3251.1	1.4008 ug/L	1.4008 ppb	11:47:27
1	Ba 233.527†	-1895.7	-2007.9	-2.1949 ug/L	-2.1949 ppb	11:47:27
1	Be 313.107†	-4827.4	-56.8	-0.0183 ug/L	-0.0183 ppb	11:47:27
1	Cd 226.502†	3492.1	3906.7	-1.3870 ug/L	-1.3870 ppb	11:47:27
1	Co 228.616†	192.8	276.5	-0.3649 ug/L	-0.3649 ppb	11:47:47
1	Cr 267.716†	-421.9	-533.4	2.4482 ug/L	2.4482 ppb	11:47:27
1	Cu 324.752†	1760.9	-7267.1	2.1357 ug/L	2.1357 ppb	11:47:27
1	Mn 257.610†	-37909.2	-40778.6	-2.7091 ug/L	-2.7091 ppb	11:47:27
1	Mo 202.031†	-329.9	-373.2	7.0694 ug/L	7.0694 ppb	11:47:27
1	Ni 231.604†	163.5	63.6	1.4194 ug/L	1.4194 ppb	11:47:47
1	P 214.914†	737.1	543.1	-37.665 ug/L	-37.665 ppb	11:47:47
1	Pb 220.353†	259.5	333.8	0.1425 ug/L	0.1425 ppb	11:47:47
1	S 181.975 Axial†	61.2	-2.9	-3.4827 ug/L	-3.4827 ppb	11:47:47
1	Sb 206.836†	21.1	-12.7	5.5567 ug/L	5.5567 ppb	11:47:47
1	Se 196.026†	-1991.5	-2093.1	194.20 ug/L	194.20 ppb	11:47:47
1	Si 251.611†	-579.6	-1075.6	-28.574 ug/L	-28.574 ppb	11:47:27
1	Sn 189.927†	-21.9	-18.7	3.4548 ug/L	3.4548 ppb	11:47:47
1	Ti 334.940†	-995.8	-147.4	-0.2608 ug/L	-0.2608 ppb	11:47:27
1	Tl 190.801†	-47.3	-10.5	-3.3196 ug/L	-3.3196 ppb	11:47:47
1	U 409.014†	1003.4	2450.0	11.038 ug/L	11.038 ppb	11:47:27
1	V 292.402†	7714.7	9630.6	-3.2061 ug/L	-3.2061 ppb	11:47:27
1	Zn 213.857†	4807.7	4361.3	-1.2968 ug/L	-1.2968 ppb	11:47:47
1	SiO2†	-658.7	-1175.5	-66.874 ug/L	-66.874 ppb	11:48:45
2	Sc Radial	5332.8	5332.8	95.5 %		11:46:35
2	Y RADIAL	5800.7	5800.7	95.35 %		11:46:35
2	Al 396.153Radial†	-20.0	-24.7	-15.789 ug/L	-15.789 ppb	11:46:55
2	Ca 317.933Radial†	10.3	-16.0	-24.316 ug/L	-24.316 ppb	11:46:55
2	Fe 238.204 Radial†	43829.2	45893.7	387540 ug/L	387540 ppb	11:46:35
2	K 766.490 Radial†	2267.5	-20.4	-3.3201 ug/L	-3.3201 ppb	11:46:35
2	Mg 279.077 IEC†	13.3	11.5	-30.610 ug/L	-30.610 ppb	11:46:55
2	Na 589.592 Radial†	-1026.0	-46.5	-12.412 ug/L	-12.412 ppb	11:46:35
2	Sr 421.552†	129.5	124.4	0.7243 ug/L	0.7243 ppb	11:46:35
2	Sc 361.383	925261.0	925261.0	94.028 %		11:47:53
2	Y 371.029	818597.2	818597.2	93.853 %		11:47:53
2	Ag 328.068†	-28561.1	-30696.1	8.8801 ug/L	8.8801 ppb	11:47:53
2	As 188.979†	-204.3	-183.5	24.302 ug/L	24.302 ppb	11:48:13
2	B 249.677†	2609.9	3061.9	-2.3229 ug/L	-2.3229 ppb	11:47:53
2	Ba 233.527†	-1920.1	-2037.5	-2.4076 ug/L	-2.4076 ppb	11:47:53
2	Be 313.107†	-4865.0	-105.9	-0.0340 ug/L	-0.0340 ppb	11:47:53
2	Cd 226.502†	3550.3	3975.1	-0.6967 ug/L	-0.6967 ppb	11:47:53
2	Co 228.616†	194.3	278.5	-0.3343 ug/L	-0.3343 ppb	11:48:13
2	Cr 267.716†	-402.7	-513.8	2.6349 ug/L	2.6349 ppb	11:47:53
2	Cu 324.752†	1795.5	-7227.0	2.2310 ug/L	2.2310 ppb	11:47:53
2	Mn 257.610†	-37834.0	-40770.0	-2.7127 ug/L	-2.7127 ppb	11:47:53
2	Mo 202.031†	-386.9	-434.4	3.2847 ug/L	3.2847 ppb	11:47:53
2	Ni 231.604†	168.0	68.7	1.5331 ug/L	1.5331 ppb	11:48:13
2	P 214.914†	752.1	560.4	-28.913 ug/L	-28.913 ppb	11:48:13
2	Pb 220.353†	256.2	330.8	-0.1862 ug/L	-0.1862 ppb	11:48:13
2	S 181.975 Axial†	66.9	3.4	4.1403 ug/L	4.1403 ppb	11:48:13
2	Sb 206.836†	23.7	-9.9	6.3502 ug/L	6.3502 ppb	11:48:13
2	Se 196.026†	-2016.5	-2123.4	178.01 ug/L	178.01 ppb	11:48:13
2	Si 251.611†	-543.1	-1037.8	-27.515 ug/L	-27.515 ppb	11:47:53
2	Sn 189.927†	-13.3	-9.5	4.9555 ug/L	4.9555 ppb	11:48:13
2	Ti 334.940†	-1080.3	-239.1	-0.3851 ug/L	-0.3851 ppb	11:47:53
2	Tl 190.801†	-44.8	-7.8	-2.5701 ug/L	-2.5701 ppb	11:48:13
2	U 409.014†	922.6	2365.9	9.1576 ug/L	9.1576 ppb	11:47:53
2	V 292.402†	7662.8	9589.9	-3.4700 ug/L	-3.4700 ppb	11:47:53
2	Zn 213.857†	4826.5	4390.3	-1.0427 ug/L	-1.0427 ppb	11:48:13
2	SiO2†	-505.8	-1014.1	-57.503 ug/L	-57.503 ppb	11:48:50
3	Sc Radial	5375.6	5375.6	96.3 %		11:47:00
3	Y RADIAL	5820.0	5820.0	95.67 %		11:47:00

3	Al 396.153Radial†	-27.7	-32.5	-21.311 ug/L	-21.311 ppb	11:47:20
3	Ca 317.933Radial†	9.2	-17.2	-26.202 ug/L	-26.202 ppb	11:47:20
3	Fe 238.204 Radial†	44040.5	45747.9	386310 ug/L	386310 ppb	11:47:00
3	K 766.490 Radial†	2315.0	10.0	1.7106 ug/L	1.7106 ppb	11:47:00
3	Mg 279.077 IEC†	15.4	13.6	39.209 ug/L	39.209 ppb	11:47:20
3	Na 589.592 Radial†	-997.7	-8.6	-2.2918 ug/L	-2.2918 ppb	11:47:00
3	Sr 421.552†	66.7	58.1	0.3385 ug/L	0.3385 ppb	11:47:00
3	Sc 361.383	926640.8	926640.8	94.168 %		11:48:19
3	Y 371.029	819281.3	819281.3	93.931 %		11:48:19
3	Ag 328.068†	-28538.7	-30627.2	8.7458 ug/L	8.7458 ppb	11:48:19
3	As 188.979†	-214.2	-193.6	20.322 ug/L	20.322 ppb	11:48:39
3	B 249.677†	2565.8	3011.0	-3.1313 ug/L	-3.1313 ppb	11:48:19
3	Ba 233.527†	-1838.9	-1948.2	-1.8165 ug/L	-1.8165 ppb	11:48:19
3	Be 313.107†	-4881.7	-116.0	-0.0371 ug/L	-0.0371 ppb	11:48:19
3	Cd 226.502†	3539.4	3958.0	-0.7394 ug/L	-0.7394 ppb	11:48:19
3	Co 228.616†	200.2	284.4	-0.1987 ug/L	-0.1987 ppb	11:48:39
3	Cr 267.716†	-442.5	-555.4	2.2112 ug/L	2.2112 ppb	11:48:19
3	Cu 324.752†	1782.0	-7244.2	2.1227 ug/L	2.1227 ppb	11:48:19
3	Mn 257.610†	-38079.4	-40970.7	-3.0387 ug/L	-3.0387 ppb	11:48:19
3	Mo 202.031†	-358.7	-403.8	5.0740 ug/L	5.0740 ppb	11:48:19
3	Ni 231.604†	165.7	66.0	1.4720 ug/L	1.4720 ppb	11:48:39
3	P 214.914†	742.9	549.4	-33.444 ug/L	-33.444 ppb	11:48:39
3	Pb 220.353†	250.2	324.0	-0.8246 ug/L	-0.8246 ppb	11:48:39
3	S 181.975 Axial†	78.8	15.9	19.382 ug/L	19.382 ppb	11:48:39
3	Sb 206.836†	11.3	-23.1	2.3390 ug/L	2.3390 ppb	11:48:39
3	Se 196.026†	-1988.7	-2090.7	190.92 ug/L	190.92 ppb	11:48:39
3	Si 251.611†	-632.0	-1131.5	-30.051 ug/L	-30.051 ppb	11:48:19
3	Sn 189.927†	-25.5	-22.5	2.8107 ug/L	2.8107 ppb	11:48:39
3	Ti 334.940†	-1055.9	-211.5	-0.3525 ug/L	-0.3525 ppb	11:48:19
3	Tl 190.801†	-45.4	-8.5	-2.7539 ug/L	-2.7539 ppb	11:48:39
3	U 409.014†	896.6	2336.8	8.6421 ug/L	8.6421 ppb	11:48:19
3	V 292.402†	7728.1	9647.1	-2.9463 ug/L	-2.9463 ppb	11:48:19
3	Zn 213.857†	4809.9	4365.0	-1.1333 ug/L	-1.1333 ppb	11:48:39
3	SiO2†	-638.0	-1153.6	-65.566 ug/L	-65.566 ppb	11:48:55

Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Conc. Units	Sample	Std.Dev.	RSD
Sc 361.383	926267.7	94.130 %		0.0896				0.10%
Sc Radial	5345.6	95.7 %		0.47				0.49%
Y 371.029	818532.6	93.845 %		0.0898				0.10%
Y RADIAL	5809.1	95.49 %		0.163				0.17%
Ag 328.068†	-30669.2	8.8646 ug/L		0.11190	8.8646 ppb		0.11190	1.26%
Al 396.153Radial†	-22.8	-14.608 ug/L		7.3639	-14.608 ppb		7.3639	50.41%
As 188.979†	-181.9	24.778 ug/L		4.7128	24.778 ppb		4.7128	19.02%
B 249.677†	3108.0	-1.3512 ug/L		2.41727	-1.3512 ppb		2.41727	178.90%
Ba 233.527†	-1997.9	-2.1397 ug/L		0.29939	-2.1397 ppb		0.29939	13.99%
Be 313.107†	-92.9	-0.0298 ug/L		0.01009	-0.0298 ppb		0.01009	33.81%
Ca 317.933Radial†	-15.2	-23.071 ug/L		3.9049	-23.071 ppb		3.9049	16.93%
Cd 226.502†	3946.6	-0.9410 ug/L		0.38679	-0.9410 ppb		0.38679	41.10%
Co 228.616†	279.8	-0.2993 ug/L		0.08843	-0.2993 ppb		0.08843	29.54%
Cr 267.716†	-534.2	2.4314 ug/L		0.21238	2.4314 ppb		0.21238	8.73%
Cu 324.752†	-7246.1	2.1631 ug/L		0.05913	2.1631 ppb		0.05913	2.73%
Fe 238.204 Radial†	45850.4	387170 ug/L		752.3	387170 ppb		752.3	0.19%
K 766.490 Radial†	4.1	0.7353 ug/L		3.66629	0.7353 ppb		3.66629	498.63%
Mg 279.077 IEC†	12.4	1.0335 ug/L		35.36444	1.0335 ppb		35.36444	>999.9%
Mn 257.610†	-40839.8	-2.8202 ug/L		0.18926	-2.8202 ppb		0.18926	6.71%
Mo 202.031†	-403.8	5.1427 ug/L		1.89330	5.1427 ppb		1.89330	36.82%
Na 589.592 Radial†	-34.0	-9.0794 ug/L		5.87856	-9.0794 ppb		5.87856	64.75%
Ni 231.604†	66.1	1.4748 ug/L		0.05688	1.4748 ppb		0.05688	3.86%
P 214.914†	550.9	-33.340 ug/L		4.3769	-33.340 ppb		4.3769	13.13%
Pb 220.353†	329.6	-0.2895 ug/L		0.49174	-0.2895 ppb		0.49174	169.88%
S 181.975 Axial†	5.5	6.6798 ug/L		11.64195	6.6798 ppb		11.64195	174.28%
Sb 206.836†	-15.2	4.7486 ug/L		2.12420	4.7486 ppb		2.12420	44.73%
Se 196.026†	-2102.4	187.71 ug/L		8.562	187.71 ppb		8.562	4.56%
Si 251.611†	-1081.6	-28.713 ug/L		1.2734	-28.713 ppb		1.2734	4.44%
Sn 189.927†	-16.9	3.7403 ug/L		1.10057	3.7403 ppb		1.10057	29.42%
Sr 421.552†	88.3	0.5142 ug/L		0.19518	0.5142 ppb		0.19518	37.96%
Ti 334.940†	-199.4	-0.3328 ug/L		0.06445	-0.3328 ppb		0.06445	19.37%
Tl 190.801†	-8.9	-2.8812 ug/L		0.39066	-2.8812 ppb		0.39066	13.56%

U 409.014†	2384.3	9.6124 ug/L	1.26081	9.6124 ppb	1.26081	13.12%
V 292.402†	9622.5	-3.2075 ug/L	0.26187	-3.2075 ppb	0.26187	8.16%
Zn 213.857†	4372.2	-1.1576 ug/L	0.12877	-1.1576 ppb	0.12877	11.12%
SiO2†	-1114.4	-63.314 ug/L	5.0753	-63.314 ppb	5.0753	8.02%

Sequence No.: 2

Sample ID: LR2

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 37

Date Collected: 1/28/2010 11:51:07

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: LR2

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5537.0	5537.0	99.1 %		11:53:01
1	Y RADIAL	6010.5	6010.5	98.80 %		11:53:01
1	Al 396.153Radial†	-10.1	-14.0	-9.5548 ug/L	-9.5548 ppb	11:53:21
1	Ca 317.933Radial†	35.1	8.7	13.176 ug/L	13.176 ppb	11:53:21
1	Fe 238.204 Radial†	-6.0	-14.5	21.289 ug/L	21.289 ppb	11:53:21
1	K 766.490 Radial†	2673.0	301.0	49.846 ug/L	49.846 ppb	11:53:01
1	Mg 279.077 IEC†	-0.2	-2.6	-85.717 ug/L	-85.717 ppb	11:53:21
1	Na 589.592 Radial†	-1094.1	-75.6	-20.180 ug/L	-20.180 ppb	11:53:01
1	Sr 421.552†	31.2	20.3	0.1180 ug/L	0.1180 ppb	11:53:01
1	Sc 361.383	981244.3	981244.3	99.717 %		11:54:19
1	Y 371.029	865050.6	865050.6	99.179 %		11:54:19
1	Ag 328.068†	407.2	87.4	0.2891 ug/L	0.2891 ppb	11:54:24
1	As 188.979†	-56.5	-22.8	-8.2466 ug/L	-8.2466 ppb	11:54:44
1	B 249.677†	924.1	1213.0	10.350 ug/L	10.350 ppb	11:54:44
1	Ba 233.527†	1333521.5	1337310.8	9396.0 ug/L	9396.0 ppb	11:54:19
1	Be 313.107†	-6368.2	-1318.2	-0.3996 ug/L	-0.3996 ppb	11:54:19
1	Cd 226.502†	-185.2	13.6	0.1577 ug/L	0.1577 ppb	11:54:44
1	Co 228.616†	249674.2	250454.6	4789.1 ug/L	4789.1 ppb	11:54:19
1	Cr 267.716†	1974695.3	1980214.3	19081 ug/L	19081 ppb	11:54:19
1	Cu 324.752†	8511.6	-600.8	-1.5462 ug/L	-1.5462 ppb	11:54:24
1	Mn 257.610†	-133.1	-666.4	-0.6783 ug/L	-0.6783 ppb	11:54:24
1	Mo 202.031†	-20.2	-43.2	-2.6775 ug/L	-2.6775 ppb	11:54:44
1	Ni 231.604†	277.5	168.3	0.8674 ug/L	0.8674 ppb	11:54:44
1	P 214.914†	18774.0	18587.7	9274.9 ug/L	9274.9 ppb	11:54:24
1	Pb 220.353†	40.1	98.6	10.996 ug/L	10.996 ppb	11:54:44
1	S 181.975 Axial†	61.3	-6.3	-7.7001 ug/L	-7.7001 ppb	11:54:44
1	Sb 206.836†	1478.3	1447.3	435.38 ug/L	435.38 ppb	11:54:44
1	Se 196.026†	-24.5	-3.4	-2.1957 ug/L	-2.1957 ppb	11:54:44
1	Si 251.611†	526.2	67.5	1.8425 ug/L	1.8425 ppb	11:54:44
1	Sn 189.927†	4.7	9.4	1.5348 ug/L	1.5348 ppb	11:54:44
1	Ti 334.940†	3822.7	4743.3	-0.3680 ug/L	-0.3680 ppb	11:54:24
1	Tl 190.801†	65.1	105.0	9.1522 ug/L	9.1522 ppb	11:54:44
1	U 409.014†	404.7	1790.6	-2.3265 ug/L	-2.3265 ppb	11:54:24
1	V 292.402†	-136.7	1303.4	0.2593 ug/L	0.2593 ppb	11:54:24
1	Zn 213.857†	1098576.7	1100952.0	9161.9 ug/L	9161.9 ppb	11:54:19
1	SiO2†	519.0	44.3	2.6177 ug/L	2.6177 ppb	11:55:52
2	Sc Radial	5593.0	5593.0	100 %		11:53:26
2	Y RADIAL	6087.5	6087.5	100.1 %		11:53:26
2	Al 396.153Radial†	5.6	1.9	1.3968 ug/L	1.3968 ppb	11:53:46
2	Ca 317.933Radial†	33.4	6.6	10.018 ug/L	10.018 ppb	11:53:46
2	Fe 238.204 Radial†	-7.1	-15.5	12.478 ug/L	12.478 ppb	11:53:46
2	K 766.490 Radial†	2554.9	156.1	25.848 ug/L	25.848 ppb	11:53:26
2	Mg 279.077 IEC†	3.9	1.5	50.551 ug/L	50.551 ppb	11:53:46
2	Na 589.592 Radial†	-1123.4	-93.8	-25.047 ug/L	-25.047 ppb	11:53:26
2	Sr 421.552†	46.1	34.8	0.2026 ug/L	0.2026 ppb	11:53:26
2	Sc 361.383	989078.5	989078.5	100.51 %		11:54:50
2	Y 371.029	873972.5	873972.5	100.20 %		11:54:50
2	Ag 328.068†	483.0	159.6	0.5617 ug/L	0.5617 ppb	11:54:55
2	As 188.979†	-63.6	-29.5	-10.661 ug/L	-10.661 ppb	11:55:15
2	B 249.677†	938.0	1219.4	10.498 ug/L	10.498 ppb	11:55:15
2	Ba 233.527†	1341301.2	1334458.3	9375.9 ug/L	9375.9 ppb	11:54:50
2	Be 313.107†	-6275.1	-1175.0	-0.3544 ug/L	-0.3544 ppb	11:54:50
2	Cd 226.502†	-183.9	16.4	0.1858 ug/L	0.1858 ppb	11:55:15
2	Co 228.616†	251304.0	250092.9	4782.2 ug/L	4782.2 ppb	11:54:50
2	Cr 267.716†	1989973.6	1979729.2	19076 ug/L	19076 ppb	11:54:50
2	Cu 324.752†	8443.6	-736.0	-1.8875 ug/L	-1.8875 ppb	11:54:55
2	Mn 257.610†	-56.1	-588.7	-0.6067 ug/L	-0.6067 ppb	11:54:55
2	Mo 202.031†	-9.4	-32.3	-2.0032 ug/L	-2.0032 ppb	11:55:15
2	Ni 231.604†	269.6	158.2	0.6471 ug/L	0.6471 ppb	11:55:15

2	P 214.914†	18774.3	18438.9	9200.7 ug/L	9200.7 ppb	11:54:55
2	Pb 220.353†	45.7	103.8	11.585 ug/L	11.585 ppb	11:55:15
2	S 181.975 Axial†	55.4	-12.7	-15.445 ug/L	-15.445 ppb	11:55:15
2	Sb 206.836†	1465.4	1422.8	428.01 ug/L	428.01 ppb	11:55:15
2	Se 196.026†	-9.1	12.1	5.8319 ug/L	5.8319 ppb	11:55:15
2	Si 251.611†	505.9	43.0	1.1787 ug/L	1.1787 ppb	11:55:15
2	Sn 189.927†	6.2	10.8	1.7708 ug/L	1.7708 ppb	11:55:15
2	Ti 334.940†	3908.4	4798.2	-0.3019 ug/L	-0.3019 ppb	11:54:55
2	Tl 190.801†	71.8	111.1	10.935 ug/L	10.935 ppb	11:55:15
2	U 409.014†	362.2	1745.0	-3.3426 ug/L	-3.3426 ppb	11:54:55
2	V 292.402†	-142.1	1299.0	0.2483 ug/L	0.2483 ppb	11:54:55
2	Zn 213.857†	1105098.0	1098713.7	9143.3 ug/L	9143.3 ppb	11:54:50
2	SiO2†	508.6	29.9	1.7711 ug/L	1.7711 ppb	11:55:57
3	Sc Radial	5656.6	5656.6	101 %		11:53:51
3	Y RADIAL	6129.9	6129.9	100.8 %		11:53:51
3	Al 396.153Radial†	2.7	-1.1	-0.6623 ug/L	-0.6623 ppb	11:54:11
3	Ca 317.933Radial†	35.7	8.4	12.817 ug/L	12.817 ppb	11:54:11
3	Fe 238.204 Radial†	-7.1	-15.4	13.577 ug/L	13.577 ppb	11:54:11
3	K 766.490 Radial†	2463.1	36.7	6.0923 ug/L	6.0923 ppb	11:53:51
3	Mg 279.077 IEC†	0.9	-1.5	-47.929 ug/L	-47.929 ppb	11:54:11
3	Na 589.592 Radial†	-1151.7	-109.1	-29.134 ug/L	-29.134 ppb	11:53:51
3	Sr 421.552†	58.1	46.2	0.2690 ug/L	0.2690 ppb	11:53:51
3	Sc 361.383	989803.0	989803.0	100.59 %		11:55:21
3	Y 371.029	873238.3	873238.3	100.12 %		11:55:21
3	Ag 328.068†	457.4	133.8	0.4615 ug/L	0.4615 ppb	11:55:26
3	As 188.979†	-55.5	-21.4	-7.7210 ug/L	-7.7210 ppb	11:55:46
3	B 249.677†	897.4	1178.4	9.6553 ug/L	9.6553 ppb	11:55:46
3	Ba 233.527†	1345816.4	1337970.5	9400.6 ug/L	9400.6 ppb	11:55:21
3	Be 313.107†	-6221.3	-1116.9	-0.3364 ug/L	-0.3364 ppb	11:55:21
3	Cd 226.502†	-184.4	16.1	0.1828 ug/L	0.1828 ppb	11:55:46
3	Co 228.616†	252039.7	250641.3	4792.7 ug/L	4792.7 ppb	11:55:21
3	Cr 267.716†	1991476.4	1979774.1	19076 ug/L	19076 ppb	11:55:21
3	Cu 324.752†	8467.4	-718.5	-1.8449 ug/L	-1.8449 ppb	11:55:26
3	Mn 257.610†	-141.2	-673.3	-0.6876 ug/L	-0.6876 ppb	11:55:26
3	Mo 202.031†	-11.7	-34.6	-2.1437 ug/L	-2.1437 ppb	11:55:46
3	Ni 231.604†	271.4	159.8	0.6762 ug/L	0.6762 ppb	11:55:46
3	P 214.914†	18602.6	18254.6	9108.7 ug/L	9108.7 ppb	11:55:26
3	Pb 220.353†	46.1	104.1	11.624 ug/L	11.624 ppb	11:55:46
3	S 181.975 Axial†	59.1	-9.0	-10.990 ug/L	-10.990 ppb	11:55:46
3	Sb 206.836†	1475.0	1431.3	430.55 ug/L	430.55 ppb	11:55:46
3	Se 196.026†	-15.4	5.8	2.5973 ug/L	2.5973 ppb	11:55:46
3	Si 251.611†	492.9	29.8	0.8247 ug/L	0.8247 ppb	11:55:46
3	Sn 189.927†	-2.6	2.0	0.3271 ug/L	0.3271 ppb	11:55:46
3	Ti 334.940†	3804.8	4692.4	-0.4406 ug/L	-0.4406 ppb	11:55:26
3	Tl 190.801†	57.3	96.7	6.7509 ug/L	6.7509 ppb	11:55:46
3	U 409.014†	488.6	1870.4	-0.5173 ug/L	-0.5173 ppb	11:55:26
3	V 292.402†	-139.4	1301.8	0.2653 ug/L	0.2653 ppb	11:55:26
3	Zn 213.857†	1107652.7	1100448.7	9157.8 ug/L	9157.8 ppb	11:55:21
3	SiO2†	563.5	84.1	4.8870 ug/L	4.8870 ppb	11:56:02

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	986708.6	100.27 %		0.482			0.48%
Sc Radial	5595.5	100 %		1.1			1.07%
Y 371.029	870753.8	99.833 %		0.5678			0.57%
Y RADIAL	6075.9	99.87 %		0.995			1.00%
Ag 328.068†	126.9	0.4375 ug/L		0.13791	0.4375 ppb	0.13791	31.53%
Al 396.153Radial†	-4.4	-2.9401 ug/L		5.82030	-2.9401 ppb	5.82030	197.96%
As 188.979†	-24.6	-8.8764 ug/L		1.56814	-8.8764 ppb	1.56814	17.67%
B 249.677†	1203.6	10.168 ug/L		0.4500	10.168 ppb	0.4500	4.43%
Ba 233.527†	1336579.9	9390.9 ug/L		13.12	9390.9 ppb	13.12	0.14%
Be 313.107†	-1203.4	-0.3634 ug/L		0.03253	-0.3634 ppb	0.03253	8.95%
Ca 317.933Radial†	7.9	12.004 ug/L		1.7292	12.004 ppb	1.7292	14.41%
Cd 226.502†	15.4	0.1755 ug/L		0.01542	0.1755 ppb	0.01542	8.79%
Co 228.616†	250396.2	4788.0 ug/L		5.34	4788.0 ppb	5.34	0.11%
Cr 267.716†	1979905.9	19078 ug/L		2.6	19078 ppb	2.6	0.01%
Cu 324.752†	-685.1	-1.7595 ug/L		0.18600	-1.7595 ppb	0.18600	10.57%
Fe 238.204 Radial†	-15.1	15.782 ug/L		4.8013	15.782 ppb	4.8013	30.42%
K 766.490 Radial†	164.6	27.262 ug/L		21.9111	27.262 ppb	21.9111	80.37%

Mg 279.077 IEC†	-0.9	-27.698 ug/L	70.3509	-27.698 ppb	70.3509	253.99%
Mn 257.610†	-642.8	-0.6575 ug/L	0.04428	-0.6575 ppb	0.04428	6.73%
Mo 202.031†	-36.7	-2.2748 ug/L	0.35578	-2.2748 ppb	0.35578	15.64%
Na 589.592 Radial†	-92.8	-24.787 ug/L	4.4824	-24.787 ppb	4.4824	18.08%
Ni 231.604†	162.1	0.7302 ug/L	0.11967	0.7302 ppb	0.11967	16.39%
P 214.914†	18427.1	9194.8 ug/L	83.25	9194.8 ppb	83.25	0.91%
Pb 220.353†	102.2	11.402 ug/L	0.3516	11.402 ppb	0.3516	3.08%
S 181.975 Axial†	-9.3	-11.379 ug/L	3.8871	-11.379 ppb	3.8871	34.16%
Sb 206.836†	1433.8	431.31 ug/L	3.740	431.31 ppb	3.740	0.87%
Se 196.026†	4.8	2.0778 ug/L	4.03897	2.0778 ppb	4.03897	194.38%
Si 251.611†	46.7	1.2820 ug/L	0.51672	1.2820 ppb	0.51672	40.31%
Sn 189.927†	7.4	1.2109 ug/L	0.77441	1.2109 ppb	0.77441	63.95%
Sr 421.552†	33.8	0.1965 ug/L	0.07567	0.1965 ppb	0.07567	38.50%
Ti 334.940†	4744.6	-0.3702 ug/L	0.06940	-0.3702 ppb	0.06940	18.75%
Tl 190.801†	104.3	8.9461 ug/L	2.09965	8.9461 ppb	2.09965	23.47%
U 409.014†	1802.0	-2.0622 ug/L	1.43110	-2.0622 ppb	1.43110	69.40%
V 292.402†	1301.4	0.2576 ug/L	0.00860	0.2576 ppb	0.00860	3.34%
Zn 213.857†	1100038.1	9154.3 ug/L	9.77	9154.3 ppb	9.77	0.11%
SiO2†	52.8	3.0919 ug/L	1.61117	3.0919 ppb	1.61117	52.11%

Sequence No.: 3

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/28/2010 11:58:13

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5584.7	5584.7	100.0 %		12:00:05
1	Y RADIAL	6046.8	6046.8	99.40 %		12:00:05
1	Al 396.153Radial†	6942.8	6939.5	4786.6 ug/L	4786.6 ppb	12:00:05
1	Ca 317.933Radial†	3256.4	3229.8	4911.0 ug/L	4911.0 ppb	12:00:25
1	Fe 238.204 Radial†	618.2	609.8	5163.9 ug/L	5163.9 ppb	12:00:25
1	K 766.490 Radial†	32047.0	29653.6	4903.4 ug/L	4903.4 ppb	12:00:05
1	Mg 279.077 IEC†	161.8	159.4	5201.5 ug/L	5201.5 ppb	12:00:25
1	Na 589.592 Radial†	38158.5	39188.7	10466 ug/L	10466 ppb	12:00:05
1	Sr 421.552†	86144.0	86137.8	501.37 ug/L	501.37 ppb	12:00:05
1	Sc 361.383	965418.1	965418.1	98.109 %		12:01:23
1	Y 371.029	846916.8	846916.8	97.100 %		12:01:23
1	Ag 328.068†	125838.7	127943.6	489.94 ug/L	489.94 ppb	12:01:28
1	As 188.979†	1249.3	1307.2	478.39 ug/L	478.39 ppb	12:01:48
1	B 249.677†	23426.8	24164.7	476.27 ug/L	476.27 ppb	12:01:28
1	Ba 233.527†	66364.7	67648.7	476.50 ug/L	476.50 ppb	12:01:28
1	Be 313.107†	1452832.8	1485908.3	468.20 ug/L	468.20 ppb	12:01:23
1	Cd 226.502†	47321.3	48432.9	478.96 ug/L	478.96 ppb	12:01:28
1	Co 228.616†	24326.0	24866.7	475.93 ug/L	475.93 ppb	12:01:28
1	Cr 267.716†	48478.9	49327.9	475.89 ug/L	475.89 ppb	12:01:28
1	Cu 324.752†	191904.6	186467.5	470.94 ug/L	470.94 ppb	12:01:28
1	Mn 257.610†	459264.9	467585.6	470.21 ug/L	470.21 ppb	12:01:23
1	Mo 202.031†	7594.2	7717.6	476.60 ug/L	476.60 ppb	12:01:48
1	Ni 231.604†	21044.0	21339.7	476.67 ug/L	476.67 ppb	12:01:28
1	P 214.914†	4828.9	4682.5	2244.3 ug/L	2244.3 ppb	12:01:48
1	Pb 220.353†	4069.0	4205.8	470.65 ug/L	470.65 ppb	12:01:48
1	S 181.975 Axial†	826.1	774.3	943.27 ug/L	943.27 ppb	12:01:48
1	Sb 206.836†	1574.2	1569.4	489.41 ug/L	489.41 ppb	12:01:48
1	Se 196.026†	874.0	911.9	492.71 ug/L	492.71 ppb	12:01:48
1	Si 251.611†	89923.6	91196.8	2440.9 ug/L	2440.9 ppb	12:01:28
1	Sn 189.927†	2841.5	2900.8	476.68 ug/L	476.68 ppb	12:01:48
1	Ti 334.940†	343779.6	351316.6	484.09 ug/L	484.09 ppb	12:01:23
1	Tl 190.801†	1557.4	1627.2	469.71 ug/L	469.71 ppb	12:01:48
1	U 409.014†	19376.2	21134.5	474.70 ug/L	474.70 ppb	12:01:28
1	V 292.402†	82300.3	85327.2	480.01 ug/L	480.01 ppb	12:01:28
1	Zn 213.857†	57267.1	57628.4	475.40 ug/L	475.40 ppb	12:01:28
1	SiO2†	89038.7	90279.0	5171.3 ug/L	5171.3 ppb	12:02:56
2	Sc Radial	5554.7	5554.7	99.5 %		12:00:30
2	Y RADIAL	5983.3	5983.3	98.35 %		12:00:30
2	Al 396.153Radial†	6931.5	6965.6	4804.9 ug/L	4804.9 ppb	12:00:30
2	Ca 317.933Radial†	3226.7	3217.5	4892.2 ug/L	4892.2 ppb	12:00:50
2	Fe 238.204 Radial†	613.0	607.9	5147.3 ug/L	5147.3 ppb	12:00:50
2	K 766.490 Radial†	32130.2	29910.2	4945.9 ug/L	4945.9 ppb	12:00:30
2	Mg 279.077 IEC†	157.2	155.7	5080.5 ug/L	5080.5 ppb	12:00:50
2	Na 589.592 Radial†	38008.5	39243.8	10481 ug/L	10481 ppb	12:00:30
2	Sr 421.552†	85805.3	86262.0	502.09 ug/L	502.09 ppb	12:00:30
2	Sc 361.383	976396.2	976396.2	99.224 %		12:01:54
2	Y 371.029	857941.5	857941.5	98.364 %		12:01:54
2	Ag 328.068†	123946.1	124594.0	477.15 ug/L	477.15 ppb	12:01:59
2	As 188.979†	1243.3	1286.8	470.99 ug/L	470.99 ppb	12:02:19
2	B 249.677†	22922.5	23387.9	460.93 ug/L	460.93 ppb	12:01:59
2	Ba 233.527†	65136.9	65650.7	462.44 ug/L	462.44 ppb	12:01:59
2	Be 313.107†	1473507.4	1490094.7	469.52 ug/L	469.52 ppb	12:01:54
2	Cd 226.502†	46577.3	47140.8	466.17 ug/L	466.17 ppb	12:01:59
2	Co 228.616†	23888.1	24146.7	462.14 ug/L	462.14 ppb	12:01:59
2	Cr 267.716†	47771.3	48059.2	463.65 ug/L	463.65 ppb	12:01:59
2	Cu 324.752†	188401.9	180738.2	456.48 ug/L	456.48 ppb	12:01:59
2	Mn 257.610†	464454.4	467552.4	470.18 ug/L	470.18 ppb	12:01:54
2	Mo 202.031†	7623.5	7660.2	473.05 ug/L	473.05 ppb	12:02:19
2	Ni 231.604†	20710.9	20762.8	463.78 ug/L	463.78 ppb	12:01:59

2	P 214.914†	4839.9	4638.3	2225.1 ug/L	2225.1 ppb	12:02:19
2	Pb 220.353†	4071.1	4161.3	465.68 ug/L	465.68 ppb	12:02:19
2	S 181.975 Axial†	835.8	774.6	943.61 ug/L	943.61 ppb	12:02:19
2	Sb 206.836†	1579.0	1556.2	485.24 ug/L	485.24 ppb	12:02:19
2	Se 196.026†	874.8	902.7	487.85 ug/L	487.85 ppb	12:02:19
2	Si 251.611†	88181.6	88410.6	2366.2 ug/L	2366.2 ppb	12:01:59
2	Sn 189.927†	2841.4	2868.2	471.32 ug/L	471.32 ppb	12:02:19
2	Ti 334.940†	348075.0	351705.8	484.65 ug/L	484.65 ppb	12:01:54
2	Tl 190.801†	1576.6	1628.7	470.22 ug/L	470.22 ppb	12:02:19
2	U 409.014†	19105.6	20639.7	463.58 ug/L	463.58 ppb	12:01:59
2	V 292.402†	81042.2	83116.2	467.67 ug/L	467.67 ppb	12:01:59
2	Zn 213.857†	56398.2	56096.4	462.75 ug/L	462.75 ppb	12:01:59
2	SiO2†	88823.6	89041.8	5100.4 ug/L	5100.4 ppb	12:03:01
3	Sc Radial	5470.9	5470.9	98.0 %		12:00:55
3	Y RADIAL	5864.6	5864.6	96.40 %		12:00:55
3	Al 396.153Radial†	6785.7	6923.5	4775.4 ug/L	4775.4 ppb	12:00:55
3	Ca 317.933Radial†	3251.1	3292.2	5005.8 ug/L	5005.8 ppb	12:01:15
3	Fe 238.204 Radial†	620.0	624.6	5288.3 ug/L	5288.3 ppb	12:01:15
3	K 766.490 Radial†	31592.7	29856.7	4936.9 ug/L	4936.9 ppb	12:00:55
3	Mg 279.077 IEC†	160.5	161.4	5268.7 ug/L	5268.7 ppb	12:01:15
3	Na 589.592 Radial†	37556.7	39368.4	10514 ug/L	10514 ppb	12:00:55
3	Sr 421.552†	84209.3	85955.2	500.30 ug/L	500.30 ppb	12:00:55
3	Sc 361.383	962762.3	962762.3	97.839 %		12:02:25
3	Y 371.029	844321.5	844321.5	96.802 %		12:02:25
3	Ag 328.068†	124828.9	127265.3	487.39 ug/L	487.39 ppb	12:02:30
3	As 188.979†	1247.6	1309.0	479.07 ug/L	479.07 ppb	12:02:50
3	B 249.677†	23237.3	24036.9	473.72 ug/L	473.72 ppb	12:02:30
3	Ba 233.527†	65878.3	67338.1	474.32 ug/L	474.32 ppb	12:02:30
3	Be 313.107†	1451996.7	1489138.7	469.22 ug/L	469.22 ppb	12:02:25
3	Cd 226.502†	47018.3	48256.3	477.20 ug/L	477.20 ppb	12:02:30
3	Co 228.616†	24198.1	24804.4	474.74 ug/L	474.74 ppb	12:02:30
3	Cr 267.716†	48150.6	49128.7	473.97 ug/L	473.97 ppb	12:02:30
3	Cu 324.752†	190098.1	185160.7	467.65 ug/L	467.65 ppb	12:02:30
3	Mn 257.610†	459086.8	468694.8	471.34 ug/L	471.34 ppb	12:02:25
3	Mo 202.031†	7635.2	7780.9	480.51 ug/L	480.51 ppb	12:02:50
3	Ni 231.604†	20908.9	21260.8	474.90 ug/L	474.90 ppb	12:02:30
3	P 214.914†	4853.8	4721.5	2264.4 ug/L	2264.4 ppb	12:02:50
3	Pb 220.353†	4115.6	4264.9	477.23 ug/L	477.23 ppb	12:02:50
3	S 181.975 Axial†	826.5	776.9	946.49 ug/L	946.49 ppb	12:02:50
3	Sb 206.836†	1588.9	1588.9	495.43 ug/L	495.43 ppb	12:02:50
3	Se 196.026†	879.2	919.7	497.18 ug/L	497.18 ppb	12:02:50
3	Si 251.611†	89205.4	90715.7	2428.0 ug/L	2428.0 ppb	12:02:30
3	Sn 189.927†	2868.2	2936.2	482.49 ug/L	482.49 ppb	12:02:50
3	Ti 334.940†	343556.5	352055.2	485.12 ug/L	485.12 ppb	12:02:25
3	Tl 190.801†	1566.3	1640.7	473.60 ug/L	473.60 ppb	12:02:50
3	U 409.014†	19116.9	20923.9	469.95 ug/L	469.95 ppb	12:02:30
3	V 292.402†	81490.9	84731.4	476.73 ug/L	476.73 ppb	12:02:30
3	Zn 213.857†	56746.6	57257.4	472.32 ug/L	472.32 ppb	12:02:30
3	SiO2†	89188.1	90682.1	5194.4 ug/L	5194.4 ppb	12:03:06

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	968192.2	98.391 %	0.7345			0.75%
Sc Radial	5536.8	99.1 %	1.06			1.07%
Y 371.029	849726.6	97.422 %	0.8291			0.85%
Y RADIAL	5964.9	98.05 %	1.520			1.55%
Ag 328.068†	126601.0	484.83 ug/L	6.769	484.83 ppb	6.769	1.40%
QC value within limits for Ag 328.068 Recovery = 96.97%						
Al 396.153Radial†	6942.8	4789.0 ug/L	14.88	4789.0 ppb	14.88	0.31%
QC value within limits for Al 396.153Radial Recovery = 95.78%						
As 188.979†	1301.0	476.15 ug/L	4.481	476.15 ppb	4.481	0.94%
QC value within limits for As 188.979 Recovery = 95.23%						
B 249.677†	23863.2	470.31 ug/L	8.219	470.31 ppb	8.219	1.75%
QC value within limits for B 249.677 Recovery = 94.06%						
Ba 233.527†	66879.1	471.08 ug/L	7.569	471.08 ppb	7.569	1.61%
QC value within limits for Ba 233.527 Recovery = 94.22%						
Be 313.107†	1488380.6	468.98 ug/L	0.690	468.98 ppb	0.690	0.15%
QC value within limits for Be 313.107 Recovery = 93.80%						
Ca 317.933Radial†	3246.5	4936.3 ug/L	60.85	4936.3 ppb	60.85	1.23%

QC value within limits for Ca 317.933 Radial Recovery = 98.73%

Cd 226.502†	47943.3	474.11 ug/L	6.932	474.11 ppb	6.932	1.46%
QC value within limits for Cd 226.502 Recovery = 94.82%						
Co 228.616†	24605.9	470.94 ug/L	7.642	470.94 ppb	7.642	1.62%
QC value within limits for Co 228.616 Recovery = 94.19%						
Cr 267.716†	48838.6	471.17 ug/L	6.582	471.17 ppb	6.582	1.40%
QC value within limits for Cr 267.716 Recovery = 94.23%						
Cu 324.752†	184122.1	465.02 ug/L	7.582	465.02 ppb	7.582	1.63%
QC value within limits for Cu 324.752 Recovery = 93.00%						
Fe 238.204 Radial†	614.1	5199.8 ug/L	77.04	5199.8 ppb	77.04	1.48%
QC value within limits for Fe 238.204 Radial Recovery = 104.00%						
K 766.490 Radial†	29806.8	4928.7 ug/L	22.41	4928.7 ppb	22.41	0.45%
QC value within limits for K 766.490 Radial Recovery = 98.57%						
Mg 279.077 IEC†	158.8	5183.5 ug/L	95.34	5183.5 ppb	95.34	1.84%
QC value within limits for Mg 279.077 IEC Recovery = 103.67%						
Mn 257.610†	467944.3	470.58 ug/L	0.658	470.58 ppb	0.658	0.14%
QC value within limits for Mn 257.610 Recovery = 94.12%						
Mo 202.031†	7719.6	476.72 ug/L	3.733	476.72 ppb	3.733	0.78%
QC value within limits for Mo 202.031 Recovery = 95.34%						
Na 589.592 Radial†	39267.0	10487 ug/L	24.6	10487 ppb	24.6	0.23%
QC value within limits for Na 589.592 Radial Recovery = 104.87%						
Ni 231.604†	21121.1	471.78 ug/L	6.987	471.78 ppb	6.987	1.48%
QC value within limits for Ni 231.604 Recovery = 94.36%						
P 214.914†	4680.8	2244.6 ug/L	19.66	2244.6 ppb	19.66	0.88%
QC value less than the lower limit for P 214.914 Recovery = 89.79%						
Pb 220.353†	4210.6	471.19 ug/L	5.793	471.19 ppb	5.793	1.23%
QC value within limits for Pb 220.353 Recovery = 94.24%						
S 181.975 Axial†	775.3	944.46 ug/L	1.768	944.46 ppb	1.768	0.19%
QC value within limits for S 181.975 Axial Recovery = 94.45%						
Sb 206.836†	1571.5	490.03 ug/L	5.121	490.03 ppb	5.121	1.04%
QC value within limits for Sb 206.836 Recovery = 98.01%						
Se 196.026†	911.5	492.58 ug/L	4.664	492.58 ppb	4.664	0.95%
QC value within limits for Se 196.026 Recovery = 98.52%						
Si 251.611†	90107.7	2411.7 ug/L	39.92	2411.7 ppb	39.92	1.66%
QC value within limits for Si 251.611 Recovery = 96.47%						
Sn 189.927†	2901.7	476.83 ug/L	5.584	476.83 ppb	5.584	1.17%
QC value within limits for Sn 189.927 Recovery = 95.37%						
Sr 421.552†	86118.3	501.25 ug/L	0.899	501.25 ppb	0.899	0.18%
QC value within limits for Sr 421.552 Recovery = 100.25%						
Ti 334.940†	351692.6	484.62 ug/L	0.515	484.62 ppb	0.515	0.11%
QC value within limits for Ti 334.940 Recovery = 96.92%						
Tl 190.801†	1632.2	471.18 ug/L	2.115	471.18 ppb	2.115	0.45%
QC value within limits for Tl 190.801 Recovery = 94.24%						
U 409.014†	20899.4	469.41 ug/L	5.581	469.41 ppb	5.581	1.19%
QC value within limits for U 409.014 Recovery = 93.88%						
V 292.402†	84391.6	474.80 ug/L	6.393	474.80 ppb	6.393	1.35%
QC value within limits for V 292.402 Recovery = 94.96%						
Zn 213.857†	56994.1	470.16 ug/L	6.594	470.16 ppb	6.594	1.40%
QC value within limits for Zn 213.857 Recovery = 94.03%						
SiO2†	90001.0	5155.4 ug/L	48.99	5155.4 ppb	48.99	0.95%
QC value within limits for SiO2 Recovery = 96.41%						

QC Failed. Continue with analysis.

Sequence No.: 4
 Sample ID: CCB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 8
 Date Collected: 1/28/2010 12:05:17
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5538.6	5538.6	99.2 %		12:07:10
1	Y RADIAL	6002.7	6002.7	98.67 %		12:07:10
1	Al 396.153Radial†	3.3	-0.5	-0.3184 ug/L	-0.3184 ppb	12:07:30
1	Ca 317.933Radial†	24.0	-2.6	-3.8810 ug/L	-3.8810 ppb	12:07:30
1	Fe 238.204 Radial†	7.6	-0.7	-6.0143 ug/L	-6.0143 ppb	12:07:30
1	K 766.490 Radial†	2544.0	170.0	28.166 ug/L	28.166 ppb	12:07:10
1	Mg 279.077 IEC†	-0.3	-2.7	-88.189 ug/L	-88.189 ppb	12:07:30
1	Na 589.592 Radial†	-1106.5	-87.8	-23.439 ug/L	-23.439 ppb	12:07:10
1	Sr 421.552†	1.9	-9.3	-0.0539 ug/L	-0.0539 ppb	12:07:10
1	Sc 361.383	982813.9	982813.9	99.876 %		12:08:26
1	Y 371.029	872054.1	872054.1	99.982 %		12:08:26
1	Ag 328.068†	475.6	155.2	0.5905 ug/L	0.5905 ppb	12:08:31
1	As 188.979†	-28.9	4.8	1.7567 ug/L	1.7567 ppb	12:08:51
1	B 249.677†	20.3	306.6	6.0710 ug/L	6.0710 ppb	12:08:51
1	Ba 233.527†	22.9	27.5	0.1937 ug/L	0.1937 ppb	12:08:51
1	Be 313.107†	-4839.2	222.9	0.0700 ug/L	0.0700 ppb	12:08:31
1	Cd 226.502†	-187.7	11.4	0.1135 ug/L	0.1135 ppb	12:08:51
1	Co 228.616†	-67.2	4.5	0.0872 ug/L	0.0872 ppb	12:08:51
1	Cr 267.716†	127.4	42.0	0.4050 ug/L	0.4050 ppb	12:08:51
1	Cu 324.752†	9049.0	-76.3	-0.1928 ug/L	-0.1928 ppb	12:08:31
1	Mn 257.610†	552.7	20.4	0.0236 ug/L	0.0236 ppb	12:08:51
1	Mo 202.031†	23.3	0.3	0.0199 ug/L	0.0199 ppb	12:08:51
1	Ni 231.604†	103.1	-6.7	-0.1502 ug/L	-0.1502 ppb	12:08:51
1	P 214.914†	238.1	-1.2	-0.5263 ug/L	-0.5263 ppb	12:08:51
1	Pb 220.353†	-38.1	20.2	2.2539 ug/L	2.2539 ppb	12:08:51
1	S 181.975 Axial†	48.1	-19.6	-23.896 ug/L	-23.896 ppb	12:08:51
1	Sb 206.836†	40.3	5.2	1.5924 ug/L	1.5924 ppb	12:08:51
1	Se 196.026†	-16.5	4.6	2.3904 ug/L	2.3904 ppb	12:08:51
1	Si 251.611†	521.5	61.9	1.6605 ug/L	1.6605 ppb	12:08:51
1	Sn 189.927†	2.9	7.5	1.2221 ug/L	1.2221 ppb	12:08:51
1	Ti 334.940†	-940.9	-32.3	-0.0378 ug/L	-0.0378 ppb	12:08:31
1	Tl 190.801†	-36.4	3.3	0.9493 ug/L	0.9493 ppb	12:08:51
1	U 409.014†	-1403.2	-20.2	-0.4558 ug/L	-0.4558 ppb	12:08:26
1	V 292.402†	-1375.5	63.2	0.3496 ug/L	0.3496 ppb	12:08:31
1	Zn 213.857†	874.5	132.9	1.1077 ug/L	1.1077 ppb	12:08:51
1	SiO2†	516.5	41.0	2.3566 ug/L	2.3566 ppb	12:09:57
2	Sc Radial	5604.9	5604.9	100 %		12:07:35
2	Y RADIAL	6046.1	6046.1	99.38 %		12:07:35
2	Al 396.153Radial†	12.7	8.9	6.1571 ug/L	6.1571 ppb	12:07:55
2	Ca 317.933Radial†	29.5	2.6	3.9973 ug/L	3.9973 ppb	12:07:55
2	Fe 238.204 Radial†	9.6	1.2	9.8552 ug/L	9.8552 ppb	12:07:55
2	K 766.490 Radial†	2539.2	135.0	22.348 ug/L	22.348 ppb	12:07:35
2	Mg 279.077 IEC†	1.4	-0.9	-30.795 ug/L	-30.795 ppb	12:07:55
2	Na 589.592 Radial†	-1040.9	-9.1	-2.4393 ug/L	-2.4393 ppb	12:07:35
2	Sr 421.552†	45.8	34.4	0.2003 ug/L	0.2003 ppb	12:07:35
2	Sc 361.383	984701.9	984701.9	100.07 %		12:08:57
2	Y 371.029	874664.8	874664.8	100.28 %		12:08:57
2	Ag 328.068†	382.9	61.6	0.2376 ug/L	0.2376 ppb	12:09:02
2	As 188.979†	-32.3	1.5	0.5516 ug/L	0.5516 ppb	12:09:22
2	B 249.677†	10.6	296.9	5.8765 ug/L	5.8765 ppb	12:09:22
2	Ba 233.527†	38.0	42.5	0.2990 ug/L	0.2990 ppb	12:09:22
2	Be 313.107†	-4866.6	204.8	0.0644 ug/L	0.0644 ppb	12:09:02
2	Cd 226.502†	-204.4	-5.0	-0.0502 ug/L	-0.0502 ppb	12:09:22
2	Co 228.616†	-72.7	-0.9	-0.0169 ug/L	-0.0169 ppb	12:09:22
2	Cr 267.716†	131.7	46.1	0.4442 ug/L	0.4442 ppb	12:09:22
2	Cu 324.752†	9177.4	34.5	0.0877 ug/L	0.0877 ppb	12:09:02
2	Mn 257.610†	558.4	25.0	0.0274 ug/L	0.0274 ppb	12:09:22
2	Mo 202.031†	24.8	1.8	0.1133 ug/L	0.1133 ppb	12:09:22
2	Ni 231.604†	98.4	-11.6	-0.2601 ug/L	-0.2601 ppb	12:09:22

2	P 214.914†	237.1	-2.6	-1.2882 ug/L	-1.2882 ppb	12:09:22
2	Pb 220.353†	-41.1	17.3	1.9319 ug/L	1.9319 ppb	12:09:22
2	S 181.975 Axial†	50.1	-17.7	-21.579 ug/L	-21.579 ppb	12:09:22
2	Sb 206.836†	37.3	2.1	0.6693 ug/L	0.6693 ppb	12:09:22
2	Se 196.026†	-19.9	1.3	0.6991 ug/L	0.6991 ppb	12:09:22
2	Si 251.611†	525.7	65.0	1.7437 ug/L	1.7437 ppb	12:09:22
2	Sn 189.927†	3.4	8.0	1.3137 ug/L	1.3137 ppb	12:09:22
2	Ti 334.940†	-917.0	-6.6	-0.0062 ug/L	-0.0062 ppb	12:09:02
2	Tl 190.801†	-29.7	10.1	2.8988 ug/L	2.8988 ppb	12:09:22
2	U 409.014†	-1382.6	3.1	0.0669 ug/L	0.0669 ppb	12:08:57
2	V 292.402†	-1442.3	-1.0	-0.0057 ug/L	-0.0057 ppb	12:09:02
2	Zn 213.857†	870.2	126.9	1.0566 ug/L	1.0566 ppb	12:09:22
2	SiO2†	528.1	51.7	2.9634 ug/L	2.9634 ppb	12:10:02
3	Sc Radial	5542.8	5542.8	99.2 %		12:08:00
3	Y RADIAL	6014.6	6014.6	98.87 %		12:08:00
3	Al 396.153Radial†	4.8	1.1	0.7757 ug/L	0.7757 ppb	12:08:20
3	Ca 317.933Radial†	30.8	4.3	6.5533 ug/L	6.5533 ppb	12:08:20
3	Fe 238.204 Radial†	9.3	1.0	8.3697 ug/L	8.3697 ppb	12:08:20
3	K 766.490 Radial†	2425.3	48.5	8.0387 ug/L	8.0387 ppb	12:08:00
3	Mg 279.077 IEC†	2.1	-0.3	-9.4124 ug/L	-9.4124 ppb	12:08:20
3	Na 589.592 Radial†	-1059.9	-40.0	-10.679 ug/L	-10.679 ppb	12:08:00
3	Sr 421.552†	11.0	-0.1	-0.0007 ug/L	-0.0007 ppb	12:08:00
3	Sc 361.383	988956.0	988956.0	100.50 %		12:09:27
3	Y 371.029	876779.2	876779.2	100.52 %		12:09:27
3	Ag 328.068†	384.5	61.6	0.2371 ug/L	0.2371 ppb	12:09:32
3	As 188.979†	-27.2	6.8	2.4574 ug/L	2.4574 ppb	12:09:52
3	B 249.677†	19.4	305.6	6.0498 ug/L	6.0498 ppb	12:09:52
3	Ba 233.527†	27.3	31.8	0.2227 ug/L	0.2227 ppb	12:09:52
3	Be 313.107†	-4900.3	192.2	0.0601 ug/L	0.0601 ppb	12:09:32
3	Cd 226.502†	-195.2	5.1	0.0493 ug/L	0.0493 ppb	12:09:52
3	Co 228.616†	-73.5	-1.3	-0.0252 ug/L	-0.0252 ppb	12:09:52
3	Cr 267.716†	122.7	36.5	0.3522 ug/L	0.3522 ppb	12:09:52
3	Cu 324.752†	8978.2	-203.1	-0.5116 ug/L	-0.5116 ppb	12:09:32
3	Mn 257.610†	563.3	27.6	0.0289 ug/L	0.0289 ppb	12:09:52
3	Mo 202.031†	20.0	-3.0	-0.1865 ug/L	-0.1865 ppb	12:09:52
3	Ni 231.604†	107.6	-3.0	-0.0662 ug/L	-0.0662 ppb	12:09:52
3	P 214.914†	243.9	3.2	1.6933 ug/L	1.6933 ppb	12:09:52
3	Pb 220.353†	-43.6	15.0	1.6735 ug/L	1.6735 ppb	12:09:52
3	S 181.975 Axial†	57.5	-10.6	-12.912 ug/L	-12.912 ppb	12:09:52
3	Sb 206.836†	41.1	5.8	1.7476 ug/L	1.7476 ppb	12:09:52
3	Se 196.026†	-20.3	0.9	0.5133 ug/L	0.5133 ppb	12:09:52
3	Si 251.611†	520.7	57.8	1.5539 ug/L	1.5539 ppb	12:09:52
3	Sn 189.927†	1.9	6.5	1.0642 ug/L	1.0642 ppb	12:09:52
3	Ti 334.940†	-1018.0	-103.2	-0.1400 ug/L	-0.1400 ppb	12:09:32
3	Tl 190.801†	-48.7	-8.7	-2.5045 ug/L	-2.5045 ppb	12:09:52
3	U 409.014†	-1459.7	-67.7	-1.5283 ug/L	-1.5283 ppb	12:09:27
3	V 292.402†	-1501.1	-53.2	-0.3023 ug/L	-0.3023 ppb	12:09:32
3	Zn 213.857†	875.0	128.0	1.0651 ug/L	1.0651 ppb	12:09:52
3	SiO2†	519.6	40.9	2.3538 ug/L	2.3538 ppb	12:10:07

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	985490.6	100.15 %	0.320			0.32%
Sc Radial	5562.1	99.6 %	0.66			0.67%
Y 371.029	874499.4	100.26 %	0.271			0.27%
Y RADIAL	6021.1	98.97 %	0.369			0.37%
Ag 328.068†	92.8	0.3551 ug/L	0.20387	0.3551 ppb	0.20387	57.42%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	3.2	2.2048 ug/L	3.46621	2.2048 ppb	3.46621	157.21%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	4.4	1.5886 ug/L	0.96395	1.5886 ppb	0.96395	60.68%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	303.0	5.9991 ug/L	0.10668	5.9991 ppb	0.10668	1.78%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	33.9	0.2385 ug/L	0.05441	0.2385 ppb	0.05441	22.82%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	206.6	0.0648 ug/L	0.00495	0.0648 ppb	0.00495	7.64%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1.5	2.2232 ug/L	5.43872	2.2232 ppb	5.43872	244.64%

QC value within limits for Ca 317.933 Radial Recovery = Not calculated						
Cd 226.502†	3.9	0.0375 ug/L	0.08247	0.0375 ppb	0.08247	219.77%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	0.8	0.0150 ug/L	0.06263	0.0150 ppb	0.06263	416.51%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	41.5	0.4005 ug/L	0.04617	0.4005 ppb	0.04617	11.53%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-81.6	-0.2056 ug/L	0.29986	-0.2056 ppb	0.29986	145.87%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	0.5	4.0702 ug/L	8.76493	4.0702 ppb	8.76493	215.34%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	117.9	19.518 ug/L	10.3578	19.518 ppb	10.3578	53.07%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	-1.3	-42.799 ug/L	40.7369	-42.799 ppb	40.7369	95.18%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	24.4	0.0266 ug/L	0.00276	0.0266 ppb	0.00276	10.37%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-0.3	-0.0178 ug/L	0.15339	-0.0178 ppb	0.15339	864.07%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	-45.6	-12.186 ug/L	10.5805	-12.186 ppb	10.5805	86.83%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-7.1	-0.1588 ug/L	0.09723	-0.1588 ppb	0.09723	61.23%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.2	-0.0404 ug/L	1.54903	-0.0404 ppb	1.54903	>999.9%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	17.5	1.9531 ug/L	0.29077	1.9531 ppb	0.29077	14.89%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-16.0	-19.462 ug/L	5.7895	-19.462 ppb	5.7895	29.75%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	4.4	1.3364 ug/L	0.58297	1.3364 ppb	0.58297	43.62%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	2.3	1.2009 ug/L	1.03429	1.2009 ppb	1.03429	86.12%
QC value within limits for Se 196.026 Recovery = Not calculated						
Si 251.611†	61.6	1.6527 ug/L	0.09514	1.6527 ppb	0.09514	5.76%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	7.3	1.2000 ug/L	0.12622	1.2000 ppb	0.12622	10.52%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	8.3	0.0486 ug/L	0.13406	0.0486 ppb	0.13406	276.04%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-47.4	-0.0614 ug/L	0.06991	-0.0614 ppb	0.06991	113.94%
QC value within limits for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	1.6	0.4479 ug/L	2.73635	0.4479 ppb	2.73635	610.96%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-28.3	-0.6391 ug/L	0.81319	-0.6391 ppb	0.81319	127.25%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	3.0	0.0139 ug/L	0.32639	0.0139 ppb	0.32639	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	129.2	1.0765 ug/L	0.02739	1.0765 ppb	0.02739	2.54%
QC value within limits for Zn 213.857 Recovery = Not calculated						
SiO2†	44.5	2.5580 ug/L	0.35114	2.5580 ppb	0.35114	13.73%
QC value within limits for SiO2 Recovery = Not calculated						
All analyte(s) passed QC.						

=====

Analysis Begun

Start Time: 1/28/2010 12:21:41

Plasma On Time: 00:00:00

Logged In Analyst: Optima3

Technique: ICP Continuous

Spectrometer Model: Optima 5300 DV, S/N 077C7090601 Autosampler Model: S10

Sample Information File: C:\pe\Optima3\Sample Information\012810.sif

Batch ID:

Results Data Set: 012810

Results Library: C:\pe\Optima3\Results\Results.mdb

Sequence No.: 1

Autosampler Location: 38

Sample ID: 1202015701|941739|1

Date Collected: 1/28/2010 12:21:42

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Replicate Data: 1202015701|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5513.8	5513.8	98.7 %		12:23:35
1	Y RADIAL	5983.1	5983.1	98.35 %		12:23:35
1	Al 396.153Radial†	22.3	18.8	13.017 ug/L	13.017 ppb	12:23:55
1	Ca 317.933Radial†	36.6	10.3	15.705 ug/L	15.705 ppb	12:23:55
1	Fe 238.204 Radial†	15.4	7.2	60.493 ug/L	60.493 ppb	12:23:55
1	K 766.490 Radial†	2656.2	295.3	48.887 ug/L	48.887 ppb	12:23:35
1	Mg 279.077 IEC†	2.1	-0.3	-9.3927 ug/L	-9.3927 ppb	12:23:55
1	Na 589.592 Radial†	-1066.8	-52.5	-14.020 ug/L	-14.020 ppb	12:23:35
1	Sr 421.552†	13.1	2.1	0.0118 ug/L	0.0118 ppb	12:23:35
1	Sc 361.383	926560.6	926560.6	94.160 %		12:24:52
1	Y 371.029	814824.9	814824.9	93.420 %		12:24:52
1	Ag 328.068†	525.7	237.3	0.9204 ug/L	0.9204 ppb	12:24:52
1	As 188.979†	-25.6	6.7	2.4259 ug/L	2.4259 ppb	12:25:12
1	B 249.677†	-106.7	172.9	3.4134 ug/L	3.4134 ppb	12:25:12
1	Ba 233.527†	24.6	30.7	0.2169 ug/L	0.2169 ppb	12:25:12
1	Be 313.107†	-4758.9	14.0	0.0043 ug/L	0.0043 ppb	12:24:52
1	Cd 226.502†	-190.0	-2.4	-0.0298 ug/L	-0.0298 ppb	12:25:12
1	Co 228.616†	-58.3	9.9	0.1899 ug/L	0.1899 ppb	12:25:12
1	Cr 267.716†	178.5	104.0	1.0024 ug/L	1.0024 ppb	12:25:12
1	Cu 324.752†	8767.1	174.3	0.4429 ug/L	0.4429 ppb	12:24:52
1	Mn 257.610†	1173.0	712.8	0.7227 ug/L	0.7227 ppb	12:25:12
1	Mo 202.031†	29.6	8.5	0.5265 ug/L	0.5265 ppb	12:25:12
1	Ni 231.604†	92.9	-11.3	-0.2520 ug/L	-0.2520 ppb	12:25:12
1	P 214.914†	249.3	25.3	12.542 ug/L	12.542 ppb	12:25:12
1	Pb 220.353†	-25.7	31.0	3.4579 ug/L	3.4579 ppb	12:25:12
1	S 181.975 Axial†	51.7	-12.9	-15.721 ug/L	-15.721 ppb	12:25:12
1	Sb 206.836†	52.0	20.1	6.1612 ug/L	6.1612 ppb	12:25:12
1	Se 196.026†	-21.7	-1.9	-0.7995 ug/L	-0.7995 ppb	12:25:12
1	Si 251.611†	948.9	547.5	14.683 ug/L	14.683 ppb	12:25:12
1	Sn 189.927†	34.8	41.5	6.8188 ug/L	6.8188 ppb	12:25:12
1	Ti 334.940†	-889.4	-34.8	-0.0459 ug/L	-0.0459 ppb	12:24:52
1	Tl 190.801†	-31.5	6.3	1.7986 ug/L	1.7986 ppb	12:25:12
1	U 409.014†	-1266.8	39.4	0.8781 ug/L	0.8781 ppb	12:24:52
1	V 292.402†	-1404.0	-50.7	-0.2818 ug/L	-0.2818 ppb	12:24:52
1	Zn 213.857†	1014.1	334.3	2.7773 ug/L	2.7773 ppb	12:25:12
1	SiO2†	976.3	560.8	32.190 ug/L	32.190 ppb	12:26:08
2	Sc Radial	5556.4	5556.4	99.5 %		12:24:00
2	Y RADIAL	6060.3	6060.3	99.62 %		12:24:00
2	Al 396.153Radial†	23.0	19.4	13.412 ug/L	13.412 ppb	12:24:20
2	Ca 317.933Radial†	31.8	5.2	7.8695 ug/L	7.8695 ppb	12:24:20
2	Fe 238.204 Radial†	12.6	4.3	36.044 ug/L	36.044 ppb	12:24:20
2	K 766.490 Radial†	2568.5	186.5	30.882 ug/L	30.882 ppb	12:24:00
2	Mg 279.077 IEC†	-1.5	-3.9	-127.75 ug/L	-127.75 ppb	12:24:20
2	Na 589.592 Radial†	-1041.5	-18.8	-5.0150 ug/L	-5.0150 ppb	12:24:00
2	Sr 421.552†	1.7	-9.5	-0.0555 ug/L	-0.0555 ppb	12:24:00
2	Sc 361.383	943589.4	943589.4	95.890 %		12:25:17
2	Y 371.029	828996.4	828996.4	95.045 %		12:25:17

2	Ag 328.068†	526.1	227.7	0.8778 ug/L	0.8778 ppb	12:25:17
2	As 188.979†	-22.1	10.8	3.9321 ug/L	3.9321 ppb	12:25:37
2	B 249.677†	-90.5	191.8	3.7921 ug/L	3.7921 ppb	12:25:37
2	Ba 233.527†	34.0	40.0	0.2821 ug/L	0.2821 ppb	12:25:37
2	Be 313.107†	-4798.9	63.5	0.0206 ug/L	0.0206 ppb	12:25:17
2	Cd 226.502†	-181.9	9.6	0.0915 ug/L	0.0915 ppb	12:25:37
2	Co 228.616†	-61.4	7.7	0.1481 ug/L	0.1481 ppb	12:25:37
2	Cr 267.716†	160.6	82.0	0.7906 ug/L	0.7906 ppb	12:25:37
2	Cu 324.752†	8952.2	199.3	0.5053 ug/L	0.5053 ppb	12:25:17
2	Mn 257.610†	1175.4	692.8	0.7050 ug/L	0.7050 ppb	12:25:37
2	Mo 202.031†	30.2	8.5	0.5284 ug/L	0.5284 ppb	12:25:37
2	Ni 231.604†	118.3	13.3	0.2981 ug/L	0.2981 ppb	12:25:37
2	P 214.914†	243.5	14.4	7.1308 ug/L	7.1308 ppb	12:25:37
2	Pb 220.353†	-38.7	18.0	2.0073 ug/L	2.0073 ppb	12:25:37
2	S 181.975 Axial†	57.4	-8.0	-9.7320 ug/L	-9.7320 ppb	12:25:37
2	Sb 206.836†	42.4	9.1	2.8647 ug/L	2.8647 ppb	12:25:37
2	Se 196.026†	-24.7	-4.6	-2.2878 ug/L	-2.2878 ppb	12:25:37
2	Si 251.611†	945.3	525.5	14.094 ug/L	14.094 ppb	12:25:37
2	Sn 189.927†	39.1	45.3	7.4375 ug/L	7.4375 ppb	12:25:37
2	Ti 334.940†	-683.6	196.8	0.2825 ug/L	0.2825 ppb	12:25:17
2	Tl 190.801†	-39.4	-1.3	-0.3806 ug/L	-0.3806 ppb	12:25:37
2	U 409.014†	-1335.9	-8.4	-0.1962 ug/L	-0.1962 ppb	12:25:17
2	V 292.402†	-1385.8	-4.8	-0.0278 ug/L	-0.0278 ppb	12:25:17
2	Zn 213.857†	1003.0	303.3	2.5178 ug/L	2.5178 ppb	12:25:37
2	SiO2†	958.5	523.4	30.045 ug/L	30.045 ppb	12:26:13
3	Sc Radial	5528.2	5528.2	99.0 %		12:24:25
3	Y RADIAL	5984.8	5984.8	98.38 %		12:24:25
3	Al 396.153Radial†	22.7	19.2	13.274 ug/L	13.274 ppb	12:24:45
3	Ca 317.933Radial†	57.8	31.6	48.039 ug/L	48.039 ppb	12:24:45
3	Fe 238.204 Radial†	14.3	6.0	50.881 ug/L	50.881 ppb	12:24:45
3	K 766.490 Radial†	2671.9	304.1	50.337 ug/L	50.337 ppb	12:24:25
3	Mg 279.077 IEC†	3.1	0.8	24.872 ug/L	24.872 ppb	12:24:45
3	Na 589.592 Radial†	-1063.0	-45.9	-12.262 ug/L	-12.262 ppb	12:24:25
3	Sr 421.552†	60.5	50.0	0.2905 ug/L	0.2905 ppb	12:24:25
3	Sc 361.383	946031.0	946031.0	96.139 %		12:25:42
3	Y 371.029	830553.8	830553.8	95.224 %		12:25:42
3	Ag 328.068†	511.1	210.6	0.8152 ug/L	0.8152 ppb	12:25:42
3	As 188.979†	-24.1	8.7	3.1853 ug/L	3.1853 ppb	12:26:02
3	B 249.677†	-99.3	183.0	3.6157 ug/L	3.6157 ppb	12:26:02
3	Ba 233.527†	38.7	44.8	0.3170 ug/L	0.3170 ppb	12:26:02
3	Be 313.107†	-4883.1	-11.1	-0.0029 ug/L	-0.0029 ppb	12:25:42
3	Cd 226.502†	-186.3	5.6	0.0503 ug/L	0.0503 ppb	12:26:02
3	Co 228.616†	-79.6	-11.0	-0.2100 ug/L	-0.2100 ppb	12:26:02
3	Cr 267.716†	166.5	87.6	0.8441 ug/L	0.8441 ppb	12:26:02
3	Cu 324.752†	9124.8	354.8	0.8967 ug/L	0.8967 ppb	12:25:42
3	Mn 257.610†	1171.0	685.1	0.6926 ug/L	0.6926 ppb	12:26:02
3	Mo 202.031†	30.0	8.2	0.5125 ug/L	0.5125 ppb	12:26:02
3	Ni 231.604†	102.3	-3.6	-0.0793 ug/L	-0.0793 ppb	12:26:02
3	P 214.914†	246.0	16.3	7.9750 ug/L	7.9750 ppb	12:26:02
3	Pb 220.353†	-36.4	20.5	2.2814 ug/L	2.2814 ppb	12:26:02
3	S 181.975 Axial†	48.5	-17.4	-21.175 ug/L	-21.175 ppb	12:26:02
3	Sb 206.836†	42.1	8.6	2.6807 ug/L	2.6807 ppb	12:26:02
3	Se 196.026†	-20.9	-0.6	-0.1247 ug/L	-0.1247 ppb	12:26:02
3	Si 251.611†	950.4	528.3	14.168 ug/L	14.168 ppb	12:26:02
3	Sn 189.927†	26.8	32.5	5.3429 ug/L	5.3429 ppb	12:26:02
3	Ti 334.940†	-697.0	184.8	0.2573 ug/L	0.2573 ppb	12:25:42
3	Tl 190.801†	-35.3	3.0	0.8763 ug/L	0.8763 ppb	12:26:02
3	U 409.014†	-1181.3	156.0	3.5082 ug/L	3.5082 ppb	12:25:42
3	V 292.402†	-1345.4	41.0	0.2338 ug/L	0.2338 ppb	12:25:42
3	Zn 213.857†	989.5	286.6	2.3791 ug/L	2.3791 ppb	12:26:02
3	SiO2†	945.9	507.8	29.148 ug/L	29.148 ppb	12:26:18

Mean Data: 1202015701|941739|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	938727.0	95.396 %		1.0779			1.13%
Sc Radial	5532.8	99.1 %		0.39			0.39%
Y 371.029	824791.7	94.563 %		0.9936			1.05%
Y RADIAL	6009.4	98.78 %		0.725			0.73%
Ag 328.068†	225.2	0.8712 ug/L		0.05291	0.8712 ppb	0.05291	6.07%

Al 396.153Radial†	19.1	13.234 ug/L	0.2007	13.234 ppb	0.2007	1.52%
As 188.979†	8.7	3.1811 ug/L	0.75310	3.1811 ppb	0.75310	23.67%
B 249.677†	182.6	3.6071 ug/L	0.18953	3.6071 ppb	0.18953	5.25%
Ba 233.527†	38.5	0.2720 ug/L	0.05083	0.2720 ppb	0.05083	18.69%
Be 313.107†	22.1	0.0073 ug/L	0.01205	0.0073 ppb	0.01205	164.67%
Ca 317.933Radial†	15.7	23.871 ug/L	21.2937	23.871 ppb	21.2937	89.20%
Cd 226.502†	4.3	0.0373 ug/L	0.06166	0.0373 ppb	0.06166	165.10%
Co 228.616†	2.2	0.0427 ug/L	0.21983	0.0427 ppb	0.21983	515.24%
Cr 267.716†	91.2	0.8790 ug/L	0.11010	0.8790 ppb	0.11010	12.52%
Cu 324.752†	242.8	0.6150 ug/L	0.24600	0.6150 ppb	0.24600	40.00%
Fe 238.204 Radial†	5.8	49.139 ug/L	12.3169	49.139 ppb	12.3169	25.07%
K 766.490 Radial†	262.0	43.369 ug/L	10.8382	43.369 ppb	10.8382	24.99%
Mg 279.077 IEC†	-1.1	-37.424 ug/L	80.0789	-37.424 ppb	80.0789	213.98%
Mn 257.610†	696.9	0.7068 ug/L	0.01517	0.7068 ppb	0.01517	2.15%
Mo 202.031†	8.4	0.5225 ug/L	0.00869	0.5225 ppb	0.00869	1.66%
Na 589.592 Radial†	-39.1	-10.432 ug/L	4.7733	-10.432 ppb	4.7733	45.75%
Ni 231.604†	-0.5	-0.0110 ug/L	0.28132	-0.0110 ppb	0.28132	>999.9%
P 214.914†	18.7	9.2160 ug/L	2.91135	9.2160 ppb	2.91135	31.59%
Pb 220.353†	23.2	2.5822 ug/L	0.77067	2.5822 ppb	0.77067	29.85%
S 181.975 Axial†	-12.7	-15.543 ug/L	5.7237	-15.543 ppb	5.7237	36.83%
Sb 206.836†	12.6	3.9022 ug/L	1.95847	3.9022 ppb	1.95847	50.19%
Se 196.026†	-2.4	-1.0707 ug/L	1.10672	-1.0707 ppb	1.10672	103.37%
Si 251.611†	533.8	14.315 ug/L	0.3208	14.315 ppb	0.3208	2.24%
Sn 189.927†	39.8	6.5331 ug/L	1.07617	6.5331 ppb	1.07617	16.47%
Sr 421.552†	14.2	0.0823 ug/L	0.18343	0.0823 ppb	0.18343	222.88%
Ti 334.940†	115.6	0.1646 ug/L	0.18274	0.1646 ppb	0.18274	110.99%
Tl 190.801†	2.7	0.7648 ug/L	1.09388	0.7648 ppb	1.09388	143.03%
U 409.014†	62.3	1.3967 ug/L	1.90589	1.3967 ppb	1.90589	136.46%
V 292.402†	-4.8	-0.0252 ug/L	0.25780	-0.0252 ppb	0.25780	>999.9%
Zn 213.857†	308.1	2.5581 ug/L	0.20213	2.5581 ppb	0.20213	7.90%
SiO2†	530.7	30.461 ug/L	1.5631	30.461 ppb	1.5631	5.13%

Sequence No.: 2
 Sample ID: 1202015706|941739|1
 Analyst: HSC
 Initial Sample Wt:
 Dilution:

Autosampler Location: 39
 Date Collected: 1/28/2010 12:28:28
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: 1202015706|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5620.6	5620.6	101 %		12:30:41
1	Y RADIAL	6698.9	6698.9	110.1 %		12:30:41
1	Al 396.153Radial†	124045.9	123257.3	85407 ug/L	85407 ppb	12:30:21
1	Ca 317.933Radial†	66127.7	65682.5	99871 ug/L	99871 ppb	12:30:21
1	Fe 238.204 Radial†	21905.6	21758.6	183760 ug/L	183760 ppb	12:30:21
1	K 766.490 Radial†	248891.3	244921.2	40512 ug/L	40512 ppb	12:30:21
1	Mg 279.077 IEC†	1165.1	1155.3	37520 ug/L	37520 ppb	12:30:41
1	Na 589.592 Radial†	38462.7	39247.4	10482 ug/L	10482 ppb	12:30:21
1	Sr 421.552†	398238.5	395707.6	2302.6 ug/L	2302.6 ppb	12:30:21
1	Sc 361.383	966756.6	966756.6	98.245 %		12:31:42
1	Y 371.029	928484.9	928484.9	106.45 %		12:31:42
1	Ag 328.068†	60736.6	61500.8	296.85 ug/L	296.85 ppb	12:31:42
1	As 188.979†	2517.1	2595.9	1029.4 ug/L	1029.4 ppb	12:31:47
1	B 249.677†	69901.4	71436.5	1382.2 ug/L	1382.2 ppb	12:31:42
1	Ba 233.527†	246910.5	251326.5	1773.9 ug/L	1773.9 ppb	12:31:42
1	Be 313.107†	2222326.9	2267100.5	724.73 ug/L	724.73 ppb	12:31:42
1	Cd 226.502†	55154.6	56339.4	539.07 ug/L	539.07 ppb	12:31:47
1	Co 228.616†	44159.7	45020.5	848.77 ug/L	848.77 ppb	12:31:47
1	Cr 267.716†	223184.0	227086.0	2193.3 ug/L	2193.3 ppb	12:31:42
1	Cu 324.752†	678094.6	681073.3	1729.9 ug/L	1729.9 ppb	12:31:42
1	Mn 257.610†	4884966.2	4971711.1	5013.1 ug/L	5013.1 ppb	12:31:42
1	Mo 202.031†	7432.6	7542.4	480.78 ug/L	480.78 ppb	12:31:47
1	Ni 231.604†	53427.3	54271.9	1212.5 ug/L	1212.5 ppb	12:31:47
1	P 214.914†	15878.6	15922.7	7485.4 ug/L	7485.4 ppb	12:31:47
1	Pb 220.353†	6633.6	6810.5	762.37 ug/L	762.37 ppb	12:31:47
1	S 181.975 Axial†	3632.2	3629.3	4409.7 ug/L	4409.7 ppb	12:31:47
1	Sb 206.836†	4607.8	4655.0	1413.8 ug/L	1413.8 ppb	12:31:47
1	Se 196.026†	4418.2	4518.3	2962.4 ug/L	2962.4 ppb	12:31:47
1	Si 251.611†	1078292.8	1097098.0	29429 ug/L	29429 ppb	12:31:42
1	Sn 189.927†	5744.2	5851.4	978.12 ug/L	978.12 ppb	12:31:47
1	Ti 334.940†	3782433.0	3850922.1	5317.5 ug/L	5317.5 ppb	12:31:42
1	Tl 190.801†	3708.3	3814.3	1155.4 ug/L	1155.4 ppb	12:31:47
1	U 409.014†	-7419.5	-6167.4	-164.85 ug/L	-164.85 ppb	12:31:42
1	V 292.402†	199264.4	204265.0	1107.9 ug/L	1107.9 ppb	12:31:42
1	Zn 213.857†	640118.8	650812.8	5388.1 ug/L	5388.1 ppb	12:31:42
1	SiO2†	1073448.1	1092150.9	62705 ug/L	62705 ppb	12:32:22
2	Sc Radial	5642.1	5642.1	101 %		12:31:06
2	Y RADIAL	6697.7	6697.7	110.1 %		12:31:06
2	Al 396.153Radial†	123086.7	121837.9	84424 ug/L	84424 ppb	12:30:46
2	Ca 317.933Radial†	65711.8	65020.3	98864 ug/L	98864 ppb	12:30:46
2	Fe 238.204 Radial†	21728.0	21499.8	181580 ug/L	181580 ppb	12:30:46
2	K 766.490 Radial†	246834.7	241942.7	40020 ug/L	40020 ppb	12:30:46
2	Mg 279.077 IEC†	1168.0	1153.8	37473 ug/L	37473 ppb	12:31:06
2	Na 589.592 Radial†	37889.5	38534.3	10291 ug/L	10291 ppb	12:30:46
2	Sr 421.552†	393549.1	389557.0	2266.9 ug/L	2266.9 ppb	12:30:46
2	Sc 361.383	968879.0	968879.0	98.460 %		12:31:56
2	Y 371.029	931134.6	931134.6	106.76 %		12:31:56
2	Ag 328.068†	60848.4	61478.9	296.07 ug/L	296.07 ppb	12:31:56
2	As 188.979†	2491.6	2564.3	1017.4 ug/L	1017.4 ppb	12:32:01
2	B 249.677†	70003.0	71383.9	1381.5 ug/L	1381.5 ppb	12:31:56
2	Ba 233.527†	246889.2	250754.3	1769.8 ug/L	1769.8 ppb	12:31:56
2	Be 313.107†	2224833.7	2264691.3	723.95 ug/L	723.95 ppb	12:31:56
2	Cd 226.502†	54446.2	55496.9	530.95 ug/L	530.95 ppb	12:32:01
2	Co 228.616†	43656.9	44411.3	837.14 ug/L	837.14 ppb	12:32:01
2	Cr 267.716†	223448.2	226856.7	2191.1 ug/L	2191.1 ppb	12:31:56
2	Cu 324.752†	679980.6	681476.9	1730.8 ug/L	1730.8 ppb	12:31:56
2	Mn 257.610†	4885883.5	4961750.7	5002.9 ug/L	5002.9 ppb	12:31:56
2	Mo 202.031†	7296.8	7387.9	471.07 ug/L	471.07 ppb	12:32:01
2	Ni 231.604†	52751.1	53466.0	1194.5 ug/L	1194.5 ppb	12:32:01

2	P 214.914†	15643.8	15649.0	7350.0 ug/L	7350.0 ppb	12:32:01
2	Pb 220.353†	6473.9	6633.5	742.59 ug/L	742.59 ppb	12:32:01
2	S 181.975 Axial†	3596.4	3584.9	4355.6 ug/L	4355.6 ppb	12:32:01
2	Sb 206.836†	4598.4	4635.1	1407.3 ug/L	1407.3 ppb	12:32:01
2	Se 196.026†	4364.3	4453.6	2921.5 ug/L	2921.5 ppb	12:32:01
2	Si 251.611†	1080300.9	1096733.2	29419 ug/L	29419 ppb	12:31:56
2	Sn 189.927†	5633.9	5726.6	957.46 ug/L	957.46 ppb	12:32:01
2	Ti 334.940†	3785502.4	3845605.7	5310.1 ug/L	5310.1 ppb	12:31:56
2	Tl 190.801†	3674.4	3771.7	1143.1 ug/L	1143.1 ppb	12:32:01
2	U 409.014†	-7476.5	-6208.7	-165.53 ug/L	-165.53 ppb	12:31:56
2	V 292.402†	199364.8	203922.7	1106.1 ug/L	1106.1 ppb	12:31:56
2	Zn 213.857†	640121.6	649388.4	5376.6 ug/L	5376.6 ppb	12:31:56
2	SiO2†	1085631.5	1102131.3	63278 ug/L	63278 ppb	12:32:28
3	Sc Radial	5624.2	5624.2	101 %		12:31:31
3	Y RADIAL	6700.7	6700.7	110.1 %		12:31:31
3	Al 396.153Radial†	123732.7	122866.0	85136 ug/L	85136 ppb	12:31:11
3	Ca 317.933Radial†	65859.0	65373.0	99400 ug/L	99400 ppb	12:31:11
3	Fe 238.204 Radial†	21882.9	21721.9	183450 ug/L	183450 ppb	12:31:11
3	K 766.490 Radial†	249269.7	245136.0	40548 ug/L	40548 ppb	12:31:11
3	Mg 279.077 IEC†	1168.9	1158.3	37618 ug/L	37618 ppb	12:31:31
3	Na 589.592 Radial†	38429.4	39189.4	10466 ug/L	10466 ppb	12:31:11
3	Sr 421.552†	397479.1	394695.8	2296.8 ug/L	2296.8 ppb	12:31:11
3	Sc 361.383	970238.9	970238.9	98.599 %		12:32:11
3	Y 371.029	934680.4	934680.4	107.16 %		12:32:11
3	Ag 328.068†	60834.7	61378.4	296.29 ug/L	296.29 ppb	12:32:11
3	As 188.979†	2515.6	2585.2	1025.4 ug/L	1025.4 ppb	12:32:16
3	B 249.677†	70017.5	71299.0	1379.5 ug/L	1379.5 ppb	12:32:11
3	Ba 233.527†	246438.6	249945.9	1764.2 ug/L	1764.2 ppb	12:32:11
3	Be 313.107†	2234222.0	2271045.9	725.93 ug/L	725.93 ppb	12:32:11
3	Cd 226.502†	54825.5	55804.1	533.80 ug/L	533.80 ppb	12:32:16
3	Co 228.616†	43901.6	44597.4	840.69 ug/L	840.69 ppb	12:32:16
3	Cr 267.716†	223790.5	226885.7	2191.4 ug/L	2191.4 ppb	12:32:11
3	Cu 324.752†	679667.1	680190.9	1727.6 ug/L	1727.6 ppb	12:32:11
3	Mn 257.610†	4881882.0	4950737.1	4992.0 ug/L	4992.0 ppb	12:32:11
3	Mo 202.031†	7376.6	7458.5	475.57 ug/L	475.57 ppb	12:32:16
3	Ni 231.604†	53114.7	53759.7	1201.0 ug/L	1201.0 ppb	12:32:16
3	P 214.914†	15704.0	15687.6	7368.7 ug/L	7368.7 ppb	12:32:16
3	Pb 220.353†	6568.1	6719.8	752.21 ug/L	752.21 ppb	12:32:16
3	S 181.975 Axial†	3613.4	3597.0	4370.3 ug/L	4370.3 ppb	12:32:16
3	Sb 206.836†	4565.5	4595.2	1395.6 ug/L	1395.6 ppb	12:32:16
3	Se 196.026†	4355.2	4438.2	2919.8 ug/L	2919.8 ppb	12:32:16
3	Si 251.611†	1078826.8	1093700.3	29338 ug/L	29338 ppb	12:32:11
3	Sn 189.927†	5693.0	5778.5	966.09 ug/L	966.09 ppb	12:32:16
3	Ti 334.940†	3786027.8	3840749.7	5303.4 ug/L	5303.4 ppb	12:32:11
3	Tl 190.801†	3659.2	3751.0	1137.0 ug/L	1137.0 ppb	12:32:16
3	U 409.014†	-7465.8	-6187.2	-165.26 ug/L	-165.26 ppb	12:32:11
3	V 292.402†	199984.3	204267.2	1107.9 ug/L	1107.9 ppb	12:32:11
3	Zn 213.857†	640307.5	648665.7	5370.3 ug/L	5370.3 ppb	12:32:11
3	SiO2†	1086541.7	1101509.1	63242 ug/L	63242 ppb	12:32:34

Mean Data: 1202015706|941739|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	968624.8	98.435 %	0.1783			0.18%
Sc Radial	5629.0	101 %	0.2			0.20%
Y 371.029	931433.3	106.79 %	0.356			0.33%
Y RADIAL	6699.1	110.1 %	0.02			0.02%
Ag 328.068†	61452.7	296.40 ug/L	0.404	296.40 ppb	0.404	0.14%
Al 396.153Radial†	122653.7	84989 ug/L	507.9	84989 ppb	507.9	0.60%
As 188.979†	2581.8	1024.1 ug/L	6.10	1024.1 ppb	6.10	0.60%
B 249.677†	71373.1	1381.1 ug/L	1.38	1381.1 ppb	1.38	0.10%
Ba 233.527†	250675.6	1769.3 ug/L	4.87	1769.3 ppb	4.87	0.28%
Be 313.107†	2267612.6	724.87 ug/L	0.999	724.87 ppb	0.999	0.14%
Ca 317.933Radial†	65358.6	99378 ug/L	503.8	99378 ppb	503.8	0.51%
Cd 226.502†	55880.1	534.61 ug/L	4.120	534.61 ppb	4.120	0.77%
Co 228.616†	44676.4	842.20 ug/L	5.962	842.20 ppb	5.962	0.71%
Cr 267.716†	226942.8	2192.0 ug/L	1.22	2192.0 ppb	1.22	0.06%
Cu 324.752†	680913.7	1729.4 ug/L	1.62	1729.4 ppb	1.62	0.09%
Fe 238.204 Radial†	21660.1	182930 ug/L	1182.5	182930 ppb	1182.5	0.65%
K 766.490 Radial†	244000.0	40360 ug/L	295.3	40360 ppb	295.3	0.73%

Mg 279.077 IEC†	1155.8	37537 ug/L	73.9	37537 ppb	73.9	0.20%
Mn 257.610†	4961399.6	5002.7 ug/L	10.56	5002.7 ppb	10.56	0.21%
Mo 202.031†	7463.0	475.81 ug/L	4.862	475.81 ppb	4.862	1.02%
Na 589.592 Radial†	38990.4	10413 ug/L	105.8	10413 ppb	105.8	1.02%
Ni 231.604†	53832.5	1202.7 ug/L	9.11	1202.7 ppb	9.11	0.76%
P 214.914†	15753.1	7401.3 ug/L	73.43	7401.3 ppb	73.43	0.99%
Pb 220.353†	6721.3	752.39 ug/L	9.896	752.39 ppb	9.896	1.32%
S 181.975 Axial†	3603.7	4378.5 ug/L	27.97	4378.5 ppb	27.97	0.64%
Sb 206.836†	4628.5	1405.6 ug/L	9.24	1405.6 ppb	9.24	0.66%
Se 196.026†	4470.0	2934.6 ug/L	24.14	2934.6 ppb	24.14	0.82%
Si 251.611†	1095843.8	29395 ug/L	50.0	29395 ppb	50.0	0.17%
Sn 189.927†	5785.5	967.22 ug/L	10.379	967.22 ppb	10.379	1.07%
Sr 421.552†	393320.1	2288.8 ug/L	19.19	2288.8 ppb	19.19	0.84%
Ti 334.940†	3845759.2	5310.3 ug/L	7.05	5310.3 ppb	7.05	0.13%
Tl 190.801†	3779.0	1145.2 ug/L	9.35	1145.2 ppb	9.35	0.82%
U 409.014†	-6187.8	-165.21 ug/L	0.341	-165.21 ppb	0.341	0.21%
V 292.402†	204151.6	1107.3 ug/L	0.99	1107.3 ppb	0.99	0.09%
Zn 213.857†	649622.3	5378.3 ug/L	9.01	5378.3 ppb	9.01	0.17%
SiO2†	1098597.1	63075 ug/L	321.2	63075 ppb	321.2	0.51%

Sequence No.: 3
 Sample ID: 244597001|941739|1
 Analyst: HSC
 Initial Sample Wt:
 Dilution:

Autosampler Location: 40
 Date Collected: 1/28/2010 12:34:44
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: 244597001|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5139.5	5139.5	92.0 %			12:36:36
1	Y RADIAL	6000.2	6000.2	98.63 %			12:36:36
1	Al 396.153Radial†	27810.7	30217.6	20944 ug/L		20944 ppb	12:36:36
1	Ca 317.933Radial†	2959.5	3189.3	4849.3 ug/L		4849.3 ppb	12:36:56
1	Fe 238.204 Radial†	8280.2	8989.4	75910 ug/L		75910 ppb	12:36:36
1	K 766.490 Radial†	19089.0	18348.4	3035.7 ug/L		3035.7 ppb	12:36:36
1	Mg 279.077 IEC†	87.2	92.4	2935.5 ug/L		2935.5 ppb	12:36:56
1	Na 589.592 Radial†	736.1	1828.0	488.20 ug/L		488.20 ppb	12:36:36
1	Sr 421.552†	5912.2	6413.4	37.296 ug/L		37.296 ppb	12:36:36
1	Sc 361.383	977857.7	977857.7	99.373 %			12:37:54
1	Y 371.029	924053.9	924053.9	105.94 %			12:37:54
1	Ag 328.068†	-4496.9	-4846.3	6.4412 ug/L		6.4412 ppb	12:37:59
1	As 188.979†	-28.0	5.7	38.201 ug/L		38.201 ppb	12:38:19
1	B 249.677†	769.7	1060.9	8.6403 ug/L		8.6403 ppb	12:37:59
1	Ba 233.527†	24283.1	24441.0	174.21 ug/L		174.21 ppb	12:37:59
1	Be 313.107†	-13697.4	-8715.8	2.0749 ug/L		2.0749 ppb	12:37:59
1	Cd 226.502†	531.1	733.8	-0.5849 ug/L		-0.5849 ppb	12:38:19
1	Co 228.616†	618.4	694.1	7.8219 ug/L		7.8219 ppb	12:38:19
1	Cr 267.716†	2063.0	1990.5	20.788 ug/L		20.788 ppb	12:38:19
1	Cu 324.752†	15009.2	5967.3	19.118 ug/L		19.118 ppb	12:37:59
1	Mn 257.610†	1256766.4	1264165.3	1277.8 ug/L		1277.8 ppb	12:37:54
1	Mo 202.031†	49.4	26.7	7.5993 ug/L		7.5993 ppb	12:38:19
1	Ni 231.604†	624.4	518.3	11.577 ug/L		11.577 ppb	12:38:19
1	P 214.914†	1163.3	931.1	405.71 ug/L		405.71 ppb	12:38:19
1	Pb 220.353†	481.8	543.2	57.897 ug/L		57.897 ppb	12:38:19
1	S 181.975 Axial†	191.5	124.9	148.43 ug/L		148.43 ppb	12:38:19
1	Sb 206.836†	58.2	23.4	1.6817 ug/L		1.6817 ppb	12:38:19
1	Se 196.026†	-347.5	-328.5	81.634 ug/L		81.634 ppb	12:38:19
1	Si 251.611†	574166.7	577330.2	15490 ug/L		15490 ppb	12:37:54
1	Sn 189.927†	8.8	13.5	4.2230 ug/L		4.2230 ppb	12:38:19
1	Ti 334.940†	1528081.5	1538635.4	2121.2 ug/L		2121.2 ppb	12:37:54
1	Tl 190.801†	-136.7	-97.8	-4.5666 ug/L		-4.5666 ppb	12:38:19
1	U 409.014†	-3705.7	-2344.4	-61.537 ug/L		-61.537 ppb	12:37:59
1	V 292.402†	12757.7	14278.7	65.941 ug/L		65.941 ppb	12:37:59
1	Zn 213.857†	29446.2	28889.3	232.95 ug/L		232.95 ppb	12:37:59
1	SiO2†	570479.8	573604.2	32939 ug/L		32939 ppb	12:39:27
2	Sc Radial	5513.8	5513.8	98.7 %			12:37:02
2	Y RADIAL	6416.2	6416.2	105.5 %			12:37:02
2	Al 396.153Radial†	27355.7	27705.3	19202 ug/L		19202 ppb	12:37:02
2	Ca 317.933Radial†	2992.9	3004.7	4568.7 ug/L		4568.7 ppb	12:37:22
2	Fe 238.204 Radial†	8140.7	8237.4	69559 ug/L		69559 ppb	12:37:02
2	K 766.490 Radial†	18808.1	16655.8	2755.6 ug/L		2755.6 ppb	12:37:02
2	Mg 279.077 IEC†	88.2	86.9	2764.7 ug/L		2764.7 ppb	12:37:22
2	Na 589.592 Radial†	670.6	1707.3	455.98 ug/L		455.98 ppb	12:37:02
2	Sr 421.552†	5787.9	5851.5	34.027 ug/L		34.027 ppb	12:37:02
2	Sc 361.383	967560.8	967560.8	98.326 %			12:38:25
2	Y 371.029	912634.4	912634.4	104.63 %			12:38:25
2	Ag 328.068†	-4369.2	-4764.6	4.6990 ug/L		4.6990 ppb	12:38:30
2	As 188.979†	-39.0	-5.9	32.575 ug/L		32.575 ppb	12:38:50
2	B 249.677†	784.0	1083.6	10.122 ug/L		10.122 ppb	12:38:30
2	Ba 233.527†	23781.4	24190.7	172.26 ug/L		172.26 ppb	12:38:30
2	Be 313.107†	-13267.9	-8425.6	2.1777 ug/L		2.1777 ppb	12:38:30
2	Cd 226.502†	542.4	751.0	0.2406 ug/L		0.2406 ppb	12:38:50
2	Co 228.616†	612.9	695.1	7.9239 ug/L		7.9239 ppb	12:38:50
2	Cr 267.716†	2037.8	1986.9	20.630 ug/L		20.630 ppb	12:38:50
2	Cu 324.752†	14707.0	5820.8	18.412 ug/L		18.412 ppb	12:38:30
2	Mn 257.610†	1247195.0	1267890.0	1281.0 ug/L		1281.0 ppb	12:38:25
2	Mo 202.031†	63.0	41.1	7.9891 ug/L		7.9891 ppb	12:38:50
2	Ni 231.604†	624.3	524.9	11.724 ug/L		11.724 ppb	12:38:50

2	P 214.914†	1163.4	943.7	416.73 ug/L	416.73 ppb	12:38:50
2	Pb 220.353†	504.6	571.5	61.283 ug/L	61.283 ppb	12:38:50
2	S 181.975 Axial†	192.5	127.9	152.41 ug/L	152.41 ppb	12:38:50
2	Sb 206.836†	48.0	13.6	-1.3681 ug/L	-1.3681 ppb	12:38:50
2	Se 196.026†	-353.1	-338.0	55.608 ug/L	55.608 ppb	12:38:50
2	Si 251.611†	570613.7	579865.6	15558 ug/L	15558 ppb	12:38:25
2	Sn 189.927†	9.6	14.4	4.2259 ug/L	4.2259 ppb	12:38:50
2	Ti 334.940†	1515645.6	1542352.5	2126.3 ug/L	2126.3 ppb	12:38:25
2	Tl 190.801†	-127.6	-90.1	-2.2933 ug/L	-2.2933 ppb	12:38:50
2	U 409.014†	-3690.0	-2368.1	-61.348 ug/L	-61.348 ppb	12:38:30
2	V 292.402†	12588.6	14243.3	66.672 ug/L	66.672 ppb	12:38:30
2	Zn 213.857†	29001.6	28752.5	232.43 ug/L	232.43 ppb	12:38:30
2	SiO2†	573961.5	583254.5	33494 ug/L	33494 ppb	12:39:33
3	Sc Radial	5604.1	5604.1	100 %		12:37:27
3	Y RADIAL	6545.4	6545.4	107.6 %		12:37:27
3	Al 396.153Radial†	27474.7	27377.4	18975 ug/L	18975 ppb	12:37:27
3	Ca 317.933Radial†	3018.0	2981.0	4532.6 ug/L	4532.6 ppb	12:37:47
3	Fe 238.204 Radial†	8168.9	8132.6	68675 ug/L	68675 ppb	12:37:27
3	K 766.490 Radial†	18898.1	16438.5	2719.6 ug/L	2719.6 ppb	12:37:27
3	Mg 279.077 IEC†	90.0	87.3	2776.9 ug/L	2776.9 ppb	12:37:47
3	Na 589.592 Radial†	689.1	1714.8	457.97 ug/L	457.97 ppb	12:37:27
3	Sr 421.552†	5836.7	5805.6	33.760 ug/L	33.760 ppb	12:37:27
3	Sc 361.383	972818.6	972818.6	98.861 %		12:38:56
3	Y 371.029	919461.3	919461.3	105.42 %		12:38:56
3	Ag 328.068†	-4356.7	-4727.9	4.5528 ug/L	4.5528 ppb	12:39:01
3	As 188.979†	-28.7	4.8	36.218 ug/L	36.218 ppb	12:39:21
3	B 249.677†	715.9	1010.4	8.8161 ug/L	8.8161 ppb	12:39:01
3	Ba 233.527†	24066.2	24348.1	173.33 ug/L	173.33 ppb	12:39:01
3	Be 313.107†	-13723.6	-8813.7	2.0509 ug/L	2.0509 ppb	12:39:01
3	Cd 226.502†	523.0	728.3	0.1079 ug/L	0.1079 ppb	12:39:21
3	Co 228.616†	609.0	687.8	7.8030 ug/L	7.8030 ppb	12:39:21
3	Cr 267.716†	2024.0	1961.8	20.371 ug/L	20.371 ppb	12:39:21
3	Cu 324.752†	14949.0	5984.7	18.780 ug/L	18.780 ppb	12:39:01
3	Mn 257.610†	1249680.0	1263548.3	1276.5 ug/L	1276.5 ppb	12:38:56
3	Mo 202.031†	66.9	44.7	8.1414 ug/L	8.1414 ppb	12:39:21
3	Ni 231.604†	618.7	515.8	11.521 ug/L	11.521 ppb	12:39:21
3	P 214.914†	1152.7	926.4	408.68 ug/L	408.68 ppb	12:39:21
3	Pb 220.353†	484.7	548.6	58.770 ug/L	58.770 ppb	12:39:21
3	S 181.975 Axial†	192.2	126.6	150.84 ug/L	150.84 ppb	12:39:21
3	Sb 206.836†	47.1	12.5	-1.7440 ug/L	-1.7440 ppb	12:39:21
3	Se 196.026†	-349.5	-332.4	55.600 ug/L	55.600 ppb	12:39:21
3	Si 251.611†	572036.9	578168.7	15512 ug/L	15512 ppb	12:38:56
3	Sn 189.927†	4.5	9.1	3.3426 ug/L	3.3426 ppb	12:39:21
3	Ti 334.940†	1522363.7	1540817.0	2124.2 ug/L	2124.2 ppb	12:38:56
3	Tl 190.801†	-118.5	-80.1	0.5245 ug/L	0.5245 ppb	12:39:21
3	U 409.014†	-3747.6	-2406.0	-62.101 ug/L	-62.101 ppb	12:39:01
3	V 292.402†	12633.2	14219.2	66.671 ug/L	66.671 ppb	12:39:01
3	Zn 213.857†	29207.9	28801.8	232.93 ug/L	232.93 ppb	12:39:01
3	SiO2†	572620.5	578743.2	33235 ug/L	33235 ppb	12:39:38

Mean Data: 244597001|941739|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	972745.7	98.853 %		0.5232			0.53%
Sc Radial	5419.2	97.0 %		4.41			4.55%
Y 371.029	918716.5	105.33 %		0.659			0.63%
Y RADIAL	6320.6	103.9 %		4.68			4.51%
Ag 328.068†	-4779.6	5.2310 ug/L		1.05063	5.2310 ppb	1.05063	20.08%
Al 396.153Radial†	28433.4	19707 ug/L		1076.9	19707 ppb	1076.9	5.46%
As 188.979†	1.5	35.664 ug/L		2.8536	35.664 ppb	2.8536	8.00%
B 249.677†	1051.6	9.1928 ug/L		0.80951	9.1928 ppb	0.80951	8.81%
Ba 233.527†	24326.6	173.27 ug/L		0.978	173.27 ppb	0.978	0.56%
Be 313.107†	-8651.7	2.1012 ug/L		0.06736	2.1012 ppb	0.06736	3.21%
Ca 317.933Radial†	3058.3	4650.2 ug/L		173.38	4650.2 ppb	173.38	3.73%
Cd 226.502†	737.7	-0.0788 ug/L		0.44328	-0.0788 ppb	0.44328	562.67%
Co 228.616†	692.4	7.8496 ug/L		0.06503	7.8496 ppb	0.06503	0.83%
Cr 267.716†	1979.7	20.596 ug/L		0.2104	20.596 ppb	0.2104	1.02%
Cu 324.752†	5924.3	18.770 ug/L		0.3531	18.770 ppb	0.3531	1.88%
Fe 238.204 Radial†	8453.2	71381 ug/L		3946.7	71381 ppb	3946.7	5.53%
K 766.490 Radial†	17147.6	2836.9 ug/L		173.06	2836.9 ppb	173.06	6.10%

Mg 279.077 IEC†	88.9	2825.7 ug/L	95.29	2825.7 ppb	95.29	3.37%
Mn 257.610†	1265201.2	1278.4 ug/L	2.29	1278.4 ppb	2.29	0.18%
Mo 202.031†	37.5	7.9099 ug/L	0.27959	7.9099 ppb	0.27959	3.53%
Na 589.592 Radial†	1750.0	467.39 ug/L	18.053	467.39 ppb	18.053	3.86%
Ni 231.604†	519.7	11.607 ug/L	0.1048	11.607 ppb	0.1048	0.90%
P 214.914†	933.8	410.38 ug/L	5.702	410.38 ppb	5.702	1.39%
Pb 220.353†	554.5	59.317 ug/L	1.7577	59.317 ppb	1.7577	2.96%
S 181.975 Axial†	126.5	150.56 ug/L	2.007	150.56 ppb	2.007	1.33%
Sb 206.836†	16.5	-0.4768 ug/L	1.87876	-0.4768 ppb	1.87876	394.04%
Se 196.026†	-333.0	64.281 ug/L	15.0282	64.281 ppb	15.0282	23.38%
Si 251.611†	578454.8	15520 ug/L	34.7	15520 ppb	34.7	0.22%
Sn 189.927†	12.3	3.9305 ug/L	0.50915	3.9305 ppb	0.50915	12.95%
Sr 421.552†	6023.5	35.028 ug/L	1.9688	35.028 ppb	1.9688	5.62%
Ti 334.940†	1540601.6	2123.9 ug/L	2.56	2123.9 ppb	2.56	0.12%
Tl 190.801†	-89.3	-2.1118 ug/L	2.55035	-2.1118 ppb	2.55035	120.77%
U 409.014†	-2372.8	-61.662 ug/L	0.3919	-61.662 ppb	0.3919	0.64%
V 292.402†	14247.0	66.428 ug/L	0.4219	66.428 ppb	0.4219	0.64%
Zn 213.857†	28814.5	232.77 ug/L	0.295	232.77 ppb	0.295	0.13%
SiO2†	578534.0	33223 ug/L	277.3	33223 ppb	277.3	0.83%

Sequence No.: 4
 Sample ID: 1202015702|941739|1
 Analyst: HSC
 Initial Sample Wt:
 Dilution:

Autosampler Location: 41
 Date Collected: 1/28/2010 12:41:49
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: 1202015702|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5451.5	5451.5	97.6 %		12:43:42
1	Y RADIAL	6426.7	6426.7	105.6 %		12:43:42
1	Al 396.153Radial†	30239.1	30975.9	21469 ug/L	21469 ppb	12:43:42
1	Ca 317.933Radial†	3946.2	4016.1	6106.5 ug/L	6106.5 ppb	12:43:42
1	Fe 238.204 Radial†	8129.5	8320.2	70259 ug/L	70259 ppb	12:43:42
1	K 766.490 Radial†	25249.3	23472.4	3883.5 ug/L	3883.5 ppb	12:43:42
1	Mg 279.077 IBC†	136.0	137.0	4397.6 ug/L	4397.6 ppb	12:44:02
1	Na 589.592 Radial†	578.6	1620.8	432.88 ug/L	432.88 ppb	12:43:42
1	Sr 421.552†	7505.2	7677.8	44.647 ug/L	44.647 ppb	12:43:42
1	Sc 361.383	980089.3	980089.3	99.600 %		12:44:59
1	Y 371.029	933367.9	933367.9	107.01 %		12:44:59
1	Ag 328.068†	-4420.7	-4759.5	4.9194 ug/L	4.9194 ppb	12:45:04
1	As 188.979†	-34.8	-1.1	37.368 ug/L	37.368 ppb	12:45:24
1	B 249.677†	780.3	1069.7	9.7246 ug/L	9.7246 ppb	12:45:04
1	Ba 233.527†	33638.3	33778.1	239.62 ug/L	239.62 ppb	12:45:04
1	Be 313.107†	-16464.6	-11462.7	1.9836 ug/L	1.9836 ppb	12:45:04
1	Cd 226.502†	524.9	726.4	-0.0795 ug/L	-0.0795 ppb	12:45:24
1	Co 228.616†	766.1	841.0	10.036 ug/L	10.036 ppb	12:45:24
1	Cr 267.716†	2299.2	2222.9	22.920 ug/L	22.920 ppb	12:45:24
1	Cu 324.752†	16120.7	7049.0	21.573 ug/L	21.573 ppb	12:45:04
1	Mn 257.610†	1641346.7	1647412.0	1662.4 ug/L	1662.4 ppb	12:44:59
1	Mo 202.031†	65.1	42.4	8.1414 ug/L	8.1414 ppb	12:45:24
1	Ni 231.604†	832.4	725.8	16.211 ug/L	16.211 ppb	12:45:24
1	P 214.914†	1280.0	1045.6	466.96 ug/L	466.96 ppb	12:45:24
1	Pb 220.353†	453.5	513.7	55.280 ug/L	55.280 ppb	12:45:24
1	S 181.975 Axial†	197.2	130.2	154.75 ug/L	154.75 ppb	12:45:24
1	Sb 206.836†	53.7	18.8	-1.0263 ug/L	-1.0263 ppb	12:45:24
1	Se 196.026†	-343.9	-324.1	65.277 ug/L	65.277 ppb	12:45:24
1	Si 251.611†	632037.8	634118.3	17013 ug/L	17013 ppb	12:44:59
1	Sn 189.927†	-6.0	-1.5	1.8694 ug/L	1.8694 ppb	12:45:24
1	Ti 334.940†	1777366.3	1785421.1	2461.4 ug/L	2461.4 ppb	12:44:59
1	Tl 190.801†	-139.8	-100.6	-0.7050 ug/L	-0.7050 ppb	12:45:24
1	U 409.014†	-5500.8	-4138.2	-101.33 ug/L	-101.33 ppb	12:45:04
1	V 292.402†	11104.0	12589.1	56.987 ug/L	56.987 ppb	12:45:04
1	Zn 213.857†	29854.3	29231.6	236.32 ug/L	236.32 ppb	12:45:04
1	SiO2†	632497.5	634564.0	36440 ug/L	36440 ppb	12:46:32
2	Sc Radial	5564.6	5564.6	99.6 %		12:44:07
2	Y RADIAL	6503.1	6503.1	106.9 %		12:44:07
2	Al 396.153Radial†	29613.2	29718.3	20598 ug/L	20598 ppb	12:44:07
2	Ca 317.933Radial†	3893.6	3881.1	5901.3 ug/L	5901.3 ppb	12:44:07
2	Fe 238.204 Radial†	7981.5	8002.4	67575 ug/L	67575 ppb	12:44:07
2	K 766.490 Radial†	24981.1	22677.7	3752.0 ug/L	3752.0 ppb	12:44:07
2	Mg 279.077 IBC†	139.0	137.1	4404.5 ug/L	4404.5 ppb	12:44:27
2	Na 589.592 Radial†	479.1	1508.9	402.99 ug/L	402.99 ppb	12:44:07
2	Sr 421.552†	7360.5	7376.4	42.893 ug/L	42.893 ppb	12:44:07
2	Sc 361.383	979818.6	979818.6	99.572 %		12:45:30
2	Y 371.029	932827.4	932827.4	106.95 %		12:45:30
2	Ag 328.068†	-4266.9	-4606.2	4.6346 ug/L	4.6346 ppb	12:45:35
2	As 188.979†	-46.3	-12.7	32.504 ug/L	32.504 ppb	12:45:55
2	B 249.677†	723.5	1012.9	9.0354 ug/L	9.0354 ppb	12:45:35
2	Ba 233.527†	33393.6	33541.7	237.87 ug/L	237.87 ppb	12:45:35
2	Be 313.107†	-16479.7	-11482.4	1.9683 ug/L	1.9683 ppb	12:45:35
2	Cd 226.502†	516.3	717.9	0.1132 ug/L	0.1132 ppb	12:45:55
2	Co 228.616†	760.7	835.7	9.9787 ug/L	9.9787 ppb	12:45:55
2	Cr 267.716†	2324.2	2248.7	23.116 ug/L	23.116 ppb	12:45:55
2	Cu 324.752†	15969.8	6901.9	21.059 ug/L	21.059 ppb	12:45:35
2	Mn 257.610†	1634663.9	1641155.7	1655.8 ug/L	1655.8 ppb	12:45:30
2	Mo 202.031†	51.8	29.1	7.1122 ug/L	7.1122 ppb	12:45:55
2	Ni 231.604†	807.5	701.0	15.659 ug/L	15.659 ppb	12:45:55

2	P 214.914†	1256.5	1022.4	457.39 ug/L	457.39 ppb	12:45:55
2	Pb 220.353†	467.3	527.7	56.903 ug/L	56.903 ppb	12:45:55
2	S 181.975 Axial†	209.3	142.4	169.75 ug/L	169.75 ppb	12:45:55
2	Sb 206.836†	51.5	16.6	-1.7324 ug/L	-1.7324 ppb	12:45:55
2	Se 196.026†	-344.2	-324.6	56.097 ug/L	56.097 ppb	12:45:55
2	Si 251.611†	630759.2	633009.5	16983 ug/L	16983 ppb	12:45:30
2	Sn 189.927†	-6.7	-2.2	1.6789 ug/L	1.6789 ppb	12:45:55
2	Ti 334.940†	1773983.9	1782517.1	2457.4 ug/L	2457.4 ppb	12:45:30
2	Tl 190.801†	-146.1	-107.0	-2.6056 ug/L	-2.6056 ppb	12:45:55
2	U 409.014†	-5475.8	-4114.6	-100.49 ug/L	-100.49 ppb	12:45:35
2	V 292.402†	11043.6	12531.4	57.052 ug/L	57.052 ppb	12:45:35
2	Zn 213.857†	29655.9	29040.7	234.99 ug/L	234.99 ppb	12:45:35
2	SiO2†	627080.3	629299.0	36138 ug/L	36138 ppb	12:46:38
3	Sc Radial	5583.8	5583.8	100.0 %		12:44:32
3	Y RADIAL	6561.5	6561.5	107.9 %		12:44:32
3	Al 396.153Radial†	29910.0	29912.8	20732 ug/L	20732 ppb	12:44:32
3	Ca 317.933Radial†	3951.2	3925.3	5968.5 ug/L	5968.5 ppb	12:44:32
3	Fe 238.204 Radial†	8092.9	8086.3	68284 ug/L	68284 ppb	12:44:32
3	K 766.490 Radial†	25146.1	22756.4	3765.0 ug/L	3765.0 ppb	12:44:32
3	Mg 279.077 IEC†	134.7	132.3	4247.5 ug/L	4247.5 ppb	12:44:52
3	Na 589.592 Radial†	488.3	1516.4	404.99 ug/L	404.99 ppb	12:44:32
3	Sr 421.552†	7455.1	7445.6	43.296 ug/L	43.296 ppb	12:44:32
3	Sc 361.383	967961.9	967961.9	98.367 %		12:46:01
3	Y 371.029	923646.9	923646.9	105.90 %		12:46:01
3	Ag 328.068†	-4393.6	-4787.5	4.1811 ug/L	4.1811 ppb	12:46:06
3	As 188.979†	-43.3	-10.2	33.595 ug/L	33.595 ppb	12:46:27
3	B 249.677†	767.8	1066.8	9.9886 ug/L	9.9886 ppb	12:46:06
3	Ba 233.527†	33832.7	34398.9	243.92 ug/L	243.92 ppb	12:46:06
3	Be 313.107†	-16758.5	-11968.6	1.8235 ug/L	1.8235 ppb	12:46:06
3	Cd 226.502†	509.5	717.3	0.0344 ug/L	0.0344 ppb	12:46:27
3	Co 228.616†	747.4	831.6	9.8878 ug/L	9.8878 ppb	12:46:27
3	Cr 267.716†	2307.8	2260.6	23.247 ug/L	23.247 ppb	12:46:27
3	Cu 324.752†	16271.3	7404.9	22.366 ug/L	22.366 ppb	12:46:06
3	Mn 257.610†	1621048.3	1647423.3	1662.2 ug/L	1662.2 ppb	12:46:01
3	Mo 202.031†	67.6	45.8	8.1956 ug/L	8.1956 ppb	12:46:27
3	Ni 231.604†	815.7	719.3	16.067 ug/L	16.067 ppb	12:46:27
3	P 214.914†	1260.0	1041.4	466.05 ug/L	466.05 ppb	12:46:27
3	Pb 220.353†	469.7	535.8	57.775 ug/L	57.775 ppb	12:46:27
3	S 181.975 Axial†	215.2	151.0	180.25 ug/L	180.25 ppb	12:46:27
3	Sb 206.836†	59.2	25.0	0.7995 ug/L	0.7995 ppb	12:46:27
3	Se 196.026†	-347.5	-332.2	54.506 ug/L	54.506 ppb	12:46:27
3	Si 251.611†	624379.6	634283.5	17018 ug/L	17018 ppb	12:46:01
3	Sn 189.927†	-12.1	-7.7	0.7994 ug/L	0.7994 ppb	12:46:27
3	Ti 334.940†	1755036.5	1785078.3	2461.0 ug/L	2461.0 ppb	12:46:01
3	Tl 190.801†	-153.0	-115.8	-5.0626 ug/L	-5.0626 ppb	12:46:27
3	U 409.014†	-5353.1	-4057.2	-99.280 ug/L	-99.280 ppb	12:46:06
3	V 292.402†	11293.1	12921.0	59.121 ug/L	59.121 ppb	12:46:06
3	Zn 213.857†	29986.0	29741.0	240.75 ug/L	240.75 ppb	12:46:06
3	SiO2†	632060.8	642076.3	36871 ug/L	36871 ppb	12:46:43

Mean Data: 1202015702|941739|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	975956.6	99.180 %	0.7037			0.71%
Sc Radial	5533.3	99.1 %	1.28			1.29%
Y 371.029	929947.4	106.62 %	0.626			0.59%
Y RADIAL	6497.1	106.8 %	1.11			1.04%
Ag 328.068†	-4717.7	4.5783 ug/L	0.37236	4.5783 ppb	0.37236	8.13%
Al 396.153Radial†	30202.4	20933 ug/L	469.2	20933 ppb	469.2	2.24%
As 188.979†	-8.0	34.489 ug/L	2.5521	34.489 ppb	2.5521	7.40%
B 249.677†	1049.8	9.5829 ug/L	0.49219	9.5829 ppb	0.49219	5.14%
Ba 233.527†	33906.2	240.47 ug/L	3.114	240.47 ppb	3.114	1.29%
Be 313.107†	-11637.9	1.9252 ug/L	0.08835	1.9252 ppb	0.08835	4.59%
Ca 317.933Radial†	3940.9	5992.1 ug/L	104.63	5992.1 ppb	104.63	1.75%
Cd 226.502†	720.5	0.0227 ug/L	0.09687	0.0227 ppb	0.09687	426.89%
Co 228.616†	836.1	9.9674 ug/L	0.07459	9.9674 ppb	0.07459	0.75%
Cr 267.716†	2244.1	23.094 ug/L	0.1642	23.094 ppb	0.1642	0.71%
Cu 324.752†	7118.6	21.666 ug/L	0.6585	21.666 ppb	0.6585	3.04%
Fe 238.204 Radial†	8136.3	68706 ug/L	1390.7	68706 ppb	1390.7	2.02%
K 766.490 Radial†	22968.9	3800.2 ug/L	72.46	3800.2 ppb	72.46	1.91%

Mg 279.077 IEC†	135.5	4349.9 ug/L	88.70	4349.9 ppb	88.70	2.04%
Mn 257.610†	1645330.3	1660.1 ug/L	3.73	1660.1 ppb	3.73	0.22%
Mo 202.031†	39.1	7.8164 ug/L	0.61043	7.8164 ppb	0.61043	7.81%
Na 589.592 Radial†	1548.7	413.62 ug/L	16.709	413.62 ppb	16.709	4.04%
Ni 231.604†	715.4	15.979 ug/L	0.2866	15.979 ppb	0.2866	1.79%
P 214.914†	1036.5	463.47 ug/L	5.284	463.47 ppb	5.284	1.14%
Pb 220.353†	525.7	56.653 ug/L	1.2662	56.653 ppb	1.2662	2.24%
S 181.975 Axial†	141.2	168.25 ug/L	12.816	168.25 ppb	12.816	7.62%
Sb 206.836†	20.1	-0.6531 ug/L	1.30655	-0.6531 ppb	1.30655	200.06%
Se 196.026†	-327.0	58.627 ug/L	5.8137	58.627 ppb	5.8137	9.92%
Si 251.611†	633803.7	17005 ug/L	18.6	17005 ppb	18.6	0.11%
Sn 189.927†	-3.8	1.4493 ug/L	0.57078	1.4493 ppb	0.57078	39.38%
Sr 421.552†	7499.9	43.612 ug/L	0.9184	43.612 ppb	0.9184	2.11%
Ti 334.940†	1784338.8	2459.9 ug/L	2.20	2459.9 ppb	2.20	0.09%
Tl 190.801†	-107.8	-2.7911 ug/L	2.18475	-2.7911 ppb	2.18475	78.28%
U 409.014†	-4103.3	-100.37 ug/L	1.030	-100.37 ppb	1.030	1.03%
V 292.402†	12680.5	57.720 ug/L	1.2139	57.720 ppb	1.2139	2.10%
Zn 213.857†	29337.8	237.35 ug/L	3.014	237.35 ppb	3.014	1.27%
SiO2†	635313.1	36483 ug/L	368.7	36483 ppb	368.7	1.01%

Sequence No.: 5

Sample ID: 1202015704|941739|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 42

Date Collected: 1/28/2010 12:48:54

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202015704|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5486.5	5486.5	98.2 %		12:51:07
1	Y RADIAL	6581.4	6581.4	108.2 %		12:51:07
1	Al 396.153Radial†	73489.0	74805.0	51824 ug/L	51824 ppb	12:50:47
1	Ca 317.933Radial†	8712.5	8842.2	13445 ug/L	13445 ppb	12:50:47
1	Fe 238.204 Radial†	12011.2	12218.5	103190 ug/L	103190 ppb	12:50:47
1	K 766.490 Radial†	74246.5	73184.7	12109 ug/L	12109 ppb	12:50:47
1	Mg 279.077 IEC†	426.9	432.1	14001 ug/L	14001 ppb	12:51:07
1	Na 589.592 Radial†	20736.1	22136.6	5912.0 ug/L	5912.0 ppb	12:50:47
1	Sr 421.552†	101336.3	103145.0	600.30 ug/L	600.30 ppb	12:50:47
1	Sc 361.383	961416.1	961416.1	97.702 %		12:52:06
1	Y 371.029	940058.9	940058.9	107.78 %		12:52:06
1	Ag 328.068†	122311.5	124867.3	510.52 ug/L	510.52 ppb	12:52:06
1	As 188.979†	1255.8	1319.2	537.32 ug/L	537.32 ppb	12:52:26
1	B 249.677†	24708.2	25575.6	488.24 ug/L	488.24 ppb	12:52:06
1	Ba 233.527†	111555.1	114183.5	806.75 ug/L	806.75 ppb	12:52:06
1	Be 313.107†	1528969.1	1569999.4	502.93 ug/L	502.93 ppb	12:52:06
1	Cd 226.502†	48684.9	50029.4	484.63 ug/L	484.63 ppb	12:52:06
1	Co 228.616†	25129.7	25792.6	484.72 ug/L	484.72 ppb	12:52:26
1	Cr 267.716†	52103.5	53243.4	515.76 ug/L	515.76 ppb	12:52:06
1	Cu 324.752†	217452.0	213430.1	544.28 ug/L	544.28 ppb	12:52:06
1	Mn 257.610†	2365392.3	2420494.8	2442.2 ug/L	2442.2 ppb	12:52:06
1	Mo 202.031†	7556.5	7711.3	483.92 ug/L	483.92 ppb	12:52:26
1	Ni 231.604†	22113.6	22523.8	503.12 ug/L	503.12 ppb	12:52:26
1	P 214.914†	3479.8	3322.1	1485.0 ug/L	1485.0 ppb	12:52:26
1	Pb 220.353†	4798.8	4970.1	556.69 ug/L	556.69 ppb	12:52:26
1	S 181.975 Axial†	4274.2	4306.9	5242.3 ug/L	5242.3 ppb	12:52:26
1	Sb 206.836†	1612.4	1615.1	493.03 ug/L	493.03 ppb	12:52:26
1	Se 196.026†	430.9	462.2	586.11 ug/L	586.11 ppb	12:52:26
1	Si 251.611†	760233.8	777654.7	20858 ug/L	20858 ppb	12:52:06
1	Sn 189.927†	2952.4	3026.5	500.23 ug/L	500.23 ppb	12:52:26
1	Ti 334.940†	2931337.0	3001193.6	4137.0 ug/L	4137.0 ppb	12:52:06
1	Tl 190.801†	1452.1	1526.0	480.05 ug/L	480.05 ppb	12:52:26
1	U 409.014†	15183.8	16925.7	368.58 ug/L	368.58 ppb	12:52:06
1	V 292.402†	106757.4	110708.8	602.74 ug/L	602.74 ppb	12:52:06
1	Zn 213.857†	97973.2	99534.9	814.37 ug/L	814.37 ppb	12:52:06
1	SiO2†	757641.3	774985.4	44491 ug/L	44491 ppb	12:53:27
2	Sc Radial	5284.6	5284.6	94.6 %		12:51:32
2	Y RADIAL	6381.9	6381.9	104.9 %		12:51:32
2	Al 396.153Radial†	70032.1	74009.3	51273 ug/L	51273 ppb	12:51:12
2	Ca 317.933Radial†	8300.6	8745.6	13298 ug/L	13298 ppb	12:51:12
2	Fe 238.204 Radial†	11474.4	12118.3	102350 ug/L	102350 ppb	12:51:12
2	K 766.490 Radial†	71309.3	72967.7	12073 ug/L	12073 ppb	12:51:12
2	Mg 279.077 IEC†	424.4	446.1	14458 ug/L	14458 ppb	12:51:32
2	Na 589.592 Radial†	19713.3	21862.0	5838.7 ug/L	5838.7 ppb	12:51:12
2	Sr 421.552†	96751.6	102240.3	595.04 ug/L	595.04 ppb	12:51:12
2	Sc 361.383	961227.8	961227.8	97.683 %		12:52:33
2	Y 371.029	941246.6	941246.6	107.91 %		12:52:33
2	Ag 328.068†	122147.6	124724.1	509.70 ug/L	509.70 ppb	12:52:33
2	As 188.979†	1260.4	1324.2	538.88 ug/L	538.88 ppb	12:52:53
2	B 249.677†	24521.7	25389.7	484.69 ug/L	484.69 ppb	12:52:33
2	Ba 233.527†	111260.4	113904.2	804.76 ug/L	804.76 ppb	12:52:33
2	Be 313.107†	1526591.0	1567871.6	502.25 ug/L	502.25 ppb	12:52:33
2	Cd 226.502†	48399.5	49747.0	481.92 ug/L	481.92 ppb	12:52:33
2	Co 228.616†	25177.4	25846.4	485.78 ug/L	485.78 ppb	12:52:53
2	Cr 267.716†	52010.1	53158.3	514.92 ug/L	514.92 ppb	12:52:33
2	Cu 324.752†	217725.3	213753.5	545.05 ug/L	545.05 ppb	12:52:33
2	Mn 257.610†	2358117.2	2413521.6	2435.1 ug/L	2435.1 ppb	12:52:33
2	Mo 202.031†	7583.2	7740.1	485.63 ug/L	485.63 ppb	12:52:53
2	Ni 231.604†	22094.4	22508.6	502.78 ug/L	502.78 ppb	12:52:53

2	P 214.914†	3468.3	3311.0	1479.9 ug/L	1479.9 ppb	12:52:53
2	Pb 220.353†	4790.1	4962.0	555.76 ug/L	555.76 ppb	12:52:53
2	S 181.975 Axial†	4260.9	4294.2	5226.9 ug/L	5226.9 ppb	12:52:53
2	Sb 206.836†	1624.4	1627.8	496.91 ug/L	496.91 ppb	12:52:53
2	Se 196.026†	409.6	440.4	572.01 ug/L	572.01 ppb	12:52:53
2	Si 251.611†	759643.5	777202.9	20846 ug/L	20846 ppb	12:52:33
2	Sn 189.927†	2962.2	3037.1	501.93 ug/L	501.93 ppb	12:52:53
2	Ti 334.940†	2927003.2	2997344.9	4131.6 ug/L	4131.6 ppb	12:52:33
2	Tl 190.801†	1448.3	1522.5	478.95 ug/L	478.95 ppb	12:52:53
2	U 409.014†	15027.7	16768.9	365.15 ug/L	365.15 ppb	12:52:33
2	V 292.402†	106498.4	110465.1	601.54 ug/L	601.54 ppb	12:52:33
2	Zn 213.857†	97664.1	99238.1	811.98 ug/L	811.98 ppb	12:52:33
2	SiO2†	758513.4	776030.2	44551 ug/L	44551 ppb	12:53:32
3	Sc Radial	5440.3	5440.3	97.4 %		12:51:57
3	Y RADIAL	6525.8	6525.8	107.3 %		12:51:57
3	Al 396.153Radial†	72218.1	74136.1	51360 ug/L	51360 ppb	12:51:37
3	Ca 317.933Radial†	8581.7	8783.3	13355 ug/L	13355 ppb	12:51:37
3	Fe 238.204 Radial†	11844.8	12151.6	102630 ug/L	102630 ppb	12:51:37
3	K 766.490 Radial†	73164.2	72715.9	12032 ug/L	12032 ppb	12:51:37
3	Mg 279.077 IEC†	424.9	433.9	14058 ug/L	14058 ppb	12:51:57
3	Na 589.592 Radial†	20354.2	21923.9	5855.2 ug/L	5855.2 ppb	12:51:37
3	Sr 421.552†	99752.8	102396.1	595.94 ug/L	595.94 ppb	12:51:37
3	Sc 361.383	965828.1	965828.1	98.150 %		12:53:01
3	Y 371.029	944734.0	944734.0	108.31 %		12:53:01
3	Ag 328.068†	122579.1	124568.2	509.20 ug/L	509.20 ppb	12:53:01
3	As 188.979†	1273.6	1331.4	541.53 ug/L	541.53 ppb	12:53:21
3	B 249.677†	24758.5	25511.3	487.05 ug/L	487.05 ppb	12:53:01
3	Ba 233.527†	111849.8	113962.2	805.18 ug/L	805.18 ppb	12:53:01
3	Be 313.107†	1535590.8	1569597.3	502.78 ug/L	502.78 ppb	12:53:01
3	Cd 226.502†	48748.7	49866.8	483.07 ug/L	483.07 ppb	12:53:01
3	Co 228.616†	25319.3	25868.2	486.20 ug/L	486.20 ppb	12:53:21
3	Cr 267.716†	52308.1	53208.4	515.41 ug/L	515.41 ppb	12:53:01
3	Cu 324.752†	217803.4	212771.4	542.59 ug/L	542.59 ppb	12:53:01
3	Mn 257.610†	2371119.4	2415270.5	2436.9 ug/L	2436.9 ppb	12:53:01
3	Mo 202.031†	7632.8	7753.7	486.49 ug/L	486.49 ppb	12:53:21
3	Ni 231.604†	22240.6	22549.7	503.70 ug/L	503.70 ppb	12:53:21
3	P 214.914†	3489.6	3315.9	1482.6 ug/L	1482.6 ppb	12:53:21
3	Pb 220.353†	4815.6	4964.7	556.05 ug/L	556.05 ppb	12:53:21
3	S 181.975 Axial†	4305.5	4318.9	5256.9 ug/L	5256.9 ppb	12:53:21
3	Sb 206.836†	1612.3	1607.5	490.80 ug/L	490.80 ppb	12:53:21
3	Se 196.026†	420.0	449.0	577.39 ug/L	577.39 ppb	12:53:21
3	Si 251.611†	762732.5	776646.0	20831 ug/L	20831 ppb	12:53:01
3	Sn 189.927†	2961.3	3021.7	499.43 ug/L	499.43 ppb	12:53:21
3	Ti 334.940†	2938093.4	2994371.9	4127.6 ug/L	4127.6 ppb	12:53:01
3	Tl 190.801†	1465.6	1533.0	481.94 ug/L	481.94 ppb	12:53:21
3	U 409.014†	15035.6	16703.7	363.64 ug/L	363.64 ppb	12:53:01
3	V 292.402†	107174.0	110634.1	602.45 ug/L	602.45 ppb	12:53:01
3	Zn 213.857†	98310.6	99420.5	813.47 ug/L	813.47 ppb	12:53:01
3	SiO2†	762328.0	776218.0	44562 ug/L	44562 ppb	12:53:37

Mean Data: 1202015704|941739|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	962824.0	97.845 %	0.2646			0.27%
Sc Radial	5403.8	96.8 %	1.89			1.96%
Y 371.029	942013.2	108.00 %	0.279			0.26%
Y RADIAL	6496.4	106.8 %	1.69			1.58%
Ag 328.068†	124719.9	509.80 ug/L	0.665	509.80 ppb	0.665	0.13%
Al 396.153Radial†	74316.8	51486 ug/L	296.4	51486 ppb	296.4	0.58%
As 188.979†	1324.9	539.24 ug/L	2.132	539.24 ppb	2.132	0.40%
B 249.677†	25492.2	486.66 ug/L	1.806	486.66 ppb	1.806	0.37%
Ba 233.527†	114016.6	805.56 ug/L	1.050	805.56 ppb	1.050	0.13%
Be 313.107†	1569156.1	502.65 ug/L	0.358	502.65 ppb	0.358	0.07%
Ca 317.933Radial†	8790.4	13366 ug/L	74.0	13366 ppb	74.0	0.55%
Cd 226.502†	49881.1	483.21 ug/L	1.358	483.21 ppb	1.358	0.28%
Co 228.616†	25835.7	485.57 ug/L	0.763	485.57 ppb	0.763	0.16%
Cr 267.716†	53203.4	515.36 ug/L	0.420	515.36 ppb	0.420	0.08%
Cu 324.752†	213318.3	543.97 ug/L	1.260	543.97 ppb	1.260	0.23%
Fe 238.204 Radial†	12162.8	102720 ug/L	430.8	102720 ppb	430.8	0.42%
K 766.490 Radial†	72956.1	12071 ug/L	38.8	12071 ppb	38.8	0.32%

Mg 279.077 IEC†	437.4	14172 ug/L	249.3	14172 ppb	249.3	1.76%
Mn 257.610†	2416429.0	2438.0 ug/L	3.70	2438.0 ppb	3.70	0.15%
Mo 202.031†	7735.0	485.35 ug/L	1.307	485.35 ppb	1.307	0.27%
Na 589.592 Radial†	21974.1	5868.7 ug/L	38.47	5868.7 ppb	38.47	0.66%
Ni 231.604†	22527.4	503.20 ug/L	0.465	503.20 ppb	0.465	0.09%
P 214.914†	3316.3	1482.5 ug/L	2.57	1482.5 ppb	2.57	0.17%
Pb 220.353†	4965.6	556.17 ug/L	0.476	556.17 ppb	0.476	0.09%
S 181.975 Axial†	4306.7	5242.0 ug/L	15.04	5242.0 ppb	15.04	0.29%
Sb 206.836†	1616.8	493.58 ug/L	3.095	493.58 ppb	3.095	0.63%
Se 196.026†	450.5	578.50 ug/L	7.120	578.50 ppb	7.120	1.23%
Si 251.611†	777167.8	20845 ug/L	13.6	20845 ppb	13.6	0.07%
Sn 189.927†	3028.4	500.53 ug/L	1.277	500.53 ppb	1.277	0.26%
Sr 421.552†	102593.8	597.09 ug/L	2.815	597.09 ppb	2.815	0.47%
Ti 334.940†	2997636.8	4132.1 ug/L	4.72	4132.1 ppb	4.72	0.11%
Tl 190.801†	1527.1	480.31 ug/L	1.512	480.31 ppb	1.512	0.31%
U 409.014†	16799.4	365.79 ug/L	2.532	365.79 ppb	2.532	0.69%
V 292.402†	110602.7	602.24 ug/L	0.624	602.24 ppb	0.624	0.10%
Zn 213.857†	99397.8	813.27 ug/L	1.205	813.27 ppb	1.205	0.15%
SiO2†	775744.5	44534 ug/L	38.1	44534 ppb	38.1	0.09%

Sequence No.: 6
 Sample ID: 1202015705|941739|1
 Analyst: HSC
 Initial Sample Wt:
 Dilution:

Autosampler Location: 43
 Date Collected: 1/28/2010 12:55:49
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Replicate Data: 1202015705|941739|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5711.4	5711.4	102 %		12:57:41
1	Y RADIAL	6637.7	6637.7	109.1 %		12:57:41
1	Al 396.153Radial†	64770.4	63333.2	43875 ug/L	43875 ppb	12:57:41
1	Ca 317.933Radial†	7178.0	6992.4	10632 ug/L	10632 ppb	12:57:41
1	Fe 238.204 Radial†	11705.0	11437.6	96596 ug/L	96596 ppb	12:57:41
1	K 766.490 Radial†	63526.6	59725.6	9882.0 ug/L	9882.0 ppb	12:57:41
1	Mg 279.077 IEC†	352.7	342.5	11082 ug/L	11082 ppb	12:58:01
1	Na 589.592 Radial†	21286.2	21843.2	5833.7 ug/L	5833.7 ppb	12:57:41
1	Sr 421.552†	98777.6	96580.4	562.11 ug/L	562.11 ppb	12:57:41
1	Sc 361.383	1032070.0	1032070.0	104.88 %		12:59:00
1	Y 371.029	966503.4	966503.4	110.81 %		12:59:00
1	Ag 328.068†	119546.6	113661.0	465.44 ug/L	465.44 ppb	12:59:00
1	As 188.979†	1252.9	1228.4	492.21 ug/L	492.21 ppb	12:59:20
1	B 249.677†	24161.9	23323.5	444.83 ug/L	444.83 ppb	12:59:00
1	Ba 233.527†	96275.6	91798.8	649.08 ug/L	649.08 ppb	12:59:00
1	Be 313.107†	1486589.0	1422459.5	453.73 ug/L	453.73 ppb	12:59:00
1	Cd 226.502†	47371.2	45365.5	439.14 ug/L	439.14 ppb	12:59:00
1	Co 228.616†	24731.3	23651.9	446.30 ug/L	446.30 ppb	12:59:20
1	Cr 267.716†	51430.8	48951.3	474.16 ug/L	474.16 ppb	12:59:00
1	Cu 324.752†	209497.3	190609.1	486.31 ug/L	486.31 ppb	12:59:00
1	Mn 257.610†	1665371.9	1587319.4	1604.3 ug/L	1604.3 ppb	12:59:00
1	Mo 202.031†	7448.9	7079.2	444.38 ug/L	444.38 ppb	12:59:20
1	Ni 231.604†	21620.9	20504.5	458.01 ug/L	458.01 ppb	12:59:20
1	P 214.914†	2335.5	1987.3	833.41 ug/L	833.41 ppb	12:59:20
1	Pb 220.353†	4583.2	4428.3	495.07 ug/L	495.07 ppb	12:59:20
1	S 181.975 Axial†	4221.3	3957.0	4817.0 ug/L	4817.0 ppb	12:59:20
1	Sb 206.836†	1565.8	1457.8	448.17 ug/L	448.17 ppb	12:59:20
1	Se 196.026†	452.5	452.6	558.71 ug/L	558.71 ppb	12:59:20
1	Si 251.611†	846819.0	806941.0	21645 ug/L	21645 ppb	12:59:00
1	Sn 189.927†	2933.9	2801.9	462.86 ug/L	462.86 ppb	12:59:20
1	Ti 334.940†	2203281.6	2101633.2	2897.0 ug/L	2897.0 ppb	12:59:00
1	Tl 190.801†	1492.2	1462.5	447.91 ug/L	447.91 ppb	12:59:20
1	U 409.014†	14960.3	15648.7	340.64 ug/L	340.64 ppb	12:59:00
1	V 292.402†	97790.4	94678.9	515.38 ug/L	515.38 ppb	12:59:00
1	Zn 213.857†	87797.3	82967.8	677.51 ug/L	677.51 ppb	12:59:00
1	SiO2†	861889.4	821294.1	47151 ug/L	47151 ppb	13:00:22
2	Sc Radial	5671.9	5671.9	102 %		12:58:06
2	Y RADIAL	6631.2	6631.2	109.0 %		12:58:06
2	Al 396.153Radial†	67547.4	66508.7	46075 ug/L	46075 ppb	12:58:06
2	Ca 317.933Radial†	7433.7	7293.0	11089 ug/L	11089 ppb	12:58:06
2	Fe 238.204 Radial†	12203.9	12008.5	101420 ug/L	101420 ppb	12:58:06
2	K 766.490 Radial†	65633.4	62232.6	10297 ug/L	10297 ppb	12:58:06
2	Mg 279.077 IEC†	356.9	349.0	11289 ug/L	11289 ppb	12:58:26
2	Na 589.592 Radial†	22140.5	22829.3	6097.1 ug/L	6097.1 ppb	12:58:06
2	Sr 421.552†	103128.8	101537.4	590.96 ug/L	590.96 ppb	12:58:06
2	Sc 361.383	976599.8	976599.8	99.245 %		12:59:28
2	Y 371.029	922486.0	922486.0	105.76 %		12:59:28
2	Ag 328.068†	122045.7	122653.2	501.36 ug/L	501.36 ppb	12:59:28
2	As 188.979†	1240.2	1283.5	515.36 ug/L	515.36 ppb	12:59:48
2	B 249.677†	24777.1	25251.8	482.17 ug/L	482.17 ppb	12:59:28
2	Ba 233.527†	98733.6	99489.2	703.35 ug/L	703.35 ppb	12:59:28
2	Be 313.107†	1529101.8	1545802.5	493.06 ug/L	493.06 ppb	12:59:28
2	Cd 226.502†	48327.6	48894.6	473.57 ug/L	473.57 ppb	12:59:28
2	Co 228.616†	24599.1	24858.0	468.86 ug/L	468.86 ppb	12:59:48
2	Cr 267.716†	52708.8	53024.2	513.55 ug/L	513.55 ppb	12:59:28
2	Cu 324.752†	215440.5	207942.9	530.32 ug/L	530.32 ppb	12:59:28
2	Mn 257.610†	1707399.3	1719855.4	1738.0 ug/L	1738.0 ppb	12:59:28
2	Mo 202.031†	7416.3	7449.7	467.62 ug/L	467.62 ppb	12:59:48
2	Ni 231.604†	21510.3	21564.0	481.68 ug/L	481.68 ppb	12:59:48

2	P 214.914†	2344.8	2123.1	889.37 ug/L	889.37 ppb	12:59:48
2	Pb 220.353†	4573.5	4666.7	521.72 ug/L	521.72 ppb	12:59:48
2	S 181.975 Axial†	4174.8	4138.7	5038.2 ug/L	5038.2 ppb	12:59:48
2	Sb 206.836†	1568.2	1545.0	474.65 ug/L	474.65 ppb	12:59:48
2	Se 196.026†	429.7	454.1	575.67 ug/L	575.67 ppb	12:59:48
2	Si 251.611†	867458.1	873597.0	23433 ug/L	23433 ppb	12:59:28
2	Sn 189.927†	2917.5	2944.3	486.37 ug/L	486.37 ppb	12:59:48
2	Ti 334.940†	2260835.3	2278944.3	3141.4 ug/L	3141.4 ppb	12:59:28
2	Tl 190.801†	1502.1	1553.3	476.41 ug/L	476.41 ppb	12:59:48
2	U 409.014†	15580.6	17083.8	372.35 ug/L	372.35 ppb	12:59:28
2	V 292.402†	100401.7	102605.9	558.80 ug/L	558.80 ppb	12:59:28
2	Zn 213.857†	89795.3	89735.7	733.15 ug/L	733.15 ppb	12:59:28
2	SiO2†	860708.5	866780.2	49763 ug/L	49763 ppb	13:00:27
3	Sc Radial	5702.8	5702.8	102 %		12:58:31
3	Y RADIAL	6607.1	6607.1	108.6 %		12:58:31
3	Al 396.153Radial†	65117.5	63768.7	44176 ug/L	44176 ppb	12:58:31
3	Ca 317.933Radial†	7196.5	7021.1	10676 ug/L	10676 ppb	12:58:31
3	Fe 238.204 Radial†	11846.6	11593.4	97912 ug/L	97912 ppb	12:58:31
3	K 766.490 Radial†	63546.3	59838.5	9900.6 ug/L	9900.6 ppb	12:58:31
3	Mg 279.077 IEC†	352.1	342.5	11080 ug/L	11080 ppb	12:58:51
3	Na 589.592 Radial†	21416.4	22002.1	5876.1 ug/L	5876.1 ppb	12:58:31
3	Sr 421.552†	99205.5	97145.2	565.40 ug/L	565.40 ppb	12:58:31
3	Sc 361.383	990173.4	990173.4	100.62 %		12:59:55
3	Y 371.029	934076.3	934076.3	107.09 %		12:59:55
3	Ag 328.068†	121885.5	120808.2	493.18 ug/L	493.18 ppb	12:59:55
3	As 188.979†	1240.4	1266.5	507.91 ug/L	507.91 ppb	13:00:15
3	B 249.677†	24663.8	24797.0	473.75 ug/L	473.75 ppb	12:59:55
3	Ba 233.527†	98196.4	97591.6	689.89 ug/L	689.89 ppb	12:59:55
3	Be 313.107†	1522588.2	1518208.5	484.26 ug/L	484.26 ppb	12:59:55
3	Cd 226.502†	48305.1	48204.7	467.10 ug/L	467.10 ppb	12:59:55
3	Co 228.616†	24610.1	24529.2	462.72 ug/L	462.72 ppb	13:00:15
3	Cr 267.716†	52522.3	52110.8	504.66 ug/L	504.66 ppb	12:59:55
3	Cu 324.752†	214129.5	203664.3	519.33 ug/L	519.33 ppb	12:59:55
3	Mn 257.610†	1700012.8	1688931.1	1706.6 ug/L	1706.6 ppb	12:59:55
3	Mo 202.031†	7408.1	7339.1	460.52 ug/L	460.52 ppb	13:00:15
3	Ni 231.604†	21443.9	21200.9	473.57 ug/L	473.57 ppb	13:00:15
3	P 214.914†	2331.6	2077.6	871.10 ug/L	871.10 ppb	13:00:15
3	Pb 220.353†	4557.1	4587.1	512.76 ug/L	512.76 ppb	13:00:15
3	S 181.975 Axial†	4202.4	4108.5	5001.8 ug/L	5001.8 ppb	13:00:15
3	Sb 206.836†	1563.2	1518.4	466.50 ug/L	466.50 ppb	13:00:15
3	Se 196.026†	434.6	453.0	563.37 ug/L	563.37 ppb	13:00:15
3	Si 251.611†	863375.5	857557.8	23002 ug/L	23002 ppb	12:59:55
3	Sn 189.927†	2916.5	2903.0	479.46 ug/L	479.46 ppb	13:00:15
3	Ti 334.940†	2249313.4	2236265.9	3082.5 ug/L	3082.5 ppb	12:59:55
3	Tl 190.801†	1476.9	1507.5	462.70 ug/L	462.70 ppb	13:00:15
3	U 409.014†	15725.8	17013.0	371.18 ug/L	371.18 ppb	12:59:55
3	V 292.402†	100007.5	100827.4	549.40 ug/L	549.40 ppb	12:59:55
3	Zn 213.857†	89568.7	88270.2	721.36 ug/L	721.36 ppb	12:59:55
3	SiO2†	861859.7	856035.6	49146 ug/L	49146 ppb	13:00:33

Mean Data: 1202015705|941739|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	999614.4	101.58 %	2.938			2.89%
Sc Radial	5695.4	102 %	0.4			0.36%
Y 371.029	941021.9	107.89 %	2.616			2.42%
Y RADIAL	6625.3	108.9 %	0.26			0.24%
Ag 328.068†	119040.8	486.66 ug/L	18.826	486.66 ppb	18.826	3.87%
Al 396.153Radial†	64536.9	44709 ug/L	1192.7	44709 ppb	1192.7	2.67%
As 188.979†	1259.5	505.16 ug/L	11.817	505.16 ppb	11.817	2.34%
B 249.677†	24457.4	466.92 ug/L	19.582	466.92 ppb	19.582	4.19%
Ba 233.527†	96293.2	680.77 ug/L	28.264	680.77 ppb	28.264	4.15%
Be 313.107†	1495490.1	477.02 ug/L	20.639	477.02 ppb	20.639	4.33%
Ca 317.933Radial†	7102.2	10799 ug/L	252.3	10799 ppb	252.3	2.34%
Cd 226.502†	47488.3	459.94 ug/L	18.301	459.94 ppb	18.301	3.98%
Co 228.616†	24346.4	459.29 ug/L	11.665	459.29 ppb	11.665	2.54%
Cr 267.716†	51362.1	497.46 ug/L	20.660	497.46 ppb	20.660	4.15%
Cu 324.752†	200738.7	511.99 ug/L	22.908	511.99 ppb	22.908	4.47%
Fe 238.204 Radial†	11679.9	98642 ug/L	2492.5	98642 ppb	2492.5	2.53%
K 766.490 Radial†	60598.9	10026 ug/L	234.3	10026 ppb	234.3	2.34%

Mg 279.077 IEC†	344.7	11150 ug/L	120.3	11150 ppb	120.3	1.08%
Mn 257.610†	1665368.6	1683.0 ug/L	69.89	1683.0 ppb	69.89	4.15%
Mo 202.031†	7289.4	457.50 ug/L	11.909	457.50 ppb	11.909	2.60%
Na 589.592 Radial†	22224.9	5935.6 ug/L	141.41	5935.6 ppb	141.41	2.38%
Ni 231.604†	21089.8	471.08 ug/L	12.026	471.08 ppb	12.026	2.55%
P 214.914†	2062.6	864.62 ug/L	28.538	864.62 ppb	28.538	3.30%
Pb 220.353†	4560.7	509.85 ug/L	13.558	509.85 ppb	13.558	2.66%
S 181.975 Axial†	4068.1	4952.3 ug/L	118.60	4952.3 ppb	118.60	2.39%
Sb 206.836†	1507.0	463.11 ug/L	13.566	463.11 ppb	13.566	2.93%
Se 196.026†	453.3	565.92 ug/L	8.765	565.92 ppb	8.765	1.55%
Si 251.611†	846031.9	22693 ug/L	933.3	22693 ppb	933.3	4.11%
Sn 189.927†	2883.1	476.23 ug/L	12.085	476.23 ppb	12.085	2.54%
Sr 421.552†	98421.0	572.82 ug/L	15.794	572.82 ppb	15.794	2.76%
Ti 334.940†	2205614.4	3040.3 ug/L	127.56	3040.3 ppb	127.56	4.20%
Tl 190.801†	1507.8	462.34 ug/L	14.255	462.34 ppb	14.255	3.08%
U 409.014†	16581.8	361.39 ug/L	17.978	361.39 ppb	17.978	4.97%
V 292.402†	99370.7	541.19 ug/L	22.844	541.19 ppb	22.844	4.22%
Zn 213.857†	86991.3	710.67 ug/L	29.321	710.67 ppb	29.321	4.13%
SiO2†	848036.6	48687 ug/L	1365.0	48687 ppb	1365.0	2.80%

Sequence No.: 7

Sample ID: 1202015703|941739|5

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 44

Date Collected: 1/28/2010 13:02:44

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202015703|941739|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5825.9	5825.9	104 %			13:04:36
1	Y RADIAL	6352.6	6352.6	104.4 %			13:04:36
1	Al 396.153Radial†	5405.7	5178.4	3589.1 ug/L		3589.1 ppb	13:04:36
1	Ca 317.933Radial†	631.7	578.8	880.12 ug/L		880.12 ppb	13:04:56
1	Fe 238.204 Radial†	1639.6	1563.4	13202 ug/L		13202 ppb	13:04:56
1	K 766.490 Radial†	5633.4	3005.3	497.16 ug/L		497.16 ppb	13:04:36
1	Mg 279.077 IEC†	21.6	18.3	584.98 ug/L		584.98 ppb	13:04:56
1	Na 589.592 Radial†	-744.7	314.1	83.887 ug/L		83.887 ppb	13:04:36
1	Sr 421.552†	1145.1	1086.6	6.3183 ug/L		6.3183 ppb	13:04:36
1	Sc 361.383	939011.1	939011.1	95.425 %			13:05:53
1	Y 371.029	830591.5	830591.5	95.228 %			13:05:53
1	Ag 328.068†	-615.3	-965.8	0.6665 ug/L		0.6665 ppb	13:05:53
1	As 188.979†	-26.8	5.8	8.9704 ug/L		8.9704 ppb	13:06:13
1	B 249.677†	115.0	406.8	5.9034 ug/L		5.9034 ppb	13:05:53
1	Ba 233.527†	4830.7	5066.9	36.038 ug/L		36.038 ppb	13:05:53
1	Be 313.107†	-6769.0	-2025.4	0.3561 ug/L		0.3561 ppb	13:05:53
1	Cd 226.502†	-48.2	148.9	0.1082 ug/L		0.1082 ppb	13:06:13
1	Co 228.616†	65.9	140.8	1.6056 ug/L		1.6056 ppb	13:06:13
1	Cr 267.716†	468.6	405.5	4.1924 ug/L		4.1924 ppb	13:06:13
1	Cu 324.752†	10208.7	1561.6	4.6499 ug/L		4.6499 ppb	13:05:53
1	Mn 257.610†	252812.0	264399.4	267.00 ug/L		267.00 ppb	13:05:53
1	Mo 202.031†	33.5	12.2	1.7868 ug/L		1.7868 ppb	13:06:13
1	Ni 231.604†	203.5	103.3	2.3075 ug/L		2.3075 ppb	13:06:13
1	P 214.914†	429.6	210.7	94.605 ug/L		94.605 ppb	13:06:13
1	Pb 220.353†	48.5	109.2	11.698 ug/L		11.698 ppb	13:06:13
1	S 181.975 Axial†	72.6	8.3	9.4903 ug/L		9.4903 ppb	13:06:13
1	Sb 206.836†	23.1	-10.9	-4.4064 ug/L		-4.4064 ppb	13:06:13
1	Se 196.026†	-81.9	-64.7	10.281 ug/L		10.281 ppb	13:06:13
1	Si 251.611†	113786.3	118781.2	3186.9 ug/L		3186.9 ppb	13:05:53
1	Sn 189.927†	4.2	9.1	1.8404 ug/L		1.8404 ppb	13:06:13
1	Ti 334.940†	301887.1	317269.9	437.38 ug/L		437.38 ppb	13:05:53
1	Tl 190.801†	-59.8	-22.9	-1.7040 ug/L		-1.7040 ppb	13:06:13
1	U 409.014†	-1872.7	-577.7	-14.536 ug/L		-14.536 ppb	13:05:53
1	V 292.402†	1484.7	2996.3	14.244 ug/L		14.244 ppb	13:05:53
1	Zn 213.857†	6381.5	5944.7	48.171 ug/L		48.171 ppb	13:05:53
1	SiO2†	114636.4	119656.3	6871.3 ug/L		6871.3 ppb	13:07:10
2	Sc Radial	5496.5	5496.5	98.4 %			13:05:01
2	Y RADIAL	5992.9	5992.9	98.51 %			13:05:01
2	Al 396.153Radial†	5395.5	5478.6	3797.2 ug/L		3797.2 ppb	13:05:01
2	Ca 317.933Radial†	622.7	606.0	921.39 ug/L		921.39 ppb	13:05:21
2	Fe 238.204 Radial†	1638.9	1656.9	13991 ug/L		13991 ppb	13:05:21
2	K 766.490 Radial†	5728.3	3425.3	566.69 ug/L		566.69 ppb	13:05:01
2	Mg 279.077 IEC†	19.4	17.3	549.36 ug/L		549.36 ppb	13:05:21
2	Na 589.592 Radial†	-712.0	304.6	81.352 ug/L		81.352 ppb	13:05:01
2	Sr 421.552†	1140.0	1147.2	6.6711 ug/L		6.6711 ppb	13:05:01
2	Sc 361.383	939474.4	939474.4	95.472 %			13:06:19
2	Y 371.029	832115.5	832115.5	95.403 %			13:06:19
2	Ag 328.068†	-695.6	-1049.6	0.5927 ug/L		0.5927 ppb	13:06:19
2	As 188.979†	-36.0	-3.9	5.6401 ug/L		5.6401 ppb	13:06:39
2	B 249.677†	126.9	419.2	6.0209 ug/L		6.0209 ppb	13:06:19
2	Ba 233.527†	4828.5	5062.1	36.028 ug/L		36.028 ppb	13:06:19
2	Be 313.107†	-6721.3	-1972.0	0.3706 ug/L		0.3706 ppb	13:06:19
2	Cd 226.502†	-51.3	145.6	-0.0037 ug/L		-0.0037 ppb	13:06:39
2	Co 228.616†	67.8	142.8	1.6348 ug/L		1.6348 ppb	13:06:39
2	Cr 267.716†	472.0	408.9	4.2357 ug/L		4.2357 ppb	13:06:39
2	Cu 324.752†	10132.6	1476.6	4.4711 ug/L		4.4711 ppb	13:06:19
2	Mn 257.610†	252275.3	263706.6	266.38 ug/L		266.38 ppb	13:06:19
2	Mo 202.031†	36.0	14.8	2.0082 ug/L		2.0082 ppb	13:06:39
2	Ni 231.604†	201.6	101.2	2.2604 ug/L		2.2604 ppb	13:06:39

2	P 214.914†	424.8	205.5	91.445 ug/L	91.445 ppb	13:06:39
2	Pb 220.353†	64.4	125.8	13.524 ug/L	13.524 ppb	13:06:39
2	S 181.975 Axial†	72.5	8.2	9.2607 ug/L	9.2607 ppb	13:06:39
2	Sb 206.836†	42.6	9.5	1.7102 ug/L	1.7102 ppb	13:06:39
2	Se 196.026†	-80.8	-63.5	13.498 ug/L	13.498 ppb	13:06:39
2	Si 251.611†	113081.7	117984.4	3165.5 ug/L	3165.5 ppb	13:06:19
2	Sn 189.927†	-8.7	-4.5	-0.3586 ug/L	-0.3586 ppb	13:06:39
2	Ti 334.940†	301343.0	316544.0	436.39 ug/L	436.39 ppb	13:06:19
2	Tl 190.801†	-44.2	-6.6	2.9656 ug/L	2.9656 ppb	13:06:39
2	U 409.014†	-1425.6	-108.5	-4.0499 ug/L	-4.0499 ppb	13:06:19
2	V 292.402†	1421.1	2928.9	13.778 ug/L	13.778 ppb	13:06:19
2	Zn 213.857†	6362.2	5921.2	47.899 ug/L	47.899 ppb	13:06:19
2	SiO2†	114490.9	119444.5	6859.1 ug/L	6859.1 ppb	13:07:15
3	Sc Radial	5507.7	5507.7	98.6 %		13:05:27
3	Y RADIAL	6038.7	6038.7	99.26 %		13:05:27
3	Al 396.153Radial†	5405.9	5478.1	3796.9 ug/L	3796.9 ppb	13:05:27
3	Ca 317.933Radial†	628.3	610.4	928.08 ug/L	928.08 ppb	13:05:47
3	Fe 238.204 Radial†	1634.3	1648.8	13923 ug/L	13923 ppb	13:05:47
3	K 766.490 Radial†	5699.3	3384.1	559.87 ug/L	559.87 ppb	13:05:27
3	Mg 279.077 IEC†	15.9	13.7	433.28 ug/L	433.28 ppb	13:05:47
3	Na 589.592 Radial†	-689.8	328.5	87.745 ug/L	87.745 ppb	13:05:27
3	Sr 421.552†	1170.7	1175.9	6.8381 ug/L	6.8381 ppb	13:05:27
3	Sc 361.383	944148.5	944148.5	95.947 %		13:06:44
3	Y 371.029	834143.2	834143.2	95.635 %		13:06:44
3	Ag 328.068†	-565.6	-910.5	1.1031 ug/L	1.1031 ppb	13:06:44
3	As 188.979†	-35.4	-3.1	5.9384 ug/L	5.9384 ppb	13:07:04
3	B 249.677†	185.3	479.3	7.2225 ug/L	7.2225 ppb	13:06:44
3	Ba 233.527†	4786.7	4993.4	35.543 ug/L	35.543 ppb	13:06:44
3	Be 313.107†	-6723.2	-1939.2	0.3826 ug/L	0.3826 ppb	13:06:44
3	Cd 226.502†	-49.9	147.3	0.0196 ug/L	0.0196 ppb	13:07:04
3	Co 228.616†	64.4	138.9	1.5573 ug/L	1.5573 ppb	13:07:04
3	Cr 267.716†	484.0	418.9	4.3329 ug/L	4.3329 ppb	13:07:04
3	Cu 324.752†	10198.6	1492.9	4.5108 ug/L	4.5108 ppb	13:06:44
3	Mn 257.610†	254119.4	264320.4	266.99 ug/L	266.99 ppb	13:06:44
3	Mo 202.031†	23.4	1.4	1.1806 ug/L	1.1806 ppb	13:07:04
3	Ni 231.604†	201.7	100.3	2.2398 ug/L	2.2398 ppb	13:07:04
3	P 214.914†	421.3	199.6	88.587 ug/L	88.587 ppb	13:07:04
3	Pb 220.353†	36.0	95.8	10.185 ug/L	10.185 ppb	13:07:04
3	S 181.975 Axial†	72.5	7.7	8.7079 ug/L	8.7079 ppb	13:07:04
3	Sb 206.836†	37.1	3.6	-0.0523 ug/L	-0.0523 ppb	13:07:04
3	Se 196.026†	-85.2	-67.7	11.112 ug/L	11.112 ppb	13:07:04
3	Si 251.611†	114898.4	119291.4	3200.6 ug/L	3200.6 ppb	13:06:44
3	Sn 189.927†	3.7	8.5	1.7681 ug/L	1.7681 ppb	13:07:04
3	Ti 334.940†	303361.6	317085.3	437.15 ug/L	437.15 ppb	13:06:44
3	Tl 190.801†	-60.9	-23.7	-1.9452 ug/L	-1.9452 ppb	13:07:04
3	U 409.014†	-1598.9	-281.7	-7.9451 ug/L	-7.9451 ppb	13:06:44
3	V 292.402†	1433.8	2934.7	13.798 ug/L	13.798 ppb	13:06:44
3	Zn 213.857†	6416.9	5945.2	48.105 ug/L	48.105 ppb	13:06:44
3	SiO2†	113920.7	118256.6	6790.9 ug/L	6790.9 ppb	13:07:20

Mean Data: 1202015703|941739|5

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	940878.0	95.615 %	0.2888			0.30%
Sc Radial	5610.0	100 %	3.3			3.33%
Y 371.029	832283.4	95.422 %	0.2043			0.21%
Y RADIAL	6128.0	100.7 %	3.22			3.19%
Ag 328.068†	-975.3	0.7875 ug/L	0.27586	0.7875 ppb	0.27586	35.03%
Al 396.153Radial†	5378.4	3727.7 ug/L	120.03	3727.7 ppb	120.03	3.22%
As 188.979†	-0.4	6.8496 ug/L	1.84272	6.8496 ppb	1.84272	26.90%
B 249.677†	435.1	6.3822 ug/L	0.73002	6.3822 ppb	0.73002	11.44%
Ba 233.527†	5040.8	35.870 ug/L	0.2828	35.870 ppb	0.2828	0.79%
Be 313.107†	-1978.9	0.3698 ug/L	0.01329	0.3698 ppb	0.01329	3.59%
Ca 317.933Radial†	598.4	909.86 ug/L	25.971	909.86 ppb	25.971	2.85%
Cd 226.502†	147.3	0.0414 ug/L	0.05903	0.0414 ppb	0.05903	142.72%
Co 228.616†	140.9	1.5992 ug/L	0.03915	1.5992 ppb	0.03915	2.45%
Cr 267.716†	411.1	4.2537 ug/L	0.07191	4.2537 ppb	0.07191	1.69%
Cu 324.752†	1510.4	4.5439 ug/L	0.09390	4.5439 ppb	0.09390	2.07%
Fe 238.204 Radial†	1623.0	13705 ug/L	437.6	13705 ppb	437.6	3.19%
K 766.490 Radial†	3271.6	541.24 ug/L	38.323	541.24 ppb	38.323	7.08%

Mg 279.077 IEC†	16.4	522.54 ug/L	79.323	522.54 ppb	79.323	15.18%
Mn 257.610†	264142.1	266.79 ug/L	0.356	266.79 ppb	0.356	0.13%
Mo 202.031†	9.5	1.6585 ug/L	0.42844	1.6585 ppb	0.42844	25.83%
Na 589.592 Radial†	315.8	84.328 ug/L	3.2188	84.328 ppb	3.2188	3.82%
Ni 231.604†	101.6	2.2692 ug/L	0.03469	2.2692 ppb	0.03469	1.53%
P 214.914†	205.2	91.546 ug/L	3.0101	91.546 ppb	3.0101	3.29%
Pb 220.353†	110.3	11.802 ug/L	1.6718	11.802 ppb	1.6718	14.17%
S 181.975 Axial†	8.1	9.1530 ug/L	0.40217	9.1530 ppb	0.40217	4.39%
Sb 206.836†	0.7	-0.9162 ug/L	3.14848	-0.9162 ppb	3.14848	343.66%
Se 196.026†	-65.3	11.630 ug/L	1.6699	11.630 ppb	1.6699	14.36%
Si 251.611†	118685.7	3184.3 ug/L	17.68	3184.3 ppb	17.68	0.56%
Sn 189.927†	4.4	1.0833 ug/L	1.24925	1.0833 ppb	1.24925	115.32%
Sr 421.552†	1136.6	6.6091 ug/L	0.26535	6.6091 ppb	0.26535	4.01%
Ti 334.940†	316966.4	436.97 ug/L	0.520	436.97 ppb	0.520	0.12%
Tl 190.801†	-17.7	-0.2279 ug/L	2.76824	-0.2279 ppb	2.76824	>999.9%
U 409.014†	-322.6	-8.8436 ug/L	5.30032	-8.8436 ppb	5.30032	59.93%
V 292.402†	2953.3	13.940 ug/L	0.2637	13.940 ppb	0.2637	1.89%
Zn 213.857†	5937.1	48.058 ug/L	0.1418	48.058 ppb	0.1418	0.30%
SiO2†	119119.1	6840.5 ug/L	43.31	6840.5 ppb	43.31	0.63%

Sequence No.: 8

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 1/28/2010 13:09:31

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5445.1	5445.1	97.5 %		13:11:23
1	Y RADIAL	5906.0	5906.0	97.08 %		13:11:23
1	Al 396.153Radial†	6887.2	7060.4	4870.5 ug/L	4870.5 ppb	13:11:23
1	Ca 317.933Radial†	3258.0	3315.0	5040.4 ug/L	5040.4 ppb	13:11:43
1	Fe 238.204 Radial†	610.1	617.4	5227.6 ug/L	5227.6 ppb	13:11:43
1	K 766.490 Radial†	31831.1	30254.0	5003.0 ug/L	5003.0 ppb	13:11:23
1	Mg 279.077 IEC†	161.9	163.7	5342.8 ug/L	5342.8 ppb	13:11:43
1	Na 589.592 Radial†	35155.9	37087.4	9905.0 ug/L	9905.0 ppb	13:11:23
1	Sr 421.552†	82366.2	84471.9	491.67 ug/L	491.67 ppb	13:11:23
1	Sc 361.383	965820.8	965820.8	98.150 %		13:12:41
1	Y 371.029	846125.9	846125.9	97.009 %		13:12:41
1	Ag 328.068†	126351.5	128412.6	491.74 ug/L	491.74 ppb	13:12:46
1	As 188.979†	1250.0	1307.4	478.48 ug/L	478.48 ppb	13:13:06
1	B 249.677†	23602.0	24333.2	479.59 ug/L	479.59 ppb	13:12:46
1	Ba 233.527†	66580.2	67840.0	477.85 ug/L	477.85 ppb	13:12:46
1	Be 313.107†	1454287.1	1486772.5	468.48 ug/L	468.48 ppb	13:12:41
1	Cd 226.502†	47310.6	48401.9	478.65 ug/L	478.65 ppb	13:12:46
1	Co 228.616†	24493.3	25026.9	478.99 ug/L	478.99 ppb	13:12:46
1	Cr 267.716†	48407.2	49234.3	474.98 ug/L	474.98 ppb	13:12:46
1	Cu 324.752†	194012.3	188533.4	476.16 ug/L	476.16 ppb	13:12:46
1	Mn 257.610†	462303.3	470486.0	473.13 ug/L	473.13 ppb	13:12:41
1	Mo 202.031†	7597.6	7717.9	476.62 ug/L	476.62 ppb	13:13:06
1	Ni 231.604†	21099.0	21386.8	477.72 ug/L	477.72 ppb	13:12:46
1	P 214.914†	4874.4	4726.8	2265.4 ug/L	2265.4 ppb	13:13:06
1	Pb 220.353†	4098.3	4233.9	473.79 ug/L	473.79 ppb	13:13:06
1	S 181.975 Axial†	831.0	778.9	948.83 ug/L	948.83 ppb	13:13:06
1	Sb 206.836†	1595.1	1590.0	495.61 ug/L	495.61 ppb	13:13:06
1	Se 196.026†	880.6	918.3	496.24 ug/L	496.24 ppb	13:13:06
1	Si 251.611†	90516.1	91762.3	2456.1 ug/L	2456.1 ppb	13:12:46
1	Sn 189.927†	2849.3	2907.6	477.81 ug/L	477.81 ppb	13:13:06
1	Ti 334.940†	345905.6	353336.6	486.88 ug/L	486.88 ppb	13:12:41
1	Tl 190.801†	1565.9	1635.1	472.01 ug/L	472.01 ppb	13:13:06
1	U 409.014†	19622.4	21377.1	480.17 ug/L	480.17 ppb	13:12:46
1	V 292.402†	82246.0	85237.0	479.51 ug/L	479.51 ppb	13:12:46
1	Zn 213.857†	57146.4	57481.1	474.15 ug/L	474.15 ppb	13:12:46
1	SiO2†	89428.5	90638.3	5192.0 ug/L	5192.0 ppb	13:14:14
2	Sc Radial	5438.7	5438.7	97.4 %		13:11:48
2	Y RADIAL	5878.9	5878.9	96.64 %		13:11:48
2	Al 396.153Radial†	6836.3	7016.5	4840.0 ug/L	4840.0 ppb	13:11:48
2	Ca 317.933Radial†	3231.3	3291.5	5004.8 ug/L	5004.8 ppb	13:12:08
2	Fe 238.204 Radial†	605.9	613.8	5197.5 ug/L	5197.5 ppb	13:12:08
2	K 766.490 Radial†	31828.3	30289.6	5008.8 ug/L	5008.8 ppb	13:11:48
2	Mg 279.077 IEC†	160.4	162.4	5298.8 ug/L	5298.8 ppb	13:12:08
2	Na 589.592 Radial†	35123.3	37096.5	9907.4 ug/L	9907.4 ppb	13:11:48
2	Sr 421.552†	82180.3	84380.5	491.14 ug/L	491.14 ppb	13:11:48
2	Sc 361.383	976697.7	976697.7	99.255 %		13:13:12
2	Y 371.029	856835.5	856835.5	98.237 %		13:13:12
2	Ag 328.068†	125218.5	125837.4	481.91 ug/L	481.91 ppb	13:13:17
2	As 188.979†	1260.7	1304.0	477.24 ug/L	477.24 ppb	13:13:37
2	B 249.677†	23417.1	23879.2	470.63 ug/L	470.63 ppb	13:13:17
2	Ba 233.527†	66202.8	66704.3	469.85 ug/L	469.85 ppb	13:13:17
2	Be 313.107†	1471266.3	1487378.4	468.67 ug/L	468.67 ppb	13:13:12
2	Cd 226.502†	47066.5	47619.2	470.90 ug/L	470.90 ppb	13:13:17
2	Co 228.616†	24287.7	24541.8	469.71 ug/L	469.71 ppb	13:13:17
2	Cr 267.716†	48145.5	48421.4	467.14 ug/L	467.14 ppb	13:13:17
2	Cu 324.752†	191399.2	183699.4	463.96 ug/L	463.96 ppb	13:13:17
2	Mn 257.610†	465724.5	468687.5	471.32 ug/L	471.32 ppb	13:13:12
2	Mo 202.031†	7692.1	7726.9	477.18 ug/L	477.18 ppb	13:13:37
2	Ni 231.604†	21025.7	21073.6	470.72 ug/L	470.72 ppb	13:13:17

2	P 214.914†	4909.3	4706.6	2257.8 ug/L	2257.8 ppb	13:13:37
2	Pb 220.353†	4145.2	4234.6	473.88 ug/L	473.88 ppb	13:13:37
2	S 181.975 Axial†	839.5	778.0	947.80 ug/L	947.80 ppb	13:13:37
2	Sb 206.836†	1602.7	1579.5	492.47 ug/L	492.47 ppb	13:13:37
2	Se 196.026†	891.6	919.4	496.72 ug/L	496.72 ppb	13:13:37
2	Si 251.611†	89613.9	89826.3	2404.1 ug/L	2404.1 ppb	13:13:17
2	Sn 189.927†	2888.8	2915.1	479.03 ug/L	479.03 ppb	13:13:37
2	Ti 334.940†	348996.0	352525.5	485.77 ug/L	485.77 ppb	13:13:12
2	Tl 190.801†	1583.6	1635.2	472.07 ug/L	472.07 ppb	13:13:37
2	U 409.014†	19201.9	20730.8	465.62 ug/L	465.62 ppb	13:13:17
2	V 292.402†	81622.0	83675.1	470.82 ug/L	470.82 ppb	13:13:17
2	Zn 213.857†	56776.3	56459.8	465.72 ug/L	465.72 ppb	13:13:17
2	SiO2†	89889.4	90088.0	5160.4 ug/L	5160.4 ppb	13:14:19
3	Sc Radial	5496.7	5496.7	98.4 %		13:12:13
3	Y RADIAL	5924.5	5924.5	97.38 %		13:12:13
3	Al 396.153Radial†	6894.3	7001.4	4829.7 ug/L	4829.7 ppb	13:12:13
3	Ca 317.933Radial†	3238.9	3264.2	4963.2 ug/L	4963.2 ppb	13:12:33
3	Fe 238.204 Radial†	607.0	608.3	5150.8 ug/L	5150.8 ppb	13:12:33
3	K 766.490 Radial†	32050.4	30170.2	4989.1 ug/L	4989.1 ppb	13:12:13
3	Mg 279.077 IEC†	157.8	158.0	5155.4 ug/L	5155.4 ppb	13:12:33
3	Na 589.592 Radial†	35565.4	37164.9	9925.7 ug/L	9925.7 ppb	13:12:13
3	Sr 421.552†	82993.9	84316.3	490.76 ug/L	490.76 ppb	13:12:13
3	Sc 361.383	974436.1	974436.1	99.025 %		13:13:43
3	Y 371.029	852516.4	852516.4	97.742 %		13:13:43
3	Ag 328.068†	125803.1	126720.6	485.26 ug/L	485.26 ppb	13:13:48
3	As 188.979†	1246.4	1292.5	473.07 ug/L	473.07 ppb	13:14:08
3	B 249.677†	23527.6	24045.5	473.92 ug/L	473.92 ppb	13:13:48
3	Ba 233.527†	66513.9	67173.3	473.15 ug/L	473.15 ppb	13:13:48
3	Be 313.107†	1465775.4	1485273.7	468.01 ug/L	468.01 ppb	13:13:43
3	Cd 226.502†	47398.0	48064.0	475.31 ug/L	475.31 ppb	13:13:48
3	Co 228.616†	24473.6	24786.3	474.38 ug/L	474.38 ppb	13:13:48
3	Cr 267.716†	48312.1	48702.1	469.85 ug/L	469.85 ppb	13:13:48
3	Cu 324.752†	192643.4	185403.3	468.25 ug/L	468.25 ppb	13:13:48
3	Mn 257.610†	466174.1	470230.6	472.87 ug/L	472.87 ppb	13:13:43
3	Mo 202.031†	7617.2	7669.2	473.61 ug/L	473.61 ppb	13:14:08
3	Ni 231.604†	21061.8	21159.2	472.63 ug/L	472.63 ppb	13:13:48
3	P 214.914†	4886.1	4694.7	2251.0 ug/L	2251.0 ppb	13:14:08
3	Pb 220.353†	4092.2	4190.9	468.99 ug/L	468.99 ppb	13:14:08
3	S 181.975 Axial†	836.4	776.8	946.36 ug/L	946.36 ppb	13:14:08
3	Sb 206.836†	1597.3	1577.9	491.85 ug/L	491.85 ppb	13:14:08
3	Se 196.026†	877.1	906.9	490.03 ug/L	490.03 ppb	13:14:08
3	Si 251.611†	90251.7	90679.9	2427.1 ug/L	2427.1 ppb	13:13:48
3	Sn 189.927†	2854.6	2887.3	474.47 ug/L	474.47 ppb	13:14:08
3	Ti 334.940†	348501.1	352841.8	486.21 ug/L	486.21 ppb	13:13:43
3	Tl 190.801†	1565.0	1620.1	467.73 ug/L	467.73 ppb	13:14:08
3	U 409.014†	19479.6	21056.1	472.95 ug/L	472.95 ppb	13:13:48
3	V 292.402†	82068.3	84316.6	474.35 ug/L	474.35 ppb	13:13:48
3	Zn 213.857†	57065.6	56884.7	469.24 ug/L	469.24 ppb	13:13:48
3	SiO2†	89913.3	90322.4	5173.9 ug/L	5173.9 ppb	13:14:24

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	972318.2	98.810 %	0.5833			0.59%
Sc Radial	5460.2	97.8 %	0.57			0.58%
Y 371.029	851825.9	97.662 %	0.6177			0.63%
Y RADIAL	5903.1	97.03 %	0.376			0.39%
Ag 328.068†	126990.2	486.30 ug/L	4.997	486.30 ppb	4.997	1.03%
QC value within limits for Ag 328.068 Recovery = 97.26%						
Al 396.153Radial†	7026.1	4846.7 ug/L	21.21	4846.7 ppb	21.21	0.44%
QC value within limits for Al 396.153Radial Recovery = 96.93%						
As 188.979†	1301.3	476.26 ug/L	2.837	476.26 ppb	2.837	0.60%
QC value within limits for As 188.979 Recovery = 95.25%						
B 249.677†	24086.0	474.71 ug/L	4.532	474.71 ppb	4.532	0.95%
QC value within limits for B 249.677 Recovery = 94.94%						
Ba 233.527†	67239.2	473.61 ug/L	4.020	473.61 ppb	4.020	0.85%
QC value within limits for Ba 233.527 Recovery = 94.72%						
Be 313.107†	1486474.9	468.39 ug/L	0.340	468.39 ppb	0.340	0.07%
QC value within limits for Be 313.107 Recovery = 93.68%						
Ca 317.933Radial†	3290.2	5002.8 ug/L	38.64	5002.8 ppb	38.64	0.77%

QC value within limits for Ca 317.933 Radial Recovery = 100.06%							
Cd 226.502†	48028.4	474.95 ug/L	3.886	474.95 ppb	3.886	0.82%	
QC value within limits for Cd 226.502 Recovery = 94.99%							
Co 228.616†	24785.0	474.36 ug/L	4.640	474.36 ppb	4.640	0.98%	
QC value within limits for Co 228.616 Recovery = 94.87%							
Cr 267.716†	48786.0	470.66 ug/L	3.982	470.66 ppb	3.982	0.85%	
QC value within limits for Cr 267.716 Recovery = 94.13%							
Cu 324.752†	185878.7	469.46 ug/L	6.189	469.46 ppb	6.189	1.32%	
QC value within limits for Cu 324.752 Recovery = 93.89%							
Fe 238.204 Radial†	613.2	5192.0 ug/L	38.69	5192.0 ppb	38.69	0.75%	
QC value within limits for Fe 238.204 Radial Recovery = 103.84%							
K 766.490 Radial†	30237.9	5000.3 ug/L	10.14	5000.3 ppb	10.14	0.20%	
QC value within limits for K 766.490 Radial Recovery = 100.01%							
Mg 279.077 IEC†	161.4	5265.7 ug/L	97.99	5265.7 ppb	97.99	1.86%	
QC value within limits for Mg 279.077 IEC Recovery = 105.31%							
Mn 257.610†	469801.4	472.44 ug/L	0.979	472.44 ppb	0.979	0.21%	
QC value within limits for Mn 257.610 Recovery = 94.49%							
Mo 202.031†	7704.7	475.80 ug/L	1.918	475.80 ppb	1.918	0.40%	
QC value within limits for Mo 202.031 Recovery = 95.16%							
Na 589.592 Radial†	37116.3	9912.7 ug/L	11.31	9912.7 ppb	11.31	0.11%	
QC value within limits for Na 589.592 Radial Recovery = 99.13%							
Ni 231.604†	21206.5	473.69 ug/L	3.616	473.69 ppb	3.616	0.76%	
QC value within limits for Ni 231.604 Recovery = 94.74%							
P 214.914†	4709.4	2258.0 ug/L	7.22	2258.0 ppb	7.22	0.32%	
QC value within limits for P 214.914 Recovery = 90.32%							
Pb 220.353†	4219.8	472.22 ug/L	2.799	472.22 ppb	2.799	0.59%	
QC value within limits for Pb 220.353 Recovery = 94.44%							
S 181.975 Axial†	777.9	947.66 ug/L	1.242	947.66 ppb	1.242	0.13%	
QC value within limits for S 181.975 Axial Recovery = 94.77%							
Sb 206.836†	1582.5	493.31 ug/L	2.017	493.31 ppb	2.017	0.41%	
QC value within limits for Sb 206.836 Recovery = 98.66%							
Se 196.026†	914.9	494.33 ug/L	3.730	494.33 ppb	3.730	0.75%	
QC value within limits for Se 196.026 Recovery = 98.87%							
Si 251.611†	90756.2	2429.1 ug/L	26.03	2429.1 ppb	26.03	1.07%	
QC value within limits for Si 251.611 Recovery = 97.16%							
Sn 189.927†	2903.3	477.10 ug/L	2.365	477.10 ppb	2.365	0.50%	
QC value within limits for Sn 189.927 Recovery = 95.42%							
Sr 421.552†	84389.6	491.19 ug/L	0.455	491.19 ppb	0.455	0.09%	
QC value within limits for Sr 421.552 Recovery = 98.24%							
Ti 334.940†	352901.3	486.29 ug/L	0.559	486.29 ppb	0.559	0.11%	
QC value within limits for Ti 334.940 Recovery = 97.26%							
Tl 190.801†	1630.1	470.61 ug/L	2.488	470.61 ppb	2.488	0.53%	
QC value within limits for Tl 190.801 Recovery = 94.12%							
U 409.014†	21054.7	472.91 ug/L	7.273	472.91 ppb	7.273	1.54%	
QC value within limits for U 409.014 Recovery = 94.58%							
V 292.402†	84409.6	474.90 ug/L	4.367	474.90 ppb	4.367	0.92%	
QC value within limits for V 292.402 Recovery = 94.98%							
Zn 213.857†	56941.8	469.70 ug/L	4.237	469.70 ppb	4.237	0.90%	
QC value within limits for Zn 213.857 Recovery = 93.94%							
SiO2†	90349.6	5175.4 ug/L	15.86	5175.4 ppb	15.86	0.31%	
QC value within limits for SiO2 Recovery = 96.78%							
All analyte(s) passed QC.							

Sequence No.: 9

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 1/28/2010 13:16:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCB

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc Radial	5640.1	5640.1	101 %		13:18:28
1	Y RADIAL	6127.9	6127.9	100.7 %		13:18:28
1	Al 396.153Radial†	14.7	10.8	7.4665 ug/L	7.4665 ppb	13:18:28
1	Ca 317.933Radial†	27.1	0.0	0.0620 ug/L	0.0620 ppb	13:18:48
1	Fe 238.204 Radial†	6.4	-2.0	-17.148 ug/L	-17.148 ppb	13:18:48
1	K 766.490 Radial†	2585.1	164.7	27.266 ug/L	27.266 ppb	13:18:28
1	Mg 279.077 IEC†	1.4	-1.0	-31.608 ug/L	-31.608 ppb	13:18:48
1	Na 589.592 Radial†	-1062.8	-24.4	-6.5080 ug/L	-6.5080 ppb	13:18:28
1	Sr 421.552†	20.5	9.2	0.0533 ug/L	0.0533 ppb	13:18:28
1	Sc 361.383	987502.1	987502.1	100.35 %		13:19:45
1	Y 371.029	875351.1	875351.1	100.36 %		13:19:45
1	Ag 328.068†	426.2	103.7	0.3918 ug/L	0.3918 ppb	13:19:50
1	As 188.979†	-23.7	10.2	3.7071 ug/L	3.7071 ppb	13:20:10
1	B 249.677†	87.8	373.8	7.4045 ug/L	7.4045 ppb	13:20:10
1	Ba 233.527†	9.5	14.0	0.0981 ug/L	0.0981 ppb	13:20:10
1	Be 313.107†	-5083.9	2.0	0.0005 ug/L	0.0005 ppb	13:19:50
1	Cd 226.502†	-196.9	3.1	0.0319 ug/L	0.0319 ppb	13:20:10
1	Co 228.616†	-78.7	-6.6	-0.1252 ug/L	-0.1252 ppb	13:20:10
1	Cr 267.716†	96.5	10.7	0.1037 ug/L	0.1037 ppb	13:20:10
1	Cu 324.752†	9210.9	42.0	0.1071 ug/L	0.1071 ppb	13:19:50
1	Mn 257.610†	603.1	68.0	0.0679 ug/L	0.0679 ppb	13:20:10
1	Mo 202.031†	34.5	11.4	0.7013 ug/L	0.7013 ppb	13:20:10
1	Ni 231.604†	95.9	-14.4	-0.3211 ug/L	-0.3211 ppb	13:20:10
1	P 214.914†	242.7	2.3	1.1786 ug/L	1.1786 ppb	13:20:10
1	Pb 220.353†	-41.3	17.2	1.9185 ug/L	1.9185 ppb	13:20:10
1	S 181.975 Axial†	52.3	-15.7	-19.165 ug/L	-19.165 ppb	13:20:10
1	Sb 206.836†	30.2	-5.0	-1.4526 ug/L	-1.4526 ppb	13:20:10
1	Se 196.026†	-23.4	-2.2	-1.1766 ug/L	-1.1766 ppb	13:20:10
1	Si 251.611†	547.2	85.0	2.2715 ug/L	2.2715 ppb	13:20:10
1	Sn 189.927†	13.9	18.4	3.0227 ug/L	3.0227 ppb	13:20:10
1	Ti 334.940†	-966.2	-53.1	-0.0691 ug/L	-0.0691 ppb	13:19:50
1	Tl 190.801†	-34.6	5.2	1.4998 ug/L	1.4998 ppb	13:20:10
1	U 409.014†	-1546.9	-156.7	-3.5307 ug/L	-3.5307 ppb	13:19:50
1	V 292.402†	-1449.8	-4.3	-0.0188 ug/L	-0.0188 ppb	13:19:50
1	Zn 213.857†	805.8	60.3	0.5054 ug/L	0.5054 ppb	13:20:10
1	SiO2†	548.8	70.8	4.0448 ug/L	4.0448 ppb	13:21:31
2	Sc Radial	5597.2	5597.2	100 %		13:18:53
2	Y RADIAL	6059.9	6059.9	99.61 %		13:18:53
2	Al 396.153Radial†	-21.3	-25.0	-17.347 ug/L	-17.347 ppb	13:18:53
2	Ca 317.933Radial†	28.6	1.8	2.6989 ug/L	2.6989 ppb	13:19:13
2	Fe 238.204 Radial†	9.1	0.7	5.9323 ug/L	5.9323 ppb	13:19:13
2	K 766.490 Radial†	2594.3	193.4	32.019 ug/L	32.019 ppb	13:18:53
2	Mg 279.077 IEC†	2.8	0.4	12.399 ug/L	12.399 ppb	13:19:13
2	Na 589.592 Radial†	-972.0	58.1	15.525 ug/L	15.525 ppb	13:18:53
2	Sr 421.552†	4.7	-6.5	-0.0379 ug/L	-0.0379 ppb	13:18:53
2	Sc 361.383	991706.0	991706.0	100.78 %		13:20:15
2	Y 371.029	878445.9	878445.9	100.71 %		13:20:15
2	Ag 328.068†	338.3	14.7	0.0612 ug/L	0.0612 ppb	13:20:20
2	As 188.979†	-27.9	6.1	2.2150 ug/L	2.2150 ppb	13:20:40
2	B 249.677†	64.9	350.6	6.9414 ug/L	6.9414 ppb	13:20:40
2	Ba 233.527†	-6.2	-1.6	-0.0107 ug/L	-0.0107 ppb	13:20:40
2	Be 313.107†	-4987.8	118.8	0.0372 ug/L	0.0372 ppb	13:20:20
2	Cd 226.502†	-192.6	8.2	0.0802 ug/L	0.0802 ppb	13:20:40
2	Co 228.616†	-72.2	0.1	0.0030 ug/L	0.0030 ppb	13:20:40
2	Cr 267.716†	100.1	13.8	0.1349 ug/L	0.1349 ppb	13:20:40
2	Cu 324.752†	9058.6	-148.1	-0.3717 ug/L	-0.3717 ppb	13:20:20
2	Mn 257.610†	624.9	87.1	0.0876 ug/L	0.0876 ppb	13:20:40
2	Mo 202.031†	28.5	5.3	0.3263 ug/L	0.3263 ppb	13:20:40
2	Ni 231.604†	103.2	-7.6	-0.1704 ug/L	-0.1704 ppb	13:20:40

2	P 214.914†	253.4	11.9	6.0071 ug/L	6.0071 ppb	13:20:40
2	Pb 220.353†	-48.5	10.3	1.1411 ug/L	1.1411 ppb	13:20:40
2	S 181.975 Axial†	49.7	-18.4	-22.489 ug/L	-22.489 ppb	13:20:40
2	Sb 206.836†	42.0	6.5	1.9904 ug/L	1.9904 ppb	13:20:40
2	Se 196.026†	-6.8	14.3	7.4756 ug/L	7.4756 ppb	13:20:40
2	Si 251.611†	536.3	71.9	1.9252 ug/L	1.9252 ppb	13:20:40
2	Sn 189.927†	3.7	8.3	1.3569 ug/L	1.3569 ppb	13:20:40
2	Ti 334.940†	-967.9	-50.6	-0.0689 ug/L	-0.0689 ppb	13:20:20
2	Tl 190.801†	-34.8	5.3	1.5095 ug/L	1.5095 ppb	13:20:40
2	U 409.014†	-1554.3	-157.6	-3.5522 ug/L	-3.5522 ppb	13:20:20
2	V 292.402†	-1425.8	25.7	0.1399 ug/L	0.1399 ppb	13:20:20
2	Zn 213.857†	792.8	43.9	0.3666 ug/L	0.3666 ppb	13:20:40
2	SiO2†	563.7	83.2	4.7716 ug/L	4.7716 ppb	13:21:51
3	Sc Radial	5611.4	5611.4	100 %		13:19:18
3	Y RADIAL	6098.9	6098.9	100.3 %		13:19:18
3	Al 396.153Radial†	4.6	0.9	0.6000 ug/L	0.6000 ppb	13:19:18
3	Ca 317.933Radial†	23.7	-3.1	-4.7765 ug/L	-4.7765 ppb	13:19:38
3	Fe 238.204 Radial†	9.2	0.8	6.6613 ug/L	6.6613 ppb	13:19:38
3	K 766.490 Radial†	2552.7	145.5	24.098 ug/L	24.098 ppb	13:19:18
3	Mg 279.077 IEC†	2.4	0.0	0.6165 ug/L	0.6165 ppb	13:19:38
3	Na 589.592 Radial†	-1064.2	-31.1	-8.3081 ug/L	-8.3081 ppb	13:19:18
3	Sr 421.552†	21.9	10.6	0.0618 ug/L	0.0618 ppb	13:19:18
3	Sc 361.383	978356.1	978356.1	99.423 %		13:20:45
3	Y 371.029	866398.8	866398.8	99.333 %		13:20:45
3	Ag 328.068†	332.1	13.0	0.0546 ug/L	0.0546 ppb	13:20:50
3	As 188.979†	-29.2	4.5	1.6269 ug/L	1.6269 ppb	13:21:10
3	B 249.677†	92.2	379.0	7.5034 ug/L	7.5034 ppb	13:21:10
3	Ba 233.527†	7.7	12.3	0.0864 ug/L	0.0864 ppb	13:21:10
3	Be 313.107†	-5015.7	23.3	0.0071 ug/L	0.0071 ppb	13:20:50
3	Cd 226.502†	-191.4	6.9	0.0663 ug/L	0.0663 ppb	13:21:10
3	Co 228.616†	-65.8	5.6	0.1067 ug/L	0.1067 ppb	13:21:10
3	Cr 267.716†	113.9	29.0	0.2813 ug/L	0.2813 ppb	13:21:10
3	Cu 324.752†	9184.5	101.2	0.2581 ug/L	0.2581 ppb	13:20:50
3	Mn 257.610†	606.8	77.4	0.0784 ug/L	0.0784 ppb	13:21:10
3	Mo 202.031†	21.1	-1.7	-0.1075 ug/L	-0.1075 ppb	13:21:10
3	Ni 231.604†	101.5	-7.9	-0.1764 ug/L	-0.1764 ppb	13:21:10
3	P 214.914†	250.8	12.7	6.2815 ug/L	6.2815 ppb	13:21:10
3	Pb 220.353†	-48.4	9.7	1.0774 ug/L	1.0774 ppb	13:21:10
3	S 181.975 Axial†	57.8	-9.6	-11.722 ug/L	-11.722 ppb	13:21:10
3	Sb 206.836†	38.4	3.5	1.0533 ug/L	1.0533 ppb	13:21:10
3	Se 196.026†	-12.8	8.2	4.3037 ug/L	4.3037 ppb	13:21:10
3	Si 251.611†	530.5	73.3	1.9674 ug/L	1.9674 ppb	13:21:10
3	Sn 189.927†	-2.6	1.9	0.3172 ug/L	0.3172 ppb	13:21:10
3	Ti 334.940†	-984.6	-80.6	-0.1102 ug/L	-0.1102 ppb	13:20:50
3	Tl 190.801†	-37.1	2.5	0.7034 ug/L	0.7034 ppb	13:21:10
3	U 409.014†	-1543.5	-167.7	-3.7814 ug/L	-3.7814 ppb	13:20:50
3	V 292.402†	-1444.2	-12.1	-0.0771 ug/L	-0.0771 ppb	13:20:50
3	Zn 213.857†	810.5	72.5	0.6036 ug/L	0.6036 ppb	13:21:10
3	SiO2†	563.1	90.2	5.1839 ug/L	5.1839 ppb	13:22:11

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	985854.7	100.19 %	0.694			0.69%
Sc Radial	5616.3	101 %	0.4			0.39%
Y 371.029	873398.6	100.14 %	0.717			0.72%
Y RADIAL	6095.6	100.2 %	0.56			0.56%
Ag 328.068†	43.8	0.1692 ug/L	0.19282	0.1692 ppb	0.19282	113.95%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-4.4	-3.0936 ug/L	12.81265	-3.0936 ppb	12.81265	414.16%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	6.9	2.5163 ug/L	1.07235	2.5163 ppb	1.07235	42.62%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	367.8	7.2831 ug/L	0.30002	7.2831 ppb	0.30002	4.12%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	8.2	0.0579 ug/L	0.05973	0.0579 ppb	0.05973	103.10%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	48.1	0.0149 ug/L	0.01958	0.0149 ppb	0.01958	131.30%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-0.4	-0.6719 ug/L	3.79138	-0.6719 ppb	3.79138	564.30%

QC value within limits for Ca 317.933 Radial	Recovery = Not calculated		
Cd 226.502†	6.1 0.0594 ug/L	0.02486 0.0594 ppb	0.02486 41.83%
QC value within limits for Cd 226.502	Recovery = Not calculated		
Co 228.616†	-0.3 -0.0052 ug/L	0.11614 -0.0052 ppb	0.11614 >999.9%
QC value within limits for Co 228.616	Recovery = Not calculated		
Cr 267.716†	17.8 0.1733 ug/L	0.09479 0.1733 ppb	0.09479 54.70%
QC value within limits for Cr 267.716	Recovery = Not calculated		
Cu 324.752†	-1.6 -0.0022 ug/L	0.32885 -0.0022 ppb	0.32885 >999.9%
QC value within limits for Cu 324.752	Recovery = Not calculated		
Fe 238.204 Radial†	-0.2 -1.5183 ug/L	13.54103 -1.5183 ppb	13.54103 891.88%
QC value within limits for Fe 238.204 Radial	Recovery = Not calculated		
K 766.490 Radial†	167.9 27.794 ug/L	3.9871 27.794 ppb	3.9871 14.34%
QC value within limits for K 766.490 Radial	Recovery = Not calculated		
Mg 279.077 IEC†	-0.2 -6.1973 ug/L	22.78112 -6.1973 ppb	22.78112 367.60%
QC value within limits for Mg 279.077 IEC	Recovery = Not calculated		
Mn 257.610†	77.5 0.0780 ug/L	0.00986 0.0780 ppb	0.00986 12.64%
QC value within limits for Mn 257.610	Recovery = Not calculated		
Mo 202.031†	5.0 0.3067 ug/L	0.40477 0.3067 ppb	0.40477 131.96%
QC value within limits for Mo 202.031	Recovery = Not calculated		
Na 589.592 Radial†	0.9 0.2362 ug/L	13.27078 0.2362 ppb	13.27078 >999.9%
QC value within limits for Na 589.592 Radial	Recovery = Not calculated		
Ni 231.604†	-10.0 -0.2226 ug/L	0.08533 -0.2226 ppb	0.08533 38.33%
QC value within limits for Ni 231.604	Recovery = Not calculated		
P 214.914†	9.0 4.4891 ug/L	2.87024 4.4891 ppb	2.87024 63.94%
QC value within limits for P 214.914	Recovery = Not calculated		
Pb 220.353†	12.4 1.3790 ug/L	0.46829 1.3790 ppb	0.46829 33.96%
QC value within limits for Pb 220.353	Recovery = Not calculated		
S 181.975 Axial†	-14.6 -17.792 ug/L	5.5135 -17.792 ppb	5.5135 30.99%
QC value within limits for S 181.975 Axial	Recovery = Not calculated		
Sb 206.836†	1.7 0.5304 ug/L	1.78005 0.5304 ppb	1.78005 335.61%
QC value within limits for Sb 206.836	Recovery = Not calculated		
Se 196.026†	6.8 3.5342 ug/L	4.37710 3.5342 ppb	4.37710 123.85%
QC value within limits for Se 196.026	Recovery = Not calculated		
Si 251.611†	76.7 2.0547 ug/L	0.18891 2.0547 ppb	0.18891 9.19%
QC value within limits for Si 251.611	Recovery = Not calculated		
Sn 189.927†	9.5 1.5656 ug/L	1.36477 1.5656 ppb	1.36477 87.17%
QC value within limits for Sn 189.927	Recovery = Not calculated		
Sr 421.552†	4.4 0.0257 ug/L	0.05525 0.0257 ppb	0.05525 214.55%
QC value within limits for Sr 421.552	Recovery = Not calculated		
Ti 334.940†	-61.4 -0.0827 ug/L	0.02380 -0.0827 ppb	0.02380 28.76%
QC value within limits for Ti 334.940	Recovery = Not calculated		
Tl 190.801†	4.3 1.2375 ug/L	0.46259 1.2375 ppb	0.46259 37.38%
QC value within limits for Tl 190.801	Recovery = Not calculated		
U 409.014†	-160.7 -3.6214 ug/L	0.13898 -3.6214 ppb	0.13898 3.84%
QC value within limits for U 409.014	Recovery = Not calculated		
V 292.402†	3.1 0.0147 ug/L	0.11227 0.0147 ppb	0.11227 765.97%
QC value within limits for V 292.402	Recovery = Not calculated		
Zn 213.857†	58.9 0.4918 ug/L	0.11909 0.4918 ppb	0.11909 24.21%
QC value within limits for Zn 213.857	Recovery = Not calculated		
SiO2†	81.4 4.6668 ug/L	0.57671 4.6668 ppb	0.57671 12.36%
QC value within limits for SiO2	Recovery = Not calculated		

All analyte(s) passed QC.

Daily Performance Report

Sample ID: Sample

Sample Date/Time: Wednesday, January 20, 2010 13:11:00

Sample Description:

Method File: c:\elandata\Method\daily2.mth

Dataset File: c:\elandata\Dataset\090811\Sample.362

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	592.2	592.212	18.661	3.2
Mg	24.0	11378.9	11378.931	196.535	1.7
Co	58.9	27086.7	27086.661	472.807	1.7
Rh	102.9	49871.1	49871.102	404.266	0.8
In	114.9	67540.1	67540.096	708.378	1.0
Pb	208.0	25031.1	25031.111	131.419	0.5
[> Ba	137.9	56384.6	56384.628	221.041	0.4
[Ba++	69.0	786.3	0.014	0.000	2.0
[> Ce	139.9	65750.2	65750.164	367.744	0.6
[CeO	155.9	1231.7	0.019	0.000	1.9
Bkgd	220.0	8.4	8.400	1.636	19.5

Current Optimization File Data

Current Value	Description
0.86	Nebulizer Gas Flow
9.00	Lens Voltage
1000.00	ICP RF Power
-1875.00	Analog Stage Voltage
1100.00	Pulse Stage Voltage
50.00	Discriminator Threshold
-2.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	9	8.5	561.7
Co	59	9	8.8	20960.0
In	115	9	9.8	51946.6

ICPMS #4 TUNING REPORT

File Name: default2.tun
File Path: c:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas Peak W
He	3.0	3.0	595	2060	0.709
Be	9.0	8.9	2029	2045	0.673
Mg	24.0	24.0	5685	2075	0.760
Mg	25.0	25.0	5935	2080	0.728
Mg	26.0	25.9	6141	2085	0.718
Co	58.9	58.9	14164	2140	0.721
Rh	102.9	102.9	24864	2230	0.701
In	114.9	114.8	27765	2255	0.713
Ce	139.9	139.9	33850	2310	0.680
Pb	206.0	206.0	49927	2500	0.641
Pb	207.0	207.0	50101	2380	0.657
Pb	208.0	208.0	50436	2570	0.635
U	238.1	238.0	57684	2510	0.670

ICPMS#4 - Summary Report

Sample ID: Blank

Sample Date/Time: Wednesday, January 20, 2010 18:50:28

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\Blank.061

Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li 7		ug/L		6	
Be 9		ug/L		6	
B 11		ug/L		203	
Na 23		ug/L		29364	
Mg 24		ug/L		2000	
Al 27		ug/L		2334	
P 31		ug/L		2198	
K 39		ug/L		391630	
Ca 43		ug/L		523	
> Sc 45		ug/L		638471	
Ti 47		ug/L		217	
V 51		ug/L		-14218	
Cr 52		ug/L		3710	
Cr 53		ug/L		169560	
Mn 55		ug/L		945	
Fe 57		ug/L		3322	
Co 59		ug/L		92	
Ni 60		ug/L		58	
Cu 63		ug/L		117	
Cu 65		ug/L		145	
Zn 66		ug/L		128	
Zn 67		ug/L		7517	
Zn 68		ug/L		900	
> Ge 74		ug/L		137496	
As 75		ug/L		521	
Se 77		ug/L		7566	
Se 82		ug/L		-13	
Kr 83		ug/L		51	
Sr 88		ug/L		145	
Y 89		ug/L		17	
Zr 90		ug/L		192	
Mo 98		ug/L		28	
Ag 107		ug/L		61	
Cd 111		ug/L		11	
Cd 114		ug/L		21	
> In 115		ug/L		84320	
Sn 120		ug/L		100	
Sb 121		ug/L		147	
Sb 123		ug/L		132	
Ba 135		ug/L		12	
Ba 137		ug/L		19	
Ho 165		ug/L		8	
> Lu 175		ug/L		63737	
Tl 205		ug/L		184	
Pb 208		ug/L		208	
Bi 209		ug/L		22	
Th 232		ug/L		203	
U 238		ug/L		49	

Sample ID: Blank

Report Date/Time: Wednesday, January 20, 2010 18:53:16

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9975
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7				
Be	9				
B	11				
Na	23				
Mg	24				
Al	27				
P	31				
K	39				
Ca	43				
Sc	45				
Ti	47				
V	51				
Cr	52				
Cr	53				
Mn	55				
Fe	57				
Co	59				
Ni	60				
Cu	63				
Cu	65				
Zn	66				
Zn	67				
Zn	68				
Ge	74				
As	75				
Se	77				
Se	82				
Kr	83				
Sr	88				
Y	89				
Zr	90				
Mo	98				
Ag	107				
Cd	111				
Cd	114				
In	115				
Sn	120				
Sb	121				
Sb	123				
Ba	135				
Ba	137				
Ho	165				
Lu	175				
Tl	205				
Pb	208				
Bi	209				
Th	232				
U	238				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Wednesday, January 20, 2010 18:53:16

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ICPMS#4 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Wednesday, January 20, 2010 18:56:39

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\Standard 1.062

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.000	ug/L	2.956	2146	0.003
Be	9	10.000	ug/L	4.758	570	0.001
B	11	20.000	ug/L	2.283	1663	0.002
Na	23	1000.000	ug/L	1.822	1638571	2.498
Mg	24	1000.000	ug/L	3.277	1136157	1.760
Al	27	1000.000	ug/L	4.040	1635322	2.534
P	31	1000.000	ug/L	1.258	80578	0.122
K	39	1000.000	ug/L	9.039	2820937	3.764
Ca	43	1000.000	ug/L	0.538	5589	0.008
> Sc	45		ug/L		644174	644174.312
Ti	47	10.000	ug/L	2.806	2788	0.004
V	51	10.000	ug/L	22.638	-2782	0.018
Cr	52	10.000	ug/L	1.696	29677	0.040
Cr	53		ug/L		277016	0.164
Mn	55	10.000	ug/L	1.327	37669	0.057
Fe	57	1000.000	ug/L	2.713	78053	0.116
Co	59	10.000	ug/L	1.432	28737	0.044
Ni	60	10.000	ug/L	0.647	6145	0.009
Cu	63		ug/L		13636	0.021
Cu	65	10.000	ug/L	0.406	6712	0.010
Zn	66	10.000	ug/L	2.205	3196	0.022
Zn	67		ug/L		12598	0.038
Zn	68		ug/L		3510	0.019
> Ge	74		ug/L		136447	136446.607
As	75	10.000	ug/L	4.614	4404	0.028
Se	77		ug/L		14875	0.054
Se	82	10.000	ug/L	6.265	329	0.003
Kr	83		ug/L		46	-0.000
Sr	88	10.000	ug/L	1.464	49450	0.584
Y	89		ug/L		23	0.000
Zr	90	10.000	ug/L	1.588	28162	0.331
Mo	98	10.000	ug/L	2.679	12623	0.149
Ag	107	10.000	ug/L	1.993	20540	0.243
Cd	111	10.000	ug/L	1.765	4571	0.054
Cd	114		ug/L		10550	0.125
> In	115		ug/L		84404	84404.283
Sn	120	10.000	ug/L	2.520	20123	0.237
Sb	121	10.000	ug/L	2.521	15833	0.186
Sb	123		ug/L		12136	0.142
Ba	135		ug/L		4649	0.070
Ba	137	10.000	ug/L	2.227	7966	0.119
Ho	165		ug/L		7	-0.000
> Lu	175		ug/L		66575	66575.125
Tl	205	10.000	ug/L	3.389	17360	0.258
Pb	208	10.000	ug/L	0.827	38317	0.572
Bi	209		ug/L		20	-0.000
Th	232	10.000	ug/L	1.994	44777	0.669
U	238	10.000	ug/L	3.043	45552	0.684

Sample ID: Standard 1

Report Date/Time: Wednesday, January 20, 2010 18:59:25

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	1.0000
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	1.0000
Cr	52Linear Thru Zero	1.0000
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Li	7				
|	Be	9				
|	B	11				
|	Na	23				
|	Mg	24				
|	Al	27				
|	P	31				
|	K	39				
|	Ca	43				
>	Sc	45				
|	Ti	47				
|	V	51				
|	Cr	52				
|	Cr	53				
|	Mn	55				
|	Fe	57				
|	Co	59				
|	Ni	60				
|	Cu	63				
|	Cu	65				
[	Zn	66				
|	Zn	67				
|	Zn	68				
>	Ge	74				
|	As	75				
|	Se	77				
|	Se	82				
|	Kr	83				
[	Sr	88				
|	Y	89				
|	Zr	90				
|	Mo	98				
|	Ag	107				
|	Cd	111				
|	Cd	114				
>	In	115				
|	Sn	120				
|	Sb	121				
|	Sb	123				
[	Ba	135				
|	Ba	137				
|	Ho	165				
>	Lu	175				
|	Tl	205				
|	Pb	208				
|	Bi	209				
|	Th	232				
|	U	238				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Wednesday, January 20, 2010 18:59:25

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ICPMS#4 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Wednesday, January 20, 2010 19:02:48

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\Standard 2.063

Concentration Results

Analyte Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li 7	99.980	ug/L	4.624	20666	0.033
Be 9	99.990	ug/L	3.421	5503	0.009
B 11	199.945	ug/L	1.500	14181	0.022
Na 23	10012.109	ug/L	4.023	18089199	28.451
Mg 24	10002.395	ug/L	4.288	11444920	18.041
Al 27	10004.500	ug/L	4.607	16858823	26.551
P 31	9995.361	ug/L	0.875	739568	1.162
K 39	9999.517	ug/L	1.846	24159396	37.458
Ca 43	9996.177	ug/L	1.400	48526	0.076
> Sc 45		ug/L		634606	634606.118
Ti 47	99.973	ug/L	1.213	24855	0.039
V 51	100.463	ug/L	5.130	199197	0.336
Cr 52	99.854	ug/L	2.185	226219	0.351
Cr 53		ug/L		286158	0.185
Mn 55	99.978	ug/L	1.634	354597	0.557
Fe 57	9998.890	ug/L	1.210	731039	1.147
Co 59	99.989	ug/L	1.999	279015	0.440
Ni 60	99.979	ug/L	2.131	58776	0.093
Cu 63		ug/L		129359	0.204
Cu 65	99.947	ug/L	3.000	61507	0.097
Zn 66	99.971	ug/L	1.207	29808	0.219
Zn 67		ug/L		17199	0.072
Zn 68		ug/L		22492	0.159
> Ge 74		ug/L		135765	135765.456
As 75	99.880	ug/L	1.559	35010	0.254
Se 77		ug/L		14676	0.053
Se 82	99.979	ug/L	1.752	3316	0.025
Kr 83		ug/L		49	-0.000
Sr 88	99.997	ug/L	1.397	482707	5.823
Y 89		ug/L		64	0.001
Zr 90	100.006	ug/L	1.580	276498	3.334
Mo 98	100.009	ug/L	1.759	124905	1.507
Ag 107	99.965	ug/L	2.923	194244	2.343
Cd 111	99.977	ug/L	2.032	43768	0.528
Cd 114		ug/L		101362	1.223
> In 115		ug/L		82875	82875.234
Sn 120	99.971	ug/L	1.969	191105	2.305
Sb 121	99.968	ug/L	2.067	149426	1.801
Sb 123		ug/L		115171	1.388
Ba 135		ug/L		45729	0.707
Ba 137	100.002	ug/L	3.456	77399	1.197
Ho 165		ug/L		7	-0.000
> Lu 175		ug/L		64711	64710.986
Tl 205	100.020	ug/L	2.417	170475	2.633
Pb 208	100.009	ug/L	3.749	373614	5.775
Bi 209		ug/L		49	0.000
Th 232	100.031	ug/L	3.449	447203	6.912
U 238	100.026	ug/L	3.673	453846	7.018

Sample ID: Standard 2

Report Date/Time: Wednesday, January 20, 2010 19:05:34

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Li	7				
|	Be	9				
|	B	11				
|	Na	23				
|	Mg	24				
|	Al	27				
|	P	31				
|	K	39				
|	Ca	43				
>	Sc	45				
|	Ti	47				
|	V	51				
|	Cr	52				
|	Cr	53				
|	Mn	55				
|	Fe	57				
|	Co	59				
|	Ni	60				
|	Cu	63				
|	Cu	65				
[	Zn	66				
|	Zn	67				
|	Zn	68				
>	Ge	74				
|	As	75				
|	Se	77				
|	Se	82				
|	Kr	83				
[	Sr	88				
|	Y	89				
|	Zr	90				
|	Mo	98				
|	Ag	107				
|	Cd	111				
|	Cd	114				
>	In	115				
|	Sn	120				
|	Sb	121				
|	Sb	123				
[	Ba	135				
|	Ba	137				
|	Ho	165				
>	Lu	175				
|	Tl	205				
|	Pb	208				
|	Bi	209				
|	Th	232				
|	U	238				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Wednesday, January 20, 2010 19:05:34

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ICPMS#4 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Wednesday, January 20, 2010 19:08:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 1.064

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	49.763	ug/L	0.978	10364	0.016
Be	9	51.317	ug/L	2.190	2846	0.004
B	11	104.197	ug/L	5.732	7530	0.011
Na	23	4728.679	ug/L	5.497	8607898	13.437
Mg	24	5279.590	ug/L	7.536	6077828	9.522
Al	27	5030.615	ug/L	8.150	8520436	13.351
P	31	5077.578	ug/L	5.236	378972	0.590
K	39	4947.305	ug/L	3.934	12223086	18.532
Ca	43	5123.972	ug/L	3.126	25280	0.039
> Sc	45		ug/L		638765	638765.126
Ti	47	48.990	ug/L	2.001	12369	0.019
V	51	47.747	ug/L	11.138	87757	0.160
Cr	52	51.499	ug/L	2.691	119216	0.181
Cr	53		ug/L		279748	0.173
Mn	55	50.769	ug/L	1.943	181684	0.283
Fe	57	4967.438	ug/L	2.755	367233	0.570
Co	59	50.140	ug/L	1.163	140894	0.220
Ni	60	51.845	ug/L	2.851	30701	0.048
Cu	63		ug/L		66427	0.104
Cu	65	50.625	ug/L	3.622	31416	0.049
Zn	66	51.130	ug/L	2.324	15442	0.112
Zn	67		ug/L		15242	0.057
Zn	68		ug/L		12270	0.083
> Ge	74		ug/L		137017	137017.205
As	75	48.702	ug/L	8.522	17478	0.124
Se	77		ug/L		13418	0.043
Se	82	48.273	ug/L	8.937	1607	0.012
Kr	83		ug/L		56	0.000
Sr	88	52.905	ug/L	4.035	256896	3.081
Y	89		ug/L		32	0.000
Zr	90	49.216	ug/L	2.037	136937	1.641
Mo	98	48.711	ug/L	2.160	61202	0.734
Ag	107	53.081	ug/L	3.599	103751	1.244
Cd	111	51.117	ug/L	3.398	22504	0.270
Cd	114		ug/L		50974	0.611
> In	115		ug/L		83357	83357.180
Sn	120	51.371	ug/L	3.318	98792	1.184
Sb	121	50.306	ug/L	4.159	75674	0.906
Sb	123		ug/L		57298	0.686
Ba	135		ug/L		23383	0.354
Ba	137	50.303	ug/L	3.081	39801	0.602
Ho	165		ug/L		9	0.000
> Lu	175		ug/L		66135	66134.858
Tl	205	48.030	ug/L	2.177	83760	1.264
Pb	208	49.788	ug/L	4.353	190140	2.875
Bi	209		ug/L		52	0.000
Th	232	51.289	ug/L	2.893	234473	3.544
U	238	51.610	ug/L	5.671	239208	3.621

Sample ID: QC Std 1

Report Date/Time: Wednesday, January 20, 2010 19:11:44

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7	99.525				
Be	9	102.634				
B	11	104.197				
Na	23	94.574				
Mg	24	105.592				
Al	27	99.616				
P	31	101.552				
K	39	98.946				
Ca	43	102.479				
> Sc	45		100.0			
Ti	47	97.980				
V	51	95.494				
Cr	52	102.997				
Cr	53					
Mn	55	101.537				
Fe	57	99.349				
Co	59	100.280				
Ni	60	103.691				
Cu	63					
Cu	65	101.250				
Zn	66	102.261				
Zn	67					
Zn	68					
> Ge	74		99.7			
As	75	97.403				
Se	77					
Se	82	96.546				
Kr	83					
Sr	88	105.811				
Y	89					
Zr	90	98.433				
Mo	98	97.422				
Ag	107	106.161				
Cd	111	102.235				
Cd	114					
> In	115		98.9			
Sn	120	102.742				
Sb	121	100.612				
Sb	123					
Ba	135					
Ba	137	100.606				
Ho	165					
> Lu	175		103.8			
Tl	205	96.061				
Pb	208	99.576				
Bi	209					
Th	232	102.578				
U	238	103.219				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 1

Report Date/Time: Wednesday, January 20, 2010 19:11:44

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ICPMS#4 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Wednesday, January 20, 2010 19:15:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 2.065

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.018	ug/L	94.835	10	0.000
Be	9	-0.011	ug/L	464.577	5	-0.000
B	11	2.367	ug/L	20.063	364	0.000
Na	23	1.727	ug/L	57.175	32036	0.005
Mg	24	2.384	ug/L	94.054	4668	0.004
Al	27	2.422	ug/L	63.318	6335	0.006
P	31	1.332	ug/L	13.013	2264	0.000
K	39	2.215	ug/L	157.406	391287	0.008
Ca	43	15.555	ug/L	19.804	590	0.000
> Sc	45		ug/L		629438	629438.351
Ti	47	0.019	ug/L	107.100	219	0.000
V	51	-0.731	ug/L	479.815	-15581	-0.002
Cr	52	-0.602	ug/L	15.654	2326	-0.002
Cr	53		ug/L		164775	-0.004
Mn	55	0.016	ug/L	36.242	990	0.000
Fe	57	-2.187	ug/L	78.195	3117	-0.000
Co	59	0.015	ug/L	64.523	132	0.000
Ni	60	0.025	ug/L	82.202	72	0.000
Cu	63		ug/L		147	0.000
Cu	65	-0.037	ug/L	79.922	121	-0.000
Zn	66	0.023	ug/L	159.129	136	0.000
Zn	67		ug/L		7750	0.001
Zn	68		ug/L		913	0.000
> Ge	74		ug/L		138781	138781.233
As	75	0.166	ug/L	936.399	584	0.000
Se	77		ug/L		6235	-0.010
Se	82	0.229	ug/L	187.354	-5	0.000
Kr	83		ug/L		47	-0.000
Sr	88	0.015	ug/L	65.828	212	0.001
Y	89		ug/L		15	-0.000
Zr	90	0.117	ug/L	25.190	505	0.004
Mo	98	0.054	ug/L	30.928	94	0.001
Ag	107	0.036	ug/L	31.764	127	0.001
Cd	111	0.024	ug/L	52.182	21	0.000
Cd	114		ug/L		39	0.000
> In	115		ug/L		81699	81699.061
Sn	120	0.072	ug/L	28.229	232	0.002
Sb	121	0.476	ug/L	13.179	843	0.009
Sb	123		ug/L		693	0.007
Ba	135		ug/L		24	0.000
Ba	137	0.024	ug/L	32.214	37	0.000
Ho	165		ug/L		8	-0.000
> Lu	175		ug/L		63643	63643.439
Tl	205	0.244	ug/L	14.615	592	0.006
Pb	208	0.034	ug/L	16.224	332	0.002
Bi	209		ug/L		21	-0.000
Th	232	0.150	ug/L	18.175	860	0.010
U	238	0.024	ug/L	33.417	158	0.002

Sample ID: QC Std 2

Report Date/Time: Wednesday, January 20, 2010 19:17:58

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Li	7				
|	Be	9				
|	B	11				
|	Na	23				
|	Mg	24				
|	Al	27				
|	P	31				
|	K	39				
|	Ca	43				
>	Sc	45		98.6		
|	Ti	47				
|	V	51				
|	Cr	52				
|	Cr	53				
|	Mn	55				
|	Fe	57				
|	Co	59				
|	Ni	60				
|	Cu	63				
|	Cu	65				
[	Zn	66				
|	Zn	67				
|	Zn	68				
>	Ge	74		100.9		
|	As	75				
|	Se	77				
|	Se	82				
|	Kr	83				
[	Sr	88				
|	Y	89				
|	Zr	90				
|	Mo	98				
|	Ag	107				
|	Cd	111				
|	Cd	114				
>	In	115		96.9		
|	Sn	120				
|	Sb	121				
|	Sb	123				
[	Ba	135				
|	Ba	137				
|	Ho	165				
>	Lu	175		99.9		
|	Tl	205				
|	Pb	208				
|	Bi	209				
|	Th	232				
|	U	238				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Wednesday, January 20, 2010 19:17:58

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ICPMS#4 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Wednesday, January 20, 2010 19:21:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 3.066

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	10.827	ug/L	0.964	2267	0.004
Be	9	0.456	ug/L	15.679	31	0.000
B	11	16.939	ug/L	9.993	1399	0.002
Na	23	268.889	ug/L	6.573	519293	0.764
Mg	24	13.873	ug/L	28.418	18012	0.025
Al	27	32.016	ug/L	6.698	56779	0.085
P	31	74.939	ug/L	5.700	7790	0.009
K	39	323.734	ug/L	1.977	1170773	1.213
Ca	43	271.110	ug/L	6.250	1841	0.002
> Sc	45		ug/L		641064	641063.661
Ti	47	9.130	ug/L	3.299	2491	0.004
V	51	4.211	ug/L	52.852	-5273	0.014
Cr	52	12.190	ug/L	2.445	31169	0.043
Cr	53		ug/L		284085	0.178
Mn	55	5.727	ug/L	2.260	21421	0.032
Fe	57	111.656	ug/L	1.135	11545	0.013
Co	59	1.095	ug/L	0.293	3178	0.005
Ni	60	2.202	ug/L	2.747	1365	0.002
Cu	63		ug/L		1707	0.002
Cu	65	1.177	ug/L	3.566	876	0.001
Zn	66	10.738	ug/L	2.481	3407	0.023
Zn	67		ug/L		13293	0.041
Zn	68		ug/L		3664	0.020
> Ge	74		ug/L		139608	139607.718
As	75	6.261	ug/L	11.554	2753	0.016
Se	77		ug/L		13933	0.045
Se	82	5.003	ug/L	5.637	158	0.001
Kr	83		ug/L		52	-0.000
Sr	88	11.516	ug/L	2.210	55815	0.671
Y	89		ug/L		16	-0.000
Zr	90	2.286	ug/L	1.412	6516	0.076
Mo	98	0.539	ug/L	4.168	702	0.008
Ag	107	1.118	ug/L	1.963	2236	0.026
Cd	111	1.110	ug/L	10.643	497	0.006
Cd	114		ug/L		1109	0.013
> In	115		ug/L		83006	83006.016
Sn	120	5.831	ug/L	1.088	11259	0.134
Sb	121	3.635	ug/L	3.197	5580	0.065
Sb	123		ug/L		4255	0.050
Ba	135		ug/L		949	0.014
Ba	137	2.214	ug/L	3.960	1745	0.026
Ho	165		ug/L		6	-0.000
> Lu	175		ug/L		65160	65159.582
Tl	205	1.030	ug/L	1.068	1953	0.027
Pb	208	2.196	ug/L	2.432	8476	0.127
Bi	209		ug/L		20	-0.000
Th	232	1.119	ug/L	2.602	5247	0.077
U	238	0.214	ug/L	0.952	1026	0.015

Sample ID: QC Std 3

Report Date/Time: Wednesday, January 20, 2010 19:24:08

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7	108.266				
Be	9	91.218				
B	11	112.927				
Na	23	107.556				
Mg	24	92.484				
Al	27	106.718				
P	31	149.878				
K	39	107.911				
Ca	43	135.555				
> Sc	45		100.4			
Ti	47	91.304				
V	51	42.107				
Cr	52	121.898				
Cr	53					
Mn	55	114.542				
Fe	57	111.656				
Co	59	109.497				
Ni	60	110.120				
Cu	63					
Cu	65	117.703				
Zn	66	107.382				
Zn	67					
Zn	68					
> Ge	74		101.5			
As	75	125.223				
Se	77					
Se	82	100.062				
Kr	83					
Sr	88	115.157				
Y	89					
Zr	90	114.319				
Mo	98	107.745				
Ag	107	111.820				
Cd	111	111.014				
Cd	114					
> In	115		98.4			
Sn	120	116.627				
Sb	121	121.161				
Sb	123					
Ba	135					
Ba	137	110.685				
Ho	165					
> Lu	175		102.2			
Tl	205	102.952				
Pb	208	109.817				
Bi	209					
Th	232	111.923				
U	238	106.773				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 3	P	31	CRDL is out of limits
QC Std 3	Ca	43	CRDL is out of limits
QC Std 3	V	51	CRDL is out of limits

Sample ID: QC Std 3

Report Date/Time: Wednesday, January 20, 2010 19:24:08

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QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Wednesday, January 20, 2010 19:27:32

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 4.067

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.051	ug/L	45.224	16	0.000
Be	9	0.027	ug/L	195.958	7	0.000
B	11	0.483	ug/L	30.998	230	0.000
Na	23	98186.097	ug/L	6.979	173328845	279.010
Mg	24	96954.806	ug/L	1.349	108533382	174.872
Al	27	97316.382	ug/L	7.094	160291216	258.264
P	31	99368.334	ug/L	1.951	7170578	11.552
K	39	98438.472	ug/L	3.594	229233338	368.748
Ca	43	97526.539	ug/L	0.531	458463	0.738
Sc	45		ug/L		620563	620563.161
Ti	47	1427.935	ug/L	2.493	344280	0.555
V	51	-1.381	ug/L	372.582	-16539	-0.005
Cr	52	3.632	ug/L	2.026	11519	0.013
Cr	53		ug/L		211878	0.076
Mn	55	5.741	ug/L	1.884	20777	0.032
Fe	57	99308.131	ug/L	2.158	7070891	11.391
Co	59	0.370	ug/L	4.204	1099	0.002
Ni	60	3.926	ug/L	2.411	2311	0.004
Cu	63		ug/L		2588	0.004
Cu	65	3.131	ug/L	5.876	2020	0.003
Zn	66	5.281	ug/L	5.035	1603	0.012
Zn	67		ug/L		11013	0.031
Zn	68		ug/L		1247	0.003
Ge	74		ug/L		128442	128442.446
As	75	-1.019	ug/L	210.257	155	-0.003
Se	77		ug/L		10446	0.026
Se	82	-0.933	ug/L	32.727	-41	-0.000
Kr	83		ug/L		112	0.001
Sr	88	1.207	ug/L	0.802	5533	0.070
Y	89		ug/L		195	0.002
Zr	90	0.507	ug/L	45.124	1475	0.017
Mo	98	2129.508	ug/L	2.222	2465967	32.087
Ag	107	0.118	ug/L	9.411	268	0.003
Cd	111	0.455	ug/L	75.987	194	0.002
Cd	114		ug/L		3762	0.049
In	115		ug/L		76855	76855.286
Sn	120	0.203	ug/L	5.428	450	0.005
Sb	121	0.223	ug/L	8.612	443	0.004
Sb	123		ug/L		377	0.003
Ba	135		ug/L		409	0.006
Ba	137	0.868	ug/L	4.042	704	0.010
Ho	165		ug/L		202	0.003
Lu	175		ug/L		65931	65931.123
Tl	205	0.014	ug/L	52.215	215	0.000
Pb	208	0.165	ug/L	1.382	842	0.010
Bi	209		ug/L		125	0.002
Th	232	0.126	ug/L	19.826	782	0.009
U	238	-0.004	ug/L	53.483	34	-0.000

Sample ID: QC Std 4

Report Date/Time: Wednesday, January 20, 2010 19:30:19

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
|	Li	7					
|	Be	9					
|	B	11					
|	Na	23	98.186				
|	Mg	24	96.955				
|	Al	27	97.316				
|	P	31	99.368				
|	K	39	98.438				
|	Ca	43	97.527				
>	Sc	45		97.2			
|	Ti	47	71.397				
|	V	51					
|	Cr	52	98.149				
|	Cr	53					
|	Mn	55	98.980				
|	Fe	57	99.308				
|	Co	59	148.093				
|	Ni	60	145.405				
|	Cu	63					
|	Cu	65	107.978				
|	Zn	66	146.694				
|	Zn	67					
|	Zn	68					
>	Ge	74		93.4			
|	As	75					
|	Se	77					
|	Se	82					
|	Kr	83					
|	Sr	88	100.569				
|	Y	89					
|	Zr	90					
|	Mo	98	106.475				
|	Ag	107					
|	Cd	111	113.759				
|	Cd	114					
>	In	115		91.1			
|	Sn	120					
|	Sb	121	223.078				
|	Sb	123					
|	Ba	135					
|	Ba	137	129.484				
|	Ho	165					
>	Lu	175		103.4			
|	Tl	205					
|	Pb	208	82.286				
|	Bi	209					
|	Th	232					
|	U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 4	Ti	47ICSA is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Wednesday, January 20, 2010 19:33:44

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 5.068

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	18.927	ug/L	1.800	3821	0.006
Be	9	19.020	ug/L	1.337	1025	0.002
B	11	19.072	ug/L	3.571	1497	0.002
Na	23	96676.681	ug/L	3.742	169978024	274.721
Mg	24	102508.774	ug/L	2.530	114386492	184.889
Al	27	97621.392	ug/L	3.591	160291216	259.074
P	31	99173.983	ug/L	1.872	7135617	11.530
K	39	96629.743	ug/L	2.627	224364002	361.972
Ca	43	96215.707	ug/L	1.273	450994	0.728
> Sc	45		ug/L		618769	618768.847
Ti	47	1419.547	ug/L	1.189	341414	0.551
V	51	14.929	ug/L	26.618	17100	0.050
Cr	52	23.031	ug/L	3.335	53649	0.081
Cr	53		ug/L		213829	0.080
Mn	55	24.949	ug/L	1.588	86967	0.139
Fe	57	101307.976	ug/L	1.611	7193064	11.620
Co	59	19.545	ug/L	1.367	53258	0.086
Ni	60	22.495	ug/L	1.879	12941	0.021
Cu	63		ug/L		25562	0.041
Cu	65	21.336	ug/L	0.979	12914	0.021
Zn	66	24.281	ug/L	0.629	6925	0.053
Zn	67		ug/L		11870	0.038
Zn	68		ug/L		5007	0.033
> Ge	74		ug/L		128190	128190.257
As	75	20.863	ug/L	3.763	7291	0.053
Se	77		ug/L		10585	0.028
Se	82	20.942	ug/L	1.666	646	0.005
Kr	83		ug/L		109	0.000
Sr	88	22.783	ug/L	1.558	102207	1.327
Y	89		ug/L		180	0.002
Zr	90	21.808	ug/L	3.325	56110	0.727
Mo	98	2161.204	ug/L	4.073	2504964	32.565
Ag	107	20.214	ug/L	1.416	36514	0.474
Cd	111	20.229	ug/L	3.447	8231	0.107
Cd	114		ug/L		22193	0.288
> In	115		ug/L		76944	76943.795
Sn	120	21.035	ug/L	1.400	37408	0.485
Sb	121	21.687	ug/L	1.986	30198	0.391
Sb	123		ug/L		23106	0.299
Ba	135		ug/L		8904	0.136
Ba	137	19.604	ug/L	2.287	15301	0.235
Ho	165		ug/L		206	0.003
> Lu	175		ug/L		65151	65150.561
Tl	205	17.002	ug/L	0.934	29342	0.448
Pb	208	17.939	ug/L	0.804	67691	1.036
Bi	209		ug/L		156	0.002
Th	232	19.260	ug/L	0.565	86911	1.331
U	238	19.349	ug/L	1.080	88487	1.358

Sample ID: QC Std 5

Report Date/Time: Wednesday, January 20, 2010 19:36:31

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7	94.634				
Be	9	95.098				
B	11	95.361				
Na	23	96.677				
Mg	24	102.509				
Al	27	97.621				
P	31	99.174				
K	39	96.630				
Ca	43	96.216				
> Sc	45		96.9			
Ti	47	70.977				
V	51	74.643				
Cr	52	97.179				
Cr	53					
Mn	55	96.700				
Fe	57	101.308				
Co	59	96.519				
Ni	60	99.097				
Cu	63					
Cu	65	93.172				
Zn	66	102.887				
Zn	67					
Zn	68					
> Ge	74		93.2			
As	75	104.313				
Se	77					
Se	82	104.709				
Kr	83					
Sr	88	107.467				
Y	89					
Zr	90	109.042				
Mo	98	108.060				
Ag	107	101.072				
Cd	111	99.163				
Cd	114					
> In	115		91.3			
Sn	120	105.177				
Sb	121	107.894				
Sb	123					
Ba	135					
Ba	137	94.844				
Ho	165					
> Lu	175		102.2			
Tl	205	85.012				
Pb	208	88.806				
Bi	209					
Th	232	96.298				
U	238	96.744				

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 5	Ti	47ICSAB is out of limits
QC Std 5	V	51ICSAB is out of limits

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, January 20, 2010 19:39:56

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 6.069

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	48.596	ug/L	3.366	10133	0.016
Be	9	49.264	ug/L	1.265	2737	0.004
B	11	94.310	ug/L	3.229	6851	0.010
Na	23	4844.538	ug/L	6.611	8838743	13.766
Mg	24	4741.009	ug/L	1.956	5471613	8.551
Al	27	4918.053	ug/L	2.853	8349420	13.052
P	31	5046.000	ug/L	1.419	377424	0.587
K	39	4958.275	ug/L	5.172	12272833	18.574
Ca	43	5051.721	ug/L	1.428	24978	0.038
> Sc	45		ug/L		639676	639676.394
Ti	47	50.846	ug/L	3.358	12849	0.020
V	51	48.475	ug/L	0.440	89565	0.162
Cr	52	50.504	ug/L	1.874	117181	0.177
Cr	53		ug/L		244013	0.116
Mn	55	51.158	ug/L	0.355	183383	0.285
Fe	57	5009.951	ug/L	1.474	370892	0.575
Co	59	50.116	ug/L	2.344	141017	0.220
Ni	60	52.153	ug/L	1.068	30938	0.048
Cu	63		ug/L		67276	0.105
Cu	65	51.139	ug/L	2.573	31796	0.049
Zn	66	51.638	ug/L	2.494	15675	0.113
Zn	67		ug/L		14667	0.052
Zn	68		ug/L		12025	0.081
> Ge	74		ug/L		137683	137683.360
As	75	47.973	ug/L	6.024	17325	0.122
Se	77		ug/L		10905	0.024
Se	82	47.797	ug/L	3.180	1601	0.012
Kr	83		ug/L		50	-0.000
Sr	88	52.300	ug/L	3.104	251095	3.046
Y	89		ug/L		49	0.000
Zr	90	50.183	ug/L	3.213	138078	1.673
Mo	98	51.049	ug/L	3.515	63402	0.769
Ag	107	51.936	ug/L	3.084	100401	1.218
Cd	111	50.559	ug/L	5.180	22003	0.267
Cd	114		ug/L		51250	0.621
> In	115		ug/L		82449	82449.108
Sn	120	51.583	ug/L	5.009	98055	1.189
Sb	121	50.307	ug/L	4.416	74825	0.907
Sb	123		ug/L		57299	0.694
Ba	135		ug/L		22989	0.354
Ba	137	50.241	ug/L	1.124	39097	0.601
Ho	165		ug/L		13	0.000
> Lu	175		ug/L		64997	64996.517
Tl	205	47.286	ug/L	2.787	81086	1.245
Pb	208	49.394	ug/L	0.599	185587	2.852
Bi	209		ug/L		44	0.000
Th	232	50.519	ug/L	0.660	227112	3.491
U	238	51.246	ug/L	1.560	233733	3.596

Sample ID: QC Std 6

Report Date/Time: Wednesday, January 20, 2010 19:42:43

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Calibration

Analyte	Mass Curve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
|	Li	7	97.191				
|	Be	9	98.527				
|	B	11	94.310				
|	Na	23	96.891				
|	Mg	24	94.820				
|	Al	27	97.387				
|	P	31	100.920				
|	K	39	99.165				
|	Ca	43	101.034				
>	Sc	45		100.2			
|	Ti	47	101.693				
|	V	51	96.950				
|	Cr	52	101.007				
|	Cr	53					
|	Mn	55	102.315				
|	Fe	57	100.199				
|	Co	59	100.232				
|	Ni	60	104.307				
|	Cu	63					
|	Cu	65	102.277				
|	Zn	66	103.277				
|	Zn	67					
|	Zn	68					
>	Ge	74		100.1			
|	As	75	95.947				
|	Se	77					
|	Se	82	95.594				
|	Kr	83					
|	Sr	88	104.600				
|	Y	89					
|	Zr	90	100.366				
|	Mo	98	102.098				
|	Ag	107	103.872				
|	Cd	111	101.118				
|	Cd	114					
>	In	115		97.8			
|	Sn	120	103.166				
|	Sb	121	100.615				
|	Sb	123					
|	Ba	135					
|	Ba	137	100.482				
|	Ho	165					
>	Lu	175		102.0			
|	Tl	205	94.572				
|	Pb	208	98.789				
|	Bi	209					
|	Th	232	101.038				
|	U	238	102.492				

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 6

Report Date/Time: Wednesday, January 20, 2010 19:42:43

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ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, January 20, 2010 19:46:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 7.070

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.035	ug/L	39.704	13	0.000
Be	9	-0.024	ug/L	242.350	4	-0.000
B	11	0.612	ug/L	48.238	245	0.000
Na	23	5.757	ug/L	60.052	39723	0.016
Mg	24	2.325	ug/L	57.335	4667	0.004
Al	27	4.731	ug/L	43.655	10337	0.013
P	31	2.826	ug/L	87.775	2403	0.000
K	39	2.889	ug/L	175.779	397799	0.011
Ca	43	22.140	ug/L	63.649	629	0.000
> Sc	45		ug/L		637322	637321.768
Ti	47	0.243	ug/L	21.309	277	0.000
V	51	1.510	ug/L	295.890	-10973	0.005
Cr	52	-1.076	ug/L	7.148	1294	-0.004
Cr	53		ug/L		145173	-0.038
Mn	55	-0.025	ug/L	44.851	856	-0.000
Fe	57	-2.484	ug/L	127.082	3134	-0.000
Co	59	0.014	ug/L	57.960	131	0.000
Ni	60	0.006	ug/L	311.199	62	0.000
Cu	63		ug/L		140	0.000
Cu	65	-0.031	ug/L	55.432	126	-0.000
Zn	66	-0.016	ug/L	194.681	121	-0.000
Zn	67		ug/L		7621	0.002
Zn	68		ug/L		777	-0.001
> Ge	74		ug/L		135614	135613.778
As	75	-0.927	ug/L	116.151	197	-0.002
Se	77		ug/L		4818	-0.020
Se	82	0.086	ug/L	283.546	-10	0.000
Kr	83		ug/L		47	-0.000
Sr	88	0.008	ug/L	102.902	180	0.000
Y	89		ug/L		10	-0.000
Zr	90	0.083	ug/L	23.591	415	0.003
Mo	98	0.183	ug/L	25.537	255	0.003
Ag	107	0.020	ug/L	39.817	99	0.000
Cd	111	0.032	ug/L	32.811	25	0.000
Cd	114		ug/L		27	0.000
> In	115		ug/L		82249	82248.531
Sn	120	0.048	ug/L	8.914	188	0.001
Sb	121	0.343	ug/L	17.911	651	0.006
Sb	123		ug/L		520	0.005
Ba	135		ug/L		26	0.000
Ba	137	0.016	ug/L	21.859	30	0.000
Ho	165		ug/L		6	-0.000
> Lu	175		ug/L		62331	62330.643
Tl	205	0.235	ug/L	20.791	565	0.006
Pb	208	0.014	ug/L	30.719	252	0.001
Bi	209		ug/L		18	-0.000
Th	232	0.088	ug/L	22.158	580	0.006
U	238	0.018	ug/L	39.610	127	0.001

Sample ID: QC Std 7

Report Date/Time: Wednesday, January 20, 2010 19:48:57

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
Sc	45		99.8			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
Ge	74		98.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
In	115		97.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
Lu	175		97.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Wednesday, January 20, 2010 19:48:57

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ICPMS#4 - Summary Report

Sample ID: QC Std 10

Sample Date/Time: Wednesday, January 20, 2010 19:52:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 10.071

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	943.456	ug/L	1.035	183052	0.307
Be	9	988.093	ug/L	1.114	51003	0.086
B	11	0.121	ug/L	227.503	197	0.000
Na	23	49487.786	ug/L	1.099	83770531	140.627
Mg	24	48863.993	ug/L	4.736	52510758	88.133
Al	27	49083.832	ug/L	10.832	77497626	130.262
P	31	24104.706	ug/L	3.523	1670416	2.802
K	39	49485.137	ug/L	7.290	110683744	185.370
Ca	43	48581.284	ug/L	1.467	219405	0.368
Sc	45		ug/L		595567	595566.881
Ti	47	40.962	ug/L	1.398	9678	0.016
V	51	1111.384	ug/L	1.444	2202895	3.721
Cr	52	1020.082	ug/L	0.925	2137417	3.583
Cr	53		ug/L		447397	0.486
Mn	55	976.050	ug/L	1.797	3241016	5.441
Fe	57	49590.912	ug/L	1.538	3390317	5.688
Co	59	969.631	ug/L	1.926	2538597	4.263
Ni	60	954.220	ug/L	1.891	526019	0.883
Cu	63		ug/L		1133750	1.904
Cu	65	930.855	ug/L	0.298	536536	0.901
Zn	66	2378.514	ug/L	0.438	657920	5.201
Zn	67		ug/L		113991	0.847
Zn	68		ug/L		456208	3.601
Ge	74		ug/L		126468	126467.599
As	75	922.984	ug/L	2.038	297460	2.348
Se	77		ug/L		19867	0.102
Se	82	456.751	ug/L	1.303	14154	0.112
Kr	83		ug/L		60	0.000
Sr	88	1047.417	ug/L	1.542	4578484	60.996
Y	89		ug/L		165	0.002
Zr	90	518.610	ug/L	0.845	1298066	17.291
Mo	98	1018.185	ug/L	0.807	1151754	15.342
Ag	107	249.575	ug/L	2.908	439143	5.851
Cd	111	996.184	ug/L	1.291	394897	5.261
Cd	114		ug/L		915889	12.202
In	115		ug/L		75065	75065.431
Sn	120	1014.888	ug/L	1.713	1756339	23.400
Sb	121	249.611	ug/L	1.091	337777	4.498
Sb	123		ug/L		263888	3.514
Ba	135		ug/L		415108	6.844
Ba	137	952.655	ug/L	2.620	691534	11.400
Ho	165		ug/L		53	0.001
Lu	175		ug/L		60676	60675.878
Tl	205	458.233	ug/L	0.601	732034	12.061
Pb	208	4747.116	ug/L	3.787	16625663	274.103
Bi	209		ug/L		386	0.006
Th	232	2405.510	ug/L	1.438	10087436	166.228
U	238	4889.114	ug/L	2.926	20812633	343.035

Sample ID: QC Std 10

Report Date/Time: Wednesday, January 20, 2010 19:55:06

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Li	7	94.346				
|	Be	9	98.809				
|	B	11					
|	Na	23	98.976				
|	Mg	24	97.728				
|	Al	27	98.168				
|	P	31	96.419				
|	K	39	98.970				
|	Ca	43	97.163				
>	Sc	45		93.3			
|	Ti	47					
|	V	51	111.138				
|	Cr	52	102.008				
|	Cr	53					
|	Mn	55	97.605				
|	Fe	57	99.182				
|	Co	59	96.963				
|	Ni	60	95.422				
|	Cu	63					
|	Cu	65	93.085				
|	Zn	66	95.141				
|	Zn	67					
|	Zn	68					
>	Ge	74		92.0			
|	As	75	92.298				
|	Se	77					
|	Se	82	91.350				
|	Kr	83					
|	Sr	88	104.742				
|	Y	89					
|	Zr	90	103.722				
|	Mo	98	101.818				
|	Ag	107	99.830				
|	Cd	111	99.618				
|	Cd	114					
>	In	115		89.0			
|	Sn	120	101.489				
|	Sb	121	99.844				
|	Sb	123					
|	Ba	135					
|	Ba	137	95.266				
|	Ho	165					
>	Lu	175		95.2			
|	Tl	205	91.647				
|	Pb	208	94.942				
|	Bi	209					
|	Th	232	96.220				
|	U	238	97.782				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message
 QC Std 10 V 51LRS is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: QC Std 11

Sample Date/Time: Wednesday, January 20, 2010 19:58:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 11.072

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	48.317	ug/L	0.570	9732	0.016
Be	9	50.642	ug/L	4.867	2716	0.004
B	11	96.891	ug/L	4.600	6788	0.011
Na	23	5142.042	ug/L	11.062	9045789	14.612
Mg	24	5108.569	ug/L	2.110	5693717	9.214
Al	27	5036.793	ug/L	5.812	8255638	13.367
P	31	5165.954	ug/L	2.578	373093	0.601
K	39	4922.586	ug/L	1.272	11772438	18.440
Ca	43	5092.476	ug/L	0.631	24319	0.039
> Sc	45		ug/L		617928	617927.727
Ti	47	48.714	ug/L	3.016	11897	0.019
V	51	51.706	ug/L	6.356	93314	0.173
Cr	52	51.064	ug/L	4.806	114348	0.179
Cr	53		ug/L		242013	0.126
Mn	55	51.800	ug/L	1.382	179353	0.289
Fe	57	5059.007	ug/L	1.586	361754	0.580
Co	59	50.840	ug/L	1.565	138181	0.224
Ni	60	52.736	ug/L	2.938	30208	0.049
Cu	63		ug/L		66715	0.108
Cu	65	53.185	ug/L	0.256	31939	0.051
Zn	66	53.426	ug/L	4.600	15551	0.117
Zn	67		ug/L		14566	0.056
Zn	68		ug/L		11878	0.083
> Ge	74		ug/L		132132	132131.760
As	75	50.446	ug/L	3.049	17465	0.128
Se	77		ug/L		10373	0.023
Se	82	49.534	ug/L	2.689	1592	0.012
Kr	83		ug/L		47	-0.000
Sr	88	51.613	ug/L	2.860	241854	3.006
Y	89		ug/L		23	0.000
Zr	90	51.861	ug/L	4.895	139190	1.729
Mo	98	51.088	ug/L	3.434	61921	0.770
Ag	107	53.337	ug/L	2.076	100616	1.250
Cd	111	51.440	ug/L	4.453	21851	0.272
Cd	114		ug/L		50426	0.627
> In	115		ug/L		80429	80429.380
Sn	120	52.702	ug/L	0.681	97828	1.215
Sb	121	52.593	ug/L	3.351	76345	0.948
Sb	123		ug/L		58030	0.720
Ba	135		ug/L		22858	0.369
Ba	137	52.267	ug/L	4.702	38772	0.625
Ho	165		ug/L		8	-0.000
> Lu	175		ug/L		62031	62031.137
Tl	205	48.389	ug/L	2.858	79207	1.274
Pb	208	50.856	ug/L	5.404	182101	2.936
Bi	209		ug/L		49	0.000
Th	232	52.384	ug/L	1.669	224654	3.620
U	238	51.567	ug/L	2.313	224444	3.618

Sample ID: QC Std 11

Report Date/Time: Wednesday, January 20, 2010 20:01:16

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
|	Li	7	96.634				
|	Be	9	101.284				
|	B	11	96.891				
|	Na	23	102.841				
|	Mg	24	102.171				
|	Al	27	99.738				
|	P	31	103.319				
|	K	39	98.452				
|	Ca	43	101.850				
>	Sc	45		96.8			
|	Ti	47	97.427				
|	V	51	103.412				
|	Cr	52	102.128				
|	Cr	53					
|	Mn	55	103.601				
|	Fe	57	101.180				
|	Co	59	101.681				
|	Ni	60	105.472				
|	Cu	63					
|	Cu	65	106.369				
|	Zn	66	106.852				
|	Zn	67					
|	Zn	68					
>	Ge	74		96.1			
|	As	75	100.893				
|	Se	77					
|	Se	82	99.068				
|	Kr	83					
|	Sr	88	103.225				
|	Y	89					
|	Zr	90	103.723				
|	Mo	98	102.176				
|	Ag	107	106.675				
|	Cd	111	102.880				
|	Cd	114					
>	In	115		95.4			
|	Sn	120	105.404				
|	Sb	121	105.187				
|	Sb	123					
|	Ba	135					
|	Ba	137	104.534				
|	Ho	165					
>	Lu	175		97.3			
|	Tl	205	96.778				
|	Pb	208	101.712				
|	Bi	209					
|	Th	232	104.767				
|	U	238	103.134				

QC Out Of Limits

Measurement Type Analyte

Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 11

Report Date/Time: Wednesday, January 20, 2010 20:01:16

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ICPMS#4 - Summary Report

Sample ID: QC Std 12

Sample Date/Time: Wednesday, January 20, 2010 20:04:42

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 12.073

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.083	ug/L	45.067	23	0.000
Be	9	-0.016	ug/L	368.176	5	-0.000
B	11	0.460	ug/L	64.421	229	0.000
Na	23	1.964	ug/L	282.333	32038	0.006
Mg	24	3.034	ug/L	95.475	5335	0.005
Al	27	3.284	ug/L	86.162	7669	0.009
P	31	2.039	ug/L	84.621	2284	0.000
K	39	6.233	ug/L	150.748	395409	0.023
Ca	43	29.327	ug/L	35.665	647	0.000
> Sc	45		ug/L		620960	620960.186
Ti	47	0.018	ug/L	311.989	215	0.000
V	51	3.077	ug/L	86.388	-7429	0.010
Cr	52	-1.157	ug/L	11.937	1083	-0.004
Cr	53		ug/L		146550	-0.030
Mn	55	0.018	ug/L	106.558	983	0.000
Fe	57	-2.886	ug/L	55.680	3025	-0.000
Co	59	0.049	ug/L	54.583	222	0.000
Ni	60	0.030	ug/L	112.572	74	0.000
Cu	63		ug/L		202	0.000
Cu	65	-0.013	ug/L	185.966	133	-0.000
Zn	66	0.120	ug/L	27.279	161	0.000
Zn	67		ug/L		7741	0.003
Zn	68		ug/L		804	-0.001
> Ge	74		ug/L		135369	135368.718
As	75	-1.148	ug/L	111.961	117	-0.003
Se	77		ug/L		4633	-0.021
Se	82	0.043	ug/L	1063.447	-11	0.000
Kr	83		ug/L		55	0.000
Sr	88	0.050	ug/L	66.222	369	0.003
Y	89		ug/L		17	0.000
Zr	90	0.140	ug/L	26.715	552	0.005
Mo	98	0.159	ug/L	25.724	217	0.002
Ag	107	0.048	ug/L	52.004	147	0.001
Cd	111	0.067	ug/L	35.530	38	0.000
Cd	114		ug/L		90	0.001
> In	115		ug/L		79525	79525.465
Sn	120	0.218	ug/L	20.245	492	0.005
Sb	121	0.795	ug/L	6.608	1277	0.014
Sb	123		ug/L		1007	0.011
Ba	135		ug/L		37	0.000
Ba	137	0.060	ug/L	64.279	61	0.001
Ho	165		ug/L		6	-0.000
> Lu	175		ug/L		59932	59931.765
Tl	205	0.470	ug/L	12.079	914	0.012
Pb	208	0.299	ug/L	22.624	1230	0.017
Bi	209		ug/L		21	-0.000
Th	232	0.270	ug/L	0.488	1309	0.019
U	238	0.180	ug/L	41.936	803	0.013

Sample ID: QC Std 12

Report Date/Time: Wednesday, January 20, 2010 20:07:30

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		97.3			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		98.5			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		94.3			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		94.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 12

Report Date/Time: Wednesday, January 20, 2010 20:07:30

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ICPMS#4 - Summary Report

Sample ID: 1202015711

Sample Date/Time: Wednesday, January 20, 2010 20:10:54

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 941743|2|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\1202015711.074

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.025	ug/L	32.814	11	0.000
Be	9	-0.041	ug/L	67.480	3	-0.000
B	11	-0.856	ug/L	31.953	139	-0.000
Na	23	33.019	ug/L	7.322	87266	0.094
Mg	24	1.520	ug/L	89.595	3667	0.003
Al	27	3.658	ug/L	20.114	8336	0.010
P	31	24.479	ug/L	9.410	3925	0.003
K	39	23.933	ug/L	26.333	438984	0.090
Ca	43	37.872	ug/L	25.859	691	0.000
> Sc	45		ug/L		624291	624291.247
Ti	47	0.192	ug/L	4.348	259	0.000
V	51	3.537	ug/L	21.562	-6501	0.012
Cr	52	-0.172	ug/L	206.702	3248	-0.001
Cr	53		ug/L		130575	-0.056
Mn	55	0.267	ug/L	3.732	1853	0.001
Fe	57	28.404	ug/L	4.957	5282	0.003
Co	59	0.004	ug/L	66.323	102	0.000
Ni	60	0.333	ug/L	11.419	249	0.000
Cu	63		ug/L		491	0.001
Cu	65	0.188	ug/L	13.461	256	0.000
Zn	66	6.468	ug/L	0.454	2001	0.014
Zn	67		ug/L		6941	-0.002
Zn	68		ug/L		2008	0.009
> Ge	74		ug/L		132787	132786.680
As	75	-0.966	ug/L	45.331	176	-0.002
Se	77		ug/L		4293	-0.023
Se	82	0.306	ug/L	10.397	-2	0.000
Kr	83		ug/L		44	-0.000
Sr	88	0.084	ug/L	7.959	524	0.005
Y	89		ug/L		36	0.000
Zr	90	0.451	ug/L	15.023	1371	0.015
Mo	98	0.074	ug/L	7.755	115	0.001
Ag	107	0.002	ug/L	194.954	61	0.000
Cd	111	0.016	ug/L	155.628	17	0.000
Cd	114		ug/L		25	0.000
> In	115		ug/L		79119	79118.515
Sn	120	0.294	ug/L	3.559	630	0.007
Sb	121	0.511	ug/L	8.465	865	0.009
Sb	123		ug/L		699	0.007
Ba	135		ug/L		61	0.001
Ba	137	0.099	ug/L	6.482	89	0.001
Ho	165		ug/L		9	0.000
> Lu	175		ug/L		60421	60421.117
Tl	205	0.187	ug/L	11.201	472	0.005
Pb	208	0.147	ug/L	6.932	711	0.009
Bi	209		ug/L		43	0.000
Th	232	0.162	ug/L	13.051	869	0.011
U	238	0.019	ug/L	11.475	128	0.001

Sample ID: 1202015711

Report Date/Time: Wednesday, January 20, 2010 20:13:41

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		97.8			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		96.6			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		93.8			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		94.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202015711

Report Date/Time: Wednesday, January 20, 2010 20:13:41

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ICPMS#4 - Summary Report

Sample ID: 1202015716

Sample Date/Time: Wednesday, January 20, 2010 20:17:06

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 941743|40|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\1202015716.075

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	2.456	ug/L	6.939	504	0.001
Be	9	21.479	ug/L	2.137	1164	0.002
B	11	34.680	ug/L	2.013	2577	0.004
Na	23	260.299	ug/L	6.826	488906	0.740
Mg	24	1095.330	ug/L	3.456	1232358	1.976
Al	27	3278.555	ug/L	5.324	5422848	8.701
P	31	242.345	ug/L	3.392	19680	0.028
K	39	1301.430	ug/L	7.690	3414973	4.875
Ca	43	2640.840	ug/L	2.004	12951	0.020
> Sc	45		ug/L		622669	622668.750
Ti	47	101.411	ug/L	2.647	24732	0.039
V	51	27.456	ug/L	1.590	43361	0.092
Cr	52	65.681	ug/L	1.585	147255	0.231
Cr	53		ug/L		176354	0.018
Mn	55	171.249	ug/L	2.330	595295	0.955
Fe	57	4601.731	ug/L	2.524	331826	0.528
Co	59	26.026	ug/L	1.724	71329	0.114
Ni	60	39.264	ug/L	2.113	22684	0.036
Cu	63		ug/L		63763	0.102
Cu	65	50.103	ug/L	2.493	30321	0.048
Zn	66	173.484	ug/L	2.226	50838	0.379
Zn	67		ug/L		15689	0.063
Zn	68		ug/L		35419	0.258
> Ge	74		ug/L		133711	133710.956
As	75	28.718	ug/L	4.026	10278	0.073
Se	77		ug/L		7827	0.004
Se	82	78.180	ug/L	3.653	2550	0.019
Kr	83		ug/L		51	0.000
Sr	88	63.621	ug/L	1.996	298599	3.705
Y	89		ug/L		14846	0.184
Zr	90	2.707	ug/L	3.467	7452	0.090
Mo	98	12.948	ug/L	2.803	15741	0.195
Ag	107	6.068	ug/L	2.181	11516	0.142
Cd	111	16.067	ug/L	2.825	6845	0.085
Cd	114		ug/L		16154	0.200
> In	115		ug/L		80566	80565.784
Sn	120	12.006	ug/L	3.313	22391	0.277
Sb	121	5.964	ug/L	2.566	8796	0.107
Sb	123		ug/L		7003	0.085
Ba	135		ug/L		23857	0.384
Ba	137	54.612	ug/L	1.676	40585	0.654
Ho	165		ug/L		521	0.008
> Lu	175		ug/L		62076	62075.532
Tl	205	31.964	ug/L	1.878	52401	0.841
Pb	208	22.349	ug/L	2.381	80306	1.290
Bi	209		ug/L		645	0.010
Th	232	2.467	ug/L	1.796	10779	0.170
U	238	0.498	ug/L	1.219	2218	0.035

Sample ID: 1202015716

Report Date/Time: Wednesday, January 20, 2010 20:19:53

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		97.5			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		97.2			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		95.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		97.4			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
	Ti	47Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 244597001

Sample Date/Time: Wednesday, January 20, 2010 20:23:18

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 941743|2|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\244597001.076

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	17.891	ug/L	1.996	3731	0.006
Be	9	0.884	ug/L	4.464	55	0.000
B	11	2.994	ug/L	6.001	414	0.000
Na	23	257.932	ug/L	16.422	498717	0.733
Mg	24	2225.096	ug/L	4.640	2565962	4.013
Al	27	15723.026	ug/L	7.635	26656359	41.727
P	31	293.107	ug/L	2.818	23975	0.034
K	39	2186.318	ug/L	6.602	5624317	8.190
Ca	43	2760.998	ug/L	1.273	13879	0.021
> Sc	45		ug/L		639189	639188.701
Ti	47	518.438	ug/L	1.455	128914	0.201
V	51	26.287	ug/L	3.340	42014	0.088
Cr	52	8.518	ug/L	1.935	22839	0.030
Cr	53		ug/L		125402	-0.069
Mn	55	624.806	ug/L	1.018	2227250	3.483
Fe	57	19447.598	ug/L	1.266	1429007	2.231
Co	59	4.703	ug/L	3.388	13304	0.021
Ni	60	7.881	ug/L	6.183	4718	0.007
Cu	63		ug/L		13076	0.020
Cu	65	10.144	ug/L	1.131	6419	0.010
Zn	66	82.091	ug/L	2.255	24127	0.180
Zn	67		ug/L		10170	0.021
Zn	68		ug/L		17747	0.126
> Ge	74		ug/L		133754	133754.481
As	75	3.475	ug/L	29.166	1684	0.009
Se	77		ug/L		4065	-0.025
Se	82	0.185	ug/L	234.437	-6	0.000
Kr	83		ug/L		72	0.000
Sr	88	21.674	ug/L	1.888	101815	1.262
Y	89		ug/L		142946	1.774
Zr	90	34.063	ug/L	3.123	91670	1.136
Mo	98	1.744	ug/L	4.665	2144	0.026
Ag	107	0.228	ug/L	7.462	488	0.005
Cd	111	0.958	ug/L	5.069	418	0.005
Cd	114		ug/L		269	0.003
> In	115		ug/L		80561	80561.344
Sn	120	1.698	ug/L	1.723	3249	0.039
Sb	121	0.340	ug/L	4.089	633	0.006
Sb	123		ug/L		475	0.004
Ba	135		ug/L		49510	0.768
Ba	137	109.759	ug/L	4.320	84624	1.313
Ho	165		ug/L		4867	0.075
> Lu	175		ug/L		64457	64456.784
Tl	205	0.381	ug/L	15.800	831	0.010
Pb	208	22.566	ug/L	3.083	84158	1.303
Bi	209		ug/L		818	0.012
Th	232	9.461	ug/L	0.946	42345	0.654
U	238	9.355	ug/L	1.560	42370	0.656

Sample ID: 244597001

Report Date/Time: Wednesday, January 20, 2010 20:26:05

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		100.1			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		97.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		95.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.1			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
	Ti	47Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 244597001

Report Date/Time: Wednesday, January 20, 2010 20:26:05

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ICPMS#4 - Summary Report

Sample ID: 1202015712

Sample Date/Time: Wednesday, January 20, 2010 20:29:30

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 941743|2|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\1202015712.077

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	19.553	ug/L	2.901	4128	0.006
Be	9	1.634	ug/L	7.968	97	0.000
B	11	2.751	ug/L	14.309	401	0.000
Na	23	275.772	ug/L	7.693	536582	0.784
Mg	24	2362.922	ug/L	7.515	2759323	4.262
Al	27	16757.755	ug/L	5.142	28774745	44.473
P	31	406.346	ug/L	2.131	32799	0.047
K	39	2187.819	ug/L	3.517	5700400	8.196
Ca	43	2694.716	ug/L	2.947	13729	0.020
> Sc	45		ug/L		647120	647119.745
Ti	47	659.632	ug/L	3.332	165972	0.256
V	51	42.120	ug/L	1.572	76846	0.141
Cr	52	9.257	ug/L	4.211	24797	0.033
Cr	53		ug/L		119802	-0.080
Mn	55	746.286	ug/L	0.802	2693188	4.160
Fe	57	26661.904	ug/L	1.719	1982140	3.058
Co	59	5.288	ug/L	3.054	15135	0.023
Ni	60	8.170	ug/L	3.216	4952	0.008
Cu	63		ug/L		16879	0.026
Cu	65	13.232	ug/L	1.606	8431	0.013
Zn	66	103.149	ug/L	1.328	29978	0.226
Zn	67		ug/L		10993	0.028
Zn	68		ug/L		21610	0.157
> Ge	74		ug/L		132363	132363.043
As	75	7.567	ug/L	7.944	3050	0.019
Se	77		ug/L		4053	-0.024
Se	82	0.650	ug/L	52.973	9	0.000
Kr	83		ug/L		68	0.000
Sr	88	21.392	ug/L	1.967	102493	1.246
Y	89		ug/L		146058	1.777
Zr	90	36.631	ug/L	2.422	100523	1.221
Mo	98	2.155	ug/L	1.922	2694	0.032
Ag	107	0.239	ug/L	3.633	520	0.006
Cd	111	1.104	ug/L	10.375	489	0.006
Cd	114		ug/L		265	0.003
> In	115		ug/L		82155	82155.144
Sn	120	2.079	ug/L	3.202	4035	0.048
Sb	121	0.236	ug/L	4.485	493	0.004
Sb	123		ug/L		438	0.004
Ba	135		ug/L		54855	0.853
Ba	137	121.027	ug/L	1.037	93194	1.448
Ho	165		ug/L		5075	0.079
> Lu	175		ug/L		64343	64342.587
Tl	205	0.229	ug/L	1.977	574	0.006
Pb	208	30.798	ug/L	1.109	114616	1.778
Bi	209		ug/L		893	0.014
Th	232	10.186	ug/L	1.072	45493	0.704
U	238	11.405	ug/L	2.361	51523	0.800

Sample ID: 1202015712

Report Date/Time: Wednesday, January 20, 2010 20:32:18

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		101.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		96.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		97.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.0			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
	Ti	47Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202015712

Report Date/Time: Wednesday, January 20, 2010 20:32:18

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ICPMS#4 - Summary Report

Sample ID: 1202015714
 Sample Date/Time: Wednesday, January 20, 2010 20:35:41
 Sample Type:
 Sample Description: LANL 6020 MS
 Number of Replicates: 3
 Batch ID: 941743|2|skj
 Method File: c:\elandata\Method\6020.mth
 Dataset File: C:\elandata\Dataset\100120\1202015714.078

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	124.676	ug/L	3.840	26808	0.041
Be	9	24.275	ug/L	5.826	1394	0.002
B	11	48.003	ug/L	2.644	3701	0.005
Na	23	1477.136	ug/L	5.908	2798697	4.198
Mg	24	6147.898	ug/L	3.122	7324226	11.089
Al	27	22488.332	ug/L	5.338	39366675	59.681
P	31	2023.996	ug/L	2.379	157558	0.235
K	39	5494.954	ug/L	1.217	13993487	20.584
Ca	43	5503.573	ug/L	0.470	28040	0.042
> Sc	45		ug/L		660206	660205.737
Ti	47	1147.312	ug/L	2.601	294327	0.446
V	51	72.158	ug/L	1.743	144754	0.242
Cr	52	40.108	ug/L	1.311	96827	0.141
Cr	53		ug/L		129807	-0.069
Mn	55	1064.521	ug/L	2.103	3917690	5.935
Fe	57	41953.262	ug/L	3.911	3178416	4.812
Co	59	30.335	ug/L	4.474	88091	0.133
Ni	60	35.405	ug/L	3.319	21685	0.033
Cu	63		ug/L		55020	0.083
Cu	65	41.379	ug/L	0.415	26584	0.040
Zn	66	194.892	ug/L	1.193	57121	0.426
Zn	67		ug/L		14915	0.057
Zn	68		ug/L		39574	0.289
> Ge	74		ug/L		133725	133725.343
As	75	48.601	ug/L	1.939	17040	0.124
Se	77		ug/L		4204	-0.024
Se	82	9.631	ug/L	5.127	303	0.002
Kr	83		ug/L		82	0.000
Sr	88	54.857	ug/L	5.119	259705	3.195
Y	89		ug/L		207782	2.558
Zr	90	73.982	ug/L	5.453	200641	2.467
Mo	98	27.481	ug/L	3.084	33701	0.414
Ag	107	25.237	ug/L	7.554	48098	0.592
Cd	111	6.732	ug/L	4.114	2901	0.036
Cd	114		ug/L		5072	0.062
> In	115		ug/L		81372	81372.022
Sn	120	26.697	ug/L	5.967	50097	0.616
Sb	121	56.923	ug/L	7.241	83436	1.026
Sb	123		ug/L		62100	0.763
Ba	135		ug/L		71137	1.101
Ba	137	158.419	ug/L	3.506	122584	1.896
Ho	165		ug/L		7232	0.112
> Lu	175		ug/L		64695	64695.238
Tl	205	43.513	ug/L	3.976	74243	1.145
Pb	208	120.781	ug/L	3.589	451054	6.974
Bi	209		ug/L		998	0.015
Th	232	35.284	ug/L	2.405	157869	2.438
U	238	32.242	ug/L	3.901	146297	2.262

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		103.4			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		97.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		96.5			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.5			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass Out of Limits Message
	Ti	47Sample is out of limits (over linear range)
	Mn	55Sample is out of limits (over linear range)

QC Action

QC Action Line: Continue

ICPMS#4 - Summary Report

Sample ID: 1202015715

Sample Date/Time: Wednesday, January 20, 2010 20:41:52

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 941743|2|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\1202015715.079

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	58.105	ug/L	2.625	12409	0.019
Be	9	24.782	ug/L	1.760	1413	0.002
B	11	50.248	ug/L	3.659	3838	0.006
Na	23	1344.269	ug/L	4.390	2534535	3.820
Mg	24	4227.884	ug/L	2.228	4998660	7.626
Al	27	25175.042	ug/L	1.606	43779980	66.811
P	31	1340.234	ug/L	1.598	104346	0.156
K	39	4160.303	ug/L	8.115	10619483	15.584
Ca	43	4247.489	ug/L	0.947	21599	0.032
> Sc	45		ug/L		655313	655312.935
Ti	47	909.599	ug/L	1.019	231724	0.353
V	51	65.735	ug/L	1.471	129642	0.220
Cr	52	38.437	ug/L	1.709	92270	0.135
Cr	53		ug/L		127118	-0.071
Mn	55	748.336	ug/L	1.758	2734961	4.172
Fe	57	33548.769	ug/L	1.739	2525427	3.848
Co	59	29.953	ug/L	0.579	86401	0.132
Ni	60	35.516	ug/L	3.964	21596	0.033
Cu	63		ug/L		51394	0.078
Cu	65	38.084	ug/L	1.639	24295	0.037
Zn	66	149.923	ug/L	1.698	44863	0.328
Zn	67		ug/L		13197	0.042
Zn	68		ug/L		32582	0.232
> Ge	74		ug/L		136470	136469.504
As	75	44.147	ug/L	2.305	15843	0.112
Se	77		ug/L		4129	-0.025
Se	82	9.708	ug/L	10.364	312	0.002
Kr	83		ug/L		87	0.000
Sr	88	54.361	ug/L	1.017	260066	3.166
Y	89		ug/L		190237	2.317
Zr	90	71.701	ug/L	2.936	196426	2.391
Mo	98	26.243	ug/L	1.293	32494	0.395
Ag	107	24.955	ug/L	0.695	48092	0.585
Cd	111	6.685	ug/L	0.386	2910	0.035
Cd	114		ug/L		5069	0.061
> In	115		ug/L		82112	82112.351
Sn	120	23.059	ug/L	2.376	43739	0.532
Sb	121	48.578	ug/L	1.764	72005	0.875
Sb	123		ug/L		55496	0.674
Ba	135		ug/L		70543	1.088
Ba	137	154.869	ug/L	0.906	120208	1.853
Ho	165		ug/L		6259	0.096
> Lu	175		ug/L		64854	64853.527
Tl	205	45.261	ug/L	1.717	77453	1.191
Pb	208	122.968	ug/L	0.544	460689	7.100
Bi	209		ug/L		1084	0.016
Th	232	36.307	ug/L	1.268	162921	2.509
U	238	33.833	ug/L	0.726	154005	2.374

Sample ID: 1202015715

Report Date/Time: Wednesday, January 20, 2010 20:44:38

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7					
Be	9					
B	11					
Na	23					
Mg	24					
Al	27					
P	31					
K	39					
Ca	43					
> Sc	45		102.6			
Ti	47					
V	51					
Cr	52					
Cr	53					
Mn	55					
Fe	57					
Co	59					
Ni	60					
Cu	63					
Cu	65					
Zn	66					
Zn	67					
Zn	68					
> Ge	74		99.3			
As	75					
Se	77					
Se	82					
Kr	83					
Sr	88					
Y	89					
Zr	90					
Mo	98					
Ag	107					
Cd	111					
Cd	114					
> In	115		97.4			
Sn	120					
Sb	121					
Sb	123					
Ba	135					
Ba	137					
Ho	165					
> Lu	175		101.8			
Tl	205					
Pb	208					
Bi	209					
Th	232					
U	238					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
	Ti	47Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: 1202015713

Sample Date/Time: Wednesday, January 20, 2010 20:48:02

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 941743|10|skj

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\1202015713.080

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	3.975	ug/L	1.843	829	0.001
Be	9	0.103	ug/L	16.704	11	0.000
B	11	0.703	ug/L	61.930	251	0.000
Na	23	52.742	ug/L	7.101	124542	0.150
Mg	24	446.577	ug/L	4.202	513745	0.805
Al	27	3047.083	ug/L	3.036	5141500	8.087
P	31	68.337	ug/L	6.918	7233	0.008
K	39	497.579	ug/L	11.715	1573411	1.864
Ca	43	612.962	ug/L	3.176	3468	0.005
> Sc	45		ug/L		635670	635670.293
Ti	47	108.860	ug/L	1.702	27089	0.042
V	51	6.973	ug/L	38.162	610	0.023
Cr	52	1.281	ug/L	14.677	6551	0.005
Cr	53		ug/L		145609	-0.036
Mn	55	131.054	ug/L	3.279	465152	0.731
Fe	57	4218.606	ug/L	2.720	310790	0.484
Co	59	0.974	ug/L	1.603	2812	0.004
Ni	60	1.665	ug/L	7.334	1037	0.002
Cu	63		ug/L		2911	0.004
Cu	65	2.131	ug/L	1.965	1455	0.002
Zn	66	18.980	ug/L	6.196	5628	0.042
Zn	67		ug/L		8025	0.006
Zn	68		ug/L		4425	0.027
> Ge	74		ug/L		132915	132914.569
As	75	0.328	ug/L	376.416	620	0.001
Se	77		ug/L		5345	-0.015
Se	82	0.158	ug/L	36.849	-7	0.000
Kr	83		ug/L		54	0.000
Sr	88	4.583	ug/L	5.981	21511	0.267
Y	89		ug/L		30603	0.382
Zr	90	7.249	ug/L	7.560	19526	0.242
Mo	98	0.571	ug/L	4.110	717	0.009
Ag	107	0.042	ug/L	23.681	136	0.001
Cd	111	0.236	ug/L	11.996	110	0.001
Cd	114		ug/L		73	0.001
> In	115		ug/L		80271	80270.746
Sn	120	0.486	ug/L	12.197	991	0.011
Sb	121	0.398	ug/L	9.488	713	0.007
Sb	123		ug/L		534	0.005
Ba	135		ug/L		10245	0.163
Ba	137	23.227	ug/L	3.219	17502	0.278
Ho	165		ug/L		1002	0.016
> Lu	175		ug/L		62962	62961.571
Tl	205	0.148	ug/L	26.562	426	0.004
Pb	208	4.949	ug/L	5.674	18170	0.286
Bi	209		ug/L		209	0.003
Th	232	2.006	ug/L	4.133	8916	0.139
U	238	1.954	ug/L	5.468	8669	0.137

Sample ID: 1202015713

Report Date/Time: Wednesday, January 20, 2010 20:50:49

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
[	Li	7					
|	Be	9					
|	B	11					
|	Na	23					
|	Mg	24					
|	Al	27					
|	P	31					
|	K	39					
|	Ca	43					
>	Sc	45		99.6			
|	Ti	47					
|	V	51					
|	Cr	52					
|	Cr	53					
|	Mn	55					
|	Fe	57					
|	Co	59					
|	Ni	60					
|	Cu	63					
|	Cu	65					
[	Zn	66					
|	Zn	67					
|	Zn	68					
>	Ge	74		96.7			
|	As	75					
|	Se	77					
|	Se	82					
|	Kr	83					
[	Sr	88					
|	Y	89					
|	Zr	90					
|	Mo	98					
|	Ag	107					
|	Cd	111					
|	Cd	114					
>	In	115		95.2			
|	Sn	120					
|	Sb	121					
|	Sb	123					
[	Ba	135					
|	Ba	137					
|	Ho	165					
>	Lu	175		98.8			
|	Tl	205					
|	Pb	208					
|	Bi	209					
|	Th	232					
|	U	238					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
	Ti	47	Sample is out of limits (over linear range)

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202015713

Report Date/Time: Wednesday, January 20, 2010 20:50:49

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ICPMS#4 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Wednesday, January 20, 2010 20:54:14

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 6.081

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	49.476	ug/L	2.383	10357	0.016
Be	9	50.444	ug/L	3.164	2813	0.004
B	11	100.460	ug/L	3.365	7313	0.011
Na	23	4818.030	ug/L	4.056	8819704	13.691
Mg	24	5411.525	ug/L	5.187	6271189	9.760
Al	27	4940.057	ug/L	4.744	8423895	13.110
P	31	5126.719	ug/L	1.242	385021	0.596
K	39	4984.538	ug/L	4.178	12386958	18.672
Ca	43	5054.585	ug/L	2.395	25096	0.038
> Sc	45		ug/L		642227	642227.473
Ti	47	49.433	ug/L	3.509	12552	0.019
V	51	48.875	ug/L	9.220	90848	0.164
Cr	52	51.934	ug/L	1.616	120880	0.182
Cr	53		ug/L		233557	0.098
Mn	55	51.225	ug/L	0.843	184356	0.286
Fe	57	4975.156	ug/L	0.972	369853	0.571
Co	59	49.818	ug/L	0.963	140770	0.219
Ni	60	52.331	ug/L	0.591	31168	0.048
Cu	63		ug/L		68656	0.107
Cu	65	51.817	ug/L	0.809	32343	0.050
Zn	66	51.402	ug/L	1.184	15676	0.112
Zn	67		ug/L		13617	0.044
Zn	68		ug/L		12050	0.081
> Ge	74		ug/L		138314	138314.136
As	75	48.399	ug/L	4.382	17548	0.123
Se	77		ug/L		10685	0.022
Se	82	47.913	ug/L	1.994	1612	0.012
Kr	83		ug/L		57	0.000
Sr	88	52.892	ug/L	2.475	252143	3.080
Y	89		ug/L		45	0.000
Zr	90	51.539	ug/L	2.136	140820	1.718
Mo	98	50.932	ug/L	1.407	62836	0.767
Ag	107	52.300	ug/L	2.363	100372	1.226
Cd	111	50.699	ug/L	2.073	21920	0.268
Cd	114		ug/L		50858	0.621
> In	115		ug/L		81840	81839.946
Sn	120	51.921	ug/L	2.889	98034	1.197
Sb	121	50.008	ug/L	0.355	73888	0.901
Sb	123		ug/L		56869	0.693
Ba	135		ug/L		23004	0.363
Ba	137	51.254	ug/L	1.207	38909	0.613
Ho	165		ug/L		11	0.000
> Lu	175		ug/L		63401	63401.360
Tl	205	47.365	ug/L	2.362	79232	1.247
Pb	208	49.999	ug/L	0.937	183233	2.887
Bi	209		ug/L		51	0.000
Th	232	50.095	ug/L	3.532	219695	3.462
U	238	49.959	ug/L	2.626	222297	3.505

Sample ID: QC Std 6

Report Date/Time: Wednesday, January 20, 2010 20:57:01

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Calibration

Analyte	MassCurve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Diff	Dup. Rel. % Diff
Li	7	98.952				
Be	9	100.887				
B	11	100.460				
Na	23	96.361				
Mg	24	108.231				
Al	27	97.823				
P	31	102.534				
K	39	99.691				
Ca	43	101.092				
> Sc	45		100.6			
Ti	47	98.865				
V	51	97.750				
Cr	52	103.869				
Cr	53					
Mn	55	102.451				
Fe	57	99.503				
Co	59	99.636				
Ni	60	104.663				
Cu	63					
Cu	65	103.635				
Zn	66	102.805				
Zn	67					
Zn	68					
> Ge	74		100.6			
As	75	96.797				
Se	77					
Se	82	95.826				
Kr	83					
Sr	88	105.785				
Y	89					
Zr	90	103.078				
Mo	98	101.864				
Ag	107	104.599				
Cd	111	101.398				
Cd	114					
> In	115		97.1			
Sn	120	103.842				
Sb	121	100.017				
Sb	123					
Ba	135					
Ba	137	102.508				
Ho	165					
> Lu	175		99.5			
Tl	205	94.731				
Pb	208	99.999				
Bi	209					
Th	232	100.190				
U	238	99.917				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

ICPMS#4 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Wednesday, January 20, 2010 21:00:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\6020.mth

Dataset File: C:\elandata\Dataset\100120\QC Std 7.082

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Li	7	0.042	ug/L	1.065	15	0.000
Be	9	-0.002	ug/L	1258.750	6	-0.000
B	11	0.395	ug/L	79.789	236	0.000
Na	23	-3.246	ug/L	48.552	24020	-0.009
Mg	24	1.084	ug/L	195.301	3334	0.002
Al	27	0.927	ug/L	185.350	4001	0.002
P	31	0.798	ug/L	75.603	2309	0.000
K	39	-3.395	ug/L	353.505	392334	-0.013
Ca	43	13.308	ug/L	95.827	601	0.000
> Sc	45		ug/L		653163	653163.487
Ti	47	0.001	ug/L	2291.336	222	0.000
V	51	1.893	ug/L	105.481	-10407	0.006
Cr	52	-0.917	ug/L	5.830	1692	-0.003
Cr	53		ug/L		145706	-0.042
Mn	55	-0.001	ug/L	757.183	964	-0.000
Fe	57	-0.852	ug/L	250.860	3334	-0.000
Co	59	0.020	ug/L	58.335	150	0.000
Ni	60	0.034	ug/L	86.403	80	0.000
Cu	63		ug/L		152	0.000
Cu	65	-0.045	ug/L	72.453	120	-0.000
Zn	66	0.012	ug/L	351.019	134	0.000
Zn	67		ug/L		7389	-0.002
Zn	68		ug/L		775	-0.001
> Ge	74		ug/L		140433	140432.625
As	75	-1.576	ug/L	44.615	-31	-0.004
Se	77		ug/L		4887	-0.020
Se	82	0.067	ug/L	98.201	-11	0.000
Kr	83		ug/L		47	-0.000
Sr	88	0.013	ug/L	64.433	203	0.001
Y	89		ug/L		14	-0.000
Zr	90	0.094	ug/L	22.422	447	0.003
Mo	98	0.040	ug/L	2.220	78	0.001
Ag	107	0.027	ug/L	32.139	112	0.001
Cd	111	0.028	ug/L	65.292	23	0.000
Cd	114		ug/L		44	0.000
> In	115		ug/L		82593	82592.527
Sn	120	0.072	ug/L	9.746	234	0.002
Sb	121	0.398	ug/L	10.620	736	0.007
Sb	123		ug/L		573	0.005
Ba	135		ug/L		29	0.000
Ba	137	0.022	ug/L	88.959	35	0.000
Ho	165		ug/L		9	0.000
> Lu	175		ug/L		62664	62664.110
Tl	205	0.229	ug/L	13.393	559	0.006
Pb	208	0.039	ug/L	35.507	346	0.002
Bi	209		ug/L		21	-0.000
Th	232	0.106	ug/L	23.166	659	0.007
U	238	0.022	ug/L	31.438	144	0.002

Sample ID: QC Std 7

Report Date/Time: Wednesday, January 20, 2010 21:03:15

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Calibration

Analyte	Mass Curve Type	Correlation Coefficient
Li	7Linear Thru Zero	1.0000
Be	9Linear Thru Zero	1.0000
B	11Linear Thru Zero	1.0000
Na	23Linear Thru Zero	0.9999
Mg	24Linear Thru Zero	1.0000
Al	27Linear Thru Zero	1.0000
P	31Linear Thru Zero	1.0000
K	39Linear Thru Zero	1.0000
Ca	43Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ti	47Linear Thru Zero	1.0000
V	51Linear Thru Zero	0.9989
Cr	52Linear Thru Zero	0.9999
Cr	53Linear Thru Zero	
Mn	55Linear Thru Zero	1.0000
Fe	57Linear Thru Zero	1.0000
Co	59Linear Thru Zero	1.0000
Ni	60Linear Thru Zero	1.0000
Cu	63Linear Thru Zero	
Cu	65Linear Thru Zero	1.0000
Zn	66Linear Thru Zero	1.0000
Zn	67Linear Thru Zero	
Zn	68Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	0.9999
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Sr	88Linear Thru Zero	1.0000
Y	89Linear Thru Zero	
Zr	90Linear Thru Zero	1.0000
Mo	98Linear Thru Zero	1.0000
Ag	107Linear Thru Zero	1.0000
Cd	111Linear Thru Zero	1.0000
Cd	114Linear Thru Zero	
In	115Linear Thru Zero	
Sn	120Linear Thru Zero	1.0000
Sb	121Linear Thru Zero	1.0000
Sb	123Linear Thru Zero	
Ba	135Linear Thru Zero	
Ba	137Linear Thru Zero	1.0000
Ho	165Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
Bi	209Linear Thru Zero	
Th	232Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass QC Std	% Recovery	Int Std	% Recovery	Spike	% Recovery	Dilution	% Diff	Dup. Rel.	% Diff
Li	7									
Be	9									
B	11									
Na	23									
Mg	24									
Al	27									
P	31									
K	39									
Ca	43									
> Sc	45								102.3	
Ti	47									
V	51									
Cr	52									
Cr	53									
Mn	55									
Fe	57									
Co	59									
Ni	60									
Cu	63									
Cu	65									
Zn	66									
Zn	67									
Zn	68									
> Ge	74								102.1	
As	75									
Se	77									
Se	82									
Kr	83									
Sr	88									
Y	89									
Zr	90									
Mo	98									
Ag	107									
Cd	111									
Cd	114									
> In	115								98.0	
Sn	120									
Sb	121									
Sb	123									
Ba	135									
Ba	137									
Ho	165									
> Lu	175								98.3	
Tl	205									
Pb	208									
Bi	209									
Th	232									
U	238									

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Wednesday, January 20, 2010 21:03:15

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=====
Analysis BegunLogged In Analyst: Administrator
Spectrometer Model: FIMS-100, S/N B050-9550Technique: AA FIMS-MHS
Autosampler Model: S10Sample Information File: C:\data-AA\Administrator\Sample Information\012810S1.SIF
Batch ID:
Results Data Set: 012810S1
Results Library: C:\data-AA\Administrator\Results\Results.mdb=====
Method LoadedMethod Name: SOIL
Method Description: 7471A, ILM04 ANALYST JXL

Method Last Saved: 1/4/2010 13:53:20

Sequence No.: 1
Sample ID: Calib Blank
Analyst:Autosampler Location: 1
Date Collected: 1/28/2010 08:53:52
Data Type: Original-----
Replicate Data: Calib Blank

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.00]	0.0002	-0.0001	0.0002	08:54:44	Yes
2		[0.00]	0.0001	-0.0003	0.0001	08:55:13	Yes
Mean:		[0.00]	0.0001				
SD:		0.00	0.0000				
%RSD:		0.00	29.97				

Auto-zero performed.

Sequence No.: 2
Sample ID: S0.2
Analyst:Autosampler Location: 2
Date Collected: 1/28/2010 08:55:32
Data Type: Original-----
Replicate Data: S0.2

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.2]	0.0020	0.0081	0.0022	08:56:23	Yes
2		[0.2]	0.0021	0.0093	0.0023	08:56:53	Yes
Mean:		[0.2]	0.0021				
SD:		0.0	0.0001				
%RSD:		0.0	2.74				

Standard number 1 applied. [0.2]

Correlation Coef.: 1.000000 Slope: 0.01038 Intercept: 0.00000

Sequence No.: 3
Sample ID: S0.5
Analyst:Autosampler Location: 3
Date Collected: 1/28/2010 08:57:12
Data Type: Original-----
Replicate Data: S0.5

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[0.5]	0.0054	0.0215	0.0055	08:58:03	Yes
2		[0.5]	0.0054	0.0220	0.0055	08:58:33	Yes
Mean:		[0.5]	0.0054				
SD:		0.0	0.0000				
%RSD:		0.0	0.01				

Standard number 2 applied. [0.5]

Correlation Coef.: 0.999902 Slope: 0.01072 Intercept: -0.00003

Sequence No.: 4
Sample ID: S2.0
Analyst:Autosampler Location: 4
Date Collected: 1/28/2010 08:58:52
Data Type: Original

Replicate Data: S2.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0219	0.0915	0.0221	08:59:44	Yes
2		[2.0]	0.0218	0.0916	0.0219	09:00:14	Yes
Mean:		[2.0]	0.0218				
SD:		0.0	0.0001				
%RSD:		0.0	0.40				

Standard number 3 applied. [2.0]
Correlation Coef.: 0.999983 Slope: 0.01095 Intercept: -0.00007

Sequence No.: 5
Sample ID: S5.0
Analyst:

Autosampler Location: 5
Date Collected: 1/28/2010 09:00:33
Data Type: Original

Replicate Data: S5.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0547	0.2297	0.0548	09:01:25	Yes
2		[5.0]	0.0544	0.2281	0.0545	09:01:55	Yes
Mean:		[5.0]	0.0545				
SD:		0.0	0.0002				
%RSD:		0.0	0.43				

Standard number 4 applied. [5.0]
Correlation Coef.: 0.999997 Slope: 0.01092 Intercept: -0.00006

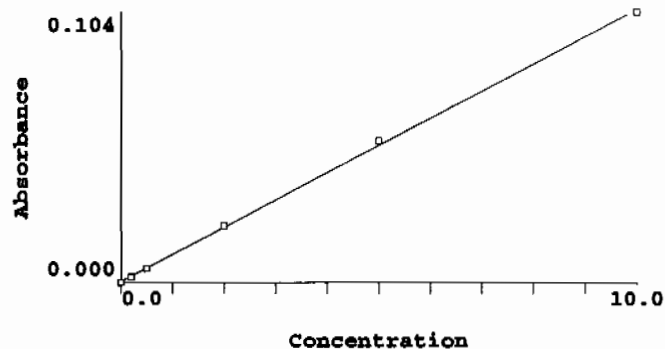
Sequence No.: 6
Sample ID: S10.0
Analyst:

Autosampler Location: 6
Date Collected: 1/28/2010 09:02:15
Data Type: Original

Replicate Data: S10.0

Repl #	SampleConc ug/L	StdndConc ug/L	BlndCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1045	0.4437	0.1046	09:03:05	Yes
2		[10.0]	0.1043	0.4410	0.1045	09:03:35	Yes
Mean:		[10.0]	0.1044				
SD:		0.0	0.0001				
%RSD:		0.0	0.12				

Standard number 5 applied. [10.0]
Correlation Coef.: 0.999747 Slope: 0.01049 Intercept: 0.00043

-----
Calibration data for Hg 253.7

Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Calib Blank	0.0000	0	-0.041	0.00	30.0
S0.2	0.0021	0.2	0.157	0.00	2.7
S0.5	0.0054	0.5	0.469	0.00	0.0
S2.0	0.0218	2.0	2.042	0.00	0.4

S5.0 0.0545 5.0 5.159 0.00 0.4
S10.0 0.1044 10.0 9.914 0.00 0.1
Correlation Coef.: 0.999747 Slope: 0.01049 Intercept: 0.00043

Sequence No.: 7

Sample ID: ICV

Analyst:

Autosampler Location: 9

Date Collected: 1/28/2010 09:03:54

Data Type: Original

Replicate Data: ICV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.094	5.094	0.0539	0.2278	0.0540	09:04:46	Yes
2	5.099	5.099	0.0539	0.2267	0.0540	09:05:15	Yes
Mean:	5.097	5.097	0.0539				
SD:	0.003	0.003	0.0000				
%RSD:	0.058	0.058	0.06				

QC value within limits for Hg 253.7 Recovery = 101.93%

All analyte(s) passed QC.

Sequence No.: 8

Sample ID: ICB

Analyst:

Autosampler Location: 10

Date Collected: 1/28/2010 09:05:35

Data Type: Original

Replicate Data: ICB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.052	-0.052	-0.0001	-0.0016	0.0000	09:06:27	Yes
2	-0.048	-0.048	-0.0001	-0.0008	0.0001	09:06:56	Yes
Mean:	-0.050	-0.050	-0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	6.738	6.738	39.21				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 9

Sample ID: CRDL

Analyst:

Autosampler Location: 11

Date Collected: 1/28/2010 09:07:16

Data Type: Original

Replicate Data: CRDL

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.164	0.164	0.0022	0.0088	0.0023	09:08:08	Yes
2	0.155	0.155	0.0021	0.0078	0.0022	09:08:38	Yes
Mean:	0.159	0.159	0.0021				
SD:	0.007	0.007	0.0001				
%RSD:	4.126	4.126	3.27				

QC value within limits for Hg 253.7 Recovery = 79.64%

All analyte(s) passed QC.

Sequence No.: 10

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 1/28/2010 09:08:58

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.072	5.072	0.0536	0.2278	0.0538	09:09:48	Yes
2	5.052	5.052	0.0534	0.2256	0.0536	09:10:18	Yes
Mean:	5.062	5.062	0.0535				
SD:	0.014	0.014	0.0002				
%RSD:	0.286	0.286	0.28				

QC value within limits for Hg 253.7 Recovery = 101.24%

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB
Analyst:

Autosampler Location: 8
Date Collected: 1/28/2010 09:10:37
Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.050	-0.050	-0.0001	-0.0011	0.0001	09:11:27	Yes
2	-0.049	-0.049	-0.0001	-0.0007	0.0001	09:11:57	Yes
Mean:	-0.050	-0.050	-0.0001				
SD:	0.000	0.000	0.0000				
%RSD:	0.809	0.809	4.85				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 12
Sample ID: 1202019704|943287|1
Analyst: JXL

Autosampler Location: 12
Date Collected: 1/28/2010 09:12:17
Data Type: Original

Replicate Data: 1202019704|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.048	-0.048	-0.0001	-0.0009	0.0001	09:13:08	Yes
2	-0.051	-0.051	-0.0001	-0.0010	0.0001	09:13:38	Yes
Mean:	-0.049	-0.049	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	3.339	3.339	20.56				

Sequence No.: 13
Sample ID: 1202019705|943287|10
Analyst: JXL

Autosampler Location: 13
Date Collected: 1/28/2010 09:13:58
Data Type: Original

Replicate Data: 1202019705|943287|10

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.720	3.720	0.0394	0.1674	0.0396	09:14:50	Yes
2	3.699	3.699	0.0392	0.1659	0.0394	09:15:19	Yes
Mean:	3.710	3.710	0.0393				
SD:	0.015	0.015	0.0002				
%RSD:	0.410	0.410	0.41				

Sequence No.: 14
Sample ID: 244227001|943287|1
Analyst: JXL

Autosampler Location: 14
Date Collected: 1/28/2010 09:15:40
Data Type: Original

Replicate Data: 244227001|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.027	0.027	0.0007	0.0017	0.0009	09:16:30	Yes
2	0.028	0.028	0.0007	0.0022	0.0009	09:17:00	Yes
Mean:	0.028	0.028	0.0007				
SD:	0.001	0.001	0.0000				
%RSD:	4.386	4.386	1.75				

Sequence No.: 15
Sample ID: 1202019706|943287|1
Analyst: JXL

Autosampler Location: 15
Date Collected: 1/28/2010 09:17:19
Data Type: Original

Replicate Data: 1202019706|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
------	------------	---------	---------	------	------	------	------

Replicate Data: 244227003|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.137	0.137	0.0019	0.0087	0.0020	09:26:27	Yes
2	0.136	0.136	0.0019	0.0083	0.0020	09:26:57	Yes
Mean:	0.137	0.137	0.0019				
SD:	0.001	0.001	0.0000				
%RSD:	0.806	0.806	0.62				

Sequence No.: 21

Autosampler Location: 21

Sample ID: 244227004|943287|1

Date Collected: 1/28/2010 09:27:16

Analyst: JXL

Data Type: Original

Replicate Data: 244227004|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.219	0.219	0.0027	0.0119	0.0029	09:28:07	Yes
2	0.213	0.213	0.0027	0.0110	0.0028	09:28:37	Yes
Mean:	0.216	0.216	0.0027				
SD:	0.004	0.004	0.0000				
%RSD:	1.899	1.899	1.59				

Sequence No.: 22

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/28/2010 09:28:56

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.005	5.005	0.0529	0.2242	0.0531	09:29:46	Yes
2	5.020	5.020	0.0531	0.2247	0.0532	09:30:16	Yes
Mean:	5.012	5.012	0.0530				
SD:	0.011	0.011	0.0001				
%RSD:	0.221	0.221	0.22				

QC value within limits for Hg 253.7 Recovery = 100.25%
All analyte(s) passed QC.

Sequence No.: 23

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 09:30:35

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.049	-0.049	-0.0001	-0.0006	0.0001	09:31:26	Yes
2	-0.043	-0.043	-0.0000	0.0003	0.0001	09:31:56	Yes
Mean:	-0.046	-0.046	-0.0000				
SD:	0.004	0.004	0.0000				
%RSD:	8.634	8.634	90.40				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 24

Autosampler Location: 22

Sample ID: 244227005|943287|1

Date Collected: 1/28/2010 09:32:15

Analyst: JXL

Data Type: Original

Replicate Data: 244227005|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.268	0.268	0.0032	0.0141	0.0034	09:33:06	Yes
2	0.265	0.265	0.0032	0.0139	0.0034	09:33:36	Yes

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.165	0.165	0.0022	0.0111	0.0023	09:41:33	Yes
2	0.166	0.166	0.0022	0.0112	0.0023	09:42:03	Yes
Mean:	0.165	0.165	0.0022				
SD:	0.000	0.000	0.0000				
%RSD:	0.181	0.181	0.14				

Sequence No.: 30

Sample ID: 244227011|943287|1

Analyst: JXL

Autosampler Location: 28

Date Collected: 1/28/2010 09:42:22

Data Type: Original

Replicate Data: 244227011|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.011	0.011	0.0006	0.0024	0.0007	09:43:13	Yes
2	0.012	0.012	0.0006	0.0026	0.0007	09:43:43	Yes
Mean:	0.011	0.011	0.0006				
SD:	0.000	0.000	0.0000				
%RSD:	2.628	2.628	0.57				

Sequence No.: 31

Sample ID: 244227012|943287|1

Analyst: JXL

Autosampler Location: 29

Date Collected: 1/28/2010 09:44:02

Data Type: Original

Replicate Data: 244227012|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.140	0.140	0.0019	0.0083	0.0021	09:44:53	Yes
2	0.132	0.132	0.0018	0.0079	0.0020	09:45:23	Yes
Mean:	0.136	0.136	0.0019				
SD:	0.005	0.005	0.0001				
%RSD:	3.982	3.982	3.05				

Sequence No.: 32

Sample ID: 244227013|943287|1

Analyst: JXL

Autosampler Location: 30

Date Collected: 1/28/2010 09:45:42

Data Type: Original

Replicate Data: 244227013|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.361	0.361	0.0042	0.0181	0.0044	09:46:32	Yes
2	0.362	0.362	0.0042	0.0184	0.0044	09:47:02	Yes
Mean:	0.361	0.361	0.0042				
SD:	0.001	0.001	0.0000				
%RSD:	0.169	0.169	0.15				

Sequence No.: 33

Sample ID: 244227014|943287|1

Analyst: JXL

Autosampler Location: 31

Date Collected: 1/28/2010 09:47:21

Data Type: Original

Replicate Data: 244227014|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.181	0.181	0.0023	0.0102	0.0025	09:48:12	Yes
2	0.180	0.180	0.0023	0.0101	0.0025	09:48:42	Yes
Mean:	0.181	0.181	0.0023				
SD:	0.001	0.001	0.0000				
%RSD:	0.497	0.497	0.40				

Sequence No.: 34

Sample ID: CCV

Autosampler Location: 7

Date Collected: 1/28/2010 09:49:01

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.102	5.102	0.0539	0.2295	0.0541	09:49:52	Yes
2	5.115	5.115	0.0541	0.2304	0.0542	09:50:22	Yes
Mean:	5.109	5.109	0.0540				
SD:	0.009	0.009	0.0001				
%RSD:	0.184	0.184	0.18				

QC value within limits for Hg 253.7 Recovery = 102.17%
All analyte(s) passed QC.

=====

Sequence No.: 35

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 09:50:41

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.038	-0.038	0.0000	0.0015	0.0002	09:51:31	Yes
2	-0.030	-0.030	0.0001	0.0023	0.0003	09:52:01	Yes
Mean:	-0.034	-0.034	0.0001				
SD:	0.006	0.006	0.0001				
%RSD:	16.35	16.35	78.42				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

=====

Sequence No.: 36

Autosampler Location: 32

Sample ID: 244227015|943287|1

Date Collected: 1/28/2010 09:52:21

Analyst: JXL

Data Type: Original

Replicate Data: 244227015|943287|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.096	0.096	0.0014	0.0077	0.0016	09:53:11	Yes
2	0.096	0.096	0.0014	0.0080	0.0016	09:53:41	Yes
Mean:	0.096	0.096	0.0014				
SD:	0.000	0.000	0.0000				
%RSD:	0.188	0.188	0.13				

=====

Sequence No.: 37

Autosampler Location: 33

Sample ID: 1202019684|943278|1

Date Collected: 1/28/2010 09:54:01

Analyst: JXL

Data Type: Original

Replicate Data: 1202019684|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.021	-0.021	0.0002	0.0033	0.0004	09:54:51	Yes
2	-0.020	-0.020	0.0002	0.0032	0.0004	09:55:21	Yes
Mean:	-0.021	-0.021	0.0002				
SD:	0.000	0.000	0.0000				
%RSD:	2.351	2.351	2.37				

=====

Sequence No.: 38

Autosampler Location: 34

Sample ID: 1202019685|943278|10

Date Collected: 1/28/2010 09:55:41

Analyst: JXL

Data Type: Original

Replicate Data: 1202019685|943278|10

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.800	3.800	0.0403	0.1714	0.0404	09:56:32	Yes

Replicate Data: 244228005|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.124	0.124	0.0017	0.0081	0.0019	10:04:57	Yes
2	0.126	0.126	0.0018	0.0084	0.0019	10:05:27	Yes
Mean:	0.125	0.125	0.0017				
SD:	0.001	0.001	0.0000				
%RSD:	0.819	0.819	0.62				

Sequence No.: 44

Autosampler Location: 40

Sample ID: 244228006|943278|1

Date Collected: 1/28/2010 10:05:46

Analyst: JXL

Data Type: Original

Replicate Data: 244228006|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.153	0.153	0.0020	0.0094	0.0022	10:06:37	Yes
2	0.153	0.153	0.0020	0.0095	0.0022	10:07:07	Yes
Mean:	0.153	0.153	0.0020				
SD:	0.000	0.000	0.0000				
%RSD:	0.115	0.115	0.09				

Sequence No.: 45

Autosampler Location: 41

Sample ID: 244888001|943278|1

Date Collected: 1/28/2010 10:07:26

Analyst: JXL

Data Type: Original

Replicate Data: 244888001|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.151	0.151	0.0020	0.0092	0.0022	10:08:17	Yes
2	0.156	0.156	0.0021	0.0101	0.0022	10:08:47	Yes
Mean:	0.154	0.154	0.0020				
SD:	0.003	0.003	0.0000				
%RSD:	2.238	2.238	1.76				

Sequence No.: 46

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/28/2010 10:09:07

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.176	5.176	0.0547	0.2332	0.0549	10:09:57	Yes
2	5.172	5.172	0.0547	0.2332	0.0548	10:10:27	Yes
Mean:	5.174	5.174	0.0547				
SD:	0.003	0.003	0.0000				
%RSD:	0.049	0.049	0.05				

QC value within limits for Hg 253.7 Recovery = 103.47%

All analyte(s) passed QC.

Sequence No.: 47

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 10:10:46

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.045	-0.045	-0.0000	0.0005	0.0001	10:11:36	Yes
2	-0.040	-0.040	0.0000	0.0012	0.0002	10:12:06	Yes
Mean:	-0.042	-0.042	-0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	7.815	7.815	354.02				

QC value within limits for Hg 253.7 Recovery = Not calculated

Replicate Data: 244920001|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	11.68	11.68	0.1229	0.5238	0.1230	10:28:23	Yes
Sample concentration is greater than that of the highest standard.							
2	11.65	11.65	0.1226	0.5219	0.1227	10:28:53	Yes
Sample concentration is greater than that of the highest standard.							
Mean:	11.66	11.66	0.1227				
SD:	0.022	0.022	0.0002				
%RSD:	0.191	0.191	0.19				
Sample concentration is greater than that of the highest standard.							

Sequence No.: 58

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 1/28/2010 10:29:13

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.167	5.167	0.0546	0.2323	0.0548	10:30:04	Yes
2	5.181	5.181	0.0548	0.2326	0.0549	10:30:34	Yes
Mean:	5.174	5.174	0.0547				
SD:	0.010	0.010	0.0001				
%RSD:	0.195	0.195	0.19				

QC value within limits for Hg 253.7 Recovery = 103.48%
All analyte(s) passed QC.

Sequence No.: 59

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 1/28/2010 10:30:52

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.038	-0.038	0.0000	0.0005	0.0002	10:31:43	Yes
2	-0.033	-0.033	0.0001	0.0013	0.0002	10:32:13	Yes
Mean:	-0.035	-0.035	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	8.424	8.424	50.14				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 60

Sample ID: 1202019686|943278|1

Analyst: JXL

Autosampler Location: 52

Date Collected: 1/28/2010 10:32:32

Data Type: Original

Replicate Data: 1202019686|943278|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	12.34	12.34	0.1299	0.5561	0.1300	10:33:23	Yes
Sample concentration is greater than that of the highest standard.							
2	12.27	12.27	0.1291	0.5508	0.1292	10:33:53	Yes
Sample concentration is greater than that of the highest standard.							
Mean:	12.31	12.31	0.1295				
SD:	0.054	0.054	0.0006				
%RSD:	0.443	0.443	0.44				
Sample concentration is greater than that of the highest standard.							

Sequence No.: 61

Sample ID: 1202019687|943278|1

Analyst: JXL

Autosampler Location: 53

Date Collected: 1/28/2010 10:34:12

Data Type: Original

Mean: 0.180 0.180 0.0023
SD: 0.002 0.002 0.0000
%RSD: 1.223 1.223 0.99

Sequence No.: 66
Sample ID: 1202019727|943294|1
Analyst: JXL

Autosampler Location: 58
Date Collected: 1/28/2010 10:42:34
Data Type: Original

Replicate Data: 1202019727|943294|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.034	-0.034	0.0001	0.0013	0.0002	10:43:25	Yes
2	-0.042	-0.042	-0.0000	0.0006	0.0001	10:43:55	Yes
Mean:	-0.038	-0.038	0.0000				
SD:	0.006	0.006	0.0001				
%RSD:	14.59	14.59	163.60				

Sequence No.: 67
Sample ID: 1202019728|943294|10
Analyst: JXL

Autosampler Location: 59
Date Collected: 1/28/2010 10:44:15
Data Type: Original

Replicate Data: 1202019728|943294|10

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.852	3.852	0.0408	0.1757	0.0410	10:45:06	Yes
2	3.853	3.853	0.0408	0.1758	0.0410	10:45:36	Yes
Mean:	3.852	3.852	0.0408				
SD:	0.001	0.001	0.0000				
%RSD:	0.021	0.021	0.02				

Sequence No.: 68
Sample ID: 244242001|943294|1
Analyst: JXL

Autosampler Location: 60
Date Collected: 1/28/2010 10:45:56
Data Type: Original

Replicate Data: 244242001|943294|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.305	0.305	0.0036	0.0160	0.0038	10:46:47	Yes
2	0.299	0.299	0.0036	0.0157	0.0037	10:47:17	Yes
Mean:	0.302	0.302	0.0036				
SD:	0.004	0.004	0.0000				
%RSD:	1.352	1.352	1.19				

Sequence No.: 69
Sample ID: 1202019729|943294|1
Analyst: JXL

Autosampler Location: 61
Date Collected: 1/28/2010 10:47:37
Data Type: Original

Replicate Data: 1202019729|943294|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.292	0.292	0.0035	0.0154	0.0036	10:48:29	Yes
2	0.302	0.302	0.0036	0.0167	0.0038	10:48:59	Yes
Mean:	0.297	0.297	0.0036				
SD:	0.007	0.007	0.0001				
%RSD:	2.334	2.334	2.05				

Sequence No.: 70
Sample ID: CCV
Analyst:

Autosampler Location: 7
Date Collected: 1/28/2010 10:49:19
Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.089	5.089	0.0538	0.2313	0.0539	10:50:10	Yes
2	5.073	5.073	0.0536	0.2297	0.0538	10:50:40	Yes
Mean:	5.081	5.081	0.0537				
SD:	0.012	0.012	0.0001				
%RSD:	0.229	0.229	0.23				

QC value within limits for Hg 253.7 Recovery = 101.62%
All analyte(s) passed QC.

Sequence No.: 71

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 10:50:59

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.038	-0.038	0.0000	0.0006	0.0002	10:51:50	Yes
2	-0.035	-0.035	0.0001	0.0011	0.0002	10:52:20	Yes
Mean:	-0.036	-0.036	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	6.972	6.972	51.65				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 72

Autosampler Location: 62

Sample ID: 1202019730|943294|1

Date Collected: 1/28/2010 10:52:39

Analyst: JXL

Data Type: Original

Replicate Data: 1202019730|943294|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.356	2.356	0.0251	0.1071	0.0253	10:53:30	Yes
2	2.347	2.347	0.0250	0.1079	0.0252	10:54:00	Yes
Mean:	2.351	2.351	0.0251				
SD:	0.007	0.007	0.0001				
%RSD:	0.281	0.281	0.28				

Sequence No.: 73

Autosampler Location: 63

Sample ID: 1202019732|943294|1

Date Collected: 1/28/2010 10:54:19

Analyst: JXL

Data Type: Original

Replicate Data: 1202019732|943294|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.405	2.405	0.0257	0.1099	0.0258	10:55:10	Yes
2	2.395	2.395	0.0255	0.1099	0.0257	10:55:40	Yes
Mean:	2.400	2.400	0.0256				
SD:	0.007	0.007	0.0001				
%RSD:	0.312	0.312	0.31				

Sequence No.: 74

Autosampler Location: 64

Sample ID: 1202019731|943294|5

Date Collected: 1/28/2010 10:56:00

Analyst: JXL

Data Type: Original

Replicate Data: 1202019731|943294|5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.028	0.028	0.0007	0.0034	0.0009	10:56:51	Yes
2	0.027	0.027	0.0007	0.0035	0.0009	10:57:21	Yes
Mean:	0.028	0.028	0.0007				
SD:	0.001	0.001	0.0000				
%RSD:	3.832	3.832	1.54				

2	0.374	0.374	0.0044	0.0197	0.0045	11:05:45	Yes
Mean:	0.373	0.373	0.0043				
SD:	0.002	0.002	0.0000				
%RSD:	0.659	0.659	0.59				

Sequence No.: 80

Autosampler Location: 70

Sample ID: 244242007|943294|1

Date Collected: 1/28/2010 11:06:05

Analyst: JXL

Data Type: Original

Replicate Data: 244242007|943294|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.400	2.400	0.0256	0.1107	0.0258	11:06:56	Yes
2	2.400	2.400	0.0256	0.1106	0.0257	11:07:26	Yes
Mean:	2.400	2.400	0.0256				
SD:	0.000	0.000	0.0000				
%RSD:	0.013	0.013	0.01				

Sequence No.: 81

Autosampler Location: 71

Sample ID: 244242008|943294|1

Date Collected: 1/28/2010 11:07:46

Analyst: JXL

Data Type: Original

Replicate Data: 244242008|943294|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.604	0.604	0.0068	0.0297	0.0069	11:08:37	Yes
2	0.608	0.608	0.0068	0.0304	0.0070	11:09:07	Yes
Mean:	0.606	0.606	0.0068				
SD:	0.003	0.003	0.0000				
%RSD:	0.450	0.450	0.42				

Sequence No.: 82

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/28/2010 11:09:27

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.053	5.053	0.0534	0.2302	0.0536	11:10:17	Yes
2	5.037	5.037	0.0533	0.2308	0.0534	11:10:47	Yes
Mean:	5.045	5.045	0.0533				
SD:	0.011	0.011	0.0001				
%RSD:	0.217	0.217	0.21				

QC value within limits for Hg 253.7 Recovery = 100.90%
All analyte(s) passed QC.

Sequence No.: 83

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 11:11:06

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.034	-0.034	0.0001	0.0004	0.0002	11:11:57	Yes
2	-0.038	-0.038	0.0000	0.0004	0.0002	11:12:26	Yes
Mean:	-0.036	-0.036	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	9.437	9.437	61.94				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 84

Autosampler Location: 72

%RSD: 2.427 2.427 1.95

Sequence No.: 89

Sample ID: 244242014|943294|1

Analyst: JXL

Autosampler Location: 77

Date Collected: 1/28/2010 11:21:12

Data Type: Original

Replicate Data: 244242014|943294|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.050	0.050	0.0010	0.0045	0.0011	11:22:03	Yes
2	0.051	0.051	0.0010	0.0049	0.0011	11:22:33	Yes
Mean:	0.051	0.051	0.0010				
SD:	0.000	0.000	0.0000				
%RSD:	0.280	0.280	0.15				

Sequence No.: 90

Sample ID: 1202019739|943299|1

Analyst: JXL

Autosampler Location: 78

Date Collected: 1/28/2010 11:22:53

Data Type: Original

Replicate Data: 1202019739|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.037	-0.037	0.0000	0.0009	0.0002	11:23:45	Yes
2	-0.038	-0.038	0.0000	0.0010	0.0002	11:24:15	Yes
Mean:	-0.038	-0.038	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	0.223	0.223	2.18				

Sequence No.: 91

Sample ID: 1202019740|943299|10

Analyst: JXL

Autosampler Location: 79

Date Collected: 1/28/2010 11:24:35

Data Type: Original

Replicate Data: 1202019740|943299|10

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.663	3.663	0.0388	0.1678	0.0390	11:25:26	Yes
2	3.652	3.652	0.0387	0.1678	0.0389	11:25:56	Yes
Mean:	3.657	3.657	0.0388				
SD:	0.007	0.007	0.0001				
%RSD:	0.202	0.202	0.20				

Sequence No.: 92

Sample ID: 244515001|943299|1

Analyst: JXL

Autosampler Location: 80

Date Collected: 1/28/2010 11:26:16

Data Type: Original

Replicate Data: 244515001|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.493	0.493	0.0056	0.0243	0.0057	11:27:07	Yes
2	0.496	0.496	0.0056	0.0252	0.0058	11:27:37	Yes
Mean:	0.494	0.494	0.0056				
SD:	0.002	0.002	0.0000				
%RSD:	0.399	0.399	0.37				

Sequence No.: 93

Sample ID: 244515002|943299|1

Analyst: JXL

Autosampler Location: 81

Date Collected: 1/28/2010 11:27:57

Data Type: Original

Replicate Data: 244515002|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored

1	0.736	0.736	0.0082	0.0361	0.0083	11:28:48	Yes
2	0.740	0.740	0.0082	0.0355	0.0083	11:29:18	Yes
Mean:	0.738	0.738	0.0082				
SD:	0.003	0.003	0.0000				
%RSD:	0.343	0.343	0.32				

Sequence No.: 94

Autosampler Location: 7

Sample ID: CCV

Date Collected: 1/28/2010 11:29:38

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	4.943	4.943	0.0523	0.2273	0.0524	11:30:29	Yes
2	5.042	5.042	0.0533	0.2297	0.0535	11:30:59	Yes
Mean:	4.993	4.993	0.0528				
SD:	0.070	0.070	0.0007				
%RSD:	1.403	1.403	1.39				

QC value within limits for Hg 253.7 Recovery = 99.86%
All analyte(s) passed QC.

Sequence No.: 95

Autosampler Location: 8

Sample ID: CCB

Date Collected: 1/28/2010 11:31:18

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.038	-0.038	0.0000	0.0005	0.0002	11:32:08	Yes
2	-0.035	-0.035	0.0001	0.0009	0.0002	11:32:38	Yes
Mean:	-0.036	-0.036	0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	5.882	5.882	42.30				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 96

Autosampler Location: 82

Sample ID: 244515003|943299|1

Date Collected: 1/28/2010 11:32:57

Analyst: JXL

Data Type: Original

Replicate Data: 244515003|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.101	0.101	0.0015	0.0064	0.0016	11:33:49	Yes
2	0.112	0.112	0.0016	0.0074	0.0018	11:34:18	Yes
Mean:	0.106	0.106	0.0015				
SD:	0.008	0.008	0.0001				
%RSD:	7.655	7.655	5.51				

Sequence No.: 97

Autosampler Location: 83

Sample ID: 244515004|943299|1

Date Collected: 1/28/2010 11:34:38

Analyst: JXL

Data Type: Original

Replicate Data: 244515004|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.194	0.194	0.0025	0.0113	0.0026	11:35:30	Yes
2	0.192	0.192	0.0025	0.0110	0.0026	11:36:00	Yes
Mean:	0.193	0.193	0.0025				
SD:	0.001	0.001	0.0000				
%RSD:	0.566	0.566	0.47				

Sequence No.: 98
Sample ID: 244515005|943299|1
Analyst: JXL

Autosampler Location: 84
Date Collected: 1/28/2010 11:36:20
Data Type: Original

Replicate Data: 244515005|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.311	0.311	0.0037	0.0159	0.0038	11:37:11	Yes
2	0.308	0.308	0.0037	0.0158	0.0038	11:37:41	Yes
Mean:	0.309	0.309	0.0037				
SD:	0.002	0.002	0.0000				
%RSD:	0.702	0.702	0.62				

Sequence No.: 99
Sample ID: 244515006|943299|1
Analyst: JXL

Autosampler Location: 85
Date Collected: 1/28/2010 11:38:01
Data Type: Original

Replicate Data: 244515006|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.303	0.303	0.0036	0.0166	0.0038	11:38:53	Yes
2	0.298	0.298	0.0036	0.0157	0.0037	11:39:23	Yes
Mean:	0.301	0.301	0.0036				
SD:	0.004	0.004	0.0000				
%RSD:	1.231	1.231	1.08				

Sequence No.: 100
Sample ID: 244515007|943299|1
Analyst: JXL

Autosampler Location: 86
Date Collected: 1/28/2010 11:39:43
Data Type: Original

Replicate Data: 244515007|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.325	0.325	0.0038	0.0171	0.0040	11:40:35	Yes
2	0.331	0.331	0.0039	0.0175	0.0041	11:41:04	Yes
Mean:	0.328	0.328	0.0039				
SD:	0.004	0.004	0.0000				
%RSD:	1.315	1.315	1.17				

Sequence No.: 101
Sample ID: 244515008|943299|1
Analyst: JXL

Autosampler Location: 87
Date Collected: 1/28/2010 11:41:25
Data Type: Original

Replicate Data: 244515008|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.059	0.059	0.0010	0.0054	0.0012	11:42:16	Yes
2	0.049	0.049	0.0009	0.0041	0.0011	11:42:46	Yes
Mean:	0.054	0.054	0.0010				
SD:	0.007	0.007	0.0001				
%RSD:	12.70	12.70	7.18				

Sequence No.: 102
Sample ID: 244597001|943299|1
Analyst: JXL

Autosampler Location: 88
Date Collected: 1/28/2010 11:43:06
Data Type: Original

Replicate Data: 244597001|943299|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.072	0.072	0.0012	0.0062	0.0013	11:43:58	Yes
2	0.069	0.069	0.0012	0.0058	0.0013	11:44:28	Yes
Mean:	0.070	0.070	0.0012				

SD: 0.003 0.003 0.0000
%RSD: 3.765 3.765 2.37

Sequence No.: 103

Sample ID: 244604001|943299|1

Analyst: JXL

Autosampler Location: 89

Date Collected: 1/28/2010 11:44:48

Data Type: Original

Replicate Data: 244604001|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.370	0.370	0.0043	0.0192	0.0045	11:45:40	Yes
2	0.370	0.370	0.0043	0.0193	0.0045	11:46:10	Yes
Mean:	0.370	0.370	0.0043				
SD:	0.000	0.000	0.0000				
%RSD:	0.006	0.006	0.01				

Sequence No.: 104

Sample ID: 244604002|943299|1

Analyst: JXL

Autosampler Location: 90

Date Collected: 1/28/2010 11:46:30

Data Type: Original

Replicate Data: 244604002|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.274	0.274	0.0033	0.0153	0.0035	11:47:22	Yes
2	0.275	0.275	0.0033	0.0148	0.0035	11:47:51	Yes
Mean:	0.274	0.274	0.0033				
SD:	0.000	0.000	0.0000				
%RSD:	0.151	0.151	0.13				

Sequence No.: 105

Sample ID: 244622001|943299|1

Analyst: JXL

Autosampler Location: 91

Date Collected: 1/28/2010 11:48:12

Data Type: Original

Replicate Data: 244622001|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.181	0.181	0.0023	0.0104	0.0025	11:49:03	Yes
2	0.175	0.175	0.0023	0.0096	0.0024	11:49:33	Yes
Mean:	0.178	0.178	0.0023				
SD:	0.004	0.004	0.0000				
%RSD:	2.197	2.197	1.78				

Sequence No.: 106

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 1/28/2010 11:49:53

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.038	5.038	0.0533	0.2265	0.0534	11:50:43	Yes
2	5.002	5.002	0.0529	0.2270	0.0530	11:51:13	Yes
Mean:	5.020	5.020	0.0531				
SD:	0.025	0.025	0.0003				
%RSD:	0.504	0.504	0.50				

QC value within limits for Hg 253.7 Recovery = 100.40%
All analyte(s) passed QC.

Sequence No.: 107

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 1/28/2010 11:51:32

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.041	-0.041	0.0000	0.0004	0.0001	11:52:22	Yes
2	-0.041	-0.041	0.0000	0.0005	0.0002	11:52:52	Yes
Mean:	-0.041	-0.041	0.0000				
SD:	0.000	0.000	0.0000				
%RSD:	0.117	0.117	46.35				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 108

Autosampler Location: 92

Sample ID: 1202019741|943299|1

Date Collected: 1/28/2010 11:53:11

Analyst: JXL

Data Type: Original

Replicate Data: 1202019741|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.174	0.174	0.0023	0.0101	0.0024	11:54:03	Yes
2	0.174	0.174	0.0023	0.0102	0.0024	11:54:33	Yes
Mean:	0.174	0.174	0.0023				
SD:	0.000	0.000	0.0000				
%RSD:	0.065	0.065	0.05				

Sequence No.: 109

Autosampler Location: 93

Sample ID: 1202019742|943299|1

Date Collected: 1/28/2010 11:54:53

Analyst: JXL

Data Type: Original

Replicate Data: 1202019742|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.307	2.307	0.0246	0.1058	0.0248	11:55:45	Yes
2	2.306	2.306	0.0246	0.1055	0.0248	11:56:15	Yes
Mean:	2.307	2.307	0.0246				
SD:	0.001	0.001	0.0000				
%RSD:	0.052	0.052	0.05				

Sequence No.: 110

Autosampler Location: 94

Sample ID: 1202019744|943299|1

Date Collected: 1/28/2010 11:56:35

Analyst: JXL

Data Type: Original

Replicate Data: 1202019744|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.339	2.339	0.0250	0.1076	0.0251	11:57:26	Yes
2	2.311	2.311	0.0247	0.1061	0.0248	11:57:56	Yes
Mean:	2.325	2.325	0.0248				
SD:	0.020	0.020	0.0002				
%RSD:	0.841	0.841	0.83				

Sequence No.: 111

Autosampler Location: 95

Sample ID: 1202019743|943299|5

Date Collected: 1/28/2010 11:58:17

Analyst: JXL

Data Type: Original

Replicate Data: 1202019743|943299|5

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.002	0.002	0.0005	0.0027	0.0006	11:59:08	Yes
2	0.005	0.005	0.0005	0.0027	0.0006	11:59:38	Yes
Mean:	0.004	0.004	0.0005				
SD:	0.002	0.002	0.0000				
%RSD:	50.66	50.66	3.97				

Mean: 0.233 0.233 0.0029
SD: 0.003 0.003 0.0000
%RSD: 1.396 1.396 1.19

Sequence No.: 117
Sample ID: 244622007|943299|1
Analyst: JXL

Autosampler Location: 101
Date Collected: 1/28/2010 12:08:29
Data Type: Original

Replicate Data: 244622007|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.135	0.135	0.0019	0.0083	0.0020	12:09:21	Yes
2	0.140	0.140	0.0019	0.0087	0.0020	12:09:51	Yes
Mean:	0.138	0.138	0.0019				
SD:	0.003	0.003	0.0000				
%RSD:	2.318	2.318	1.78				

Sequence No.: 118
Sample ID: CCV
Analyst:

Autosampler Location: 7
Date Collected: 1/28/2010 12:10:12
Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	4.996	4.996	0.0528	0.2269	0.0530	12:11:02	Yes
2	5.006	5.006	0.0529	0.2271	0.0531	12:11:32	Yes
Mean:	5.001	5.001	0.0529				
SD:	0.006	0.006	0.0001				
%RSD:	0.129	0.129	0.13				

QC value within limits for Hg 253.7 Recovery = 100.02%
All analyte(s) passed QC.

Sequence No.: 119
Sample ID: CCB
Analyst:

Autosampler Location: 8
Date Collected: 1/28/2010 12:11:50
Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.040	-0.040	0.0000	0.0005	0.0002	12:12:41	Yes
2	-0.041	-0.041	-0.0000	0.0007	0.0001	12:13:11	Yes
Mean:	-0.041	-0.041	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	2.394	2.394	158.66				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 120
Sample ID: 244622008|943299|1
Analyst: JXL

Autosampler Location: 102
Date Collected: 1/28/2010 12:13:30
Data Type: Original

Replicate Data: 244622008|943299|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.244	0.244	0.0030	0.0135	0.0031	12:14:22	Yes
2	0.236	0.236	0.0029	0.0128	0.0031	12:14:52	Yes
Mean:	0.240	0.240	0.0030				
SD:	0.006	0.006	0.0001				
%RSD:	2.548	2.548	2.17				

Sequence No.: 121
Sample ID: 1202019751|943305|1

Autosampler Location: 103
Date Collected: 1/28/2010 12:15:12

Miscellaneous

Prep LogBook

Analyst: AXG2
 Batch: 941736
 Lab SOP: GL-MA-E-009 REV# 19

Verified by: _____

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Type	Sample Id	Lot. Id	Spike Amount	Spike Units
MB	1202015701		SW846 3050B	20-JAN-2010 07:30	LCS	1202015706	UI062540-I	.502	g
LCS	1202015706		SW846 3050B	20-JAN-2010 07:30	MS	1202015704	UI091216-01	.25	mL
SAMPLE	244597001		SW846 3050B	20-JAN-2010 07:30	MS	1202015704	UI091216-06	.25	mL
DUP	1202015702	244597001	SW846 3050B	20-JAN-2010 07:30	MSD	1202015705	UI091216-01	.25	mL
SDILT	1202015703	244597001	SW846 3050B	20-JAN-2010 07:30	MSD	1202015705	UI091216-06	.25	mL
MS	1202015704	244597001	SW846 3050B	20-JAN-2010 07:30					
MSD	1202015705	244597001	SW846 3050B	20-JAN-2010 07:30					

Comments Sample 244597001 consist of dark, brown soil with rocky material.

Reagent/Solvent Lot ID	Amount	Description
1252838	10 mL	HYDROCHLORIC ACID
1252836	1.25 mL	Nitric Acid CONC.

Prep LogBook

Analyst: AXG2
 Batch: 941742
 Lab SOP: GL-MA-E-009 REV# 19

Verified by: _____
 Type Sample Id Lot Id Spike Amount Spike Units
 LCS 1202015716 UJ062540-MS .515 g
 MS 1202015714 UJ091015-A .5 mL
 MS 1202015714 UJ091015-B .5 mL
 MSD 1202015715 UJ091015-A .5 mL
 MSD 1202015715 UJ091015-B .5 mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202015711		SW846 3050B	20-JAN-2010 07:30	0.51 g	50 mL	98.03922	SOIL
LCS	1202015716		SW846 3050B	20-JAN-2010 07:30	0.515 g	50 mL	97.08738	SOIL
SAMPLE	244597001		SW846 3050B	20-JAN-2010 07:30	0.513 g	50 mL	97.46589	SOIL
DUP	1202015712	244597001	SW846 3050B	20-JAN-2010 07:30	0.506 g	50 mL	98.81423	SOIL
SDILT	1202015713	244597001	SW846 3050B	20-JAN-2010 07:30	0.513 g	50 mL	97.46589	SOIL
MS	1202015714	244597001	SW846 3050B	20-JAN-2010 07:30	0.513 g	50 mL	97.46589	SOIL
MSD	1202015715	244597001	SW846 3050B	20-JAN-2010 07:30	0.513 g	50 mL	97.46589	SOIL

Comments: Sample 244597001 consist of dark, brown soil with rocky material.

Reagent/Solvent Lot ID Amount Description
 1203655-02 1.5 mL Hydrogen Peroxide 30%
 1252836 5 mL Nitric Acid CONC.

Prep LogBook

Analyst: TXB3
 Batch: 943296
 Lab SOP: GL-MA-E-010 REV# 23

Type Sample Id Lot Id Spike Amount Spike Units

LCS 1202019740 U1031809A .203 g

MS 1202019742 WHG100127-14 .3 mL

MSD 1202019744 WHG100127-14 .3 mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202019739		SW846 7471A Prep	27-JAN-2010 12:00	0.547 g	30 mL	54.84461	SOIL
LCS	1202019740		SW846 7471A Prep	27-JAN-2010 12:00	0.203 g	30 mL	147.78325	SOIL
SAMPLE	244515001		SW846 7471A Prep	27-JAN-2010 12:00	0.549 g	30 mL	54.64481	SOIL
SAMPLE	244515002		SW846 7471A Prep	27-JAN-2010 12:00	0.566 g	30 mL	53.00353	SOIL
SAMPLE	244515003		SW846 7471A Prep	27-JAN-2010 12:00	0.557 g	30 mL	53.85996	SOIL
SAMPLE	244515004		SW846 7471A Prep	27-JAN-2010 12:00	0.509 g	30 mL	58.9391	SOIL
SAMPLE	244515005		SW846 7471A Prep	27-JAN-2010 12:00	0.567 g	30 mL	52.91005	SOIL
SAMPLE	244515006		SW846 7471A Prep	27-JAN-2010 12:00	0.52 g	30 mL	57.69231	SOIL
SAMPLE	244515007		SW846 7471A Prep	27-JAN-2010 12:00	0.596 g	30 mL	50.33557	SOIL
SAMPLE	244515008		SW846 7471A Prep	27-JAN-2010 12:00	0.501 g	30 mL	59.88024	SOIL
SAMPLE	244597001		SW846 7471A Prep	27-JAN-2010 12:00	0.506 g	30 mL	59.28854	SOIL
SAMPLE	244604001		SW846 7471A Prep	27-JAN-2010 12:00	0.541 g	30 mL	55.45287	SOIL
SAMPLE	244604002		SW846 7471A Prep	27-JAN-2010 12:00	0.572 g	30 mL	52.44755	SOIL
SAMPLE	244622001		SW846 7471A Prep	27-JAN-2010 12:00	0.543 g	30 mL	55.24862	SOIL
DUP	1202019741	244622001	SW846 7471A Prep	27-JAN-2010 12:00	0.516 g	30 mL	58.13953	SOIL
MS	1202019742	244622001	SW846 7471A Prep	27-JAN-2010 12:00	0.531 g	30 mL	56.49718	SOIL
MSD	1202019744	244622001	SW846 7471A Prep	27-JAN-2010 12:00	0.536 g	30 mL	55.97015	SOIL
SDILT	1202019743	244622001	SW846 7471A Prep	27-JAN-2010 12:00	0.543 g	30 mL	55.24862	SOIL
SAMPLE	244622002		SW846 7471A Prep	27-JAN-2010 12:00	0.52 g	30 mL	57.69231	SOIL
SAMPLE	244622003		SW846 7471A Prep	27-JAN-2010 12:00	0.539 g	30 mL	55.65863	SOIL
SAMPLE	244622004		SW846 7471A Prep	27-JAN-2010 12:00	0.503 g	30 mL	59.64215	SOIL
SAMPLE	244622005		SW846 7471A Prep	27-JAN-2010 12:00	0.532 g	30 mL	56.39098	SOIL
SAMPLE	244622006		SW846 7471A Prep	27-JAN-2010 12:00	0.544 g	30 mL	55.14706	SOIL
SAMPLE	244622007		SW846 7471A Prep	27-JAN-2010 12:00	0.514 g	30 mL	58.36576	SOIL
SAMPLE	244622008		SW846 7471A Prep	27-JAN-2010 12:00	0.523 g	30 mL	57.36138	SOIL

Comments Sample 244622001 is a dry light brown rocky soil.
 Digestion Start Date: 27-JAN-10 12:00
 Digestion End Date: 27-JAN-10 12:30

Reagent/Solvent Lot ID	Amount	Description
1236355-A	1.125 mL	Hydrochloric Acid Conc.
1257474-1	.375 mL	NITRIC ACID
1255535-C	7.5 mL	5% KMnO4 solution
1255532-C	2 mL	Hg reducing agent

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GEL Laboratories LLC

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Prep LogBook

WHG100127-07	30 uL	Mercury Working Standard 1st Source CAL S 0.2/CRA
WHG100127-08	75 uL	Mercury Working Standard 1st Source CAL S 0.5
WHG100127-11	1.5 mL	Mercury Working 1st Source CAL S 10.0
WHG100127-09	300 uL	Mercury Working 1st Source CAL S 2.0
WHG100127-10	750 uL	Mercury Working 1st Source CAL S 5.0/CCV
WHG100127-12	750 uL	Mercury Working 2nd Source S 5.0/ICV

DATA EXCEPTION REPORT

Mo. Day Yr.
21-JAN-10

Division:
Industrial

Quality Criteria:
Specifications

Type:
Process

Instrument Type:
ICP/MS

Test / Method:
SW846 3050B/6020

Matrix Type:
Solid

Client Code:
LANL

Batch ID:
941743

Sample Numbers:
See Below

Potentially affected work order(s)(SDG): 244597(10-1209)

Application Issues:
Failed RPD for DUP

**Specification and Requirements
Exception Description:**

1. Failed RPD for DUP:

QC 1202015712DUP

DER Disposition:

The sample and sample duplicate % RPD failed outside the control limits for Be and U 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:

Samantha Jacobs 21-JAN-10

Data Validator/Group Leader:

Elizabeth Janssen 21-JAN-10

DATA EXCEPTION REPORT

Mo.Day Yr. 28-JAN-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: ICP	Test / Method: SW846 3050B/6010B	Matrix Type: Solid	Client Code: LANL
Batch ID: 941739	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 244597(10-1209)

Application Issues:

Failed Recovery for MS/PS
Failed RPD for MS/MSD, or PS/PSD
Failed RPD for DUP
Failed Recovery for MSD/PSD

**Specification and Requirements
Exception Description:**

DER Disposition:

1. Failed Recovery for MS/PS:

QC 1202015704MS

2. Failed RPD for DUP:

QC 1202015702DUP

3. Failed RPD for MS/MSD, or PS/PSD:

QC 1202015705MSD

4. Failed Recovery for MSD/PSD:

QC 1202015705MSD

1. The matrix spike recovery failed outside of the control limits for barium,calcium,magnesium,manganese and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

2. The sample and sample duplicate % RPD failed outside the control limits for barium,calcium,magnesium,manganese and potassium 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 calcium,magnesium and manganese 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. The matrix spike duplicate recovery failed outside of the control limits for magnesium and potassium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

Originator's Name:

Helen Camello 29-JAN-10

Data Validator/Group Leader:

Louise Smith 29-JAN-10

Standard Logbook

Serial ID: UHG1167639-01 **Opened:** 13-AUG-09 **Amount :** 125 mL
Name: MHGSTOCK1 **Received:** 13-AUG-09 **Catalog Number :** PLHG4-2Y
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 15-37HG
Employee: Bryan Davis **Solvent :** 10% HNO3
Supplier: Spex
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG1167641-02 **Opened:** 13-AUG-09 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 13-AUG-09 **Catalog Number :** AHG1KN-100
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 4905530
Employee: Bryan Davis **Solvent :** 3% HNO3
Supplier: Ricca Chemical Company
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI031809A **Opened:** 18-MAR-09 **Catalog Number :** 540
Name: METALSOILSRM **Received:** 18-MAR-09 **Lot Number :** D061-540
Type: Source Material **Expires:** 10-OCT-10
Employee: Jamie Johnson
Supplier: ERA
Description: Metals LCS Soil SRM
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

Standard Logbook

Serial ID: UI062540-I **Opened:** 12-JUN-09 **Amount :** 80 g
Name: ICP SOIL SRM **Received:** 12-JUN-09 **Lot Number :** D062-540
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICP/Hg
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	173 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.7 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Magnesium	4000 mg/kg
Manganese	558 mg/kg	Mercury	8.46 mg/kg
Molybdenum	48.6 mg/kg	Nickel	134 mg/kg
Phosphorous	736 mg/kg	Potassium	4300 mg/kg
Selenium	286 mg/kg	Silica	2591 mg/kg
Silicon	1211 mg/kg	Silver	30.1 mg/kg
Sodium	1020 mg/kg	Strontium	227 mg/kg
Sulfur	385 mg/kg	Thallium	121 mg/kg
Tin	104 mg/kg	Titanium	462 mg/kg
Vanadium	115 mg/kg	Zinc	594 mg/kg

Serial ID: UI062540-MS **Opened:** 12-JUN-09 **Lot Number :** D062-540
Name: ICPMS SOIL SRM **Received:** 12-JUN-09
Type: Source Material **Expires:** 31-JAN-12
Employee: Bryan Davis
Supplier: ERA
Description: Metals Soil LCS SRM ICPMS
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10500 mg/kg	Antimony	67.4 mg/kg
Arsenic	104 mg/kg	Barium	198 mg/kg
Beryllium	77.6 mg/kg	Boron	141 mg/kg
Cadmium	60.6 mg/kg	Calcium	9870 mg/kg
Chromium	236 mg/kg	Cobalt	91.2 mg/kg
Copper	174 mg/kg	Iron	18000 mg/kg
Lead	86 mg/kg	Lithium	10.6 mg/kg
Magnesium	4000 mg/kg	Manganese	558 mg/kg
Mercury	8.46 mg/kg	Molybdenum	48.6 mg/kg
Nickel	134 mg/kg	Phosphorous	755 mg/kg
Potassium	4300 mg/kg	Selenium	286 mg/kg
Silver	30.1 mg/kg	Sodium	1020 mg/kg

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Strontium	227 mg/kg	Thallium	121 mg/kg
Thorium	9.84 mg/kg	Tin	104 mg/kg
Titanium	462 mg/kg	Uranium	2.13 mg/kg
Uranium-235	.0153 mg/kg	Uranium-238	2.11 mg/kg
Vanadium	92.4 mg/kg	Zinc	594 mg/kg
Zirconium	10.6 mg/kg		

Serial ID: UI090422-40 **Opened:** 04-MAY-09 **Amount :** 500 mL
Name: TRACE ICP ICSA SOLN A **Received:** 22-APR-09 **Catalog Number :** 160005-01-03
Type: Source Material **Expires:** 04-MAY-10 **Lot Number :** 1013357
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: o2si
Description: TRACE ICP ICSA SOLN A mg/L +/- 0.5% IN 5% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Calcium	5000 mg/L
Iron	2000 mg/L	Magnesium	5000 mg/L

Serial ID: UI090610-03 **Opened:** 10-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L **Received:** 10-JUN-09 **Lot Number :** 1016338
Type: Source Material **Expires:** 10-JUN-10 **Solvent :** 2% HNO3
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 01-JUL-09 **Catalog Number :** 160044-09-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016477
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: O2SI
Description: ICPMS CRDL Master Soln #1
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	15 mg/L	Arsenic	5 mg/L
Barium	2 mg/L	Beryllium	.5 mg/L
Boron	15 mg/L	Cadmium	1 mg/L
Calcium	100 mg/L	Chromium	3 mg/L
Cobalt	1 mg/L	Copper	1 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	25 mg/L	Lead	2 mg/L
Lithium	10 mg/L	Magnesium	15 mg/L
Manganese	5 mg/L	Nickel	2 mg/L
Phosphorous	50 mg/L	Potassium	300 mg/L
Selenium	5 mg/L	Sodium	250 mg/L
Strontium	10 mg/L	Thallium	1 mg/L
Thorium	1 mg/L	Uranium	.2 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UI090701-10 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #2 **Received:** 01-JUL-09 **Catalog Number :** 160044-08-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016476
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 02SI
Description: ICPMS CRDL Soln #2
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Molybdenum	.5 mg/L
Silver	1 mg/L	Tin	2 mg/L
Titanium	10 mg/L	Tungsten	5 mg/L
Zirconium	2 mg/L		

Serial ID: UI090701-40 **Opened:** 01-JUL-09 **Amount :** 500 mL
Name: TRACE ICP Stock PQL St **Received:** 30-JUN-09 **Catalog Number :** 160543-01-03
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016475
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3+TrHF
Supplier: 02si
Description: TRACE ICP Stock PQL Standard
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	100 mg/L	Antimony	5 mg/L
Arsenic	15 mg/L	Barium	2.5 mg/L
Beryllium	2.5 mg/L	Boron	25 mg/L
Cadmium	2.5 mg/L	Calcium	100 mg/L
Chromium	2.5 mg/L	Cobalt	2.5 mg/L
Copper	5 mg/L	Iron	50 mg/L
Lead	5 mg/L	Magnesium	150 mg/L
Manganese	5 mg/L	Molybdenum	5 mg/L
Nickel	2.5 mg/L	Phosphorous	75 mg/L
Potassium	75 mg/L	Selenium	15 mg/L
Silicon	50 mg/L	Silver	2.5 mg/L
Sodium	150 mg/L	Strontium	2.5 mg/L
Sulfur	50 mg/L	Thallium	10 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	5 mg/L	Titanium	2.5 mg/L
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090828-42 **Opened:** 16-SEP-09 **Amount :** 500 mL
Name: TRACE ICP Na-1000SOUR **Received:** 27-AUG-09 **Catalog Number :** 060011-02-03
Type: Source Material **Expires:** 16-SEP-10 **Lot Number :** 1017098
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: Q2SI
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090925-40 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX38-500N
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909129
Employee: Helen Camello **Solvent :** 5%HNO3
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1A 5%HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Arsenic	100 mg/L
Barium	100 mg/L	Boron	100 mg/L
Cadmium	100 mg/L	Calcium	1000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	1000 mg/L
Lead	100 mg/L	Phosphorous	500 mg/L
Potassium	500 mg/L	Selenium	500 mg/L
Sodium	500 mg/L	Strontium	100 mg/L

Serial ID: UI090925-41 **Opened:** 23-OCT-09 **Amount :** 500 mL
Name: SECOND SOURCE STD -1 **Received:** 25-SEP-09 **Catalog Number :** SGELMX39-500B
Type: Source Material **Expires:** 30-SEP-10 **Lot Number :** 4909130
Employee: Helen Camello **Solvent :** 5%HNO3,TR,HF
Supplier: SPECTRO PURE
Description: SECOND SOURCE STD #1B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 mg/L	Beryllium	50 mg/L
Magnesium	1000 mg/L	Manganese	100 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Molybdenum	100 mg/L	Nickel	100 mg/L
Silver	50 mg/L	Sulfur	500 mg/L
Thallium	100 mg/L	Tin	100 mg/L
Titanium	100 mg/L	Uranium	100 mg/L
Vanadium	100 mg/L	Zinc	100 mg/L

Serial ID: UI091015-42 **Opened:** 28-OCT-09 **Amount :** 500 mL
Name: SI 1000mg/L **Received:** 15-OCT-09 **Catalog Number :** 060014-02-03
Type: Source Material **Expires:** 28-OCT-10 **Lot Number :** 1017581
Employee: Helen Camello **Solvent :** 0.3%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: UI091015-A **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: O2si
Description: ICP-MS Spike for soil products.
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Standard Logbook

Serial ID: UI091015-B **Opened:** 15-OCT-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 15-OCT-09 **Lot Number :** 1017142
Type: Source Material **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: O2si
Description: ICP-MS Spike for Soil Products
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

Serial ID: UI091102-40 **Opened:** 16-NOV-09 **Amount :** 500 mL
Name: TRACE CALSTD#1A 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
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

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Tin	200 mg/L	Titanium	200 mg/L

Serial ID: UI091102-42 **Opened:** 17-NOV-09 **Amount :** 200 mL
Name: SILICON **Received:** 02-NOV-09 **Catalog Number :** HP100050-4F
Type: Source Material **Expires:** 17-NOV-10 **Lot Number :** 0921924
Employee: Helen Camello **Solvent :** H2O/tr HF
Supplier: ENVIRNMENTAL EXPRESS
Description: SILICON 1000mg/L H2O/tr HF
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Serial ID: UI091212-11 **Opened:** 12-DEC-09 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 12-DEC-09 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1015303
Employee: Paul Boyd **Solvent :** 2% HNO3
Supplier: O2SI
Description: ICP-MS ICSA Master A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UI091212-60 **Opened:** 12-DEC-09 **Amount :** .5 mL
Name: ICPMS High Range Standard **Received:** 12-DEC-09 **Catalog Number :** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number :** 1018064
Employee: Paul Boyd **Solvent :** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	5000 mg/L	Arsenic	100 mg/L
Barium	250 mg/L	Beryllium	100 mg/L
Cadmium	100 mg/L	Calcium	5000 mg/L
Chromium	100 mg/L	Cobalt	100 mg/L
Copper	100 mg/L	Iron	5000 mg/L
Lead	500 mg/L	Lithium	100 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Magnesium	5000 mg/L	Manganese	100 mg/L
Nickel	100 mg/L	Phosphorous	2500 mg/L
Potassium	5000 mg/L	Selenium	50 mg/L
Sodium	5000 mg/L	Strontium	100 mg/L
Thallium	50 mg/L	Thorium	250 mg/L
Uranium	500 mg/L	Vanadium	100 mg/L
Zinc	250 mg/L		

Serial ID: UI091212-61 **Opened:** 12-DEC-09 **Amount:** .5 mL
Name: ICPMS High Range Standard **Received:** 12-DEC-09 **Catalog Number:** 160212-02-01
Type: Source Material **Expires:** 12-DEC-10 **Lot Number:** 1018064
Employee: Paul Boyd **Solvent:** 2%HNO3 + Tr HF
Supplier: O2SI
Description: Linear Range Standard B
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	25 mg/L	Molybdenum	100 mg/L
Silver	25 mg/L	Tin	100 mg/L
Tungsten	100 mg/L	Zirconium	50 mg/L

Serial ID: UI091216-01 **Opened:** 16-DEC-09 **Lot Number:** 1018095
Name: METALSPIKE-1 **Received:** 16-DEC-09
Type: Source Material **Expires:** 16-DEC-10
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix I
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 ug/mL	Arsenic	100 ug/mL
Barium	100 ug/mL	Beryllium	100 ug/mL
Boron	100 ug/mL	Cadmium	100 ug/mL
Calcium	1000 ug/mL	Cobalt	100 ug/mL
Iron	1000 ug/mL	Lead	100 ug/mL
Magnesium	1000 ug/mL	Phosphorous	100 ug/mL
Potassium	1000 ug/mL	Silver	100 ug/mL
Sodium	1000 ug/mL	Strontium	100 ug/mL

Serial ID: UI091216-06 **Opened:** 16-DEC-09 **Lot Number:** 1018096
Name: METALSPIKE-2 **Received:** 16-DEC-09
Type: Source Material **Expires:** 16-DEC-10
Employee: Francena Armstrong
Supplier: OS2I

Standard Logbook

Description: Metals Spike Mix II

Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI091217-06 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 17-DEC-09 **Catalog Number :** 160055-01
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018209
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV SOLN A - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	2020 mg/L	Calcium	2000 mg/L
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UI091217-07 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 17-DEC-09 **Catalog Number :** 160054-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018210
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Standard Logbook

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: Q2SI
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: Q2SI
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: Q2SI
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		

Standard Logbook

Serial ID: UI100114-48 **Opened:** 22-JAN-10 **Amount :** 1000 mL
Name: Trace ICP ICSEA **Received:** 18-JAN-10 **Catalog Number :** 160005-02
Type: Source Material **Expires:** 22-JAN-11 **Lot Number :** 1018466
Employee: Helen Camello **Solvent :** 3% HCl + 1% HNO3
Supplier: o2si
Description: Trace ICP Interferent Check Standard A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 UG/L	Calcium	500000 UG/L
Iron	200000 UG/L	Magnesium	500000 UG/L

Serial ID: UI100128-40 **Opened:** 28-JAN-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 28-JAN-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-JAN-11 **Lot Number :** 1018409
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION A
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10000 ug/L	Arsenic	10000 ug/L
Barium	15000 ug/L	Beryllium	3000 ug/L
Boron	5000 ug/L	Cadmium	10000 ug/L
Chromium	25000 ug/L	Cobalt	10000 ug/L
Copper	20000 ug/L	Lead	25000 ug/L
Manganese	10000 ug/L	Molybdenum	10000 ug/L
Nickel	10000 ug/L	Phosphorous	15000 ug/L
Potassium	300000 ug/L	Selenium	10000 ug/L
Silica	107000 ug/L	Silicon	50000 ug/L
Silver	1000 ug/L	Strontium	10000 ug/L
Sulfur	50000 ug/L	Thallium	10000 ug/L
Tin	10000 ug/L	Titanium	10000 ug/L
Vanadium	10000 ug/L	Zinc	15000 ug/L

Serial ID: UI100128-41 **Opened:** 28-JAN-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 28-JAN-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 28-JAN-11 **Lot Number :** 1018409
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UMS090303-01 **Opened:** 03-MAR-09 **Amount:** 250 mL
Name: ICPMSCaSPIKEB **Received:** 03-MAR-09 **Catalog Number:** ZGEL-100-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number:** 14-81JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS090303-02 **Opened:** 03-MAR-09 **Catalog Number:** ZGEL-102-250
Name: ICPMSCaSPIKEC **Received:** 03-MAR-09 **Lot Number:** 14-83JB
Type: Source Material **Expires:** 28-FEB-10
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Serial ID: UMS090303-03 **Opened:** 03-MAR-09 **Amount:** 250 mL
Name: ICPMSCaSPIKEC **Received:** 03-MAR-09 **Catalog Number:** ZGEL-101-250
Type: Source Material **Expires:** 28-FEB-10 **Lot Number:** 15-199JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Standard Logbook

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: IHG100127-01 **Opened:** 27-JAN-10 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 27-JAN-10 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 28-JAN-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: IHG100127-02 **Opened:** 27-JAN-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 27-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Intermediate **Expires:** 28-JAN-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

Serial ID: WHG100127-07 **Opened:** 27-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALSO.2CRA **Received:** 27-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 03-FEB-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100127-08 **Opened:** 27-JAN-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALSO.5 **Received:** 27-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 03-FEB-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.5
Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100127-09 Opened: 27-JAN-10 Pipet Id : Hg1289245
 Name: MHGWORKCALS2.0 Received: 27-JAN-10 Solvent : 2% HNO3-1257474
 Type: Working Expires: 03-FEB-10
 Employee: Tara Griffin Verified: 20-JUL-07
 Supplier: GEL

Description: Mercury Working 1st Source CAL S 2.0

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Serial ID: WHG100127-10 Opened: 27-JAN-10 Pipet Id : Hg1289245
 Name: MHGWORKCALS5.0CCV Received: 27-JAN-10 Solvent : 2% HNO3-1257474
 Type: Working Expires: 03-FEB-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.
IHG100127-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100127-11 Opened: 27-JAN-10 Pipet Id : Hg1289245
 Name: MHGWORKCALS10.0 Received: 27-JAN-10 Solvent : 2% HNO3-1257474
 Type: Working Expires: 03-FEB-10
 Employee: Tara Griffin
 Supplier: GEL

Description: Mercury Working 1st Source CAL S 10.0

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100127-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100127-12 Opened: 27-JAN-10 Pipet Id : Hg1289245
 Name: MHGWORKS5.0ICV Received: 27-JAN-10 Solvent : 2% HNO3-1257474
 Type: Working Expires: 03-FEB-10
 Employee: Tara Griffin Verified: 20-JUL-07
 Supplier: GEL

Description: Mercury Working 2nd Source S 5.0/ICV

Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
IHG100127-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100127-14 **Opened:** 27-JAN-10 **Pipet Id :** Hg1289245
Name: MHGSOILMSSPIKE **Received:** 27-JAN-10 **Solvent :** 2% HNO3-1257474
Type: Working **Expires:** 03-FEB-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury soil working intermediate standard for MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WI100128-42 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.1 PPM STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.1 PPM CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100128-44	Aluminum	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Antimony	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Arsenic	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Barium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Beryllium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Boron	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Cadmium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Calcium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Chromium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Cobalt	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Copper	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Iron	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Lead	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Magnesium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Manganese	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Molybdenum	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Nickel	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Phosphorous	5000 ug/L	10 mL	100 mL	500 ug/L
WI100128-44	Potassium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Selenium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Silica	10698 ug/L	10 mL	100 mL	1069 ug/L
WI100128-44	Silicon	5000 ug/L	10 mL	100 mL	500 ug/L
WI100128-44	Silver	1000 ug/L	10 mL	100 mL	100 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WI100128-44	Sodium	10000 ug/L	10 mL	100 mL	1000 ug/L
WI100128-44	Strontium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Sulfur	2000 ug/L	10 mL	100 mL	200 ug/L
WI100128-44	Thallium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Tin	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Titanium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Uranium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Vanadium	1000 ug/L	10 mL	100 mL	100 ug/L
WI100128-44	Zinc	1000 ug/L	10 mL	100 mL	100 ug/L

Serial ID: WI100128-43 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL and 1%HNO3 -1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP 0.5/CCV CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090828-42	Sodium	1000 ug/mL	5 mL	1000 mL	5000 UG/L
UI091015-42	Silica	2139 mg/L	2.5 mL	1000 mL	5348.25 UG/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Barium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Boron	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Chromium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Copper	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Iron	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Lead	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Manganese	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Nickel	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	1000 mL	2500 UG/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Selenium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	1000 mL	5000 UG/L
UI091102-40	Strontium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Thallium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Uranium	200 mg/L	2.5 mL	1000 mL	500 UG/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	1000 mL	500 UG/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WI100128-44 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: TRACE ICP SCAL 1.0 **Received:** 02-NOV-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL and 1 %HNO3-1259494
Employee: Helen Camello
Supplier: o2si
Description: Trace ICP Calibration Standard 1.0ppm
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091015-42	Silica	2139 mg/L	2.5 mL	500 mL	10698 ug/L
UI091015-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Aluminum	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Arsenic	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Barium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Beryllium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Boron	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cadmium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Calcium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Chromium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Cobalt	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Copper	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Iron	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Lead	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Magnesium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Manganese	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Nickel	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Phosphorous	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI091102-40	Potassium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Selenium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Sodium	2000 mg/L	2.5 mL	500 mL	10000 ug/L
UI091102-40	Strontium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Thallium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Uranium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Vanadium	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-40	Zinc	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Antimony	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Molybdenum	200 mg/L	2.5 mL	500 mL	1000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091102-41	Silver	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Sulfur	400 mg/L	2.5 mL	500 mL	2000 ug/L
UI091102-41	Tin	200 mg/L	2.5 mL	500 mL	1000 ug/L
UI091102-41	Titanium	200 mg/L	2.5 mL	500 mL	1000 ug/L

Serial ID: WI100128-45 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: TRACE ICP S-10 STD **Received:** 22-APR-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL and 1%HNO3-1259494
Employee: Helen Camello
Supplier: GEL
Description: TRACE ICP S-10 CALIBRATION STD.
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090422-40	Aluminum	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Calcium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090422-40	Iron	2000 mg/L	5 mL	500 mL	20000 UG/L
UI090422-40	Magnesium	5000 mg/L	5 mL	500 mL	50000 UG/L
UI090828-42	Sodium	1000 ug/mL	10 mL	500 mL	20000 UG/L

Serial ID: WI100128-46 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 25-SEP-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL AND 1%HNO3-1259494
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Serial ID: WI100128-47 **Opened:** 28-JAN-10 **Balance Id :** 216
Name: PQL Working Standard **Received:** 30-JUN-09 **Pipet Id :** 1099667
Type: Working **Expires:** 29-JAN-10 **Solvent :** 3%HCL &1%HNO3-1259494
Employee: Helen Camello
Supplier: 02si
Description: PQL Working Standard
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

Serial ID: WMS100120-04 **Opened:** 20-JAN-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 20-JAN-10 **Balance Id :** 4025216
Type: Working **Expires:** 21-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1256053
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090610-03	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS090303-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS090303-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS090303-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS090303-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS090303-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100120-04A **Opened:** 20-JAN-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 20-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 21-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1256053
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100120-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100120-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100120-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
WMS100120-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100120-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100120-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100120-05 **Opened:** 20-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 20-JAN-10 **Pipet Id :** 3541598
Type: Working **Expires:** 21-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1256053
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Allquot	Final Vol.	Final Conc.
UI091217-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI091217-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI091217-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI091217-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI091217-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WMS100120-06 **Opened:** 20-JAN-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 20-JAN-10 **Pipet Id :** 3820544
Type: Working **Expires:** 21-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1256053
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
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: WMS100120-07 **Opened:** 20-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 20-JAN-10 **Lot Number :** 1010773
Type: Working **Expires:** 21-JAN-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1256053
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100120-08 **Opened:** 20-JAN-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 20-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 21-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1256053
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI091212-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI091212-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI091212-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L

Serial ID: WMS100120-70 **Opened:** 20-JAN-10 **Balance Id :** 40245216
Name: ICPMS LINEAR RANGE ST **Received:** 20-JAN-10 **Pipet Id :** 1758088
Type: Working **Expires:** 21-JAN-10 **Solvent :** 2%HNO3/1%HCl - 1253206
Employee: Paul Boyd
Supplier: Q2SI
Description: ICPMS LINEAR RANGE STANDARD
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Aluminum	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Arsenic	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Barium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Beryllium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cadmium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Calcium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Chromium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Cobalt	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Copper	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Iron	5000 mg/L	.5 mL	50 mL	50000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091212-60	Lead	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Lithium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Magnesium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Manganese	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Nickel	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Phosphorous	2500 mg/L	.5 mL	50 mL	25000 ug/L
UI091212-60	Potassium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Selenium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Sodium	5000 mg/L	.5 mL	50 mL	50000 ug/L
UI091212-60	Strontium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Thallium	50 mg/L	.5 mL	50 mL	500 ug/L
UI091212-60	Thorium	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-60	Uranium	500 mg/L	.5 mL	50 mL	5000 ug/L
UI091212-60	Vanadium	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-60	Zinc	250 mg/L	.5 mL	50 mL	2500 ug/L
UI091212-61	Antimony	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Molybdenum	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Silver	25 mg/L	.5 mL	50 mL	250 ug/L
UI091212-61	Tin	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Tungsten	100 mg/L	.5 mL	50 mL	1000 ug/L
UI091212-61	Zirconium	50 mg/L	.5 mL	50 mL	500 ug/L

Serial ID: 1156689-A **Opened:** 20-JUL-09 **Lot Number :** 41226920
Name: B-KMnO4(VWR)-MER **Received:** 20-JUL-09
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin **Verified:** 07-AUG-07
Supplier: VWR
Description: Potassium Permanganate
Comments: None

Serial ID: 1203655-02 **Opened:** 15-OCT-09 **Lot Number :** ZU74081198 mL
Name: B-H2O2 **Received:** 15-OCT-09
Type: Reagent/Solvent **Expires:** 15-OCT-10
Employee: Francena Armstrong
Supplier: EM SCIENCE
Description: Hydrogen Peroxide 30%
Comments: None

Serial ID: 1228372-A **Opened:** 12-NOV-09 **Lot Number :** 49215936
Name: B-NH2OH.HCl-MER **Received:** 12-NOV-09
Type: Reagent/Solvent **Expires:** 12-NOV-10
Employee: Tara Griffin
Supplier: Fisher Scientific

Standard Logbook

Description: Hydroxylamine Hydrochloride

Comments: None

Serial ID: 1236355-A Opened: 01-DEC-09 Lot Number : 200930201

Name: B-HCl-MER Received: 01-DEC-09

Type: Reagent/Solvent Expires: 01-DEC-10

Employee: Tara Griffin

Supplier: Aristar

Description: Hydrochloric Acid Conc.

Comments: None

Serial ID: 1238345 Opened: 04-DEC-09 Lot Number : H20053 L

Name: I-HNO3 Received: 04-DEC-09

Type: Reagent/Solvent Expires: 04-DEC-10

Employee: Francena Armstrong

Supplier: BAKER

Description: Nitric Acid CONC.

Comments: None

Serial ID: 1244970 Opened: 18-DEC-09 Lot Number : H41032

Name: I-HCL Received: 18-DEC-09 Preservative_Id : 5 none

Type: Reagent/Solvent Expires: 18-DEC-10

Employee: Francena Armstrong

Supplier: J.T. BAKER

Description: HYDROCHLORIC ACID

Comments: None

Serial ID: 1252836 Opened: 08-JAN-10 Lot Number : H20053 L

Name: I-HNO3 Received: 08-JAN-10

Type: Reagent/Solvent Expires: 08-JAN-11

Employee: Francena Armstrong

Supplier: BAKER

Description: Nitric Acid CONC.

Comments: None

Serial ID: 1252838 Opened: 08-JAN-10 Lot Number : H41032

Name: I-HCL Received: 08-JAN-10 Preservative_Id : 5 none

Type: Reagent/Solvent Expires: 08-JAN-11

Employee: Francena Armstrong

Supplier: J.T. BAKER

Description: HYDROCHLORIC ACID

Comments: None

Standard Logbook

Serial ID: 1255532-C **Opened:** 15-JAN-10 **Balance Id :** BAL-002
Name: B-NaCl.NH2OH.HCl-MER **Received:** 15-JAN-10
Type: Reagent/Solvent **Expires:** 15-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 1255535-C **Opened:** 15-JAN-10 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 15-JAN-10
Type: Reagent/Solvent **Expires:** 15-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1256053 **Opened:** 18-JAN-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 18-JAN-10
Type: Reagent/Solvent **Expires:** 25-JAN-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1238345	I-HNO3	69.0-70.0	180 mL	9 l	N/A
1244970	I-HCL	36.5-38.0	90 mL	9 l	N/A

Serial ID: 1257474-1 **Opened:** 20-JAN-10 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 20-JAN-10 **Lot Number :** H20053
Type: Reagent/Solvent **Expires:** 20-JAN-11
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Standard Logbook

Serial ID: 1259494 Opened: 25-JAN-10 Amount : 20 L
Name: B-ICP-RINSE SOLN Received: 28-DEC-10 Lot Number : H04040+G34050
Type: Reagent/Solvent Expires: 31-JAN-10 Solvent : 3%HCL+1%HNO3
Employee: Helen Camello
Supplier: GEL
Description: 3%HCL+1%HNO3 RINSE SOLN.
Comments: None

General Chemistry Analysis

Case Narrative

**General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1209**

Method/Analysis Information

Product: Cyanide, Total
Analytical Batch: 941485 **Method:** SW9012A Cyanide and Total
Prep Batch : 941484 **Method:** SSW846 9010B Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
244597001	RE12-10-7722
1202015099	Method Blank (MB)
1202015100	244222005(RE16-10-2786) Sample Duplicate (DUP)
1202015102	244222005(RE16-10-2786) Matrix Spike (MS)
1202015104	244222005(RE16-10-2786) Matrix Spike Duplicate (MSD)
1202015106	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 sample was selected for QC analysis: 244222005 (RE16-10-2786).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The MS/PS recovery for this sample set was within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement

The MSD recoveries for this sample set were within the required acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement

The RPDs between the spike and spike duplicate met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement

The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times

All samples in this SDG met the specified holding time.

Sample Preservation/Integrity

All the samples from this sample group met the preservation and integrity requirements of the method.

Sample Dilutions

The following sample in this sample group was diluted due to high concentration: 1202015106 (LCS).

Sample Re-analysis

The samples in this SDG did not require re-analysis.

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

A DER was not required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Electronic Packaging Comment

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

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Certification Statement

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

Review Validation:

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

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

Reviewer:  Date: 04Feb10

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: 10-1209 GEL Work Order: 244597

The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by

A handwritten signature in black ink, appearing to read "Tom Lewis, Jr.", is written over a horizontal line.

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 4, 2010

Client SDG: 10-1209

Client Sample ID: RE12-10-7722
Sample ID: 244597001
Matrix: R
Collect Date: 07-JAN-10 12:00
Receive Date: 13-JAN-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

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

Flow Injection Analysis

SW9012A Cyanide, Total "Dry Weight Corrected"

Cyanide, Total	U	ND	70.6	260	ug/kg	1	AXC2	01/19/10	1157	941485	1
----------------	---	----	------	-----	-------	---	------	----------	------	--------	---

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 9010B Prep	SW846 9010B Prep	AXS5	01/18/10	1537	941484

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9012A	

Quality Control Summary

GEL LABORATORIES LLC

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

QC Summary

Report Date: February 4, 2010

Page 1 of 2

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

Contact: Ms. Joylene Valdez

Workorder: 244597

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Flow Injection Analysis											
Batch	941485										
QC1202015100	244222005	DUP									
Cyanide, Total			U	ND	U	ND	ug/kg	N/A	AXC2	01/19/10	11:32
QC1202015106	LCS										
Cyanide, Total	67900			82000	ug/kg		121	(46%-145%)		01/19/10	11:30
QC1202015099	MB										
Cyanide, Total			U	250	ug/kg					01/19/10	11:30
QC1202015102	244222005	MS									
Cyanide, Total	5540	U	ND	4920	ug/kg		88.8	(50%-130%)		01/19/10	11:33
QC1202015104	244222005	MSD									
Cyanide, Total	5330	U	ND	4230	ug/kg	15.1	79.4	(0%-30%)		01/19/10	11:34

Notes:

RER is calculated at the 95% confidence level (2-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based 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%

GEL LABORATORIES LLC

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QC Summary

Workorder: 244597

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
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.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
d	5-day BOD--The 2:1 depletion requirement was not met for this sample										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Instrument QC Data Summary

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 04-FEB-2010 16:36

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1209

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	19-JAN-2010 11:11:17	OM_1-19-2010_11-00-47	153	150	102	(90%-110%)	Yes
CCV	19-JAN-2010 11:25:35	OM_1-19-2010_11-00-47	107	100	107	(90%-110%)	Yes
CCV	19-JAN-2010 11:38:00	OM_1-19-2010_11-00-47	108	100	108	(90%-110%)	Yes
CCV	19-JAN-2010 11:50:23	OM_1-19-2010_11-00-47	108	100	108	(90%-110%)	Yes
CCV	19-JAN-2010 12:02:04	OM_1-19-2010_11-00-47	108	100	108	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	19-JAN-2010 11:13:07	OM_1-19-2010_11-00-47	-2.29	5	Yes
CCB	19-JAN-2010 11:27:25	OM_1-19-2010_11-00-47	-2.44	5	Yes
CCB	19-JAN-2010 11:39:51	OM_1-19-2010_11-00-47	-2.79	5	Yes
CCB	19-JAN-2010 11:52:14	OM_1-19-2010_11-00-47	-2.79	5	Yes
CCB	19-JAN-2010 12:03:54	OM_1-19-2010_11-00-47	-2.79	5	Yes

Cyanide, Total

Prep LogBook

Analyst: AX55
 Batch: 941484
 Lab SOP: GL-GC-E-067 REV# 13

Verified by: _____

Type	Sample Id	Lot. Id	Spike Amount	Spike Units
LCS	1202015106	URF1200957-01	.25	g
MS	1202015102	URF1184831-02	.025	mL
MS	1202015103	URF1184831-02	.025	mL
MSD	1202015104	URF1184831-02	.025	mL
MSD	1202015105	URF1184831-02	.025	mL

Sample Type	Sample ID	Parent Sample ID	Method	Prep Date	Ph	Initial Wt.	Final Volume	Prep Factor	Matrix
MB	1202015099		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
LCS	1202015106		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.25 g	25 mL	100	SOIL
SAMPLE	244222005		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.56 g	25 mL	44.64286	SOIL
DUP	1202015100	244222005	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.55 g	25 mL	45.45455	SOIL
MS	1202015102	244222005	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
MSD	1202015104	244222005	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244515001		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	244515002		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244515003		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	244515004		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244515005		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244515006		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.51 g	25 mL	49.01961	SOIL
SAMPLE	244515007		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.57 g	25 mL	43.85965	SOIL
SAMPLE	244515008		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244519001		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.55 g	25 mL	45.45455	SOIL
DUP	1202015101	244519001	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.56 g	25 mL	44.64286	SOIL
MS	1202015103	244519001	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.53 g	25 mL	47.16981	SOIL
MSD	1202015105	244519001	SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244519002		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244519003		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.54 g	25 mL	46.2963	SOIL
SAMPLE	244519004		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.56 g	25 mL	44.64286	SOIL
SAMPLE	244519005		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244519006		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	244597001		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.55 g	25 mL	45.45455	SOIL
SAMPLE	244601001		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.52 g	25 mL	48.07692	SOIL
SAMPLE	244601002		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.58 g	25 mL	43.10345	SOIL
SAMPLE	244601003		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.5 g	25 mL	50	SOIL
SAMPLE	244601004		SW846 9010B Prep	18-JAN-2010 15:37	>12	0.51 g	25 mL	49.01961	SOIL

GEL Laboratories LLC

Prep Data Logbook Version 1.1

Page#

Prep LogBook

Reagent/Solvent Lot ID	Amount	Description	Comments
091211-C	25 mL	0.25N Sodium Hydroxide Solution	
WCN100118-07	.0375 mL	150 ppb CN Distilled ICV Standard	
1176724-C	1.25 mL	0.8N H3NO3S	
1238146-C	2.5 mL	50% H2SO4 CN Prep	
1176778-C	1 mL	51% MgCl2 Soln	
1238142-C	1.25 mL	Bismuth Nitrate Solution	

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	1/19/2010 11:04:07	OM_1-19-2010_11-00-47
150 ppb		1	axc2	1/19/2010 11:05:00	OM_1-19-2010_11-00-47
100 ppb		1	axc2	1/19/2010 11:05:52	OM_1-19-2010_11-00-47
50 ppb		1	axc2	1/19/2010 11:06:45	OM_1-19-2010_11-00-47
10 ppb		1	axc2	1/19/2010 11:07:38	OM_1-19-2010_11-00-47
CRDL 5.0 ppb		1	axc2	1/19/2010 11:08:32	OM_1-19-2010_11-00-47
ICAL-00		1	axc2	1/19/2010 11:09:26	OM_1-19-2010_11-00-47
ICV		1	axc2	1/19/2010 11:11:17	OM_1-19-2010_11-00-47
ICB		1	axc2	1/19/2010 11:13:07	OM_1-19-2010_11-00-47
CRDL		1	axc2	1/19/2010 11:14:58	OM_1-19-2010_11-00-47
1202012107	940253	1	axc2	1/19/2010 11:16:47	OM_1-19-2010_11-00-47
1202012109	940253	250	axc2	1/19/2010 11:17:41	OM_1-19-2010_11-00-47
243905001	940253	1	axc2	1/19/2010 11:18:34	OM_1-19-2010_11-00-47
244122001	940253	1	axc2	1/19/2010 11:19:27	OM_1-19-2010_11-00-47
244189001	940253	1	axc2	1/19/2010 11:20:20	OM_1-19-2010_11-00-47
1202012108	940253	1	axc2	1/19/2010 11:21:13	OM_1-19-2010_11-00-47
244189002	940253	1	axc2	1/19/2010 11:22:06	OM_1-19-2010_11-00-47
244189003	940253	1	axc2	1/19/2010 11:22:58	OM_1-19-2010_11-00-47
244189004	940253	1	axc2	1/19/2010 11:23:50	OM_1-19-2010_11-00-47
244189005	940253	1	axc2	1/19/2010 11:24:43	OM_1-19-2010_11-00-47
CCV		1	axc2	1/19/2010 11:25:35	OM_1-19-2010_11-00-47
CCB		1	axc2	1/19/2010 11:27:25	OM_1-19-2010_11-00-47
244189006	940253	1	axc2	1/19/2010 11:29:13	OM_1-19-2010_11-00-47
1202015099	941485	1	axc2	1/19/2010 11:30:05	OM_1-19-2010_11-00-47
1202015106	941485	25	axc2	1/19/2010 11:30:57	OM_1-19-2010_11-00-47
244222005	941485	1	axc2	1/19/2010 11:31:49	OM_1-19-2010_11-00-47
1202015100	941485	1	axc2	1/19/2010 11:32:40	OM_1-19-2010_11-00-47
1202015102	941485	1	axc2	1/19/2010 11:33:35	OM_1-19-2010_11-00-47
1202015104	941485	1	axc2	1/19/2010 11:34:28	OM_1-19-2010_11-00-47
244515001	941485	1	axc2	1/19/2010 11:35:21	OM_1-19-2010_11-00-47
244515002	941485	1	axc2	1/19/2010 11:36:14	OM_1-19-2010_11-00-47
244515003	941485	1	axc2	1/19/2010 11:37:08	OM_1-19-2010_11-00-47
CCV		1	axc2	1/19/2010 11:38:00	OM_1-19-2010_11-00-47
CCB		1	axc2	1/19/2010 11:39:51	OM_1-19-2010_11-00-47
244515004	941485	1	axc2	1/19/2010 11:41:40	OM_1-19-2010_11-00-47
244515005	941485	1	axc2	1/19/2010 11:42:33	OM_1-19-2010_11-00-47
244515006	941485	1	axc2	1/19/2010 11:43:27	OM_1-19-2010_11-00-47
244515007	941485	1	axc2	1/19/2010 11:44:19	OM_1-19-2010_11-00-47
244515008	941485	1	axc2	1/19/2010 11:45:11	OM_1-19-2010_11-00-47
244519001	941485	1	axc2	1/19/2010 11:46:03	OM_1-19-2010_11-00-47
1202015101	941485	1	axc2	1/19/2010 11:46:55	OM_1-19-2010_11-00-47
1202015103	941485	1	axc2	1/19/2010 11:47:48	OM_1-19-2010_11-00-47
1202015105	941485	1	axc2	1/19/2010 11:48:40	OM_1-19-2010_11-00-47
244519002	941485	1	axc2	1/19/2010 11:49:31	OM_1-19-2010_11-00-47
CCV		1	axc2	1/19/2010 11:50:23	OM_1-19-2010_11-00-47
CCB		1	axc2	1/19/2010 11:52:14	OM_1-19-2010_11-00-47
244519003	941485	1	axc2	1/19/2010 11:54:06	OM_1-19-2010_11-00-47
244519004	941485	1	axc2	1/19/2010 11:55:00	OM_1-19-2010_11-00-47
244519005	941485	1	axc2	1/19/2010 11:55:53	OM_1-19-2010_11-00-47
244519006	941485	1	axc2	1/19/2010 11:56:46	OM_1-19-2010_11-00-47
244597001	941485	1	axc2	1/19/2010 11:57:39	OM_1-19-2010_11-00-47
244601001	941485	1	axc2	1/19/2010 11:58:33	OM_1-19-2010_11-00-47
244601002	941485	1	axc2	1/19/2010 11:59:26	OM_1-19-2010_11-00-47
244601003	941485	1	axc2	1/19/2010 12:00:18	OM_1-19-2010_11-00-47
244601004	941485	1	axc2	1/19/2010 12:01:11	OM_1-19-2010_11-00-47
CCV		1	axc2	1/19/2010 12:02:04	OM_1-19-2010_11-00-47
CCB		1	axc2	1/19/2010 12:03:54	OM_1-19-2010_11-00-47

Original Run Filename: OM_1-19-2010_11-00-47.OMN created 1/19/2010 11:00:47
 Original Run Author's Signature: [axc2]
 Current Run Filename: OM_1-19-2010_11-00-47.OMN last modified 1/19/2010 12:04:59
 Current Run Author's Signature: [axc2]
 Description: GL-GC-E-102 EPA 420.4, 9066
 LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1		Detection Time	ADF	MDF	Description
			TCYANIDE Conc. (ug/L)	Area (Vs)				
WCN100119-01	1	S1	200	6.82	1/19/2010@11:04:07			200 ppb
WCN100119-02	1	S2	150	5.28	1/19/2010@11:05:00			150 ppb
WCN100119-03	1	S3	100	3.55	1/19/2010@11:05:52			100 ppb
WCN100119-04	1	S4	50.0	1.84	1/19/2010@11:06:45			50 ppb
WCN100119-05	1	S5	10.0	0.444	1/19/2010@11:07:38			10 ppb
WCN100119-06	1	S6	5.00	0.276	1/19/2010@11:08:32			CRDL 5.0 ppb
WCN100119-08	1	S7	0.00	0.0125	1/19/2010@11:09:26			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99973 > 0.99500					
Message			Pass					
Action			Continue					
WCN100119-07	1	S8	153	5.30	1/19/2010@11:11:17			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			1.8 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			1.8 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100119-08	1	S7	-2.29	0.0169	1/19/2010@11:13:07			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.29 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.29 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100119-06	1	S6	5.83	0.294	1/19/2010@11:14:58			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			5.83 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			5.83 > 2.50					
Message			Pass					
Action			None					
1202012107|940253|MB	1	1	-2.43	0.0122	1/19/2010@11:16:47			
1202012109|LCS	1	2	80.9	2.85	1/19/2010@11:17:41		250.00	
243905001	1	3	-2.01	0.0265	1/19/2010@11:18:34			
244122001	1	4	-1.69	0.0374	1/19/2010@11:19:27			
244189001	1	5	-2.78	2.66e-4	1/19/2010@11:20:20			
1202012108|DUP	1	6	-2.83	-0.00162	1/19/2010@11:21:13			
244189002	1	7	-2.71	0.00247	1/19/2010@11:22:06			
244189003	1	8	-1.18	0.0548	1/19/2010@11:22:58			
244189004	1	9	-1.21	0.0538	1/19/2010@11:23:50			
244189005	1	10	-2.43	0.0122	1/19/2010@11:24:43			
WCN100119-03	1	S3	107	3.73	1/19/2010@11:25:35			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					
WCN100119-08	1	S7	-2.44	0.0116	1/19/2010@11:27:25			CCB	
		Known Conc:		0.00					
				DQM Test: > + Concentration Limit					
		Result:		-2.44 < 5.00					
		Message		CCB Passed					
		Action		Continue					
				DQM Test: < - Concentration Limit					
		Result:		-2.44 > -5.00					
		Message		CCB Passed					
		Action		Continue					
244189006	1	11	-2.81	-6.51e-4	1/19/2010@11:29:13				
1202015099|941485|MB	1	12	-2.41	0.0128	1/19/2010@11:30:05				
1202015106|LCS	1	13	32.8	1.21	1/19/2010@11:30:57			25.00	
244222005	1	14	-0.352	0.0829	1/19/2010@11:31:49				
1202015100|DUP	1	15	-0.382	0.0819	1/19/2010@11:32:40				
1202015102|MS	1	16	88.8	3.12	1/19/2010@11:33:35				
1202015104|MSD	1	17	79.4	2.80	1/19/2010@11:34:28				
244515001	1	18	-1.70	0.0369	1/19/2010@11:35:21				
244515002	1	19	-1.92	0.0296	1/19/2010@11:36:14				
244515003	1	20	-0.880	0.0649	1/19/2010@11:37:08				
WCN100119-03	1	S3	108	3.76	1/19/2010@11:38:00			CCV	
		Known Conc:		100					
				DQM Test: > + Percent Relative Difference					
		Result:		7.7 < 10.0					
		Message		CCV Passed					
		Action		Continue					
				DQM Test: < - Percent Relative Difference					
		Result:		7.7 < 10.0					
		Message		CCV Passed					
		Action		Continue					
WCN100119-08	1	S7	-2.79	-2.14e-4	1/19/2010@11:39:51			CCB	
		Known Conc:		0.00					
				DQM Test: > + Concentration Limit					
		Result:		-2.79 < 5.00					
		Message		CCB Passed					
		Action		Continue					
				DQM Test: < - Concentration Limit					
		Result:		-2.79 > -5.00					
		Message		CCB Passed					
		Action		Continue					
244515004	1	21	-1.74	0.0356	1/19/2010@11:41:40				
244515005	1	22	-1.79	0.0339	1/19/2010@11:42:33				
244515006	1	23	-3.35	-0.0193	1/19/2010@11:43:27				
244515007	1	24	-2.93	-0.00487	1/19/2010@11:44:19				
244515008	1	25	-2.79	-1.43e-4	1/19/2010@11:45:11				
244519001	1	26	0.990	0.129	1/19/2010@11:46:03				
1202015101|DUP	1	27	0.208	0.102	1/19/2010@11:46:55				
1202015103|MS	1	28	103	3.61	1/19/2010@11:47:48				
1202015105|MSD	1	29	56.0	2.00	1/19/2010@11:48:40				
244519002	1	30	-0.585	0.0750	1/19/2010@11:49:31				
WCN100119-03	1	S3	108	3.76	1/19/2010@11:50:23			CCV	
		Known Conc:		100					
				DQM Test: > + Percent Relative Difference					
		Result:		7.6 < 10.0					
		Message		CCV Passed					
		Action		Continue					
				DQM Test: < - Percent Relative Difference					
		Result:		7.6 < 10.0					
		Message		CCV Passed					
		Action		Continue					
WCN100119-08	1	S7	-2.79	-1.27e-4	1/19/2010@11:52:14			CCB	
		Known Conc:		0.00					
				DQM Test: > + Concentration Limit					

		Result:	-2.79 < 5.00				
		Message	CCB Passed				
		Action	Continue				
DQM Test: < - Concentration Limit							
		Result:	-2.79 > -5.00				
		Message	CCB Passed				
		Action	Continue				
244519003	1	31	3.76	0.223	1/19/2010@11:54:06		
244519004	1	32	4.72	0.256	1/19/2010@11:55:00		
244519005	1	33	-0.763	0.0689	1/19/2010@11:55:53		
244519006	1	34	0.906	0.126	1/19/2010@11:56:46		
244597001	1	35	0.597	0.115	1/19/2010@11:57:39		
244601001	1	36	-1.60	0.0403	1/19/2010@11:58:33		
244601002	1	37	-1.74	0.0356	1/19/2010@11:59:26		
244601003	1	38	-1.98	0.0275	1/19/2010@12:00:18		
244601004	1	39	-2.79	-2.15e-4	1/19/2010@12:01:11		
WCN100119-03	1	S3	108	3.78	1/19/2010@12:02:04		CCV
Known Conc:			100				
DQM Test: > + Percent Relative Difference							
		Result:	8.2 < 10.0				
		Message	CCV Passed				
		Action	Continue				
DQM Test: < - Percent Relative Difference							
		Result:	8.2 < 10.0				
		Message	CCV Passed				
		Action	Continue				
WCN100119-08	1	S7	-2.79	-2.62e-4	1/19/2010@12:03:54		CCB
Known Conc:			0.00				
DQM Test: > + Concentration Limit							
		Result:	-2.79 < 5.00				
		Message	CCB Passed				
		Action	Continue				
DQM Test: < - Concentration Limit							
		Result:	-2.79 > -5.00				
		Message	CCB Passed				
		Action	Continue				

Analyte Properties Table for OM_1-19-2010_11-00-47.OMN

Property	Channel 1
	TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

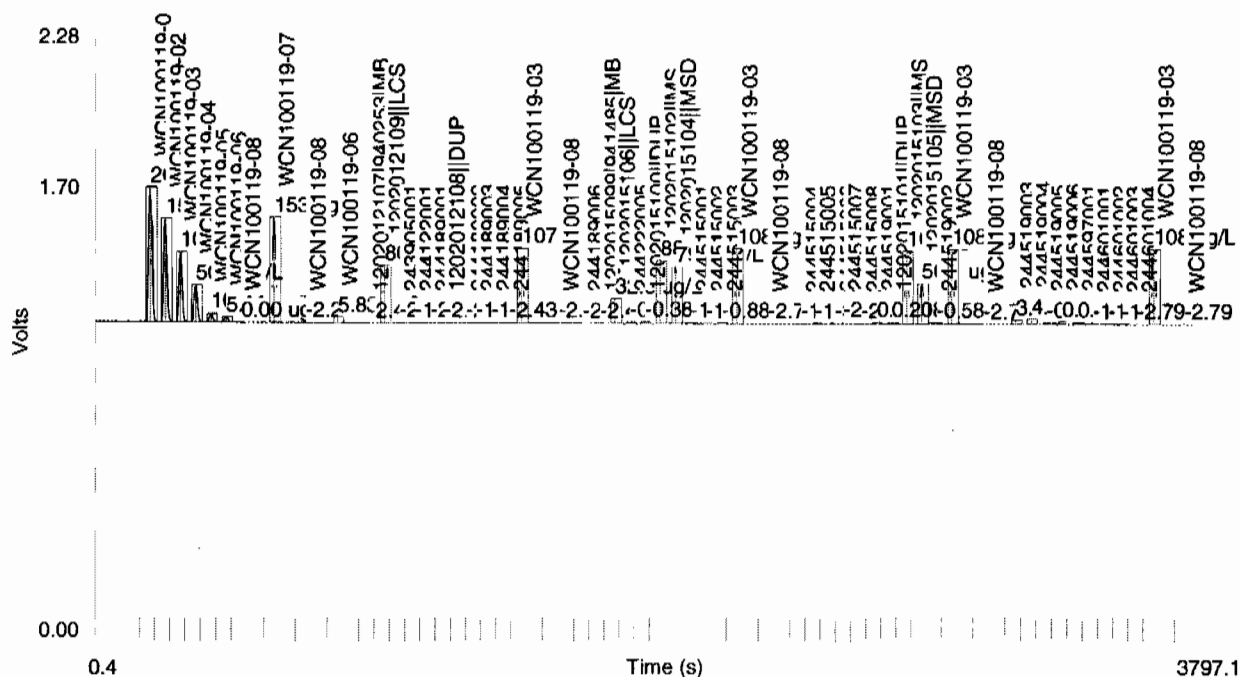
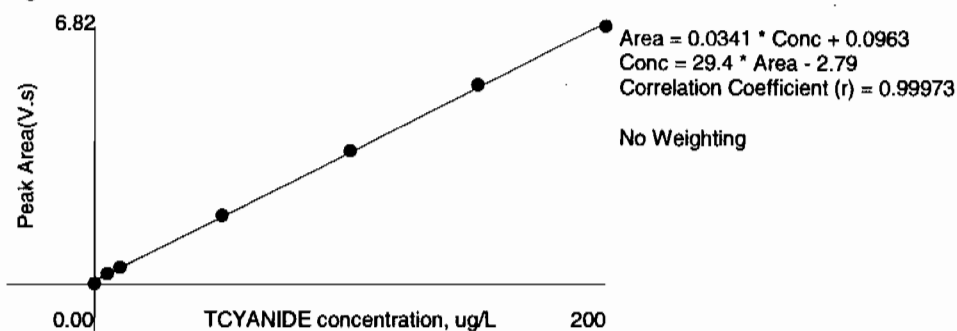


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	6.82	0.518	1.2	1/19/2010	11:05:10
2	150	1	5.28	0.398	-1.4	1/19/2010	11:06:02
3	100	1	3.55	0.267	-1.3	1/19/2010	11:06:55
4	50.0	1	1.84	0.141	-2.0	1/19/2010	11:07:48
5	10.0	1	0.444	0.0325	-1.6	1/19/2010	11:08:41
6	5.00	1	0.276	0.0199	-3.7	1/19/2010	11:09:35
7	0.00	1	0.0125	8.42e-4		1/19/2010	11:10:29

Figure 1: TCYANIDE



RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1209
Work Order 244597**

Method/Analysis Information

Procedure: Dry Weight-Percent Moisture

Analytical Method: Dry Soil Prep

Analytical Batch Number: 941620

Sample ID	Client ID
244597001	RE12-10-7722
1202015406	244597001(RE12-10-7722) 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: 244597001 (RE12-10-7722). The QC was from LANL work order 244597.

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:	941693
Prep Batch Number:	941620

Sample ID	Client ID
244597001	RE12-10-7722
1202015579	Method Blank (MB)
1202015580	244600013(RE12-10-7276) Sample Duplicate (DUP)
1202015581	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 1202015579 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244600013 (RE12-10-7276). The QC was from LANL work order 244600.

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:	941694
Prep Batch Number:	941620

Sample ID	Client ID
244597001	RE12-10-7722
1202015582	Method Blank (MB)
1202015583	244600013(RE12-10-7276) Sample Duplicate (DUP)
1202015584	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 1202015582 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244600013 (RE12-10-7276). The QC was from LANL work order 244600.

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: 941697
Prep Batch Number: 941620

Sample ID	Client ID
244597001	RE12-10-7722
1202015590	Method Blank (MB)
1202015591	244600013(RE12-10-7276) Sample Duplicate (DUP)
1202015592	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 1202015590 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244600013 (RE12-10-7276). The QC was from LANL work order 244600.

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:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	941635
Prep Batch Number:	941620

Sample ID	Client ID
244597001	RE12-10-7722
1202015435	Method Blank (MB)
1202015436	244597001(RE12-10-7722) Sample Duplicate (DUP)
1202015437	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 March 2009, August 2009 and October 2009.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:**Blank Information**

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 244597001 (RE12-10-7722). The QC was from LANL work order 244597.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank results for Pb-212, Sr-85, and Th-227 for sample 1202015435 (MB) are greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

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

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank results for Sr-85 and Th-227 for sample 1202015435 (MB) are greater than the decision level but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	244597001	RE12-10-7722
			1202015436	RE12-10-7722(244597001DUP)
		Radium-224	244597001	RE12-10-7722
			1202015436	RE12-10-7722(244597001DUP)
UI	Data rejected due to low abundance.	Radium-228	1202015436	RE12-10-7722(244597001DUP)
		Strontium-85	244597001	RE12-10-7722

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: *LD* 1/26/10

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: 10-1209 GEL Work Order: 244597

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: January 26, 2010

Client Sample ID: RE12-10-7722
Sample ID: 244597001
Matrix: R
Collect Date: 07-JAN-10
Receive Date: 13-JAN-10
Collector: Client
Moisture: 12.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids												
<i>"As Received"</i>												
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00202	0.0218	+/-0.00436	0.050	pCi/g		HAKB	01/20/10	1641	941693	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0053	0.0219	+/-0.00772	0.050	pCi/g		HAKB	01/19/10	1320	941694	3
Plutonium-239/240	U	0.0172	0.025	+/-0.00485	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.679	0.127	+/-0.0721	0.100	pCi/g		HAKB	01/20/10	2016	941697	4
Uranium-235/236	U	0.0202	0.0787	+/-0.0102	0.100	pCi/g						
Uranium-238		0.868	0.0736	+/-0.086	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0567	0.180	+/-0.0564	0.200	pCi/g		MXR1	01/22/10	0738	941635	5
Bismuth-211	UI	1.81	0.258	+/-0.188		pCi/g						
Bismuth-214		0.793	0.079	+/-0.0703	0.200	pCi/g						
Cadmium-109	U	1.02	1.04	+/-0.369		pCi/g						
Cerium-139	U	0.00806	0.0391	+/-0.0113	0.050	pCi/g						
Cesium-134	U	0.0631	0.0757	+/-0.0305	0.100	pCi/g						
Cesium-137		0.320	0.0397	+/-0.0318	0.100	pCi/g						
Cobalt-60	U	-0.0182	0.0504	+/-0.0163	0.100	pCi/g						
Europium-152	U	-0.0125	0.134	+/-0.0514	0.200	pCi/g						
Lanthanum-140	U	-0.0113	0.0977	+/-0.0308		pCi/g						
Lead-212		0.893	0.0707	+/-0.0516	0.100	pCi/g						
Lead-214		0.629	0.090	+/-0.0673	0.100	pCi/g						
Mercury-203	U	0.0166	0.0562	+/-0.0156	0.100	pCi/g						
Potassium-40		29.8	0.451	+/-1.33	1.00	pCi/g						
Radium-223	U	-0.238	0.851	+/-0.291		pCi/g						
Radium-224	UI	2.61	0.804	+/-0.426		pCi/g						
Radium-226		0.793	0.079	+/-0.0703		pCi/g						
Radium-228		0.846	0.197	+/-0.137	0.500	pCi/g						
Ruthenium-106	U	-0.0417	0.408	+/-0.123	0.800	pCi/g						

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: January 26, 2010

Client Sample ID: RE12-10-7722
Sample ID: 244597001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Sodium-22	U	-0.0352	0.0574	+/-0.019	0.080	pCi/g						
Strontium-85	UI	0.103	0.0646	+/-0.0165		pCi/g						
Thallium-208		0.267	0.0461	+/-0.0266	0.080	pCi/g						
Thorium-227	U	-0.283	0.457	+/-0.138		pCi/g						
Thorium-231	U	-0.238	0.851	+/-0.291		pCi/g						
Thorium-234	U	1.37	1.52	+/-0.631	2.00	pCi/g						
Tin-113	U	0.00568	0.0574	+/-0.0164	0.100	pCi/g						
Uranium-235	U	0.175	0.298	+/-0.0841	0.500	pCi/g						
Yttrium-88	U	-0.0106	0.0256	+/-0.00958	0.100	pCi/g						

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.4	50%-105%
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.9	50%-105%
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.2	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.
- 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

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: January 26, 2010

Client Sample ID: RE12-10-7722
Sample ID: 244597001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

E Organics--Concentration of the target analyte exceeds the instrument calibration range

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte TIC .

Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

d 5-day BOD--The 2:1 depletion requirement was not met for this sample

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

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QC Summary

Report Date: January 26, 2010
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Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 244597

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch 941693											
QC1202015580 244600013 DUP											
Americium-241	U	0.0007	U	-0.000495	pCi/g	0.132		0-1	HAKB	01/20/10	16:41
	TPU:	+/-0.00202		+/-0.00252							
	Yield:	86.4		83.8							
QC1202015581 LCS											
Americium-241	33.2			31.4	pCi/g		94.8	75%-125%		01/20/10	12:59
	TPU:			+/-2.17							
	Yield:			103							
QC1202015579 MB											
Americium-241			U	0.00209	pCi/g						
	TPU:			+/-0.00398							
	Yield:			90.2							
Batch 941694											
QC1202015583 244600013 DUP											
Plutonium-238	U	0.0034	U	0.0111	pCi/g	0.519		0-1	HAKB	01/19/10	13:20
	TPU:	+/-0.00241		+/-0.00498							
	Yield:	71.3		104							
Plutonium-239/240	U	0.0034	U	5.28E-10	pCi/g	0.272		0-1			
	TPU:	+/-0.00241		+/-0.00383							
	Yield:	71.3		104							
QC1202015584 LCS											
Plutonium-238				6.97	pCi/g			75%-125%			
	TPU:			+/-0.513							
	Yield:			92.7							
Plutonium-239/240	41.8			38.4	pCi/g		91.9	75%-125%			
	TPU:			+/-2.36							
	Yield:			92.7							
QC1202015582 MB											
Plutonium-238			U	-0.00725	pCi/g						
	TPU:			+/-0.00925							
	Yield:			80.1							
Plutonium-239/240			U	0.00181	pCi/g						
	TPU:			+/-0.0048							
	Yield:			80.1							
Batch 941697											
QC1202015591 244600013 DUP											
Uranium-233/234		0.909		0.850	pCi/g	0.185		0-1	HAKB	01/20/10	20:17
	TPU:	+/-0.0824		+/-0.0772							
	Yield:	95.6		95.4							
Uranium-235/236		0.0635		0.0762	pCi/g	0.181		0-1			
	TPU:	+/-0.0169		+/-0.0182							
	Yield:	95.6		95.4							
Uranium-238		0.844		0.966	pCi/g	0.373		0-1			
	TPU:	+/-0.0779		+/-0.0857							

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QC Summary

Workorder: 244597

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Analst	Date Time
Rad Alpha Spec										
Batch	941697									
QC1202015592	LCS	Yield:	95.6	95.4						
Uranium-233/234				5.61	pCi/g			75%-125%		
		TPU:		+/-0.499						
		Yield:		95.0						
Uranium-235/236				0.350	pCi/g			75%-125%		
		TPU:		+/-0.0823						
		Yield:		95.0						
Uranium-238	5.75			5.36	pCi/g		93.2	75%-125%		
		TPU:		+/-0.480						
		Yield:		95.0						
QC1202015590	MB									
Uranium-233/234			U	0.00747	pCi/g					
		TPU:		+/-0.00522						
		Yield:		95.7						
Uranium-235/236			U	0.00589	pCi/g					
		TPU:		+/-0.00521						
		Yield:		95.7						
Uranium-238			U	0.00476	pCi/g					
		TPU:		+/-0.00477						
		Yield:		95.7						
Rad Gamma Spec										
Batch	941635									
QC1202015436	244597001	DUP								
Americium-241		U	0.0567	U	0.034	pCi/g	0.111	0-1	MXR1	01/22/1010:24
		TPU:	+/-0.0564		+/-0.0459					
Bismuth-211		UI	1.81	UI	2.06	pCi/g	0.340	0-1		
		TPU:	+/-0.188		+/-0.176					
Bismuth-214			0.793		0.643	pCi/g	0.549	0-1		
		TPU:	+/-0.0703		+/-0.0667					
Cadmium-109		U	1.02	U	0.915	pCi/g	0.0728	0-1		
		TPU:	+/-0.369		+/-0.346					
Cerium-139		U	0.00806	U	-0.022	pCi/g	0.688	0-1		
		TPU:	+/-0.0113		+/-0.0106					
Cesium-134		U	0.0631	U	0.0461	pCi/g	0.178	0-1		
		TPU:	+/-0.0305		+/-0.0171					
Cesium-137			0.320		0.291	pCi/g	0.228	0-1		
		TPU:	+/-0.0318		+/-0.0312					
Cobalt-60		U	-0.0182	U	0.0209	pCi/g	0.632	0-1		
		TPU:	+/-0.0163		+/-0.0147					
Europium-152		U	-0.0125	U	0.0183	pCi/g	0.168	0-1		
		TPU:	+/-0.0514		+/-0.0404					
Lanthanum-140		U	-0.0113	U	-0.0547	pCi/g	0.358	0-1		
		TPU:	+/-0.0308		+/-0.0298					
Lead-212			0.893		0.921	pCi/g	0.123	0-1		
		TPU:	+/-0.0516		+/-0.062					
Lead-214			0.629		0.715	pCi/g	0.327	0-1		
		TPU:	+/-0.0673		+/-0.064					
Mercury-203		U	0.0166	U	0.0142	pCi/g	0.040	0-1		
		TPU:	+/-0.0156		+/-0.0138					

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QC Summary

Workorder: 244597

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	941635										
Potassium-40		29.8		30.9	pCi/g	0.194		0-1			
		TPU: +/-1.33		+/-1.55							
Radium-223		U -0.238	U	0.490	pCi/g	0.677		0-1			
		TPU: +/-0.291		+/-0.246							
Radium-224		UI 2.61	UI	2.25	pCi/g	0.201		0-1			
		TPU: +/-0.426		+/-0.462							
Radium-226		0.793		0.643	pCi/g	0.549		0-1			
		TPU: +/-0.0703		+/-0.0667							
Radium-228		0.846	UI	0.893	pCi/g	0.0976		0-1			
		TPU: +/-0.137		+/-0.103							
Ruthenium-106		U -0.0417	U	0.137	pCi/g	0.371		0-1			
		TPU: +/-0.123		+/-0.117							
Sodium-22		U -0.0352	U	-0.00964	pCi/g	0.343		0-1			
		TPU: +/-0.019		+/-0.0182							
Strontium-85		UI 0.103	U	0.0326	pCi/g	1.09		0-1			
		TPU: +/-0.0165		+/-0.0158							
Thallium-208		0.267		0.314	pCi/g	0.398		0-1			
		TPU: +/-0.0266		+/-0.0325							
Thorium-227		U -0.283	U	0.0507	pCi/g	0.614		0-1			
		TPU: +/-0.138		+/-0.133							
Thorium-231		U -0.238	U	0.490	pCi/g	0.677		0-1			
		TPU: +/-0.291		+/-0.246							
Thorium-234		U 1.37	U	0.650	pCi/g	0.307		0-1			
		TPU: +/-0.631		+/-0.534							
Tin-113		U 0.00568	U	-0.0119	pCi/g	0.283		0-1			
		TPU: +/-0.0164		+/-0.0147							
Uranium-235		U 0.175	U	0.144	pCi/g	0.0958		0-1			
		TPU: +/-0.0841		+/-0.0781							
Yttrium-88		U -0.0106	U	0.00987	pCi/g	0.507		0-1			
		TPU: +/-0.00958		+/-0.0106							
QC1202015437	LCS										
Americium-241	15.9			13.4	pCi/g		84.1	75%-125%		01/22/10	10:25
		TPU: +/-0.712		+/-0.712							
Bismuth-211				2.05	pCi/g						
		TPU: +/-0.272		+/-0.272							
Bismuth-214				0.840	pCi/g						
		TPU: +/-0.126		+/-0.126							
Cadmium-109				35.0	pCi/g						
		TPU: +/-2.11		+/-2.11							
Cerium-139			U	0.0426	pCi/g						
		TPU: +/-0.0183		+/-0.0183							
Cesium-134			U	-0.00109	pCi/g						
		TPU: +/-0.045		+/-0.045							
Cesium-137	5.57			6.11	pCi/g		110	75%-125%			
		TPU: +/-0.368		+/-0.368							
Cobalt-60	6.45			6.59	pCi/g		102	75%-125%			
		TPU: +/-0.317		+/-0.317							
Europium-152			U	-0.0261	pCi/g						
		TPU: +/-0.084		+/-0.084							
Lanthanum-140			U	-0.0273	pCi/g						
		TPU: +/-0.041		+/-0.041							

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QC Summary

Workorder: 244597

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	941635								
Lead-212			1.15	pCi/g					
	TPU:		+/-0.0911						
Lead-214			0.714	pCi/g					
	TPU:		+/-0.0966						
Mercury-203		U	0.0806	pCi/g					
	TPU:		+/-0.0285						
Potassium-40		U	-0.0234	pCi/g					
	TPU:		+/-0.319						
Radium-223		U	-1.14	pCi/g					
	TPU:		+/-0.517						
Radium-224			2.99	pCi/g					
	TPU:		+/-0.751						
Radium-226			0.840	pCi/g					
	TPU:		+/-0.126						
Radium-228			1.46	pCi/g					
	TPU:		+/-0.328						
Ruthenium-106		U	-0.0373	pCi/g					
	TPU:		+/-0.270						
Sodium-22		U	0.00489	pCi/g					
	TPU:		+/-0.0238						
Strontium-85		U	0.00404	pCi/g					
	TPU:		+/-0.0361						
Thallium-208			0.381	pCi/g					
	TPU:		+/-0.0635						
Thorium-227		U	-0.186	pCi/g					
	TPU:		+/-0.298						
Thorium-231		U	-1.14	pCi/g					
	TPU:		+/-0.517						
Thorium-234		U	0.684	pCi/g					
	TPU:		+/-0.371						
Tin-113		U	0.0242	pCi/g					
	TPU:		+/-0.0388						
Uranium-235		U	-0.0882	pCi/g					
	TPU:		+/-0.123						
Yttrium-88		U	0.0205	pCi/g					
	TPU:		+/-0.026						
QC1202015435 MB									
Americium-241		U	-0.0509	pCi/g					01/22/1009:49
	TPU:		+/-0.024						
Bismuth-211		U	0.0128	pCi/g					
	TPU:		+/-0.0424						
Bismuth-214		U	-0.0149	pCi/g					
	TPU:		+/-0.019						
Cadmium-109		U	-0.592	pCi/g					
	TPU:		+/-0.149						
Cerium-139		U	0.00261	pCi/g					
	TPU:		+/-0.00579						
Cesium-134		U	0.00132	pCi/g					
	TPU:		+/-0.0108						
Cesium-137		U	-0.00764	pCi/g					
	TPU:		+/-0.00832						

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QC Summary

Workorder: 244597

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	941635										
Cobalt-60			U	2.64E-05	pCi/g						
	TPU:			+/-0.00788							
Europium-152			U	-0.024	pCi/g						
	TPU:			+/-0.022							
Lanthanum-140			U	0.00144	pCi/g						
	TPU:			+/-0.0148							
Lead-212			U	0.0257	pCi/g						
	TPU:			+/-0.0149							
Lead-214			U	0.00418	pCi/g						
	TPU:			+/-0.0149							
Mercury-203			U	-0.00622	pCi/g						
	TPU:			+/-0.00788							
Potassium-40			U	0.137	pCi/g						
	TPU:			+/-0.123							
Radium-223			U	-0.0684	pCi/g						
	TPU:			+/-0.149							
Radium-224			U	-0.0943	pCi/g						
	TPU:			+/-0.146							
Radium-226			U	-0.0149	pCi/g						
	TPU:			+/-0.019							
Radium-228			U	0.0373	pCi/g						
	TPU:			+/-0.032							
Ruthenium-106			U	-0.0573	pCi/g						
	TPU:			+/-0.0798							
Sodium-22			U	0.00545	pCi/g						
	TPU:			+/-0.0096							
Strontium-85			U	0.0376	pCi/g						
	TPU:			+/-0.0109							
Thallium-208			U	0.00981	pCi/g						
	TPU:			+/-0.00906							
Thorium-227			U	0.157	pCi/g						
	TPU:			+/-0.0834							
Thorium-231			U	-0.0684	pCi/g						
	TPU:			+/-0.149							
Thorium-234			U	-0.104	pCi/g						
	TPU:			+/-0.214							
Tin-113			U	0.0073	pCi/g						
	TPU:			+/-0.00868							
Uranium-235			U	0.0116	pCi/g						
	TPU:			+/-0.0433							
Yttrium-88			U	0.00211	pCi/g						
	TPU:			+/-0.00928							

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

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QC Summary

Workorder: 244597

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
A		The TIC is a suspected aldol-condensation product								
B		For General Chemistry and Organic analysis the target analyte was detected in the associated blank.								
BD		Results are either below the MDC or tracer recovery is low								
C		Analyte has been confirmed by GC/MS analysis								
D		Results are reported from a diluted aliquot of the sample								
E		General Chemistry--Concentration of the target analyte exceeds the instrument calibration range								
E		Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria								
E		Organics--Concentration of the target analyte exceeds the instrument calibration range								
F		Estimated Value								
H		Analytical holding time was exceeded								
J		Value is estimated								
M		M if above MDC and less than LLD								
M		Matrix Related Failure								
N		Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte TIC . Quantitation is based on nearest internal standard response factor								
N/A		RPD or %Recovery limits do not apply.								
ND		Analyte concentration is not detected above the detection limit								
NJ		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier								
P		Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%								
R		Sample results are rejected								
U		Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.								
UI		Gamma Spectroscopy--Uncertain identification								
X		Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier								
Y		QC Samples were not spiked with this compound								
Z		Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.								
^		RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.								
d		5-day BOD--The 2:1 depletion requirement was not met for this sample								
h		Preparation or preservation holding time was exceeded								

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference RPD obtained from the sample duplicate DUP is evaluated against the acceptance criteria when the sample is greater than five times 5X the contract required detection limit RL . In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

RAW DATA

Radiochemistry Batch Checklist, Rev10/

Batch#

941693

Product:

Am

Date:

1/21/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			N/A
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

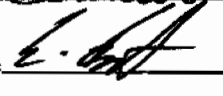
GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:


 1/21/10

Secondary Review Performed By:


 1/21/10

2/3

CANL

Am/Cm Que Sheet

14-JAN-10

Batch #: 941693 Analyst: HAKB First Client Due Date: 03-FEB-10 Internal Due Date: 24-JAN-10 Comments:
 Tracer(s): Am243/Cm244 Tracer Code: 445-36-2-SS Expiration Date: 5/11/10 Vol: 8-1
 LCS Isotope(s): Am241/Cm244 LCS Code(s): SPMA 02344-B / NA Expiration Date: 4/30/20 / NA Vol(s): 0.110g / NA
 Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA
 Prep Date: 1/8/10 Initials: dkb Pipet ID: 2971058 Balance ID: 50410272 Witness: Wm 1-8-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot (g)	1/n	Am/Cm Det #
244597001-1	RE12-10-7722	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	1	1	1.251			87
244600001-1	RE12-10-7243	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	2	2	1.255			88
244600002-1	RE12-10-7240	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	3	3	1.260			89
244600003-1	RE12-10-7241	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	4	4	1.260			90
244600004-1	RE12-10-7237	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	5	5	1.261			91
244600005-1	RE12-10-7239	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	6	6	1.262			92
244600006-1	RE12-10-7238	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	7	7	1.251			93
244600007-1	RE12-10-7242	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	8	8	1.253			94
244600008-1	RE12-10-7236	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	9	9	1.258			95
244600009-1	RE12-10-7252	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	10	10	1.260			97
244600010-1	RE12-10-7253	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	11	11	1.269			99
244600011-1	RE12-10-7254	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	12	12	1.255			100
244600012-1	RE12-10-7255	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	13	13	1.258			101
244600013-1	RE12-10-7276	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	14	14	1.254			102
244612001-1	RE16-10-2783	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	15	15	1.262			103
244613001-1	RE16-10-1286	SAMPLE		.05 pCi/g	SOIL	LANL010	07-JAN-10	16	16	1.259			104
1202015579-1	MB for batch 941693	MB		.05 pCi/g	SOIL	QC ACCOUNT		17	17	1			43
1202015580-1	RE12-10-7276(244600013DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	07-JAN-10	18	18	1.257			105
1202015581-1	LCS for batch 941693	LCS		.05 pCi/g	SOIL	QC ACCOUNT		19	19	0.110			48

Choose SOP Used: GL-RAD-A-0113
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: 1/21/10

Blank Correction Report

Batch ID 941693

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202015580	DUP	Americium-241	1.26 g	-0.000495	0.00252	0.0224	.001658730	pCi/g	YES
1202015581	LCS	Americium-241	0.110 g	31.4	2.17	0.217	.019	pCi/g	NO
1202015579	MB	Americium-241	1.00 g	0.00209	0.00398	0.0248	.00209	pCi/g	YES
244597001	RE12-10-7722	Americium-241	1.25 g	0.00202	0.00436	0.0218	.001672	pCi/g	YES
244600001	RE12-10-7243	Americium-241	1.26 g	0.00206	0.00573	0.022	.001658730	pCi/g	YES
244600002	RE12-10-7240	Americium-241	1.26 g	0.00669	0.0038	0.0361	.001658730	pCi/g	YES
244600003	RE12-10-7241	Americium-241	1.26 g	-6.51E-05	0.00175	0.0297	.001658730	pCi/g	YES
244600004	RE12-10-7237	Americium-241	1.26 g	-3.52E-05	0.00178	0.0302	.001658730	pCi/g	YES
244600005	RE12-10-7239	Americium-241	1.26 g	0.000985	0.00303	0.0237	.001658730	pCi/g	YES
244600006	RE12-10-7238	Americium-241	1.25 g	0.000793	0.00131	0.0222	.001672	pCi/g	YES
244600007	RE12-10-7242	Americium-241	1.25 g	0.00537	0.00346	0.0244	.001672	pCi/g	YES
244600008	RE12-10-7236	Americium-241	1.26 g	0.0169	0.00866	0.0244	.001658730	pCi/g	NO
244600009	RE12-10-7252	Americium-241	1.26 g	0.014	0.00684	0.0224	.001658730	pCi/g	NO
244600010	RE12-10-7253	Americium-241	1.27 g	0.00115	0.00246	0.0251	.001645669	pCi/g	YES
244600011	RE12-10-7254	Americium-241	1.26 g	0.0129	0.00442	0.0209	.001658730	pCi/g	NO
244600012	RE12-10-7255	Americium-241	1.26 g	0.00638	0.00276	0.0199	.001658730	pCi/g	YES
244600013	RE12-10-7276	Americium-241	1.25 g	0.0007	0.00202	0.0214	.001672	pCi/g	YES
244612001	RE16-10-2783	Americium-241	1.26 g	0.0017	0.00141	0.0199	.001658730	pCi/g	YES
244613001	RE16-10-1286	Americium-241	1.26 g	0.00321	0.00202	0.0213	.001658730	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941693
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244597001_AM
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :78199
AVERAGE %EFFICIENCY :31.4743
% YIELD : 89.415

COUNT DATE:20-JAN-2010 16:41:40
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.60787 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B087.CNF;1022
BKG DATE : 17-JAN-2010
EFF FILE : W087.CNF;274
CAL DATE : 11-JAN-2010

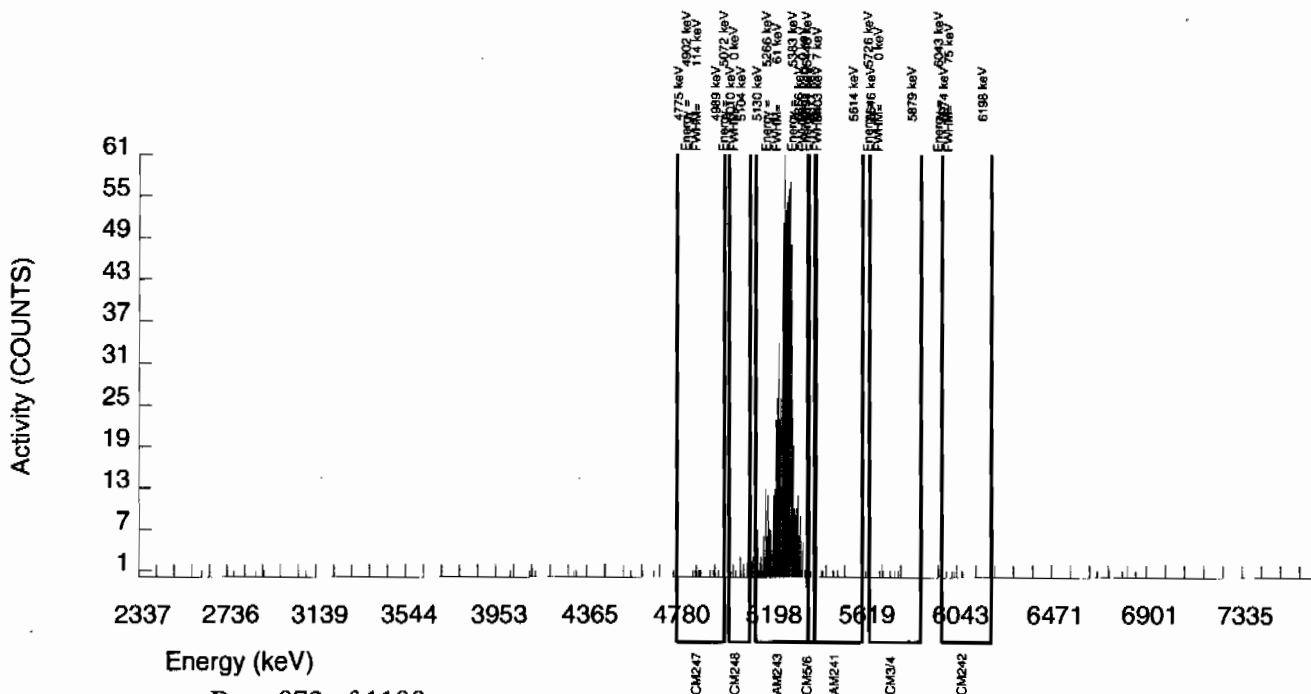
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	6.000	6.000	0.000	5.2338	100.0000	7.69E-03	3.17E-03	1.56E-02	3.46E-02	3.14E-03
CM-5/6	5386.000	4.000	3.000	1.000	19.8463	86.09000	4.46E-03	3.33E-03	6.86E-02	1.41E-01	3.32E-03
AM-241	5479.150	8.000	1.575	5.000	3.0704	99.94000	2.02E-03	4.36E-03	9.14E-03	2.18E-02	4.36E-03
CM-242	6102.000	6.000	6.000	0.000	4.3186	100.0000	8.15E-03	3.36E-03	1.29E-02	2.92E-02	3.33E-03
AM243	5270.000	821.000	819.000	2.000	1.4142	99.78000	1.05E+00	7.34E-02	4.22E-03	1.19E-02	3.68E-02
CM-247	4946.000	8.000	1.000	7.000	15.3366	79.30000	1.61E-03	6.25E-03	5.76E-02	1.20E-01	6.25E-03
CM-248	5078.600	15.000	9.000	6.000	22.1555	91.00000	1.27E-02	6.49E-03	7.25E-02	1.49E-01	6.44E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941693
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244600013_AM
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :72525
AVERAGE %EFFICIENCY :33.0102
% YIELD : 86.400

COUNT DATE:20-JAN-2010 16:41:43
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.51993 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B102.CNF;672
BKG DATE : 17-JAN-2010
EFF FILE : W102.CNF;192
CAL DATE : 11-JAN-2010

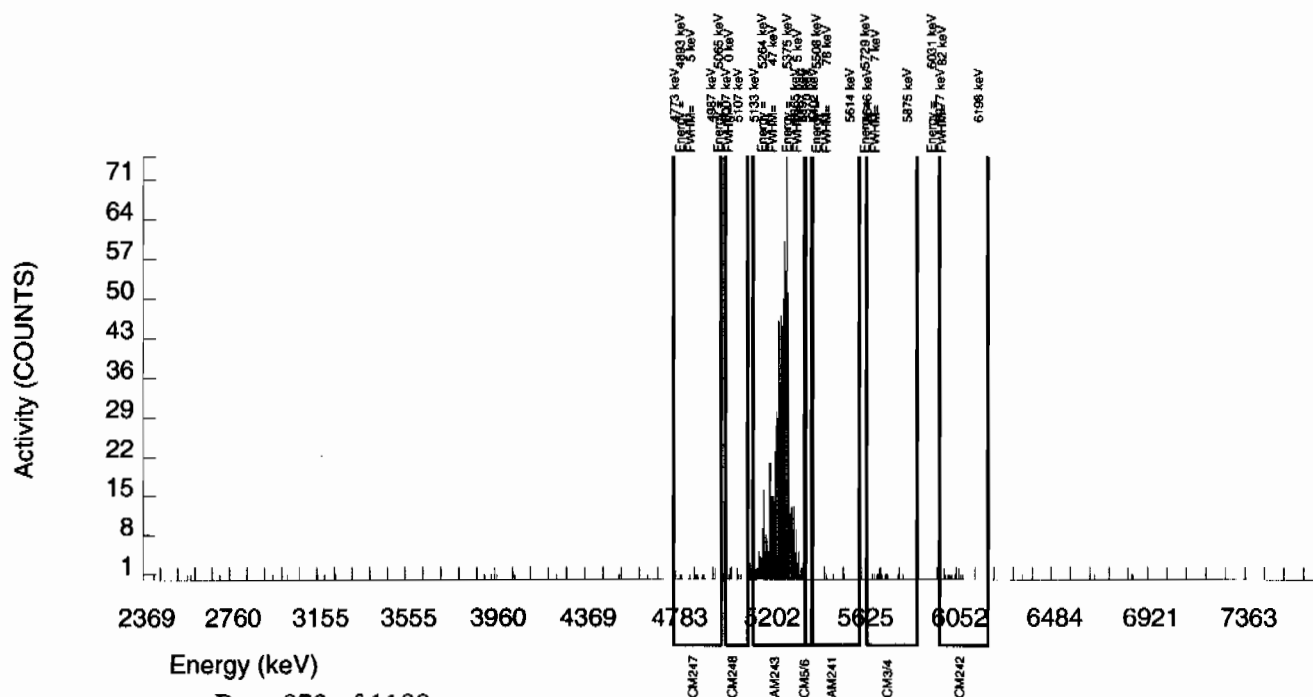
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	12.000	11.000	1.000	5.2338	100.0000	1.39E-02	4.62E-03	1.53E-02	3.41E-02	4.55E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.46E-03	1.47E-03	6.75E-02	1.39E-01	1.46E-03
AM-241	5479.150	3.000	0.556	1.000	3.0704	99.94000	7.00E-04	2.02E-03	9.00E-03	2.14E-02	2.01E-03
CM-242	6102.000	16.000	14.000	2.000	4.3186	100.0000	1.87E-02	5.78E-03	1.27E-02	2.87E-02	5.67E-03
AM243	5270.000	830.000	830.000	0.000	0.0000	99.78000	1.05E+00	7.29E-02	0.00E+00	3.42E-03	3.64E-02
CM-247	4946.000	11.000	10.000	1.000	15.3366	79.30000	1.59E-02	5.58E-03	5.67E-02	1.18E-01	5.50E-03
CM-248	5078.600	11.000	11.000	0.000	22.1555	91.00000	1.52E-02	4.68E-03	7.13E-02	1.46E-01	4.59E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941693 SAMPLE DATE : 18-JAN-2010 00:00:00		SAMPLE ID : S1202015579_AM SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :76543 AVERAGE %EFFICIENCY :34.3031 % YIELD : 90.155		COUNT DATE:20-JAN-2010 12:59:59 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :HAKB	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91658 dpm RESULTS : 2.62945 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B043.CNF;1098 BKG DATE : 17-JAN-2010 EFF FILE : W043.CNF;284 CAL DATE : 4-JAN-2010

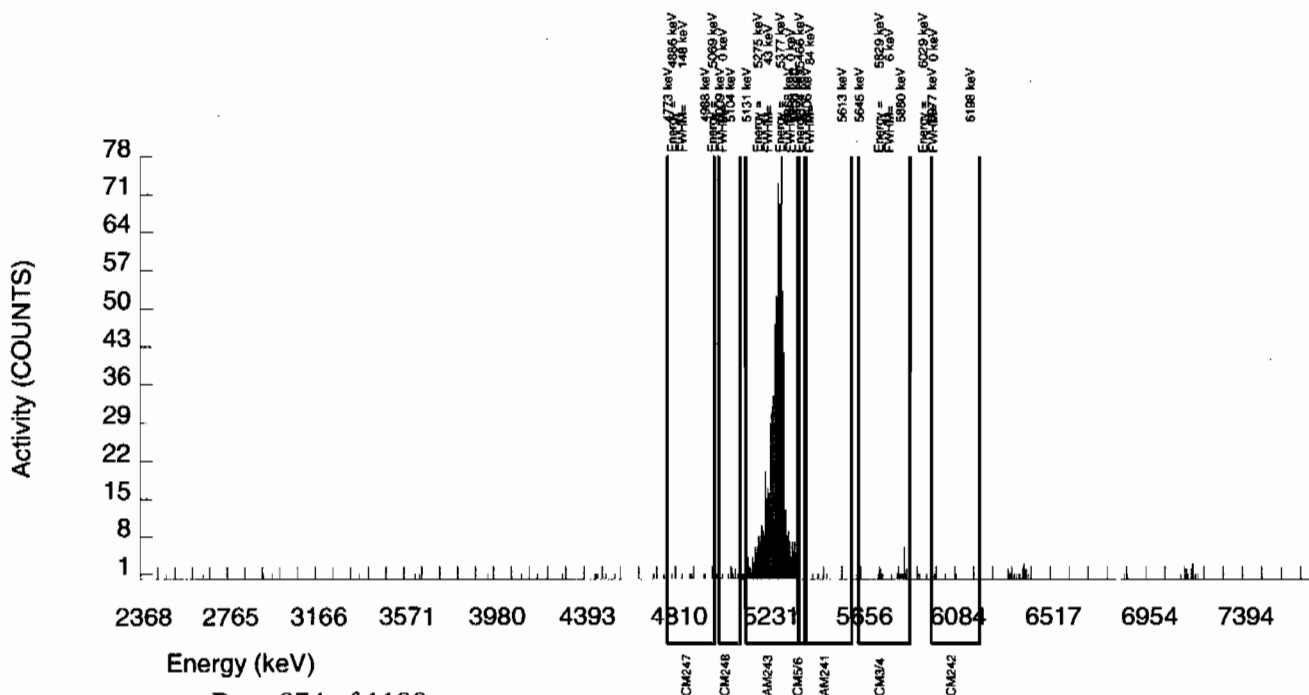
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	21.000	8.000	13.000	5.2338	100.0000	1.17E-02	8.52E-03	1.77E-02	3.94E-02	8.50E-03
CM-5/6	5386.000	7.000	7.000	0.000	19.8463	86.09000	1.18E-02	4.53E-03	7.81E-02	1.61E-01	4.48E-03
AM-241	5479.150	6.000	1.434	3.000	3.0704	99.94000	2.09E-03	3.98E-03	1.04E-02	2.48E-02	3.97E-03
CM-242	6102.000	4.000	4.000	0.000	4.3186	100.0000	5.90E-03	2.97E-03	1.46E-02	3.32E-02	2.95E-03
AM243	5270.000	900.000	900.000	0.000	0.0000	99.78000	1.31E+00	8.96E-02	0.00E+00	3.96E-03	4.38E-02
CM-247	4946.000	6.000	5.000	1.000	15.3366	79.30000	9.18E-03	4.89E-03	6.55E-02	1.36E-01	4.86E-03
CM-248	5078.600	12.000	12.000	0.000	22.1555	91.00000	1.92E-02	5.66E-03	8.25E-02	1.69E-01	5.54E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941693
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S1202015580_AM
SAMPLE QTY: 1.257 G

DETECTOR NUMBER :78777
AVERAGE %EFFICIENCY :32.3821
% YIELD : 83.831

COUNT DATE:20-JAN-2010 16:41:43
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.44501 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B105.CNF;674
BKG DATE : 17-JAN-2010
EFF FILE : W105.CNF;173
CAL DATE : 11-JAN-2010

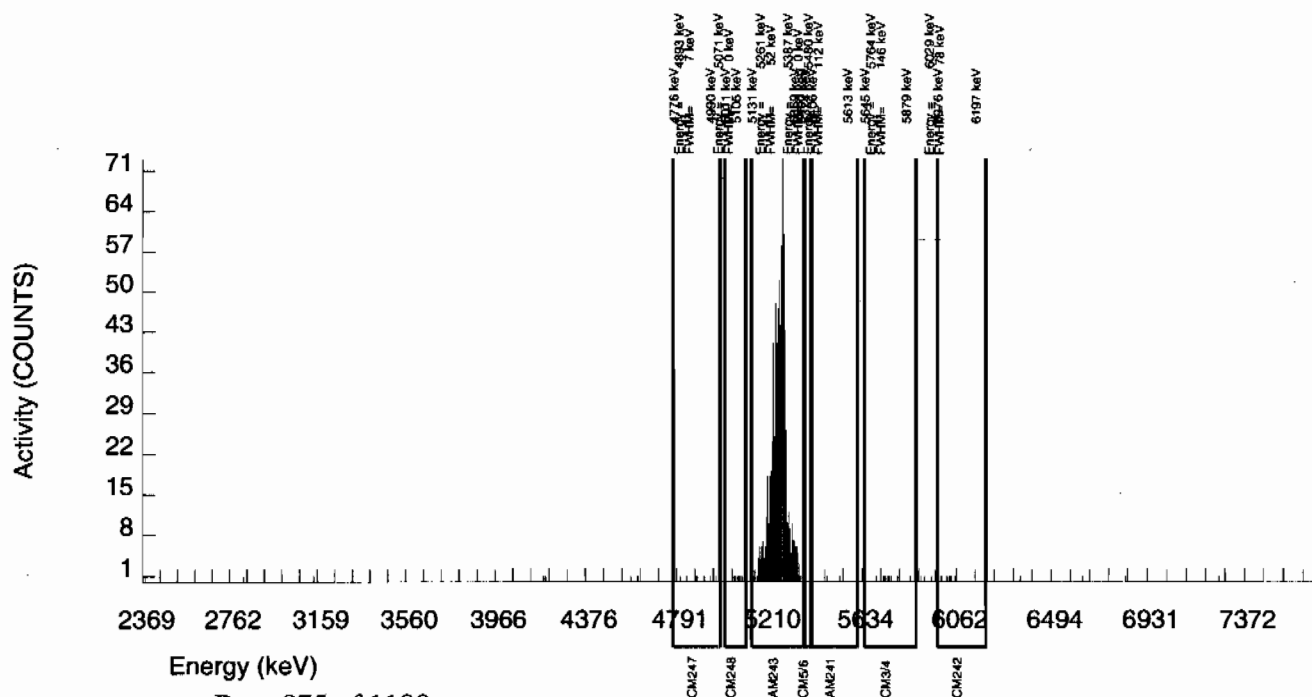
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	9.000	8.000	1.000	5.2338	100.0000	1.06E-02	4.23E-03	1.61E-02	3.57E-02	4.18E-03
CM-5/6	5386.000	1.000	1.000	0.000	19.8463	86.09000	1.53E-03	1.54E-03	7.08E-02	1.46E-01	1.53E-03
AM-241	5479.150	3.000	-0.375	2.000	3.0704	99.94000	-4.95E-04	2.52E-03	9.43E-03	2.24E-02	2.52E-03
CM-242	6102.000	9.000	9.000	0.000	4.3186	100.0000	1.26E-02	4.27E-03	1.33E-02	3.01E-02	4.20E-03
AM243	5270.000	791.000	790.000	1.000	1.0000	99.78000	1.05E+00	7.37E-02	3.08E-03	9.74E-03	3.72E-02
CM-247	4946.000	9.000	8.000	1.000	15.3366	79.30000	1.33E-02	5.33E-03	5.94E-02	1.23E-01	5.26E-03
CM-248	5078.600	8.000	7.000	1.000	22.1555	91.00000	1.02E-02	4.40E-03	7.48E-02	1.53E-01	4.35E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941693
SAMPLE DATE : 18-JAN-2010 00:00:00

SAMPLE ID : S1202015581_AM
SAMPLE QTY: 0.110 G

DETECTOR NUMBER : 42483
AVERAGE %EFFICIENCY : 31.2622
% YIELD : 102.662

COUNT DATE: 20-JAN-2010 12:59:59
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST : HAKB

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.99421 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B048.CNF;1104
BKG DATE : 17-JAN-2010
EFF FILE : W048.CNF;314
CAL DATE : 4-JAN-2010

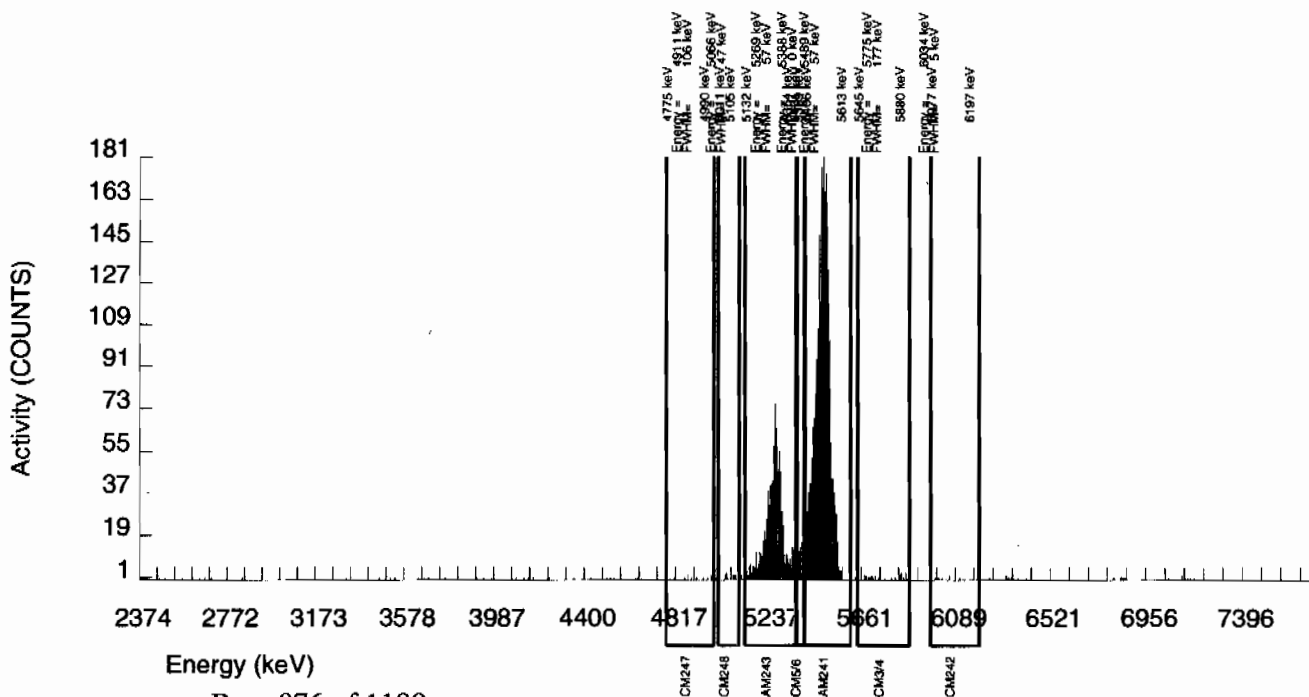
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	26.000	7.000	19.000	5.2338	100.0000	8.93E-02	8.58E-02	1.55E-01	3.45E-01	8.56E-02
CM-5/6	5386.000	95.000	94.000	1.000	19.8463	86.09000	1.39E+00	1.72E-01	6.84E-01	1.41E+00	1.45E-01
AM-241	5479.150	2476.000	2461.375	13.000	3.0704	99.94000	3.14E+01	2.17E+00	9.12E-02	2.17E-01	6.37E-01
CM-242	6102.000	9.000	8.000	1.000	4.3186	100.0000	1.03E-01	4.14E-02	1.28E-01	2.91E-01	4.08E-02
AM243	5270.000	935.000	934.000	1.000	1.0000	99.78000	1.19E+01	8.81E-01	2.97E-02	9.42E-02	3.91E-01
CM-247	4946.000	13.000	8.000	5.000	15.3366	79.30000	1.29E-01	6.88E-02	5.74E-01	1.19E+00	6.83E-02
CM-248	5078.600	16.000	15.000	1.000	22.1555	91.00000	2.10E-01	5.95E-02	7.23E-01	1.48E+00	5.78E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev10.

Batch#

941694

Product:

Pu

Date:

1/20/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10" MDA/ MDC, error is 150% or less of sample activity. If greater 10" MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5" MDA/ MDC, then RPD is 100% or less. If greater 5" MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.	✓		case narrative
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
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 REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADcheckdistrev10, revised 1/13/2010

Primary Review Performed By:

Denise Green 1/20/10

Secondary Review Performed By:

J. L. M. I- 1/20/10

2/3

LANX

PV

Plutonium Que Sheet

14-JAN-10

Batch #: 941694 Analyst: HAKB First Client Due Date: 03-FEB-10 Internal Due Date: 24-JAN-10
Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: 1374-A Expiration Date: 12/8/10 Vol: 0.1 #0.2
LCS Isotope(s): Pu-239/Pu-238 LCS Code: SPAM D244-B Expiration Date: 4/30/20 Vol: 0.110 g
Spike Isotope(s): Pu-239/Pu-238 Spike Code: NA Expiration Date: NA Vol: NA
Prep Date: 1/18/10 Initials: gskb Pipet ID: 2971058 Balance ID: 50410272 Witness: LM 1-18/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet Dry Aliquot (g) (1/1)	Pu Det #
244597081-1	RE12-10-7722	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	1	1	1.251	25
244600001-1	RE12-10-7243	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	2	2	1.255	26
244600002-1	RE12-10-7240	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	3	3	1.260	27
244600003-1	RE12-10-7241	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	4	4	1.260	28
244600004-1	RE12-10-7237	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	5	5	1.261	29
244600005-1	RE12-10-7239	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	6	6	1.262	30
244600006-1	RE12-10-7238	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	7	7	1.251	38
244600007-1	RE12-10-7242	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	8	8	1.253	39
244600008-1	RE12-10-7236	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	9	9	1.258	40
244600009-1	RE12-10-7252	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	10	10	1.260	42
244600010-1	RE12-10-7253	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	11	11	1.269	45
244600011-1	RE12-10-7254	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	12	12	1.255	47
244600012-1	RE12-10-7255	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	13	13	1.258	48
244600013-1	RE12-10-7276	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	14	14	1.254	68
244612001-1	RE16-10-2783	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	15	15	1.262	69
244613001-1	RE16-10-1286	SAMPLE	.05 pCi/g		SOIL	LANL010	07-JAN-10	16	16	1.259	70
1202015582-1	MB for batch 941694	MB	.05 pCi/g		SOIL	QC ACCOUNT		17	17	1	65
1202015583-1	RE12-10-7276(244600013DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	07-JAN-10	18	18	1.257	66
1202015584-1	LCS for batch 941694	LCS	.05 pCi/g		SOIL	QC ACCOUNT		19	19	0.110	67

Choose SOP Used: GL-RAD-A-011, GL-RAD-A-036, GL-RAD-A-045, GL-RAD-A-043
Solid Sample Dissolution by: LEACH 7 DIGESTION Circle One

Data Reviewed By: DS 1/20/10

DS 1/20/10

Blank Correction Report

Batch ID 941694

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202015583	DUP	Plutonium-238	1.26 g	0.0111	0.00498	0.0183	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	5.28E-10	0.00383	0.0209	.001436508	pCi/g	YES
1202015584	LCS	Plutonium-238	0.110 g	6.97	0.513	0.225	-.06590909	pCi/g	NO
		Plutonium-239/240	0.110 g	38.4	2.36	0.257	.016454545	pCi/g	NO
1202015582	MB	Plutonium-238	1.00 g	-0.00725	0.00925	0.0299	-.00725	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00181	0.0048	0.0343	.00181	pCi/g	YES
244597001	RE12-10-7722	Plutonium-238	1.25 g	0.0053	0.00772	0.0219	-.0058	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0172	0.00485	0.025	.001448	pCi/g	NO
244600001	RE12-10-7243	Plutonium-238	1.26 g	0.00254	0.00254	0.021	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00889	0.00384	0.024	.001436508	pCi/g	NO
244600002	RE12-10-7240	Plutonium-238	1.26 g	-0.00127	0.00221	0.021	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00127	0.00221	0.0241	.001436508	pCi/g	YES
244600003	RE12-10-7241	Plutonium-238	1.26 g	0.00425	0.00318	0.0234	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00142	0.00246	0.0268	.001436508	pCi/g	YES
244600004	RE12-10-7237	Plutonium-238	1.26 g	-0.002	0.00999	0.033	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.002	0.00529	0.0378	.001436508	pCi/g	YES
244600005	RE12-10-7239	Plutonium-238	1.26 g	0.00434	0.00553	0.0179	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00108	0.00287	0.0205	.001436508	pCi/g	YES
244600006	RE12-10-7238	Plutonium-238	1.25 g	-0.00852	0.00471	0.0201	-.0058	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00852	0.00368	0.023	.001448	pCi/g	NO
244600007	RE12-10-7242	Plutonium-238	1.25 g	0.00718	0.00657	0.0198	-.0058	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0144	0.00513	0.0226	.001448	pCi/g	NO
244600008	RE12-10-7236	Plutonium-238	1.26 g	0.00158	0.00419	0.0261	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0174	0.00658	0.0299	.001436508	pCi/g	NO
244600009	RE12-10-7252	Plutonium-238	1.26 g	0.0012	0.00208	0.0199	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0204	0.0061	0.0227	.001436508	pCi/g	NO
244600010	RE12-10-7253	Plutonium-238	1.27 g	0.00	0.00124	0.0204	-.00570866	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00	0.00124	0.0233	.001425197	pCi/g	YES
244600011	RE12-10-7254	Plutonium-238	1.26 g	0.00489	0.00458	0.0202	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0208	0.00595	0.0231	.001436508	pCi/g	NO
244600012	RE12-10-7255	Plutonium-238	1.26 g	-0.00829	0.0138	0.0457	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0138	0.00834	0.0522	.001436508	pCi/g	NO
244600013	RE12-10-7276	Plutonium-238	1.25 g	0.0034	0.00241	0.0281	-.0058	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0034	0.00241	0.0321	.001448	pCi/g	YES
244612001	RE16-10-2783	Plutonium-238	1.26 g	0.00128	0.00221	0.0211	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	3.05E-10	0.00381	0.0241	.001436508	pCi/g	YES
244613001	RE16-10-1288	Plutonium-238	1.26 g	5.74E-10	0.00417	0.0189	-.00575397	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00361	0.00361	0.0227	.001436508	pCi/g	YES

Handwritten signature and date:
1/26/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941694
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244597001_PU
SAMPLE QTY: 1.251 G

DETECTOR NUMBER :45-149AA5
AVERAGE %EFFICIENCY :32.4684
% YIELD : 83.879

COUNT DATE:19-JAN-2010 13:20:51
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

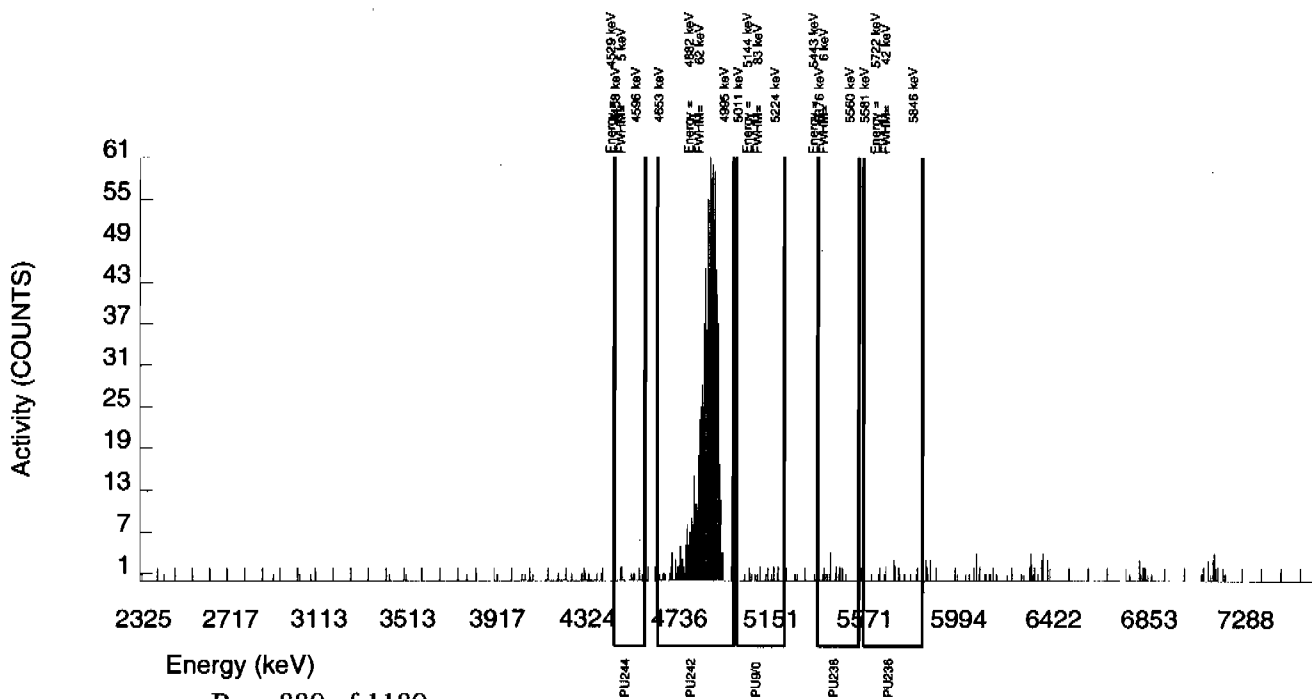
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.83968 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B025.CNF;1104
BKG DATE : 17-JAN-2010
EFF FILE : W025.CNF;326
CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	13.000	13.000	0.000	3.4797	99.90000	1.72E-02	4.85E-03	1.07E-02	2.50E-02	4.77E-03
PU-236	5749.000	14.000	-10.000	24.000	2.1286	100.0000	-1.33E-02	8.22E-03	6.55E-03	1.67E-02	8.22E-03
PU-238	5499.000	19.000	4.000	15.000	2.9680	99.90000	5.30E-03	7.72E-03	9.14E-03	2.19E-02	7.72E-03
PU242	4890.000	922.000	922.000	0.000	0.0000	100.0000	1.22E+00	7.47E-02	0.00E+00	3.58E-03	4.01E-02
PU-244	4589.000	7.000	7.000	0.000	5.2050	99.90000	9.26E-03	3.53E-03	1.60E-02	3.56E-02	3.50E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941694
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244600013_PU
SAMPLE QTY: 1.254 G

DETECTOR NUMBER :78794
AVERAGE %EFFICIENCY :29.6665
% YIELD : 71.291

COUNT DATE:19-JAN-2010 13:20:56
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

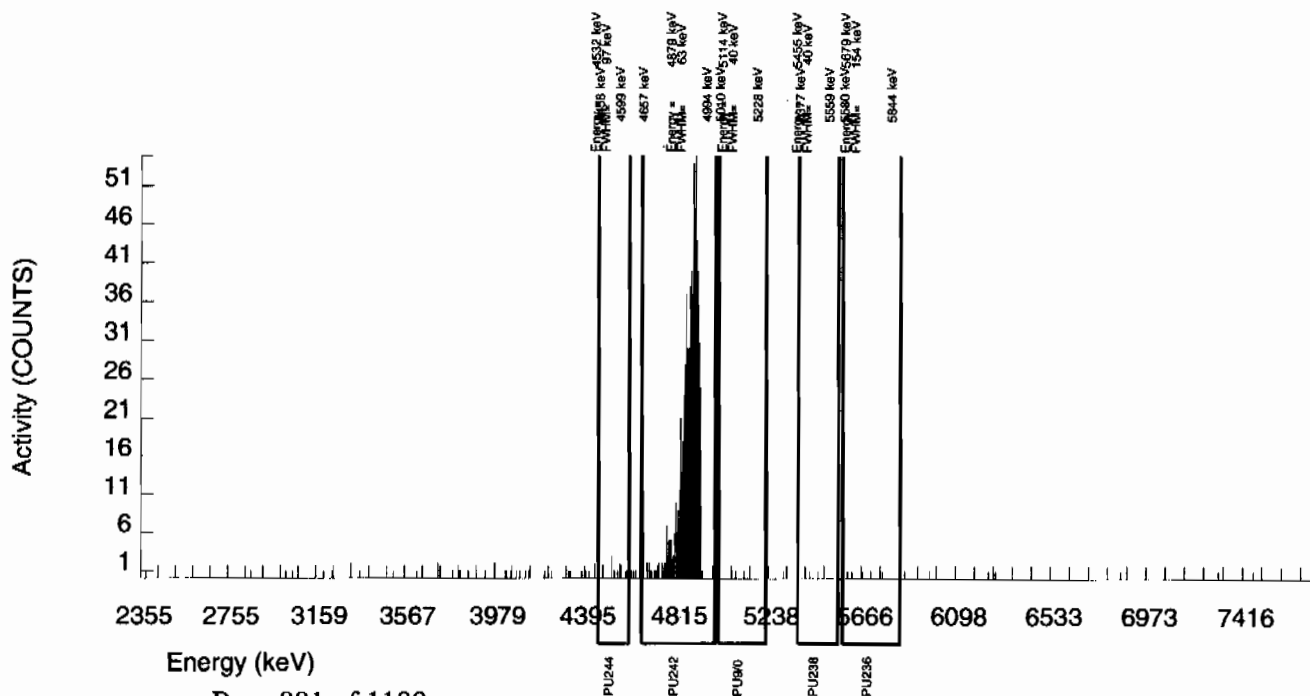
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.41350 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B068.CNF;1088
BKG DATE : 17-JAN-2010
EFF FILE : W068.CNF;278
CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2.000	2.000	0.000	3.4797	99.90000	3.40E-03	2.41E-03	1.38E-02	3.21E-02	2.40E-03
PU-236	5749.000	5.000	-2.000	7.000	2.1286	100.0000	-3.43E-03	5.93E-03	8.41E-03	2.14E-02	5.93E-03
PU-238	5499.000	2.000	2.000	0.000	2.9680	99.90000	3.40E-03	2.41E-03	1.17E-02	2.81E-02	2.41E-03
PU242	4890.000	717.000	716.000	1.000	1.0000	100.0000	1.22E+00	8.05E-02	3.95E-03	1.25E-02	4.55E-02
PU-244	4589.000	15.000	15.000	0.000	5.2050	99.90000	2.55E-02	6.73E-03	2.06E-02	4.58E-02	6.58E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941694
SAMPLE DATE : 18-JAN-2010 00:00:00

SAMPLE ID : S1202015582_PU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :68551
AVERAGE %EFFICIENCY :31.0643
% YIELD : 80.064

COUNT DATE:19-JAN-2010 13:20:56
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

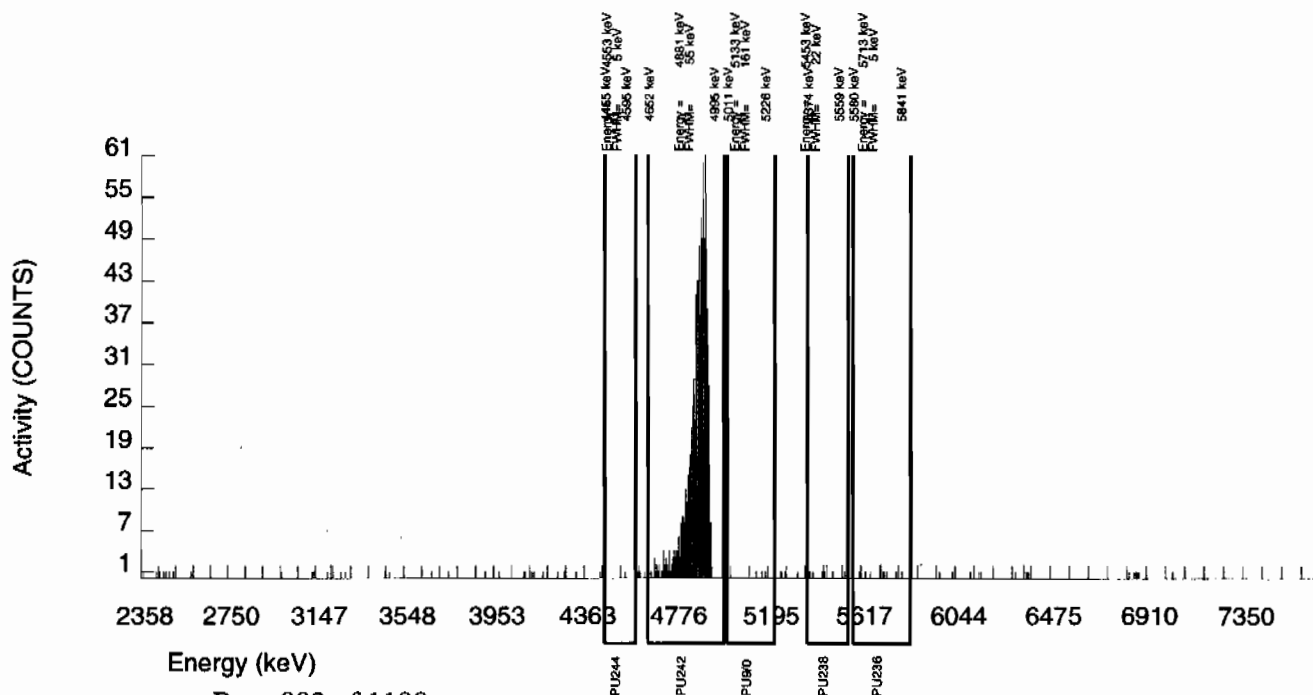
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 2.71051 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B065.CNF;1936
BKG DATE : 17-JAN-2010
EFF FILE : W065.CNF;305
CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	4.000	1.000	3.000	3.4797	99.90000	1.81E-03	4.80E-03	1.47E-02	3.43E-02	4.80E-03
PU-236	5749.000	10.000	-7.000	17.000	2.1286	100.0000	-1.27E-02	9.42E-03	8.97E-03	2.28E-02	9.42E-03
PU-238	5499.000	11.000	-4.000	15.000	2.9680	99.90000	-7.25E-03	9.25E-03	1.25E-02	2.99E-02	9.24E-03
PU242	4890.000	846.000	842.000	4.000	2.0000	100.0000	1.52E+00	9.63E-02	8.43E-03	2.18E-02	5.28E-02
PU-244	4589.000	1.000	1.000	0.000	5.2050	99.90000	1.81E-03	1.82E-03	2.20E-02	4.88E-02	1.81E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941694
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S1202015583_PU
SAMPLE QTY: 1.257 G

DETECTOR NUMBER :46-089C1
AVERAGE %EFFICIENCY :31.1641
% YIELD : 104.025

COUNT DATE:19-JAN-2010 13:20:56
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

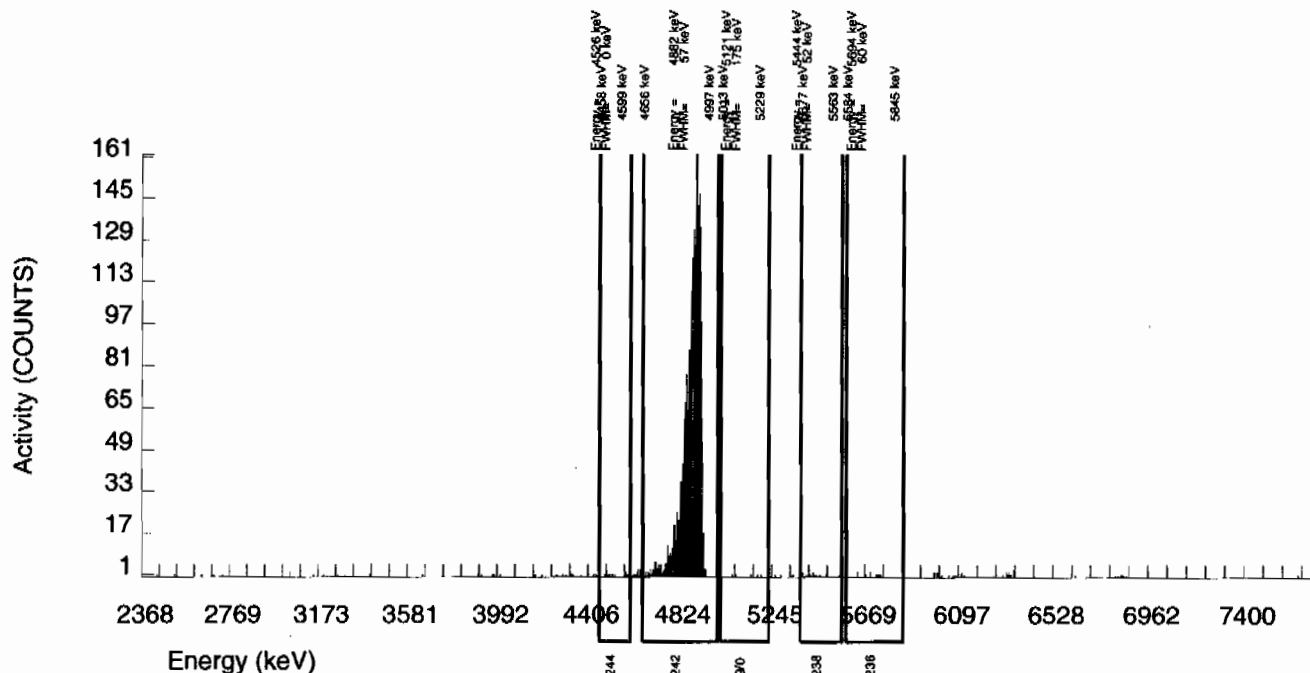
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 6.77086 dpm
RESULTS : 7.04337 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B066.CNF;1097
BKG DATE : 17-JAN-2010
EFF FILE : W066.CNF;306
CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	6.000	0.000	6.000	3.4797	99.90000	5.28E-10	3.83E-03	8.96E-03	2.09E-02	3.83E-03
PU-236	5749.000	12.000	-2.000	14.000	2.1286	100.0000	-2.23E-03	5.69E-03	5.47E-03	1.39E-02	5.68E-03
PU-238	5499.000	15.000	10.000	5.000	2.9680	99.90000	1.11E-02	4.97E-03	7.64E-03	1.83E-02	4.95E-03
PU242	4890.000	2201.000	2195.000	6.000	2.4495	100.0000	2.43E+00	1.21E-01	6.30E-03	1.56E-02	5.19E-02
PU-244	4589.000	17.000	14.000	3.000	5.2050	99.90000	1.55E-02	5.00E-03	1.34E-02	2.98E-02	4.95E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941694
SAMPLE DATE : 18-JAN-2010 00:00:00

SAMPLE ID : S1202015584_PU
SAMPLE QTY: 0.110 G

DETECTOR NUMBER :46-089B4
AVERAGE %EFFICIENCY :32.5269
% YIELD : 92.719

COUNT DATE:19-JAN-2010 13:20:56
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST :HAKB

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

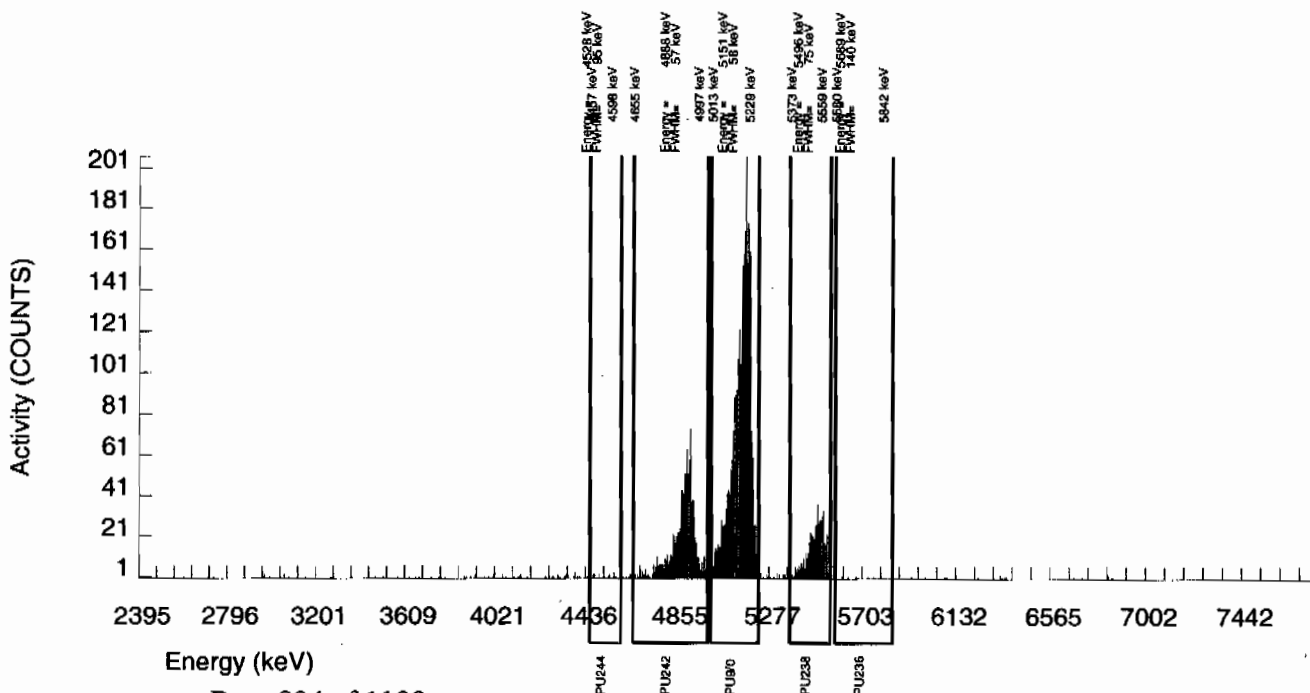
TRACER
ID : 1374-A
ISOTOPE : PU242
NOMINAL : 3.38543 dpm
RESULTS : 3.13894 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B067.CNF;1095
BKG DATE : 17-JAN-2010
EFF FILE : W067.CNF;287
CAL DATE : 11-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-9/0	5155.000	2829.000	2825.000	4.000	3.4797	99.90000	3.84E+01	2.36E+00	1.10E-01	2.57E-01	7.23E-01
PU-236	5749.000	6.000	1.000	5.000	2.1286	100.0000	1.36E-02	4.51E-02	6.72E-02	1.71E-01	4.51E-02
PU-238	5499.000	518.000	513.000	5.000	2.9680	99.90000	6.97E+00	5.13E-01	9.38E-02	2.25E-01	3.11E-01
PU242	4890.000	1025.000	1021.000	4.000	2.0000	100.0000	1.39E+01	9.20E-01	6.32E-02	1.63E-01	4.36E-01
PU-244	4589.000	16.000	12.000	4.000	5.2050	99.90000	1.63E-01	6.15E-02	1.65E-01	3.66E-01	6.08E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev10/

Batch#

941697

Product: U

Date:

1/21/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (if required)	✓		
If activity less 10* MDA/ MDC, error is 150% or less of sample activity. If greater 10* MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5* MDA/ MDC, then RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.	✓		
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.	✓		
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
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:

Denise Green 1/21/10

Secondary Review Performed By:

2-11/10 1/21/10

2/3

LANL

Uranium Que Sheet

14-JAN-10

Batch #: 941697 Analyst: HAKB First Client Due Date: 03-FEB-10 Internal Due Date: 24-JAN-10
 Tracer Isotope: U-232 U-236 Tracer Code: 1283 -44 Expiration Date: 12/9/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: 9244-A Expiration Date: 10/31/20 Vol: 0.1083
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 1/18/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 50410272
 Witness: KM 1-18-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l/f)	U Det #
244597601-1	RE12-10-7722	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	1	1	0.512	151
244600001-1	RE12-10-7243	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	2	2	0.511	152
244600002-1	RE12-10-7240	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	3	3	0.504	153
244600003-1	RE12-10-7241	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	4	4	0.510	154
244600004-1	RE12-10-7237	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	5	5	0.505	155
244600005-1	RE12-10-7239	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	6	6	0.513	156
244600006-1	RE12-10-7238	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	7	7	0.502	157
244600007-1	RE12-10-7242	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	8	8	0.509	158
244600008-1	RE12-10-7236	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	9	9	0.507	159
244600009-1	RE12-10-7252	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	10	10	0.505	160
244600010-1	RE12-10-7253	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	11	11	0.503	1
244600011-1	RE12-10-7254	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	12	12	0.513	2
244600012-1	RE12-10-7255	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	13	13	0.506	3
244600013-1	RE12-10-7276	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	14	14	0.506	4
244612001-1	RE16-10-2783	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	15	15	0.502	5
244613001-1	RE16-10-1286	SAMPLE		.1 pCi/g	SOIL	LANL010	07-JAN-10	16	16	0.505	6
1202015590-1	MB for batch 941697	MB		.1 pCi/g	SOIL	QC ACCOUNT		17	17	1	7
1202015591-1	RE12-10-7276(244600013DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	07-JAN-10	18	18	0.503	8
1202015592-1	LCS for batch 941697	LCS		.1 pCi/g	SOIL	QC ACCOUNT		19	19	0.108	9

Choose SOP used: EL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: DS 1/21/10

Blank Correction Report

Batch ID 941697

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202015591	DUP	Uranium-233/234	0.503 g	0.850	0.0772	0.091	.014850895	pCi/g	NO
		Uranium-235/236	0.503 g	0.0762	0.0182	0.0565	.011709742	pCi/g	NO
		Uranium-238	0.503 g	0.966	0.0857	0.0528	.009463221	pCi/g	NO
1202015592	LCS	Uranium-233/234	0.108 g	5.61	0.499	0.399	.069166667	pCi/g	NO
		Uranium-235/236	0.108 g	0.350	0.0823	0.248	.054537037	pCi/g	NO
		Uranium-238	0.108 g	5.36	0.480	0.231	.044074074	pCi/g	NO
1202015590	MB	Uranium-233/234	1.00 g	0.00747	0.00522	0.0492	.00747	pCi/g	YES
		Uranium-235/236	1.00 g	0.00589	0.00521	0.0305	.00589	pCi/g	YES
		Uranium-238	1.00 g	0.00476	0.00477	0.0285	.00476	pCi/g	YES
244597001	RE12-10-7722	Uranium-233/234	0.512 g	0.679	0.0721	0.127	.014588844	pCi/g	NO
		Uranium-235/236	0.512 g	0.0202	0.0102	0.0787	.011503908	pCi/g	YES
		Uranium-238	0.512 g	0.868	0.086	0.0736	.009296875	pCi/g	NO
244600001	RE12-10-7243	Uranium-233/234	0.511 g	0.748	0.0756	0.120	.014618395	pCi/g	NO
		Uranium-235/236	0.511 g	0.0479	0.0155	0.0746	.011526419	pCi/g	YES
		Uranium-238	0.511 g	0.888	0.0863	0.0697	.009315068	pCi/g	NO
244600002	RE12-10-7240	Uranium-233/234	0.504 g	0.883	0.0841	0.111	.014821429	pCi/g	NO
		Uranium-235/236	0.504 g	0.0622	0.0172	0.0691	.011686508	pCi/g	NO
		Uranium-238	0.504 g	0.923	0.0869	0.0646	.009444444	pCi/g	NO
244600003	RE12-10-7241	Uranium-233/234	0.510 g	0.983	0.094	0.124	.014647059	pCi/g	NO
		Uranium-235/236	0.510 g	0.0642	0.0184	0.0769	.011549020	pCi/g	NO
		Uranium-238	0.510 g	1.06	0.0998	0.0718	.009333333	pCi/g	NO
244600004	RE12-10-7237	Uranium-233/234	0.505 g	0.705	0.0735	0.126	.014792079	pCi/g	NO
		Uranium-235/236	0.505 g	0.0302	0.0125	0.0784	.011663366	pCi/g	YES
		Uranium-238	0.505 g	0.709	0.0738	0.0733	.009425743	pCi/g	NO
244600005	RE12-10-7239	Uranium-233/234	0.513 g	0.917	0.0888	0.122	.014561404	pCi/g	NO
		Uranium-235/236	0.513 g	0.0438	0.0149	0.0758	.011481481	pCi/g	YES
		Uranium-238	0.513 g	0.906	0.0881	0.0708	.009278752	pCi/g	NO
244600006	RE12-10-7238	Uranium-233/234	0.502 g	1.00	0.0918	0.108	.014880478	pCi/g	NO
		Uranium-235/236	0.502 g	0.0647	0.0173	0.0671	.011733068	pCi/g	NO
		Uranium-238	0.502 g	1.43	0.123	0.0627	.009482072	pCi/g	NO
244600007	RE12-10-7242	Uranium-233/234	0.509 g	1.11	0.106	0.134	.014675835	pCi/g	NO
		Uranium-235/236	0.509 g	0.0694	0.0213	0.0831	.011571709	pCi/g	NO
		Uranium-238	0.509 g	1.81	0.157	0.0777	.009351670	pCi/g	NO
244600008	RE12-10-7236	Uranium-233/234	0.507 g	1.29	0.117	0.126	.014733728	pCi/g	NO
		Uranium-235/236	0.507 g	0.0753	0.0214	0.0781	.011617357	pCi/g	NO
		Uranium-238	0.507 g	1.79	0.154	0.073	.009388580	pCi/g	NO
244600009	RE12-10-7252	Uranium-233/234	0.505 g	1.54	0.136	0.128	.014792079	pCi/g	NO
		Uranium-235/236	0.505 g	0.112	0.0252	0.0794	.011663366	pCi/g	NO
		Uranium-238	0.505 g	2.31	0.192	0.0742	.009425743	pCi/g	NO
244600010	RE12-10-7253	Uranium-233/234	0.503 g	0.783	0.0718	0.0881	.014850895	pCi/g	NO
		Uranium-235/236	0.503 g	0.0808	0.0191	0.0547	.011709742	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
244600010	RE12-10-7253	Uranium-238	0.503 g	0.867	0.0778	0.0511	.009463221	pCi/g	NO
244600011	RE12-10-7254	Uranium-233/234	0.513 g	1.38	0.118	0.102	.014561404	pCi/g	NO
		Uranium-235/236	0.513 g	0.118	0.0234	0.0633	.011481481	pCi/g	NO
		Uranium-238	0.513 g	2.41	0.191	0.0592	.009278752	pCi/g	NO
244600012	RE12-10-7255	Uranium-233/234	0.506 g	0.846	0.0774	0.0931	.014762846	pCi/g	NO
		Uranium-235/236	0.506 g	0.0483	0.0138	0.0578	.011640316	pCi/g	YES
		Uranium-238	0.506 g	0.926	0.0831	0.054	.009407115	pCi/g	NO
244600013	RE12-10-7276	Uranium-233/234	0.506 g	0.909	0.0824	0.0937	.014762846	pCi/g	NO
		Uranium-235/236	0.506 g	0.0635	0.0169	0.0582	.011640316	pCi/g	NO
		Uranium-238	0.506 g	0.844	0.0779	0.0544	.009407115	pCi/g	NO
244612001	RE16-10-2783	Uranium-233/234	0.502 g	0.491	0.051	0.0897	.014880478	pCi/g	NO
		Uranium-235/236	0.502 g	0.0215	0.00889	0.0557	.011733068	pCi/g	YES
		Uranium-238	0.502 g	0.457	0.0482	0.052	.009482072	pCi/g	NO
244613001	RE16-10-1286	Uranium-233/234	0.505 g	0.951	0.0864	0.099	.014792079	pCi/g	NO
		Uranium-235/236	0.505 g	0.079	0.0185	0.0615	.011663366	pCi/g	NO
		Uranium-238	0.505 g	0.930	0.0847	0.0574	.009425743	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941697
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244597001_UU
SAMPLE QTY: 0.512 G

DETECTOR NUMBER : 75556
AVERAGE %EFFICIENCY : 24.3876
% YIELD : 88.159

COUNT DATE: 20-JAN-2010 20:16:20
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST : HAKB

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50878 dpm
RESULTS : 3.97488 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B151.CNF;389
BKG DATE : 17-JAN-2010
EFF FILE : W151.CNF;118
CAL DATE : 18-JAN-2010

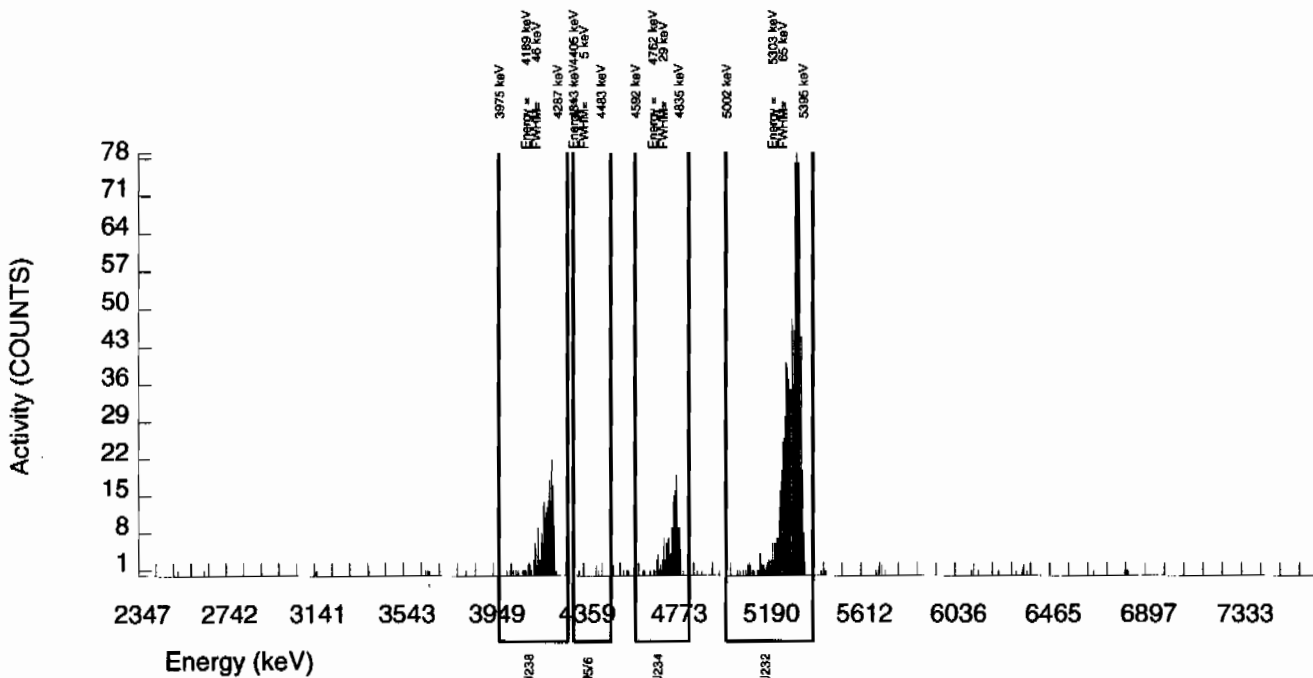
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	169.000	166.020	2.000	6.0782	100.0000	6.79E-01	7.21E-02	5.79E-02	1.27E-01	5.34E-02
U232	5302.100	974.000	969.000	5.000	2.2361	100.0000	3.97E+00	3.11E-01	2.13E-02	5.37E-02	1.28E-01
U-235	4391.000	4.000	4.000	0.000	2.7628	80.90000	2.02E-02	1.02E-02	3.25E-02	7.87E-02	1.01E-02
U-238	4184.730	212.000	212.000	0.000	3.2810	100.0000	8.68E-01	8.60E-02	3.12E-02	7.36E-02	5.96E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941697
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S0244600013_UU
SAMPLE QTY: 0.506 G

DETECTOR NUMBER :68548
AVERAGE %EFFICIENCY :30.7853
% YIELD : 95.640

COUNT DATE:20-JAN-2010 20:17:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50878 dpm
RESULTS : 4.31218 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B004.CNF;1109
BKG DATE : 17-JAN-2010
EFF FILE : W004.CNF;328
CAL DATE : 4-JAN-2010

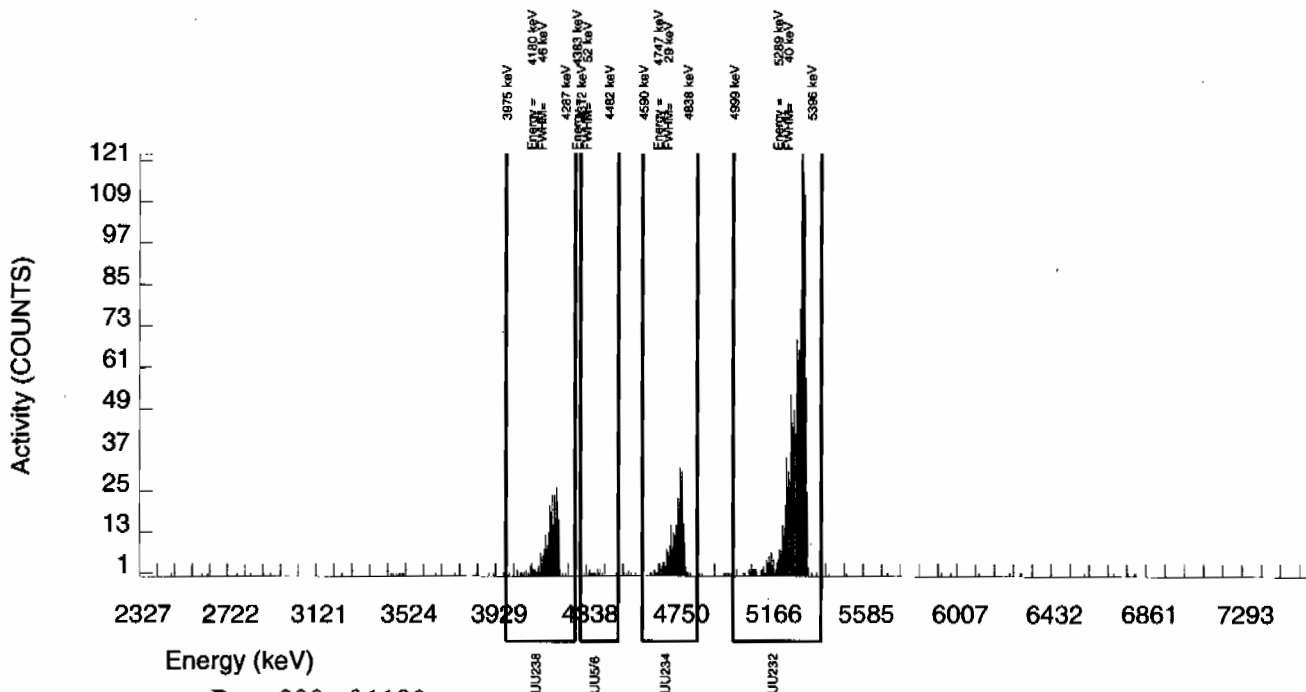
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	305.000	300.658	3.000	6.0782	100.0000	9.09E-01	8.24E-02	4.28E-02	9.37E-02	5.29E-02
U232	5302.100	1333.000	1327.000	6.000	2.4495	100.0000	4.01E+00	3.00E-01	1.72E-02	4.27E-02	1.11E-01
U-235	4391.000	18.000	17.000	1.000	2.7628	80.90000	6.35E-02	1.69E-02	2.40E-02	5.82E-02	1.63E-02
U-238	4184.730	284.000	279.000	5.000	3.2810	100.0000	8.44E-01	7.79E-02	2.31E-02	5.44E-02	5.14E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941697
SAMPLE DATE : 18-JAN-2010 00:00:00

SAMPLE ID : S1202015590_UU
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :67607
AVERAGE %EFFICIENCY :29.6523
% YIELD : 95.702

COUNT DATE:20-JAN-2010 20:17:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50742 dpm
RESULTS : 4.31370 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B007.CNF;1103
BKG DATE : 17-JAN-2010
EFF FILE : W007.CNF;310
CAL DATE : 4-JAN-2010

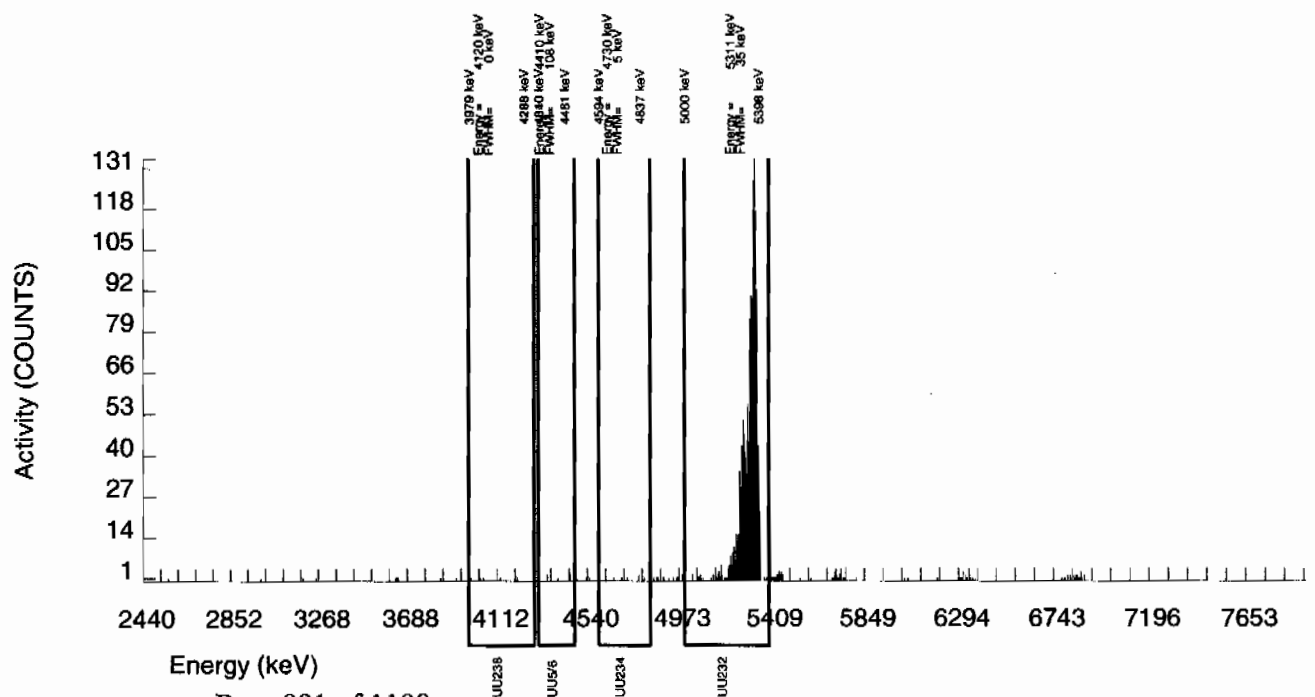
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	9.000	4.707	3.000	6.0782	100.0000	7.47E-03	5.22E-03	2.24E-02	4.92E-02	5.19E-03
U232	5302.100	1298.000	1279.000	19.000	4.3589	100.0000	2.03E+00	1.53E-01	1.61E-02	3.65E-02	5.76E-02
U-235	4391.000	5.000	3.000	2.000	2.7628	80.90000	5.89E-03	5.21E-03	1.26E-02	3.05E-02	5.19E-03
U-238	4184.730	6.000	3.000	3.000	3.2810	100.0000	4.76E-03	4.77E-03	1.21E-02	2.85E-02	4.76E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941697
SAMPLE DATE : 7-JAN-2010 00:00:00.

SAMPLE ID : S1202015591_UU
SAMPLE QTY: 0.503 G

DETECTOR NUMBER :78788
AVERAGE %EFFICIENCY :31.9627
% YIELD : 95.449

COUNT DATE:20-JAN-2010 20:17:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50878 dpm
RESULTS : 4.30358 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B008.CNF;1105
BKG DATE : 17-JAN-2010
EFF FILE : W008.CNF;341
CAL DATE : 4-JAN-2010

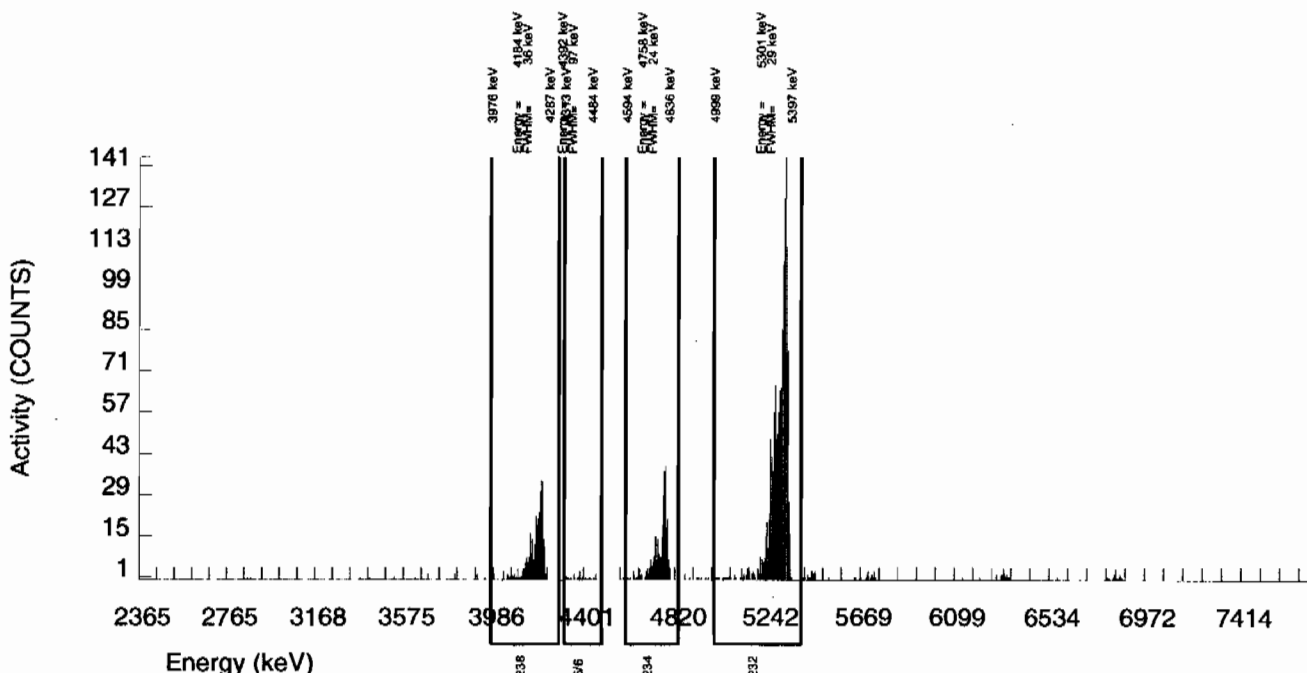
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	291.000	289.609	0.000	6.0782	100.0000	8.50E-01	7.72E-02	4.15E-02	9.10E-02	5.00E-02
U232	5302.100	1379.000	1375.000	4.000	2.0000	100.0000	4.04E+00	3.00E-01	1.37E-02	3.53E-02	1.09E-01
U-235	4391.000	22.000	21.000	1.000	2.7628	80.90000	7.62E-02	1.82E-02	2.33E-02	5.65E-02	1.74E-02
U-238	4184.730	331.000	329.000	2.000	3.2810	100.0000	9.66E-01	8.57E-02	2.24E-02	5.28E-02	5.36E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 941697
SAMPLE DATE : 18-JAN-2010 00:00:00

SAMPLE ID : S1202015592_UU
SAMPLE QTY: 0.108 G

DETECTOR NUMBER :72528
AVERAGE %EFFICIENCY :34.0896
% YIELD : 95.026

COUNT DATE:20-JAN-2010 20:17:03
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :HAKB

MS/MSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

LCS/LCSD
ID : 0244-A
ISOTOPE : U-238
PCI/G : 5.750E+00

TRACER
ID : 1283-H
ISOTOPE : U232
NOMINAL : 4.50742 dpm
RESULTS : 4.28320 dpm

LIB FILE : ENV_ALPHA_UU.N
BKG FILE : B009.CNF;1096
BKG DATE : 17-JAN-2010
EFF FILE : W009.CNF;305
CAL DATE : 4-JAN-2010

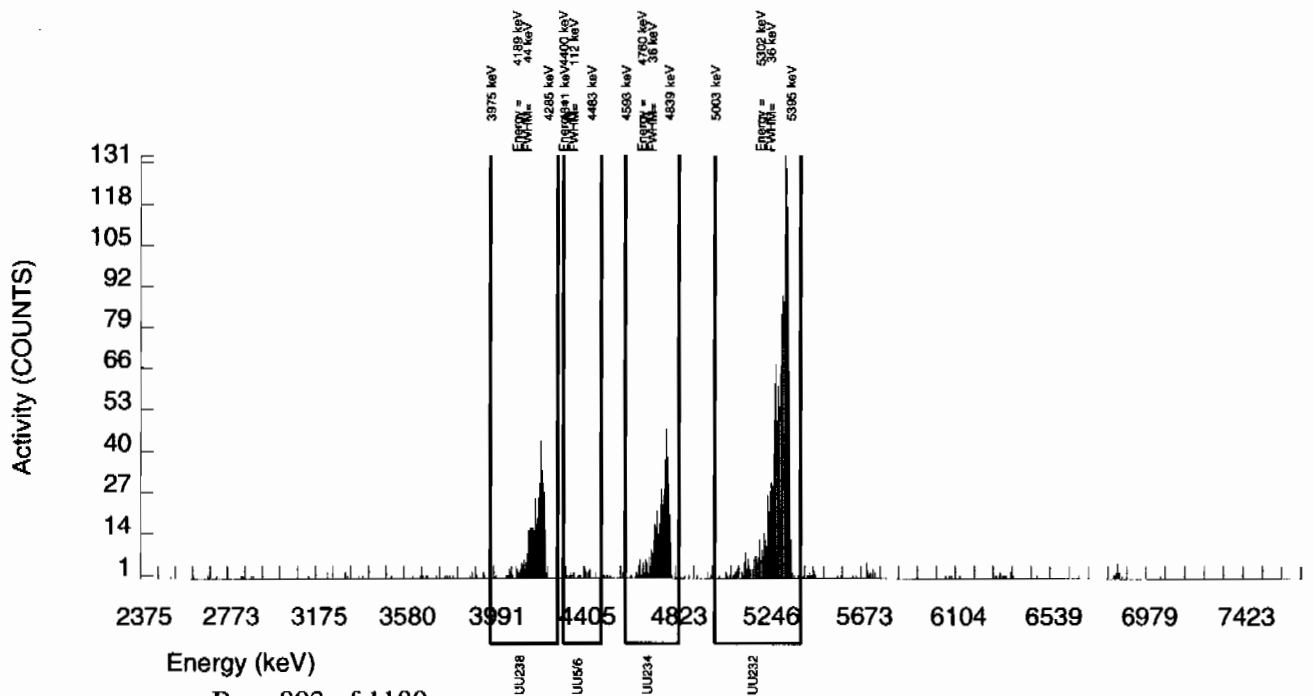
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	440.000	435.523	3.000	6.0782	100.0000	5.61E+00	4.99E-01	1.82E-01	3.99E-01	2.71E-01
U232	5302.100	1467.000	1460.000	7.000	2.6458	100.0000	1.88E+01	1.49E+00	7.92E-02	1.93E-01	4.94E-01
U-235	4391.000	23.000	22.000	1.000	2.7628	80.90000	3.50E-01	8.23E-02	1.02E-01	2.48E-01	7.80E-02
U-238	4184.730	417.000	416.000	1.000	3.2810	100.0000	5.36E+00	4.80E-01	9.83E-02	2.31E-01	2.63E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

NOTE: Corrections made to U-3/4 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev10

 Batch# 941635 Product: YS Date: 11/25/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			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 HPD is 100% or less. If greater 5% MDA/ MDC, then HPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria			
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
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:

Jeffrey 11/25/10

Secondary Review Performed By:

Heather McCarty 11/25/10

Gamma Spec Que Sheet

1.9- 1/22/10

01/15/2010

Batch #: 941635

Analyst: MXR1 ✓

First Client Due Date: 02/03/2010

Internal Due Date: 01/24/2010

Gamma Spike Isotope: Mixed Gamma

Gamma LCS Isotope: Mixed Gamma

Spike Code: n/a

Expiration Date: n/a

Vol: n/a

Nominal Concentration: n/a

1375.5081

Initials: MS

Prep Date: 1/15/10

LCS Code: 10322-A

Expiration Date: 12/2/10

Vol: 0.0 mL

Nominal Concentration: 15.91 Cs

606.453

Witness: n/a

Library: SOLID

Wet/Dry

Aliquot

(1/g) F

Detector

Hazard

Sealing Date/Time

Sample ID	Client Description / Container ID	Type	Code	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (if Applicable)
244597001-1	RE12-10-7722	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	155.80	14
244600001-1	RE12-10-7243	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	143.19	10
244600002-1	RE12-10-7240	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	148.33	11
244600003-1	RE12-10-7241	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	158.28	12
244600004-1	RE12-10-7237	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	157.10	16
244600005-1	RE12-10-7239	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	130.22	20
244600006-1	RE12-10-7238	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	141.62	17
244600007-1	RE12-10-7242	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	143.36	25
244600008-1	RE12-10-7236	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	174.74	15
244600009-1	RE12-10-7252	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	154.62	18
244600010-1	RE12-10-7253	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	148.46	21
244600011-1	RE12-10-7254	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	147.02	22
244600012-1	RE12-10-7255	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	132.31	7
244600013-1	RE12-10-7276	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	135.74	23
244612001-1	RE16-10-2783	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	132.37	13
244613001-1	RE16-10-1286	SAMPLE	LANL010	LANL010	SOIL	07-JAN-10 12:00:00	QAM	136.07	19
1202015435-1	MB	MB	QC ACCOUNT	QC ACCOUNT	SOIL	1/15/10	QAM	155.81	14
1202015436-1	DUP RE12-10-7722(244597001)	DUP	QC ACCOUNT	QC ACCOUNT	SOIL	07-JAN-10 12:00:00	QAM	155.81	20
1202015437-1	LCS	LCS	QC ACCOUNT	QC ACCOUNT	SOIL	1/15/10	QAM	155.44	25

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Jeffery J. McCarty 1/25/10 Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
941635	244597001	SAMPLE	22-JAN-10					
941635	244600001	SAMPLE	22-JAN-10		Americium-241	-0.05604	0.3736	0.200
					Thorium-234	0.5234	3.008	2.00
941635	244600002	SAMPLE	22-JAN-10					
941635	244600003	SAMPLE	22-JAN-10		Americium-241	0.02258	0.2332	0.200
941635	244600004	SAMPLE	22-JAN-10		Americium-241	0.00988	0.2139	0.200
941635	244600005	SAMPLE	22-JAN-10					
941635	244600006	SAMPLE	22-JAN-10		Cesium-134	0.0885	0.1045	0.100
941635	244600007	SAMPLE	22-JAN-10					
941635	244600008	SAMPLE	22-JAN-10		Americium-241	-0.1196	0.5079	0.200
					Cerium-139	0.00321	0.05925	0.050
					Sodium-22	0.01223	0.08603	0.080
					Thorium-234	1.733	3.829	2.00
941635	244600009	SAMPLE	22-JAN-10		Americium-241	0.03298	0.2649	0.200
					Thorium-234	1.372	2.113	2.00
941635	244600010	SAMPLE	22-JAN-10		Sodium-22	0.05172	0.1081	0.080
941635	244600012	SAMPLE	22-JAN-10		Cerium-139	-0.01314	0.05105	0.050
941635	244600013	SAMPLE	22-JAN-10		Americium-241	0.08561	0.3297	0.200
					Cerium-139	0.00494	0.05101	0.050
					Thorium-234	2.459	2.573	2.00
941635	244612001	SAMPLE	22-JAN-10		Cerium-139	-0.01438	0.05142	0.050
					Cesium-134	0.1073	0.1137	0.100
					Sodium-22	-0.016	0.1011	0.080
941635	244613001	SAMPLE	22-JAN-10		Americium-241	0.04742	0.2315	0.200
941635	1202015435	MB	22-JAN-10					
941635	1202015436	DUP						
941635	1202015437	LCS			Cerium-139	0.04258	0.06769	0.050
					Cesium-134	-0.00109	0.1518	0.100
					Europium-152	-0.02609	0.2569	0.200
					Mercury-203	0.08061	0.102	0.100
					Potassium-40	-0.0234	1.094	1.00
					Ruthenium-106	-0.03733	0.9325	0.800
					Sodium-22	0.00489	0.0804	0.080
					Tin-113	0.02422	0.1366	0.100

Gamma Review Report based on Result > MDA for Batch:941635

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244597001	07-JAN-10 12:00	22-JAN-10 07:38	14.8	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	0.8461	0.1367	pCi/g	0.1966	N	912.1 3	1.503	IDENTIFIED	15.05	
Americium-243	INT	0.2083	0.03292	pCi/g	0.06895	N	75.03 1	1.69	IDENTIFIED	15.34	
Annihilation Rad.		0.1482	0.02859	pCi/g	0.03712	N	511.5 1	2.472	IDENTIFIED	19.06	
Barium-137m	NR	0.3024	0.03009	pCi/g	0.03757	N	661.9 2	1.553	IDENTIFIED	9.495	
Beryllium-7	HE	0.4867	0.2093	pCi/g	0.3997	N	477.1 1	3.762	IDENTIFIED	42.88	
Bismuth-211	INT	1.808	0.1875	pCi/g	0.2583	Y	352.1 4	1.435	IDENTIFIED	9.873	✓
Bismuth-214	✓	0.793	0.07026	pCi/g	0.07898	0.200	609.4 4	1.71	IDENTIFIED	7.927	
Cerium-143		481.7	77	pCi/g	0	N	0 10 0		SHORT_HLIF	0	
Cesium-137	✓	0.3197	0.03182	pCi/g	0.03971	0.100	661.9 2	1.553	IDENTIFIED	9.495	
Gross Gamma		6.985	1.177	pCi/g	2.511	N	0				
Iodine-123	HE	4.56E+05	1.57E+06	pCi/g	0	N	0 10 0		SHORT_HLIF	0	
Iodine-135	HE	8.78E+13	1.09E+15	pCi/g	0	N	0 10 0		SHORT_HLIF	0	
Krypton-85	LA	20.22	3.235	pCi/g	12.64	N	0 10 0		NOT_IDENTI	0	
Lead-212	✓	0.8929	0.05161	pCi/g	0.0707	0.100	238.6 4	1.594	IDENTIFIED	4.488	
Lead-214	✓	0.629	0.06725	pCi/g	0.09003	0.100	352.1 4	1.435	IDENTIFIED	9.873	
Niobium-95m	LA	0.3536	0.05642	pCi/g	0.1981	N	0 10 0		NOT_IDENTI	0	
Polonium-212	NR	0.8929	0.05161	pCi/g	0.0707	N	238.6 4	1.594	IDENTIFIED	4.488	
Polonium-214	NR	0.629	0.06725	pCi/g	0.09003	N	352.1 4	1.435	IDENTIFIED	9.873	
Polonium-216	NR	0.8929	0.05161	pCi/g	0.0707	N	238.6 4	1.594	IDENTIFIED	4.488	
Polonium-218	NR	0.629	0.06725	pCi/g	0.09003	N	352.1 4	1.435	IDENTIFIED	9.873	
Potassium-40	✓	29.82	1.334	pCi/g	0.4511	1.00	1462 1	2.064	IDENTIFIED	2.615	
Radium-224	INT	2.608	0.426	pCi/g	0.804	Y	241.7 1	1.874	IDENTIFIED	16.08	✓
Radium-226	✓	0.793	0.07026	pCi/g	0.07898	Y	609.4 4	1.71	IDENTIFIED	7.927	
Radium-228	✓	0.8461	0.1367	pCi/g	0.1966	0.500	912.1 3	1.503	IDENTIFIED	15.05	
Sodium-24	HE	26800	1.95E+05	pCi/g	0	N	0 10 0		SHORT_HLIF	0	
Strontium-85	LA	0.1033	0.01653	pCi/g	0.06458	Y	0 10 0		NOT_IDENTI	0	✓ UI Data rejected due to low abundance.
Technetium-99m	HE	5.31E+15	6.67E+15	pCi/g	0	N	0 10 0		SHORT_HLIF	0	
Thallium-208	✓	0.2672	0.02658	pCi/g	0.04614	0.080	583.4 1	1.382	IDENTIFIED	9.342	
Thorium-228	NR	0.9062	0.05237	pCi/g	0.07175	N	238.6 4	1.594	IDENTIFIED	4.488	
Thorium-230	NR	0.793	0.07026	pCi/g	0.07898	N	609.4 4	1.71	IDENTIFIED	7.927	
Thorium-232	NR	0.8461	0.1367	pCi/g	0.1966	N	912.1 3	1.503	IDENTIFIED	15.05	
Titanium-44	LA	0.1747	0.01811	pCi/g	0.05916	N	0 10 0		FAIL_ABUND	0	
Total Uranium		4.1451	1.88E-06	ug/g	2.2569	N	0				
Uranium-234	NR	0.793	0.07026	pCi/g	0.07898	N	609.4 4	1.71	IDENTIFIED	7.927	
Zirconium-97		1.73E+06	5.74E+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	
244600001	07-JAN-10 12:00	22-JAN-10 07:54	14.8	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	1.463	0.1648	pCi/g	0.2036	N	911.5 3	1.545	IDENTIFIED	9.42	<input type="checkbox"/>
Americium-243	INT	0.2804	0.0384	pCi/g	0.1055	N	74.56 1	0.8221	IDENTIFIED	12.55	<input type="checkbox"/>
Annihilation Rad.		0.1557	0.02594	pCi/g	0.04562	N	510.5 1	1.329	IDENTIFIED	16.35	<input type="checkbox"/>
Barium-137m	HE	0.06538	0.02337	pCi/g	0.05704	N	661.5 2	0.9585	IDENTIFIED	35.66	<input type="checkbox"/>
Bismuth-211	INT	3.422	0.2331	pCi/g	0.2967	Y	351.8 4	1.228	IDENTIFIED	5.755	<input checked="" type="checkbox"/> UI
Bismuth-212	LA	1.502	0.2325	pCi/g	0.6619	N	0 10 0		FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	0.9168	0.07148	pCi/g	0.1089	0.200	609.5 4	1.452	IDENTIFIED	6.805	<input type="checkbox"/>
Cadmium-109	INT	1.925	0.589	pCi/g	1.037	Y	87.08 3	1.288	IDENTIFIED	30.08	<input checked="" type="checkbox"/> UI
Cerium-143		505.3	86.51	pCi/g	0	N	0 10 0		SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1001	0.0296	pCi/g	0.08733	0.100	0 10 0		FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.06912	0.0247	pCi/g	0.06029	0.100	661.5 2	0.9585	IDENTIFIED	35.66	<input type="checkbox"/>
Gross Gamma		9.19	1.421	pCi/g	3.109	N	0				<input type="checkbox"/>

Krypton-85	HE	12.87	3.492	pCi/g	11.79	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	1.517	0.0771	pCi/g	0.08297	0.100	238.6	4	1.149	IDENTIFIED	3.385	<input type="checkbox"/>
Lead-214	✓	1.19	0.08684	pCi/g	0.1034	0.100	351.8	4	1.228	IDENTIFIED	5.755	<input type="checkbox"/>
Lutetium-177	HE	1.933	0.6584	pCi/g	1.798	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	HE	0.5557	0.1795	pCi/g	0.4483	N	87.08	3	1.288	IDENTIFIED	30.08	<input type="checkbox"/>
Niobium-97	HE	14030	36120	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.517	0.0771	pCi/g	0.08297	N	238.6	4	1.149	IDENTIFIED	3.385	<input type="checkbox"/>
Polonium-214	NR	1.19	0.08684	pCi/g	0.1034	N	351.8	4	1.228	IDENTIFIED	5.755	<input type="checkbox"/>
Polonium-216	NR	1.517	0.0771	pCi/g	0.08297	N	238.6	4	1.149	IDENTIFIED	3.385	<input type="checkbox"/>
Polonium-218	NR	1.19	0.08684	pCi/g	0.1034	N	351.8	4	1.228	IDENTIFIED	5.755	<input type="checkbox"/>
Potassium-40	✓	32.74	1.667	pCi/g	0.4964	1.00	1461	1	2.171	IDENTIFIED	2.716	<input type="checkbox"/>
Radium-224	INT	4.194	0.5608	pCi/g	0.9439	Y	241.5	1	1.67	IDENTIFIED	13.01	<input checked="" type="checkbox"/> UF
Radium-226	✓	0.9168	0.07148	pCi/g	0.1089	Y	609.5	4	1.452	IDENTIFIED	6.805	<input type="checkbox"/>
Radium-228	✓	1.463	0.1648	pCi/g	0.2036	0.500	911.5	3	1.545	IDENTIFIED	9.42	<input type="checkbox"/>
Strontium-85	LA	0.0658	0.01785	pCi/g	0.06024	Y	0	10	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	340.2	170.6	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4089	0.0348	pCi/g	0.04987	0.080	583.3	1	1.375	IDENTIFIED	7.819	<input type="checkbox"/>
Thorium-228	NR	1.539	0.07825	pCi/g	0.08421	N	238.6	4	1.149	IDENTIFIED	3.385	<input type="checkbox"/>
Thorium-230	NR	0.9168	0.07148	pCi/g	0.1089	N	609.5	4	1.452	IDENTIFIED	6.805	<input type="checkbox"/>
Thorium-232	NR	1.463	0.1648	pCi/g	0.2036	N	911.5	3	1.545	IDENTIFIED	9.42	<input type="checkbox"/>
Tin-126	HE	0.1892	0.05791	pCi/g	0.1027	N	87.08	3	1.288	IDENTIFIED	30.08	<input type="checkbox"/>
Titanium-44	LA	0.3364	0.03003	pCi/g	0.07734	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	0.9168	0.07148	pCi/g	0.1089	N	609.5	4	1.452	IDENTIFIED	6.805	<input type="checkbox"/>
Zirconium-97		2.18E+06	6.18E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244600002	07-JAN-10 12:00	22-JAN-10 07:55	14.8	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	1.177	0.1504	pCi/g	0.158	N	911.9	3	1.957	IDENTIFIED 11.24	<input type="checkbox"/>
Americium-243	INT	0.2838	0.02788	pCi/g	0.05798	N	74.89	1	1.05	IDENTIFIED 8.948	<input type="checkbox"/>
Annihilation Rad.		0.09894	0.03038	pCi/g	0.03782	N	511.1	1	1.929	IDENTIFIED 30.23	<input type="checkbox"/>
Bismuth-211	INT	3.126	0.2773	pCi/g	0.2474	Y	352	4	1.07	IDENTIFIED 5.956	<input checked="" type="checkbox"/> UF
Bismuth-214	✓	0.9977	0.08185	pCi/g	0.09221	0.200	609.6	4	1.145	IDENTIFIED 5.948	<input type="checkbox"/>
Cadmium-109	INT	1.5	0.5354	pCi/g	0.8713	Y	87.09	3	1.026	IDENTIFIED 35.39	<input checked="" type="checkbox"/> UI
Cerium-143		198.8	54.82	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Gross Gamma		7.314	1.124	pCi/g	2.526	N	0				<input type="checkbox"/>
Iodine-133	HE	472.9	1676	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	HE	5.15E+14	1.06E+15	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	✓	1.431	0.1101	pCi/g	0.06996	0.100	238.7	4	1.024	IDENTIFIED 3.181	<input type="checkbox"/>
Lead-214	✓	1.087	0.1006	pCi/g	0.08624	0.100	352	4	1.07	IDENTIFIED 5.956	<input type="checkbox"/>
Lutetium-177	HE	1.682	0.5889	pCi/g	1.488	N	0	8	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	HE	0.433	0.1609	pCi/g	0.2716	N	87.09	3	1.026	IDENTIFIED 35.39	<input type="checkbox"/>
Niobium-97	HE	4772	27450	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	NR	1.431	0.1101	pCi/g	0.06996	N	238.7	4	1.024	IDENTIFIED 3.181	<input type="checkbox"/>
Polonium-214	NR	1.087	0.1006	pCi/g	0.08624	N	352	4	1.07	IDENTIFIED 5.956	<input type="checkbox"/>
Polonium-216	NR	1.431	0.1101	pCi/g	0.06996	N	238.7	4	1.024	IDENTIFIED 3.181	<input type="checkbox"/>
Polonium-218	NR	1.087	0.1006	pCi/g	0.08624	N	352	4	1.07	IDENTIFIED 5.956	<input type="checkbox"/>
Potassium-40	✓	21.17	1.135	pCi/g	0.4136	1.00	1462	1	1.721	IDENTIFIED 3.176	<input type="checkbox"/>
Radium-224	INT	3.821	0.5002	pCi/g	0.7963	Y	241.6	1	1.536	IDENTIFIED 11.24	<input checked="" type="checkbox"/> UI
Radium-226	✓	0.9977	0.08185	pCi/g	0.09221	Y	609.6	4	1.145	IDENTIFIED 5.948	<input type="checkbox"/>
Radium-228	✓	1.177	0.1504	pCi/g	0.158	0.500	911.9	3	1.957	IDENTIFIED 11.24	<input type="checkbox"/>
Sodium-24	HE	2.36E+05	2.20E+05	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	✓	0.3971	0.0379	pCi/g	0.04556	0.080	583.5	1	1.234	IDENTIFIED 7.871	<input type="checkbox"/>
Thorium-228	NR	1.453	0.1117	pCi/g	0.07101	N	238.7	4	1.024	IDENTIFIED 3.181	<input type="checkbox"/>
Thorium-230	NR	0.9977	0.08185	pCi/g	0.0922	N	609.6	4	1.145	IDENTIFIED 5.948	<input type="checkbox"/>
Thorium-232	NR	1.177	0.1504	pCi/g	0.158	N	911.9	3	1.957	IDENTIFIED 11.24	<input type="checkbox"/>
Thorium-234	↑UNE	1.296	0.6056	pCi/g	1.286	2.00	63.24	2	0.9583	IDENTIFIED 45.9	<input checked="" type="checkbox"/> UF
Tin-126	HE	0.1475	0.05265	pCi/g	0.08596	N	87.09	3	1.026	IDENTIFIED 35.39	<input type="checkbox"/>

Titanium-44	LA	0.3176	0.02246	pCi/g	0.05114	N	0	8	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		3.8589	1.80E-06	ug/g	1.9144	N		0			<input type="checkbox"/>
Uranium-234	NR	0.9977	0.08185	pCi/g	0.0922	N	609.6	4	1.145	IDENTIFIED 5.948	<input type="checkbox"/>
Uranium-238	HE	1.296	0.6056	pCi/g	1.286	N	63.24	2	0.9583	IDENTIFIED 45.9	<input type="checkbox"/>
Zirconium-97		1.29E+06	5.40E+05	pCi/g	0	N	0	8	0	SHORT_HLIF 0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244600003	07-JAN-10 12:00	22-JAN-10 07:55	14.8	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	1.508	0.1525	pCi/g	0.1692	N	910.8	3	1.251	IDENTIFIED 8.489 <input type="checkbox"/>
Americium-243	INT	0.3841	0.03666	pCi/g	0.07847	N	74.69	1	1.112	IDENTIFIED 8.918 <input type="checkbox"/>
Annihilation Rad.		0.1536	0.02692	pCi/g	0.04215	N	510.7	1	1.659	IDENTIFIED 17.26 <input type="checkbox"/>
Bismuth-211	INT	3.884	0.2231	pCi/g	0.2669	Y	351.6	4	1.339	IDENTIFIED 4.807 <input checked="" type="checkbox"/>
Bismuth-212	LA	1.19	0.2397	pCi/g	0.6127	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.171	0.09233	pCi/g	0.09531	0.200	609.1	4	1.466	IDENTIFIED 6.728 <input type="checkbox"/>
Cadmium-109	INT	3.525	0.468	pCi/g	1.205	Y	87.06	3	1.134	IDENTIFIED 12.72 <input checked="" type="checkbox"/>
Cerium-143		699.7	96.77	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Gross Gamma		8.905	1.418	pCi/g	2.81	N	0			<input type="checkbox"/>
Iodine-123	HE	8.41E+05	1.65E+06	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Iodine-135		3.27E+15	1.28E+15	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Lead-212	✓	1.494	0.07059	pCi/g	0.07639	0.100	238.4	4	1.066	IDENTIFIED 3.118 <input type="checkbox"/>
Lead-214	✓	1.351	0.08523	pCi/g	0.09303	0.100	351.6	4	1.339	IDENTIFIED 4.807 <input type="checkbox"/>
Lutetium-177	HE	2.197	0.6294	pCi/g	1.747	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	1.018	0.1711	pCi/g	0.3538	N	87.06	3	1.134	IDENTIFIED 12.72 <input type="checkbox"/>
Polonium-212	NR	1.494	0.07059	pCi/g	0.07639	N	238.4	4	1.066	IDENTIFIED 3.118 <input type="checkbox"/>
Polonium-214	NR	1.351	0.08523	pCi/g	0.09303	N	351.6	4	1.339	IDENTIFIED 4.807 <input type="checkbox"/>
Polonium-216	NR	1.494	0.07059	pCi/g	0.07639	N	238.4	4	1.066	IDENTIFIED 3.118 <input type="checkbox"/>
Polonium-218	NR	1.351	0.08523	pCi/g	0.09303	N	351.6	4	1.339	IDENTIFIED 4.807 <input type="checkbox"/>
Potassium-40	✓	27.04	1.232	pCi/g	0.4796	1.00	1460	1	2.25	IDENTIFIED 2.839 <input type="checkbox"/>
Radium-224	INT	4.18	0.4894	pCi/g	0.8692	Y	241.5	1	1.694	IDENTIFIED 11.38 <input checked="" type="checkbox"/>
Radium-226	✓	1.171	0.09233	pCi/g	0.09531	Y	609.1	4	1.466	IDENTIFIED 6.728 <input type="checkbox"/>
Radium-228	✓	1.508	0.1525	pCi/g	0.1692	0.500	910.8	3	1.251	IDENTIFIED 8.489 <input type="checkbox"/>
Sodium-24		5.10E+05	2.03E+05	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Technetium-99m	HE	8.61E+14	7.05E+15	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>
Thallium-208	✓	0.5241	0.04051	pCi/g	0.05183	0.080	583	1	1.349	IDENTIFIED 6.851 <input type="checkbox"/>
Thorium-228	NR	1.516	0.07164	pCi/g	0.07753	N	238.4	4	1.066	IDENTIFIED 3.118 <input type="checkbox"/>
Thorium-230	NR	1.171	0.09232	pCi/g	0.09531	N	609.1	4	1.466	IDENTIFIED 6.728 <input type="checkbox"/>
Thorium-232	NR	1.508	0.1525	pCi/g	0.1692	N	910.8	3	1.251	IDENTIFIED 8.489 <input type="checkbox"/>
Thorium-234	✓	1.972	0.9781	pCi/g	1.882	2.00	63.25	2	1.795	IDENTIFIED 48.85 <input checked="" type="checkbox"/>
Tin-126	INT	0.3466	0.04602	pCi/g	0.1191	N	87.06	3	1.134	IDENTIFIED 12.72 <input type="checkbox"/>
Titanium-44	LA	0.3585	0.0252	pCi/g	0.0659	N	0	9	0	FAIL_ABUND 0 <input type="checkbox"/>
Total Uranium		5.8099	2.91E-06	ug/g	2.8017	N	0			<input type="checkbox"/>
Uranium-234	NR	1.171	0.09232	pCi/g	0.09531	N	609.1	4	1.466	IDENTIFIED 6.728 <input type="checkbox"/>
Uranium-238	HE	1.972	0.9781	pCi/g	1.882	N	63.25	2	1.795	IDENTIFIED 48.85 <input type="checkbox"/>
Zirconium-97		2.34E+06	6.22E+05	pCi/g	0	N	0	9	0	SHORT_HLIF 0 <input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244600004	07-JAN-10 12:00	22-JAN-10 07:56	14.8	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	1.658	0.1656	pCi/g	0.1865	N	911	3	1.506	IDENTIFIED 8.036 <input type="checkbox"/>
Americium-243	INT	0.3031	0.02898	pCi/g	0.07551	N	74.9	1	0.8475	IDENTIFIED 8.616 <input type="checkbox"/>
Annihilation Rad.		0.1206	0.03145	pCi/g	0.03909	N	510.7	1	1.695	IDENTIFIED 25.65 <input type="checkbox"/>
Bismuth-211	INT	3.349	0.2664	pCi/g	0.2598	Y	351.8	4	1.065	IDENTIFIED 5.789 <input checked="" type="checkbox"/>
Bismuth-212	NR	0.9887	0.2036	pCi/g	0.3985	N	727.3	1	1.523	IDENTIFIED 19.92 <input type="checkbox"/>
Bismuth-214	✓	1.114	0.09126	pCi/g	0.08915	0.200	609.1	4	1.237	IDENTIFIED 6.261 <input type="checkbox"/>
Cadmium-109	INT	2.169	0.4539	pCi/g	0.948	Y	86.82	3	1.044	IDENTIFIED 20.38 <input checked="" type="checkbox"/>
Cerium-143		432.5	76.64	pCi/g	0	N	0	6	0	SHORT_HLIF 0 <input type="checkbox"/>

Cesium-134	LA	0.1205	0.02738	pCi/g	0.07752	0.100	0	6	0	FAIL_ABUND 0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Gross Gamma		9.557	1.357	pCi/g	3.19	N		0			<input type="checkbox"/>	
Iodine-135	HE	5.68E+14	1.29E+15	pCi/g	0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	✓	1.62	0.1073	pCi/g	0.07517	0.100	238.5	4	0.9794	IDENTIFIED 2.97	<input type="checkbox"/>	
Lead-214	✓	1.165	0.09754	pCi/g	0.09057	0.100	351.8	4	1.065	IDENTIFIED 5.789	<input type="checkbox"/>	
Lutetium-177	HE	2.719	0.528	pCi/g	1.67	N	0	6	0	FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	HE	0.6263	0.1461	pCi/g	0.3392	N	86.82	3	1.044	IDENTIFIED 20.38	<input type="checkbox"/>	
Niobium-95	HE	0.05722	0.03247	pCi/g	0.0572	N	767.3	1	0.6778	IDENTIFIED 56.55	<input type="checkbox"/>	
Polonium-212	NR	1.62	0.1073	pCi/g	0.07517	N	238.5	4	0.9794	IDENTIFIED 2.97	<input type="checkbox"/>	
Polonium-214	NR	1.165	0.09754	pCi/g	0.09057	N	351.8	4	1.065	IDENTIFIED 5.789	<input type="checkbox"/>	
Polonium-216	NR	1.62	0.1073	pCi/g	0.07517	N	238.5	4	0.9794	IDENTIFIED 2.97	<input type="checkbox"/>	
Polonium-218	NR	1.165	0.09754	pCi/g	0.09057	N	351.8	4	1.065	IDENTIFIED 5.789	<input type="checkbox"/>	
Potassium-40	✓	31.16	1.597	pCi/g	0.4594	1.00	1460	1	1.905	IDENTIFIED 2.638	<input type="checkbox"/>	
Radium-224	INT	4.368	0.6191	pCi/g	0.8554	Y	241.6	1	1.911	IDENTIFIED 13.06	<input checked="" type="checkbox"/> UI	
Radium-226	✓	1.114	0.09126	pCi/g	0.08915	Y	609.1	4	1.237	IDENTIFIED 6.261	<input type="checkbox"/>	
Radium-228	✓	1.658	0.1656	pCi/g	0.1865	0.500	911	3	1.506	IDENTIFIED 8.036	<input type="checkbox"/>	
Thallium-208	✓	0.5127	0.04268	pCi/g	0.05159	0.080	583	1	1.278	IDENTIFIED 6.688	<input type="checkbox"/>	
Thorium-228	NR	1.644	0.1089	pCi/g	0.07629	N	238.5	4	0.9794	IDENTIFIED 2.97	<input type="checkbox"/>	
Thorium-230	NR	1.114	0.09126	pCi/g	0.08915	N	609.1	4	1.237	IDENTIFIED 6.261	<input type="checkbox"/>	
Thorium-232	NR	1.658	0.1656	pCi/g	0.1865	N	911	3	1.506	IDENTIFIED 8.036	<input type="checkbox"/>	
Tin-126	INT	0.2133	0.04463	pCi/g	0.1164	N	86.82	3	1.044	IDENTIFIED 20.38	<input type="checkbox"/>	
Titanium-44	LA	0.3296	0.02446	pCi/g	0.06272	N	0	6	0	FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium		4.3778	2.09E-06	ug/g	2.5428	N		0			<input type="checkbox"/>	
Uranium-234	NR	1.114	0.09126	pCi/g	0.08915	N	609.1	4	1.237	IDENTIFIED 6.261	<input type="checkbox"/>	
Zirconium-97	HE	4.94E+05	6.10E+05	pCi/g	0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	Queue	
244600005	07-JAN-10 12:00	22-JAN-10 07:57	14.8	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	1.624	0.1536	pCi/g	0.1903	N	911	3	1.411	IDENTIFIED 7.21	<input type="checkbox"/>
Americium-243	INT	0.4175	0.03448	pCi/g	0.06689	N	74.97	1	1.243	IDENTIFIED 7.204	<input type="checkbox"/>
Annihilation Rad.	HE	0.07329	0.03156	pCi/g	0.04324	N	510.8	1	1.584	IDENTIFIED 42.8	<input type="checkbox"/>
Bismuth-211	INT	4.002	0.2948	pCi/g	0.2951	Y	351.9	4	1.371	IDENTIFIED 5.599	<input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.8025	0.2139	pCi/g	0.618	N	0	10	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	1.147	0.09819	pCi/g	0.09385	0.200	609.4	4	1.448	IDENTIFIED 6.509	<input type="checkbox"/>
Cadmium-109	INT	2.136	0.4622	pCi/g	1.091	Y	86.9	3	0.8963	IDENTIFIED 21.13	<input checked="" type="checkbox"/> UI
Cerium-143		608.3	96.21	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Gross Gamma		8.745	1.35	pCi/g	3.499	N		0			<input type="checkbox"/>
Iodine-135		3.90E+15	1.18E+15	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212	✓	1.782	0.1101	pCi/g	0.08318	0.100	238.6	4	1.122	IDENTIFIED 3.139	<input type="checkbox"/>
Lead-214	✓	1.392	0.1088	pCi/g	0.1029	0.100	351.9	4	1.371	IDENTIFIED 5.599	<input type="checkbox"/>
Lutetium-177	HE	2.754	0.7926	pCi/g	1.845	N	0	10	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	HE	0.6168	0.1479	pCi/g	0.3447	N	86.9	3	0.8963	IDENTIFIED 21.13	<input type="checkbox"/>
Niobium-97	HE	5153	27960	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	NR	1.782	0.1101	pCi/g	0.08318	N	238.6	4	1.122	IDENTIFIED 3.139	<input type="checkbox"/>
Polonium-214	NR	1.392	0.1088	pCi/g	0.1029	N	351.9	4	1.371	IDENTIFIED 5.599	<input type="checkbox"/>
Polonium-216	NR	1.782	0.1101	pCi/g	0.08318	N	238.6	4	1.122	IDENTIFIED 3.139	<input type="checkbox"/>
Polonium-218	NR	1.392	0.1088	pCi/g	0.1029	N	351.9	4	1.371	IDENTIFIED 5.599	<input type="checkbox"/>
Potassium-40	✓	21.9	1.209	pCi/g	0.4857	1.00	1461	1	2.013	IDENTIFIED 3.386	<input type="checkbox"/>
Radium-224	INT	4.839	0.7055	pCi/g	0.9463	Y	241.6	1	1.793	IDENTIFIED 13.75	<input checked="" type="checkbox"/> UI
Radium-226	✓	1.147	0.09819	pCi/g	0.09385	Y	609.4	4	1.448	IDENTIFIED 6.509	<input type="checkbox"/>
Radium-228	✓	1.624	0.1536	pCi/g	0.1903	0.500	911	3	1.411	IDENTIFIED 7.21	<input type="checkbox"/>
Sodium-24	HE	2.08E+05	2.04E+05	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Technetium-99m	HE	5.18E+15	7.91E+15	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-200	HE	165.2	166.1	pCi/g	0	N	0	10	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208	✓	0.5434	0.04901	pCi/g	0.05118	0.080	583.2	1	1.442	IDENTIFIED 7.411	<input type="checkbox"/>
Thorium-228	NR	1.809	0.1117	pCi/g	0.08442	N	238.6	4	1.122	IDENTIFIED 3.139	<input type="checkbox"/>
Thorium-230	NR	1.147	0.09819	pCi/g	0.09385	N	609.4	4	1.448	IDENTIFIED 6.509	<input type="checkbox"/>

Thorium-232	NR	1.624	0.1536	pCi/g	0.1903	N	911	3	1.411	IDENTIFIED	7.21	<input type="checkbox"/>
Thorium-234	✓	2.667	0.7752	pCi/g	1.469	2.00	63.66	2	1.352	IDENTIFIED	27.74	<input type="checkbox"/>
Tin-126	HE	0.21	0.04545	pCi/g	0.1201	N	86.9	3	0.8963	IDENTIFIED	21.13	<input type="checkbox"/>
Titanium-44	LA	0.3945	0.02695	pCi/g	0.07188	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		7.9054	2.31E-06	ug/g	2.1883	N	0					<input type="checkbox"/>
Uranium-234	NR	1.147	0.09819	pCi/g	0.09385	N	609.4	4	1.448	IDENTIFIED	6.509	<input type="checkbox"/>
Uranium-238	HE	2.667	0.7752	pCi/g	1.469	N	63.66	2	1.352	IDENTIFIED	27.74	<input type="checkbox"/>
Zirconium-97	HE	1.29E+06	6.60E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244600006	07-JAN-10 12:00	22-JAN-10 08:05	14.8	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	LA	1.844	0.1958	pCi/g	0.6244	N	0	11	0	FAIL_ABUND	0
Americium-243	NR	0.3826	0.03034	pCi/g	0.05567	N	74.82	1	1.013	IDENTIFIED	6.249
Annihilation Rad.	HE	0.09479	0.03479	pCi/g	0.0545	N	510.4	1	1.192	IDENTIFIED	36.43
Barium-137m	HE	0.122	0.02515	pCi/g	0.0807	N	661	2	1.145	IDENTIFIED	20.18
Bismuth-210	HE	1.173	0.3986	pCi/g	0.74	N	46.54	3	1.003	IDENTIFIED	33.55
Bismuth-211	NR	4.011	0.2744	pCi/g	0.3363	Y	351.7	4	1.137	IDENTIFIED	5.005
Bismuth-212	NR	1.605	0.2683	pCi/g	0.4968	N	726.5	1	1.622	IDENTIFIED	15.95
Bismuth-214	✓	1.335	0.1275	pCi/g	0.112	0.200	609	4	1.531	IDENTIFIED	8.086
Cadmium-109	NR	4.091	0.438	pCi/g	0.9214	Y	87.17	3	1.216	IDENTIFIED	9.531
Cerium-143		599.4	98.53	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Cesium-137	✓	0.1289	0.02658	pCi/g	0.08531	0.100	661	2	1.145	IDENTIFIED	20.18
Europium-155	HE	0.1571	0.06983	pCi/g	0.1534	N	105	1	1.543	IDENTIFIED	44.13
Gross Gamma		8.352	1.337	pCi/g	3.853	N	0				
Iodine-135	HE	7.67E+14	1.53E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Lead-210	HE	1.173	0.3986	pCi/g	0.74	N	46.54	3	1.003	IDENTIFIED	33.55
Lead-212	✓	1.669	0.1025	pCi/g	0.09173	0.100	238.5	4	1.036	IDENTIFIED	3.511
Lead-214	✓	1.395	0.1022	pCi/g	0.1173	0.100	351.7	4	1.137	IDENTIFIED	5.005
Lutetium-177	LA	3.821	0.8042	pCi/g	2.892	N	0	11	0	FAIL_ABUND	0
Neptunium-237	NR	1.181	0.1756	pCi/g	0.2649	N	87.17	3	1.216	IDENTIFIED	9.531
Niobium-97		91650	44360	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Polonium-210	HE	1.173	0.398	pCi/g	0.74	N	46.54	3	1.003	IDENTIFIED	33.55
Polonium-212	NR	1.669	0.1025	pCi/g	0.09173	N	238.5	4	1.036	IDENTIFIED	3.511
Polonium-214	NR	1.395	0.1022	pCi/g	0.1173	N	351.7	4	1.137	IDENTIFIED	5.005
Polonium-216	NR	1.669	0.1025	pCi/g	0.09173	N	238.5	4	1.036	IDENTIFIED	3.511
Polonium-218	NR	1.395	0.1022	pCi/g	0.1173	N	351.7	4	1.137	IDENTIFIED	5.005
Potassium-40	✓	17.93	1.109	pCi/g	0.5398	1.00	1459	1	1.859	IDENTIFIED	4.312
Radium-224	NR	3.918	0.7625	pCi/g	1.045	Y	241.5	1	1.821	IDENTIFIED	18.93
Radium-226	✓	1.335	0.1275	pCi/g	0.112	Y	609	4	1.531	IDENTIFIED	8.086
Radium-228	LA	1.844	0.1958	pCi/g	0.6244	0.500	0	11	0	FAIL_ABUND	0
Sodium-24	HE	3.22E+05	3.17E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0
Thallium-208	✓	0.5001	0.05234	pCi/g	0.06524	0.080	582.8	1	1.293	IDENTIFIED	9.336
Thorium-228	NR	1.694	0.1041	pCi/g	0.0931	N	238.5	4	1.036	IDENTIFIED	3.511
Thorium-230	NR	1.335	0.1275	pCi/g	0.112	N	609	4	1.531	IDENTIFIED	8.086
Thorium-232	NR	1.844	0.1958	pCi/g	0.6244	N	0	11	0	FAIL_ABUND	0
Thorium-234	✓	1.821	0.5021	pCi/g	0.9283	2.00	63.38	2	0.9774	IDENTIFIED	25.94
Tin-126	NR	0.4022	0.04307	pCi/g	0.09049	N	87.17	3	1.216	IDENTIFIED	9.531
Titanium-44	LA	0.4171	0.02718	pCi/g	0.06081	N	0	11	0	FAIL_ABUND	0
Total Uranium		5.5249	1.49E-06	ug/g	1.384	N	0				
Uranium-231	HE	1.723	0.608	pCi/g	1.336	N	0	11	0	FAIL_ABUND	0
Uranium-234	NR	1.335	0.1275	pCi/g	0.112	N	609	4	1.531	IDENTIFIED	8.086
Uranium-238	HE	1.821	0.5021	pCi/g	0.9283	N	63.38	2	0.9774	IDENTIFIED	25.94
Zirconium-97		1.93E+06	8.06E+05	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
244600007	07-JAN-10 12:00	22-JAN-10 08:05	14.8	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	1.552	0.1472	pCi/g 0.1897	N	910.9	3	1.494	IDENTIFIED	7.386	<input type="checkbox"/>	
Americium-243	INT	0.3042	0.02323	pCi/g 0.04171	N	74.86	1	0.7685	IDENTIFIED	5.704	<input type="checkbox"/>	
Annihilation Rad. HE		0.09097	0.03381	pCi/g 0.04162	N	510.7	1	1.593	IDENTIFIED	36.81	<input type="checkbox"/>	
Barium-137m	NR	0.3653	0.03851	pCi/g 0.05689	N	661.6	2	1.48	IDENTIFIED	8.969	<input type="checkbox"/>	
Bismuth-210	HE	1.122	0.3261	pCi/g 0.5604	N	46.44	3	0.866	IDENTIFIED	28.6	<input type="checkbox"/>	
Bismuth-211	INT	3.435	0.2829	pCi/g 0.2661	Y	351.9	4	1.149	IDENTIFIED	6.337	<input checked="" type="checkbox"/>	VI
Bismuth-212	HE	0.9233	0.2075	pCi/g 0.6232	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.094	0.09754	pCi/g 0.09549	0.200	609.1	4	1.368	IDENTIFIED	6.563	<input type="checkbox"/>	
Cadmium-109	INT	3.775	0.3611	pCi/g 0.6366	Y	87.22	3	1.205	IDENTIFIED	7.929	<input checked="" type="checkbox"/>	VI
Cerium-143		311.6	66.47	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-137	✓	0.3861	0.04072	pCi/g 0.06014	0.100	661.6	2	1.48	IDENTIFIED	8.969	<input type="checkbox"/>	
Gross Gamma		8.453	1.072	pCi/g 2.798	N	0					<input type="checkbox"/>	
Lead-210	HE	1.122	0.3261	pCi/g 0.5604	N	46.44	3	0.866	IDENTIFIED	28.6	<input type="checkbox"/>	
Lead-212	✓	1.521	0.09856	pCi/g 0.0736	0.100	238.6	4	1.024	IDENTIFIED	3.094	<input type="checkbox"/>	
Lead-214	✓	1.195	0.1032	pCi/g 0.09279	0.100	351.9	4	1.149	IDENTIFIED	6.337	<input type="checkbox"/>	
Lutetium-177	LA	3.929	0.6964	pCi/g 1.691	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	INT	1.09	0.1534	pCi/g 0.1826	N	87.22	3	1.205	IDENTIFIED	7.929	<input type="checkbox"/>	
Niobium-97	HE	47580	37100	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-210	HE	1.122	0.3254	pCi/g 0.5604	N	46.44	3	0.866	IDENTIFIED	28.6	<input type="checkbox"/>	
Polonium-212	NR	1.521	0.09856	pCi/g 0.0736	N	238.6	4	1.024	IDENTIFIED	3.094	<input type="checkbox"/>	
Polonium-214	NR	1.195	0.1032	pCi/g 0.09279	N	351.9	4	1.149	IDENTIFIED	6.337	<input type="checkbox"/>	
Polonium-216	NR	1.521	0.09856	pCi/g 0.0736	N	238.6	4	1.024	IDENTIFIED	3.094	<input type="checkbox"/>	
Polonium-218	NR	1.195	0.1032	pCi/g 0.09279	N	351.9	4	1.149	IDENTIFIED	6.337	<input type="checkbox"/>	
Potassium-40	✓	23.02	1.228	pCi/g 0.5098	1.00	1461	1	2.274	IDENTIFIED	3.213	<input type="checkbox"/>	
Radium-224	INT	4.397	0.5148	pCi/g 0.8385	Y	241.6	1	1.464	IDENTIFIED	10.46	<input checked="" type="checkbox"/>	VI
Radium-226	✓	1.094	0.09754	pCi/g 0.09549	Y	609.1	4	1.368	IDENTIFIED	6.563	<input type="checkbox"/>	
Radium-228	✓	1.552	0.1472	pCi/g 0.1897	0.500	910.9	3	1.494	IDENTIFIED	7.386	<input type="checkbox"/>	
Thallium-200	HE	108.8	166.6	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.5176	0.04951	pCi/g 0.04975	0.080	583.3	1	1.258	IDENTIFIED	7.727	<input type="checkbox"/>	
Thorium-228	NR	1.544	0.1	pCi/g 0.0747	N	238.6	4	1.024	IDENTIFIED	3.094	<input type="checkbox"/>	
Thorium-230	NR	1.094	0.09754	pCi/g 0.09549	N	609.1	4	1.368	IDENTIFIED	6.563	<input type="checkbox"/>	
Thorium-232	NR	1.552	0.1472	pCi/g 0.1897	N	910.9	3	1.494	IDENTIFIED	7.386	<input type="checkbox"/>	
Thorium-234	✓	1.807	0.4041	pCi/g 0.7097	2.00	63.35	2	0.8907	IDENTIFIED	20.33	<input type="checkbox"/>	
Tin-126	INT	0.3712	0.03551	pCi/g 0.06248	N	87.22	3	1.205	IDENTIFIED	7.929	<input type="checkbox"/>	
Titanium-44	LA	0.3221	0.02104	pCi/g 0.04142	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		5.4059	1.20E-06	ug/g 1.0584	N	0					<input type="checkbox"/>	
Uranium-234	NR	1.094	0.09754	pCi/g 0.09549	N	609.1	4	1.368	IDENTIFIED	6.563	<input type="checkbox"/>	
Uranium-238	NR	1.807	0.4041	pCi/g 0.7097	N	63.35	2	0.8907	IDENTIFIED	20.33	<input type="checkbox"/>	
Zirconium-97		1.63E+06	6.58E+05	pCi/g 0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue		
244600008	07-JAN-10 12:00	22-JAN-10 08:35	14.9	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	1.728	0.1827	pCi/g	0.2347	N	910.5	3	1.689	IDENTIFIED	8.992	<input type="checkbox"/>
Americium-243	INT	0.4147	0.07196	pCi/g	0.1312	N	74.34	1	1.913	IDENTIFIED	16.44	<input type="checkbox"/>
Annihilation Rad. HE		0.09752	0.03975	pCi/g	0.04994	N	509.9	1	1.834	IDENTIFIED	40.66	<input type="checkbox"/>
Barium-137m	NR	0.2342	0.037	pCi/g	0.07002	N	661.1	2	1.489	IDENTIFIED	15.6	<input type="checkbox"/>
Bismuth-211	INT	3.695	0.2593	pCi/g	0.3982	Y	351.3	4	1.434	IDENTIFIED	6.12	<input checked="" type="checkbox"/> VI
Bismuth-212	HE	0.7815	0.2222	pCi/g	0.5276	N	726.8	1	1.592	IDENTIFIED	28.17	<input type="checkbox"/>
Bismuth-214	✓	1.097	0.09201	pCi/g	0.1277	0.200	608.7	4	1.299	IDENTIFIED	7.521	<input type="checkbox"/>
Cadmium-109	INT	4.026	0.6867	pCi/g	1.649	Y	86.71	3	1.282	IDENTIFIED	16.06	<input checked="" type="checkbox"/> VI
Cerium-143		1145	165.4	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-135	HE	0.3628	0.1105	pCi/g	0.3628	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Cesium-137	✓	0.2475	0.03912	pCi/g	0.07402	0.100	661.1	2	1.489	IDENTIFIED	15.6	<input type="checkbox"/>
Gross Gamma		8.86	1.536	pCi/g	4.802	N	0					<input type="checkbox"/>
Iodine-123	HE	4.48E+05	2.42E+06	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	2266	2696	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>

Iodine-135	HE	1.21E+15	1.67E+15	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.643	0.09395	pCi/g	0.1093	0.100	238	4	1.334	IDENTIFIED	3.947	<input type="checkbox"/>
Lead-214	✓	1.285	0.09623	pCi/g	0.1377	0.100	351.3	4	1.434	IDENTIFIED	6.12	<input type="checkbox"/>
Neptunium-237	INT	1.162	0.2317	pCi/g	0.531	N	86.71	3	1.282	IDENTIFIED	16.06	<input type="checkbox"/>
Niobium-95m	LA	1.667	0.1273	pCi/g	0.4193	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97		1.15E+05	55130	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.643	0.09395	pCi/g	0.1093	N	238	4	1.334	IDENTIFIED	3.947	<input type="checkbox"/>
Polonium-214	NR	1.285	0.09623	pCi/g	0.1377	N	351.3	4	1.434	IDENTIFIED	6.12	<input type="checkbox"/>
Polonium-216	NR	1.643	0.09395	pCi/g	0.1093	N	238	4	1.334	IDENTIFIED	3.947	<input type="checkbox"/>
Polonium-218	NR	1.285	0.09623	pCi/g	0.1377	N	351.3	4	1.434	IDENTIFIED	6.12	<input type="checkbox"/>
Potassium-40	✓	23.61	1.281	pCi/g	0.6692	1.00	1460	1	2.018	IDENTIFIED	3.85	<input type="checkbox"/>
Radium-224	INT	4.462	0.7412	pCi/g	1.243	Y	240.9	1	1.804	IDENTIFIED	16.25	<input checked="" type="checkbox"/>
Radium-226	✓	1.097	0.09201	pCi/g	0.1277	Y	608.7	4	1.299	IDENTIFIED	7.521	<input type="checkbox"/>
Radium-228	✓	1.728	0.1827	pCi/g	0.2347	0.500	910.5	3	1.689	IDENTIFIED	8.992	<input type="checkbox"/>
Thallium-208	✓	0.5228	0.04299	pCi/g	0.06291	0.080	582.5	1	1.673	IDENTIFIED	7.581	<input type="checkbox"/>
Thorium-228	NR	1.667	0.09535	pCi/g	0.1109	N	238	4	1.334	IDENTIFIED	3.947	<input type="checkbox"/>
Thorium-230	NR	1.097	0.092	pCi/g	0.1277	N	608.7	4	1.299	IDENTIFIED	7.521	<input type="checkbox"/>
Thorium-232	NR	1.728	0.1827	pCi/g	0.2347	N	910.5	3	1.689	IDENTIFIED	8.992	<input type="checkbox"/>
Tin-126	INT	0.3958	0.06752	pCi/g	0.1634	N	86.71	3	1.282	IDENTIFIED	16.06	<input type="checkbox"/>
Titanium-44	LA	0.2155	0.03194	pCi/g	0.1027	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-234	NR	1.097	0.092	pCi/g	0.1277	N	608.7	4	1.299	IDENTIFIED	7.521	<input type="checkbox"/>
Zirconium-97		8.37E+06	9.93E+05	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244600009	07-JAN-10 12:00	22-JAN-10 08:36	14.9	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	1.366	0.1404	pCi/g	0.1589	N	911	3	1.761	IDENTIFIED 7.86 <input type="checkbox"/>
Americium-243	INT	0.3453	0.03583	pCi/g	0.08202	N	75.06	1	1.185	IDENTIFIED 9.497 <input type="checkbox"/>
Annihilation Rad.		0.1223	0.02492	pCi/g	0.03368	N	510.9	1	1.863	IDENTIFIED 20.1 <input type="checkbox"/>
Antimony-122	HE	2.18	0.7951	pCi/g	2.18	N	562.6	1	2.011	IDENTIFIED 36.31 <input type="checkbox"/>
Barium-137m	NR	0.3675	0.03014	pCi/g	0.0453	N	661.6	2	1.619	IDENTIFIED 7.261 <input type="checkbox"/>
Bismuth-211	INT	3.235	0.2184	pCi/g	0.232	Y	351.8	4	1.512	IDENTIFIED 5.938 <input checked="" type="checkbox"/>
Bismuth-212	LA	1.25	0.2019	pCi/g	0.4899	N	0	12	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.16	0.07435	pCi/g	0.08435	0.200	609.1	4	1.729	IDENTIFIED 4.594 <input type="checkbox"/>
Cadmium-109	INT	3.328	0.4714	pCi/g	1.045	Y	87.4	3	1.339	IDENTIFIED 13.4 <input checked="" type="checkbox"/>
Cerium-143		463.9	73.93	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-135	HE	0.2271	0.06761	pCi/g	0.2214	N	0	12	0	NOT_IDENTI 0 <input type="checkbox"/>
Cesium-137	✓	0.3885	0.03188	pCi/g	0.04789	0.100	661.6	2	1.619	IDENTIFIED 7.261 <input type="checkbox"/>
Gross Gamma		9.185	1.252	pCi/g	2.568	N	0			<input type="checkbox"/>
Iodine-123	HE	23560	1.51E+06	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Krypton-85	LA	18	3.085	pCi/g	10.66	N	0	12	0	NOT_IDENTI 0 <input type="checkbox"/>
Lead-212	✓	1.506	0.06849	pCi/g	0.06899	0.100	238.8	4	1.258	IDENTIFIED 2.814 <input type="checkbox"/>
Lead-214	✓	1.125	0.08144	pCi/g	0.08083	0.100	351.8	4	1.512	IDENTIFIED 5.938 <input type="checkbox"/>
Lutetium-177	HE	2.333	0.6068	pCi/g	1.575	N	0	12	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	0.9608	0.1684	pCi/g	0.3085	N	87.4	3	1.339	IDENTIFIED 13.4 <input type="checkbox"/>
Niobium-95	HE	0.07615	0.01855	pCi/g	0.0617	N	0	12	0	NOT_IDENTI 0 <input type="checkbox"/>
Niobium-97		1.20E+05	31150	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Polonium-212	NR	1.506	0.06849	pCi/g	0.06899	N	238.8	4	1.258	IDENTIFIED 2.814 <input type="checkbox"/>
Polonium-214	NR	1.125	0.08144	pCi/g	0.08083	N	351.8	4	1.512	IDENTIFIED 5.938 <input type="checkbox"/>
Polonium-216	NR	1.506	0.06849	pCi/g	0.06899	N	238.8	4	1.258	IDENTIFIED 2.814 <input type="checkbox"/>
Polonium-218	NR	1.125	0.08144	pCi/g	0.08083	N	351.8	4	1.512	IDENTIFIED 5.938 <input type="checkbox"/>
Potassium-40	✓	25.27	1.131	pCi/g	0.3177	1.00	1460	1	2.287	IDENTIFIED 2.37 <input type="checkbox"/>
Radium-224	INT	4.472	0.4966	pCi/g	0.784	Y	241.7	1	1.833	IDENTIFIED 10.75 <input checked="" type="checkbox"/>
Radium-226	✓	1.16	0.07435	pCi/g	0.08435	Y	609.1	4	1.729	IDENTIFIED 4.594 <input type="checkbox"/>
Radium-228	✓	1.366	0.1404	pCi/g	0.1589	0.500	911	3	1.761	IDENTIFIED 7.86 <input type="checkbox"/>
Sroutium-85	LA	0.09202	0.01577	pCi/g	0.05452	Y	0	12	0	NOT_IDENTI 0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-200	HE	72.69	133.6	pCi/g	0	N	0	12	0	SHORT_HLIF 0 <input type="checkbox"/>
Thallium-208	✓	0.4661	0.03426	pCi/g	0.04162	0.080	583.2	1	1.41	IDENTIFIED 6.218 <input type="checkbox"/>

Thorium-228	NR	1.529	0.06951	pCi/g	0.07002	N	238.8	4	1.258	IDENTIFIED	2.814	<input type="checkbox"/>
Thorium-230	NR	1.16	0.07435	pCi/g	0.08435	N	609.1	4	1.729	IDENTIFIED	4.594	<input type="checkbox"/>
Thorium-232	NR	1.366	0.1404	pCi/g	0.1589	N	911	3	1.761	IDENTIFIED	7.86	<input type="checkbox"/>
Tin-126	INT	0.3272	0.04636	pCi/g	0.1034	N	87.4	3	1.339	IDENTIFIED	13.4	<input type="checkbox"/>
Titanium-44	LA	0.3484	0.02515	pCi/g	0.07366	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		4.1012	2.67E-06	ug/g	3.1461	N	0					<input type="checkbox"/>
Uranium-234	NR	1.16	0.07435	pCi/g	0.08435	N	609.1	4	1.729	IDENTIFIED	4.594	<input type="checkbox"/>
Zirconium-97		1.59E+06	5.55E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
244600010	07-JAN-10 12:00	22-JAN-10 08:37	14.9	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.615	0.1854	pCi/g	0.2539	N	910.9	3	1.357	IDENTIFIED 9.976	
Americium-243	INT	0.4344	0.02701	pCi/g	0.04188	N	74.85	1	0.8949	IDENTIFIED 4.547	
Bismuth-210	HE	0.8947	0.3418	pCi/g	0.6501	N	46.99	3	0.7137	IDENTIFIED 37.9	
Bismuth-211	WT	4.091	0.2806	pCi/g	0.3083	Y	351.8	4	1.065	IDENTIFIED 5.171	✓UF
Bismuth-212	HE	1.054	0.3404	pCi/g	0.7993	N	0	11	0	FAIL_ABUND	
Bismuth-214	✓	1.148	0.1101	pCi/g	0.1246	0.200	609.1	4	1.386	IDENTIFIED 7.559	
Cadmium-109	INT	3.793	0.3647	pCi/g	0.7111	Y	87.27	3	1.054	IDENTIFIED 8.399	✓UF
Cerium-143		282.9	70.58	pCi/g	0	N	0	11	0	SHORT_HLIF	
Gross Gamma		10.47	1.54	pCi/g	4.156	N	0				
Iodine-133	HE	529.2	2534	pCi/g	0	N	0	11	0	SHORT_HLIF	
Iodine-135	HE	7.68E+14	2.06E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	
Lead-210	HE	0.8947	0.3418	pCi/g	0.6501	N	46.99	3	0.7137	IDENTIFIED 37.9	
Lead-212	✓	1.846	0.1059	pCi/g	0.07938	0.100	238.5	4	0.8763	IDENTIFIED 2.87	
Lead-214	✓	1.423	0.1044	pCi/g	0.1075	0.100	351.8	4	1.065	IDENTIFIED 5.171	
Lutetium-177	LA	3.298	0.6389	pCi/g	1.836	N	0	11	0	FAIL_ABUND	
Neptunium-237	INT	1.095	0.1545	pCi/g	0.1978	N	87.27	3	1.054	IDENTIFIED 8.399	
Niobium-97	HE	33680	41300	pCi/g	0	N	0	11	0	SHORT_HLIF	
Polonium-210	HE	0.8947	0.3413	pCi/g	0.6501	N	46.99	3	0.7137	IDENTIFIED 37.9	
Polonium-212	NR	1.846	0.1059	pCi/g	0.07938	N	238.5	4	0.8763	IDENTIFIED 2.87	
Polonium-214	NR	1.423	0.1044	pCi/g	0.1075	N	351.8	4	1.065	IDENTIFIED 5.171	
Polonium-216	NR	1.846	0.1059	pCi/g	0.07938	N	238.5	4	0.8763	IDENTIFIED 2.87	
Polonium-218	NR	1.423	0.1044	pCi/g	0.1075	N	351.8	4	1.065	IDENTIFIED 5.171	
Potassium-40	✓	32.75	1.77	pCi/g	0.3416	1.00	1460	1	1.909	IDENTIFIED 3.317	
Radium-224	INT	5.332	0.7218	pCi/g	0.9058	Y	241.5	1	1.881	IDENTIFIED 12.79	✓UF
Radium-226	✓	1.148	0.1101	pCi/g	0.1246	Y	609.1	4	1.386	IDENTIFIED 7.559	
Radium-228	✓	1.615	0.1854	pCi/g	0.2539	0.500	910.9	3	1.357	IDENTIFIED 9.976	
Sodium-24	HE	2.28E+05	3.43E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	
Technetium-99m	HE	3.42E+15	6.97E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	
Thallium-200	HE	45.53	187.2	pCi/g	0	N	0	11	0	SHORT_HLIF	
Thallium-208	✓	0.5845	0.05634	pCi/g	0.06089	0.080	583.1	1	1.304	IDENTIFIED 7.952	
Thorium-228	NR	1.873	0.1075	pCi/g	0.08057	N	238.5	4	0.8763	IDENTIFIED 2.87	
Thorium-230	NR	1.148	0.1101	pCi/g	0.1246	N	609.1	4	1.386	IDENTIFIED 7.559	
Thorium-232	NR	1.615	0.1854	pCi/g	0.2539	N	910.9	3	1.357	IDENTIFIED 9.976	
Thorium-234	✓	1.197	0.3607	pCi/g	0.7547	2.00	63.27	2	0.6601	IDENTIFIED 28.8	
Tin-126	INT	0.373	0.03586	pCi/g	0.07218	N	87.27	3	1.054	IDENTIFIED 8.399	
Titanium-44	LA	0.3995	0.02252	pCi/g	0.03903	N	0	11	0	FAIL_ABUND	
Total Uranium		3.6055	1.07E-06	ug/g	1.1252	N	0				
Uranium-234	NR	1.148	0.1101	pCi/g	0.1246	N	609.1	4	1.386	IDENTIFIED 7.559	
Uranium-238	HE	1.197	0.3607	pCi/g	0.7547	N	63.27	2	0.6601	IDENTIFIED 28.8	
Zirconium-97	HE	1.35E+06	7.35E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	

*** = 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
244600011	07-JAN-10 12:00	22-JAN-10 08:37	14.9	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	1.763	0.1582	pCi/g 0.1846	N	911.2	3	2.168	IDENTIFIED	6.054	<input type="checkbox"/>
Americium-243	INT	0.4188	0.03525	pCi/g 0.07448	N	74.85	1	1.198	IDENTIFIED	7.361	<input type="checkbox"/>
Annihilation Rad. HE		0.07137	0.02556	pCi/g 0.04071	N	510.8	1	2.254	IDENTIFIED	35.46	<input type="checkbox"/>
Barium-137m	NR	0.4146	0.03349	pCi/g 0.04888	N	661.7	2	1.454	IDENTIFIED	6.119	<input type="checkbox"/>
Bismuth-211	INT	3.745	0.3223	pCi/g 0.2869	Y	352	4	1.339	IDENTIFIED	4.376	<input checked="" type="checkbox"/> UT
Bismuth-212	LA	0.8901	0.1803	pCi/g 0.5046	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	0.9579	0.0873	pCi/g 0.09133	0.200	609.4	4	1.624	IDENTIFIED	7.018	<input type="checkbox"/>
Cadmium-109	INT	2.802	0.4225	pCi/g 1.876	Y	87.29	3	1.092	IDENTIFIED	14.33	<input checked="" type="checkbox"/> UT
Cerium-143		665.3	104.4	pCi/g 0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1182	0.02968	pCi/g 0.07211	0.100	0	11	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.4383	0.03542	pCi/g 0.05167	0.100	661.7	2	1.454	IDENTIFIED	6.119	<input checked="" type="checkbox"/>
Gold-199	HE	0.4804	0.09669	pCi/g 0.3402	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Gross Gamma		9.036	1.102	pCi/g 2.026	N	0	0	0			<input type="checkbox"/>
Krypton-85	LA	24.09	3.734	pCi/g 12.28	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	1.587	0.1142	pCi/g 0.07812	0.100	238.7	4	1.182	IDENTIFIED	2.855	<input type="checkbox"/>
Lead-214	✓	1.302	0.1006	pCi/g 0.09361	0.100	352	4	1.339	IDENTIFIED	4.376	<input type="checkbox"/>
Lutetium-177	HE	2.505	0.7154	pCi/g 1.739	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	0.889	0.1478	pCi/g 0.3593	N	87.29	3	1.092	IDENTIFIED	14.33	<input type="checkbox"/>
Niobium-97		1.63E+05	37360	pCi/g 0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.587	0.1142	pCi/g 0.07812	N	238.7	4	1.182	IDENTIFIED	2.855	<input type="checkbox"/>
Polonium-214	NR	1.302	0.1006	pCi/g 0.09361	N	352	4	1.339	IDENTIFIED	4.376	<input type="checkbox"/>
Polonium-216	NR	1.587	0.1142	pCi/g 0.07812	N	238.7	4	1.182	IDENTIFIED	2.855	<input type="checkbox"/>
Polonium-218	NR	1.302	0.1006	pCi/g 0.09361	N	352	4	1.339	IDENTIFIED	4.376	<input type="checkbox"/>
Potassium-40	✓	26.28	1.363	pCi/g 0.4164	1.00	1461	1	2.529	IDENTIFIED	2.431	<input type="checkbox"/>
Radium-224	INT	4.031	0.5804	pCi/g 0.8879	Y	241.7	1	1.886	IDENTIFIED	12.96	<input checked="" type="checkbox"/> UT
Radium-226	✓	0.9579	0.0873	pCi/g 0.09133	Y	609.4	4	1.624	IDENTIFIED	7.018	<input type="checkbox"/>
Radium-228	✓	1.763	0.1582	pCi/g 0.1846	0.500	911.2	3	2.168	IDENTIFIED	6.054	<input type="checkbox"/>
Silver-110m	HE	0.06442	0.01689	pCi/g 0.05486	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>
Strontium-85	LA	0.1232	0.01909	pCi/g 0.06278	Y	0	11	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.5281	0.04424	pCi/g 0.04915	0.080	583.2	1	1.737	IDENTIFIED	6.384	<input type="checkbox"/>
Thorium-228	NR	1.61	0.1159	pCi/g 0.07928	N	238.7	4	1.182	IDENTIFIED	2.855	<input type="checkbox"/>
Thorium-230	NR	0.9579	0.08729	pCi/g 0.09133	N	609.4	4	1.624	IDENTIFIED	7.018	<input type="checkbox"/>
Thorium-232	NR	1.763	0.1582	pCi/g 0.1846	N	911.2	3	2.168	IDENTIFIED	6.054	<input type="checkbox"/>
Thorium-234	✓	2.602	0.76	pCi/g 1.691	2.00	63.21	2	1.036	IDENTIFIED	27.88	<input type="checkbox"/>
Tin-126	INT	0.2755	0.04155	pCi/g 0.1062	N	87.29	3	1.092	IDENTIFIED	14.33	<input type="checkbox"/>
Titanium-44	LA	0.3061	0.0229	pCi/g 0.06587	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		7.8315	2.26E-06	ug/g 2.5183	N	0	0	0			<input type="checkbox"/>
Uranium-234	NR	0.9579	0.08729	pCi/g 0.09133	N	609.4	4	1.624	IDENTIFIED	7.018	<input type="checkbox"/>
Uranium-238	HE	2.602	0.76	pCi/g 1.691	N	63.21	2	1.036	IDENTIFIED	27.88	<input type="checkbox"/>
Zirconium-97		3.36E+06	6.98E+05	pCi/g 0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue		
24460012	07-JAN-10 12:00	22-JAN-10 08:49	14.9	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	1.798	0.1751	pCi/g	0.2164	N	911.5	3	1.673	IDENTIFIED	7.809	<input type="checkbox"/>
Americium-243	INT	0.3826	0.03822	pCi/g	0.07429	N	74.82	1	1.339	IDENTIFIED	9.142	<input type="checkbox"/>
Annihilation Rad.		0.1402	0.03379	pCi/g	0.05045	N	510.7	1	2.193	IDENTIFIED	23.7	<input type="checkbox"/>
Barium-137m	HE	0.1071	0.03376	pCi/g	0.05525	N	662.8	2	0.8581	IDENTIFIED	31.2	<input type="checkbox"/>
Bismuth-211	INT	3.872	0.2698	pCi/g	0.3269	Y	352	4	1.114	IDENTIFIED	5.334	<input checked="" type="checkbox"/> UI
Bismuth-212	HE	1.271	0.29	pCi/g	0.7307	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	1.284	0.1041	pCi/g	0.1165	0.200	609.5	4	1.419	IDENTIFIED	6.246	<input type="checkbox"/>
Cadmium-109	INT	3.119	0.4691	pCi/g	1.163	Y	87.28	3	1.19	IDENTIFIED	14.29	<input checked="" type="checkbox"/> UI
Cerium-143		446.9	81	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.1283	0.03207	pCi/g	0.08873	0.100	0	8	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.1132	0.03569	pCi/g	0.05841	0.100	662.8	2	0.8581	IDENTIFIED	31.2	<input type="checkbox"/>
Gross Gamma		10.23	1.584	pCi/g	3.581	N	0					<input type="checkbox"/>
Iodine-123	HE	2.96E+06	2.08E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>

Cerium-143		670.8	100.9	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-137	✓	0.1311	0.02832	pCi/g 0.06161	0.100	661.6	2	1.195	IDENTIFIED 21.4	<input type="checkbox"/>
Gross Gamma		7.246	1.136	pCi/g 2.907	N		0			<input type="checkbox"/>
Iodine-133	HE	2043	2168	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	HE	1.05E+15	1.39E+15	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Krypton-85	HE	14.99	4.039	pCi/g 13.62	N	0	12	0	NOT_IDENTI 0	<input type="checkbox"/>
Lead-212	✓	1.227	0.06503	pCi/g 0.08625	0.100	238.6	4	1.225	IDENTIFIED 3.879	<input type="checkbox"/>
Lead-214	✓	1.106	0.08254	pCi/g 0.1053	0.100	351.9	4	1.388	IDENTIFIED 6.221	<input type="checkbox"/>
Lutetium-177	HE	2.421	0.5937	pCi/g 1.825	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	HE	0.6083	0.1426	pCi/g 0.3981	N	87.17	3	1.602	IDENTIFIED 20.58	<input type="checkbox"/>
Niobium-95m	HE	0.2655	0.06997	pCi/g 0.2245	N	0	12	0	NOT_IDENTI 0	<input type="checkbox"/>
Niobium-97	HE	27300	37400	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212	NR	1.227	0.06503	pCi/g 0.08625	N	238.6	4	1.225	IDENTIFIED 3.879	<input type="checkbox"/>
Polonium-214	NR	1.106	0.08254	pCi/g 0.1053	N	351.9	4	1.388	IDENTIFIED 6.221	<input type="checkbox"/>
Polonium-216	NR	1.227	0.06503	pCi/g 0.08625	N	238.6	4	1.225	IDENTIFIED 3.879	<input type="checkbox"/>
Polonium-218	NR	1.106	0.08254	pCi/g 0.1053	N	351.9	4	1.388	IDENTIFIED 6.221	<input type="checkbox"/>
Potassium-40	✓	20.67	1.067	pCi/g 0.4917	1.00	1461	1	2.072	IDENTIFIED 3.574	<input type="checkbox"/>
Radium-224	NR	3.389	0.6051	pCi/g 0.9808	Y	241.5	1	1.752	IDENTIFIED 17.63	<input checked="" type="checkbox"/> UI
Radium-226	✓	0.9889	0.08567	pCi/g 0.0984	Y	609.5	4	1.678	IDENTIFIED 7.72	<input type="checkbox"/>
Radium-228	✓	1.555	0.1564	pCi/g 0.1829	0.500	911.8	3	1.595	IDENTIFIED 8.318	<input type="checkbox"/>
Sodium-24	HE	1.01E+05	2.24E+05	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Strontium-85	LP	0.07666	0.02066	pCi/g 0.06968	Y	0	12	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	✓	0.3631	0.03685	pCi/g 0.05241	0.080	583.5	1	1.362	IDENTIFIED 9.561	<input type="checkbox"/>
Thorium-228	NR	1.246	0.066	pCi/g 0.08753	N	238.6	4	1.225	IDENTIFIED 3.879	<input type="checkbox"/>
Thorium-230	NR	0.9889	0.08567	pCi/g 0.0984	N	609.5	4	1.678	IDENTIFIED 7.72	<input type="checkbox"/>
Thorium-232	NR	1.555	0.1564	pCi/g 0.1829	N	911.8	3	1.595	IDENTIFIED 8.318	<input type="checkbox"/>
Thorium-234	✓	2.055	0.7261	pCi/g 1.952	2.00	63.11	2	1.485	IDENTIFIED 34.24	<input type="checkbox"/>
Tin-126	HE	0.2072	0.04361	pCi/g 0.1375	N	87.17	3	1.602	IDENTIFIED 20.58	<input type="checkbox"/>
Titanium-44	LP	0.2744	0.02405	pCi/g 0.07707	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		6.1622	2.16E-06	ug/g 2.9062	N		0			<input type="checkbox"/>
Uranium-234	NR	0.9889	0.08567	pCi/g 0.0984	N	609.5	4	1.678	IDENTIFIED 7.72	<input type="checkbox"/>
Uranium-238	HE	2.055	0.7261	pCi/g 1.952	N	63.11	2	1.485	IDENTIFIED 34.24	<input type="checkbox"/>
Zirconium-97		2.09E+06	7.20E+05	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202015435		22-JAN-10 09:49	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	60.77	69.49	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135	HE	6.69E+06	3.99E+06	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>
Niobium-97	HE	10.8	10.35	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>
Sodium-24	HE	11.92	37.28	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>
Technetium-99m	HE	1.42E+06	4.74E+06	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>
Zirconium-97		721.8	231.5	pCi/g 0	N	0	6	0	SHORT_HLIF 0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202015436	07-JAN-10 12:00	22-JAN-10 10:24	14.9	DUP	LOAD	1		LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	0.8929	0.103	pCi/g 0.3424	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Americium-243	NR	0.1531	0.02255	pCi/g 0.06281	N	74.94	1	0.9782	IDENTIFIED 14.17	<input type="checkbox"/>
Annihilation Rad.	HE	0.07005	0.024	pCi/g 0.03505	N	511	1	1.788	IDENTIFIED 33.94	<input type="checkbox"/>
Barium-137m	NR	0.2753	0.02948	pCi/g 0.0473	N	661.7	2	1.619	IDENTIFIED 9.461	<input type="checkbox"/>
Beryllium-7	HE	0.4493	0.1681	pCi/g 0.4332	N	477.4	1	1.553	IDENTIFIED 37.09	<input type="checkbox"/>
Bismuth-211	NR	2.055	0.176	pCi/g 0.2434	Y	351.8	4	1.072	IDENTIFIED 7.104	<input checked="" type="checkbox"/> UI
Bismuth-212	HE	0.6001	0.1978	pCi/g 0.4618	N	0	9	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214	✓	0.6425	0.0667	pCi/g 0.07519	0.200	609.1	4	1.337	IDENTIFIED 8.765	<input type="checkbox"/>
Cerium-143	✓	205.1	55.1	pCi/g 0	N	0	9	0	SHORT_HLIF 0	<input type="checkbox"/>
Cesium-137	✓	0.291	0.03117	pCi/g 0.05	0.100	661.7	2	1.619	IDENTIFIED 9.461	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

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Uranium-234	0.8395	0.1262	pCi/g	0.2035	N	609.2	4	1.383	IDENTIFIED	13.77	<input type="checkbox"/>
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*** = Number of isotopes identified with a keyline at this energy.

GEL QUALS

Batch ID: 941635

Report run on: January 25, 2010 11:23 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244597001-1 22-JAN-2010 07:38	Bismuth-211	UI	UI	UI	Data rejected due to interference.		1.808			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.608			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1033			
244600001-1 22-JAN-2010 07:54	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.422			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.925			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1001		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.194			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.0658			
244600002-1 22-JAN-2010 07:55	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.126			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.5			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.821			
	Thorium-234	UI	UI	UI	Data rejected due to high counting uncertainty.		1.296		2	2
244600003-1 22-JAN-2010 07:55	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.884			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.525			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.18			
	Thorium-234	UI	UI	UI	Data rejected due to high counting uncertainty.		1.972		2	2
244600004-1 22-JAN-2010 07:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.349			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.169			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1205		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.368			

GEL QUALS

Batch ID: 941635

Report run on: January 25, 2010 11:23 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244600005-1 22-JAN-2010 07:57	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.002			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.136			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.839			
244600006-1 22-JAN-2010 08:05	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.011			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.091			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.918			
	Radium-228	UI	UI	UI	Data rejected due to low abundance.		1.844		.5	.5
244600007-1 22-JAN-2010 08:05	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.435			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.775			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.397			
244600008-1 22-JAN-2010 08:35	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.695			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.026			
	Radium-224	UI	UI	UI	Data rejected due to interference.i		4.462			
244600009-1 22-JAN-2010 08:36	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.235			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.328			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.472			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09202			
244600010-1 22-JAN-2010 08:37	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.091			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.793			

GEL QUALS

Batch ID: 941635

Report run on: January 25, 2010 11:23 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244600010-1 22-JAN-2010 08:37	Radium-224	UI	UI	UI	Data rejected due to interference.		5.332			
244600011-1 22-JAN-2010 08:37	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.743			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.802			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1102		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.031			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1232			
244600012-1 22-JAN-2010 08:49	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.872			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.119			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1283		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.352			
244600013-1 22-JAN-2010 08:50	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.711			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.764			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.4			
244612001-1 22-JAN-2010 09:02	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.359			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.888			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.558			
	Uranium-235				Data rejected due to no valid peak		0.3719			
244613001-1 22-JAN-2010 09:03	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.179			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.107			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.389			

GEL QUALS

Batch ID: 941635

Report run on: January 25, 2010 11:23 AM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
244613001-1 22-JAN-2010 09:03	Strontium-85	UI	UI	UI Data rejected due to low abundance.		.07686			
1202015436-1 DUP 22-JAN-2010 10:24	Bismuth-211	UI	UI	UI Data rejected due to interference.		2.055			
	Radium-224	UI	UI	UI Data rejected due to interference.		2.251			
	Radium-228	UI	UI	UI Data rejected due to low abundance.		.8929		.5	.5

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
941635	244612001	SAMPLE	22-JAN-10	Zirconium-97	2.98E+06	1.01E+06	pCi/g	0	N
941635	244613001	SAMPLE	22-JAN-10	Bismuth-211	3.179	0.2223	pCi/g	0.1645	Y
				Bismuth-214	0.9889	0.08567	pCi/g	0.04923	0.200
				Cadmium-109	2.107	0.4435	pCi/g	0.6774	Y
				Cerium-143	870.8	100.9	pCi/g	0	N
				Cesium-134	0.07488	0.02125	pCi/g	0.03997	0.100
				Cesium-137	0.1311	0.02832	pCi/g	0.03082	0.100
				Gross Gamma	7.246	1.136	pCi/g	1.409	N
				Iodine-133	2043	2168	pCi/g	0	N
				Iodine-135	1.05E+15	1.39E+15	pCi/g	0	N
				Krypton-85	14.99	4.039	pCi/g	6.816	N
				Lead-212	1.227	0.06503	pCi/g	0.04315	0.100
				Lead-214	1.106	0.08254	pCi/g	0.05266	0.100
				Mercury-203	0.03432	0.01805	pCi/g	0.03287	0.100
				Niobium-97	27300	37400	pCi/g	0	N
				Potassium-40	20.67	1.067	pCi/g	0.246	1.00
				Protactinium-234m	5.116	2.028	pCi/g	3.694	N
				Radium-224	3.389	0.6051	pCi/g	0.4907	Y
				Radium-226	0.9889	0.08567	pCi/g	0.04923	Y
				Radium-228	1.555	0.1564	pCi/g	0.99153	0.500
				Sodium-24	1.01E+05	2.24E+05	pCi/g	0	N
				Strontium-85	0.07666	0.02066	pCi/g	0.03486	Y
				Thallium-208	0.3631	0.03685	pCi/g	0.02622	0.080
				Thorium-234	2.055	0.7261	pCi/g	0.9765	2.00
				Zirconium-97	2.08E+06	7.20E+05	pCi/g	0	N
941635	1202015435	MB	22-JAN-10	Iodine-123	60.77	68.49	pCi/g	0	N
				Iodine-135	6.69E+06	3.99E+06	pCi/g	0	N
				Krypton-85	7.946	2.294	pCi/g	4.064	N
				Niobium-97	10.8	10.35	pCi/g	0	N
				Radon-220	11.55	5.827	pCi/g	11.07	N
				Sodium-24	11.92	37.28	pCi/g	0	N
				Strontium-85	0.03757	0.01085	pCi/g	0.01922	Y
				Technetium-99m	1.42E+06	4.74E+06	pCi/g	0	N
				Thorium-227	0.1568	0.08344	pCi/g	0.1567	Y
				Zirconium-97	721.8	231.5	pCi/g	0	N
941635	1202015436	DUP	22-JAN-10	Bismuth-211	2.055	0.176	pCi/g	0.1218	Y
				Bismuth-214	0.6425	0.0667	pCi/g	0.03762	0.200

M.P. 1/25/10

M.P. 1/25/10

Blank Results Greater Than CSU

Batch ID	Blank ID & Run Seq.	Run Date	Parmname	Result Units	1 Sigma 1 Sigma			RDL	MDA	Report Parm?
					1 Sigma TPU	TPU x1.65	TPU x2			
941635	1202015435-1	22-JAN-10 09:49	Actinium-227	0.157 pCi/g	0.0831	0.137	0.166		0.3131	N
941635	1202015435-1	22-JAN-10 09:49	Actinium-228	0.0373 pCi/g	0.032	0.0528	0.0641		0.1176	N
941635	1202015435-1	22-JAN-10 09:49	Barium-140	0.0316 pCi/g	0.0328	0.0541	0.0656		0.1176	N
941635	1202015435-1	22-JAN-10 09:49	Bismuth-207	0.00933 pCi/g	0.0105	0.0174	0.021		0.03833	N
941635	1202015435-1	22-JAN-10 09:49	Cadmium-115	0.454 pCi/g	0.217	0.358	0.434		0.8302	N
941635	1202015435-1	22-JAN-10 09:49	Cerium-143	1.62 pCi/g	0.551	0.91	1.1		2.092	N
941635	1202015435-1	22-JAN-10 09:49	Cesium-136	0.0138 pCi/g	0.015	0.0248	0.03		0.05472	N
941635	1202015435-1	22-JAN-10 09:49	Curium-247	0.0152 pCi/g	0.0075 2	0.0124	0.015		0.02876	N
941635	1202015435-1	22-JAN-10 09:49	Gadolinium-153	0.0128 pCi/g	0.0151	0.0249	0.0302		0.0546	N
941635	1202015435-1	22-JAN-10 09:49	Iodine-123	60.8 pCi/g	69.5	115	139		0	N
941635	1202015435-1	22-JAN-10 09:49	Iodine-135	6.69E+06 pCi/g	399000 0	658000 0	798000 0		0	N
941635	1202015435-1	22-JAN-10 09:49	Krypton-85	7.95 pCi/g	2.29	3.79	4.59		8.124	N
941635	1202015435-1	22-JAN-10 09:49	Lead-212	0.0257 pCi/g	0.0149	0.0246	0.0298	0.100	0.05173	Y
941635	1202015435-1	22-JAN-10 09:49	Niobium-94	0.00878 pCi/g	0.0082 5	0.0136	0.0165		0.02931	N
941635	1202015435-1	22-JAN-10 09:49	Niobium-97	10.8 pCi/g	10.4	17.1	20.7		0	N
941635	1202015435-1	22-JAN-10 09:49	Polonium-212	0.0257 pCi/g	0.0149	0.0246	0.0298		0.05173	N
941635	1202015435-1	22-JAN-10 09:49	Polonium-216	0.0257 pCi/g	0.0149	0.0246	0.0298		0.05173	N
941635	1202015435-1	22-JAN-10 09:49	Potassium-40	0.137 pCi/g	0.123	0.203	0.246	1.00	0.4425	Y
941635	1202015435-1	22-JAN-10 09:49	Protactinium-231	0.722 pCi/g	0.346	0.57	0.691		1.305	N
941635	1202015435-1	22-JAN-10 09:49	Radium-228	0.0373 pCi/g	0.032	0.0528	0.0641	0.500	0.1176	Y
941635	1202015435-1	22-JAN-10 09:49	Radon-219	0.155 pCi/g	0.0835	0.138	0.167		0.3152	N
941635	1202015435-1	22-JAN-10 09:49	Radon-220	11.6 pCi/g	5.83	9.61	11.7		22.12	N
941635	1202015435-1	22-JAN-10 09:49	Rhenium-188	0.0278 pCi/g	0.0329	0.0542	0.0657		0.1164	N
941635	1202015435-1	22-JAN-10 09:49	Rhodium-102	0.00989 pCi/g	0.0062	0.0102	0.0124		0.02316	N
941635	1202015435-1	22-JAN-10 09:49	Silver-110m	0.00748 pCi/g	0.0071 7	0.0118	0.0143		0.02579	N
941635	1202015435-1	22-JAN-10 09:49	Strontium-85	0.0376 pCi/g	0.0109	0.0179	0.0217		0.03841	Y
941635	1202015435-1	22-JAN-10 09:49	Tellurium-123m	0.005 pCi/g	0.0057 2	0.0094 4	0.0114		0.02028	N
941635	1202015435-1	22-JAN-10 09:49	Thallium-200	0.817 pCi/g	0.755	1.25	1.51		2.757	N
941635	1202015435-1	22-JAN-10 09:49	Thallium-201	0.441 pCi/g	0.243	0.401	0.486		0.8927	N
941635	1202015435-1	22-JAN-10 09:49	Thallium-202	0.0153 pCi/g	0.0101	0.0167	0.0202		0.03747	N
941635	1202015435-1	22-JAN-10 09:49	Thallium-208	0.00981 pCi/g	0.0090 6	0.0149	0.0181	0.080	0.03127	Y
941635	1202015435-1	22-JAN-10 09:49	Thorium-227	0.157 pCi/g	0.0834	0.138	0.167		0.3131	Y
941635	1202015435-1	22-JAN-10 09:49	Thorium-228	0.0259 pCi/g	0.015	0.0248	0.03		0.05211	N
941635	1202015435-1	22-JAN-10 09:49	Thorium-232	0.0373 pCi/g	0.032	0.0528	0.0641		0.1176	N

Blank Results Greater Than CSU

Batch ID	Blank ID & Run Seq.	Run Date	Parmname	Result Units	1 Sigma			RDL	MDA	Report Parm?
					1 Sigma TPU	TPU x1.65	TPU x2			
941635	1202015435-1	22-JAN-10 09:49	Zirconium-88	0.0103 pCi/g	0.0056 7	0.0093 6	0.0113		0.02154	N
941635	1202015435-1	22-JAN-10 09:49	Zirconium-95	0.0159 pCi/g	0.0139	0.0229	0.0278		0.05011	N
941635	1202015435-1	22-JAN-10 09:49	Zirconium-97	722 pCi/g	232	382	463		0	N

VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 09:39:28.34

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244597001.CNF;1
Sample date       : 7-JAN-2010 12:00:00. Acquisition date : 22-JAN-2010 07:38:16
Sample ID        : G244597001      Sample quantity   : 1.55800E+02 GRAM
Detector name    : GAM14           Detector geometry: CAN
Elapsed live time: 0 02:00:00.00   Elapsed real time: 0 02:00:01.33  0.0%
Energy tolerance : 1.50000 keV     Analyst Initials : MXR1
Abundance limit  : 75.00000        Sensitivity      : 5.00000
Batch ID        : 941635           Detector SN#     :
Matrix Spike ID  :                 LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.03*	55	475	1.85	91.64	87	12	7.62E-03	82.6	
2	0	63.33*	100	540	1.12	126.22	122	10	1.39E-02	45.4	
3	2	75.03	348	644	1.69	149.59	144	14	4.84E-02	15.3	1.36E+00
4	2	77.24*	447	412	1.20	154.01	144	14	6.20E-02	9.6	
5	5	87.11	108	528	1.73	173.73	170	21	1.51E-02	35.9	2.79E+00
6	5	92.90*	246	562	1.80	185.29	170	21	3.42E-02	21.3	
7	0	186.11*	165	268	1.40	371.54	367	10	2.29E-02	21.3	
8	2	238.58*	920	195	1.59	476.39	469	20	1.28E-01	4.5	2.60E+00
9	2	241.68	236	183	1.87	482.58	469	20	3.28E-02	16.1	
10	0	294.90	274	214	1.45	588.94	583	12	3.81E-02	12.2	
11	0	328.15	124	187	1.89	655.38	648	14	1.72E-02	25.4	
12	0	338.21	190	124	1.28	675.48	671	10	2.64E-02	13.1	
13	0	352.07	406	237	1.44	703.20	695	16	5.63E-02	9.9	
14	0	462.79	76	121	1.84	924.50	919	12	1.06E-02	31.0	
15	0	477.06	57	119	3.76	953.02	945	14	7.89E-03	42.9	
16	0	511.49*	190	128	2.47	1021.84	1011	23	2.64E-02	19.1	
17	0	569.68*	137	88	2.24	1138.16	1130	16	1.91E-02	18.2	
18	0	583.37*	257	80	1.38	1165.54	1160	11	3.58E-02	9.3	
19	0	609.43*	405	104	1.71	1217.63	1209	19	5.62E-02	7.9	
20	0	661.95	278	85	1.55	1322.63	1316	16	3.87E-02	9.5	
21	0	727.80*	50	67	1.62	1454.30	1449	10	6.94E-03	34.8	
22	0	795.21	42	85	1.17	1589.10	1583	13	5.76E-03	48.2	
23	0	860.47	71	38	1.34	1719.59	1712	14	9.81E-03	22.1	
24	0	912.06*	179	107	1.50	1822.77	1816	16	2.49E-02	15.1	
25	0	969.60*	108	43	1.07	1937.86	1933	10	1.49E-02	15.5	
26	0	1120.72	90	80	1.76	2240.13	2230	16	1.25E-02	24.6	
27	0	1461.77*	1598	26	2.06	2922.52	2914	17	2.22E-01	2.6	
28	0	1731.23	19	16	1.67	3461.87	3453	16	2.65E-03	52.1	
29	0	1764.96*	70	4	3.03	3529.39	3520	18	9.66E-03	14.7	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244597001.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 7-JAN-2010 12:00:00 Acquisition date : 22-JAN-2010 07:38:16
 Sample ID : G244597001 Sample quantity : 155.80 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA14 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.33 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
BE-7	+	477.59	*	4.867E-01	4.186E-01	3.843E-01	2.590E-02	1.267
K-40	+	1460.81	*	2.982E+01	2.668E+00	4.473E-01	3.248E-02	66.665
CD-109	+	88.03	*	1.019E+00	7.382E-01	9.569E-01	8.367E-02	1.065
SN-126	+	64.28		5.408E-01	4.969E-01	5.332E-01	7.598E-02	1.014
	+	86.94		4.168E-01	3.457E-01	4.287E-01	1.773E-01	0.972
	+	87.57	*	1.002E-01	7.259E-02	9.440E-02	8.214E-03	1.062
BA-137M	+	661.65	*	3.024E-01	6.018E-02	3.643E-02	2.166E-03	8.300
CS-137	+	661.65	*	3.197E-01	6.364E-02	3.851E-02	2.299E-03	8.300
TL-208		277.35		3.485E-01	2.925E-01	5.100E-01	5.393E-02	0.683
	+	510.84		6.863E-01	2.708E-01	1.654E-01	1.687E-02	4.148
	+	583.14	*	2.672E-01	5.316E-02	4.459E-02	3.050E-03	5.991
	+	860.37		7.025E-01	3.175E-01	3.559E-01	3.348E-02	1.974
BI-210	+	46.50	*	1.863E+00	3.080E+00	2.758E+00	2.045E-01	0.676
PB-210	+	46.50	*	1.863E+00	3.080E+00	2.758E+00	2.045E-01	0.676
PO-210	+	46.50	*	1.863E+00	3.079E+00	2.758E+00	1.730E-01	0.676
BI-211		72.87		5.652E+00	2.612E+00	3.991E+00	2.941E-01	1.416
	+	351.07	*	1.808E+00	3.750E-01	2.463E-01	1.560E-02	7.342
PB-212	+	74.81		1.285E+00	4.234E-01	3.891E-01	4.666E-02	3.303
	+	77.11		9.466E-01	1.963E-01	2.058E-01	1.584E-02	4.600
	+	87.30		4.636E-01	3.389E-01	4.375E-01	5.791E-02	1.060
	+	238.63	*	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
		300.09		9.913E-01	6.533E-01	1.037E+00	8.575E-02	0.956
PO-212	+	74.81		1.285E+00	4.234E-01	3.891E-01	4.666E-02	3.303
	+	77.11		9.466E-01	1.963E-01	2.058E-01	1.584E-02	4.600
	+	87.30		4.636E-01	3.389E-01	4.375E-01	5.791E-02	1.060
		115.19		3.868E-01	2.790E+00	4.521E+00	3.290E-01	0.086
	+	238.63	*	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
		300.09		9.913E-01	6.533E-01	1.037E+00	8.575E-02	0.956
BI-214	+	609.31	*	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
	+	1120.29		9.428E-01	4.719E-01	4.015E-01	3.720E-02	2.348
	+	1764.49		1.002E+00	2.999E-01	2.293E-01	1.375E-02	4.369
PB-214	+	74.81		2.214E+00	7.186E-01	6.704E-01	7.074E-02	3.303
	+	77.11		1.623E+00	3.585E-01	3.528E-01	3.821E-02	4.600
	+	87.30		7.943E-01	5.784E-01	7.495E-01	8.696E-02	1.060

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		1.375E+00	4.559E-01	4.016E-01	3.226E-02	3.425
	+	295.21		7.206E-01	1.867E-01	1.746E-01	1.493E-02	4.127
	+	351.92	*	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327
	+	74.81		2.214E+00	7.186E-01	6.704E-01	7.074E-02	3.303
	+	77.11		1.623E+00	3.585E-01	3.528E-01	3.821E-02	4.600
	+	87.30		7.943E-01	5.784E-01	7.495E-01	8.696E-02	1.060
PO-216	+	241.98		1.375E+00	4.559E-01	4.016E-01	3.226E-02	3.425
	+	295.21		7.206E-01	1.867E-01	1.746E-01	1.493E-02	4.127
	+	351.92	*	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327
	+	74.81		1.285E+00	4.234E-01	3.891E-01	4.666E-02	3.303
	+	77.11		9.466E-01	1.963E-01	2.058E-01	1.584E-02	4.600
	+	87.30		4.636E-01	3.389E-01	4.375E-01	5.791E-02	1.060
PO-218	+	238.63	*	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
	+	300.09		9.913E-01	6.533E-01	1.037E+00	8.575E-02	0.956
	+	74.81		2.214E+00	7.186E-01	6.704E-01	7.074E-02	3.303
	+	77.11		1.623E+00	3.585E-01	3.528E-01	3.821E-02	4.600
	+	87.30		7.943E-01	5.784E-01	7.495E-01	8.696E-02	1.060
	+	241.98		1.375E+00	4.559E-01	4.016E-01	3.226E-02	3.425
RA-224	+	295.21		7.206E-01	1.867E-01	1.746E-01	1.493E-02	4.127
	+	351.92	*	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327
	+	240.98	*	2.608E+00	8.520E-01	7.591E-01	4.363E-02	3.435
	+	609.31	*	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
	+	1120.29		9.428E-01	4.719E-01	4.015E-01	3.720E-02	2.348
	+	1764.49		1.002E+00	2.999E-01	2.293E-01	1.375E-02	4.369
AC-228	+	338.32		9.328E-01	4.519E-01	2.792E-01	1.138E-01	3.340
	+	911.07	*	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
	+	969.11		8.975E-01	3.478E-01	3.862E-01	9.018E-02	2.324
	+	338.32		9.328E-01	4.519E-01	2.792E-01	1.138E-01	3.340
	+	911.07	*	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
	+	969.11		8.975E-01	3.478E-01	3.862E-01	9.018E-02	2.324
TH-228	+	74.81		1.304E+00	4.124E-01	3.949E-01	3.000E-02	3.303
	+	77.11		9.607E-01	1.992E-01	2.088E-01	1.608E-02	4.600
	+	87.30		4.705E-01	3.407E-01	4.440E-01	3.850E-02	1.060
	+	238.63	*	9.062E-01	1.047E-01	6.773E-02	4.934E-03	13.379
	+	300.09		1.006E+00	8.856E-01	1.052E+00	6.202E-01	0.956
	+	609.31	*	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
TH-230	+	1120.29		9.428E-01	4.719E-01	4.015E-01	3.720E-02	2.348
	+	1764.49		1.002E+00	2.999E-01	2.293E-01	1.375E-02	4.369
	+	338.32		9.328E-01	2.502E-01	2.792E-01	1.604E-02	3.340
	+	911.07	*	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
	+	969.11		8.975E-01	3.478E-01	3.862E-01	9.018E-02	2.324
	+	63.29	*	1.366E+00	1.262E+00	1.384E+00	2.379E-01	0.987
TH-234	+	92.38		1.497E+00	6.910E-01	6.266E-01	1.126E-01	2.389
	+	609.31	*	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
	+	1120.29		9.428E-01	4.719E-01	4.015E-01	3.720E-02	2.348
	+	1764.49		1.002E+00	2.999E-01	2.293E-01	1.375E-02	4.369
	+	86.50	*	2.944E-01	2.216E-01	2.868E-01	6.409E-02	1.027
	+	95.87		5.131E-01	8.378E-01	1.208E+00	2.955E-01	0.425
U-238	+	63.29	*	1.366E+00	1.262E+00	1.384E+00	2.379E-01	0.987

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	92.38		1.497E+00	6.488E-01	6.266E-01	5.242E-02	2.389
	+	74.67	*	2.083E-01	6.583E-02	6.322E-02	4.744E-03	3.295
	+	86.72		1.104E+01	7.993E+00	1.137E+01	9.793E-01	0.971
		117.66		-2.472E+00	3.020E+00	4.692E+00	3.383E-01	-0.527
ANH-511		142.18		8.982E+00	1.409E+01	2.316E+01	1.457E+00	0.388
	+	511.00	*	1.482E-01	5.717E-02	3.575E-02	2.100E-03	4.147

---- 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	*	-3.521E-02	3.799E-02	5.668E-02	3.702E-03	-0.621
NA-24		1368.53	*	2.680E-02	3.799E-02	Half-Life too short		
AL-26		1129.67		1.837E-01	1.429E+00	2.392E+00	1.510E-01	0.077
		1808.65	*	1.649E-04	2.290E-02	3.706E-02	2.148E-03	0.004
TI-44		67.85		-4.922E-02	3.786E-02	5.002E-02	3.521E-03	-0.984
	+	78.38	*	1.747E-01	3.623E-02	5.430E-02	4.240E-03	3.217
SC-46		889.25	*	-3.296E-02	3.286E-02	5.000E-02	4.620E-03	-0.659
	+	1120.51		1.610E-01	7.988E-02	9.820E-02	6.359E-03	1.639
V-48		944.10		2.919E-01	7.333E-01	1.264E+00	1.129E-01	0.231
		983.50	*	-1.633E-02	6.239E-02	1.017E-01	8.633E-03	-0.161
		1312.09		-6.770E-02	6.812E-02	9.933E-02	6.864E-03	-0.682
CR-51		320.08	*	2.570E-02	2.853E-01	4.499E-01	2.907E-02	0.057
MN-52		744.21		2.354E-02	1.848E-01	3.011E-01	2.125E-02	0.078
		848.13		8.806E-01	5.152E+00	8.757E+00	7.525E-01	0.101
		935.52		3.729E-01	2.074E-01	3.895E-01	3.515E-02	0.957
		1246.25		3.462E+00	6.036E+00	1.042E+01	6.490E-01	0.332
		1333.61		2.851E-01	3.836E+00	6.355E+00	4.529E-01	0.045
		1434.06	*	-1.096E-01	1.453E-01	2.038E-01	1.428E-02	-0.538
MN-54		834.83	*	1.306E-02	2.908E-02	5.046E-02	4.232E-03	0.259
CO-56		846.75	*	-7.869E-03	3.010E-02	4.932E-02	4.227E-03	-0.160
		977.42		1.284E+00	2.647E+00	4.492E+00	3.847E-01	0.286
		1037.82		1.019E-01	2.696E-01	4.620E-01	3.827E-02	0.221
		1175.09		7.277E-01	1.905E+00	3.246E+00	1.794E-01	0.224
		1238.25		1.405E-01	7.988E-02	1.468E-01	9.536E-03	0.957
		1360.21		1.708E-01	7.334E-01	1.241E+00	8.814E-02	0.138
		1771.40		1.079E-02	1.886E-01	2.656E-01	1.585E-02	0.041
CO-57		122.06	*	-2.699E-03	2.047E-02	3.277E-02	2.332E-03	-0.082
		136.48		-1.215E-01	1.588E-01	2.459E-01	1.805E-02	-0.494
CO-58		810.76	*	-3.134E-02	3.170E-02	4.568E-02	3.676E-03	-0.686
FE-59		142.65		1.679E+00	2.142E+00	3.540E+00	2.220E-01	0.474
		192.34		-2.742E-01	7.520E-01	1.118E+00	1.306E-01	-0.245
		1099.22	*	-2.222E-02	8.207E-02	1.330E-01	1.024E-02	-0.167
		1291.56		-1.038E-02	1.014E-01	1.650E-01	1.343E-02	-0.063
CO-60		1173.22		-1.706E-02	3.884E-02	6.175E-02	3.401E-03	-0.276
		1332.49	*	-1.822E-02	3.251E-02	4.980E-02	3.549E-03	-0.366
ZN-65		1115.52	*	4.347E-02	8.628E-02	1.304E-01	8.568E-03	0.333
GE-68		1077.35	*	-8.387E-01	1.066E+00	1.641E+00	1.179E-01	-0.511
AS-73		53.44	*	-1.119E-01	5.028E-01	7.862E-01	5.125E-02	-0.142

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74	595.88	*		-3.432E-02	7.604E-02	1.194E-01	7.143E-03	-0.287
	634.78			-1.188E-01	2.651E-01	4.126E-01	2.465E-02	-0.288
SE-75	66.05			-1.789E+00	3.741E+00	5.212E+00	4.740E-01	-0.343
	96.73			1.467E-01	6.604E-01	9.440E-01	1.254E-01	0.155
	121.11			-5.082E-02	1.093E-01	1.724E-01	1.744E-02	-0.295
	136.00			-2.313E-02	3.004E-02	4.654E-02	3.074E-03	-0.497
	198.60			-1.480E-01	1.350E+00	2.212E+00	1.531E-01	-0.067
	264.65	*		-1.620E-03	3.434E-02	5.612E-02	3.295E-03	-0.029
	279.53			4.253E-02	8.231E-02	1.406E-01	8.852E-03	0.303
	303.91			-8.404E-01	1.605E+00	2.595E+00	2.480E-01	-0.324
	400.65			4.623E-02	1.973E-01	3.300E-01	2.939E-02	0.140
BR-77	87.88		+	2.020E+02	1.463E+02	2.155E+02	1.882E+01	0.937
	200.40			3.289E+01	1.108E+02	1.886E+02	1.049E+01	0.174
	239.00		+	1.314E+02	1.400E+01	2.263E+01	1.299E+00	5.808
	249.79			-2.258E+01	4.478E+01	7.306E+01	4.220E+00	-0.309
	281.68			-9.066E+01	6.418E+01	9.913E+01	5.781E+00	-0.915
	297.23			1.162E+02	5.029E+01	8.138E+01	4.747E+00	1.427
	303.76			-6.223E+01	1.259E+02	2.042E+02	1.190E+01	-0.305
	439.47			3.029E+01	1.019E+02	1.707E+02	9.651E+00	0.177
	484.57			2.754E+01	1.653E+02	2.668E+02	1.550E+01	0.103
	520.65	*		-2.785E+00	9.120E+00	1.248E+01	7.357E-01	-0.223
	574.64			-1.124E+02	1.714E+02	2.225E+02	1.328E+01	-0.505
	578.91			6.383E+01	6.325E+01	9.917E+01	5.924E+00	0.644
	585.48			8.298E+02	1.839E+02	3.323E+02	1.986E+01	2.497
	755.35			6.780E+01	1.256E+02	2.113E+02	1.524E+01	0.321
	817.79			4.369E+01	9.399E+01	1.638E+02	1.331E+01	0.267
SR-82	698.33			-2.687E+01	2.637E+01	3.867E+01	2.486E+00	-0.695
	776.49	*		-4.538E-02	2.888E-01	4.572E-01	3.437E-02	-0.099
	1395.20			4.270E+00	7.730E+00	1.366E+01	9.649E-01	0.313
RB-83	520.41	*		-2.004E-02	6.562E-02	8.980E-02	5.293E-03	-0.223
	529.64			-7.117E-02	8.450E-02	1.291E-01	7.632E-03	-0.551
	552.65			-3.429E-03	1.521E-01	2.475E-01	1.472E-02	-0.014
RB-84	881.50	*		8.841E-03	5.936E-02	1.005E-01	9.164E-03	0.088
KR-85	513.99	*		2.022E+01	6.470E+00	1.217E+01	7.158E-01	1.661
SR-85	513.99	*		1.033E-01	3.307E-02	6.220E-02	3.659E-03	1.661
RB-86	1076.63	*		-5.698E-01	6.706E-01	1.025E+00	7.380E-02	-0.556
Y-88	898.02			1.351E-02	3.559E-02	6.127E-02	5.771E-03	0.221
	1836.01	*		-1.055E-02	1.915E-02	2.550E-02	1.448E-03	-0.414
ZR-88	392.90	*		1.258E-02	2.313E-02	3.943E-02	2.147E-03	0.319
Y-91	1204.90	*		1.209E+01	1.764E+01	3.055E+01	1.777E+00	0.396
NB-94	702.63	*		3.038E-02	2.471E-02	4.395E-02	2.850E-03	0.691
	871.10			8.954E-03	2.662E-02	4.584E-02	4.104E-03	0.195
NB-95	765.79	*		2.201E-02	3.389E-02	5.737E-02	4.225E-03	0.384
NB-95M	235.69	*		3.536E-01	1.128E-01	1.869E-01	1.397E-02	1.892
ZR-95	724.18			1.597E-02	7.774E-02	1.109E-01	8.547E-03	0.144
	756.15	*		4.871E-02	5.784E-02	9.954E-02	8.211E-03	0.489
NB-97	657.90	*		-2.502E-02	5.784E-02	Half-Life too short		
	1024.50			-9.088E+00	5.784E-02	Half-Life too short		
ZR-97	254.15			-1.044E+00	5.784E-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
	355.39			1.015E+00	5.784E-02	Half-Life	too short	
	507.63	*		1.727E+00	5.784E-02	Half-Life	too short	
	602.52			-4.327E+00	5.784E-02	Half-Life	too short	
	1021.30			3.477E+00	5.784E-02	Half-Life	too short	
	1147.95			1.619E+00	5.784E-02	Half-Life	too short	
	1362.66			1.486E+00	5.784E-02	Half-Life	too short	
	1750.46			1.655E+00	5.784E-02	Half-Life	too short	
MO-99	140.51			7.727E+00	1.941E+01	3.133E+01	8.482E+00	0.247
	181.06			8.517E+00	1.315E+01	1.992E+01	3.391E+00	0.428
	366.43			-3.902E+01	6.148E+01	9.779E+01	5.488E+00	-0.399
	739.58	*		3.832E+00	8.495E+00	1.421E+01	2.035E+00	0.270
	778.00			-1.805E+01	2.395E+01	3.551E+01	2.678E+00	-0.508
TC-99M	140.51	*		5.305E+09	2.395E+01	Half-Life	too short	
RH-101	127.23			-1.149E-02	2.652E-02	4.191E-02	2.883E-03	-0.274
	198.01	*		-3.175E-03	2.460E-02	4.024E-02	2.232E-03	-0.079
	325.23			2.018E-01	1.958E-01	3.030E-01	1.754E-02	0.666
RH-102	418.52			3.599E-02	2.151E-01	3.581E-01	1.993E-02	0.101
	475.06	*		2.457E-02	2.617E-02	4.043E-02	2.337E-03	0.608
	631.29			1.469E-02	4.249E-02	7.087E-02	4.234E-03	0.207
	697.49			-5.183E-02	5.909E-02	8.786E-02	5.638E-03	-0.590
	766.84			1.277E-01	8.583E-02	1.536E-01	1.133E-02	0.831
	1046.59			-1.049E-02	9.806E-02	1.614E-01	1.235E-02	-0.065
	1112.84			3.444E-03	2.170E-01	3.098E-01	2.047E-02	0.011
RU-103	497.08	*		3.332E-03	3.084E-02	5.087E-02	6.442E-03	0.065
+	610.33			8.518E+00	1.888E+00	2.055E+00	3.183E-01	4.144
RH-106	511.85	+		7.400E-01	2.854E-01	3.323E-01	1.953E-02	2.227
	621.84	*		-4.172E-02	2.469E-01	3.949E-01	4.671E-02	-0.106
	1050.47			-4.057E-01	2.038E+00	3.257E+00	2.474E-01	-0.125
RU-106	511.85	+		7.400E-01	2.854E-01	3.323E-01	1.953E-02	2.227
	621.84	*		-4.172E-02	2.469E-01	3.949E-01	2.361E-02	-0.106
	1050.47			-4.057E-01	2.038E+00	3.257E+00	2.474E-01	-0.125
AG-108M	433.93	*		-4.181E-03	2.367E-02	3.845E-02	2.362E-03	-0.109
	614.37			7.019E-03	3.030E-02	4.372E-02	2.824E-03	0.161
	722.95			-3.851E-02	3.886E-02	4.705E-02	3.382E-03	-0.818
AG-110M	657.75	*		-1.589E-02	3.220E-02	4.226E-02	2.669E-03	-0.376
	677.61			-2.655E-02	2.448E-01	3.922E-01	2.545E-02	-0.068
	706.67			-4.225E-02	1.640E-01	2.588E-01	1.773E-02	-0.163
	763.93			1.594E-02	1.323E-01	2.151E-01	1.640E-02	0.074
	884.67			1.371E-02	4.186E-02	7.185E-02	6.775E-03	0.191
	937.48			1.216E-01	9.456E-02	1.725E-01	1.605E-02	0.705
	1384.27			-1.188E-02	1.407E-01	2.282E-01	1.683E-02	-0.052
IN-111	171.28			-4.954E-01	7.189E-01	1.110E+00	5.986E-02	-0.446
	245.39	*		2.718E-01	7.846E-01	1.170E+00	6.741E-02	0.232
IN-113M	391.69	*		5.678E-03	3.289E-02	5.487E-02	3.211E-03	0.103
SN-113	391.69	*		5.678E-03	3.289E-02	5.487E-02	3.211E-03	0.103
IN-114M	190.27	*		1.245E-01	1.406E-01	2.173E-01	1.196E-02	0.573
CD-115	260.90			5.572E+01	8.785E+01	1.511E+02	8.772E+00	0.369
	492.35			-4.695E+00	2.550E+01	4.119E+01	2.401E+00	-0.114
	527.90	*		-1.392E+01	7.781E+00	1.081E+01	6.389E-01	-1.287

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M	156.02			1.630E-01	1.787E+00	2.872E+00	1.653E-01	0.057
	158.56	*		-1.204E-03	4.343E-02	6.940E-02	3.926E-03	-0.017
SB-122	563.90	*		1.089E+00	1.629E+00	2.462E+00	1.468E-01	0.442
	692.80			9.868E+00	3.098E+01	5.140E+01	3.266E+00	0.192
I-123	159.00	*		4.558E-01	3.098E+01	Half-Life too short		
	528.96			-2.502E+02	3.098E+01	Half-Life too short		
TE-123M	159.00	*		3.282E-03	2.262E-02	3.642E-02	2.083E-03	0.090
I-124	602.71	*		-5.663E-01	6.053E-01	7.614E-01	4.555E-02	-0.744
	722.78			-3.524E+00	3.881E+00	4.767E+00	3.222E-01	-0.739
	1325.50			1.186E+01	2.689E+01	4.634E+01	3.268E+00	0.256
	1376.25			1.610E+01	2.444E+01	4.292E+01	3.042E+00	0.375
	1509.49			1.407E+01	1.075E+01	2.080E+01	1.427E+00	0.677
	1691.02			4.107E-01	2.601E+00	4.355E+00	2.744E-01	0.094
SB-124	602.71			-3.447E-02	3.684E-02	4.634E-02	2.773E-03	-0.744
	645.85			2.036E-02	3.706E-01	6.034E-01	4.036E-02	0.034
	709.31			-1.566E+00	2.231E+00	3.379E+00	2.222E-01	-0.464
	713.82			-7.052E-01	1.479E+00	2.276E+00	2.437E-01	-0.310
	722.78			-3.109E-01	3.424E-01	4.206E-01	2.942E-02	-0.739
+	968.20			9.208E+00	2.957E+00	5.327E+00	4.619E-01	1.728
	1045.16			5.712E-02	2.160E+00	3.596E+00	2.760E-01	0.016
	1325.50			1.117E+00	2.534E+00	4.367E+00	3.080E-01	0.256
	1368.21			-4.157E-02	1.290E+00	2.105E+00	2.643E-01	-0.020
	1436.60			6.005E-01	2.378E+00	4.058E+00	2.842E-01	0.148
	1691.02	*		8.547E-03	5.413E-02	9.063E-02	6.127E-03	0.094
SB-125	427.89	*		3.074E-02	6.731E-02	1.141E-01	6.690E-03	0.269
+	463.38			5.347E-01	3.329E-01	4.318E-01	2.899E-02	1.238
	600.56			9.720E-02	1.515E-01	2.444E-01	1.678E-02	0.398
	635.90			-1.093E-01	1.985E-01	3.052E-01	2.118E-02	-0.358
TE-125M	109.28	*		-6.089E+00	7.451E+00	1.160E+01	1.089E+00	-0.525
I-126	388.63			-2.112E-01	1.514E-01	2.266E-01	1.238E-02	-0.932
	666.33	*		-8.064E-02	1.462E-01	1.887E-01	1.133E-02	-0.427
	753.82			-7.250E-03	1.167E+00	1.877E+00	1.350E-01	-0.004
SB-126	223.80			-1.095E+00	3.039E+00	5.020E+00	2.851E-01	-0.218
	278.60			1.484E+00	1.869E+00	3.227E+00	1.881E-01	0.460
	296.50			4.596E+00	1.496E+00	2.470E+00	1.441E-01	1.861
	414.70			-5.168E-02	5.709E-02	8.840E-02	4.906E-03	-0.585
	415.30			-3.924E+00	4.671E+00	7.259E+00	4.030E-01	-0.541
	555.20			-7.150E-01	2.933E+00	4.685E+00	2.788E-01	-0.153
	573.80			-3.570E-01	9.212E-01	1.238E+00	7.392E-02	-0.288
	593.00			1.225E-01	7.357E-01	1.211E+00	7.244E-02	0.101
	656.30			-2.381E+00	3.059E+00	3.858E+00	2.297E-01	-0.617
	666.33			-3.368E-02	6.107E-02	7.879E-02	4.732E-03	-0.427
	675.00			8.811E-01	1.601E+00	2.702E+00	1.653E-01	0.326
	695.00			6.327E-02	5.665E-02	9.997E-02	6.381E-03	0.633
	697.00			-2.174E-01	2.078E-01	3.041E-01	1.949E-02	-0.715
	720.50	*		2.062E-02	1.211E-01	1.869E-01	1.258E-02	0.110
	856.80			-1.345E-01	4.274E-01	5.940E-01	5.184E-02	-0.226
	989.30			1.201E-01	1.021E+00	1.707E+00	1.437E-01	0.070
	1034.80			-3.166E+00	7.728E+00	1.239E+01	9.691E-01	-0.256

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1213.00			8.376E-01	4.418E+00	7.388E+00	4.357E-01	0.113
	61.10			3.303E+01	4.070E+01	5.973E+01	5.764E+00	0.553
	252.40			1.105E+00	2.978E+00	5.011E+00	2.080E+00	0.221
	290.80			-5.891E+00	1.807E+01	2.555E+01	2.318E+00	-0.231
	411.60			7.058E+00	8.806E+00	1.513E+01	2.148E+00	0.467
	444.90			-6.379E+00	7.617E+00	1.178E+01	1.253E+00	-0.541
	473.00			7.158E-01	1.326E+00	1.986E+00	2.198E-01	0.360
	543.00			1.939E+00	1.227E+01	2.025E+01	2.611E+00	0.096
	603.60			-8.507E+00	1.049E+01	1.338E+01	1.441E+00	-0.636
	685.20	*		4.462E-01	1.027E+00	1.718E+00	1.652E-01	0.260
	698.50			-1.188E+01	1.130E+01	1.633E+01	2.396E+00	-0.728
	722.20			-2.847E+01	2.721E+01	3.271E+01	3.170E+00	-0.870
XE-127	783.80			2.274E+00	2.685E+00	4.618E+00	5.386E-01	0.492
	57.60			1.776E+00	4.060E+00	6.244E+00	4.113E-01	0.284
	145.22			1.168E-01	5.423E-01	8.773E-01	5.414E-02	0.133
	172.10			5.032E-02	8.832E-02	1.448E-01	7.815E-03	0.348
	202.84	*		2.605E-03	3.451E-02	5.822E-02	3.246E-03	0.045
I-131	374.96			-4.250E-02	1.635E-01	2.607E-01	1.449E-02	-0.163
	80.18			-4.687E+00	3.778E+00	5.028E+00	4.035E-01	-0.932
	284.30			2.742E-02	1.099E+00	1.834E+00	1.188E-01	0.015
	364.48	*		3.233E-02	8.771E-02	1.482E-01	9.354E-03	0.218
	636.97			-6.950E-01	1.148E+00	1.761E+00	1.170E-01	-0.395
TE-132	722.89			-6.143E+00	6.388E+00	7.776E+00	5.310E-01	-0.790
	49.72			-7.988E+00	1.139E+01	1.563E+01	1.427E+00	-0.511
	111.76			2.647E-01	2.199E+01	3.548E+01	3.482E+00	0.007
	116.30			-3.608E+00	2.011E+01	3.216E+01	3.123E+00	-0.112
BA-133	228.16	*		3.278E-01	4.915E-01	8.435E-01	1.203E-01	0.389
	53.15			3.881E-02	2.161E+00	3.413E+00	2.224E-01	0.011
	79.62			1.241E+00	1.103E+00	1.621E+00	2.405E-01	0.766
	81.00			-1.646E-01	9.332E-02	1.066E-01	1.660E-02	-1.544
	276.40			3.528E-01	2.875E-01	5.000E-01	6.489E-02	0.705
	302.84			-2.765E-02	1.098E-01	1.803E-01	2.104E-02	-0.153
I-133	356.01	*		3.950E-03	3.540E-02	5.134E-02	5.901E-03	0.077
	383.85			8.199E-02	2.367E-01	3.986E-01	4.271E-02	0.206
	510.53	+		1.188E+00	2.367E-01	Half-Life	too short	
	529.87	*		-1.721E-03	2.367E-01	Half-Life	too short	
	706.58			-4.779E-02	2.367E-01	Half-Life	too short	
	856.28			-9.053E-02	2.367E-01	Half-Life	too short	
	875.33			-5.173E-02	2.367E-01	Half-Life	too short	
	1236.41			6.985E-01	2.367E-01	Half-Life	too short	
	1298.22			1.039E-01	2.367E-01	Half-Life	too short	
	475.35			2.398E+00	1.519E+00	2.735E+00	1.581E-01	0.877
CS-134	563.23			1.827E-01	3.144E-01	4.704E-01	2.859E-02	0.388
	569.32	+		7.733E-01	2.848E-01	3.704E-01	2.272E-02	2.088
	604.70			-1.389E-02	3.123E-02	4.170E-02	2.508E-03	-0.333
	795.84	*		6.308E-02	6.105E-02	7.376E-02	5.806E-03	0.855
	801.93			-1.134E-01	3.598E-01	4.753E-01	3.776E-02	-0.239
	1038.57			1.343E+00	3.323E+00	5.708E+00	4.434E-01	0.235
	1167.94			-2.349E-01	2.134E+00	3.494E+00	1.960E-01	-0.067

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135	1365.15			-3.887E-01	9.625E-01	1.491E+00	1.129E-01	-0.261
	268.24	*		6.950E-02	1.222E-01	2.090E-01	1.604E-02	0.332
	288.45			9.433E+09	1.222E-01	Half-Life	too short	
	417.63			4.169E+09	1.222E-01	Half-Life	too short	
	546.56			1.797E+09	1.222E-01	Half-Life	too short	
	836.80			7.992E+09	1.222E-01	Half-Life	too short	
	1038.76			2.799E+09	1.222E-01	Half-Life	too short	
	1124.00			1.801E+10	1.222E-01	Half-Life	too short	
	1131.51			-1.637E+09	1.222E-01	Half-Life	too short	
	1260.41	*		8.775E+07	1.222E-01	Half-Life	too short	
	1457.56			6.138E+10	1.222E-01	Half-Life	too short	
	1678.03			1.278E+09	1.222E-01	Half-Life	too short	
	1706.46			1.464E+09	1.222E-01	Half-Life	too short	
	1791.20			1.827E+09	1.222E-01	Half-Life	too short	
	66.91			-4.836E-01	6.031E-01	8.220E-01	1.199E-01	-0.588
CS-136 + CE-139 BA-140	86.29			1.288E+00	9.405E-01	1.404E+00	1.800E-01	0.917
	153.22			3.173E-01	5.088E-01	8.355E-01	6.078E-02	0.380
	163.89			-5.035E-01	8.226E-01	1.278E+00	8.907E-02	-0.394
	176.55			-2.182E-01	2.838E-01	4.309E-01	2.665E-02	-0.506
	273.65			-5.808E-01	3.569E-01	5.480E-01	3.637E-02	-1.060
	340.57			2.162E-01	1.163E-01	1.869E-01	1.141E-02	1.157
	818.51			2.916E-02	5.575E-02	9.761E-02	7.953E-03	0.299
	1048.07	*		-7.724E-04	9.098E-02	1.510E-01	1.214E-02	-0.005
	1235.34			-8.068E-02	5.323E-01	8.678E-01	8.831E-02	-0.093
	165.85	*		8.056E-03	2.252E-02	3.657E-02	1.963E-03	0.220
	162.64			-1.397E-01	5.727E-01	9.056E-01	5.664E-02	-0.154
	304.84			-8.627E-01	9.876E-01	1.520E+00	4.150E-01	-0.567
	423.70			-4.616E-01	1.474E+00	2.366E+00	7.510E-01	-0.195
	537.32	*		-1.285E-01	2.026E-01	3.072E-01	9.998E-02	-0.418
	328.77			7.370E-01	3.774E-01	4.187E-01	2.712E-02	1.760
LA-140 + CE-141 CE-143	432.53			-7.514E-01	1.430E+00	2.260E+00	1.412E-01	-0.333
	487.03			1.038E-02	1.087E-01	1.792E-01	1.179E-02	0.058
	751.79			-6.213E-02	1.366E+00	2.191E+00	1.807E-01	-0.028
	815.85			-1.617E-02	2.424E-01	4.046E-01	3.702E-02	-0.040
	867.82			6.800E-01	1.145E+00	1.887E+00	1.763E-01	0.360
	919.63			-8.301E-01	2.517E+00	3.463E+00	3.847E-01	-0.240
	925.24			1.462E-01	8.281E-01	1.406E+00	1.355E-01	0.104
	1596.49	*		-1.133E-02	6.165E-02	9.712E-02	6.438E-03	-0.117
	145.44	*		-3.408E-03	4.955E-02	7.922E-02	5.055E-03	-0.043
	57.37			8.076E-05	4.955E-02	Half-Life	too short	
	231.56			-1.303E-03	4.955E-02	Half-Life	too short	
	293.26	*		4.817E-04	4.955E-02	Half-Life	too short	
	350.59			1.233E-02	4.955E-02	Half-Life	too short	
	490.36			3.467E-04	4.955E-02	Half-Life	too short	
	664.57			4.954E-03	4.955E-02	Half-Life	too short	
	721.93			-9.125E-04	4.955E-02	Half-Life	too short	
CE-144	80.11			-2.069E+00	1.786E+00	2.388E+00	1.901E-01	-0.866
	133.54	*		-1.757E-01	1.651E-01	2.501E-01	3.641E-02	-0.703
PM-144	476.78	+		1.024E-01	8.814E-02	1.023E-01	7.090E-03	1.001

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	618.01			8.474E-03	2.504E-02	3.820E-02	2.414E-03	0.222
	696.49	*		-1.602E-02	2.640E-02	4.033E-02	2.584E-03	-0.397
	778.57			-1.229E+00	1.729E+00	2.576E+00	1.945E-01	-0.477
PR-144	696.49	*		-1.085E+00	1.789E+00	2.732E+00	1.749E-01	-0.397
	1489.15			-8.454E+00	6.460E+00	6.757E+00	4.666E-01	-1.251
PM-146	453.90	*		-2.033E-03	3.555E-02	5.816E-02	4.979E-03	-0.035
	633.02			-5.050E-01	1.077E+00	1.649E+00	6.078E-01	-0.306
	735.90			-5.968E-02	1.186E-01	1.803E-01	5.074E-02	-0.331
	747.13			-2.061E-02	7.238E-02	1.134E-01	1.493E-02	-0.182
ND-147	91.11			4.654E-01	2.253E-01	3.829E-01	3.519E-02	1.216
	319.41			8.750E-01	2.483E+00	4.100E+00	2.379E-01	0.213
	439.89			6.456E-01	4.532E+00	7.518E+00	4.254E-01	0.086
	531.02	*		2.031E-01	4.295E-01	7.245E-01	9.832E-02	0.280
PM-149	285.90	*		-1.356E+01	6.454E+01	1.064E+02	1.509E+01	-0.127
EU-152	121.78			-1.594E-02	5.952E-02	9.475E-02	8.196E-03	-0.168
	244.69			2.334E-01	2.684E-01	4.128E-01	2.378E-02	0.565
	344.27	*		-1.250E-02	1.027E-01	1.275E-01	8.251E-03	-0.098
	443.98			-3.929E-01	7.654E-01	1.215E+00	6.890E-02	-0.323
	778.89			-1.731E-01	2.025E-01	2.968E-01	2.242E-02	-0.583
	867.32			3.494E-01	7.154E-01	1.135E+00	1.009E-01	0.308
	964.01			4.704E-01	2.781E-01	4.652E-01	4.056E-02	1.011
	1085.78			-2.833E-01	3.487E-01	5.356E-01	3.779E-02	-0.529
	1112.02			-7.100E-02	3.175E-01	4.396E-01	2.911E-02	-0.161
	1407.95			2.079E-02	1.393E-01	2.326E-01	1.639E-02	0.089
GD-153	69.67			3.155E-01	1.390E+00	1.862E+00	1.332E-01	0.169
	83.37			9.091E+00	1.236E+01	1.800E+01	1.488E+00	0.505
	97.43	*		6.407E-02	6.618E-02	9.816E-02	7.872E-03	0.653
	103.18			-9.841E-02	8.018E-02	1.224E-01	9.445E-03	-0.804
EU-154	123.07			3.036E-02	4.141E-02	6.843E-02	7.002E-03	0.444
	247.94			6.853E-02	2.977E-01	4.402E-01	4.192E-02	0.156
	591.81			1.583E-01	4.926E-01	8.204E-01	8.107E-02	0.193
	723.30			-2.256E-01	1.694E-01	1.948E-01	1.537E-02	-1.158
	756.87			5.930E-02	6.340E-01	1.029E+00	1.134E-01	0.058
	873.19			-1.950E-01	2.359E-01	3.635E-01	4.545E-02	-0.537
	996.32			-8.472E-04	2.841E-01	4.729E-01	8.336E-02	-0.002
	1004.76			7.933E-02	1.769E-01	3.052E-01	3.464E-02	0.260
	1274.45	*		-1.020E-01	1.061E-01	1.571E-01	1.540E-02	-0.649
EU-155	48.70			-1.203E+00	1.539E+00	2.109E+00	1.352E-01	-0.571
	60.01			2.263E+00	3.617E+00	5.282E+00	3.511E-01	0.428
	86.54			1.207E-01	8.743E-02	1.302E-01	1.130E-02	0.927
	105.31	*		3.817E-02	8.255E-02	1.357E-01	1.050E-02	0.281
TB-160	86.79	+		3.216E-01	2.329E-01	3.448E-01	2.971E-02	0.933
	197.04			1.140E-01	4.093E-01	6.804E-01	3.771E-02	0.168
	215.65			-2.092E-01	5.512E-01	9.106E-01	5.137E-02	-0.230
	298.57			5.413E-02	1.000E-01	1.498E-01	8.739E-03	0.361
	879.36	*		3.539E-03	1.141E-01	1.915E-01	1.739E-02	0.018
	962.29			3.962E-01	4.798E-01	7.951E-01	6.948E-02	0.498
	966.15			4.187E-01	2.024E-01	3.443E-01	2.994E-02	1.216
	1177.93			-2.131E-01	3.158E-01	4.943E-01	2.745E-02	-0.431

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			-1.712E-01	6.159E-01	9.865E-01	6.405E-02	-0.174
	80.57			-4.395E-01	2.305E-01	2.939E-01	2.352E-02	-1.495
	184.41			4.334E-02	3.178E-02	5.030E-02	2.751E-03	0.862
	280.46			-3.138E-02	6.400E-02	1.041E-01	6.070E-03	-0.302
	410.95			1.711E-01	1.874E-01	3.253E-01	1.800E-02	0.526
TM-171	711.68	*		5.292E-03	5.094E-02	8.214E-02	5.428E-03	0.064
	752.31			-5.708E-02	2.251E-01	3.542E-01	2.540E-02	-0.161
	810.29			-1.042E-02	4.593E-02	7.203E-02	5.774E-03	-0.145
	51.35			-1.449E+00	1.977E+01	2.820E+01	1.829E+00	-0.051
	52.39			-2.907E+00	1.045E+01	1.474E+01	9.585E-01	-0.197
LU-176	59.40			1.158E+01	1.920E+01	2.802E+01	1.856E+00	0.413
	66.72	*		-2.384E+01	2.250E+01	3.043E+01	2.122E+00	-0.783
	88.36	+		2.378E-01	1.722E-01	2.566E-01	2.236E-02	0.927
	201.83			5.630E-03	2.130E-02	3.619E-02	2.016E-03	0.156
	306.84	*		-5.106E-03	1.865E-02	3.055E-02	1.779E-03	-0.167
LU-177	401.10			1.857E+00	5.225E+00	8.798E+00	4.826E-01	0.211
	112.95			4.351E-01	1.235E+00	2.018E+00	1.482E-01	0.216
	208.36	*		5.475E-01	8.066E-01	1.372E+00	7.689E-02	0.399
	52.97			-1.767E-02	1.022E+00	1.544E+00	1.005E-01	-0.011
	54.07			-9.835E-02	5.049E-01	8.189E-01	5.346E-02	-0.120
LU-177M	61.30			1.363E+00	1.104E+00	1.659E+00	1.112E-01	0.822
	121.62			-7.968E-02	3.034E-01	4.832E-01	3.437E-02	-0.165
	147.16			-4.432E-01	5.200E-01	8.023E-01	4.892E-02	-0.552
	171.86			2.074E-01	3.577E-01	5.866E-01	3.166E-02	0.354
	218.09			-1.528E-01	6.407E-01	1.065E+00	6.020E-02	-0.143
HF-181	268.79			5.386E-01	6.082E-01	1.054E+00	6.134E-02	0.511
	319.02			5.098E-02	1.950E-01	3.284E-01	1.905E-02	0.155
	367.43			-5.698E-01	7.128E-01	1.122E+00	6.287E-02	-0.508
	413.65	*		-2.512E-02	1.335E-01	2.172E-01	1.204E-02	-0.116
	56.28			-1.838E-01	5.846E-01	9.435E-01	6.191E-02	-0.195
W-181	57.53			1.389E-01	3.413E-01	5.244E-01	3.453E-02	0.265
	65.20			5.805E-01	7.437E-01	1.095E+00	7.547E-02	0.530
	133.02			-5.499E-02	5.255E-02	8.054E-02	5.351E-03	-0.683
	136.25			-3.143E-01	3.489E-01	5.370E-01	3.500E-02	-0.585
	345.85			-4.377E-02	1.781E-01	2.512E-01	1.436E-02	-0.174
TA-182	482.03	*		-2.117E-02	3.777E-02	5.036E-02	2.921E-03	-0.420
	56.28			-7.207E-02	2.296E-01	3.705E-01	2.431E-02	-0.195
	57.53			5.448E-02	1.341E-01	2.061E-01	1.357E-02	0.264
	65.20	*		2.263E-01	2.900E-01	4.271E-01	2.942E-02	0.530
	67.75			-1.165E-01	9.018E-02	1.192E-01	8.383E-03	-0.977
RE-183	100.10			2.502E-02	1.326E-01	2.160E-01	1.699E-02	0.116
	152.43			1.589E-01	2.674E-01	4.387E-01	2.586E-02	0.362
	222.10			9.397E-02	2.644E-01	4.500E-01	2.552E-02	0.209
	1001.68			1.597E+00	1.601E+00	2.883E+00	2.383E-01	0.554
	1121.28	+		4.449E-01	2.208E-01	2.698E-01	1.744E-02	1.649
RE-183	1189.05			-8.559E-02	2.727E-01	4.387E-01	2.484E-02	-0.195
	1221.42	*		7.523E-02	1.890E-01	3.205E-01	1.917E-02	0.235
	1230.97			-1.025E-01	4.353E-01	7.049E-01	4.283E-02	-0.145
	57.98			1.014E-01	1.404E-01	2.077E-01	1.369E-02	0.488

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	59.32			4.804E-02	7.874E-02	1.149E-01	7.613E-03	0.418
	67.20			-1.145E-01	1.561E-01	2.147E-01	1.503E-02	-0.533
	162.32	*		-1.885E-02	8.489E-02	1.344E-01	7.401E-03	-0.140
	208.81			4.716E-01	7.407E-01	1.258E+00	7.053E-02	0.375
	291.72			3.945E-02	8.338E-01	1.211E+00	7.063E-02	0.033
	57.98			3.743E-01	5.184E-01	7.666E-01	5.054E-02	0.488
	59.32			1.772E-01	2.904E-01	4.239E-01	2.808E-02	0.418
	67.20			-4.224E-01	5.761E-01	7.923E-01	5.546E-02	-0.533
	161.27			-1.746E-03	2.785E-01	4.453E-01	2.471E-02	-0.004
	216.55			2.042E-02	1.991E-01	3.357E-01	1.895E-02	0.061
	252.85	*		2.076E-02	1.672E-01	2.813E-01	1.627E-02	0.074
	318.01			-7.074E-02	3.374E-01	5.541E-01	3.216E-02	-0.128
	792.07			7.356E-01	8.516E-01	1.309E+00	1.014E-01	0.562
	903.28			-3.811E-01	8.800E-01	1.347E+00	1.257E-01	-0.283
OS-185	920.93			-2.616E-01	3.743E-01	5.313E-01	4.873E-02	-0.492
	59.72			1.222E-01	2.142E-01	3.121E-01	2.071E-02	0.391
	61.14			1.055E-01	1.219E-01	1.796E-01	1.203E-02	0.588
	69.30			-1.989E-01	2.887E-01	3.281E-01	2.338E-02	-0.606
	592.07			1.521E-01	2.028E+00	3.317E+00	1.984E-01	0.046
	646.12	*		4.792E-03	3.159E-02	5.187E-02	3.093E-03	0.092
	717.42			5.925E-01	7.410E-01	1.271E+00	8.499E-02	0.466
	874.81			-2.669E-01	4.570E-01	7.241E-01	6.524E-02	-0.369
	880.27			-8.275E-02	6.504E-01	1.077E+00	9.799E-02	-0.077
	155.03	*		-2.237E-02	1.366E-01	2.172E-01	1.258E-02	-0.103
RE-188	477.96		+	4.665E+00	4.009E+00	4.398E+00	2.545E-01	1.061
	633.10			-1.018E+00	2.139E+00	3.324E+00	1.986E-01	-0.306
W-188	63.58		+	5.475E+01	4.984E+01	6.174E+01	4.203E+00	0.887
	227.08			4.502E+00	9.664E+00	1.652E+01	9.404E-01	0.273
IR-192	290.67	*		-2.298E+00	6.577E+00	9.283E+00	5.416E-01	-0.248
	295.96		+	5.479E-01	1.379E-01	1.944E-01	1.152E-02	2.819
	308.46			8.726E-03	6.986E-02	1.170E-01	6.886E-03	0.075
	316.51	*		-1.316E-03	2.587E-02	4.287E-02	2.502E-03	-0.031
	468.07			1.683E-02	5.712E-02	7.914E-02	5.262E-03	0.213
AU-195	604.41			-1.892E-01	4.215E-01	5.620E-01	6.432E-02	-0.337
	612.46			2.032E+00	7.194E-01	1.232E+00	9.502E-02	1.649
	65.12			1.195E-01	1.348E-01	1.993E-01	1.372E-02	0.599
	66.83			-8.102E-02	7.431E-02	1.003E-01	7.001E-03	-0.808
	75.70		+	6.734E-01	2.128E-01	3.127E-01	2.372E-02	2.154
	98.88	*		1.857E-01	1.803E-01	2.817E-01	2.235E-02	0.659
	129.76			3.731E+00	2.306E+00	3.915E+00	2.652E-01	0.953
TL-200	367.94	*		-2.482E-04	2.306E+00	Half-Life	too short	
	579.30			1.988E-03	2.306E+00	Half-Life	too short	
	828.27			6.715E-05	2.306E+00	Half-Life	too short	
	1205.75			8.639E-04	2.306E+00	Half-Life	too short	
TL-201	68.90			-5.044E+00	5.265E+00	4.947E+00	3.513E-01	-1.020
	70.82			5.859E-01	2.014E+00	2.904E+00	2.098E-01	0.202
	80.30			-5.439E+00	3.937E+00	5.194E+00	4.144E-01	-1.047
	135.34			-9.686E+00	1.805E+01	2.829E+01	1.853E+00	-0.342
	167.43	*		8.161E-01	4.913E+00	7.911E+00	4.250E-01	0.103

---- 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		-4.774E-01	4.983E-01	4.682E-01	3.325E-02	-1.020
		70.82		5.530E-02	1.901E-01	2.741E-01	1.981E-02	0.202
		80.30		-5.135E-01	3.718E-01	4.904E-01	3.913E-02	-1.047
		439.56	*	1.573E-02	5.289E-02	8.864E-02	5.012E-03	0.177
HG-203		70.83		2.460E-01	8.349E-01	1.203E+00	1.536E-01	0.204
		72.87		1.119E+00	5.292E-01	7.902E-01	9.817E-02	1.416
		82.60		-6.565E-01	1.128E+00	1.290E+00	1.739E-01	-0.509
		279.20	*	1.655E-02	3.115E-02	5.322E-02	3.293E-03	0.311
BI-207		72.80		3.094E-01	1.517E-01	2.312E-01	1.702E-02	1.338
	+	74.97		3.739E-01	1.182E-01	1.614E-01	1.215E-02	2.316
		84.90		3.129E-01	1.590E-01	2.409E-01	2.029E-02	1.299
	+	569.67		1.206E-01	4.437E-02	5.747E-02	3.429E-03	2.098
		1063.62	*	-1.783E-02	4.510E-02	7.223E-02	5.346E-03	-0.247
		1770.23		-9.937E-03	3.997E-01	5.484E-01	3.275E-02	-0.018
TL-207		81.07		-3.588E-01	2.003E-01	2.357E-01	1.897E-02	-1.522
		83.78		1.019E-01	1.047E-01	1.538E-01	1.278E-02	0.663
		94.90		4.913E-01	2.093E-01	3.223E-01	2.637E-02	1.524
		122.32		1.308E-01	1.413E+00	2.283E+00	1.791E-01	0.057
		144.24		3.772E-01	5.377E-01	8.858E-01	6.701E-02	0.426
		154.21		-5.359E-02	3.167E-01	5.035E-01	3.542E-02	-0.106
		269.46		1.308E-01	1.446E-01	2.507E-01	1.525E-02	0.522
		323.87	*	-2.375E-01	5.815E-01	8.096E-01	1.337E-01	-0.293
	+	338.28		3.895E+00	1.099E+00	1.679E+00	1.763E-01	2.320
		445.03		-1.738E+00	1.863E+00	2.859E+00	2.916E-01	-0.608
PO-209		260.50		4.885E+00	7.186E+00	1.238E+01	7.186E-01	0.394
		262.80		7.478E-01	2.091E+01	3.432E+01	1.993E+00	0.022
		896.60	*	-9.899E-03	6.411E+00	1.072E+01	1.003E+00	-0.001
PB-211		404.84	*	-2.884E-01	7.471E-01	1.166E+00	7.268E-01	-0.247
		427.08		3.922E-01	1.548E+00	2.560E+00	1.582E+00	0.153
		831.96		-3.651E-01	9.787E-01	1.519E+00	9.515E-01	-0.240
BI-212	+	727.18	*	4.501E-01	3.159E-01	4.697E-01	3.995E-02	0.958
		785.46		1.686E+00	1.336E+00	2.381E+00	1.821E-01	0.708
		1620.62		-5.776E-02	8.459E-01	1.357E+00	8.887E-02	-0.043
PO-215		81.07		-3.588E-01	2.003E-01	2.357E-01	1.897E-02	-1.522
		83.78		1.019E-01	1.047E-01	1.538E-01	1.278E-02	0.663
		94.90		4.913E-01	2.093E-01	3.223E-01	2.637E-02	1.524
		122.32		1.308E-01	1.413E+00	2.283E+00	1.791E-01	0.057
		144.24		3.772E-01	5.377E-01	8.858E-01	6.701E-02	0.426
		154.21		-5.359E-02	3.167E-01	5.035E-01	3.542E-02	-0.106
		269.46		1.308E-01	1.446E-01	2.507E-01	1.525E-02	0.522
		323.87	*	-2.375E-01	5.815E-01	8.096E-01	1.337E-01	-0.293
	+	338.28		3.895E+00	1.099E+00	1.679E+00	1.763E-01	2.320
		445.03		-1.738E+00	1.863E+00	2.859E+00	2.916E-01	-0.608
RN-219		271.23		2.274E-01	1.876E-01	3.283E-01	2.666E-02	0.693
		401.81	*	1.576E-01	3.170E-01	5.373E-01	7.241E-02	0.293
RN-220		549.76	*	3.599E+00	2.055E+01	3.396E+01	2.018E+00	0.106
RA-223		81.07		-3.588E-01	2.003E-01	2.357E-01	1.897E-02	-1.522
		83.78		1.019E-01	1.047E-01	1.538E-01	1.278E-02	0.663
		94.90		4.913E-01	2.093E-01	3.223E-01	2.637E-02	1.524

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		1.308E-01	1.413E+00	2.283E+00	1.791E-01	0.057
		144.24		3.772E-01	5.377E-01	8.858E-01	6.701E-02	0.426
		154.21		-5.359E-02	3.167E-01	5.035E-01	3.542E-02	-0.106
		269.46		1.308E-01	1.446E-01	2.507E-01	1.525E-02	0.522
		323.87	*	-2.375E-01	5.815E-01	8.096E-01	1.337E-01	-0.293
	+	338.28		3.895E+00	1.099E+00	1.679E+00	1.763E-01	2.320
		445.03		-1.738E+00	1.863E+00	2.859E+00	2.916E-01	-0.608
		79.80		8.209E-01	1.370E+00	1.982E+00	4.210E-01	0.414
		236.00		1.101E+00	2.508E-01	3.996E-01	4.161E-02	2.756
		256.20	*	-2.826E-01	2.756E-01	4.319E-01	6.029E-02	-0.654
		286.10		-1.775E-01	1.185E+00	1.960E+00	2.270E-01	-0.091
		299.80		1.488E+00	1.245E+00	1.914E+00	3.119E-01	0.778
		304.40		-1.237E+00	1.461E+00	2.297E+00	3.975E-01	-0.539
		334.20		1.340E+00	2.514E+00	2.639E+00	4.836E-01	0.508
TH-227		79.80		8.209E-01	1.371E+00	1.982E+00	4.265E-01	0.414
	+	94.00		5.784E+00	2.761E+00	2.901E+00	6.275E-01	1.994
		236.00		1.101E+00	2.441E-01	3.996E-01	3.601E-02	2.756
		256.20	*	-2.826E-01	2.769E-01	4.319E-01	7.298E-02	-0.654
		286.10		-1.775E-01	1.198E+00	1.960E+00	1.964E+00	-0.091
		299.80		1.488E+00	1.245E+00	1.914E+00	3.119E-01	0.778
		304.40		-1.237E+00	1.461E+00	2.297E+00	3.975E-01	-0.539
		334.20		1.340E+00	2.514E+00	2.639E+00	4.836E-01	0.508
	+	85.43		3.870E-01	1.616E-01	2.468E-01	2.092E-02	1.568
		88.47		1.369E-01	9.911E-02	1.478E-01	1.286E-02	0.926
PA-231		100.00		3.404E-02	1.382E-01	2.256E-01	1.776E-02	0.151
		193.63	*	-1.267E-01	3.739E-01	6.110E-01	3.374E-02	-0.207
		210.97		5.969E-01	5.673E-01	9.903E-01	5.563E-02	0.603
		283.67	*	-1.087E-01	1.154E+00	1.914E+00	2.640E-01	-0.057
		301.29		4.655E-01	4.764E-01	7.609E-01	7.966E-02	0.612
TH-231		81.07		-3.588E-01	2.003E-01	2.357E-01	1.897E-02	-1.522
		83.78		1.019E-01	1.047E-01	1.538E-01	1.278E-02	0.663
		94.90		4.913E-01	2.093E-01	3.223E-01	2.637E-02	1.524
		122.32		1.308E-01	1.413E+00	2.283E+00	1.791E-01	0.057
U-231		144.24		3.772E-01	5.377E-01	8.858E-01	6.701E-02	0.426
		154.21		-5.359E-02	3.167E-01	5.035E-01	3.542E-02	-0.106
		269.46		1.308E-01	1.446E-01	2.507E-01	1.525E-02	0.522
		323.87	*	-2.375E-01	5.815E-01	8.096E-01	1.337E-01	-0.293
	+	338.28		3.895E+00	1.099E+00	1.679E+00	1.763E-01	2.320
		445.03		-1.738E+00	1.863E+00	2.859E+00	2.916E-01	-0.608
		84.21		5.681E+00	4.248E+00	6.322E+00	5.280E-01	0.899
	+	92.29		5.437E+00	2.357E+00	2.872E+00	2.405E-01	1.893
		95.87	*	5.535E-01	8.946E-01	1.303E+00	1.058E-01	0.425
		108.00		4.786E-01	1.525E+00	2.490E+00	1.871E-01	0.192
PA-233	+	75.28		1.091E+01	3.716E+00	4.914E+00	7.260E-01	2.221
	+	86.59		1.962E+00	1.506E+00	2.112E+00	5.663E-01	0.929
		300.12		5.104E-01	3.418E-01	5.354E-01	7.202E-02	0.953
		311.98	*	2.356E-02	4.764E-02	8.127E-02	5.018E-03	0.290
		340.50		1.137E+00	6.289E-01	9.313E-01	2.137E-01	1.221
		398.62		-2.640E-01	1.646E+00	2.686E+00	6.926E-01	-0.098

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-1.334E+00	1.299E+00	1.947E+00	3.994E-01	-0.685
		63.00		1.592E+00	1.464E+00	1.811E+00	2.637E-01	0.879
		94.67		4.729E-01	1.597E-01	2.405E-01	2.913E-02	1.967
		98.44		9.632E-02	9.339E-02	1.154E-01	6.429E-02	0.834
		99.86		1.625E-01	3.491E-01	5.744E-01	4.527E-02	0.283
		111.00		6.989E-02	1.438E-01	2.360E-01	2.657E-02	0.296
		131.20		7.387E-02	8.454E-02	1.403E-01	9.427E-03	0.526
		152.70		1.347E-01	2.580E-01	4.208E-01	6.666E-02	0.320
		186.00		3.041E+00	1.596E+00	1.860E+00	5.673E-01	1.635
		226.40		1.006E-01	3.064E-01	5.205E-01	5.989E-02	0.193
		227.20		1.719E-01	3.283E-01	5.623E-01	3.202E-02	0.306
		248.90		-3.441E-01	6.517E-01	9.928E-01	2.132E-01	-0.347
		293.70		3.459E+00	1.013E+00	1.209E+00	1.945E-01	2.862
		369.80		1.412E-02	6.630E-01	1.098E+00	2.279E-01	0.013
		568.70		3.923E+00	1.444E+00	1.857E+00	1.108E-01	2.113
		569.50		1.070E+00	3.938E-01	5.113E-01	3.050E-02	2.093
		574.00		-5.649E-01	1.342E+00	1.797E+00	1.073E-01	-0.314
		699.00		-4.031E-01	5.517E-01	8.254E-01	1.502E-01	-0.488
		706.10		-3.053E-01	8.286E-01	1.277E+00	5.650E-01	-0.239
		733.00		-6.761E-02	3.366E-01	4.548E-01	9.817E-02	-0.149
		742.81		9.244E-02	1.111E+00	1.799E+00	1.206E+00	0.051
		796.30		1.226E+00	1.228E+00	1.424E+00	3.817E-01	0.861
		805.60		9.061E-02	7.738E-01	1.255E+00	3.825E-01	0.072
		819.60		1.351E-01	9.312E-01	1.580E+00	5.994E-01	0.085
		826.30		-2.431E-01	5.953E-01	9.442E-01	4.218E-01	-0.257
		831.60		-1.779E-01	4.931E-01	7.839E-01	2.333E-01	-0.227
		876.40		-8.138E-03	6.524E-01	1.091E+00	1.122E+00	-0.007
		880.51		-2.503E-02	2.361E-01	3.917E-01	3.565E-02	-0.064
		883.24		5.924E-02	2.423E-01	4.081E-01	2.746E-01	0.145
		899.00		5.684E-01	7.535E-01	1.263E+00	5.543E-01	0.450
		925.00		2.816E-01	8.632E-01	1.486E+00	1.356E-01	0.190
		926.50		2.651E-02	1.269E-01	2.160E-01	5.497E-02	0.123
		946.00	*	1.543E-01	2.446E-01	4.272E-01	8.075E-02	0.361
		949.00		-2.190E-01	3.736E-01	5.910E-01	5.250E-02	-0.371
		980.50		3.569E-01	6.496E-01	1.129E+00	9.624E-02	0.316
		1394.10		1.178E-01	8.491E-01	1.414E+00	9.175E-01	0.083
PA-234M	+	766.42		1.181E+01	1.072E+01	1.586E+01	8.017E+00	0.744
		1001.03	*	1.339E+00	3.738E+00	6.407E+00	6.194E-01	0.209
U-235	+	89.95		1.174E+00	8.984E-01	1.391E+00	4.291E-01	0.844
		93.35		1.800E+00	9.158E-01	9.253E-01	2.584E-01	1.945
		105.00		4.653E-01	8.226E-01	1.339E+00	3.961E-01	0.347
		143.76	*	1.746E-01	1.682E-01	2.772E-01	4.563E-02	0.630
		163.35		-1.560E-01	3.676E-01	5.747E-01	1.028E-01	-0.271
		185.71		1.126E-01	4.848E-02	6.910E-02	3.785E-03	1.630
		205.31		-2.304E-01	3.918E-01	6.398E-01	1.146E-01	-0.360
NP-236		94.67		3.605E-01	1.169E-01	1.825E-01	1.497E-02	1.975
		98.44		7.284E-02	5.808E-02	8.727E-02	6.947E-03	0.835
		111.00		5.286E-02	1.087E-01	1.785E-01	1.322E-02	0.296
		160.31	*	6.269E-03	6.261E-02	1.006E-01	5.621E-03	0.062

----- 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		9.315E-02	1.206E-01	1.941E-01	1.533E-02	0.480
		117.00	*	-8.968E-02	1.513E-01	2.376E-01	1.717E-02	-0.377
		209.75		5.069E-01	5.867E-01	1.004E+00	5.635E-02	0.505
		228.18		1.124E-01	1.706E-01	2.937E-01	1.674E-02	0.383
		277.60		1.608E-01	1.391E-01	2.435E-01	1.420E-02	0.660
		334.30		7.484E-01	1.418E+00	1.493E+00	8.602E-02	0.501
AM-241		59.54	*	5.669E-02	1.128E-01	1.639E-01	1.216E-02	0.346
CM-243		99.55		9.585E-02	1.241E-01	1.997E-01	1.578E-02	0.480
		103.76	*	-1.583E-03	7.294E-02	1.177E-01	9.051E-03	-0.013
		117.00		-9.226E-02	1.557E-01	2.445E-01	1.767E-02	-0.377
		209.75		4.997E-01	5.783E-01	9.899E-01	5.555E-02	0.505
		228.18		1.135E-01	1.724E-01	2.968E-01	1.691E-02	0.383
		277.60		1.621E-01	1.402E-01	2.455E-01	1.431E-02	0.660
AM-246		798.80		4.743E-02	1.255E-01	1.822E-01	1.429E-02	0.260
		1036.00		-1.008E-01	2.605E-01	4.181E-01	3.263E-02	-0.241
		1062.04		-1.079E-01	1.883E-01	2.957E-01	2.196E-02	-0.365
		1078.86	*	2.855E-02	1.227E-01	2.075E-01	1.487E-02	0.138
CM-247		278.00		4.281E-01	5.789E-01	9.971E-01	5.812E-02	0.429
		287.40		3.509E-01	1.004E+00	1.612E+00	9.403E-02	0.218
		402.60	*	4.823E-03	2.822E-02	4.702E-02	2.583E-03	0.103
CF-249		252.85		7.799E-02	6.281E-01	1.057E+00	6.112E-02	0.074
		333.44		9.569E-02	1.852E-01	1.948E-01	1.122E-02	0.491
		387.95	*	-3.864E-02	3.047E-02	4.612E-02	2.522E-03	-0.838
CF-251		176.60	*	-7.541E-02	9.945E-02	1.511E-01	8.195E-03	-0.499
		227.00		1.235E-01	2.903E-01	4.953E-01	2.820E-02	0.249
		285.00		5.972E-01	1.318E+00	2.245E+00	1.310E-01	0.266

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]G244597001
* Acquisition date   : 22-JAN-2010 07:38:16 Detector SN#      :
* Detector ID        : GAM14 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.33 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 7-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244597001 Analyst initials: MXR1
* Batch Number       : 941635 Sample Quantity : 1.5580E+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)	
BE-7	4.867E-01	4.103E-01	3.997E-01	0.000E+00
K-40	2.982E+01	2.614E+00	4.511E-01	0.000E+00
CD-109	1.019E+00	7.234E-01	1.039E+00	0.000E+00
SN-126	1.002E-01	7.114E-02	1.026E-01	0.000E+00
BA-137M	3.024E-01	5.898E-02	3.757E-02	0.000E+00
CS-137	3.197E-01	6.237E-02	3.971E-02	0.000E+00
TL-208	2.672E-01	5.209E-02	4.614E-02	0.000E+00
BI-210	1.863E+00	3.019E+00	3.042E+00	0.000E+00
PB-210	1.863E+00	3.019E+00	3.042E+00	0.000E+00
PO-210	1.863E+00	3.018E+00	3.042E+00	0.000E+00
BI-211	1.808E+00	3.675E-01	2.583E-01	0.000E+00
PB-212	8.929E-01	1.011E-01	7.070E-02	0.000E+00
PO-212	8.929E-01	1.011E-01	7.070E-02	0.000E+00
BI-214	7.930E-01	1.377E-01	7.898E-02	0.000E+00
PB-214	6.290E-01	1.318E-01	9.003E-02	0.000E+00
PO-214	6.290E-01	1.318E-01	9.003E-02	0.000E+00
PO-216	8.929E-01	1.011E-01	7.070E-02	0.000E+00
PO-218	6.290E-01	1.318E-01	9.003E-02	0.000E+00
RA-224	2.608E+00	8.349E-01	8.040E-01	0.000E+00
RA-226	7.930E-01	1.377E-01	7.898E-02	0.000E+00
AC-228	8.461E-01	2.679E-01	1.966E-01	0.000E+00
RA-228	8.461E-01	2.679E-01	1.966E-01	0.000E+00
TH-228	9.062E-01	1.027E-01	7.175E-02	0.000E+00
TH-230	7.930E-01	1.377E-01	7.898E-02	0.000E+00
TH-232	8.461E-01	2.679E-01	1.966E-01	0.000E+00
TH-234	1.366E+00	1.237E+00	1.516E+00	0.000E+00
U-234	7.930E-01	1.377E-01	7.898E-02	0.000E+00
NP-237	2.944E-01	2.172E-01	3.116E-01	0.000E+00
U-238	1.366E+00	1.237E+00	1.516E+00	0.000E+00
AM-243	2.083E-01	6.451E-02	6.895E-02	0.000E+00
ANH-511	1.482E-01	5.603E-02	3.712E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
NA-22	-3.521E-02	3.723E-02	5.739E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	3.818E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.649E-04	2.245E-02	3.715E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.550E-02	5.916E-02	0.000E+00	FAIL ABUN
SC-46	-3.296E-02	3.220E-02	5.114E-02	0.000E+00	FAIL ABUN
V-48	-1.633E-02	6.114E-02	1.037E-01	0.000E+00	NOT IDENT.
CR-51	2.570E-02	2.795E-01	4.730E-01	0.000E+00	NOT IDENT.
MN-52	-1.096E-01	1.424E-01	2.057E-01	0.000E+00	NOT IDENT.
MN-54	1.306E-02	2.850E-02	5.170E-02	0.000E+00	NOT IDENT.
CO-56	-7.869E-03	2.950E-02	5.051E-02	0.000E+00	NOT IDENT.
CO-57	-2.699E-03	2.006E-02	3.532E-02	0.000E+00	NOT IDENT.
CO-58	-3.134E-02	3.107E-02	4.684E-02	0.000E+00	NOT IDENT.
FE-59	-2.222E-02	8.043E-02	1.352E-01	0.000E+00	NOT IDENT.
CO-60	-1.822E-02	3.186E-02	5.036E-02	0.000E+00	NOT IDENT.
ZN-65	4.347E-02	8.456E-02	1.325E-01	0.000E+00	NOT IDENT.
GE-68	-8.387E-01	1.045E+00	1.669E+00	0.000E+00	NOT IDENT.
AS-73	-1.119E-01	4.928E-01	8.644E-01	0.000E+00	NOT IDENT.
AS-74	-3.432E-02	7.452E-02	1.235E-01	0.000E+00	NOT IDENT.
SE-75	-1.620E-03	3.365E-02	5.930E-02	0.000E+00	NOT IDENT.
BR-77	-2.785E+00	8.938E+00	1.295E+01	0.000E+00	FAIL ABUN
SR-82	-4.538E-02	2.830E-01	4.694E-01	0.000E+00	NOT IDENT.
RB-83	-2.004E-02	6.431E-02	9.319E-02	0.000E+00	NOT IDENT.
RB-84	8.841E-03	5.817E-02	1.028E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.340E+00	1.264E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.241E-02	6.458E-02	0.000E+00	NOT IDENT.
RB-86	-5.698E-01	6.571E-01	1.043E+00	0.000E+00	NOT IDENT.
Y-88	-1.055E-02	1.877E-02	2.555E-02	0.000E+00	NOT IDENT.
ZR-88	1.258E-02	2.267E-02	4.123E-02	0.000E+00	NOT IDENT.
Y-91	1.209E+01	1.729E+01	3.099E+01	0.000E+00	NOT IDENT.
NB-94	3.038E-02	2.422E-02	4.525E-02	0.000E+00	NOT IDENT.
NB-95	2.201E-02	3.321E-02	5.892E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.106E-01	1.981E-01	0.000E+00	NOT IDENT.
ZR-95	4.871E-02	5.668E-02	1.023E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.613E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.125E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.832E+00	8.325E+00	1.461E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.306E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.175E-03	2.410E-02	4.283E-02	0.000E+00	NOT IDENT.
RH-102	2.457E-02	2.565E-02	4.207E-02	0.000E+00	NOT IDENT.
RU-103	3.332E-03	3.022E-02	5.286E-02	0.000E+00	FAIL ABUN
RH-106	-4.172E-02	2.419E-01	4.079E-01	0.000E+00	FAIL ABUN
RU-106	-4.172E-02	2.419E-01	4.079E-01	0.000E+00	FAIL ABUN
AG-108M	-4.181E-03	2.320E-02	4.010E-02	0.000E+00	NOT IDENT.
AG-110M	-1.589E-02	3.155E-02	4.358E-02	0.000E+00	NOT IDENT.
IN-111	2.718E-01	7.689E-01	1.238E+00	0.000E+00	NOT IDENT.
IN-113M	5.678E-03	3.223E-02	5.738E-02	0.000E+00	NOT IDENT.
SN-113	5.678E-03	3.223E-02	5.738E-02	0.000E+00	NOT IDENT.
IN-114M	1.245E-01	1.378E-01	2.315E-01	0.000E+00	NOT IDENT.
CD-115	-1.392E+01	7.626E+00	1.122E+01	0.000E+00	NOT IDENT.
SN-117M	-1.204E-03	4.256E-02	7.429E-02	0.000E+00	NOT IDENT.
SB-122	1.089E+00	1.596E+00	2.550E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.079E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	3.282E-03	2.217E-02	3.899E-02	0.000E+00	NOT IDENT.
I-124	-5.663E-01	5.932E-01	7.871E-01	0.000E+00	NOT IDENT.
SB-124	8.547E-03	5.305E-02	9.103E-02	0.000E+00	FAIL ABUN
SB-125	3.074E-02	6.597E-02	1.191E-01	0.000E+00	FAIL ABUN
TE-125M	-6.089E+00	7.302E+00	1.254E+01	0.000E+00	NOT IDENT.
I-126	-8.064E-02	1.433E-01	1.945E-01	0.000E+00	NOT IDENT.
SB-126	2.062E-02	1.187E-01	1.923E-01	0.000E+00	NOT IDENT.
SB-127	4.462E-01	1.006E+00	1.770E+00	0.000E+00	NOT IDENT.
XE-127	2.605E-03	3.382E-02	6.194E-02	0.000E+00	NOT IDENT.
I-131	3.233E-02	8.596E-02	1.552E-01	0.000E+00	NOT IDENT.
TE-132	3.278E-01	4.817E-01	8.946E-01	0.000E+00	NOT IDENT.
BA-133	3.950E-03	3.469E-02	5.382E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.712E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.308E-02	5.983E-02	7.568E-02	0.000E+00	FAIL ABUN
CS-135	6.950E-02	1.198E-01	2.208E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.138E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.724E-04	8.916E-02	1.537E-01	0.000E+00	FAIL ABUN
CE-139	8.056E-03	2.206E-02	3.910E-02	0.000E+00	NOT IDENT.
BA-140	-1.285E-01	1.985E-01	3.186E-01	0.000E+00	NOT IDENT.
LA-140	-1.133E-02	6.042E-02	9.771E-02	0.000E+00	FAIL ABUN
CE-141	-3.408E-03	4.856E-02	8.498E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.509E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-1.757E-01	1.618E-01	2.689E-01	0.000E+00	NOT IDENT.
PM-144	-1.602E-02	2.587E-02	4.152E-02	0.000E+00	FAIL ABUN
PR-144	-1.085E+00	1.753E+00	2.813E+00	0.000E+00	NOT IDENT.
PM-146	-2.033E-03	3.484E-02	6.058E-02	0.000E+00	NOT IDENT.
ND-147	2.031E-01	4.210E-01	7.515E-01	0.000E+00	NOT IDENT.
PM-149	-1.356E+01	6.325E+01	1.122E+02	0.000E+00	NOT IDENT.
EU-152	-1.250E-02	1.007E-01	1.338E-01	0.000E+00	NOT IDENT.
GD-153	6.407E-02	6.486E-02	1.064E-01	0.000E+00	NOT IDENT.
EU-154	-1.020E-01	1.039E-01	1.591E-01	0.000E+00	NOT IDENT.
EU-155	3.817E-02	8.090E-02	1.467E-01	0.000E+00	FAIL ABUN
TB-160	3.539E-03	1.118E-01	1.959E-01	0.000E+00	FAIL ABUN
HO-166M	5.292E-03	4.992E-02	8.453E-02	0.000E+00	NOT IDENT.
TM-171	-2.384E+01	2.205E+01	3.328E+01	0.000E+00	NOT IDENT.
LU-176	-5.106E-03	1.827E-02	3.215E-02	0.000E+00	FAIL ABUN
LU-177	5.475E-01	7.904E-01	1.459E+00	0.000E+00	NOT IDENT.
LU-177M	-2.512E-02	1.308E-01	2.268E-01	0.000E+00	NOT IDENT.
HF-181	-2.117E-02	3.701E-02	5.237E-02	0.000E+00	NOT IDENT.
W-181	2.263E-01	2.842E-01	4.673E-01	0.000E+00	NOT IDENT.
TA-182	7.523E-02	1.853E-01	3.249E-01	0.000E+00	FAIL ABUN
RE-183	-1.885E-02	8.319E-02	1.438E-01	0.000E+00	NOT IDENT.
RE-184	2.076E-02	1.638E-01	2.975E-01	0.000E+00	NOT IDENT.
OS-185	4.792E-03	3.096E-02	5.351E-02	0.000E+00	NOT IDENT.
RE-188	-2.237E-02	1.339E-01	2.326E-01	0.000E+00	FAIL ABUN
W-188	-2.298E+00	6.446E+00	9.784E+00	0.000E+00	FAIL ABUN
IR-192	-1.316E-03	2.536E-02	4.509E-02	0.000E+00	FAIL ABUN
AU-195	1.857E-01	1.767E-01	3.051E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.890E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.161E-01	4.815E+00	8.457E+00	0.000E+00	NOT IDENT.
TL-202	1.573E-02	5.184E-02	9.241E-02	0.000E+00	NOT IDENT.
HG-203	1.655E-02	3.053E-02	5.615E-02	0.000E+00	NOT IDENT.
BI-207	-1.783E-02	4.419E-02	7.351E-02	0.000E+00	FAIL ABUN
TL-207	-2.375E-01	5.699E-01	8.509E-01	0.000E+00	FAIL ABUN
PO-209	-9.899E-03	6.283E+00	1.096E+01	0.000E+00	NOT IDENT.
PB-211	-2.884E-01	7.322E-01	1.219E+00	0.000E+00	NOT IDENT.
BI-212	4.501E-01	3.096E-01	4.830E-01	0.000E+00	FAIL ABUN
PO-215	-2.375E-01	5.699E-01	8.509E-01	0.000E+00	FAIL ABUN
RN-219	1.576E-01	3.106E-01	5.615E-01	0.000E+00	NOT IDENT.
RN-220	3.599E+00	2.014E+01	3.519E+01	0.000E+00	NOT IDENT.
RA-223	-2.375E-01	5.699E-01	8.509E-01	0.000E+00	FAIL ABUN
AC-227	-2.826E-01	2.701E-01	4.567E-01	0.000E+00	NOT IDENT.
TH-227	-2.826E-01	2.714E-01	4.567E-01	0.000E+00	FAIL ABUN
TH-229	-1.267E-01	3.664E-01	6.507E-01	0.000E+00	FAIL ABUN
PA-231	-1.087E-01	1.131E+00	2.019E+00	0.000E+00	NOT IDENT.
TH-231	-2.375E-01	5.699E-01	8.509E-01	0.000E+00	FAIL ABUN
U-231	5.535E-01	8.767E-01	1.412E+00	0.000E+00	FAIL ABUN
PA-233	2.356E-02	4.669E-02	8.549E-02	0.000E+00	FAIL ABUN
PA-234	1.543E-01	2.397E-01	4.362E-01	0.000E+00	FAIL ABUN
PA-234M	1.339E+00	3.663E+00	6.532E+00	0.000E+00	NOT IDENT.
U-235	1.746E-01	1.649E-01	2.975E-01	0.000E+00	FAIL ABUN
NP-236	6.269E-03	6.136E-02	1.077E-01	0.000E+00	NOT IDENT.
NP-239	-8.968E-02	1.483E-01	2.563E-01	0.000E+00	NOT IDENT.
AM-241	5.669E-02	1.106E-01	1.797E-01	0.000E+00	NOT IDENT.
CM-243	-1.583E-03	7.148E-02	1.274E-01	0.000E+00	NOT IDENT.
AM-246	2.855E-02	1.202E-01	2.111E-01	0.000E+00	NOT IDENT.
CM-247	4.823E-03	2.765E-02	4.913E-02	0.000E+00	NOT IDENT.
CF-249	-3.864E-02	2.986E-02	4.825E-02	0.000E+00	NOT IDENT.
CF-251	-7.541E-02	9.746E-02	1.613E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 09:39:29.42

```

*****
*                                     GEL Laboratories LLC                               *
*                                     2040 Savage Road                               *
*                                     Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244597001.CNF;1
Sample date        : 7-JAN-2010 12:00:00. Acquisition date : 22-JAN-2010 07:38:16
Sample ID          : G244597001           Sample quantity  : 1.55800E+02 GRAM
Detector name      : GAM14                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.33  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 941635               Detector SN#      :
Matrix Spike ID    :                     LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.59	57	10.42*	3.270E+00	4.014E-01	4.867E-01	86.01
K-40	1460.81	1598	10.67*	1.211E+00	2.982E+01	2.982E+01	8.95
CD-109	88.03	108	3.72*	7.043E+00	9.971E-01	1.019E+00	72.41
SN-126	64.28	100	9.60	4.634E+00	5.408E-01	5.408E-01	91.88
	86.94	108	8.90	7.043E+00	4.168E-01	4.168E-01	82.94
	87.57	108	37.00*	7.043E+00	1.002E-01	1.002E-01	72.41
BA-137M	661.65	278	89.98*	2.468E+00	3.021E-01	3.024E-01	19.90
CS-137	661.65	278	85.12*	2.468E+00	3.194E-01	3.197E-01	19.91
TL-208	277.35	-----	6.80	5.002E+00	-----	Line Not Found	-----
	510.84	190	21.60	3.085E+00	6.863E-01	6.863E-01	39.46
	583.14	257	84.20*	2.757E+00	2.672E-01	2.672E-01	19.90
	860.37	71	12.46	1.944E+00	7.025E-01	7.025E-01	45.20
BI-210	46.50	55	4.05*	1.755E+00	1.861E+00	1.863E+00	165.29
PB-210	46.50	55	4.05*	1.755E+00	1.861E+00	1.863E+00	165.29
PO-210	46.50	55	4.05*	1.755E+00	1.861E+00	1.863E+00	165.24
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	406	12.94*	4.176E+00	1.808E+00	1.808E+00	20.74
PB-212	74.81	348	10.70	6.103E+00	1.285E+00	1.285E+00	32.95
	77.11	447	18.00	6.317E+00	9.466E-01	9.466E-01	20.74
	87.30	108	8.00	7.043E+00	4.636E-01	4.636E-01	73.10
	238.63	920	44.60*	5.568E+00	8.929E-01	8.929E-01	11.56
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
PO-212	74.81	348	10.70	6.103E+00	1.285E+00	1.285E+00	32.95
	77.11	447	18.00	6.317E+00	9.466E-01	9.466E-01	20.74
	87.30	108	8.00	7.043E+00	4.636E-01	4.636E-01	73.10
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	920	44.60*	5.568E+00	8.929E-01	8.929E-01	11.56
	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
BI-214	609.31	405	46.30*	2.654E+00	7.930E-01	7.930E-01	17.72
	1120.29	90	15.10	1.523E+00	9.428E-01	9.428E-01	50.05
	1764.49	70	15.80	1.059E+00	1.002E+00	1.002E+00	29.94
PB-214	74.81	348	6.21	6.103E+00	2.214E+00	2.214E+00	32.46

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	447	10.50	6.317E+00	1.623E+00	1.623E+00	22.09
	87.30	108	4.67	7.043E+00	7.942E-01	7.943E-01	72.82
	241.98	236	7.49	5.519E+00	1.375E+00	1.375E+00	33.15
	295.21	274	19.20	4.780E+00	7.206E-01	7.206E-01	25.91
	351.92	406	37.20*	4.176E+00	6.290E-01	6.290E-01	21.38
	74.81	348	6.21	6.103E+00	2.214E+00	2.214E+00	32.46
	77.11	447	10.50	6.317E+00	1.623E+00	1.623E+00	22.09
	87.30	108	4.67	7.043E+00	7.942E-01	7.943E-01	72.82
	241.98	236	7.49	5.519E+00	1.375E+00	1.375E+00	33.15
	295.21	274	19.20	4.780E+00	7.206E-01	7.206E-01	25.91
PO-216	351.92	406	37.20*	4.176E+00	6.290E-01	6.290E-01	21.38
	74.81	348	10.70	6.103E+00	1.285E+00	1.285E+00	32.95
	77.11	447	18.00	6.317E+00	9.466E-01	9.466E-01	20.74
	87.30	108	8.00	7.043E+00	4.636E-01	4.636E-01	73.10
	238.63	920	44.60*	5.568E+00	8.929E-01	8.929E-01	11.56
PO-218	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	74.81	348	6.21	6.103E+00	2.214E+00	2.214E+00	32.46
	77.11	447	10.50	6.317E+00	1.623E+00	1.623E+00	22.09
	87.30	108	4.67	7.043E+00	7.942E-01	7.943E-01	72.82
	241.98	236	7.49	5.519E+00	1.375E+00	1.375E+00	33.15
RA-224	295.21	274	19.20	4.780E+00	7.206E-01	7.206E-01	25.91
	351.92	406	37.20*	4.176E+00	6.290E-01	6.290E-01	21.38
	240.98	236	3.95*	5.519E+00	2.608E+00	2.608E+00	32.67
RA-226	609.31	405	46.30*	2.654E+00	7.930E-01	7.930E-01	17.72
	1120.29	90	15.10	1.523E+00	9.428E-01	9.428E-01	50.05
AC-228	1764.49	70	15.80	1.059E+00	1.002E+00	1.002E+00	29.94
	338.32	190	11.40	4.308E+00	9.328E-01	9.328E-01	48.45
	911.07	179	27.70*	1.842E+00	8.461E-01	8.461E-01	32.31
	969.11	108	16.60	1.741E+00	8.975E-01	8.975E-01	38.76
RA-228	338.32	190	11.40	4.308E+00	9.328E-01	9.328E-01	48.45
	911.07	179	27.70*	1.842E+00	8.461E-01	8.461E-01	32.31
	969.11	108	16.60	1.741E+00	8.975E-01	8.975E-01	38.76
TH-228	74.81	348	10.70	6.103E+00	1.285E+00	1.304E+00	31.62
	77.11	447	18.00	6.317E+00	9.466E-01	9.607E-01	20.74
	87.30	108	8.00	7.043E+00	4.636E-01	4.705E-01	72.41
	238.63	920	44.60*	5.568E+00	8.929E-01	9.062E-01	11.56
TH-230	300.09	-----	3.41	4.718E+00	-----	Line Not Found	-----
	609.31	405	46.30*	2.654E+00	7.930E-01	7.930E-01	17.72
	1120.29	90	15.10	1.523E+00	9.428E-01	9.428E-01	50.05
	1764.49	70	15.80	1.059E+00	1.002E+00	1.002E+00	29.94
TH-232	338.32	190	11.40	4.308E+00	9.328E-01	9.328E-01	26.82
	911.07	179	27.70*	1.842E+00	8.461E-01	8.461E-01	32.31
	969.11	108	16.60	1.741E+00	8.975E-01	8.975E-01	38.76
TH-234	63.29	100	3.80*	4.634E+00	1.366E+00	1.366E+00	92.39
	92.38	246	5.41	7.319E+00	1.497E+00	1.497E+00	46.17
U-234	609.31	405	46.30*	2.654E+00	7.930E-01	7.930E-01	17.72
	1120.29	90	15.10	1.523E+00	9.428E-01	9.428E-01	50.05
	1764.49	70	15.80	1.059E+00	1.002E+00	1.002E+00	29.94
NP-237	86.50	108	12.60*	7.043E+00	2.944E-01	2.944E-01	75.29

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	95.87	-----	2.60	7.425E+00	-----	Line Not Found	-----
U-238	63.29	100	3.80*	4.634E+00	1.366E+00	1.366E+00	92.39
	92.38	246	5.41	7.319E+00	1.497E+00	1.497E+00	43.34
AM-243	74.67	348	66.00*	6.103E+00	2.083E-01	2.083E-01	31.60
	86.72	108	0.34	7.043E+00	1.104E+01	1.104E+01	72.41
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	190	100.00*	3.085E+00	1.482E-01	1.482E-01	38.57

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 1
Number of lines tentatively identified by NID 28 96.55%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.44D	1.21	4.014E-01	4.867E-01	4.186E-01	86.01	
K-40	1.28E+09Y	1.00	2.982E+01	2.982E+01	0.267E+01	8.95	
CD-109	464.00D	1.02	9.971E-01	1.019E+00	0.738E+00	72.41	
SN-126	1.00E+05Y	1.00	1.002E-01	1.002E-01	0.726E-01	72.41	
BA-137M	30.17Y	1.00	3.021E-01	3.024E-01	0.602E-01	19.90	
CS-137	30.17Y	1.00	3.194E-01	3.197E-01	0.636E-01	19.91	
TL-208	1.41E+10Y	1.00	2.672E-01	2.672E-01	0.532E-01	19.90	
BI-210	22.26Y	1.00	1.861E+00	1.863E+00	3.080E+00	165.29	
PB-210	22.26Y	1.00	1.861E+00	1.863E+00	3.080E+00	165.29	
PO-210	22.26Y	1.00	1.861E+00	1.863E+00	3.079E+00	165.24	
BI-211	7.04E+08Y	1.00	1.808E+00	1.808E+00	0.375E+00	20.74	
PB-212	1.41E+10Y	1.00	8.929E-01	8.929E-01	1.032E-01	11.56	
PO-212	1.41E+10Y	1.00	8.929E-01	8.929E-01	1.032E-01	11.56	
BI-214	1600.00Y	1.00	7.930E-01	7.930E-01	1.405E-01	17.72	
PB-214	1600.00Y	1.00	6.290E-01	6.290E-01	1.345E-01	21.38	
PO-214	1600.00Y	1.00	6.290E-01	6.290E-01	1.345E-01	21.38	
PO-216	1.41E+10Y	1.00	8.929E-01	8.929E-01	1.032E-01	11.56	
PO-218	1600.00Y	1.00	6.290E-01	6.290E-01	1.345E-01	21.38	
RA-224	1.41E+10Y	1.00	2.608E+00	2.608E+00	0.852E+00	32.67	
RA-226	1600.00Y	1.00	7.930E-01	7.930E-01	1.405E-01	17.72	
AC-228	1.41E+10Y	1.00	8.461E-01	8.461E-01	2.734E-01	32.31	
RA-228	1.41E+10Y	1.00	8.461E-01	8.461E-01	2.734E-01	32.31	
TH-228	1.91Y	1.01	8.929E-01	9.062E-01	1.047E-01	11.56	
TH-230	4.47E+09Y	1.00	7.930E-01	7.930E-01	1.405E-01	17.72	
TH-232	1.41E+10Y	1.00	8.461E-01	8.461E-01	2.734E-01	32.31	
TH-234	4.47E+09Y	1.00	1.366E+00	1.366E+00	1.262E+00	92.39	
U-234	4.47E+09Y	1.00	7.930E-01	7.930E-01	1.405E-01	17.72	
NP-237	2.14E+06Y	1.00	2.944E-01	2.944E-01	2.216E-01	75.29	
U-238	4.47E+09Y	1.00	1.366E+00	1.366E+00	1.262E+00	92.39	
AM-243	7380.00Y	1.00	2.083E-01	2.083E-01	0.658E-01	31.60	
ANH-511	1.00E+09Y	1.00	1.482E-01	1.482E-01	0.572E-01	38.57	

Total Activity : 5.676E+01 5.688E+01

Grand Total Activity : 5.676E+01 5.688E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.11	165	268	1.40	371.54	367	10	2.29E-02	42.7	6.53E+00	T
0	328.15	124	187	1.89	655.38	648	14	1.72E-02	50.8	4.41E+00	T
0	462.79	76	121	1.84	924.50	919	12	1.06E-02	61.9	3.35E+00	T
0	569.68	137	88	2.24	1138.16	1130	16	1.91E-02	36.3	2.81E+00	T
0	727.80	50	67	1.62	1454.30	1449	10	6.94E-03	69.7	2.27E+00	T
0	795.21	42	85	1.17	1589.10	1583	13	5.76E-03	96.5	2.09E+00	T
0	1731.23	19	16	1.67	3461.87	3453	16	2.65E-03	****	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244597001.CNF;1
* Acquisition date   : 22-JAN-2010 07:38:16   Detector SN#      :
* Detector ID        : GAM14                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.33          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 7-JAN-2010 12:00:00.   Nuclide Library : SOLID
* Sample ID          : G244597001             Analyst initials: MXR1
* Batch Number       : 941635                 Sample Quantity : 1.55800E+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
BE-7	4.867E-01	4.186E-01	3.843E-01	2.590E-02	1.267
K-40	2.982E+01	2.668E+00	4.473E-01	3.248E-02	66.665
CD-109	1.019E+00	7.382E-01	9.569E-01	8.367E-02	1.065
SN-126	1.002E-01	7.259E-02	9.440E-02	8.214E-03	1.062
BA-137M	3.024E-01	6.018E-02	3.643E-02	2.166E-03	8.300
CS-137	3.197E-01	6.364E-02	3.851E-02	2.299E-03	8.300
TL-208	2.672E-01	5.316E-02	4.459E-02	3.050E-03	5.991
BI-210	1.863E+00	3.080E+00	2.758E+00	2.045E-01	0.676
PB-210	1.863E+00	3.080E+00	2.758E+00	2.045E-01	0.676
PO-210	1.863E+00	3.079E+00	2.758E+00	1.730E-01	0.676
BI-211	1.808E+00	3.750E-01	2.463E-01	1.560E-02	7.342
PB-212	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
PO-212	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
BI-214	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
PB-214	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327
PO-214	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327
PO-216	8.929E-01	1.032E-01	6.674E-02	4.861E-03	13.379
PO-218	6.290E-01	1.345E-01	8.585E-02	7.044E-03	7.327

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	2.608E+00	8.520E-01	7.591E-01	4.363E-02	3.435
RA-226	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
AC-228	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
RA-228	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
TH-228	9.062E-01	1.047E-01	6.773E-02	4.934E-03	13.379
TH-230	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
TH-232	8.461E-01	2.734E-01	1.924E-01	2.260E-02	4.398
TH-234	1.366E+00	1.262E+00	1.384E+00	2.379E-01	0.987
U-234	7.930E-01	1.405E-01	7.642E-02	6.049E-03	10.377
NP-237	2.944E-01	2.216E-01	2.868E-01	6.409E-02	1.027
U-238	1.366E+00	1.262E+00	1.384E+00	2.379E-01	0.987
AM-243	2.083E-01	6.583E-02	6.322E-02	4.744E-03	3.295
ANH-511	1.482E-01	5.717E-02	3.575E-02	2.100E-03	4.147

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-3.521E-02		3.799E-02	5.668E-02	3.702E-03	-0.621
NA-24	2.680E-02		1.948E-01	Half-Life	too short	
AL-26	1.649E-04		2.290E-02	3.706E-02	2.148E-03	0.004
TI-44	1.747E-01	+	3.623E-02	5.430E-02	4.240E-03	3.217
SC-46	-3.296E-02		3.286E-02	5.000E-02	4.620E-03	-0.659
V-48	-1.633E-02		6.239E-02	1.017E-01	8.633E-03	-0.161
CR-51	2.570E-02		2.853E-01	4.499E-01	2.907E-02	0.057
MN-52	-1.096E-01		1.453E-01	2.038E-01	1.428E-02	-0.538
MN-54	1.306E-02		2.908E-02	5.046E-02	4.232E-03	0.259
CO-56	-7.869E-03		3.010E-02	4.932E-02	4.227E-03	-0.160
CO-57	-2.699E-03		2.047E-02	3.277E-02	2.332E-03	-0.082
CO-58	-3.134E-02		3.170E-02	4.568E-02	3.676E-03	-0.686
FE-59	-2.222E-02		8.207E-02	1.330E-01	1.024E-02	-0.167
CO-60	-1.822E-02		3.251E-02	4.980E-02	3.549E-03	-0.366
ZN-65	4.347E-02		8.628E-02	1.304E-01	8.568E-03	0.333
GE-68	-8.387E-01		1.066E+00	1.641E+00	1.179E-01	-0.511
AS-73	-1.119E-01		5.028E-01	7.862E-01	5.125E-02	-0.142
AS-74	-3.432E-02		7.604E-02	1.194E-01	7.143E-03	-0.287
SE-75	-1.620E-03		3.434E-02	5.612E-02	3.295E-03	-0.029
BR-77	-2.785E+00		9.120E+00	1.248E+01	7.357E-01	-0.223
SR-82	-4.538E-02		2.888E-01	4.572E-01	3.437E-02	-0.099
RB-83	-2.004E-02		6.562E-02	8.980E-02	5.293E-03	-0.223
RB-84	8.841E-03		5.936E-02	1.005E-01	9.164E-03	0.088
KR-85	2.022E+01		6.470E+00	1.217E+01	7.158E-01	1.661
SR-85	1.033E-01		3.307E-02	6.220E-02	3.659E-03	1.661
RB-86	-5.698E-01		6.706E-01	1.025E+00	7.380E-02	-0.556
Y-88	-1.055E-02		1.915E-02	2.550E-02	1.448E-03	-0.414
ZR-88	1.258E-02		2.313E-02	3.943E-02	2.147E-03	0.319
Y-91	1.209E+01		1.764E+01	3.055E+01	1.777E+00	0.396
NB-94	3.038E-02		2.471E-02	4.395E-02	2.850E-03	0.691

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	2.201E-02		3.389E-02	5.737E-02	4.225E-03	0.384
NB-95M	3.536E-01		1.128E-01	1.869E-01	1.397E-02	1.892
ZR-95	4.871E-02		5.784E-02	9.954E-02	8.211E-03	0.489
NB-97	-2.502E-02		3.374E-02	Half-Life	too short	
ZR-97	1.727E+00		5.737E-01	Half-Life	too short	
MO-99	3.832E+00		8.495E+00	1.421E+01	2.035E+00	0.270
TC-99M	5.305E+09		6.665E+09	Half-Life	too short	
RH-101	-3.175E-03		2.460E-02	4.024E-02	2.232E-03	-0.079
RH-102	2.457E-02		2.617E-02	4.043E-02	2.337E-03	0.608
RU-103	3.332E-03		3.084E-02	5.087E-02	6.442E-03	0.065
RH-106	-4.172E-02		2.469E-01	3.949E-01	4.671E-02	-0.106
RU-106	-4.172E-02		2.469E-01	3.949E-01	2.361E-02	-0.106
AG-108M	-4.181E-03		2.367E-02	3.845E-02	2.362E-03	-0.109
AG-110M	-1.589E-02		3.220E-02	4.226E-02	2.669E-03	-0.376
IN-111	2.718E-01		7.846E-01	1.170E+00	6.741E-02	0.232
IN-113M	5.678E-03		3.289E-02	5.487E-02	3.211E-03	0.103
SN-113	5.678E-03		3.289E-02	5.487E-02	3.211E-03	0.103
IN-114M	1.245E-01		1.406E-01	2.173E-01	1.196E-02	0.573
CD-115	-1.392E+01		7.781E+00	1.081E+01	6.389E-01	-1.287
SN-117M	-1.204E-03		4.343E-02	6.940E-02	3.926E-03	-0.017
SB-122	1.089E+00		1.629E+00	2.462E+00	1.468E-01	0.442
I-123	4.558E-01		1.571E+00	Half-Life	too short	
TE-123M	3.282E-03		2.262E-02	3.642E-02	2.083E-03	0.090
I-124	-5.663E-01		6.053E-01	7.614E-01	4.555E-02	-0.744
SB-124	8.547E-03		5.413E-02	9.063E-02	6.127E-03	0.094
SB-125	3.074E-02		6.731E-02	1.141E-01	6.690E-03	0.269
TE-125M	-6.089E+00		7.451E+00	1.160E+01	1.089E+00	-0.525
I-126	-8.064E-02		1.462E-01	1.887E-01	1.133E-02	-0.427
SB-126	2.062E-02		1.211E-01	1.869E-01	1.258E-02	0.110
SB-127	4.462E-01		1.027E+00	1.718E+00	1.652E-01	0.260
XE-127	2.605E-03		3.451E-02	5.822E-02	3.246E-03	0.045
I-131	3.233E-02		8.771E-02	1.482E-01	9.354E-03	0.218
TE-132	3.278E-01		4.915E-01	8.435E-01	1.203E-01	0.389
BA-133	3.950E-03		3.540E-02	5.134E-02	5.901E-03	0.077
I-133	-1.721E-03		1.894E-03	Half-Life	too short	
CS-134	6.308E-02	+	6.105E-02	7.376E-02	5.806E-03	0.855
CS-135	6.950E-02		1.222E-01	2.090E-01	1.604E-02	0.332
I-135	8.775E+07		1.091E+09	Half-Life	too short	
CS-136	-7.724E-04		9.098E-02	1.510E-01	1.214E-02	-0.005
CE-139	8.056E-03		2.252E-02	3.657E-02	1.963E-03	0.220
BA-140	-1.285E-01		2.026E-01	3.072E-01	9.998E-02	-0.418
LA-140	-1.133E-02		6.165E-02	9.712E-02	6.438E-03	-0.117
CE-141	-3.408E-03		4.955E-02	7.922E-02	5.055E-03	-0.043
CE-143	4.817E-04		7.700E-05	Half-Life	too short	
CE-144	-1.757E-01		1.651E-01	2.501E-01	3.641E-02	-0.703
PM-144	-1.602E-02		2.640E-02	4.033E-02	2.584E-03	-0.397
PR-144	-1.085E+00		1.789E+00	2.732E+00	1.749E-01	-0.397
PM-146	-2.033E-03		3.555E-02	5.816E-02	4.979E-03	-0.035

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	2.031E-01		4.295E-01	7.245E-01	9.832E-02	0.280
PM-149	-1.356E+01		6.454E+01	1.064E+02	1.509E+01	-0.127
EU-152	-1.250E-02		1.027E-01	1.275E-01	8.251E-03	-0.098
GD-153	6.407E-02		6.618E-02	9.816E-02	7.872E-03	0.653
EU-154	-1.020E-01		1.061E-01	1.571E-01	1.540E-02	-0.649
EU-155	3.817E-02		8.255E-02	1.357E-01	1.050E-02	0.281
TB-160	3.539E-03		1.141E-01	1.915E-01	1.739E-02	0.018
HO-166M	5.292E-03		5.094E-02	8.214E-02	5.428E-03	0.064
TM-171	-2.384E+01		2.250E+01	3.043E+01	2.122E+00	-0.783
LU-176	-5.106E-03		1.865E-02	3.055E-02	1.779E-03	-0.167
LU-177	5.475E-01		8.066E-01	1.372E+00	7.689E-02	0.399
LU-177M	-2.512E-02		1.335E-01	2.172E-01	1.204E-02	-0.116
HF-181	-2.117E-02		3.777E-02	5.036E-02	2.921E-03	-0.420
W-181	2.263E-01		2.900E-01	4.271E-01	2.942E-02	0.530
TA-182	7.523E-02		1.890E-01	3.205E-01	1.917E-02	0.235
RE-183	-1.885E-02		8.489E-02	1.344E-01	7.401E-03	-0.140
RE-184	2.076E-02		1.672E-01	2.813E-01	1.627E-02	0.074
OS-185	4.792E-03		3.159E-02	5.187E-02	3.093E-03	0.092
RE-188	-2.237E-02		1.366E-01	2.172E-01	1.258E-02	-0.103
W-188	-2.298E+00		6.577E+00	9.283E+00	5.416E-01	-0.248
IR-192	-1.316E-03		2.587E-02	4.287E-02	2.502E-03	-0.031
AU-195	1.857E-01		1.803E-01	2.817E-01	2.235E-02	0.659
TL-200	-2.482E-04		1.475E-04	Half-Life	too short	
TL-201	8.161E-01		4.913E+00	7.911E+00	4.250E-01	0.103
TL-202	1.573E-02		5.289E-02	8.864E-02	5.012E-03	0.177
HG-203	1.655E-02		3.115E-02	5.322E-02	3.293E-03	0.311
BI-207	-1.783E-02		4.510E-02	7.223E-02	5.346E-03	-0.247
TL-207	-2.375E-01		5.815E-01	8.096E-01	1.337E-01	-0.293
PO-209	-9.899E-03		6.411E+00	1.072E+01	1.003E+00	-0.001
PB-211	-2.884E-01		7.471E-01	1.166E+00	7.268E-01	-0.247
BI-212	4.501E-01	+	3.159E-01	4.697E-01	3.995E-02	0.958
PO-215	-2.375E-01		5.815E-01	8.096E-01	1.337E-01	-0.293
RN-219	1.576E-01		3.170E-01	5.373E-01	7.241E-02	0.293
RN-220	3.599E+00		2.055E+01	3.396E+01	2.018E+00	0.106
RA-223	-2.375E-01		5.815E-01	8.096E-01	1.337E-01	-0.293
AC-227	-2.826E-01		2.756E-01	4.319E-01	6.029E-02	-0.654
TH-227	-2.826E-01		2.769E-01	4.319E-01	7.298E-02	-0.654
TH-229	-1.267E-01		3.739E-01	6.110E-01	3.374E-02	-0.207
PA-231	-1.087E-01		1.154E+00	1.914E+00	2.640E-01	-0.057
TH-231	-2.375E-01		5.815E-01	8.096E-01	1.337E-01	-0.293
U-231	5.535E-01		8.946E-01	1.303E+00	1.058E-01	0.425
PA-233	2.356E-02		4.764E-02	8.127E-02	5.018E-03	0.290
PA-234	1.543E-01		2.446E-01	4.272E-01	8.075E-02	0.361
PA-234M	1.339E+00		3.738E+00	6.407E+00	6.194E-01	0.209
U-235	1.746E-01		1.682E-01	2.772E-01	4.563E-02	0.630
NP-236	6.269E-03		6.261E-02	1.006E-01	5.621E-03	0.062
NP-239	-8.968E-02		1.513E-01	2.376E-01	1.717E-02	-0.377
AM-241	5.669E-02		1.128E-01	1.639E-01	1.216E-02	0.346

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.583E-03		7.294E-02	1.177E-01	9.051E-03	-0.013
AM-246	2.855E-02		1.227E-01	2.075E-01	1.487E-02	0.138
CM-247	4.823E-03		2.822E-02	4.702E-02	2.583E-03	0.103
CF-249	-3.864E-02		3.047E-02	4.612E-02	2.522E-03	-0.838
CF-251	-7.541E-02		9.945E-02	1.511E-01	8.195E-03	-0.499

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G244597001            *
* Acquisition date   : 22-JAN-2010 07:38:16 Detector SN#      :              *
* Detector ID        : GAM14                      Sensitivity    : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00              Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.33              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 7-JAN-2010 12:00:00 Nuclide Library : SOLID            *
* Sample ID          : G244597001              Analyst initials: MXR1          *
* Batch Number       : 941635                  Sample Quantity : 1.5580E+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
BE-7	4.867E-01	4.103E-01	2.000E-01	2.093E-01
K-40	2.982E+01	2.614E+00	2.257E-01	1.334E+00
CD-109	1.019E+00	7.234E-01	5.200E-01	3.691E-01
SN-126	1.002E-01	7.114E-02	5.131E-02	3.629E-02
BA-137M	3.024E-01	5.898E-02	1.880E-02	3.009E-02
CS-137	3.197E-01	6.237E-02	1.987E-02	3.182E-02
TL-208	2.672E-01	5.209E-02	2.308E-02	2.658E-02
BI-210	1.863E+00	3.019E+00	1.522E+00	1.540E+00
PB-210	1.863E+00	3.019E+00	1.522E+00	1.540E+00
PO-210	1.863E+00	3.018E+00	1.522E+00	1.540E+00
BI-211	1.808E+00	3.675E-01	1.292E-01	1.875E-01
PB-212	8.929E-01	1.011E-01	3.537E-02	5.161E-02
PO-212	8.929E-01	1.011E-01	3.537E-02	5.161E-02
BI-214	7.930E-01	1.377E-01	3.951E-02	7.026E-02
PB-214	6.290E-01	1.318E-01	4.504E-02	6.725E-02
PO-214	6.290E-01	1.318E-01	4.504E-02	6.725E-02
PO-216	8.929E-01	1.011E-01	3.537E-02	5.161E-02
PO-218	6.290E-01	1.318E-01	4.504E-02	6.725E-02
RA-224	2.608E+00	8.349E-01	4.022E-01	4.260E-01
RA-226	7.930E-01	1.377E-01	3.951E-02	7.026E-02
AC-228	8.461E-01	2.679E-01	9.838E-02	1.367E-01
RA-228	8.461E-01	2.679E-01	9.838E-02	1.367E-01
TH-228	9.062E-01	1.027E-01	3.590E-02	5.237E-02
TH-230	7.930E-01	1.377E-01	3.951E-02	7.026E-02
TH-232	8.461E-01	2.679E-01	9.838E-02	1.367E-01
TH-234	1.366E+00	1.237E+00	7.583E-01	6.311E-01
U-234	7.930E-01	1.377E-01	3.951E-02	7.026E-02
NP-237	2.944E-01	2.172E-01	1.559E-01	1.108E-01
U-238	1.366E+00	1.237E+00	7.583E-01	6.311E-01
AM-243	2.083E-01	6.451E-02	3.450E-02	3.292E-02
ANH-511	1.482E-01	5.603E-02	1.857E-02	2.859E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
NA-22	-3.521E-02	3.723E-02	2.871E-02	1.899E-02 NOT IDENT.
NA-24	2.680E+04	3.818E+05	0.000E+00	1.948E+05 SHORT HLIF
AL-26	1.649E-04	2.245E-02	1.859E-02	1.145E-02 NOT IDENT.
TI-44	1.747E-01	3.550E-02	2.960E-02	1.811E-02 FAIL ABUN
SC-46	-3.296E-02	3.220E-02	2.559E-02	1.643E-02 FAIL ABUN
V-48	-1.633E-02	6.114E-02	5.188E-02	3.119E-02 NOT IDENT.
CR-51	2.570E-02	2.795E-01	2.366E-01	1.426E-01 NOT IDENT.
MN-52	-1.096E-01	1.424E-01	1.029E-01	7.264E-02 NOT IDENT.
MN-54	1.306E-02	2.850E-02	2.586E-02	1.454E-02 NOT IDENT.
CO-56	-7.869E-03	2.950E-02	2.527E-02	1.505E-02 NOT IDENT.
CO-57	-2.699E-03	2.006E-02	1.767E-02	1.024E-02 NOT IDENT.
CO-58	-3.134E-02	3.107E-02	2.344E-02	1.585E-02 NOT IDENT.
FE-59	-2.222E-02	8.043E-02	6.763E-02	4.104E-02 NOT IDENT.
CO-60	-1.822E-02	3.186E-02	2.519E-02	1.626E-02 NOT IDENT.
ZN-65	4.347E-02	8.456E-02	6.628E-02	4.314E-02 NOT IDENT.
GE-68	-8.387E-01	1.045E+00	8.351E-01	5.332E-01 NOT IDENT.
AS-73	-1.119E-01	4.928E-01	4.325E-01	2.514E-01 NOT IDENT.
AS-74	-3.432E-02	7.452E-02	6.178E-02	3.802E-02 NOT IDENT.
SE-75	-1.620E-03	3.365E-02	2.967E-02	1.717E-02 NOT IDENT.
BR-77	-2.785E+00	8.938E+00	6.480E+00	4.560E+00 FAIL ABUN
SR-82	-4.538E-02	2.830E-01	2.348E-01	1.444E-01 NOT IDENT.
RB-83	-2.004E-02	6.431E-02	4.663E-02	3.281E-02 NOT IDENT.
RB-84	8.841E-03	5.817E-02	5.145E-02	2.968E-02 NOT IDENT.
KR-85	2.022E+01	6.340E+00	6.321E+00	3.235E+00 NOT IDENT.
SR-85	1.033E-01	3.241E-02	3.231E-02	1.653E-02 NOT IDENT.
RB-86	-5.698E-01	6.571E-01	5.217E-01	3.353E-01 NOT IDENT.
Y-88	-1.055E-02	1.877E-02	1.278E-02	9.577E-03 NOT IDENT.
ZR-88	1.258E-02	2.267E-02	2.063E-02	1.157E-02 NOT IDENT.
Y-91	1.209E+01	1.729E+01	1.550E+01	8.822E+00 NOT IDENT.
NB-94	3.038E-02	2.422E-02	2.264E-02	1.235E-02 NOT IDENT.
NB-95	2.201E-02	3.321E-02	2.948E-02	1.695E-02 NOT IDENT.
NB-95M	3.536E-01	1.106E-01	9.910E-02	5.642E-02 NOT IDENT.
ZR-95	4.871E-02	5.668E-02	5.116E-02	2.892E-02 NOT IDENT.
NB-97	-2.502E+04	6.613E+04	0.000E+00	3.374E+04 SHORT HLIF
ZR-97	1.727E+06	1.125E+06	0.000E+00	5.737E+05 SHORT HLIF
MO-99	3.832E+00	8.325E+00	7.307E+00	4.247E+00 NOT IDENT.
TC-99M	5.305E+15	1.306E+16	0.000E+00	6.665E+15 SHORT HLIF
RH-101	-3.175E-03	2.410E-02	2.143E-02	1.230E-02 NOT IDENT.
RH-102	2.457E-02	2.565E-02	2.105E-02	1.308E-02 NOT IDENT.
RU-103	3.332E-03	3.022E-02	2.645E-02	1.542E-02 FAIL ABUN
RH-106	-4.172E-02	2.419E-01	2.041E-01	1.234E-01 FAIL ABUN
RU-106	-4.172E-02	2.419E-01	2.041E-01	1.234E-01 FAIL ABUN
AG-108M	-4.181E-03	2.320E-02	2.006E-02	1.184E-02 NOT IDENT.
AG-110M	-1.589E-02	3.155E-02	2.180E-02	1.610E-02 NOT IDENT.
IN-111	2.718E-01	7.689E-01	6.195E-01	3.923E-01 NOT IDENT.
IN-113M	5.678E-03	3.223E-02	2.871E-02	1.644E-02 NOT IDENT.
SN-113	5.678E-03	3.223E-02	2.871E-02	1.644E-02 NOT IDENT.
IN-114M	1.245E-01	1.378E-01	1.158E-01	7.031E-02 NOT IDENT.
CD-115	-1.392E+01	7.626E+00	5.611E+00	3.891E+00 NOT IDENT.
SN-117M	-1.204E-03	4.256E-02	3.717E-02	2.171E-02 NOT IDENT.
SB-122	1.089E+00	1.596E+00	1.276E+00	8.144E-01 NOT IDENT.
I-123	4.558E+05	3.079E+06	0.000E+00	1.571E+06 SHORT HLIF
TE-123M	3.282E-03	2.217E-02	1.951E-02	1.131E-02 NOT IDENT.
I-124	-5.663E-01	5.932E-01	3.938E-01	3.027E-01 NOT IDENT.
SB-124	8.547E-03	5.305E-02	4.554E-02	2.707E-02 FAIL ABUN
SB-125	3.074E-02	6.597E-02	5.958E-02	3.366E-02 FAIL ABUN
TE-125M	-6.089E+00	7.302E+00	6.272E+00	3.725E+00 NOT IDENT.
I-126	-8.064E-02	1.433E-01	9.731E-02	7.312E-02 NOT IDENT.
SB-126	2.062E-02	1.187E-01	9.620E-02	6.057E-02 NOT IDENT.
SB-127	4.462E-01	1.006E+00	8.856E-01	5.133E-01 NOT IDENT.
XE-127	2.605E-03	3.382E-02	3.099E-02	1.726E-02 NOT IDENT.
I-131	3.233E-02	8.596E-02	7.766E-02	4.386E-02 NOT IDENT.
TE-132	3.278E-01	4.817E-01	4.476E-01	2.458E-01 NOT IDENT.
BA-133	3.950E-03	3.469E-02	2.693E-02	1.770E-02 NOT IDENT.
I-133	-1.721E+03	3.712E+03	0.000E+00	1.894E+03 SHORT HLIF
CS-134	6.308E-02	5.983E-02	3.786E-02	3.053E-02 FAIL ABUN
CS-135	6.950E-02	1.198E-01	1.105E-01	6.111E-02 NOT IDENT.
I-135	8.775E+13	2.138E+15	0.000E+00	1.091E+15 SHORT HLIF
CS-136	-7.724E-04	8.916E-02	7.692E-02	4.549E-02 FAIL ABUN
CE-139	8.056E-03	2.206E-02	1.956E-02	1.126E-02 NOT IDENT.
BA-140	-1.285E-01	1.985E-01	1.594E-01	1.013E-01 NOT IDENT.
LA-140	-1.133E-02	6.042E-02	4.889E-02	3.083E-02 FAIL ABUN
CE-141	-3.408E-03	4.856E-02	4.252E-02	2.477E-02 NOT IDENT.
CE-143	4.817E+02	1.509E+02	0.000E+00	7.700E+01 SHORT HLIF

CE-144	-1.757E-01	1.618E-01	1.345E-01	8.255E-02	NOT IDENT.
PM-144	-1.602E-02	2.587E-02	2.077E-02	1.320E-02	FAIL ABUN
PR-144	-1.085E+00	1.753E+00	1.407E+00	8.943E-01	NOT IDENT.
PM-146	-2.033E-03	3.484E-02	3.031E-02	1.777E-02	NOT IDENT.
ND-147	2.031E-01	4.210E-01	3.760E-01	2.148E-01	NOT IDENT.
PM-149	-1.356E+01	6.325E+01	5.612E+01	3.227E+01	NOT IDENT.
EU-152	-1.250E-02	1.007E-01	6.695E-02	5.136E-02	NOT IDENT.
GD-153	6.407E-02	6.486E-02	5.321E-02	3.309E-02	NOT IDENT.
EU-154	-1.020E-01	1.039E-01	7.958E-02	5.303E-02	NOT IDENT.
EU-155	3.817E-02	8.090E-02	7.340E-02	4.128E-02	FAIL ABUN
TB-160	3.539E-03	1.118E-01	9.802E-02	5.705E-02	FAIL ABUN
HO-166M	5.292E-03	4.992E-02	4.229E-02	2.547E-02	NOT IDENT.
TM-171	-2.384E+01	2.205E+01	1.665E+01	1.125E+01	NOT IDENT.
LU-176	-5.106E-03	1.827E-02	1.609E-02	9.323E-03	FAIL ABUN
LU-177	5.475E-01	7.904E-01	7.297E-01	4.033E-01	NOT IDENT.
LU-177M	-2.512E-02	1.308E-01	1.135E-01	6.673E-02	NOT IDENT.
HF-181	-2.117E-02	3.701E-02	2.620E-02	1.888E-02	NOT IDENT.
W-181	2.263E-01	2.842E-01	2.338E-01	1.450E-01	NOT IDENT.
TA-182	7.523E-02	1.853E-01	1.625E-01	9.452E-02	FAIL ABUN
RE-183	-1.885E-02	8.319E-02	7.192E-02	4.244E-02	NOT IDENT.
RE-184	2.076E-02	1.638E-01	1.488E-01	8.359E-02	NOT IDENT.
OS-185	4.792E-03	3.096E-02	2.677E-02	1.579E-02	NOT IDENT.
RE-188	-2.237E-02	1.339E-01	1.164E-01	6.830E-02	FAIL ABUN
W-188	-2.298E+00	6.446E+00	4.895E+00	3.289E+00	FAIL ABUN
IR-192	-1.316E-03	2.536E-02	2.256E-02	1.294E-02	FAIL ABUN
AU-195	1.857E-01	1.767E-01	1.526E-01	9.014E-02	FAIL ABUN
TL-200	-2.482E+02	2.890E+02	0.000E+00	1.475E+02	SHORT HLIF
TL-201	8.161E-01	4.815E+00	4.231E+00	2.457E+00	NOT IDENT.
TL-202	1.573E-02	5.184E-02	4.623E-02	2.645E-02	NOT IDENT.
HG-203	1.655E-02	3.053E-02	2.809E-02	1.558E-02	NOT IDENT.
BI-207	-1.783E-02	4.419E-02	3.678E-02	2.255E-02	FAIL ABUN
TL-207	-2.375E-01	5.699E-01	4.257E-01	2.908E-01	FAIL ABUN
PO-209	-9.899E-03	6.283E+00	5.485E+00	3.206E+00	NOT IDENT.
PB-211	-2.884E-01	7.322E-01	6.097E-01	3.736E-01	NOT IDENT.
BI-212	4.501E-01	3.096E-01	2.417E-01	1.579E-01	FAIL ABUN
PO-215	-2.375E-01	5.699E-01	4.257E-01	2.908E-01	FAIL ABUN
RN-219	1.576E-01	3.106E-01	2.809E-01	1.585E-01	NOT IDENT.
RN-220	3.599E+00	2.014E+01	1.760E+01	1.028E+01	NOT IDENT.
RA-223	-2.375E-01	5.699E-01	4.257E-01	2.908E-01	FAIL ABUN
AC-227	-2.826E-01	2.701E-01	2.285E-01	1.378E-01	NOT IDENT.
TH-227	-2.826E-01	2.714E-01	2.285E-01	1.384E-01	FAIL ABUN
TH-229	-1.267E-01	3.664E-01	3.256E-01	1.870E-01	FAIL ABUN
PA-231	-1.087E-01	1.131E+00	1.010E+00	5.769E-01	NOT IDENT.
TH-231	-2.375E-01	5.699E-01	4.257E-01	2.908E-01	FAIL ABUN
U-231	5.535E-01	8.767E-01	7.065E-01	4.473E-01	FAIL ABUN
PA-233	2.356E-02	4.669E-02	4.277E-02	2.382E-02	FAIL ABUN
PA-234	1.543E-01	2.397E-01	2.182E-01	1.223E-01	FAIL ABUN
PA-234M	1.339E+00	3.663E+00	3.268E+00	1.869E+00	NOT IDENT.
U-235	1.746E-01	1.649E-01	1.488E-01	8.412E-02	FAIL ABUN
NP-236	6.269E-03	6.136E-02	5.386E-02	3.131E-02	NOT IDENT.
NP-239	-8.968E-02	1.483E-01	1.282E-01	7.565E-02	NOT IDENT.
AM-241	5.669E-02	1.106E-01	8.990E-02	5.641E-02	NOT IDENT.
CM-243	-1.583E-03	7.148E-02	6.372E-02	3.647E-02	NOT IDENT.
AM-246	2.855E-02	1.202E-01	1.056E-01	6.134E-02	NOT IDENT.
CM-247	4.823E-03	2.765E-02	2.458E-02	1.411E-02	NOT IDENT.
CF-249	-3.864E-02	2.986E-02	2.414E-02	1.524E-02	NOT IDENT.
CF-251	-7.541E-02	9.746E-02	8.070E-02	4.972E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	332.2560
46.50	332.2560
46.50	332.2560
48.70	399.3347
49.72	372.0648
51.35	367.8518
52.39	381.3761
52.97	373.9795
53.15	369.7635
53.44	379.2461
54.07	381.2665
56.28	413.0022
56.28	413.0033
57.37	0.0000
57.53	392.2936
57.53	392.2943
57.60	392.3227
57.98	382.0509
57.98	382.0509
59.32	394.1319
59.32	394.1319
59.40	394.1647
59.54	405.7686
59.72	405.8445
60.01	405.9661
61.10	432.8565
61.14	432.8741
61.30	432.9453
63.00	465.1434
63.29	471.9025
63.29	471.9025
63.58	472.0395
64.28	475.6853
65.12	486.0346
65.20	486.0735
65.20	486.0735
66.05	496.4419
66.72	529.9948
66.83	530.0532
66.91	506.8298
67.20	506.9731
67.20	506.9731
67.75	563.7882
67.85	563.8420
68.90	595.2144
68.90	595.2144
69.30	552.4141
69.67	489.4351
70.82	510.4003
70.82	510.4003
70.83	510.4041
72.80	531.3990
72.87	531.4330
72.87	531.4330
74.67	510.5548
74.81	510.6200
74.81	510.6200
74.81	510.6200
74.81	510.6200
74.81	510.6200
74.81	510.6200
74.97	510.6944
75.28	510.8387
75.70	511.0332
77.11	434.5126
77.11	434.5126

77.11	434.5126
77.11	434.5126
77.11	434.5126
77.11	434.5126
77.11	434.5126
78.38	408.1329
79.62	490.9713
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80.30	553.5148
80.30	553.5148
80.57	573.8391
81.00	580.7893
81.07	580.8251
81.07	580.8251
81.07	580.8251
81.07	580.8251
82.60	542.2628
83.37	465.5849
83.78	453.9375
83.78	453.9375
83.78	453.9375
83.78	453.9375
84.21	435.5356
84.90	427.3467
85.43	441.0572
86.29	510.7125
86.50	510.8029
86.54	510.8213
86.59	510.8416
86.72	573.4922
86.79	573.5233
86.94	573.5978
87.30	485.5461
87.30	485.5461
87.30	485.5461
87.30	485.5461
87.30	485.5461
87.30	485.5461
87.57	485.6564
87.88	485.7825
88.03	485.8420
88.36	485.9768
88.47	486.0206
89.95	486.6159
91.11	487.0782
92.29	487.5457
92.38	487.5825
92.38	487.5825
93.35	487.9641
94.00	382.9175
94.67	391.6345
94.67	391.6359
94.90	398.5198
94.90	398.5198
94.90	398.5198
94.90	398.5198
95.87	392.0107
95.87	392.0107
96.73	371.8121
97.43	325.9404
98.44	309.1196
98.44	309.1196
98.88	318.9067
99.55	324.7708
99.55	324.7708
99.86	333.3972
100.00	340.9149
100.10	340.9417
103.18	378.1718
103.76	338.6829
105.00	335.7815
105.31	336.9322
108.00	351.5864
109.28	400.3487

111.00	338.3540
111.00	338.3540
111.76	363.3384
112.95	345.3070
115.19	341.5385
116.30	338.5635
117.00	359.2939
117.00	359.2939
117.66	361.6265
121.11	351.6448
121.62	348.5125
121.78	351.8079
122.06	347.5317
122.32	339.9904
122.32	339.9904
122.32	339.9904
122.32	339.9904
123.07	317.3433
127.23	393.4419
129.76	322.0553
131.20	326.7347
133.02	370.8899
133.54	364.4474
135.34	317.7606
136.00	325.5688
136.25	327.8137
136.48	320.1881
140.51	317.7166
140.51	0.0000
142.18	331.2580
142.65	322.5499
143.76	310.6578
144.24	318.4640
144.24	318.4640
144.24	318.4640
144.24	318.4640
145.22	326.3764
145.44	338.5521
147.16	357.6800
152.43	311.2113
152.70	311.2627
153.22	302.4949
154.21	332.6111
154.21	332.6111
154.21	332.6111
154.21	332.6111
155.03	330.5574
156.02	322.9836
158.56	317.9119
159.00	0.0000
159.00	307.9879
160.31	300.4356
161.27	301.7199
162.32	299.6758
162.64	299.7313
163.35	305.4300
163.89	312.2144
165.85	267.9163
167.43	265.9251
171.28	290.0214
171.86	241.9503
172.10	241.9832
176.55	288.6328
176.60	288.6407
181.06	264.2041
184.41	302.2831
185.71	304.0007
186.00	281.7712
190.27	217.2407
192.34	258.9024
193.63	262.0580
197.04	244.3575
198.01	265.3833
198.60	269.1009
200.40	264.8004
201.83	267.7259
202.84	269.6863
205.31	300.1302

208.36	272.2688
208.81	268.6751
209.75	261.4865
209.75	261.4865
210.97	255.2414
215.65	259.5019
216.55	254.1117
218.09	260.7291
222.10	250.2005
223.80	265.1344
226.40	244.2645
227.00	238.8020
227.08	238.8115
227.20	238.8241
228.16	230.6305
228.18	230.6335
228.18	230.6335
231.56	0.0000
235.69	222.1904
236.00	234.5684
236.00	234.5684
238.63	218.7854
238.63	218.7854
238.63	218.7854
238.63	218.7854
239.00	218.8229
240.98	219.0231
241.98	219.1239
241.98	219.1239
241.98	219.1239
244.69	187.4771
245.39	182.8878
247.94	186.2024
248.90	215.3897
249.79	208.7203
252.40	177.2460
252.85	184.7464
252.85	184.7464
254.15	0.0000
256.20	204.6448
256.20	204.6448
260.50	182.5626
260.90	178.8503
262.80	200.5518
264.65	200.7138
268.24	210.4184
268.79	199.1951
269.46	203.9514
269.46	203.9514
269.46	203.9514
269.46	203.9514
271.23	198.4616
273.65	274.9334
276.40	186.6450
277.35	190.4896
277.60	187.6824
277.60	187.6824
278.00	198.0901
278.60	193.4212
279.20	193.4713
279.53	187.8330
280.46	202.0696
281.68	228.6268
283.67	184.3764
284.30	181.5867
285.00	172.1802
285.90	194.9582
286.10	193.0803
286.10	193.0803
287.40	182.2946
288.45	0.0000
290.67	205.4551
290.80	205.4657
291.72	200.7991
293.26	0.0000
293.70	191.4676
295.21	204.2526
295.21	204.2526

295.21	204.2526
295.96	229.6541
296.50	245.5460
297.23	229.7721
298.57	196.6033
299.80	166.5598
299.80	166.5598
300.09	155.4737
300.09	155.4737
300.09	155.4737
300.09	155.4737
300.12	155.4757
301.29	174.1429
302.84	188.6801
303.76	192.5633
303.91	191.6198
304.40	199.2873
304.40	199.2873
304.84	195.5057
306.84	169.8909
308.46	150.8985
311.98	147.2832
316.51	158.0814
318.01	161.0499
319.02	153.4395
319.41	147.0686
320.08	146.3065
323.87	172.9424
323.87	172.9424
323.87	172.9424
323.87	172.9424
325.23	153.8066
328.77	144.3878
333.44	110.8925
334.20	110.9247
334.20	110.9247
334.30	110.9290
338.28	149.7343
338.28	149.7343
338.28	149.7343
338.28	149.7343
338.32	149.7381
338.32	149.7381
338.32	149.7381
340.50	165.9731
340.57	165.9773
344.27	169.4308
345.85	174.3728
350.59	0.0000
351.07	141.7066
351.92	141.7512
351.92	141.7512
351.92	141.7512
355.39	0.0000
356.01	124.7819
364.48	134.5887
366.43	152.2504
367.43	156.2090
367.94	0.0000
369.80	138.7516
374.96	148.7919
383.85	133.5397
387.95	151.4264
388.63	149.4951
391.69	119.1301
391.69	119.1301
392.90	117.2089
398.62	138.1594
400.65	127.3906
401.10	128.3972
401.81	121.5120
402.60	125.4978
404.84	140.4243
410.95	114.9451
411.60	112.9883
413.65	125.9566
414.70	138.8977
415.30	132.9711

415.76	138.9473
417.63	0.0000
418.52	112.2510
423.70	128.3607
427.08	105.5885
427.89	98.6423
432.53	102.7800
433.93	102.8252
439.47	110.0067
439.56	110.0107
439.89	117.0229
443.98	127.1891
444.90	138.2443
445.03	138.2510
445.03	138.2510
445.03	138.2510
453.90	123.5630
463.38	88.9965
468.07	86.7695
473.00	84.2041
475.06	92.6827
475.35	85.9494
476.78	85.9857
477.59	92.7521
477.96	91.0767
482.03	108.0729
484.57	96.8888
487.03	106.5419
490.36	0.0000
492.35	100.6121
497.08	93.6273
507.63	0.0000
510.53	0.0000
510.84	97.0659
511.00	97.0706
511.85	97.0938
511.85	97.0938
513.99	97.1529
513.99	97.1529
520.41	109.2839
520.65	109.2917
527.90	118.0715
528.96	0.0000
529.64	109.9101
529.87	0.0000
531.02	85.2898
537.32	99.8513
543.00	88.6665
546.56	0.0000
549.76	88.8324
552.65	86.8342
555.20	84.8268
563.23	79.4818
563.90	74.3104
568.70	86.1733
569.32	86.1875
569.50	86.1915
569.67	86.1956
573.80	93.5684
574.00	93.5728
574.64	95.3213
578.91	62.4639
579.30	0.0000
583.14	85.4614
585.48	86.9039
591.81	83.5664
592.07	88.7955
593.00	87.7714
595.88	106.6592
600.56	87.6819
602.52	0.0000
602.71	115.2288
602.71	115.2288
603.60	115.2556
604.41	106.5465
604.70	106.5539
609.31	70.3042

609.31	70.3042
609.31	70.3042
609.31	70.3042
610.33	70.3222
612.46	78.7610
614.37	64.7906
618.01	64.6005
621.84	81.0549
621.84	81.0549
631.29	72.8054
633.02	80.2249
633.10	80.2268
634.78	77.0920
635.90	73.9443
636.97	80.3047
645.85	67.7734
646.12	66.7191
656.30	90.2419
657.75	86.7330
657.90	0.0000
661.65	52.0900
661.65	52.0900
664.57	0.0000
666.33	70.9505
666.33	70.9505
675.00	74.6519
677.61	77.9011
685.20	70.5584
692.80	70.6841
695.00	56.7913
696.49	82.5363
696.49	82.5363
697.00	92.1939
697.49	86.8436
698.33	91.1509
698.50	91.1550
699.00	84.7302
702.63	54.7453
706.10	81.6462
706.58	0.0000
706.67	80.5829
709.31	88.1580
711.68	73.1465
713.82	93.6312
717.42	70.0115
720.50	75.4500
721.93	0.0000
722.20	97.0466
722.78	91.6655
722.78	91.6655
722.89	91.6697
722.95	91.6697
723.30	102.4636
724.18	64.7271
727.18	73.4071
733.00	70.2606
735.90	74.6332
739.58	62.7876
742.81	71.4995
744.21	69.3547
747.13	71.5687
751.79	72.7284
752.31	77.0790
753.82	71.6751
755.35	68.4402
756.15	63.0198
756.87	72.8102
763.93	76.1899
765.79	71.8652
766.42	62.0738
766.84	60.9902
776.49	64.3930
778.00	68.7817
778.57	67.6975
778.89	70.9795
783.80	57.9364
785.46	49.2089
792.07	52.9295

795.84	60.2784
796.30	60.2852
798.80	60.3174
801.93	65.8447
805.60	59.3064
810.29	61.5645
810.76	74.7635
815.85	61.4521
817.79	55.9725
818.51	54.1458
819.60	56.9115
826.30	56.9910
828.27	0.0000
831.60	66.2563
831.96	67.1825
834.83	65.3795
836.80	0.0000
846.75	63.6950
848.13	61.8665
856.28	0.0000
856.80	71.3578
860.37	59.2435
867.32	54.2284
867.82	53.1528
871.10	54.7339
873.19	68.6779
874.81	64.9870
875.33	0.0000
876.40	58.5075
879.36	64.1176
880.27	68.7758
880.51	68.7788
881.50	67.8627
883.24	63.2367
884.67	64.1849
889.25	78.2100
896.60	70.8650
898.02	66.2202
899.00	59.7031
903.28	75.0658
911.07	76.9436
911.07	76.9436
911.07	76.9436
919.63	61.0158
920.93	61.2088
925.00	45.9435
925.24	48.7585
926.50	45.9564
935.52	46.0362
937.48	52.6333
944.10	58.3457
946.00	52.7188
949.00	71.5871
962.29	71.7680
964.01	59.9159
966.15	63.1791
968.20	93.9951
969.11	99.2792
969.11	99.2792
969.11	99.2792
977.42	63.0173
980.50	62.5370
983.50	73.0005
989.30	54.0974
996.32	54.1681
1001.03	58.0190
1001.68	47.5622
1004.76	57.1069
1021.30	0.0000
1024.50	0.0000
1034.80	71.7712
1036.00	68.9150
1037.82	60.3212
1038.57	58.4137
1038.76	0.0000
1045.16	66.1531
1046.59	64.2520
1048.07	63.3091

1050.47	57.5781
1050.47	57.5781
1062.04	64.4264
1063.62	68.2930
1076.63	72.3053
1077.35	71.3503
1078.86	60.7595
1085.78	74.3525
1099.22	74.5248
1112.02	69.8379
1112.84	63.1946
1115.52	61.5600
1120.29	67.9919
1120.29	67.9919
1120.29	67.9919
1120.29	67.9919
1120.51	59.9464
1121.28	61.6193
1124.00	0.0000
1129.67	62.2630
1131.51	0.0000
1147.95	0.0000
1167.94	68.5360
1173.22	74.4754
1175.09	62.7370
1177.93	77.4763
1189.05	78.6003
1204.90	77.8171
1205.75	0.0000
1213.00	89.7522
1221.42	88.8867
1230.97	91.9896
1235.34	98.9827
1236.41	0.0000
1238.25	67.3387
1246.25	60.4837
1260.41	0.0000
1271.85	58.7359
1274.45	65.7314
1274.54	65.7314
1291.56	47.9297
1298.22	0.0000
1312.09	55.0918
1325.50	34.1259
1325.50	34.1259
1332.49	43.2047
1333.61	34.1688
1360.21	25.2238
1362.66	0.0000
1365.15	32.3099
1368.21	26.2634
1368.53	0.0000
1376.25	33.3746
1384.27	37.4637
1394.10	22.3079
1395.20	19.2690
1407.95	26.4168
1434.06	21.4170
1436.60	15.3033
1457.56	0.0000
1460.81	26.6168
1489.15	16.4447
1509.49	12.3682
1596.49	19.8141
1620.62	14.6466
1678.03	0.0000
1691.02	11.6128
1691.02	11.6128
1706.46	0.0000
1750.46	0.0000
1764.49	11.7202
1764.49	11.7202
1764.49	11.7202
1764.49	11.7202
1770.23	12.7944
1771.40	10.9683
1791.20	0.0000
1808.65	11.7837

1836.01

8.5980

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244597001

Total Uranium Activity	4.1451E+00	ug/g
Total Uranium Counting Unc.	3.6807E+00	ug/g
Total Uranium Tpu	1.8779E-06	ug/g
Total Uranium Mda	2.2569E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 941635          SAMPLE ID   : G244597001
*  ANALYST       : MXR1            DETECTOR    : GAM14
*  SAMPLE DATE   : 7-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 22-JAN-2010 07:38:16.97  SAMPLE ALQT: 155.800 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.985E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.177E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.511E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.220E+00

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VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 11:49:33.11

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015435.CNF;1
Sample date        : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 09:49:06
Sample ID          : G1202015435      Sample quantity  : 1.55810E+02 GRAM
Detector name      : GAM14            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 941635           Detector SN#      :
Matrix Spike ID    :                  LCS ID            : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	511.33*	7	45	2.17	1021.52	1012	20	9.06E-04	345.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 22-JAN-2010 11:49:36

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015435.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 09:49:06
Sample ID         : G1202015435 Sample quantity : 155.81 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.49 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 Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	511.00	*	5.092E-03	3.514E-02	2.261E-02	1.328E-03	0.225

---- Non-Identified Nuclides ----

Nuclide	Line Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.59	*	-2.919E-02	1.261E-01	2.007E-01	1.352E-02	-0.145
NA-22	1274.54	*	5.450E-03	1.919E-02	3.320E-02	2.169E-03	0.164
NA-24	1368.53	*	1.192E-05	1.919E-02	Half-Life too short		
AL-26	1129.67	*	1.050E-01	6.081E-01	1.041E+00	6.576E-02	0.101
	1808.65	*	-5.303E-03	1.374E-02	1.884E-02	1.092E-03	-0.281
K-40	1460.81	*	1.368E-01	2.458E-01	4.387E-01	3.186E-02	0.312
TI-44	67.85	*	-3.374E-03	1.497E-02	2.245E-02	1.580E-03	-0.150
	78.38	*	-6.512E-03	1.158E-02	1.729E-02	1.350E-03	-0.377
SC-46	889.25	*	4.462E-03	1.582E-02	2.762E-02	2.552E-03	0.162
	1120.51	*	1.020E-02	1.873E-02	3.382E-02	2.190E-03	0.302
V-48	944.10	*	-1.527E-01	2.875E-01	4.372E-01	3.907E-02	-0.349
	983.50	*	4.972E-03	2.067E-02	3.586E-02	3.045E-03	0.139
	1312.09	*	-1.037E-02	2.310E-02	3.392E-02	2.344E-03	-0.306
CR-51	320.08	*	-3.633E-02	1.325E-01	2.143E-01	1.385E-02	-0.170
MN-52	744.21	*	-2.074E-02	3.533E-02	5.025E-02	3.546E-03	-0.413
	848.13	*	1.248E-01	1.303E+00	2.211E+00	1.900E-01	0.056
	935.52	*	-3.285E-02	3.610E-02	4.879E-02	4.403E-03	-0.673
	1246.25	*	5.426E-01	1.229E+00	2.169E+00	1.352E-01	0.250
	1333.61	*	1.413E-01	8.132E-01	1.387E+00	9.882E-02	0.102
	1434.06	*	-3.201E-02	4.673E-02	6.407E-02	4.491E-03	-0.500
MN-54	834.83	*	1.443E-03	1.370E-02	2.338E-02	1.961E-03	0.062
CO-56	846.75	*	-1.704E-03	1.815E-02	3.004E-02	2.575E-03	-0.057
	977.42	*	-4.965E-01	1.083E+00	1.644E+00	1.408E-01	-0.302
	1037.82	*	-3.068E-02	1.211E-01	1.920E-01	1.590E-02	-0.160
	1175.09	*	-7.277E-02	7.622E-01	1.235E+00	6.826E-02	-0.059
	1238.25	*	-4.679E-03	2.584E-02	4.092E-02	2.658E-03	-0.114
	1360.21	*	1.985E-01	4.227E-01	7.622E-01	5.415E-02	0.260
	1771.40	*	8.407E-03	1.255E-01	2.065E-01	1.232E-02	0.041

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	122.06	*		-5.254E-04	9.465E-03	1.516E-02	1.079E-03	-0.035
	136.48			-3.657E-02	8.538E-02	1.323E-01	9.710E-03	-0.276
CO-58	810.76	*		-1.286E-03	1.791E-02	2.842E-02	2.286E-03	-0.045
FE-59	142.65			-1.307E-01	1.033E+00	1.641E+00	1.029E-01	-0.080
	192.34			-1.331E-01	3.399E-01	5.245E-01	6.123E-02	-0.254
	1099.22	*		-1.803E-02	3.184E-02	4.678E-02	3.601E-03	-0.385
	1291.56			-2.332E-02	4.065E-02	5.732E-02	4.666E-03	-0.407
CO-60	1173.22			2.491E-03	1.770E-02	2.999E-02	1.652E-03	0.083
	1332.49	*		2.640E-05	1.575E-02	2.587E-02	1.844E-03	0.001
ZN-65	1115.52	*		3.845E-03	3.576E-02	6.031E-02	3.964E-03	0.064
GE-68	1077.35	*		-7.751E-02	3.927E-01	6.209E-01	4.463E-02	-0.125
AS-73	53.44	*		5.701E-02	2.001E-01	3.347E-01	2.182E-02	0.170
AS-74	595.88	*		6.229E-03	3.412E-02	5.668E-02	3.390E-03	0.110
	634.78			-1.530E-03	1.202E-01	1.945E-01	1.162E-02	-0.008
SE-75	66.05			-1.238E+00	1.530E+00	2.293E+00	2.086E-01	-0.540
	96.73			-3.896E-01	3.235E-01	4.730E-01	6.284E-02	-0.824
	121.11			1.940E-02	4.996E-02	8.301E-02	8.399E-03	0.234
	136.00			-9.118E-03	1.556E-02	2.378E-02	1.570E-03	-0.384
	198.60			2.439E-02	7.395E-01	1.161E+00	8.036E-02	0.021
	264.65	*		7.163E-03	1.913E-02	3.110E-02	1.826E-03	0.230
	279.53			-1.561E-02	4.543E-02	7.353E-02	4.631E-03	-0.212
	303.91			-4.029E-01	7.775E-01	1.223E+00	1.169E-01	-0.329
	400.65			5.414E-02	9.811E-02	1.718E-01	1.530E-02	0.315
BR-77	87.88			-1.096E+01	6.597E+00	9.267E+00	8.095E-01	-1.183
	200.40			-3.219E+00	6.867E+00	1.114E+01	6.195E-01	-0.289
	239.00			2.847E-01	5.087E-01	8.192E-01	4.703E-02	0.347
	249.79			-7.932E-01	2.775E+00	4.523E+00	2.612E-01	-0.175
	281.68			1.106E+00	4.246E+00	7.230E+00	4.217E-01	0.153
	297.23			-7.206E-01	2.111E+00	3.395E+00	1.980E-01	-0.212
	303.76			-2.292E+00	7.163E+00	1.152E+01	6.712E-01	-0.199
	439.47			5.376E+00	6.849E+00	1.221E+01	6.904E-01	0.440
	484.57			-1.219E+01	1.109E+01	1.555E+01	9.029E-01	-0.784
	520.65	*		-1.807E-01	5.624E-01	8.254E-01	4.866E-02	-0.219
	574.64			-5.513E+00	1.064E+01	1.616E+01	9.650E-01	-0.341
	578.91			-1.561E+00	4.453E+00	6.932E+00	4.141E-01	-0.225
	585.48			-2.802E+00	8.013E+00	1.244E+01	7.433E-01	-0.225
	755.35			2.146E+00	7.519E+00	1.266E+01	9.137E-01	0.169
	817.79			-5.460E-01	6.267E+00	1.039E+01	8.443E-01	-0.053
SR-82	698.33			-9.324E+00	1.372E+01	2.006E+01	1.290E+00	-0.465
	776.49	*		2.205E-02	1.239E-01	2.055E-01	1.545E-02	0.107
	1395.20			1.646E-01	3.537E+00	5.865E+00	4.144E-01	0.028
RB-83	520.41	*		-7.180E-03	3.166E-02	5.031E-02	2.966E-03	-0.143
	529.64			2.445E-03	4.259E-02	7.008E-02	4.144E-03	0.035
	552.65			5.604E-02	8.573E-02	1.511E-01	8.987E-03	0.371
RB-84	881.50	*		2.173E-03	2.659E-02	4.506E-02	4.108E-03	0.048
KR-85	513.99	*		7.946E+00	4.588E+00	7.825E+00	4.602E-01	1.015
SR-85	513.99	*		3.757E-02	2.169E-02	3.700E-02	2.176E-03	1.015
RB-86	1076.63	*		-6.871E-02	2.035E-01	3.117E-01	2.244E-02	-0.220
Y-88	898.02			1.375E-02	1.712E-02	3.199E-02	3.013E-03	0.430

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01	*		2.114E-03	1.856E-02	3.092E-02	1.756E-03	0.068
ZR-88	392.90	*		1.026E-02	1.133E-02	2.060E-02	1.122E-03	0.498
Y-91	1204.90	*		-1.743E+00	5.314E+00	8.086E+00	4.704E-01	-0.216
NB-94	702.63	*		8.784E-03	1.651E-02	2.848E-02	1.847E-03	0.308
	871.10			-1.271E-02	1.478E-02	2.105E-02	1.884E-03	-0.604
NB-95	765.79	*		4.675E-03	1.660E-02	2.786E-02	2.052E-03	0.168
NB-95M	235.69	*		-3.516E-02	4.885E-02	7.746E-02	5.789E-03	-0.454
ZR-95	724.18			1.993E-02	3.885E-02	6.713E-02	5.172E-03	0.297
	756.15	*		1.585E-02	2.778E-02	4.878E-02	4.024E-03	0.325
NB-97	657.90	*		1.080E-05	2.778E-02	Half-Life	too short	
	1024.50			1.353E-03	2.778E-02	Half-Life	too short	
ZR-97	254.15			-2.735E-04	2.778E-02	Half-Life	too short	
	355.39			-3.879E-04	2.778E-02	Half-Life	too short	
	507.63	*		7.218E-04	2.778E-02	Half-Life	too short	
	602.52			1.618E-04	2.778E-02	Half-Life	too short	
	1021.30			-2.356E-04	2.778E-02	Half-Life	too short	
	1147.95			8.832E-05	2.778E-02	Half-Life	too short	
	1362.66			-1.129E-03	2.778E-02	Half-Life	too short	
	1750.46			-2.990E-04	2.778E-02	Half-Life	too short	
MO-99	140.51			2.493E-01	1.665E+00	2.660E+00	7.200E-01	0.094
	181.06			-1.451E+00	1.052E+00	1.550E+00	2.638E-01	-0.937
	366.43			3.926E+00	5.306E+00	9.423E+00	5.288E-01	0.417
	739.58	*		7.946E-02	6.748E-01	1.109E+00	1.589E-01	0.072
	778.00			9.708E-01	2.021E+00	3.513E+00	2.649E-01	0.276
TC-99M	140.51	*		1.420E+00	2.021E+00	Half-Life	too short	
RH-101	127.23			-2.332E-03	1.153E-02	1.820E-02	1.252E-03	-0.128
	198.01	*		1.633E-03	1.412E-02	2.231E-02	1.238E-03	0.073
	325.23			1.784E-02	9.581E-02	1.618E-01	9.363E-03	0.110
RH-102	418.52			6.649E-02	1.317E-01	2.282E-01	1.271E-02	0.291
	475.06	*		9.892E-03	1.240E-02	2.226E-02	1.287E-03	0.444
	631.29			9.434E-03	2.503E-02	4.270E-02	2.551E-03	0.221
	697.49			1.883E-02	3.388E-02	5.901E-02	3.786E-03	0.319
	766.84			1.525E-02	4.771E-02	8.033E-02	5.928E-03	0.190
	1046.59			3.775E-02	4.604E-02	8.706E-02	6.663E-03	0.434
	1112.84			-1.005E-02	9.297E-02	1.511E-01	9.983E-03	-0.067
RU-103	497.08	*		-3.874E-03	1.536E-02	2.429E-02	3.076E-03	-0.160
	610.33			-2.662E-01	3.759E-01	5.281E-01	8.180E-02	-0.504
RH-106	511.85	+		2.507E-02	1.730E-01	2.376E-01	1.397E-02	0.105
	621.84	*		-5.731E-02	1.597E-01	2.469E-01	2.920E-02	-0.232
	1050.47			-7.329E-01	1.133E+00	1.548E+00	1.176E-01	-0.473
RU-106	511.85	+		2.507E-02	1.730E-01	2.376E-01	1.397E-02	0.105
	621.84	*		-5.731E-02	1.596E-01	2.469E-01	1.476E-02	-0.232
	1050.47			-7.329E-01	1.133E+00	1.548E+00	1.176E-01	-0.473
AG-108M	433.93	*		-7.491E-03	1.447E-02	2.232E-02	1.371E-03	-0.336
	614.37			-8.934E-03	1.972E-02	3.024E-02	1.953E-03	-0.295
	722.95			1.161E-02	1.770E-02	3.131E-02	2.250E-03	0.371
CD-109	88.03	*		-5.920E-01	2.975E-01	4.058E-01	3.549E-02	-1.459
AG-110M	657.75	*		7.479E-03	1.433E-02	2.501E-02	1.580E-03	0.299
	677.61			6.101E-02	1.469E-01	2.507E-01	1.627E-02	0.243

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	706.67			-4.827E-02	1.047E-01	1.584E-01	1.085E-02	-0.305
	763.93			-3.979E-02	7.296E-02	1.071E-01	8.164E-03	-0.371
	884.67			-7.609E-03	2.177E-02	3.441E-02	3.245E-03	-0.221
	937.48			1.900E-02	4.136E-02	7.454E-02	6.935E-03	0.255
	1384.27			-3.303E-02	6.465E-02	9.128E-02	6.729E-03	-0.362
IN-111	171.28			-1.087E-02	6.522E-02	1.027E-01	5.538E-03	-0.106
	245.39		*	-5.399E-03	6.287E-02	1.044E-01	6.019E-03	-0.052
IN-113M	391.69		*	7.302E-03	1.736E-02	3.000E-02	1.755E-03	0.243
SN-113	391.69		*	7.302E-03	1.736E-02	3.000E-02	1.755E-03	0.243
IN-114M	190.27		*	-8.600E-02	7.105E-02	1.093E-01	6.017E-03	-0.787
CD-115	260.90			-1.641E+00	5.302E+00	8.635E+00	5.011E-01	-0.190
	492.35			-2.572E-01	1.408E+00	2.250E+00	1.312E-01	-0.114
	527.90		*	4.539E-01	4.343E-01	8.002E-01	4.729E-02	0.567
SN-117M	156.02			6.048E-01	6.452E-01	1.106E+00	6.369E-02	0.547
	158.56		*	6.482E-03	1.584E-02	2.617E-02	1.480E-03	0.248
SB-122	563.90		*	7.530E-03	1.305E-01	2.142E-01	1.277E-02	0.035
	692.80			-1.267E+00	2.824E+00	4.261E+00	2.707E-01	-0.297
I-123	159.00		*	6.077E-05	2.824E+00	Half-Life too short		
	528.96			2.874E-03	2.824E+00	Half-Life too short		
TE-123M	159.00		*	5.003E-03	1.144E-02	1.895E-02	1.084E-03	0.264
I-124	602.71		*	1.255E-02	9.844E-02	1.622E-01	9.703E-03	0.077
	722.78			3.379E-01	5.149E-01	9.111E-01	6.159E-02	0.371
	1325.50			-7.506E-01	2.279E+00	3.215E+00	2.268E-01	-0.233
	1376.25			-7.515E-03	3.441E+00	5.639E+00	3.996E-01	-0.001
	1509.49			-5.862E-01	2.502E+00	3.886E+00	2.666E-01	-0.151
	1691.02			-1.190E-01	6.393E-01	9.874E-01	6.221E-02	-0.120
SB-124	602.71			2.396E-03	1.880E-02	3.097E-02	1.853E-03	0.077
	645.85			1.292E-02	2.004E-01	3.279E-01	2.194E-02	0.039
	709.31			-1.036E+00	1.352E+00	1.956E+00	1.286E-01	-0.530
	713.82			2.851E-01	8.315E-01	1.369E+00	1.466E-01	0.208
	722.78			9.352E-02	1.425E-01	2.522E-01	1.764E-02	0.371
	968.20			7.930E-01	9.419E-01	1.762E+00	1.528E-01	0.450
	1045.16			2.213E-01	9.026E-01	1.566E+00	1.201E-01	0.141
	1325.50			-2.219E-01	6.737E-01	9.505E-01	6.703E-02	-0.233
	1368.21			3.290E-01	8.084E-01	1.430E+00	1.796E-01	0.230
	1436.60			-7.899E-01	1.613E+00	2.310E+00	1.618E-01	-0.342
	1691.02		*	-7.766E-03	4.174E-02	6.446E-02	4.358E-03	-0.120
SB-125	427.89		*	-1.125E-02	3.716E-02	5.880E-02	3.446E-03	-0.191
	463.38			-6.363E-02	1.133E-01	1.723E-01	1.157E-02	-0.369
	600.56			-1.637E-02	9.770E-02	1.559E-01	1.070E-02	-0.105
	635.90			-1.524E-02	1.212E-01	1.929E-01	1.338E-02	-0.079
TE-125M	109.28		*	-5.395E-01	3.344E+00	5.327E+00	4.992E-01	-0.101
I-126	388.63			-3.601E-02	5.734E-02	8.784E-02	4.798E-03	-0.410
	666.33		*	-2.027E-03	5.035E-02	8.097E-02	4.863E-03	-0.025
	753.82			-1.740E-01	4.278E-01	6.411E-01	4.611E-02	-0.271
SB-126	223.80			-2.640E-01	1.053E+00	1.731E+00	9.830E-02	-0.153
	278.60			-3.807E-01	6.834E-01	1.084E+00	6.321E-02	-0.351
	296.50			-2.462E-01	3.577E-01	5.566E-01	3.247E-02	-0.442
	414.70			1.086E-02	2.035E-02	3.554E-02	1.972E-03	0.306

---- Non-Identified Nuclides ----

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.30	-6.655E-01	1.810E+00	2.858E+00	1.587E-01	-0.233
		555.20	-1.510E+00	1.264E+00	1.725E+00	1.027E-01	-0.876
		573.80	-1.340E-01	3.300E-01	5.096E-01	3.042E-02	-0.263
		593.00	-1.627E-01	2.811E-01	4.200E-01	2.512E-02	-0.387
		656.30	1.438E-01	9.308E-01	1.542E+00	9.181E-02	0.093
		666.33	-8.321E-04	2.067E-02	3.324E-02	1.997E-03	-0.025
		675.00	-1.634E-01	6.067E-01	9.426E-01	5.767E-02	-0.173
		695.00	-3.884E-03	2.261E-02	3.558E-02	2.271E-03	-0.109
		697.00	3.548E-02	8.128E-02	1.391E-01	8.914E-03	0.255
		720.50 *	-8.446E-03	4.143E-02	6.468E-02	4.352E-03	-0.131
		856.80	-4.568E-02	1.319E-01	2.093E-01	1.826E-02	-0.218
		989.30	-1.155E-01	3.516E-01	5.362E-01	4.515E-02	-0.215
		1034.80	9.200E-01	2.532E+00	4.457E+00	3.486E-01	0.206
		1213.00	-1.246E-01	1.019E+00	1.638E+00	9.660E-02	-0.076
SN-126		64.28	-5.556E-02	1.635E-01	2.655E-01	3.783E-02	-0.209
		86.94	-8.450E-02	1.193E-01	1.748E-01	7.231E-02	-0.483
		87.57 *	-4.277E-02	2.806E-02	3.993E-02	3.474E-03	-1.071
SB-127		61.10	-1.064E-01	4.496E+00	6.942E+00	5.239E-01	-0.015
		252.40	1.804E-02	4.560E-01	7.650E-01	3.143E-01	0.024
		290.80	-1.088E+00	2.305E+00	3.678E+00	2.500E-01	-0.296
		411.60	3.524E-01	1.201E+00	2.047E+00	2.633E-01	0.172
		444.90	-1.060E+00	1.087E+00	1.563E+00	1.370E-01	-0.679
		473.00	1.541E-02	1.851E-01	3.066E-01	2.850E-02	0.050
		543.00	-2.970E-01	1.716E+00	2.728E+00	3.111E-01	-0.109
		603.60	1.073E+00	1.488E+00	2.604E+00	2.327E-01	0.412
		685.20 *	-6.580E-02	1.613E-01	2.448E-01	1.836E-02	-0.269
		698.50	-1.166E+00	1.908E+00	2.815E+00	3.768E-01	-0.414
		722.20	2.628E+00	3.102E+00	5.632E+00	4.279E-01	0.467
		783.80	-7.693E-02	3.784E-01	5.864E-01	5.861E-02	-0.131
XE-127		57.60	-9.127E-01	1.410E+00	2.172E+00	1.431E-01	-0.420
		145.22	6.456E-02	2.400E-01	3.931E-01	2.426E-02	0.164
		172.10	-1.532E-02	4.496E-02	6.973E-02	3.764E-03	-0.220
		202.84 *	-4.154E-03	1.586E-02	2.613E-02	1.457E-03	-0.159
		374.96	1.317E-02	8.349E-02	1.319E-01	7.334E-03	0.100
I-131		80.18	-5.661E-01	7.635E-01	1.168E+00	9.321E-02	-0.485
		284.30	2.528E-01	3.450E-01	6.090E-01	3.911E-02	0.415
		364.48 *	-2.911E-02	2.733E-02	4.005E-02	2.507E-03	-0.727
		636.97	-7.517E-02	3.463E-01	5.427E-01	3.578E-02	-0.139
		722.89	1.006E+00	1.533E+00	2.713E+00	1.839E-01	0.371
TE-132		49.72	-1.566E+00	1.119E+00	1.586E+00	1.145E-01	-0.987
		111.76	7.102E-01	2.254E+00	3.723E+00	3.002E-01	0.191
		116.30	1.409E-01	2.059E+00	3.337E+00	2.649E-01	0.042
		228.16 *	-6.089E-04	5.362E-02	8.983E-02	1.179E-02	-0.007
BA-133		53.15	1.362E-01	9.475E-01	1.567E+00	1.021E-01	0.087
		79.62	-1.923E-01	4.134E-01	6.461E-01	9.586E-02	-0.298
		81.00	-3.700E-02	3.343E-02	4.904E-02	7.636E-03	-0.754
		276.40	-2.429E-02	1.546E-01	2.544E-01	3.301E-02	-0.095
		302.84	2.511E-02	5.399E-02	9.386E-02	1.096E-02	0.268
		356.01 *	-6.913E-03	1.852E-02	2.943E-02	3.383E-03	-0.235

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	383.85		1.087E-01	1.288E-01	2.306E-01	2.470E-02	0.471
		510.53		1.089E-04	1.288E-01	Half-Life	too short	
		529.87	*	-7.211E-07	1.288E-01	Half-Life	too short	
		706.58		-1.371E-04	1.288E-01	Half-Life	too short	
		856.28		-2.441E-04	1.288E-01	Half-Life	too short	
		875.33		9.787E-05	1.288E-01	Half-Life	too short	
		1236.41		-1.545E-06	1.288E-01	Half-Life	too short	
CS-134		1298.22		1.274E-04	1.288E-01	Half-Life	too short	
		475.35		3.406E-01	8.464E-01	1.453E+00	8.400E-02	0.234
		563.23		-2.417E-03	1.697E-01	2.760E-01	1.678E-02	-0.009
		569.32		-6.402E-02	1.083E-01	1.585E-01	9.723E-03	-0.404
		604.70		3.794E-03	1.743E-02	2.899E-02	1.744E-03	0.131
		795.84	*	1.318E-03	2.166E-02	3.511E-02	2.764E-03	0.038
		801.93		-1.029E-01	1.979E-01	2.918E-01	2.318E-02	-0.353
CS-135		1038.57		-7.651E-01	1.690E+00	2.584E+00	2.007E-01	-0.296
		1167.94		5.485E-01	1.057E+00	1.895E+00	1.063E-01	0.289
		1365.15		3.967E-01	6.194E-01	1.139E+00	8.626E-02	0.348
		268.24	*	-6.192E-02	6.482E-02	9.871E-02	7.572E-03	-0.627
		288.45		-4.506E+01	6.482E-02	Half-Life	too short	
		417.63		-1.416E+01	6.482E-02	Half-Life	too short	
		546.56		-1.512E+01	6.482E-02	Half-Life	too short	
I-135		836.80		-2.581E+01	6.482E-02	Half-Life	too short	
		1038.76		-1.337E+01	6.482E-02	Half-Life	too short	
		1124.00		-1.156E+01	6.482E-02	Half-Life	too short	
		1131.51		9.719E+00	6.482E-02	Half-Life	too short	
		1260.41	*	6.692E+00	6.482E-02	Half-Life	too short	
		1457.56		-1.440E+01	6.482E-02	Half-Life	too short	
		1678.03		8.451E+00	6.482E-02	Half-Life	too short	
CS-136		1706.46		-2.131E+01	6.482E-02	Half-Life	too short	
		1791.20		2.015E+01	6.482E-02	Half-Life	too short	
		66.91		-1.884E-01	1.702E-01	2.452E-01	3.575E-02	-0.768
		86.29		5.673E-02	2.342E-01	3.862E-01	4.947E-02	0.147
		153.22		-6.998E-02	1.801E-01	2.789E-01	2.027E-02	-0.251
		163.89		-3.325E-01	2.884E-01	4.113E-01	2.864E-02	-0.808
		176.55		-3.960E-02	1.112E-01	1.661E-01	1.026E-02	-0.238
BA-137M		273.65		3.085E-02	1.235E-01	2.104E-01	1.395E-02	0.147
		340.57		3.011E-02	3.679E-02	6.526E-02	3.980E-03	0.461
		818.51		-1.497E-03	2.163E-02	3.593E-02	2.926E-03	-0.042
		1048.07	*	1.379E-02	3.003E-02	5.375E-02	4.319E-03	0.257
		1235.34		-4.382E-02	1.169E-01	1.759E-01	1.789E-02	-0.249
		661.65	*	-7.227E-03	1.574E-02	2.369E-02	1.409E-03	-0.305
		661.65	*	-7.640E-03	1.664E-02	2.504E-02	1.495E-03	-0.305
CE-139		165.85	*	2.608E-03	1.158E-02	1.886E-02	1.012E-03	0.138
BA-140		162.64		-5.428E-02	1.917E-01	2.986E-01	1.868E-02	-0.182
		304.84		-1.638E-01	3.279E-01	5.121E-01	1.398E-01	-0.320
		423.70		-2.062E-01	5.450E-01	8.506E-01	2.700E-01	-0.242
		537.32	*	3.157E-02	6.556E-02	1.134E-01	3.690E-02	0.278
LA-140		328.77		-2.879E-02	8.806E-02	1.419E-01	9.188E-03	-0.203
		432.53		1.387E-01	5.785E-01	9.783E-01	6.114E-02	0.142

----- Non-Identified Nuclides -----

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		487.03	3.283E-02	3.902E-02	7.039E-02	4.630E-03	0.466
		751.79	-2.460E-01	4.772E-01	6.971E-01	5.752E-02	-0.353
		815.85	4.195E-02	9.396E-02	1.677E-01	1.534E-02	0.250
		867.82	1.089E-02	3.681E-01	6.196E-01	5.789E-02	0.018
		919.63	-1.006E-01	7.427E-01	1.211E+00	1.346E-01	-0.083
		925.24	2.694E-01	2.963E-01	5.673E-01	5.470E-02	0.475
		1596.49	* 1.436E-03	2.955E-02	4.862E-02	3.223E-03	0.030
CE-141		145.44	* 7.621E-03	2.085E-02	3.443E-02	2.197E-03	0.221
CE-143		57.37	-3.911E+00	5.864E+00	9.012E+00	7.212E-01	-0.434
		231.56	-4.477E+00	2.115E+01	3.478E+01	1.074E+01	-0.129
		293.26	* 1.624E+00	1.103E+00	1.985E+00	4.057E-01	0.818
		350.59	6.050E+00	1.375E+01	2.358E+01	7.145E+00	0.257
		490.36	1.130E+01	2.609E+01	4.463E+01	1.379E+01	0.253
		664.57	-1.371E+00	1.075E+01	1.702E+01	5.392E+00	-0.081
		721.93	6.925E+00	1.244E+01	2.148E+01	6.149E+00	0.322
CE-144		80.11	-4.937E-01	6.705E-01	1.026E+00	8.168E-02	-0.481
		133.54	* -1.913E-02	7.869E-02	1.237E-01	1.801E-02	-0.155
PM-144		476.78	-3.543E-03	2.871E-02	4.633E-02	3.209E-03	-0.076
		618.01	-8.341E-04	1.633E-02	2.634E-02	1.664E-03	-0.032
		696.49	* 2.968E-03	1.622E-02	2.685E-02	1.719E-03	0.111
		778.57	4.096E-01	9.567E-01	1.647E+00	1.244E-01	0.249
PR-144		696.49	* 2.003E-01	1.094E+00	1.812E+00	1.160E-01	0.111
		1489.15	-5.745E+00	5.944E+00	7.114E+00	4.913E-01	-0.808
PM-146		453.90	* -1.129E-02	1.981E-02	3.029E-02	2.593E-03	-0.373
		633.02	2.787E-01	6.257E-01	1.065E+00	3.925E-01	0.262
		735.90	-6.528E-03	6.303E-02	9.974E-02	2.807E-02	-0.065
		747.13	1.032E-02	3.344E-02	5.697E-02	7.497E-03	0.181
ND-147		91.11	-3.426E-02	7.175E-02	1.173E-01	1.078E-02	-0.292
		319.41	-1.717E-01	8.881E-01	1.448E+00	8.401E-02	-0.119
		439.89	1.031E+00	1.617E+00	2.842E+00	1.608E-01	0.363
		531.02	* -1.247E-01	1.512E-01	2.161E-01	2.933E-02	-0.577
PM-149		285.90	* 5.699E-01	3.645E+00	6.153E+00	8.717E-01	0.093
EU-152		121.78	3.477E-03	2.778E-02	4.520E-02	3.910E-03	0.077
		244.69	8.326E-03	1.269E-01	2.136E-01	1.230E-02	0.039
		344.27	* -2.401E-02	4.393E-02	6.890E-02	4.457E-03	-0.348
		443.98	-3.260E-01	4.289E-01	6.392E-01	3.625E-02	-0.510
		778.89	4.922E-02	1.122E-01	1.934E-01	1.461E-02	0.254
		867.32	1.346E-01	3.456E-01	6.138E-01	5.458E-02	0.219
		964.01	-8.454E-02	1.139E-01	1.655E-01	1.443E-02	-0.511
		1085.78	3.035E-02	1.588E-01	2.726E-01	1.923E-02	0.111
		1112.02	-8.660E-02	1.355E-01	1.985E-01	1.314E-02	-0.436
		1407.95	8.065E-02	9.733E-02	1.831E-01	1.290E-02	0.441
GD-153		69.67	-2.418E-01	4.804E-01	7.510E-01	5.370E-02	-0.322
		83.37	3.130E+00	5.117E+00	8.282E+00	6.848E-01	0.378
		97.43	* 1.279E-02	3.024E-02	5.039E-02	4.041E-03	0.254
		103.18	-2.707E-02	3.606E-02	5.424E-02	4.184E-03	-0.499
EU-154		123.07	1.299E-03	1.901E-02	3.078E-02	3.149E-03	0.042
		247.94	-6.598E-02	1.420E-01	2.275E-01	2.166E-02	-0.290
		591.81	-1.558E-01	2.740E-01	4.077E-01	4.029E-02	-0.382

---- Non-Identified Nuclides ----

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		723.30	4.125E-02	7.628E-02	1.326E-01	1.047E-02	0.311
		756.87	3.031E-01	3.204E-01	5.916E-01	6.521E-02	0.512
		873.19	-3.603E-02	1.282E-01	2.047E-01	2.560E-02	-0.176
		996.32	8.419E-02	1.570E-01	2.827E-01	4.984E-02	0.298
		1004.76	-2.738E-03	7.500E-02	1.239E-01	1.406E-02	-0.022
		1274.45	* 1.528E-02	5.384E-02	9.311E-02	9.130E-03	0.164
EU-155		48.70	-1.346E-01	6.731E-01	1.057E+00	6.771E-02	-0.127
		60.01	-1.636E+00	1.593E+00	2.262E+00	1.504E-01	-0.723
		86.54	-1.340E-03	3.264E-02	5.275E-02	4.579E-03	-0.025
		105.31	* 6.994E-03	3.846E-02	6.305E-02	4.880E-03	0.111
TB-160		86.79	-3.379E-02	8.150E-02	1.280E-01	1.103E-02	-0.264
		197.04	1.041E-01	2.215E-01	3.587E-01	1.988E-02	0.290
		215.65	1.722E-01	2.660E-01	4.692E-01	2.647E-02	0.367
		298.57	-1.541E-02	3.842E-02	6.132E-02	3.576E-03	-0.251
		879.36	* 1.632E-02	5.695E-02	9.945E-02	9.033E-03	0.164
		962.29	-9.158E-02	1.937E-01	2.973E-01	2.598E-02	-0.308
		966.15	-5.106E-02	7.337E-02	1.078E-01	9.374E-03	-0.474
		1177.93	-8.468E-02	1.276E-01	1.886E-01	1.047E-02	-0.449
		1271.85	5.482E-02	2.969E-01	5.047E-01	3.277E-02	0.109
HO-166M		80.57	-9.811E-02	9.040E-02	1.344E-01	1.075E-02	-0.730
		184.41	-1.314E-02	1.603E-02	2.546E-02	1.392E-03	-0.516
		280.46	-1.601E-03	3.682E-02	6.117E-02	3.567E-03	-0.026
		410.95	2.000E-02	9.779E-02	1.650E-01	9.126E-03	0.121
		711.68	* 8.350E-03	3.408E-02	5.549E-02	3.667E-03	0.150
		752.31	-4.998E-02	1.142E-01	1.694E-01	1.215E-02	-0.295
		810.29	6.017E-03	2.954E-02	4.886E-02	3.917E-03	0.123
TM-171		51.35	8.417E-01	8.035E+00	1.325E+01	8.590E-01	0.064
		52.39	2.214E+00	4.180E+00	7.115E+00	4.627E-01	0.311
		59.40	-9.611E+00	8.166E+00	1.129E+01	7.482E-01	-0.851
		66.72	* -1.320E+01	9.350E+00	1.329E+01	9.266E-01	-0.993
LU-176		88.36	-1.100E-01	6.937E-02	9.867E-02	8.597E-03	-1.115
		201.83	-8.493E-03	1.136E-02	1.799E-02	1.002E-03	-0.472
		306.84	* -1.354E-03	9.473E-03	1.552E-02	9.036E-04	-0.087
		401.10	1.559E+00	2.651E+00	4.666E+00	2.559E-01	0.334
LU-177		112.95	4.120E-02	2.898E-01	4.725E-01	3.470E-02	0.087
		208.36	* -6.193E-02	1.961E-01	3.058E-01	1.714E-02	-0.203
LU-177M		52.97	1.393E-01	4.125E-01	6.926E-01	4.510E-02	0.201
		54.07	2.611E-02	2.187E-01	3.609E-01	2.356E-02	0.072
		61.30	1.833E-01	4.184E-01	7.040E-01	4.719E-02	0.260
		121.62	3.725E-02	1.376E-01	2.266E-01	1.611E-02	0.164
		147.16	-1.153E-01	2.493E-01	3.836E-01	2.339E-02	-0.301
		171.86	-6.202E-02	2.034E-01	3.166E-01	1.708E-02	-0.196
		218.09	-1.488E-01	3.287E-01	5.317E-01	3.005E-02	-0.280
		268.79	-1.330E-01	3.112E-01	4.997E-01	2.908E-02	-0.266
		319.02	3.967E-02	1.060E-01	1.823E-01	1.058E-02	0.218
		367.43	3.472E-01	3.948E-01	7.081E-01	3.969E-02	0.490
		413.65	* -1.838E-02	7.224E-02	1.155E-01	6.405E-03	-0.159
HF-181		56.28	-1.645E-01	2.206E-01	3.364E-01	2.208E-02	-0.489
		57.53	-7.837E-02	1.211E-01	1.865E-01	1.228E-02	-0.420

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181	65.20			-2.559E-02	2.755E-01	4.370E-01	3.011E-02	-0.059
	133.02			-1.011E-02	2.282E-02	3.528E-02	2.344E-03	-0.287
	136.25			-9.735E-02	1.674E-01	2.558E-01	1.667E-02	-0.381
	345.85			-5.477E-02	7.543E-02	1.158E-01	6.621E-03	-0.473
	482.03	*		2.435E-03	1.537E-02	2.571E-02	1.491E-03	0.095
	56.28			-6.985E-02	9.374E-02	1.429E-01	9.380E-03	-0.489
	57.53			-3.332E-02	5.147E-02	7.929E-02	5.221E-03	-0.420
	65.20	*		-1.079E-02	1.162E-01	1.843E-01	1.270E-02	-0.059
	67.75			-7.688E-03	3.409E-02	5.113E-02	3.596E-03	-0.150
	100.10			-6.576E-03	6.176E-02	9.895E-02	7.786E-03	-0.066
TA-182	152.43			-5.117E-03	1.260E-01	2.011E-01	1.185E-02	-0.025
	222.10			4.836E-02	1.305E-01	2.253E-01	1.278E-02	0.215
	1001.68			-4.790E-01	8.351E-01	1.252E+00	1.035E-01	-0.383
	1121.28			1.265E-02	5.301E-02	9.132E-02	5.901E-03	0.138
	1189.05			-2.942E-02	1.061E-01	1.652E-01	9.354E-03	-0.178
	1221.42	*		4.446E-03	6.226E-02	1.042E-01	6.233E-03	0.043
	1230.97			5.631E-02	1.511E-01	2.673E-01	1.625E-02	0.211
	57.98			-3.858E-02	5.014E-02	7.637E-02	5.035E-03	-0.505
	59.32			-3.793E-02	3.127E-02	4.306E-02	2.852E-03	-0.881
	67.20			-6.896E-02	6.052E-02	8.799E-02	6.159E-03	-0.784
RE-183	162.32	*		-1.703E-02	3.985E-02	6.125E-02	3.373E-03	-0.278
	208.81			-7.316E-02	3.601E-01	5.662E-01	3.174E-02	-0.129
	291.72			1.288E-01	3.639E-01	6.248E-01	3.645E-02	0.206
	57.98			-1.487E-01	1.932E-01	2.943E-01	1.940E-02	-0.505
	59.32			-1.460E-01	1.204E-01	1.658E-01	1.098E-02	-0.881
	67.20			-2.657E-01	2.331E-01	3.390E-01	2.373E-02	-0.784
	161.27			-4.223E-02	1.390E-01	2.164E-01	1.201E-02	-0.195
	216.55			1.637E-02	1.014E-01	1.724E-01	9.736E-03	0.095
	252.85	*		-1.197E-02	9.333E-02	1.543E-01	8.928E-03	-0.078
	318.01			4.006E-02	1.900E-01	3.218E-01	1.868E-02	0.124
RE-184	792.07			-1.413E-01	4.152E-01	6.280E-01	4.864E-02	-0.225
	903.28			-1.346E-01	3.863E-01	6.063E-01	5.659E-02	-0.222
	920.93			-2.938E-01	1.950E-01	2.317E-01	2.125E-02	-1.268
	59.72			-8.051E-02	8.668E-02	1.233E-01	8.181E-03	-0.653
	61.14			-3.627E-04	4.844E-02	7.490E-02	5.015E-03	-0.005
	69.30			-5.175E-02	8.946E-02	1.298E-01	9.249E-03	-0.399
	592.07			-8.173E-01	1.069E+00	1.542E+00	9.218E-02	-0.530
	646.12	*		6.723E-03	1.762E-02	3.015E-02	1.798E-03	0.223
	717.42			-3.910E-01	4.038E-01	5.508E-01	3.683E-02	-0.710
	874.81			2.468E-01	2.368E-01	4.561E-01	4.110E-02	0.541
OS-185	880.27			1.413E-02	3.339E-01	5.624E-01	5.116E-02	0.025
	155.03	*		2.778E-02	6.570E-02	1.087E-01	6.300E-03	0.256
	477.96			-2.898E-01	1.217E+00	1.933E+00	1.119E-01	-0.150
	633.10			5.357E-01	1.160E+00	2.004E+00	1.197E-01	0.267
	63.58			-1.877E+00	1.563E+01	2.579E+01	1.756E+00	-0.073
	227.08			-1.783E+00	4.727E+00	7.683E+00	4.375E-01	-0.232
	290.67	*		-1.362E+00	2.963E+00	4.735E+00	2.763E-01	-0.288
	295.96			-2.101E-02	3.838E-02	6.054E-02	3.587E-03	-0.347
	308.46			-1.897E-02	3.663E-02	5.770E-02	3.397E-03	-0.329
W-188								
IR-192								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	316.51	*		-4.297E-03	1.444E-02	2.332E-02	1.361E-03	-0.184
	468.07			2.395E-02	2.621E-02	4.756E-02	3.162E-03	0.504
	604.41			9.420E-02	2.259E-01	3.830E-01	4.383E-02	0.246
	612.46			-5.950E-02	3.109E-01	4.927E-01	3.800E-02	-0.121
	65.12			-2.564E-03	5.479E-02	8.719E-02	6.004E-03	-0.029
	66.83			-4.294E-02	3.025E-02	4.296E-02	2.998E-03	-0.999
	75.70			1.868E-02	5.356E-02	8.918E-02	6.764E-03	0.209
	98.88	*		1.086E-02	8.128E-02	1.328E-01	1.054E-02	0.082
TL-200	129.76			1.628E-01	1.025E+00	1.671E+00	1.132E-01	0.097
	367.94	*		8.168E-01	1.511E+00	2.632E+00	1.474E-01	0.310
	579.30			-6.012E+00	1.257E+01	1.923E+01	1.148E+00	-0.313
	828.27			-3.187E+00	1.504E+01	2.439E+01	2.021E+00	-0.131
TL-201	1205.75			-5.649E-01	5.330E+00	8.568E+00	4.992E-01	-0.066
	68.90			-1.269E-01	2.678E-01	3.933E-01	2.793E-02	-0.323
	70.82			-1.727E-02	1.382E-01	2.228E-01	1.610E-02	-0.078
	80.30			-2.097E-01	2.795E-01	4.271E-01	3.407E-02	-0.491
TL-202	135.34			-6.901E-01	1.796E+00	2.792E+00	1.829E-01	-0.247
	167.43	*		4.411E-01	4.860E-01	8.351E-01	4.486E-02	0.528
	68.90			-4.264E-02	8.999E-02	1.322E-01	9.388E-03	-0.323
	70.82			-5.789E-03	4.633E-02	7.466E-02	5.395E-03	-0.078
HG-203	80.30			-7.030E-02	9.369E-02	1.432E-01	1.142E-02	-0.491
	439.56	*		1.530E-02	2.021E-02	3.594E-02	2.032E-03	0.426
	70.83			-3.463E-02	2.771E-01	4.465E-01	5.702E-02	-0.078
	72.87			-2.780E-02	1.621E-01	2.601E-01	3.231E-02	-0.107
BI-207	82.60			2.522E-01	3.192E-01	5.446E-01	7.341E-02	0.463
	279.20	*		-6.215E-03	1.576E-02	2.540E-02	1.571E-03	-0.245
	72.80			-9.938E-03	5.326E-02	8.539E-02	6.289E-03	-0.116
	74.97			2.474E-02	2.951E-02	5.084E-02	3.827E-03	0.487
TL-207	84.90			9.601E-03	6.670E-02	1.046E-01	8.806E-03	0.092
	569.67			-1.086E-02	1.730E-02	2.527E-02	1.507E-03	-0.430
	1063.62	*		9.331E-03	2.105E-02	3.766E-02	2.787E-03	0.248
	1770.23			1.382E-01	2.598E-01	4.773E-01	2.851E-02	0.290
TL-208	81.07			-8.109E-02	7.312E-02	1.085E-01	8.736E-03	-0.747
	83.78			9.095E-03	4.482E-02	7.061E-02	5.867E-03	0.129
	94.90			1.497E-02	9.812E-02	1.603E-01	1.312E-02	0.093
	122.32			1.562E-02	6.574E-01	1.060E+00	8.322E-02	0.015
PO-209	144.24			4.517E-02	2.783E-01	4.519E-01	3.419E-02	0.100
	154.21			-1.496E-02	1.645E-01	2.615E-01	1.839E-02	-0.057
	269.46			2.406E-02	7.244E-02	1.245E-01	7.569E-03	0.193
	323.87	*		-6.842E-02	2.977E-01	4.835E-01	7.985E-02	-0.141
TL-208	338.28			5.011E-02	4.422E-01	7.405E-01	7.777E-02	0.068
	445.03			-9.741E-01	1.017E+00	1.465E+00	1.494E-01	-0.665
	277.35			4.164E-02	1.537E-01	2.623E-01	2.774E-02	0.159
	510.84	+		2.358E-02	1.627E-01	2.258E-01	2.303E-02	0.104
PO-209	583.14	*		9.810E-03	1.812E-02	3.022E-02	2.067E-03	0.325
	860.37			1.539E-02	1.242E-01	2.118E-01	1.993E-02	0.073
	260.50			-1.551E+00	4.418E+00	7.175E+00	4.164E-01	-0.216
	262.80			1.372E+00	1.277E+01	2.041E+01	1.186E+00	0.067
	896.60	*		-1.437E+00	3.380E+00	5.272E+00	4.934E-01	-0.273

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210	46.50	*		-8.903E-01	9.981E-01	1.566E+00	1.161E-01	-0.568
PB-210	46.50	*		-8.903E-01	9.981E-01	1.566E+00	1.161E-01	-0.568
PO-210	46.50	*		-8.903E-01	9.974E-01	1.566E+00	9.828E-02	-0.568
BI-211	72.87			-1.568E-01	9.136E-01	1.467E+00	1.081E-01	-0.107
	351.07	*		1.282E-02	8.482E-02	1.426E-01	9.036E-03	0.090
PB-211	404.84	*		-2.429E-01	4.242E-01	6.073E-01	3.784E-01	-0.400
	427.08			-4.438E-01	8.661E-01	1.257E+00	7.766E-01	-0.353
	831.96			-4.356E-02	5.294E-01	8.272E-01	5.180E-01	-0.053
BI-212	727.18	*		-5.662E-02	1.541E-01	2.234E-01	1.901E-02	-0.253
	785.46			3.505E-01	6.704E-01	1.178E+00	9.009E-02	0.298
	1620.62			3.496E-01	5.652E-01	1.070E+00	7.010E-02	0.327
PB-212	74.81			4.099E-02	1.047E-01	1.749E-01	2.097E-02	0.234
	77.11			-2.728E-02	6.501E-02	9.847E-02	7.582E-03	-0.277
	87.30			-1.645E-01	1.305E-01	1.889E-01	2.500E-02	-0.871
	238.63	*		2.573E-02	2.980E-02	4.883E-02	3.556E-03	0.527
	300.09			1.274E-01	2.818E-01	4.896E-01	4.049E-02	0.260
PO-212	74.81			4.099E-02	1.047E-01	1.749E-01	2.097E-02	0.234
	77.11			-2.728E-02	6.501E-02	9.847E-02	7.582E-03	-0.277
	87.30			-1.645E-01	1.305E-01	1.889E-01	2.500E-02	-0.871
	115.19			1.299E-02	1.406E+00	2.268E+00	1.650E-01	0.006
	238.63	*		2.573E-02	2.980E-02	4.883E-02	3.556E-03	0.527
	300.09			1.274E-01	2.818E-01	4.896E-01	4.049E-02	0.260
BI-214	609.31	*		-1.487E-02	3.795E-02	5.552E-02	4.395E-03	-0.268
	1120.29			5.231E-02	1.182E-01	2.100E-01	1.945E-02	0.249
	1764.49			-5.898E-02	1.104E-01	1.687E-01	1.012E-02	-0.350
PB-214	74.81			7.062E-02	1.804E-01	3.013E-01	3.179E-02	0.234
	77.11			-4.676E-02	1.115E-01	1.688E-01	1.829E-02	-0.277
	87.30			-2.818E-01	2.228E-01	3.236E-01	3.755E-02	-0.871
	241.98			-2.219E-01	1.498E-01	2.203E-01	1.770E-02	-1.007
	295.21			1.432E-03	5.413E-02	9.035E-02	7.724E-03	0.016
	351.92	*		4.180E-03	2.985E-02	5.012E-02	4.113E-03	0.083
PO-214	74.81			7.062E-02	1.804E-01	3.013E-01	3.179E-02	0.234
	77.11			-4.676E-02	1.115E-01	1.688E-01	1.829E-02	-0.277
	87.30			-2.818E-01	2.228E-01	3.236E-01	3.755E-02	-0.871
	241.98			-2.219E-01	1.498E-01	2.203E-01	1.770E-02	-1.007
	295.21			1.432E-03	5.413E-02	9.035E-02	7.724E-03	0.016
	351.92	*		4.180E-03	2.985E-02	5.012E-02	4.113E-03	0.083
PO-215	81.07			-8.109E-02	7.312E-02	1.085E-01	8.736E-03	-0.747
	83.78			9.095E-03	4.482E-02	7.061E-02	5.867E-03	0.129
	94.90			1.497E-02	9.812E-02	1.603E-01	1.312E-02	0.093
	122.32			1.562E-02	6.574E-01	1.060E+00	8.322E-02	0.015
	144.24			4.517E-02	2.783E-01	4.519E-01	3.419E-02	0.100
	154.21			-1.496E-02	1.645E-01	2.615E-01	1.839E-02	-0.057
	269.46			2.406E-02	7.244E-02	1.245E-01	7.569E-03	0.193
	323.87	*		-6.842E-02	2.977E-01	4.835E-01	7.985E-02	-0.141
	338.28			5.011E-02	4.422E-01	7.405E-01	7.777E-02	0.068
	445.03			-9.741E-01	1.017E+00	1.465E+00	1.494E-01	-0.665
PO-216	74.81			4.099E-02	1.047E-01	1.749E-01	2.097E-02	0.234
	77.11			-2.728E-02	6.501E-02	9.847E-02	7.582E-03	-0.277

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	87.30			-1.645E-01	1.305E-01	1.889E-01	2.500E-02	-0.871
	238.63	*		2.573E-02	2.980E-02	4.883E-02	3.556E-03	0.527
	300.09			1.274E-01	2.818E-01	4.896E-01	4.049E-02	0.260
PO-218	74.81			7.062E-02	1.804E-01	3.013E-01	3.179E-02	0.234
	77.11			-4.676E-02	1.115E-01	1.688E-01	1.829E-02	-0.277
	87.30			-2.818E-01	2.228E-01	3.236E-01	3.755E-02	-0.871
	241.98			-2.219E-01	1.498E-01	2.203E-01	1.770E-02	-1.007
	295.21			1.432E-03	5.413E-02	9.035E-02	7.724E-03	0.016
	351.92	*		4.180E-03	2.985E-02	5.012E-02	4.113E-03	0.083
RN-219	271.23			3.934E-02	9.656E-02	1.667E-01	1.354E-02	0.236
	401.81	*		1.546E-01	1.670E-01	3.017E-01	4.065E-02	0.512
RN-220	549.76	*		1.155E+01	1.165E+01	2.135E+01	1.269E+00	0.541
RA-223	81.07			-8.109E-02	7.312E-02	1.085E-01	8.736E-03	-0.747
	83.78			9.095E-03	4.482E-02	7.061E-02	5.867E-03	0.129
	94.90			1.497E-02	9.812E-02	1.603E-01	1.312E-02	0.093
	122.32			1.562E-02	6.574E-01	1.060E+00	8.322E-02	0.015
	144.24			4.517E-02	2.783E-01	4.519E-01	3.419E-02	0.100
	154.21			-1.496E-02	1.645E-01	2.615E-01	1.839E-02	-0.057
	269.46			2.406E-02	7.244E-02	1.245E-01	7.569E-03	0.193
	323.87	*		-6.842E-02	2.977E-01	4.835E-01	7.985E-02	-0.141
	338.28			5.011E-02	4.422E-01	7.405E-01	7.777E-02	0.068
	445.03			-9.741E-01	1.017E+00	1.465E+00	1.494E-01	-0.665
RA-224	240.98	*		-9.426E-02	2.910E-01	4.760E-01	2.736E-02	-0.198
RA-226	609.31	*		-1.487E-02	3.795E-02	5.552E-02	4.395E-03	-0.268
	1120.29			5.231E-02	1.182E-01	2.100E-01	1.945E-02	0.249
	1764.49			-5.898E-02	1.104E-01	1.687E-01	1.012E-02	-0.350
AC-227	79.80			-2.509E-01	5.262E-01	8.192E-01	1.740E-01	-0.306
	236.00			1.764E-02	9.653E-02	1.638E-01	1.706E-02	0.108
	256.20	*		1.568E-01	1.662E-01	2.961E-01	4.133E-02	0.530
	286.10			-1.280E-01	6.934E-01	1.137E+00	1.317E-01	-0.113
	299.80			-2.282E-01	5.494E-01	8.748E-01	1.426E-01	-0.261
	304.40			-4.000E-01	7.367E-01	1.152E+00	1.994E-01	-0.347
	334.20			-1.905E-01	1.010E+00	1.645E+00	3.014E-01	-0.116
TH-227	79.80			-2.509E-01	5.263E-01	8.192E-01	1.763E-01	-0.306
	94.00			1.279E+00	8.453E-01	1.416E+00	3.063E-01	0.904
	236.00			1.764E-02	9.653E-02	1.638E-01	1.476E-02	0.108
	256.20	*		1.568E-01	1.669E-01	2.961E-01	5.003E-02	0.530
	286.10			-1.280E-01	7.050E-01	1.137E+00	1.139E+00	-0.113
	299.80			-2.282E-01	5.494E-01	8.748E-01	1.426E-01	-0.261
	304.40			-4.000E-01	7.367E-01	1.152E+00	1.994E-01	-0.347
	334.20			-1.905E-01	1.010E+00	1.645E+00	3.014E-01	-0.116
AC-228	338.32			2.323E-02	1.056E-01	1.779E-01	7.250E-02	0.131
	911.07	*		3.730E-02	6.406E-02	1.151E-01	1.352E-02	0.324
	969.11			-2.503E-03	1.096E-01	1.748E-01	4.082E-02	-0.014
RA-228	338.32			2.323E-02	1.056E-01	1.779E-01	7.250E-02	0.131
	911.07	*		3.730E-02	6.406E-02	1.151E-01	1.352E-02	0.324
	969.11			-2.503E-03	1.096E-01	1.748E-01	4.082E-02	-0.014
TH-228	74.81			4.129E-02	1.054E-01	1.762E-01	1.338E-02	0.234
	77.11			-2.748E-02	6.550E-02	9.920E-02	7.639E-03	-0.277

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	87.30			-1.657E-01	1.304E-01	1.903E-01	1.650E-02	-0.871
	238.63	*		2.593E-02	3.002E-02	4.919E-02	3.583E-03	0.527
	300.09			1.283E-01	2.936E-01	4.932E-01	2.907E-01	0.260
	85.43			1.940E-02	6.563E-02	1.040E-01	8.815E-03	0.187
	88.47			-1.022E-01	4.338E-02	5.756E-02	5.009E-03	-1.776
	100.00			-6.616E-03	6.719E-02	1.077E-01	8.483E-03	-0.061
TH-230	193.63	*		-1.608E-01	2.164E-01	3.267E-01	1.804E-02	-0.492
	210.97			-4.972E-02	2.831E-01	4.689E-01	2.634E-02	-0.106
	609.31	*		-1.487E-02	3.795E-02	5.552E-02	4.395E-03	-0.268
	1120.29			5.231E-02	1.182E-01	2.100E-01	1.945E-02	0.249
PA-231	1764.49			-5.898E-02	1.104E-01	1.687E-01	1.012E-02	-0.350
	283.67	*		7.217E-01	6.909E-01	1.237E+00	1.707E-01	0.583
TH-231	301.29			8.925E-02	2.068E-01	3.588E-01	3.756E-02	0.249
	81.07			-8.109E-02	7.312E-02	1.085E-01	8.736E-03	-0.747
	83.78			9.095E-03	4.482E-02	7.061E-02	5.867E-03	0.129
	94.90			1.497E-02	9.812E-02	1.603E-01	1.312E-02	0.093
	122.32			1.562E-02	6.574E-01	1.060E+00	8.322E-02	0.015
	144.24			4.517E-02	2.783E-01	4.519E-01	3.419E-02	0.100
	154.21			-1.496E-02	1.645E-01	2.615E-01	1.839E-02	-0.057
	269.46			2.406E-02	7.244E-02	1.245E-01	7.569E-03	0.193
	323.87	*		-6.842E-02	2.977E-01	4.835E-01	7.985E-02	-0.141
	338.28			5.011E-02	4.422E-01	7.405E-01	7.777E-02	0.068
U-231	445.03			-9.741E-01	1.017E+00	1.465E+00	1.494E-01	-0.665
	84.21			-3.776E-02	5.364E-01	8.282E-01	6.917E-02	-0.046
	92.29			-3.688E-02	2.491E-01	4.146E-01	3.472E-02	-0.089
	95.87	*		-3.161E-01	1.379E-01	1.845E-01	1.498E-02	-1.713
TH-232	108.00			6.258E-02	2.213E-01	3.651E-01	2.743E-02	0.171
	338.32			2.323E-02	1.052E-01	1.779E-01	1.022E-02	0.131
	911.07	*		3.730E-02	6.406E-02	1.151E-01	1.352E-02	0.324
PA-233	969.11			-2.503E-03	1.096E-01	1.748E-01	4.082E-02	-0.014
	75.28			6.926E-01	8.742E-01	1.493E+00	2.206E-01	0.464
	86.59			-2.728E-02	5.316E-01	8.584E-01	2.302E-01	-0.032
	300.12			6.861E-02	1.461E-01	2.539E-01	3.415E-02	0.270
PA-234	311.98	*		-1.051E-03	2.728E-02	4.518E-02	2.790E-03	-0.023
	340.50			2.261E-01	2.730E-01	4.770E-01	1.095E-01	0.474
	398.62			-6.976E-01	8.598E-01	1.244E+00	3.208E-01	-0.561
	415.76			-1.200E-01	7.367E-01	1.191E+00	2.444E-01	-0.101
	63.00			-5.363E-03	4.978E-01	8.276E-01	1.205E-01	-0.006
	94.67			5.042E-02	7.184E-02	1.208E-01	1.463E-02	0.417
	98.44			2.419E-02	3.634E-02	5.762E-02	3.209E-02	0.420
	99.86			-2.853E-02	1.714E-01	2.733E-01	2.154E-02	-0.104
	111.00			4.791E-03	7.150E-02	1.160E-01	1.305E-02	0.041
	131.20			1.784E-02	3.922E-02	6.545E-02	4.396E-03	0.273
	152.70			5.451E-03	1.279E-01	2.056E-01	3.257E-02	0.027
	186.00			-3.964E-01	5.910E-01	9.276E-01	2.829E-01	-0.427
	226.40			-8.615E-02	1.639E-01	2.628E-01	3.024E-02	-0.328
	227.20			-6.327E-02	1.726E-01	2.808E-01	1.599E-02	-0.225
	248.90			-1.638E-01	3.188E-01	5.047E-01	1.084E-01	-0.324
	293.70			2.596E-01	2.662E-01	4.754E-01	7.652E-02	0.546

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	369.80			6.616E-02	4.112E-01	6.899E-01	1.433E-01	0.096
	568.70			-4.389E-01	5.474E-01	7.768E-01	4.634E-02	-0.565
	569.50			-1.017E-01	1.530E-01	2.223E-01	1.326E-02	-0.457
	574.00			-3.240E-01	7.367E-01	1.133E+00	6.763E-02	-0.286
	699.00			-9.157E-02	3.513E-01	5.466E-01	9.946E-02	-0.168
	706.10			-1.782E-01	5.303E-01	8.075E-01	3.572E-01	-0.221
	733.00			-2.214E-02	1.719E-01	2.714E-01	5.858E-02	-0.082
	742.81			1.413E-01	5.229E-01	8.705E-01	5.835E-01	0.162
	796.30			2.680E-01	4.069E-01	7.094E-01	1.902E-01	0.378
	805.60			9.771E-02	5.135E-01	8.456E-01	2.576E-01	0.116
	819.60			1.172E-01	5.420E-01	9.357E-01	3.549E-01	0.125
	826.30			-1.512E-01	3.443E-01	5.248E-01	2.345E-01	-0.288
	831.60			1.356E-02	2.734E-01	4.369E-01	1.300E-01	0.031
	876.40			1.553E-01	4.080E-01	6.669E-01	6.858E-01	0.233
	880.51			4.456E-04	1.270E-01	2.127E-01	1.936E-02	0.002
	883.24			-4.305E-02	1.323E-01	2.047E-01	1.378E-01	-0.210
	899.00			4.696E-01	4.018E-01	6.952E-01	3.050E-01	0.676
	925.00			4.048E-01	4.633E-01	8.843E-01	8.074E-02	0.458
	926.50			3.941E-02	7.001E-02	1.269E-01	3.229E-02	0.311
	946.00	*		-6.497E-02	1.294E-01	1.962E-01	3.708E-02	-0.331
	949.00			-6.431E-02	2.056E-01	3.262E-01	2.898E-02	-0.197
	980.50			-5.154E-02	2.844E-01	4.574E-01	3.901E-02	-0.113
PA-234M	1394.10			3.524E-02	5.086E-01	8.464E-01	5.494E-01	0.042
	766.42			3.066E-01	5.081E+00	8.244E+00	4.166E+00	0.037
TH-234	1001.03	*		-1.513E+00	2.031E+00	2.943E+00	2.845E-01	-0.514
	63.29	*		-1.043E-01	4.282E-01	7.002E-01	1.204E-01	-0.149
	92.38			-7.668E-02	2.351E-01	3.869E-01	6.951E-02	-0.198
U-234	609.31	*		-1.487E-02	3.795E-02	5.552E-02	4.395E-03	-0.268
	1120.29			5.231E-02	1.182E-01	2.100E-01	1.945E-02	0.249
	1764.49			-5.898E-02	1.104E-01	1.687E-01	1.012E-02	-0.350
U-235	89.95			-4.784E-01	4.348E-01	6.107E-01	1.883E-01	-0.783
	93.35			-2.047E-01	2.849E-01	4.500E-01	1.257E-01	-0.455
	105.00			-5.604E-03	3.775E-01	6.089E-01	1.801E-01	-0.009
	143.76	*		1.155E-02	8.663E-02	1.404E-01	2.310E-02	0.082
	163.35			-1.869E-01	1.942E-01	2.791E-01	4.990E-02	-0.670
	185.71			-1.805E-02	2.151E-02	3.412E-02	1.869E-03	-0.529
	205.31			1.384E-01	1.979E-01	3.476E-01	6.228E-02	0.398
NP-236	94.67			3.878E-02	5.442E-02	9.170E-02	7.519E-03	0.423
	98.44			1.830E-02	2.556E-02	4.356E-02	3.468E-03	0.420
	111.00			3.624E-03	5.409E-02	8.771E-02	6.496E-03	0.041
	160.31	*		-1.450E-02	3.310E-02	5.096E-02	2.848E-03	-0.285
NP-237	86.50	*		-2.624E-03	7.989E-02	1.292E-01	2.888E-02	-0.020
	95.87			-9.953E-01	4.911E-01	5.811E-01	1.422E-01	-1.713
U-238	63.29	*		-1.043E-01	4.282E-01	7.002E-01	1.204E-01	-0.149
	92.38			-7.668E-02	2.348E-01	3.869E-01	3.237E-02	-0.198
NP-239	99.55			-2.069E-02	5.853E-02	9.189E-02	7.258E-03	-0.225
	117.00	*		-3.230E-02	7.535E-02	1.171E-01	8.459E-03	-0.276
	209.75			-1.895E-01	3.044E-01	4.605E-01	2.584E-02	-0.411
	228.18			-8.682E-04	9.041E-02	1.515E-01	8.632E-03	-0.006

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			-2.602E-02	7.625E-02	1.234E-01	7.195E-03	-0.211
	334.30			-1.189E-01	5.711E-01	9.289E-01	5.350E-02	-0.128
AM-241	59.54	*		-5.085E-02	4.797E-02	6.715E-02	4.985E-03	-0.757
AM-243	74.67	*		6.997E-03	1.703E-02	2.849E-02	2.138E-03	0.246
	86.72			-1.080E+00	3.016E+00	4.760E+00	4.098E-01	-0.227
	117.66			-6.414E-01	1.558E+00	2.426E+00	1.749E-01	-0.264
	142.18			3.344E+00	7.540E+00	1.249E+01	7.855E-01	0.268
CM-243	99.55			-2.128E-02	6.020E-02	9.451E-02	7.464E-03	-0.225
	103.76	*		-1.104E-02	3.395E-02	5.325E-02	4.094E-03	-0.207
	117.00			-3.321E-02	7.748E-02	1.204E-01	8.698E-03	-0.276
	209.75			-1.867E-01	2.999E-01	4.537E-01	2.546E-02	-0.411
	228.18			-8.769E-04	9.130E-02	1.530E-01	8.718E-03	-0.006
	277.60			-2.621E-02	7.683E-02	1.244E-01	7.250E-03	-0.211
AM-246	798.80			2.698E-02	6.717E-02	1.142E-01	8.961E-03	0.236
	1036.00			6.041E-02	1.261E-01	2.264E-01	1.767E-02	0.267
	1062.04			8.691E-02	9.147E-02	1.762E-01	1.308E-02	0.493
	1078.86	*		1.905E-02	4.980E-02	8.905E-02	6.380E-03	0.214
CM-247	278.00			-1.816E-01	3.171E-01	5.024E-01	2.928E-02	-0.361
	287.40			-4.827E-01	5.479E-01	8.401E-01	4.901E-02	-0.575
	402.60	*		1.520E-02	1.504E-02	2.752E-02	1.512E-03	0.552
CF-249	252.85			-4.634E-02	3.614E-01	5.977E-01	3.458E-02	-0.078
	333.44			9.972E-04	7.491E-02	1.244E-01	7.170E-03	0.008
	387.95	*		-6.497E-03	1.718E-02	2.717E-02	1.486E-03	-0.239
CF-251	176.60	*		-2.029E-02	5.755E-02	8.603E-02	4.666E-03	-0.236
	227.00			-5.886E-02	1.531E-01	2.487E-01	1.416E-02	-0.237
	285.00			4.696E-01	7.641E-01	1.339E+00	7.812E-02	0.351

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]G1202015435
* Acquisition date   : 22-JAN-2010 09:49:06 Detector SN#      :
* Detector ID        : GAM14 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:00.49 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202015435 Analyst initials: MXR1
* Batch Number       : 941635 Sample Quantity : 1.5581E+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)	
ANH-511	5.092E-03	3.444E-02	2.347E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.919E-02	1.236E-01	2.087E-01	0.000E+00 NOT IDENT.
NA-22	5.450E-03	1.881E-02	3.362E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.307E+01	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-5.303E-03	1.346E-02	1.889E-02	0.000E+00 NOT IDENT.
K-40	1.368E-01	2.409E-01	4.425E-01	0.000E+00 NOT IDENT.
TI-44	-6.512E-03	1.135E-02	1.884E-02	0.000E+00 NOT IDENT.
SC-46	4.462E-03	1.550E-02	2.825E-02	0.000E+00 NOT IDENT.
V-48	4.972E-03	2.025E-02	3.658E-02	0.000E+00 NOT IDENT.
CR-51	-3.633E-02	1.299E-01	2.253E-01	0.000E+00 NOT IDENT.
MN-52	-3.201E-02	4.580E-02	6.466E-02	0.000E+00 NOT IDENT.
MN-54	1.443E-03	1.343E-02	2.395E-02	0.000E+00 NOT IDENT.
CO-56	-1.704E-03	1.778E-02	3.077E-02	0.000E+00 NOT IDENT.
CO-57	-5.254E-04	9.276E-03	1.634E-02	0.000E+00 NOT IDENT.
CO-58	-1.286E-03	1.755E-02	2.914E-02	0.000E+00 NOT IDENT.
FE-59	-1.803E-02	3.121E-02	4.756E-02	0.000E+00 NOT IDENT.
CO-60	2.640E-05	1.543E-02	2.616E-02	0.000E+00 NOT IDENT.
ZN-65	3.845E-03	3.504E-02	6.129E-02	0.000E+00 NOT IDENT.
GE-68	-7.751E-02	3.849E-01	6.317E-01	0.000E+00 NOT IDENT.
AS-73	5.701E-02	1.961E-01	3.680E-01	0.000E+00 NOT IDENT.
AS-74	6.229E-03	3.344E-02	5.862E-02	0.000E+00 NOT IDENT.
SE-75	7.163E-03	1.875E-02	3.285E-02	0.000E+00 NOT IDENT.
BR-77	-1.807E-01	5.512E-01	8.566E-01	0.000E+00 NOT IDENT.
SR-82	2.205E-02	1.214E-01	2.109E-01	0.000E+00 NOT IDENT.
RB-83	-7.180E-03	3.102E-02	5.222E-02	0.000E+00 NOT IDENT.
RB-84	2.173E-03	2.606E-02	4.610E-02	0.000E+00 NOT IDENT.
KR-85	7.946E+00	4.497E+00	8.124E+00	0.000E+00 NOT IDENT.

SR-85	3.757E-02	2.126E-02	3.841E-02	0.000E+00	NOT IDENT.
RB-86	-6.871E-02	1.994E-01	3.171E-01	0.000E+00	NOT IDENT.
Y-88	2.114E-03	1.819E-02	3.098E-02	0.000E+00	NOT IDENT.
ZR-88	1.026E-02	1.110E-02	2.154E-02	0.000E+00	NOT IDENT.
Y-91	-1.743E+00	5.208E+00	8.200E+00	0.000E+00	NOT IDENT.
NB-94	8.784E-03	1.618E-02	2.931E-02	0.000E+00	NOT IDENT.
NB-95	4.675E-03	1.626E-02	2.861E-02	0.000E+00	NOT IDENT.
NB-95M	-3.516E-02	4.787E-02	8.208E-02	0.000E+00	NOT IDENT.
ZR-95	1.585E-02	2.722E-02	5.011E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.028E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.537E+02	0.000E+00	0.000E+00	SHORT HLIF
MO-99	7.946E-02	6.613E-01	1.140E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	9.288E+06	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.633E-03	1.384E-02	2.375E-02	0.000E+00	NOT IDENT.
RH-102	9.892E-03	1.215E-02	2.316E-02	0.000E+00	NOT IDENT.
RU-103	-3.874E-03	1.505E-02	2.524E-02	0.000E+00	NOT IDENT.
RH-106	-5.731E-02	1.565E-01	2.550E-01	0.000E+00	FAIL ABUN
RU-106	-5.731E-02	1.564E-01	2.550E-01	0.000E+00	FAIL ABUN
AG-108M	-7.491E-03	1.418E-02	2.327E-02	0.000E+00	NOT IDENT.
CD-109	-5.920E-01	2.916E-01	4.408E-01	0.000E+00	NOT IDENT.
AG-110M	7.479E-03	1.405E-02	2.579E-02	0.000E+00	NOT IDENT.
IN-111	-5.399E-03	6.161E-02	1.106E-01	0.000E+00	NOT IDENT.
IN-113M	7.302E-03	1.702E-02	3.137E-02	0.000E+00	NOT IDENT.
SN-113	7.302E-03	1.702E-02	3.137E-02	0.000E+00	NOT IDENT.
IN-114M	-8.600E-02	6.963E-02	1.165E-01	0.000E+00	NOT IDENT.
CD-115	4.539E-01	4.256E-01	8.302E-01	0.000E+00	NOT IDENT.
SN-117M	6.482E-03	1.553E-02	2.801E-02	0.000E+00	NOT IDENT.
SB-122	7.530E-03	1.279E-01	2.218E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.362E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.003E-03	1.121E-02	2.028E-02	0.000E+00	NOT IDENT.
I-124	1.255E-02	9.647E-02	1.677E-01	0.000E+00	NOT IDENT.
SB-124	-7.766E-03	4.090E-02	6.475E-02	0.000E+00	NOT IDENT.
SB-125	-1.125E-02	3.642E-02	6.135E-02	0.000E+00	NOT IDENT.
TE-125M	-5.395E-01	3.277E+00	5.756E+00	0.000E+00	NOT IDENT.
I-126	-2.027E-03	4.934E-02	8.347E-02	0.000E+00	NOT IDENT.
SB-126	-8.446E-03	4.060E-02	6.654E-02	0.000E+00	NOT IDENT.
SN-126	-4.277E-02	2.750E-02	4.338E-02	0.000E+00	NOT IDENT.
SB-127	-6.580E-02	1.580E-01	2.522E-01	0.000E+00	NOT IDENT.
XE-127	-4.154E-03	1.554E-02	2.780E-02	0.000E+00	NOT IDENT.
I-131	-2.911E-02	2.679E-02	4.196E-02	0.000E+00	NOT IDENT.
TE-132	-6.089E-04	5.255E-02	9.528E-02	0.000E+00	NOT IDENT.
BA-133	-6.913E-03	1.815E-02	3.086E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.309E+00	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.318E-03	2.123E-02	3.602E-02	0.000E+00	NOT IDENT.
CS-135	-6.192E-02	6.352E-02	1.043E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.819E+06	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.379E-02	2.943E-02	5.472E-02	0.000E+00	NOT IDENT.
BA-137M	-7.227E-03	1.542E-02	2.443E-02	0.000E+00	NOT IDENT.
CS-137	-7.640E-03	1.630E-02	2.582E-02	0.000E+00	NOT IDENT.
CE-139	2.608E-03	1.134E-02	2.016E-02	0.000E+00	NOT IDENT.
BA-140	3.157E-02	6.425E-02	1.176E-01	0.000E+00	NOT IDENT.
LA-140	1.436E-03	2.896E-02	4.892E-02	0.000E+00	NOT IDENT.
CE-141	7.621E-03	2.043E-02	3.694E-02	0.000E+00	NOT IDENT.
CE-143	1.624E+00	1.081E+00	2.092E+00	0.000E+00	NOT IDENT.
CE-144	-1.913E-02	7.711E-02	1.330E-01	0.000E+00	NOT IDENT.
PM-144	2.968E-03	1.589E-02	2.764E-02	0.000E+00	NOT IDENT.
PR-144	2.003E-01	1.073E+00	1.866E+00	0.000E+00	NOT IDENT.
PM-146	-1.129E-02	1.942E-02	3.155E-02	0.000E+00	NOT IDENT.
ND-147	-1.247E-01	1.482E-01	2.242E-01	0.000E+00	NOT IDENT.
PM-149	5.699E-01	3.572E+00	6.488E+00	0.000E+00	NOT IDENT.
EU-152	-2.401E-02	4.305E-02	7.229E-02	0.000E+00	NOT IDENT.
GD-153	1.279E-02	2.963E-02	5.460E-02	0.000E+00	NOT IDENT.
EU-154	1.528E-02	5.276E-02	9.428E-02	0.000E+00	NOT IDENT.
EU-155	6.994E-03	3.769E-02	6.819E-02	0.000E+00	NOT IDENT.
TB-160	1.632E-02	5.581E-02	1.018E-01	0.000E+00	NOT IDENT.
HO-166M	8.350E-03	3.340E-02	5.711E-02	0.000E+00	NOT IDENT.
TM-171	-1.320E+01	9.163E+00	1.453E+01	0.000E+00	NOT IDENT.
LU-176	-1.354E-03	9.284E-03	1.633E-02	0.000E+00	NOT IDENT.
LU-177	-6.193E-02	1.922E-01	3.251E-01	0.000E+00	NOT IDENT.
LU-177M	-1.838E-02	7.080E-02	1.206E-01	0.000E+00	NOT IDENT.
HF-181	2.435E-03	1.506E-02	2.674E-02	0.000E+00	NOT IDENT.
W-181	-1.079E-02	1.139E-01	2.017E-01	0.000E+00	NOT IDENT.
TA-182	4.446E-03	6.102E-02	1.056E-01	0.000E+00	NOT IDENT.
RE-183	-1.703E-02	3.905E-02	6.552E-02	0.000E+00	NOT IDENT.
RE-184	-1.197E-02	9.146E-02	1.633E-01	0.000E+00	NOT IDENT.
OS-185	6.723E-03	1.727E-02	3.111E-02	0.000E+00	NOT IDENT.
RE-188	2.778E-02	6.439E-02	1.164E-01	0.000E+00	NOT IDENT.
W-188	-1.362E+00	2.904E+00	4.991E+00	0.000E+00	NOT IDENT.

IR-192	-4.297E-03	1.415E-02	2.453E-02	0.000E+00	NOT IDENT.
AU-195	1.086E-02	7.965E-02	1.438E-01	0.000E+00	NOT IDENT.
TL-200	8.168E-01	1.481E+00	2.757E+00	0.000E+00	NOT IDENT.
TL-201	4.411E-01	4.763E-01	8.927E-01	0.000E+00	NOT IDENT.
TL-202	1.530E-02	1.981E-02	3.747E-02	0.000E+00	NOT IDENT.
HG-203	-6.215E-03	1.545E-02	2.680E-02	0.000E+00	NOT IDENT.
BI-207	9.331E-03	2.063E-02	3.833E-02	0.000E+00	NOT IDENT.
TL-207	-6.842E-02	2.917E-01	5.082E-01	0.000E+00	NOT IDENT.
TL-208	9.810E-03	1.776E-02	3.127E-02	0.000E+00	FAIL ABUN
PO-209	-1.437E+00	3.312E+00	5.391E+00	0.000E+00	NOT IDENT.
BI-210	-8.903E-01	9.781E-01	1.728E+00	0.000E+00	NOT IDENT.
PB-210	-8.903E-01	9.781E-01	1.728E+00	0.000E+00	NOT IDENT.
PO-210	-8.903E-01	9.775E-01	1.728E+00	0.000E+00	NOT IDENT.
BI-211	1.282E-02	8.312E-02	1.496E-01	0.000E+00	NOT IDENT.
PB-211	-2.429E-01	4.157E-01	6.345E-01	0.000E+00	NOT IDENT.
BI-212	-5.662E-02	1.510E-01	2.298E-01	0.000E+00	NOT IDENT.
PB-212	2.573E-02	2.920E-02	5.173E-02	0.000E+00	NOT IDENT.
PO-212	2.573E-02	2.920E-02	5.173E-02	0.000E+00	NOT IDENT.
BI-214	-1.487E-02	3.719E-02	5.738E-02	0.000E+00	NOT IDENT.
PB-214	4.180E-03	2.925E-02	5.256E-02	0.000E+00	NOT IDENT.
PO-214	4.180E-03	2.925E-02	5.256E-02	0.000E+00	NOT IDENT.
PO-215	-6.842E-02	2.917E-01	5.082E-01	0.000E+00	NOT IDENT.
PO-216	2.573E-02	2.920E-02	5.173E-02	0.000E+00	NOT IDENT.
PO-218	4.180E-03	2.925E-02	5.256E-02	0.000E+00	NOT IDENT.
RN-219	1.546E-01	1.636E-01	3.152E-01	0.000E+00	NOT IDENT.
RN-220	1.155E+01	1.142E+01	2.212E+01	0.000E+00	NOT IDENT.
RA-223	-6.842E-02	2.917E-01	5.082E-01	0.000E+00	NOT IDENT.
RA-224	-9.426E-02	2.852E-01	5.041E-01	0.000E+00	NOT IDENT.
RA-226	-1.487E-02	3.719E-02	5.738E-02	0.000E+00	NOT IDENT.
AC-227	1.568E-01	1.629E-01	3.131E-01	0.000E+00	NOT IDENT.
TH-227	1.568E-01	1.635E-01	3.131E-01	0.000E+00	NOT IDENT.
AC-228	3.730E-02	6.278E-02	1.176E-01	0.000E+00	NOT IDENT.
RA-228	3.730E-02	6.278E-02	1.176E-01	0.000E+00	NOT IDENT.
TH-228	2.593E-02	2.942E-02	5.211E-02	0.000E+00	NOT IDENT.
TH-229	-1.608E-01	2.121E-01	3.479E-01	0.000E+00	NOT IDENT.
TH-230	-1.487E-02	3.719E-02	5.738E-02	0.000E+00	NOT IDENT.
PA-231	7.217E-01	6.771E-01	1.305E+00	0.000E+00	NOT IDENT.
TH-231	-6.842E-02	2.917E-01	5.082E-01	0.000E+00	NOT IDENT.
U-231	-3.161E-01	1.351E-01	2.000E-01	0.000E+00	NOT IDENT.
TH-232	3.730E-02	6.278E-02	1.176E-01	0.000E+00	NOT IDENT.
PA-233	-1.051E-03	2.673E-02	4.753E-02	0.000E+00	NOT IDENT.
PA-234	-6.497E-02	1.268E-01	2.003E-01	0.000E+00	NOT IDENT.
PA-234M	-1.513E+00	1.990E+00	3.000E+00	0.000E+00	NOT IDENT.
TH-234	-1.043E-01	4.197E-01	7.668E-01	0.000E+00	NOT IDENT.
U-234	-1.487E-02	3.719E-02	5.738E-02	0.000E+00	NOT IDENT.
U-235	1.155E-02	8.489E-02	1.506E-01	0.000E+00	NOT IDENT.
NP-236	-1.450E-02	3.244E-02	5.454E-02	0.000E+00	NOT IDENT.
NP-237	-2.624E-03	7.829E-02	1.404E-01	0.000E+00	NOT IDENT.
U-238	-1.043E-01	4.197E-01	7.668E-01	0.000E+00	NOT IDENT.
NP-239	-3.230E-02	7.384E-02	1.263E-01	0.000E+00	NOT IDENT.
AM-241	-5.085E-02	4.701E-02	7.364E-02	0.000E+00	NOT IDENT.
AM-243	6.997E-03	1.669E-02	3.107E-02	0.000E+00	NOT IDENT.
CM-243	-1.104E-02	3.327E-02	5.761E-02	0.000E+00	NOT IDENT.
AM-246	1.905E-02	4.880E-02	9.059E-02	0.000E+00	NOT IDENT.
CM-247	1.520E-02	1.474E-02	2.876E-02	0.000E+00	NOT IDENT.
CF-249	-6.497E-03	1.683E-02	2.842E-02	0.000E+00	NOT IDENT.
CF-251	-2.029E-02	5.640E-02	9.184E-02	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015435.CNF;1
Sample date       : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 09:49:06
Sample ID        : G1202015435      Sample quantity   : 1.55810E+02 GRAM
Detector name    : GAM14            Detector geometry: CAN
Elapsed live time: 0 02:00:00.00    Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit  : 75.00000         Sensitivity      : 5.00000
Batch ID        : 941635            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
ANH-511	511.00	7	100.00*	3.086E+00	5.092E-03	5.092E-03	690.10

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202015435

Page : 2
Acquisition date : 22-JAN-2010 09:49:06

Total number of lines in spectrum 1
Number of unidentified lines 0
Number of lines tentatively identified by NID 1 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ANH-511	1.00E+09Y	1.00	5.092E-03	5.092E-03	35.14E-03	690.10	
Total Activity :			5.092E-03	5.092E-03			

Grand Total Activity : 5.092E-03 5.092E-03

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202015435

Page : 3
Acquisition date : 22-JAN-2010 09:49:06

None

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015435.CNF;1
* Acquisition date   : 22-JAN-2010 09:49:06   Detector SN#      :
* Detector ID        : GAM14                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.49          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00   Nuclide Library : SOLID
* Sample ID          : G1202015435           Analyst initials: MXR1
* Batch Number       : 941635                Sample Quantity : 1.55810E+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
ANH-511	5.092E-03	3.514E-02	2.261E-02	1.328E-03	0.225

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.919E-02		1.261E-01	2.007E-01	1.352E-02	-0.145
NA-22	5.450E-03		1.919E-02	3.320E-02	2.169E-03	0.164
NA-24	1.192E-05		3.728E-05	Half-Life too short		
AL-26	-5.303E-03		1.374E-02	1.884E-02	1.092E-03	-0.281
K-40	1.368E-01		2.458E-01	4.387E-01	3.186E-02	0.312
TI-44	-6.512E-03		1.158E-02	1.729E-02	1.350E-03	-0.377
SC-46	4.462E-03		1.582E-02	2.762E-02	2.552E-03	0.162
V-48	4.972E-03		2.067E-02	3.586E-02	3.045E-03	0.139
CR-51	-3.633E-02		1.325E-01	2.143E-01	1.385E-02	-0.170
MN-52	-3.201E-02		4.673E-02	6.407E-02	4.491E-03	-0.500
MN-54	1.443E-03		1.370E-02	2.338E-02	1.961E-03	0.062

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	-1.704E-03		1.815E-02	3.004E-02	2.575E-03	-0.057
CO-57	-5.254E-04		9.465E-03	1.516E-02	1.079E-03	-0.035
CO-58	-1.286E-03		1.791E-02	2.842E-02	2.286E-03	-0.045
FE-59	-1.803E-02		3.184E-02	4.678E-02	3.601E-03	-0.385
CO-60	2.640E-05		1.575E-02	2.587E-02	1.844E-03	0.001
ZN-65	3.845E-03		3.576E-02	6.031E-02	3.964E-03	0.064
GE-68	-7.751E-02		3.927E-01	6.209E-01	4.463E-02	-0.125
AS-73	5.701E-02		2.001E-01	3.347E-01	2.182E-02	0.170
AS-74	6.229E-03		3.412E-02	5.668E-02	3.390E-03	0.110
SE-75	7.163E-03		1.913E-02	3.110E-02	1.826E-03	0.230
BR-77	-1.807E-01		5.624E-01	8.254E-01	4.866E-02	-0.219
SR-82	2.205E-02		1.239E-01	2.055E-01	1.545E-02	0.107
RB-83	-7.180E-03		3.166E-02	5.031E-02	2.966E-03	-0.143
RB-84	2.173E-03		2.659E-02	4.506E-02	4.108E-03	0.048
KR-85	7.946E+00		4.588E+00	7.825E+00	4.602E-01	1.015
SR-85	3.757E-02		2.169E-02	3.700E-02	2.176E-03	1.015
RB-86	-6.871E-02		2.035E-01	3.117E-01	2.244E-02	-0.220
Y-88	2.114E-03		1.856E-02	3.092E-02	1.756E-03	0.068
ZR-88	1.026E-02		1.133E-02	2.060E-02	1.122E-03	0.498
Y-91	-1.743E+00		5.314E+00	8.086E+00	4.704E-01	-0.216
NB-94	8.784E-03		1.651E-02	2.848E-02	1.847E-03	0.308
NB-95	4.675E-03		1.660E-02	2.786E-02	2.052E-03	0.168
NB-95M	-3.516E-02		4.885E-02	7.746E-02	5.789E-03	-0.454
ZR-95	1.585E-02		2.778E-02	4.878E-02	4.024E-03	0.325
NB-97	1.080E-05		1.035E-05	Half-Life too short		
ZR-97	7.218E-04		2.315E-04	Half-Life too short		
MO-99	7.946E-02		6.748E-01	1.109E+00	1.589E-01	0.072
TC-99M	1.420E+00		4.739E+00	Half-Life too short		
RH-101	1.633E-03		1.412E-02	2.231E-02	1.238E-03	0.073
RH-102	9.892E-03		1.240E-02	2.226E-02	1.287E-03	0.444
RU-103	-3.874E-03		1.536E-02	2.429E-02	3.076E-03	-0.160
RH-106	-5.731E-02		1.597E-01	2.469E-01	2.920E-02	-0.232
RU-106	-5.731E-02		1.596E-01	2.469E-01	1.476E-02	-0.232
AG-108M	-7.491E-03		1.447E-02	2.232E-02	1.371E-03	-0.336
CD-109	-5.920E-01		2.975E-01	4.058E-01	3.549E-02	-1.459
AG-110M	7.479E-03		1.433E-02	2.501E-02	1.580E-03	0.299
IN-111	-5.399E-03		6.287E-02	1.044E-01	6.019E-03	-0.052
IN-113M	7.302E-03		1.736E-02	3.000E-02	1.755E-03	0.243
SN-113	7.302E-03		1.736E-02	3.000E-02	1.755E-03	0.243
IN-114M	-8.600E-02		7.105E-02	1.093E-01	6.017E-03	-0.787
CD-115	4.539E-01		4.343E-01	8.002E-01	4.729E-02	0.567
SN-117M	6.482E-03		1.584E-02	2.617E-02	1.480E-03	0.248
SB-122	7.530E-03		1.305E-01	2.142E-01	1.277E-02	0.035
I-123	6.077E-05		6.949E-05	Half-Life too short		
TE-123M	5.003E-03		1.144E-02	1.895E-02	1.084E-03	0.264
I-124	1.255E-02		9.844E-02	1.622E-01	9.703E-03	0.077
SB-124	-7.766E-03		4.174E-02	6.446E-02	4.358E-03	-0.120
SB-125	-1.125E-02		3.716E-02	5.880E-02	3.446E-03	-0.191

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	-5.395E-01		3.344E+00	5.327E+00	4.992E-01	-0.101
I-126	-2.027E-03		5.035E-02	8.097E-02	4.863E-03	-0.025
SB-126	-8.446E-03		4.143E-02	6.468E-02	4.352E-03	-0.131
SN-126	-4.277E-02		2.806E-02	3.993E-02	3.474E-03	-1.071
SB-127	-6.580E-02		1.613E-01	2.448E-01	1.836E-02	-0.269
XE-127	-4.154E-03		1.586E-02	2.613E-02	1.457E-03	-0.159
I-131	-2.911E-02		2.733E-02	4.005E-02	2.507E-03	-0.727
TE-132	-6.089E-04		5.362E-02	8.983E-02	1.179E-02	-0.007
BA-133	-6.913E-03		1.852E-02	2.943E-02	3.383E-03	-0.235
I-133	-7.211E-07		2.709E-06	Half-Life	too short	
CS-134	1.318E-03		2.166E-02	3.511E-02	2.764E-03	0.038
CS-135	-6.192E-02		6.482E-02	9.871E-02	7.572E-03	-0.627
I-135	6.692E+00		3.989E+00	Half-Life	too short	
CS-136	1.379E-02		3.003E-02	5.375E-02	4.319E-03	0.257
BA-137M	-7.227E-03		1.574E-02	2.369E-02	1.409E-03	-0.305
CS-137	-7.640E-03		1.664E-02	2.504E-02	1.495E-03	-0.305
CE-139	2.608E-03		1.158E-02	1.886E-02	1.012E-03	0.138
BA-140	3.157E-02		6.556E-02	1.134E-01	3.690E-02	0.278
LA-140	1.436E-03		2.955E-02	4.862E-02	3.223E-03	0.030
CE-141	7.621E-03		2.085E-02	3.443E-02	2.197E-03	0.221
CE-143	1.624E+00		1.103E+00	1.985E+00	4.057E-01	0.818
CE-144	-1.913E-02		7.869E-02	1.237E-01	1.801E-02	-0.155
PM-144	2.968E-03		1.622E-02	2.685E-02	1.719E-03	0.111
PR-144	2.003E-01		1.094E+00	1.812E+00	1.160E-01	0.111
PM-146	-1.129E-02		1.981E-02	3.029E-02	2.593E-03	-0.373
ND-147	-1.247E-01		1.512E-01	2.161E-01	2.933E-02	-0.577
PM-149	5.699E-01		3.645E+00	6.153E+00	8.717E-01	0.093
EU-152	-2.401E-02		4.393E-02	6.890E-02	4.457E-03	-0.348
GD-153	1.279E-02		3.024E-02	5.039E-02	4.041E-03	0.254
EU-154	1.528E-02		5.384E-02	9.311E-02	9.130E-03	0.164
EU-155	6.994E-03		3.846E-02	6.305E-02	4.880E-03	0.111
TB-160	1.632E-02		5.695E-02	9.945E-02	9.033E-03	0.164
HO-166M	8.350E-03		3.408E-02	5.549E-02	3.667E-03	0.150
TM-171	-1.320E+01		9.350E+00	1.329E+01	9.266E-01	-0.993
LU-176	-1.354E-03		9.473E-03	1.552E-02	9.036E-04	-0.087
LU-177	-6.193E-02		1.961E-01	3.058E-01	1.714E-02	-0.203
LU-177M	-1.838E-02		7.224E-02	1.155E-01	6.405E-03	-0.159
HF-181	2.435E-03		1.537E-02	2.571E-02	1.491E-03	0.095
W-181	-1.079E-02		1.162E-01	1.843E-01	1.270E-02	-0.059
TA-182	4.446E-03		6.226E-02	1.042E-01	6.233E-03	0.043
RE-183	-1.703E-02		3.985E-02	6.125E-02	3.373E-03	-0.278
RE-184	-1.197E-02		9.333E-02	1.543E-01	8.928E-03	-0.078
OS-185	6.723E-03		1.762E-02	3.015E-02	1.798E-03	0.223
RE-188	2.778E-02		6.570E-02	1.087E-01	6.300E-03	0.256
W-188	-1.362E+00		2.963E+00	4.735E+00	2.763E-01	-0.288
IR-192	-4.297E-03		1.444E-02	2.332E-02	1.361E-03	-0.184
AU-195	1.086E-02		8.128E-02	1.328E-01	1.054E-02	0.082
TL-200	8.168E-01		1.511E+00	2.632E+00	1.474E-01	0.310

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	4.411E-01		4.860E-01	8.351E-01	4.486E-02	0.528
TL-202	1.530E-02		2.021E-02	3.594E-02	2.032E-03	0.426
HG-203	-6.215E-03		1.576E-02	2.540E-02	1.571E-03	-0.245
BI-207	9.331E-03		2.105E-02	3.766E-02	2.787E-03	0.248
TL-207	-6.842E-02		2.977E-01	4.835E-01	7.985E-02	-0.141
TL-208	9.810E-03		1.812E-02	3.022E-02	2.067E-03	0.325
PO-209	-1.437E+00		3.380E+00	5.272E+00	4.934E-01	-0.273
BI-210	-8.903E-01		9.981E-01	1.566E+00	1.161E-01	-0.568
PB-210	-8.903E-01		9.981E-01	1.566E+00	1.161E-01	-0.568
PO-210	-8.903E-01		9.974E-01	1.566E+00	9.828E-02	-0.568
BI-211	1.282E-02		8.482E-02	1.426E-01	9.036E-03	0.090
PB-211	-2.429E-01		4.242E-01	6.073E-01	3.784E-01	-0.400
BI-212	-5.662E-02		1.541E-01	2.234E-01	1.901E-02	-0.253
PB-212	2.573E-02		2.980E-02	4.883E-02	3.556E-03	0.527
PO-212	2.573E-02		2.980E-02	4.883E-02	3.556E-03	0.527
BI-214	-1.487E-02		3.795E-02	5.552E-02	4.395E-03	-0.268
PB-214	4.180E-03		2.985E-02	5.012E-02	4.113E-03	0.083
PO-214	4.180E-03		2.985E-02	5.012E-02	4.113E-03	0.083
PO-215	-6.842E-02		2.977E-01	4.835E-01	7.985E-02	-0.141
PO-216	2.573E-02		2.980E-02	4.883E-02	3.556E-03	0.527
PO-218	4.180E-03		2.985E-02	5.012E-02	4.113E-03	0.083
RN-219	1.546E-01		1.670E-01	3.017E-01	4.065E-02	0.512
RN-220	1.155E+01		1.165E+01	2.135E+01	1.269E+00	0.541
RA-223	-6.842E-02		2.977E-01	4.835E-01	7.985E-02	-0.141
RA-224	-9.426E-02		2.910E-01	4.760E-01	2.736E-02	-0.198
RA-226	-1.487E-02		3.795E-02	5.552E-02	4.395E-03	-0.268
AC-227	1.568E-01		1.662E-01	2.961E-01	4.133E-02	0.530
TH-227	1.568E-01		1.669E-01	2.961E-01	5.003E-02	0.530
AC-228	3.730E-02		6.406E-02	1.151E-01	1.352E-02	0.324
RA-228	3.730E-02		6.406E-02	1.151E-01	1.352E-02	0.324
TH-228	2.593E-02		3.002E-02	4.919E-02	3.583E-03	0.527
TH-229	-1.608E-01		2.164E-01	3.267E-01	1.804E-02	-0.492
TH-230	-1.487E-02		3.795E-02	5.552E-02	4.395E-03	-0.268
PA-231	7.217E-01		6.909E-01	1.237E+00	1.707E-01	0.583
TH-231	-6.842E-02		2.977E-01	4.835E-01	7.985E-02	-0.141
U-231	-3.161E-01		1.379E-01	1.845E-01	1.498E-02	-1.713
TH-232	3.730E-02		6.406E-02	1.151E-01	1.352E-02	0.324
PA-233	-1.051E-03		2.728E-02	4.518E-02	2.790E-03	-0.023
PA-234	-6.497E-02		1.294E-01	1.962E-01	3.708E-02	-0.331
PA-234M	-1.513E+00		2.031E+00	2.943E+00	2.845E-01	-0.514
TH-234	-1.043E-01		4.282E-01	7.002E-01	1.204E-01	-0.149
U-234	-1.487E-02		3.795E-02	5.552E-02	4.395E-03	-0.268
U-235	1.155E-02		8.663E-02	1.404E-01	2.310E-02	0.082
NP-236	-1.450E-02		3.310E-02	5.096E-02	2.848E-03	-0.285
NP-237	-2.624E-03		7.989E-02	1.292E-01	2.888E-02	-0.020
U-238	-1.043E-01		4.282E-01	7.002E-01	1.204E-01	-0.149
NP-239	-3.230E-02		7.535E-02	1.171E-01	8.459E-03	-0.276
AM-241	-5.085E-02		4.797E-02	6.715E-02	4.985E-03	-0.757

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	6.997E-03		1.703E-02	2.849E-02	2.138E-03	0.246
CM-243	-1.104E-02		3.395E-02	5.325E-02	4.094E-03	-0.207
AM-246	1.905E-02		4.980E-02	8.905E-02	6.380E-03	0.214
CM-247	1.520E-02		1.504E-02	2.752E-02	1.512E-03	0.552
CF-249	-6.497E-03		1.718E-02	2.717E-02	1.486E-03	-0.239
CF-251	-2.029E-02		5.755E-02	8.603E-02	4.666E-03	-0.236

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202015435          *
* Acquisition date   : 22-JAN-2010 09:49:06 Detector SN#      :              *
* Detector ID        : GAM14                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00              Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:00.49              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00 Nuclide Library : SOLID           *
* Sample ID          : G1202015435              Analyst initials: MXR1         *
* Batch Number       : 941635                   Sample Quantity : 1.5581E+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
ANH-511	5.092E-03	3.444E-02	1.174E-02	1.757E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-2.919E-02	1.236E-01	1.044E-01	6.307E-02	NOT IDENT.
NA-22	5.450E-03	1.881E-02	1.682E-02	9.597E-03	NOT IDENT.
NA-24	1.192E+01	7.307E+01	0.000E+00	3.728E+01	SHORT HLIF
AL-26	-5.303E-03	1.346E-02	9.451E-03	6.869E-03	NOT IDENT.
K-40	1.368E-01	2.409E-01	2.214E-01	1.229E-01	NOT IDENT.
TI-44	-6.512E-03	1.135E-02	9.423E-03	5.791E-03	NOT IDENT.
SC-46	4.462E-03	1.550E-02	1.413E-02	7.908E-03	NOT IDENT.
V-48	4.972E-03	2.025E-02	1.830E-02	1.033E-02	NOT IDENT.
CR-51	-3.633E-02	1.299E-01	1.127E-01	6.626E-02	NOT IDENT.
MN-52	-3.201E-02	4.580E-02	3.235E-02	2.336E-02	NOT IDENT.
MN-54	1.443E-03	1.343E-02	1.198E-02	6.850E-03	NOT IDENT.
CO-56	-1.704E-03	1.778E-02	1.539E-02	9.073E-03	NOT IDENT.
CO-57	-5.254E-04	9.276E-03	8.175E-03	4.733E-03	NOT IDENT.
CO-58	-1.286E-03	1.755E-02	1.458E-02	8.955E-03	NOT IDENT.
FE-59	-1.803E-02	3.121E-02	2.380E-02	1.592E-02	NOT IDENT.
CO-60	2.640E-05	1.543E-02	1.309E-02	7.875E-03	NOT IDENT.
ZN-65	3.845E-03	3.504E-02	3.066E-02	1.788E-02	NOT IDENT.
GE-68	-7.751E-02	3.849E-01	3.160E-01	1.964E-01	NOT IDENT.
AS-73	5.701E-02	1.961E-01	1.841E-01	1.000E-01	NOT IDENT.
AS-74	6.229E-03	3.344E-02	2.933E-02	1.706E-02	NOT IDENT.
SE-75	7.163E-03	1.875E-02	1.644E-02	9.566E-03	NOT IDENT.
BR-77	-1.807E-01	5.512E-01	4.286E-01	2.812E-01	NOT IDENT.
SR-82	2.205E-02	1.214E-01	1.055E-01	6.194E-02	NOT IDENT.
RB-83	-7.180E-03	3.102E-02	2.613E-02	1.583E-02	NOT IDENT.
RB-84	2.173E-03	2.606E-02	2.306E-02	1.330E-02	NOT IDENT.
KR-85	7.946E+00	4.497E+00	4.064E+00	2.294E+00	NOT IDENT.

SR-85	3.757E-02	2.126E-02	1.922E-02	1.085E-02	NOT IDENT.
RB-86	-6.871E-02	1.994E-01	1.587E-01	1.017E-01	NOT IDENT.
Y-88	2.114E-03	1.819E-02	1.550E-02	9.281E-03	NOT IDENT.
ZR-88	1.026E-02	1.110E-02	1.078E-02	5.665E-03	NOT IDENT.
Y-91	-1.743E+00	5.208E+00	4.103E+00	2.657E+00	NOT IDENT.
NB-94	8.784E-03	1.618E-02	1.467E-02	8.254E-03	NOT IDENT.
NB-95	4.675E-03	1.626E-02	1.431E-02	8.298E-03	NOT IDENT.
NB-95M	-3.516E-02	4.787E-02	4.106E-02	2.443E-02	NOT IDENT.
ZR-95	1.585E-02	2.722E-02	2.507E-02	1.389E-02	NOT IDENT.
NB-97	1.080E+01	2.028E+01	0.000E+00	1.035E+01	SHORT HLIF
ZR-97	7.218E+02	4.537E+02	0.000E+00	2.315E+02	SHORT HLIF
MO-99	7.946E-02	6.613E-01	5.706E-01	3.374E-01	NOT IDENT.
TC-99M	1.420E+06	9.288E+06	0.000E+00	4.739E+06	SHORT HLIF
RH-101	1.633E-03	1.384E-02	1.188E-02	7.060E-03	NOT IDENT.
RH-102	9.892E-03	1.215E-02	1.159E-02	6.198E-03	NOT IDENT.
RU-103	-3.874E-03	1.505E-02	1.263E-02	7.678E-03	NOT IDENT.
RH-106	-5.731E-02	1.565E-01	1.276E-01	7.984E-02	FAIL ABUN
RU-106	-5.731E-02	1.564E-01	1.276E-01	7.979E-02	FAIL ABUN
AG-108M	-7.491E-03	1.418E-02	1.164E-02	7.234E-03	NOT IDENT.
CD-109	-5.920E-01	2.916E-01	2.205E-01	1.488E-01	NOT IDENT.
AG-110M	7.479E-03	1.405E-02	1.290E-02	7.166E-03	NOT IDENT.
IN-111	-5.399E-03	6.161E-02	5.531E-02	3.144E-02	NOT IDENT.
IN-113M	7.302E-03	1.702E-02	1.569E-02	8.682E-03	NOT IDENT.
SN-113	7.302E-03	1.702E-02	1.569E-02	8.682E-03	NOT IDENT.
IN-114M	-8.600E-02	6.963E-02	5.828E-02	3.553E-02	NOT IDENT.
CD-115	4.539E-01	4.256E-01	4.153E-01	2.171E-01	NOT IDENT.
SN-117M	6.482E-03	1.553E-02	1.401E-02	7.922E-03	NOT IDENT.
SB-122	7.530E-03	1.279E-01	1.110E-01	6.525E-02	NOT IDENT.
I-123	6.077E+01	1.362E+02	0.000E+00	6.949E+01	SHORT HLIF
TE-123M	5.003E-03	1.121E-02	1.015E-02	5.721E-03	NOT IDENT.
I-124	1.255E-02	9.647E-02	8.389E-02	4.922E-02	NOT IDENT.
SB-124	-7.766E-03	4.090E-02	3.239E-02	2.087E-02	NOT IDENT.
SB-125	-1.125E-02	3.642E-02	3.069E-02	1.858E-02	NOT IDENT.
TE-125M	-5.395E-01	3.277E+00	2.880E+00	1.672E+00	NOT IDENT.
I-126	-2.027E-03	4.934E-02	4.176E-02	2.517E-02	NOT IDENT.
SB-126	-8.446E-03	4.060E-02	3.329E-02	2.072E-02	NOT IDENT.
SN-126	-4.277E-02	2.750E-02	2.170E-02	1.403E-02	NOT IDENT.
SB-127	-6.580E-02	1.580E-01	1.262E-01	8.063E-02	NOT IDENT.
XE-127	-4.154E-03	1.554E-02	1.391E-02	7.928E-03	NOT IDENT.
I-131	-2.911E-02	2.679E-02	2.099E-02	1.367E-02	NOT IDENT.
TE-132	-6.089E-04	5.255E-02	4.767E-02	2.681E-02	NOT IDENT.
BA-133	-6.913E-03	1.815E-02	1.544E-02	9.258E-03	NOT IDENT.
I-133	-7.211E-01	5.309E+00	0.000E+00	2.709E+00	SHORT HLIF
CS-134	1.318E-03	2.123E-02	1.802E-02	1.083E-02	NOT IDENT.
CS-135	-6.192E-02	6.352E-02	5.216E-02	3.241E-02	NOT IDENT.
I-135	6.692E+06	7.819E+06	0.000E+00	3.989E+06	SHORT HLIF
CS-136	1.379E-02	2.943E-02	2.738E-02	1.502E-02	NOT IDENT.
BA-137M	-7.227E-03	1.542E-02	1.222E-02	7.869E-03	NOT IDENT.
CS-137	-7.640E-03	1.630E-02	1.292E-02	8.318E-03	NOT IDENT.
CE-139	2.608E-03	1.134E-02	1.009E-02	5.788E-03	NOT IDENT.
BA-140	3.157E-02	6.425E-02	5.882E-02	3.278E-02	NOT IDENT.
LA-140	1.436E-03	2.896E-02	2.447E-02	1.478E-02	NOT IDENT.
CE-141	7.621E-03	2.043E-02	1.848E-02	1.042E-02	NOT IDENT.
CE-143	1.624E+00	1.081E+00	1.047E+00	5.514E-01	NOT IDENT.
CE-144	-1.913E-02	7.711E-02	6.655E-02	3.934E-02	NOT IDENT.
PM-144	2.968E-03	1.589E-02	1.383E-02	8.109E-03	NOT IDENT.
PR-144	2.003E-01	1.073E+00	9.333E-01	5.472E-01	NOT IDENT.
PM-146	-1.129E-02	1.942E-02	1.579E-02	9.906E-03	NOT IDENT.
ND-147	-1.247E-01	1.482E-01	1.122E-01	7.559E-02	NOT IDENT.
PM-149	5.699E-01	3.572E+00	3.246E+00	1.822E+00	NOT IDENT.
EU-152	-2.401E-02	4.305E-02	3.617E-02	2.197E-02	NOT IDENT.
GD-153	1.279E-02	2.963E-02	2.731E-02	1.512E-02	NOT IDENT.
EU-154	1.528E-02	5.276E-02	4.717E-02	2.692E-02	NOT IDENT.
EU-155	6.994E-03	3.769E-02	3.412E-02	1.923E-02	NOT IDENT.
TB-160	1.632E-02	5.581E-02	5.091E-02	2.847E-02	NOT IDENT.
HO-166M	8.350E-03	3.340E-02	2.857E-02	1.704E-02	NOT IDENT.
TM-171	-1.320E+01	9.163E+00	7.272E+00	4.675E+00	NOT IDENT.
LU-176	-1.354E-03	9.284E-03	8.170E-03	4.737E-03	NOT IDENT.
LU-177	-6.193E-02	1.922E-01	1.627E-01	9.807E-02	NOT IDENT.
LU-177M	-1.838E-02	7.080E-02	6.035E-02	3.612E-02	NOT IDENT.
HF-181	2.435E-03	1.506E-02	1.338E-02	7.685E-03	NOT IDENT.
W-181	-1.079E-02	1.139E-01	1.009E-01	5.811E-02	NOT IDENT.
TA-182	4.446E-03	6.102E-02	5.285E-02	3.113E-02	NOT IDENT.
RE-183	-1.703E-02	3.905E-02	3.278E-02	1.992E-02	NOT IDENT.
RE-184	-1.197E-02	9.146E-02	8.168E-02	4.666E-02	NOT IDENT.
OS-185	6.723E-03	1.727E-02	1.556E-02	8.811E-03	NOT IDENT.
RE-188	2.778E-02	6.439E-02	5.826E-02	3.285E-02	NOT IDENT.
W-188	-1.362E+00	2.904E+00	2.497E+00	1.482E+00	NOT IDENT.

IR-192	-4.297E-03	1.415E-02	1.227E-02	7.219E-03	NOT IDENT.
AU-195	1.086E-02	7.965E-02	7.196E-02	4.064E-02	NOT IDENT.
TL-200	8.168E-01	1.481E+00	1.379E+00	7.554E-01	NOT IDENT.
TL-201	4.411E-01	4.763E-01	4.466E-01	2.430E-01	NOT IDENT.
TL-202	1.530E-02	1.981E-02	1.875E-02	1.011E-02	NOT IDENT.
HG-203	-6.215E-03	1.545E-02	1.341E-02	7.882E-03	NOT IDENT.
BI-207	9.331E-03	2.063E-02	1.918E-02	1.052E-02	NOT IDENT.
TL-207	-6.842E-02	2.917E-01	2.543E-01	1.488E-01	NOT IDENT.
TL-208	9.810E-03	1.776E-02	1.564E-02	9.061E-03	FAIL ABUN
PO-209	-1.437E+00	3.312E+00	2.697E+00	1.690E+00	NOT IDENT.
BI-210	-8.903E-01	9.781E-01	8.644E-01	4.990E-01	NOT IDENT.
PB-210	-8.903E-01	9.781E-01	8.644E-01	4.990E-01	NOT IDENT.
PO-210	-8.903E-01	9.775E-01	8.644E-01	4.987E-01	NOT IDENT.
BI-211	1.282E-02	8.312E-02	7.483E-02	4.241E-02	NOT IDENT.
PB-211	-2.429E-01	4.157E-01	3.175E-01	2.121E-01	NOT IDENT.
BI-212	-5.662E-02	1.510E-01	1.150E-01	7.706E-02	NOT IDENT.
PB-212	2.573E-02	2.920E-02	2.588E-02	1.490E-02	NOT IDENT.
PO-212	2.573E-02	2.920E-02	2.588E-02	1.490E-02	NOT IDENT.
BI-214	-1.487E-02	3.719E-02	2.871E-02	1.898E-02	NOT IDENT.
PB-214	4.180E-03	2.925E-02	2.630E-02	1.492E-02	NOT IDENT.
PO-214	4.180E-03	2.925E-02	2.630E-02	1.492E-02	NOT IDENT.
PO-215	-6.842E-02	2.917E-01	2.543E-01	1.488E-01	NOT IDENT.
PO-216	2.573E-02	2.920E-02	2.588E-02	1.490E-02	NOT IDENT.
PO-218	4.180E-03	2.925E-02	2.630E-02	1.492E-02	NOT IDENT.
RN-219	1.546E-01	1.636E-01	1.577E-01	8.349E-02	NOT IDENT.
RN-220	1.155E+01	1.142E+01	1.107E+01	5.827E+00	NOT IDENT.
RA-223	-6.842E-02	2.917E-01	2.543E-01	1.488E-01	NOT IDENT.
RA-224	-9.426E-02	2.852E-01	2.522E-01	1.455E-01	NOT IDENT.
RA-226	-1.487E-02	3.719E-02	2.871E-02	1.898E-02	NOT IDENT.
AC-227	1.568E-01	1.629E-01	1.567E-01	8.310E-02	NOT IDENT.
TH-227	1.568E-01	1.635E-01	1.567E-01	8.344E-02	NOT IDENT.
AC-228	3.730E-02	6.278E-02	5.886E-02	3.203E-02	NOT IDENT.
RA-228	3.730E-02	6.278E-02	5.886E-02	3.203E-02	NOT IDENT.
TH-228	2.593E-02	2.942E-02	2.607E-02	1.501E-02	NOT IDENT.
TH-229	-1.608E-01	2.121E-01	1.741E-01	1.082E-01	NOT IDENT.
TH-230	-1.487E-02	3.719E-02	2.871E-02	1.898E-02	NOT IDENT.
PA-231	7.217E-01	6.771E-01	6.529E-01	3.455E-01	NOT IDENT.
TH-231	-6.842E-02	2.917E-01	2.543E-01	1.488E-01	NOT IDENT.
U-231	-3.161E-01	1.351E-01	1.001E-01	6.893E-02	NOT IDENT.
TH-232	3.730E-02	6.278E-02	5.886E-02	3.203E-02	NOT IDENT.
PA-233	-1.051E-03	2.673E-02	2.378E-02	1.364E-02	NOT IDENT.
PA-234	-6.497E-02	1.268E-01	1.002E-01	6.468E-02	NOT IDENT.
PA-234M	-1.513E+00	1.990E+00	1.501E+00	1.016E+00	NOT IDENT.
TH-234	-1.043E-01	4.197E-01	3.836E-01	2.141E-01	NOT IDENT.
U-234	-1.487E-02	3.719E-02	2.871E-02	1.898E-02	NOT IDENT.
U-235	1.155E-02	8.489E-02	7.536E-02	4.331E-02	NOT IDENT.
NP-236	-1.450E-02	3.244E-02	2.728E-02	1.655E-02	NOT IDENT.
NP-237	-2.624E-03	7.829E-02	7.024E-02	3.995E-02	NOT IDENT.
U-238	-1.043E-01	4.197E-01	3.836E-01	2.141E-01	NOT IDENT.
NP-239	-3.230E-02	7.384E-02	6.317E-02	3.768E-02	NOT IDENT.
AM-241	-5.085E-02	4.701E-02	3.684E-02	2.399E-02	NOT IDENT.
AM-243	6.997E-03	1.669E-02	1.555E-02	8.513E-03	NOT IDENT.
CM-243	-1.104E-02	3.327E-02	2.882E-02	1.698E-02	NOT IDENT.
AM-246	1.905E-02	4.880E-02	4.532E-02	2.490E-02	NOT IDENT.
CM-247	1.520E-02	1.474E-02	1.439E-02	7.520E-03	NOT IDENT.
CF-249	-6.497E-03	1.683E-02	1.422E-02	8.589E-03	NOT IDENT.
CF-251	-2.029E-02	5.640E-02	4.595E-02	2.878E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	79.2537
46.50	79.2537
46.50	79.2537
48.70	87.6092
49.72	114.2304
51.35	78.6794
52.39	72.6333
52.97	71.6566
53.15	74.7425
53.44	68.6213
54.07	73.7935
56.28	82.1895
56.28	82.1897
57.37	83.3140
57.53	83.3281
57.53	83.3282
57.60	83.3343
57.98	86.4555
57.98	86.4555
59.32	96.8839
59.32	96.8839
59.40	96.8920
59.54	95.8752
59.72	95.8931
60.01	105.2046
61.10	87.7691
61.14	87.7727
61.30	87.7871
63.00	82.7657
63.29	88.9992
63.29	88.9992
63.58	84.8843
64.28	89.0874
65.12	99.5293
65.20	99.5372
65.20	99.5372
66.05	108.9599
66.72	117.3382
66.83	117.3511
66.91	106.9743
67.20	109.0823
67.20	109.0823
67.75	98.7461
67.85	98.7555
68.90	103.0179
68.90	103.0179
69.30	100.9752
69.67	99.9697
70.82	94.8661
70.82	94.8661
70.83	94.8668
72.80	100.2640
72.87	100.2704
72.87	100.2704
74.67	92.0673
74.81	92.0790
74.81	92.0790
74.81	92.0790
74.81	92.0790
74.81	92.0790
74.81	92.0790
74.81	92.0790
74.97	80.5809
75.28	83.7440
75.70	96.3423
77.11	103.8049
77.11	103.8049

77.11	103.8049
77.11	103.8049
77.11	103.8049
77.11	103.8049
77.11	103.8049
78.38	101.8233
79.62	105.0880
79.80	105.1048
79.80	105.1048
80.11	110.3901
80.18	110.3969
80.30	110.4085
80.30	110.4085
80.57	122.0039
81.00	125.2064
81.07	125.2141
81.07	125.2141
81.07	125.2141
81.07	125.2141
82.60	86.3968
83.37	86.4537
83.78	94.9219
83.78	94.9219
83.78	94.9219
83.78	94.9219
84.21	98.1221
84.90	93.9572
85.43	91.8869
86.29	98.2952
86.50	104.6554
86.54	104.6592
86.59	104.6633
86.72	111.0190
86.79	111.0250
86.94	117.3845
87.30	129.0558
87.30	129.0558
87.30	129.0558
87.30	129.0558
87.30	129.0558
87.30	129.0558
87.30	129.0558
87.57	133.3174
87.88	138.6438
88.03	153.4795
88.36	146.1107
88.47	180.0076
89.95	150.5435
91.11	98.6890
92.29	96.6594
92.38	103.0403
92.38	103.0403
93.35	108.4365
94.00	114.8752
94.67	131.9638
94.67	131.9643
94.90	135.1817
94.90	135.1817
94.90	135.1817
94.90	135.1817
95.87	180.0267
95.87	180.0267
96.73	144.9726
97.43	93.8572
98.44	76.8529
98.44	76.8529
98.88	85.4214
99.55	91.8760
99.55	91.8760
99.86	85.4865
100.00	83.3585
100.10	83.3651
103.18	82.4907
103.76	77.1682
105.00	76.1677
105.31	74.0392
108.00	83.8646
109.28	93.6299

111.00	86.2048
111.00	86.2048
111.76	85.1743
112.95	88.4849
115.19	87.5463
116.30	81.1255
117.00	90.9057
117.00	90.9057
117.66	96.3616
121.11	72.7167
121.62	71.6568
121.78	73.8362
122.06	77.1086
122.32	73.8637
122.32	73.8637
122.32	73.8637
122.32	73.8637
123.07	70.6415
127.23	75.2008
129.76	75.3282
131.20	69.9365
133.02	88.6197
133.54	84.2716
135.34	93.1367
136.00	97.5610
136.25	97.5767
136.48	96.4951
140.51	91.2473
140.51	0.0000
142.18	93.5446
142.65	102.3793
143.76	90.3331
144.24	88.1561
144.24	88.1561
144.24	88.1561
144.24	88.1561
145.22	82.6967
145.44	77.1943
147.16	88.3160
152.43	79.7410
152.70	79.7542
153.22	91.9673
154.21	89.8050
154.21	89.8050
154.21	89.8050
154.21	89.8050
155.03	82.0847
156.02	77.6936
158.56	84.4801
159.00	0.0000
159.00	81.1665
160.31	90.1307
161.27	83.5018
162.32	80.2106
162.64	76.8827
163.35	92.5208
163.89	93.6643
165.85	75.9096
167.43	65.9226
171.28	87.3424
171.86	91.8515
172.10	91.8640
176.55	87.6006
176.60	87.6030
181.06	113.4877
184.41	78.5034
185.71	79.4616
186.00	75.8615
190.27	114.0514
192.34	70.6804
193.63	84.3301
197.04	64.4959
198.01	71.7989
198.60	72.7300
200.40	84.6269
201.83	87.4207
202.84	79.2659
205.31	63.8575

208.36	72.1786
208.81	69.4534
209.75	73.1431
209.75	73.1431
210.97	72.2727
215.65	59.6029
216.55	68.8028
218.09	77.1171
222.10	64.3898
223.80	73.6484
226.40	78.3490
227.00	73.7612
227.08	73.7642
227.20	73.7681
228.16	69.1891
228.18	69.1901
228.18	69.1901
231.56	72.9964
235.69	99.0599
236.00	84.2594
236.00	84.2594
238.63	65.8210
238.63	65.8210
238.63	65.8210
238.63	65.8210
239.00	72.3228
240.98	94.6625
241.98	103.9910
241.98	103.9910
241.98	103.9910
244.69	59.4969
245.39	61.3759
247.94	62.3778
248.90	60.5420
249.79	60.5662
252.40	63.4354
252.85	63.4483
252.85	63.4483
254.15	0.0000
256.20	56.0671
256.20	56.0671
260.50	78.6423
260.90	73.9747
262.80	66.5382
264.65	55.3370
268.24	73.2707
268.79	65.7720
269.46	52.6326
269.46	52.6326
269.46	52.6326
269.46	52.6326
271.23	55.4940
273.65	60.2594
276.40	65.0429
277.35	57.5241
277.60	67.9052
277.60	67.9052
278.00	70.7465
278.60	70.7639
279.20	69.8384
279.53	69.8474
280.46	64.2090
281.68	63.2975
283.67	52.0036
284.30	55.8001
285.00	53.9246
285.90	61.5159
286.10	67.1995
286.10	67.1995
287.40	72.9178
288.45	0.0000
290.67	67.3261
290.80	67.3295
291.72	55.0221
293.26	37.9702
293.70	45.5725
295.21	54.1507
295.21	54.1507

295.21	54.1507
295.96	59.8685
296.50	63.6835
297.23	53.2437
298.57	50.4192
299.80	54.2509
299.80	54.2509
300.09	40.9308
300.09	40.9308
300.09	40.9308
300.09	40.9308
300.12	40.9314
301.29	39.9984
302.84	40.0230
303.76	47.6642
303.91	51.4800
304.40	52.4440
304.40	52.4440
304.84	50.5454
306.84	43.9044
308.46	53.4830
311.98	51.6448
316.51	59.4003
318.01	50.8074
319.02	46.0318
319.41	54.6712
320.08	54.6851
323.87	60.5298
323.87	60.5298
323.87	60.5298
323.87	60.5298
325.23	52.8710
328.77	65.4558
333.44	55.9284
334.20	57.8738
334.20	57.8738
334.30	57.8760
338.28	57.9617
338.28	57.9617
338.28	57.9617
338.28	57.9617
338.32	56.0310
338.32	56.0310
338.32	56.0310
340.50	49.3085
340.57	49.3098
344.27	59.0588
345.85	59.0930
350.59	40.7577
351.07	44.6473
351.92	45.6322
351.92	45.6322
351.92	45.6322
355.39	0.0000
356.01	49.5887
364.48	59.4921
366.43	37.0866
367.43	38.0759
367.94	41.0120
369.80	51.7876
374.96	39.1558
383.85	33.3849
387.95	45.2313
388.63	46.2255
391.69	33.4746
391.69	33.4746
392.90	26.5936
398.62	42.4347
400.65	30.6133
401.10	29.6301
401.81	27.6613
402.60	27.6688
404.84	45.4896
410.95	33.6908
411.60	31.7160
413.65	40.6632
414.70	31.7480
415.30	44.6545

415.76	42.6767
417.63	0.0000
418.52	38.7415
423.70	40.7968
427.08	35.8603
427.89	34.8735
432.53	32.9295
433.93	41.9287
439.47	32.0020
439.56	32.0031
439.89	33.0064
443.98	44.0655
444.90	45.0797
445.03	45.0818
445.03	45.0818
445.03	45.0818
445.03	45.0818
453.90	43.1968
463.38	37.2778
468.07	25.2237
473.00	33.3448
475.06	25.2771
475.35	31.3463
476.78	33.3827
477.59	34.4026
477.96	33.3948
482.03	27.3560
484.57	44.6139
487.03	24.3524
490.36	28.4392
492.35	31.5048
497.08	32.5660
507.63	0.0000
510.53	0.0000
510.84	38.8264
511.00	38.8282
511.85	38.8375
511.85	38.8375
513.99	42.6109
513.99	42.6109
520.41	38.9324
520.65	38.4229
527.90	21.5609
528.96	0.0000
529.64	27.7343
529.87	0.0000
531.02	34.9380
537.32	18.5291
543.00	26.8062
546.56	0.0000
549.76	21.6916
552.65	25.8435
555.20	44.4823
563.23	34.2117
563.90	31.1067
568.70	30.1087
569.32	29.0753
569.50	31.1536
569.67	31.1550
573.80	38.4670
574.00	39.5085
574.64	38.4751
578.91	39.5604
579.30	40.6053
583.14	21.8864
585.48	35.4568
591.81	31.3374
592.07	33.4289
593.00	34.4816
595.88	34.5074
600.56	47.1127
602.52	0.0000
602.71	41.9014
602.71	41.9014
603.60	34.5767
604.41	40.8719
604.70	40.8748
609.31	37.7754

609.31	37.7754
609.31	37.7754
609.31	37.7754
610.33	45.1322
612.46	36.7551
614.37	42.0264
618.01	36.8073
621.84	36.8431
621.84	36.8431
631.29	24.2685
633.02	22.1674
633.10	22.1679
634.78	26.4014
635.90	26.4087
636.97	25.3594
645.85	23.2971
646.12	21.1807
656.30	22.2951
657.75	19.1166
657.90	0.0000
661.65	28.7027
661.65	28.7027
664.57	22.3397
666.33	23.4137
666.33	23.4137
675.00	28.7943
677.61	25.6113
685.20	29.9339
692.80	31.0582
695.00	26.7883
696.49	27.8694
696.49	27.8694
697.00	24.6565
697.49	21.4429
698.33	37.5327
698.50	37.5344
699.00	33.2486
702.63	26.8359
706.10	34.3773
706.58	0.0000
706.67	36.5309
709.31	40.8537
711.68	25.8164
713.82	23.6769
717.42	33.3901
720.50	24.7907
721.93	19.4080
722.20	16.1744
722.78	18.3331
722.78	18.3331
722.89	18.3339
722.95	18.3339
723.30	20.4927
724.18	22.6545
727.18	30.2265
733.00	24.8615
735.90	20.5512
739.58	17.3207
742.81	14.0832
744.21	19.5060
747.13	13.0125
751.79	22.7955
752.31	21.7124
753.82	23.8917
755.35	18.4680
756.15	16.2982
756.87	13.0406
763.93	28.2991
765.79	20.6885
766.42	25.0473
766.84	22.8713
776.49	16.3711
778.00	15.2848
778.57	16.3784
778.89	16.3799
783.80	20.7697
785.46	13.1224
792.07	22.9969

795.84	24.1114
796.30	17.5375
798.80	21.9336
801.93	29.6301
805.60	25.2601
810.29	23.0867
810.76	24.1882
815.85	17.4267
817.79	21.1044
818.51	20.1899
819.60	18.3586
826.30	20.2226
828.27	19.3115
831.60	14.7236
831.96	15.6452
834.83	15.6542
836.80	0.0000
846.75	25.8472
848.13	24.9313
856.28	0.0000
856.80	22.2002
860.37	19.4393
867.32	14.8317
867.82	15.7604
871.10	23.1923
873.19	19.4897
874.81	11.1406
875.33	0.0000
876.40	16.7164
879.36	16.7263
880.27	19.5175
880.51	19.5183
881.50	18.5925
883.24	21.3889
884.67	21.3950
889.25	15.8282
896.60	22.3784
898.02	13.0575
899.00	8.3958
903.28	17.7394
911.07	19.6367
911.07	19.6367
911.07	19.6367
919.63	15.9230
920.93	27.1692
925.00	9.3762
925.24	9.3766
926.50	11.2546
935.52	17.8508
937.48	11.2786
944.10	21.6444
946.00	19.7695
949.00	21.6645
962.29	20.7749
964.01	22.6709
966.15	22.6797
968.20	13.2349
969.11	15.1283
969.11	15.1283
969.11	15.1283
977.42	16.0987
980.50	14.2130
983.50	13.2728
989.30	14.2361
996.32	13.3044
1001.03	22.8271
1001.68	20.9273
1004.76	11.4214
1021.30	0.0000
1024.50	0.0000
1034.80	14.3542
1036.00	12.4430
1037.82	16.2771
1038.57	19.1520
1038.76	0.0000
1045.16	12.4636
1046.59	9.5898
1048.07	12.4700

1050.47	13.4349
1050.47	13.4349
1062.04	8.6543
1063.62	11.5425
1076.63	11.5688
1077.35	9.6419
1078.86	8.6799
1085.78	12.5530
1099.22	16.4535
1112.02	20.3694
1112.84	16.4916
1115.52	15.5286
1120.29	13.5984
1120.29	13.5984
1120.29	13.5984
1120.29	13.5984
1120.51	12.6276
1121.28	14.5721
1124.00	0.0000
1129.67	10.7015
1131.51	0.0000
1147.95	0.0000
1167.94	13.7072
1173.22	13.7192
1175.09	12.7434
1177.93	14.7107
1189.05	13.7550
1204.90	10.8353
1205.75	8.8663
1213.00	11.8354
1221.42	10.8639
1230.97	9.8914
1235.34	11.8779
1236.41	0.0000
1238.25	11.8833
1246.25	14.8730
1260.41	0.0000
1271.85	13.9373
1274.45	12.9471
1274.54	12.9471
1291.56	11.9824
1298.22	0.0000
1312.09	12.0200
1325.50	4.0148
1325.50	4.0148
1332.49	9.0428
1333.61	9.0447
1360.21	8.0716
1362.66	0.0000
1365.15	9.0872
1368.21	10.1013
1368.53	0.0000
1376.25	9.1022
1384.27	10.1253
1394.10	8.1120
1395.20	7.0991
1407.95	9.1443
1434.06	14.2780
1436.60	11.2225
1457.56	0.0000
1460.81	10.2372
1489.15	13.3613
1509.49	14.4295
1596.49	9.3856
1620.62	4.1847
1678.03	0.0000
1691.02	9.5013
1691.02	9.5013
1706.46	0.0000
1750.46	0.0000
1764.49	4.2619
1764.49	4.2619
1764.49	4.2619
1764.49	4.2619
1770.23	5.3310
1771.40	7.4646
1791.20	0.0000
1808.65	5.3562

1836.01

6.4485

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202015435

Total Uranium Activity	-3.0504E-01	ug/g
Total Uranium Counting Unc.	1.2491E+00	ug/g
Total Uranium Tpu	6.3731E-07	ug/g
Total Uranium Mda	1.1418E+00	ug/g

```

*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 941635          SAMPLE ID   : G1202015435
*  ANALYST       : MXR1            DETECTOR    : GAM14
*  SAMPLE DATE   : 15-JAN-2010 00:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 22-JAN-2010 09:49:06.72  SAMPLE ALQT: 155.810 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 5.092E-03
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.757E-02
GROSS GAMMA MDA     (pCi/GRAM ) : 3.443E-02
GROSS GAMMA DLC      (pCi/GRAM ) : 1.617E-02

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VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 12:26:01.08

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015436.CNF;1
Sample date     : 7-JAN-2010 12:00:00. Acquisition date : 22-JAN-2010 10:24:55
Sample ID      : G1202015436           Sample quantity : 1.55810E+02 GRAM
Detector name   : GAM20                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00       Elapsed real time: 0 02:00:32.20 0.4%
Energy tolerance: 1.50000 keV          Analyst Initials : MXR1
Abundance limit : 75.00000             Sensitivity     : 5.00000
Batch ID       : 941635                Detector SN#    :
Matrix Spike ID :                      LCS ID         : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	47.63*	19	377	0.89	95.30	90	9	2.67E-03	190.5	
2	0	63.38*	48	460	0.63	126.75	123	8	6.62E-03	81.7	
3	3	74.94*	254	437	0.98	149.83	146	20	3.53E-02	14.2	1.87E+00
4	3	77.21*	414	301	0.92	154.37	146	20	5.75E-02	8.2	
5	0	84.07*	74	311	1.00	168.05	166	6	1.03E-02	40.7	
6	0	86.91	96	436	1.10	173.73	172	7	1.33E-02	37.5	
7	0	93.28*	145	612	1.27	186.45	181	10	2.02E-02	34.8	
8	0	129.36	59	150	0.96	258.51	256	5	8.13E-03	34.2	
9	0	185.80*	128	282	0.90	371.22	367	9	1.78E-02	26.6	
10	0	208.99	43	166	0.71	417.55	415	6	6.01E-03	49.5	
11	3	238.53*	895	156	1.25	476.56	471	17	1.24E-01	4.1	2.55E+00
12	3	241.42	192	213	1.63	482.32	471	17	2.67E-02	19.9	
13	0	270.23	86	175	1.97	539.88	535	10	1.19E-02	30.9	
14	0	295.28*	241	155	1.19	589.92	585	10	3.35E-02	11.8	
15	0	300.17	87	191	1.51	599.69	595	13	1.20E-02	34.6	
16	0	327.73	50	115	1.06	654.74	652	8	6.88E-03	39.8	
17	0	338.31*	177	158	1.27	675.89	671	12	2.46E-02	16.3	
18	0	351.83*	438	132	1.07	702.89	698	11	6.09E-02	7.1	
19	0	410.23	49	81	1.30	819.57	814	9	6.84E-03	35.9	
20	0	477.39	50	93	1.55	953.79	950	9	7.01E-03	37.1	
21	0	511.05*	87	117	1.79	1021.05	1014	15	1.21E-02	33.9	
22	0	583.38*	296	76	1.48	1165.61	1159	15	4.11E-02	9.0	
23	0	609.07*	322	92	1.34	1216.97	1209	15	4.47E-02	8.8	
24	0	661.66	250	83	1.62	1322.10	1316	11	3.47E-02	9.5	
25	0	727.26*	66	81	1.80	1453.24	1445	16	9.19E-03	32.5	
26	0	770.91	82	99	3.53	1540.52	1530	21	1.13E-02	33.1	
27	0	911.09	191	45	1.64	1820.85	1816	10	2.65E-02	9.8	
28	0	1120.58	97	70	2.86	2239.93	2231	20	1.35E-02	23.4	
29	0	1378.25	23	32	1.60	2755.61	2748	14	3.25E-03	55.0	
30	0	1460.64	1717	23	1.69	2920.54	2914	16	2.39E-01	2.5	
31	0	1588.00	19	11	1.45	3175.58	3172	8	2.70E-03	36.4	
32	0	1764.31	74	0	2.19	3528.70	3523	14	1.03E-02	11.6	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015436.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 7-JAN-2010 12:00:00   Acquisition date : 22-JAN-2010 10:24:55
Sample ID        : G1202015436           Sample quantity  : 155.81 GRAM
Sample type      : SOLID                  Sample geometry   :
Detector name    : GAMMA20               Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:32.20   0.4%
Peak Width (FWHM): 3.00                  Confidence level  : 5.00 %
Energy tolerance : 1.50 keV              Half life ratio   : 8.00
Errors propagated: Yes                   Systematic Error  : 0.00 %
Efficiency type  : Empirical              Efficiencies at   : Peak Energy
Abundance limit  : 75.00                  WTM error limit  : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	+	477.59	*	4.493E-01	3.362E-01	4.164E-01	4.047E-02	1.079
K-40	+	1460.81	*	3.094E+01	3.109E+00	4.293E-01	3.743E-02	72.088
CD-109	+	88.03	*	9.149E-01	6.916E-01	1.044E+00	9.868E-02	0.877
SN-126	+	64.28		2.572E-01	4.219E-01	4.669E-01	6.760E-02	0.551
	+	86.94		3.740E-01	3.206E-01	3.361E-01	1.395E-01	1.113
	+	87.57	*	8.995E-02	6.799E-02	9.571E-02	9.002E-03	0.940
BA-137M	+	661.65	*	2.753E-01	5.896E-02	4.587E-02	4.603E-03	6.001
CS-137	+	661.65	*	2.910E-01	6.234E-02	4.849E-02	4.873E-03	6.001
TL-208		277.35		2.700E-01	2.628E-01	4.582E-01	6.093E-02	0.589
	+	510.84		3.243E-01	2.239E-01	1.562E-01	1.953E-02	2.076
	+	583.14	*	3.142E-01	6.505E-02	3.700E-02	3.804E-03	8.490
		860.37		2.315E-01	2.308E-01	4.109E-01	4.355E-02	0.563
BI-210	+	46.50	*	5.639E-01	2.149E+00	2.396E+00	2.222E-01	0.235
PB-210	+	46.50	*	5.639E-01	2.149E+00	2.396E+00	2.222E-01	0.235
PO-210	+	46.50	*	5.639E-01	2.149E+00	2.396E+00	2.010E-01	0.235
BI-211		72.87		2.946E+00	2.120E+00	3.275E+00	2.586E-01	0.900
	+	351.07	*	2.055E+00	3.520E-01	2.321E-01	2.223E-02	8.856
PB-212	+	74.81		9.443E-01	2.919E-01	3.545E-01	4.375E-02	2.664
	+	77.11		8.852E-01	1.624E-01	2.040E-01	1.687E-02	4.340
	+	87.30		4.160E-01	3.172E-01	4.463E-01	6.117E-02	0.932
	+	238.63	*	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
	+	300.09		1.374E+00	9.640E-01	8.543E-01	9.768E-02	1.608
PO-212	+	74.81		9.443E-01	2.919E-01	3.545E-01	4.375E-02	2.664
	+	77.11		8.852E-01	1.624E-01	2.040E-01	1.687E-02	4.340
	+	87.30		4.160E-01	3.172E-01	4.463E-01	6.117E-02	0.932
		115.19		5.173E-01	2.355E+00	3.833E+00	3.219E-01	0.135
	+	238.63	*	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
	+	300.09		1.374E+00	9.640E-01	8.543E-01	9.768E-02	1.608
BI-214	+	609.31	*	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
	+	1120.29		9.940E-01	4.782E-01	3.264E-01	3.531E-02	3.046
	+	1764.49		1.026E+00	2.529E-01	1.816E-01	1.491E-02	5.649
PB-214	+	74.81		1.627E+00	4.943E-01	6.108E-01	6.687E-02	2.664
	+	77.11		1.517E+00	3.015E-01	3.497E-01	3.932E-02	4.340
	+	87.30		7.127E-01	5.415E-01	7.645E-01	9.278E-02	0.932

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		1.187E+00	4.915E-01	3.868E-01	4.326E-02	3.069
	+	295.21		6.709E-01	1.771E-01	1.418E-01	1.655E-02	4.730
	+	351.92	*	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004
	+	74.81		1.627E+00	4.943E-01	6.108E-01	6.687E-02	2.664
	+	77.11		1.517E+00	3.015E-01	3.497E-01	3.932E-02	4.340
	+	87.30		7.127E-01	5.415E-01	7.645E-01	9.278E-02	0.932
PO-216	+	241.98		1.187E+00	4.915E-01	3.868E-01	4.326E-02	3.069
	+	295.21		6.709E-01	1.771E-01	1.418E-01	1.655E-02	4.730
	+	351.92	*	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004
	+	74.81		9.443E-01	2.919E-01	3.545E-01	4.375E-02	2.664
	+	77.11		8.852E-01	1.624E-01	2.040E-01	1.687E-02	4.340
	+	87.30		4.160E-01	3.172E-01	4.463E-01	6.117E-02	0.932
PO-218	+	238.63	*	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
	+	300.09		1.374E+00	9.640E-01	8.543E-01	9.768E-02	1.608
	+	74.81		1.627E+00	4.943E-01	6.108E-01	6.687E-02	2.664
	+	77.11		1.517E+00	3.015E-01	3.497E-01	3.932E-02	4.340
	+	87.30		7.127E-01	5.415E-01	7.645E-01	9.278E-02	0.932
	+	241.98		1.187E+00	4.915E-01	3.868E-01	4.326E-02	3.069
RA-224	+	295.21		6.709E-01	1.771E-01	1.418E-01	1.655E-02	4.730
	+	351.92	*	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004
RA-226	+	240.98	*	2.251E+00	9.233E-01	7.312E-01	7.067E-02	3.079
	+	609.31	*	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
TH-228	+	1120.29		9.940E-01	4.782E-01	3.264E-01	3.531E-02	3.046
	+	1764.49		1.026E+00	2.529E-01	1.816E-01	1.491E-02	5.649
	+	74.81		9.585E-01	2.826E-01	3.598E-01	2.928E-02	2.664
	+	77.11		8.984E-01	1.649E-01	2.070E-01	1.712E-02	4.340
	+	87.30		4.223E-01	3.192E-01	4.530E-01	4.246E-02	0.932
	+	238.63	*	9.346E-01	1.259E-01	6.522E-02	6.936E-03	14.328
TH-230	+	300.09		1.394E+00	1.273E+00	8.671E-01	5.156E-01	1.608
	+	609.31	*	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
	+	1120.29		9.940E-01	4.782E-01	3.264E-01	3.531E-02	3.046
	+	1764.49		1.026E+00	2.529E-01	1.815E-01	1.491E-02	5.649
TH-234	+	63.29	*	6.498E-01	1.068E+00	1.132E+00	1.966E-01	0.574
	+	92.38		9.004E-01	6.483E-01	5.473E-01	1.004E-01	1.645
U-234	+	609.31	*	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
	+	1120.29		9.940E-01	4.782E-01	3.264E-01	3.531E-02	3.046
NP-237	+	1764.49		1.026E+00	2.529E-01	1.815E-01	1.491E-02	5.649
	+	86.50	*	2.641E-01	2.070E-01	2.435E-01	5.509E-02	1.085
U-238	+	95.87		-4.793E-01	6.941E-01	9.467E-01	2.343E-01	-0.506
	+	63.29	*	6.498E-01	1.068E+00	1.132E+00	1.966E-01	0.574
AM-243	+	92.38		9.004E-01	6.323E-01	5.473E-01	5.003E-02	1.645
	+	74.67	*	1.531E-01	4.511E-02	5.759E-02	4.635E-03	2.658
ANH-511	+	86.72		9.906E+00	7.487E+00	9.118E+00	8.482E-01	1.086
	+	117.66		-2.683E+00	2.649E+00	4.032E+00	3.375E-01	-0.665
	+	142.18		-1.223E+01	1.300E+01	1.976E+01	1.668E+00	-0.619
	+	511.00	*	7.005E-02	4.800E-02	3.375E-02	3.145E-03	2.075

---- 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	*	-9.644E-03	3.648E-02	5.714E-02	4.734E-03	-0.169

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-24	1368.53	*		-1.503E-01	3.648E-02	Half-Life too short		
AL-26	1129.67			6.147E-01	1.496E+00	2.312E+00	1.958E-01	0.266
	1808.65	*		-1.106E-02	1.728E-02	2.322E-02	1.886E-03	-0.476
TI-44	67.85			3.636E-03	2.847E-02	4.466E-02	3.360E-03	0.081
	78.38	*		1.633E-01	2.997E-02	4.769E-02	4.002E-03	3.425
SC-46	889.25	*		1.542E-02	2.903E-02	5.031E-02	5.016E-03	0.306
	1120.51	+		1.699E-01	8.096E-02	8.581E-02	7.340E-03	1.980
V-48	944.10			-4.995E-01	6.742E-01	1.023E+00	9.985E-02	-0.488
	983.50	*		-6.051E-02	5.233E-02	7.448E-02	7.118E-03	-0.812
	1312.09			-2.119E-02	5.866E-02	8.978E-02	7.491E-03	-0.236
CR-51	320.08	*		-1.194E-01	2.541E-01	4.078E-01	4.089E-02	-0.293
MN-52	744.21			-4.160E-02	1.646E-01	2.687E-01	2.729E-02	-0.155
	848.13			-2.412E+00	4.753E+00	7.474E+00	7.531E-01	-0.323
	935.52			2.847E-01	1.927E-01	3.552E-01	3.479E-02	0.801
	1246.25			1.462E+00	5.832E+00	9.634E+00	7.915E-01	0.152
	1333.61			-3.188E-01	3.775E+00	5.995E+00	5.023E-01	-0.053
	1434.06	*		3.188E-02	1.578E-01	2.714E-01	2.297E-02	0.117
MN-54	834.83	*		-6.244E-03	2.722E-02	4.423E-02	4.468E-03	-0.141
CO-56	846.75	*		-2.162E-02	2.844E-02	4.348E-02	4.382E-03	-0.497
	977.42			-1.191E+00	2.169E+00	3.350E+00	3.213E-01	-0.356
	1037.82			2.651E-02	2.273E-01	3.763E-01	3.630E-02	0.070
	1175.09			1.355E+00	1.945E+00	3.335E+00	2.683E-01	0.406
	1238.25			8.455E-02	7.202E-02	1.269E-01	1.074E-02	0.666
	1360.21			1.002E-01	7.280E-01	1.242E+00	1.045E-01	0.081
	1771.40			-1.539E-01	1.455E-01	1.739E-01	1.426E-02	-0.885
CO-57	122.06	*		-3.799E-03	1.805E-02	2.870E-02	2.396E-03	-0.132
	136.48			1.673E-03	1.525E-01	2.441E-01	2.210E-02	0.007
CO-58	810.76	*		5.133E-03	3.036E-02	5.118E-02	5.197E-03	0.100
FE-59	142.65			-2.162E+00	2.054E+00	3.062E+00	2.586E-01	-0.706
	192.34			1.551E-01	6.395E-01	1.095E+00	1.503E-01	0.142
	1099.22	*		1.733E-04	7.130E-02	1.162E-01	1.096E-02	0.001
	1291.56			-7.739E-02	9.387E-02	1.351E-01	1.285E-02	-0.573
CO-60	1173.22			1.718E-02	4.046E-02	6.787E-02	5.456E-03	0.253
	1332.49	*		2.092E-02	2.942E-02	5.149E-02	4.313E-03	0.406
ZN-65	1115.52	*		-1.823E-02	8.266E-02	1.127E-01	9.700E-03	-0.162
GE-68	1077.35	*		2.001E-01	8.638E-01	1.445E+00	1.289E-01	0.139
AS-73	53.44	*		2.300E-01	4.047E-01	6.831E-01	5.071E-02	0.337
AS-74	595.88	*		4.923E-02	7.065E-02	1.194E-01	1.169E-02	0.412
	634.78			-7.354E-02	2.261E-01	3.700E-01	3.680E-02	-0.199
SE-75	66.05			-2.305E+00	3.181E+00	4.494E+00	4.252E-01	-0.513
	96.73			-5.414E-01	5.751E-01	7.765E-01	1.072E-01	-0.697
	121.11			3.667E-02	9.464E-02	1.548E-01	1.705E-02	0.237
	136.00			1.083E-02	2.808E-02	4.574E-02	3.864E-03	0.237
	198.60			1.759E-02	1.300E+00	2.174E+00	2.188E-01	0.008
	264.65	*		-8.997E-03	3.204E-02	4.872E-02	4.824E-03	-0.185
	279.53			9.132E-03	7.318E-02	1.229E-01	1.258E-02	0.074
	303.91			4.941E-01	1.616E+00	2.420E+00	2.994E-01	0.204
	400.65			3.534E-02	1.779E-01	2.956E-01	3.244E-02	0.120
BR-77	87.88	+		1.875E+02	1.417E+02	2.013E+02	1.901E+01	0.932

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	200.40			-6.219E+01	1.079E+02	1.776E+02	1.633E+01	-0.350
	239.00		+	1.402E+02	1.780E+01	2.420E+01	2.335E+00	5.792
	249.79			2.919E+01	4.392E+01	7.602E+01	7.410E+00	0.384
	281.68			-8.359E+01	5.883E+01	8.872E+01	8.823E+00	-0.942
	297.23			1.375E+02	5.496E+01	7.470E+01	7.350E+00	1.840
	303.76			3.776E+01	1.305E+02	1.953E+02	1.910E+01	0.193
	439.47			2.448E+01	9.988E+01	1.657E+02	1.456E+01	0.148
	484.57			7.677E+01	1.555E+02	2.620E+02	2.394E+01	0.293
	520.65		*	-2.120E+00	7.521E+00	1.185E+01	1.112E+00	-0.179
	574.64			6.011E+00	1.416E+02	2.281E+02	2.209E+01	0.026
	578.91			2.682E+00	6.703E+01	9.424E+01	9.149E+00	0.028
	585.48			5.770E+02	1.492E+02	2.705E+02	2.635E+01	2.133
	755.35			-2.004E+01	1.024E+02	1.677E+02	1.704E+01	-0.120
	817.79			-2.503E+01	9.022E+01	1.458E+02	1.477E+01	-0.172
SR-82	698.33			-4.674E+00	2.566E+01	4.210E+01	4.257E+00	-0.111
	776.49		*	3.015E-01	2.946E-01	4.803E-01	4.880E-02	0.628
	1395.20			2.039E+00	6.911E+00	1.207E+01	1.019E+00	0.169
RB-83	520.41		*	-4.090E-03	5.110E-02	8.194E-02	7.685E-03	-0.050
	529.64			-4.048E-02	7.902E-02	1.217E-01	1.148E-02	-0.333
	552.65			9.749E-03	1.407E-01	2.277E-01	2.179E-02	0.043
RB-84	881.50		*	3.952E-03	5.618E-02	9.346E-02	9.339E-03	0.042
KR-85	513.99		*	6.364E+00	6.183E+00	9.575E+00	8.941E-01	0.665
SR-85	513.99		*	3.257E-02	3.164E-02	4.900E-02	4.576E-03	0.665
RB-86	1076.63		*	-9.371E-02	5.737E-01	9.192E-01	8.207E-02	-0.102
Y-88	898.02			2.752E-02	2.819E-02	5.091E-02	5.080E-03	0.540
	1836.01		*	9.874E-03	2.114E-02	3.833E-02	3.093E-03	0.258
ZR-88	392.90		*	1.224E-02	1.955E-02	3.357E-02	2.808E-03	0.365
Y-91	1204.90		*	1.945E+00	1.511E+01	2.497E+01	2.028E+00	0.078
NB-94	702.63		*	1.503E-02	2.530E-02	4.422E-02	4.474E-03	0.340
	871.10			5.142E-03	2.614E-02	4.402E-02	4.412E-03	0.117
NB-95	765.79		*	2.980E-02	3.467E-02	5.501E-02	5.590E-03	0.542
NB-95M	235.69		*	1.186E-02	9.524E-02	1.423E-01	1.529E-02	0.083
ZR-95	724.18			-7.977E-03	8.248E-02	1.188E-01	1.281E-02	-0.067
	756.15		*	-5.732E-03	4.820E-02	7.957E-02	8.684E-03	-0.072
NB-97	657.90		*	-2.600E-03	4.820E-02	Half-Life	too short	
	1024.50			-2.570E+00	4.820E-02	Half-Life	too short	
ZR-97	254.15			-1.240E+00	4.820E-02	Half-Life	too short	
	355.39			-3.973E-01	4.820E-02	Half-Life	too short	
	507.63		*	6.936E-01	4.820E-02	Half-Life	too short	
	602.52			-2.303E+00	4.820E-02	Half-Life	too short	
	1021.30			-7.066E-01	4.820E-02	Half-Life	too short	
	1147.95			-1.918E-01	4.820E-02	Half-Life	too short	
	1362.66			3.382E+00	4.820E-02	Half-Life	too short	
	1750.46			1.815E-01	4.820E-02	Half-Life	too short	
MO-99	140.51			-1.089E+01	1.882E+01	2.832E+01	7.826E+00	-0.385
	181.06			5.892E+00	1.317E+01	1.900E+01	3.503E+00	0.310
	366.43			-3.942E+01	5.910E+01	9.267E+01	8.239E+00	-0.425
	739.58		*	-1.318E+00	8.127E+00	1.339E+01	2.157E+00	-0.098
	778.00			8.205E-01	2.694E+01	3.916E+01	3.979E+00	0.021

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	140.51	*		-1.000E+10	2.694E+01	Half-Life	too short	
RH-101	127.23			-1.799E-02	2.521E-02	3.424E-02	2.857E-03	-0.525
	198.01	*		3.168E-03	2.391E-02	4.021E-02	3.686E-03	0.079
	325.23			-2.155E-02	1.699E-01	2.444E-01	2.333E-02	-0.088
RH-102	418.52			-4.243E-02	2.041E-01	3.283E-01	2.824E-02	-0.129
	475.06	*		7.329E-03	2.815E-02	4.094E-02	3.712E-03	0.179
	631.29			-8.353E-04	3.512E-02	5.588E-02	5.550E-03	-0.015
	697.49			-1.089E-02	5.613E-02	9.192E-02	9.292E-03	-0.118
	766.84			1.349E-01	9.455E-02	1.559E-01	1.585E-02	0.865
	1046.59			-1.331E-02	8.955E-02	1.442E-01	1.320E-02	-0.092
	1112.84			8.759E-02	2.024E-01	3.012E-01	2.597E-02	0.291
RU-103	497.08	*		4.858E-04	2.714E-02	4.400E-02	6.397E-03	0.011
	610.33	+		6.915E+00	1.706E+00	1.894E+00	3.287E-01	3.651
RH-106	511.85	+		3.498E-01	2.397E-01	3.249E-01	3.029E-02	1.077
	621.84	*		1.367E-01	2.342E-01	3.928E-01	5.584E-02	0.348
	1050.47			-2.663E-01	1.835E+00	2.955E+00	2.697E-01	-0.090
RU-106	511.85	+		3.498E-01	2.397E-01	3.249E-01	3.029E-02	1.077
	621.84	*		1.367E-01	2.338E-01	3.928E-01	3.888E-02	0.348
	1050.47			-2.663E-01	1.835E+00	2.955E+00	2.697E-01	-0.090
AG-108M	433.93	*		-3.447E-03	2.485E-02	4.013E-02	3.642E-03	-0.086
	614.37			-3.632E-03	3.262E-02	4.479E-02	4.553E-03	-0.081
	722.95			1.276E-02	3.402E-02	5.166E-02	5.388E-03	0.247
AG-110M	657.75	*		-2.747E-03	2.856E-02	4.141E-02	4.243E-03	-0.066
	677.61			1.700E-01	2.201E-01	3.914E-01	4.024E-02	0.434
	706.67			-1.326E-01	1.549E-01	2.406E-01	2.485E-02	-0.551
	763.93			1.369E-02	1.286E-01	1.890E-01	1.960E-02	0.072
	884.67			-1.743E-02	4.010E-02	6.361E-02	6.503E-03	-0.274
	937.48			-4.431E-02	8.719E-02	1.365E-01	1.373E-02	-0.325
	1384.27			4.263E-02	1.254E-01	1.933E-01	1.677E-02	0.221
IN-111	171.28			3.230E-01	6.725E-01	1.093E+00	9.617E-02	0.296
	245.39	*		-3.736E-01	7.908E-01	1.127E+00	1.094E-01	-0.331
IN-113M	391.69	*		-1.192E-02	2.940E-02	4.669E-02	4.028E-03	-0.255
SN-113	391.69	*		-1.192E-02	2.940E-02	4.669E-02	4.028E-03	-0.255
IN-114M	190.27	*		-9.053E-02	1.401E-01	2.011E-01	1.822E-02	-0.450
CD-115	260.90			-1.982E+01	8.406E+01	1.388E+02	1.365E+01	-0.143
	492.35			-2.474E+00	2.419E+01	3.884E+01	3.570E+00	-0.064
	527.90	*		-3.343E+00	7.621E+00	1.182E+01	1.114E+00	-0.283
SN-117M	156.02			-3.955E-01	1.649E+00	2.592E+00	2.229E-01	-0.153
	158.56	*		3.663E-03	4.003E-02	6.393E-02	5.517E-03	0.057
SB-122	563.90	*		-3.364E-01	1.484E+00	2.338E+00	2.252E-01	-0.144
	692.80			-2.966E+01	2.798E+01	4.220E+01	4.263E+00	-0.703
I-123	159.00	*		-5.976E-02	2.798E+01	Half-Life	too short	
	528.96			-1.430E+02	2.798E+01	Half-Life	too short	
TE-123M	159.00	*		-3.717E-04	2.114E-02	3.357E-02	2.917E-03	-0.011
I-124	602.71	*		-2.350E-01	5.464E-01	7.205E-01	7.074E-02	-0.326
	722.78			1.517E+00	3.466E+00	5.295E+00	5.371E-01	0.286
	1325.50			7.958E+00	2.580E+01	4.307E+01	3.603E+00	0.185
	1376.25			4.439E+01	2.157E+01	4.175E+01	3.517E+00	1.063
	1509.49			1.431E+01	1.076E+01	2.097E+01	1.778E+00	0.683

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	1691.02			1.176E+00	2.273E+00	4.156E+00	3.466E-01	0.283
	602.71			-1.405E-02	3.266E-02	4.308E-02	4.230E-03	-0.326
	645.85			-1.749E-01	3.480E-01	5.607E-01	5.851E-02	-0.312
	709.31			5.619E-01	1.994E+00	3.417E+00	3.460E-01	0.164
	713.82			2.976E-01	1.135E+00	1.942E+00	2.557E-01	0.153
	722.78			1.314E-01	3.003E-01	4.589E-01	4.727E-02	0.286
	968.20			5.476E+00	2.523E+00	4.630E+00	4.463E-01	1.183
	1045.16			7.624E-01	1.914E+00	3.248E+00	2.977E-01	0.235
	1325.50			7.365E-01	2.388E+00	3.986E+00	3.335E-01	0.185
	1368.21			-2.733E-01	1.034E+00	1.662E+00	2.218E-01	-0.165
	1436.60			1.250E+00	2.466E+00	4.422E+00	3.743E-01	0.283
	1691.02			2.404E-02	4.648E-02	8.496E-02	7.383E-03	0.283
SB-125	427.89		*	1.107E-02	6.541E-02	1.073E-01	9.495E-03	0.103
	463.38			5.517E-01	2.293E-01	4.193E-01	4.037E-02	1.316
	600.56			3.191E-02	1.374E-01	2.240E-01	2.324E-02	0.142
	635.90			4.118E-02	1.802E-01	3.096E-01	3.269E-02	0.133
TE-125M	109.28		*	4.019E+00	6.502E+00	1.076E+01	1.100E+00	0.374
I-126	388.63			-3.485E-02	1.401E-01	2.257E-01	1.901E-02	-0.154
	666.33		*	8.477E-02	1.403E-01	2.196E-01	2.206E-02	0.386
SB-126	753.82			-9.494E-02	9.823E-01	1.625E+00	1.652E-01	-0.058
	223.80			6.015E-01	2.862E+00	4.866E+00	4.616E-01	0.124
	278.60			1.188E+00	1.696E+00	2.930E+00	2.916E-01	0.406
	296.50		+	6.611E+00	1.696E+00	2.376E+00	2.340E-01	2.782
	414.70			2.649E-02	6.028E-02	9.013E-02	7.723E-03	0.294
	415.30			1.611E+00	4.629E+00	7.508E+00	6.437E-01	0.215
	555.20			1.208E+00	3.020E+00	4.822E+00	4.621E-01	0.251
	573.80			-5.005E-01	7.509E-01	1.129E+00	1.093E-01	-0.443
	593.00			-2.608E-01	6.492E-01	9.985E-01	9.760E-02	-0.261
	656.30			2.588E-01	2.640E+00	3.917E+00	3.924E-01	0.066
	666.33			3.541E-02	5.860E-02	9.171E-02	9.214E-03	0.386
	675.00			2.923E-01	1.376E+00	2.353E+00	2.369E-01	0.124
	695.00			-1.899E-04	5.159E-02	8.653E-02	8.744E-03	-0.002
	697.00			-2.260E-02	1.934E-01	3.188E-01	3.222E-02	-0.071
	720.50		*	1.348E-01	1.160E-01	1.903E-01	1.930E-02	0.708
	856.80			-4.632E-01	3.812E-01	5.595E-01	5.627E-02	-0.828
	989.30			1.221E-01	8.942E-01	1.488E+00	1.417E-01	0.082
	1034.80			-1.175E+00	6.731E+00	1.081E+01	9.988E-01	-0.109
	1213.00			4.323E-01	3.993E+00	6.537E+00	5.321E-01	0.066
SB-127	61.10			-1.466E+01	3.342E+01	4.794E+01	4.796E+00	-0.306
	252.40			1.323E+00	3.035E+00	5.114E+00	2.162E+00	0.259
	290.80			-8.811E+00	1.623E+01	2.266E+01	2.746E+00	-0.389
	411.60		+	1.449E+01	1.064E+01	1.543E+01	2.413E+00	0.939
	444.90			3.137E+00	6.333E+00	1.072E+01	1.353E+00	0.293
	473.00			1.308E+00	1.445E+00	2.224E+00	2.917E-01	0.588
	543.00			2.171E+00	1.176E+01	1.924E+01	2.868E+00	0.113
	603.60			-7.065E+00	9.118E+00	1.134E+01	1.511E+00	-0.623
	685.20		*	1.095E-01	9.547E-01	1.618E+00	2.019E-01	0.068
	698.50			-2.880E+00	1.136E+01	1.823E+01	3.034E+00	-0.158
	722.20			3.222E+01	2.272E+01	3.799E+01	4.682E+00	0.848

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	783.80			1.008E+00	2.517E+00	4.329E+00	5.837E-01	0.233
	57.60			1.693E+00	3.172E+00	5.331E+00	3.809E-01	0.318
	145.22			3.818E-01	5.098E-01	8.300E-01	7.031E-02	0.460
	172.10			2.083E-02	8.552E-02	1.372E-01	1.209E-02	0.152
	202.84	*		-1.433E-02	3.188E-02	5.279E-02	4.872E-03	-0.271
I-131	374.96			5.619E-02	1.464E-01	2.420E-01	2.111E-02	0.232
	80.18			-3.545E+00	3.280E+00	4.495E+00	3.878E-01	-0.789
	284.30			-7.347E-02	1.030E+00	1.709E+00	1.764E-01	-0.043
	364.48	*		2.641E-02	8.271E-02	1.390E-01	1.304E-02	0.190
	636.97			-1.223E-01	1.064E+00	1.777E+00	1.843E-01	-0.069
TE-132	722.89			2.245E+00	5.651E+00	8.599E+00	8.761E-01	0.261
	49.72			1.836E+00	9.035E+00	1.353E+01	1.381E+00	0.136
	111.76			-4.458E+00	1.952E+01	3.112E+01	3.321E+00	-0.143
	116.30			8.761E-01	1.782E+01	2.875E+01	3.054E+00	0.030
	228.16	*		-5.289E-02	4.651E-01	7.785E-01	1.261E-01	-0.068
BA-133	53.15			1.119E+00	1.734E+00	2.937E+00	2.188E-01	0.381
	79.62			-1.082E+00	9.426E-01	1.272E+00	1.929E-01	-0.851
	81.00			-8.593E-02	7.193E-02	9.644E-02	1.533E-02	-0.891
	276.40			3.765E-01	2.747E-01	4.682E-01	7.150E-02	0.804
	302.84			-5.793E-02	1.167E-01	1.631E-01	2.296E-02	-0.355
I-133	356.01	*		1.040E-02	3.573E-02	5.300E-02	7.159E-03	0.196
	383.85			1.711E-02	2.182E-01	3.602E-01	4.518E-02	0.047
	510.53	+		6.158E-01	2.182E-01	Half-Life	too short	
	529.87	*		-1.865E-03	2.182E-01	Half-Life	too short	
	706.58			-2.306E-01	2.182E-01	Half-Life	too short	
CS-134	856.28			-5.305E-01	2.182E-01	Half-Life	too short	
	875.33			-5.521E-02	2.182E-01	Half-Life	too short	
	1236.41			3.161E-01	2.182E-01	Half-Life	too short	
	1298.22			1.143E-01	2.182E-01	Half-Life	too short	
	475.35			9.744E-01	1.870E+00	2.780E+00	2.521E-01	0.351
CS-135	563.23			-2.956E-02	2.696E-01	4.292E-01	4.163E-02	-0.069
	569.32			3.992E-02	1.365E-01	2.249E-01	2.196E-02	0.177
	604.70			-1.043E-02	2.750E-02	3.647E-02	3.591E-03	-0.286
	795.84	*		4.614E-02	3.419E-02	6.281E-02	6.409E-03	0.735
	801.93			4.051E-02	2.747E-01	4.631E-01	4.717E-02	0.087
I-135	1038.57			-8.451E-01	2.964E+00	4.704E+00	4.333E-01	-0.180
	1167.94			-1.095E+00	2.136E+00	3.298E+00	2.670E-01	-0.332
	1365.15			-1.878E-02	8.521E-01	1.426E+00	1.257E-01	-0.013
	268.24	*		1.157E-01	1.246E-01	1.947E-01	2.158E-02	0.594
	288.45			3.627E+09	1.246E-01	Half-Life	too short	
I-135	417.63			-8.782E+09	1.246E-01	Half-Life	too short	
	546.56			1.106E+09	1.246E-01	Half-Life	too short	
	836.80			1.022E+10	1.246E-01	Half-Life	too short	
	1038.76			-1.974E+09	1.246E-01	Half-Life	too short	
	1124.00			1.041E+10	1.246E-01	Half-Life	too short	
I-135	1131.51			1.263E+09	1.246E-01	Half-Life	too short	
	1260.41	*		1.606E+09	1.246E-01	Half-Life	too short	
	1457.56			3.318E+11	1.246E-01	Half-Life	too short	
	1678.03			9.683E+07	1.246E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1706.46		-2.817E+09	1.246E-01	Half-Life too short	
		1791.20		-1.389E+09	1.246E-01	Half-Life too short	
		66.91		3.094E-02	5.010E-01	7.380E-01	1.094E-01
	+	86.29		1.163E+00	8.857E-01	1.237E+00	1.643E-01
		153.22		5.929E-01	4.803E-01	8.045E-01	7.711E-02
		163.89		-3.862E-01	7.913E-01	1.191E+00	1.159E-01
		176.55		-1.491E-01	2.670E-01	4.092E-01	3.829E-02
		273.65		-1.258E-01	3.429E-01	4.892E-01	5.098E-02
		340.57		7.660E-02	1.055E-01	1.613E-01	1.543E-02
		818.51		-9.687E-03	5.305E-02	8.657E-02	8.772E-03
CE-139		1048.07	*	-8.383E-02	8.583E-02	1.257E-01	1.193E-02
		1235.34		3.389E-01	4.735E-01	8.075E-01	9.319E-02
		165.85	*	-2.204E-02	2.120E-02	3.158E-02	2.757E-03
		162.64		3.590E-01	5.601E-01	8.944E-01	8.213E-02
		304.84		1.462E+00	1.009E+00	1.525E+00	4.331E-01
BA-140		423.70		-6.435E-01	1.288E+00	1.991E+00	6.456E-01
		537.32	*	-1.904E-02	1.866E-01	2.978E-01	9.940E-02
	+	328.77		3.132E-01	2.515E-01	3.879E-01	3.857E-02
		432.53		-1.297E+00	1.498E+00	2.273E+00	2.078E-01
		487.03		-6.174E-03	9.893E-02	1.595E-01	1.540E-02
		751.79		-8.549E-01	1.186E+00	1.842E+00	2.018E-01
		815.85		-4.975E-02	2.390E-01	3.893E-01	4.278E-02
		867.82		5.500E-02	9.986E-01	1.661E+00	1.732E-01
		919.63		-1.388E+00	1.885E+00	2.841E+00	3.317E-01
		925.24		-3.464E-01	8.445E-01	1.288E+00	1.329E-01
CE-141		1596.49	*	-5.474E-02	5.965E-02	8.328E-02	7.031E-03
		145.44	*	4.181E-02	4.443E-02	7.390E-02	6.380E-03
		57.37		1.894E-04	4.443E-02	Half-Life too short	
		231.56		-9.720E-05	4.443E-02	Half-Life too short	
		293.26	*	2.051E-04	4.443E-02	Half-Life too short	
CE-143		350.59		1.486E-02	4.443E-02	Half-Life too short	
	+	490.36		3.429E-04	4.443E-02	Half-Life too short	
		664.57		1.441E-03	4.443E-02	Half-Life too short	
		721.93		1.408E-03	4.443E-02	Half-Life too short	
		80.11		-1.714E+00	1.531E+00	2.093E+00	1.793E-01
CE-144		133.54	*	6.871E-02	1.424E-01	2.329E-01	3.593E-02
		476.78		9.446E-02	7.069E-02	1.011E-01	9.961E-03
	+	618.01		7.348E-03	2.502E-02	4.096E-02	4.133E-03
PM-144		696.49	*	1.354E-03	2.482E-02	4.147E-02	4.192E-03
		778.57		3.943E-01	1.875E+00	2.788E+00	2.833E-01
		696.49	*	9.177E-02	1.682E+00	2.810E+00	2.840E-01
PR-144		1489.15		1.452E-01	6.354E+00	1.065E+01	9.027E-01
		453.90	*	-1.541E-02	3.150E-02	4.920E-02	5.388E-03
		633.02		7.204E-02	9.016E-01	1.450E+00	5.466E-01
PM-146		735.90		5.475E-02	1.130E-01	1.944E-01	5.658E-02
		747.13		3.365E-02	6.692E-02	1.162E-01	1.747E-02
		91.11		3.467E-01	2.824E-01	3.464E-01	3.427E-02
		319.41		-1.403E+00	2.248E+00	3.568E+00	3.433E-01
		439.89		-4.870E-01	4.153E+00	6.708E+00	5.896E-01
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---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149 EU-152	531.02	*		2.248E-02	4.132E-01	6.694E-01	1.034E-01	0.034
	285.90	*		4.748E+01	6.180E+01	1.066E+02	1.737E+01	0.446
	121.78			-1.233E-02	5.280E-02	8.386E-02	8.123E-03	-0.147
	244.69			-8.997E-02	2.557E-01	3.683E-01	3.573E-02	-0.244
	344.27	*		1.831E-02	8.073E-02	1.193E-01	1.164E-02	0.153
	443.98			1.213E-01	6.541E-01	1.073E+00	9.470E-02	0.113
	778.89			-1.292E-02	2.235E-01	3.213E-01	3.264E-02	-0.040
	867.32			-2.211E-02	6.071E-01	1.001E+00	1.004E-01	-0.022
	964.01			-3.773E-01	2.691E-01	3.916E-01	3.784E-02	-0.963
	1085.78			1.110E-01	3.143E-01	5.298E-01	4.691E-02	0.210
GD-153	1112.02			2.222E-02	2.765E-01	4.116E-01	3.552E-02	0.054
	1407.95			4.542E-02	1.299E-01	2.270E-01	1.918E-02	0.200
	69.67			-7.729E-01	9.880E-01	1.567E+00	1.199E-01	-0.493
	83.37	+		1.249E+01	1.023E+01	1.585E+01	1.413E+00	0.788
	97.43	*		-2.514E-02	5.956E-02	8.347E-02	7.402E-03	-0.301
	103.18			-6.646E-02	7.441E-02	1.151E-01	9.956E-03	-0.577
	123.07			5.083E-03	3.630E-02	5.870E-02	6.546E-03	0.087
	247.94			-9.102E-02	2.531E-01	4.161E-01	5.131E-02	-0.219
	591.81			-3.657E-01	3.943E-01	5.618E-01	7.046E-02	-0.651
	723.30			-4.703E-02	1.507E-01	2.115E-01	2.311E-02	-0.222
EU-154	756.87			1.871E-01	5.093E-01	8.781E-01	1.153E-01	0.213
	873.19			7.334E-02	2.315E-01	3.936E-01	5.220E-02	0.186
	996.32			-1.357E-01	2.840E-01	4.417E-01	8.039E-02	-0.307
	1004.76			-2.097E-01	1.793E-01	2.580E-01	3.161E-02	-0.813
	1274.45	*		-3.478E-02	1.023E-01	1.588E-01	1.754E-02	-0.219
	48.70	+		4.987E-01	1.900E+00	1.758E+00	1.406E-01	0.284
	60.01			9.971E-01	2.914E+00	4.363E+00	3.096E-01	0.229
	86.54	+		1.083E-01	8.189E-02	1.155E-01	1.082E-02	0.938
	105.31	*		2.229E-02	7.561E-02	1.237E-01	1.075E-02	0.180
	86.79	+		2.889E-01	2.184E-01	3.103E-01	2.889E-02	0.931
TB-160	197.04			1.350E-01	4.095E-01	6.942E-01	6.354E-02	0.194
	215.65			6.966E-02	5.134E-01	8.717E-01	8.185E-02	0.080
	298.57			1.628E-01	1.155E-01	1.452E-01	1.427E-02	1.121
	879.36	*		6.743E-02	1.105E-01	1.922E-01	1.922E-02	0.351
	962.29			2.116E-01	4.092E-01	6.874E-01	6.647E-02	0.308
	966.15			5.308E-02	1.860E-01	3.115E-01	3.007E-02	0.170
	1177.93			-3.892E-01	3.259E-01	4.696E-01	3.781E-02	-0.829
	1271.85			-3.288E-01	6.076E-01	9.230E-01	7.632E-02	-0.356
	80.57			-2.077E-01	1.967E-01	2.700E-01	2.326E-02	-0.769
	184.41	+		6.924E-02	3.741E-02	4.923E-02	4.421E-03	1.406
HO-166M	280.46			-7.145E-02	5.849E-02	8.978E-02	8.934E-03	-0.796
	410.95	+		2.993E-01	2.163E-01	3.281E-01	2.800E-02	0.912
	711.68	*		2.250E-02	4.361E-02	7.601E-02	7.699E-03	0.296
	752.31			-4.119E-03	1.799E-01	2.997E-01	3.046E-02	-0.014
	810.29			1.686E-02	4.488E-02	7.697E-02	7.802E-03	0.219
	51.35			-1.810E+01	1.667E+01	2.300E+01	1.757E+00	-0.787
	52.39			1.500E-01	7.506E+00	1.240E+01	9.330E-01	0.012
	59.40			6.322E+00	1.579E+01	2.372E+01	1.679E+00	0.266
	66.72	*		-9.245E+00	1.887E+01	2.702E+01	2.013E+00	-0.342
TM-171								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	+	88.36		2.134E-01	1.613E-01	2.312E-01	2.180E-02	0.923
		201.83		-4.522E-03	1.948E-02	3.260E-02	3.004E-03	-0.139
		306.84	*	1.960E-02	1.825E-02	2.903E-02	2.832E-03	0.675
		401.10		4.084E-01	4.738E+00	7.810E+00	6.593E-01	0.052
LU-177	+	112.95		-1.744E+00	1.150E+00	1.664E+00	1.403E-01	-1.048
		208.36	*	7.758E-01	7.715E-01	1.290E+00	1.200E-01	0.602
LU-177M	+	52.97		4.005E-01	7.775E-01	1.310E+00	9.784E-02	0.306
		54.07		2.405E-01	4.196E-01	7.082E-01	5.219E-02	0.340
		61.30		-3.726E-01	8.931E-01	1.283E+00	9.178E-02	-0.290
		121.62		-3.597E-02	2.693E-01	4.299E-01	3.585E-02	-0.084
		147.16		-6.655E-01	4.763E-01	7.006E-01	5.950E-02	-0.950
		171.86		8.033E-02	3.453E-01	5.539E-01	4.879E-02	0.145
		218.09		2.445E-01	5.805E-01	9.976E-01	9.397E-02	0.245
		268.79		1.350E+00	8.452E-01	1.045E+00	1.034E-01	1.292
		319.02		-1.283E-01	1.783E-01	2.810E-01	2.704E-02	-0.457
		367.43		-2.704E-01	6.591E-01	1.054E+00	9.346E-02	-0.257
		413.65	*	5.594E-02	1.490E-01	2.210E-01	1.892E-02	0.253
HF-181		56.28		-8.052E-01	4.979E-01	7.585E-01	5.472E-02	-1.062
		57.53		1.298E-01	2.663E-01	4.468E-01	3.194E-02	0.290
		65.20		-3.242E-01	6.271E-01	8.979E-01	6.607E-02	-0.361
		133.02		3.326E-02	4.967E-02	7.384E-02	6.179E-03	0.450
		136.25		2.026E-02	3.339E-01	5.358E-01	4.495E-02	0.038
		345.85		7.638E-02	1.501E-01	2.382E-01	2.204E-02	0.321
		482.03	*	1.076E-02	3.358E-02	4.938E-02	4.502E-03	0.218
W-181		56.28		-3.153E-01	1.953E-01	2.976E-01	2.147E-02	-1.060
		57.53		5.078E-02	1.045E-01	1.754E-01	1.254E-02	0.290
		65.20	*	-1.262E-01	2.442E-01	3.496E-01	2.573E-02	-0.361
TA-182		67.75		3.971E-03	7.203E-02	1.060E-01	7.970E-03	0.037
		100.10		6.148E-02	1.240E-01	2.048E-01	1.794E-02	0.300
		152.43		1.030E-01	2.459E-01	3.993E-01	3.415E-02	0.258
		222.10		4.794E-02	2.430E-01	4.132E-01	3.911E-02	0.116
		1001.68		8.840E-01	1.560E+00	2.682E+00	2.535E-01	0.330
		1121.28		4.694E-01	2.237E-01	2.347E-01	2.006E-02	2.000
		1189.05		1.033E-01	2.749E-01	4.589E-01	3.709E-02	0.225
RE-183		1221.42	*	-1.251E-02	1.686E-01	2.709E-01	2.210E-02	-0.046
		1230.97		9.089E-02	3.934E-01	6.481E-01	5.302E-02	0.140
		57.98		1.233E-01	1.036E-01	1.782E-01	1.270E-02	0.692
		59.32		2.706E-02	6.485E-02	9.751E-02	6.902E-03	0.278
		67.20		5.571E-03	1.295E-01	1.905E-01	1.425E-02	0.029
		162.32	*	6.798E-02	8.304E-02	1.337E-01	1.160E-02	0.509
		208.81		7.095E-01	7.055E-01	1.186E+00	1.104E-01	0.598
RE-184	+	291.72		-2.974E-01	7.158E-01	1.011E+00	9.987E-02	-0.294
		57.98		4.547E-01	3.823E-01	6.573E-01	4.685E-02	0.692
		59.32		9.975E-02	2.390E-01	3.594E-01	2.544E-02	0.278
		67.20		2.054E-02	4.774E-01	7.026E-01	5.256E-02	0.029
		161.27		2.064E-01	2.648E-01	4.359E-01	3.778E-02	0.474
		216.55		3.356E-02	1.804E-01	3.070E-01	2.886E-02	0.109
		252.85	*	1.382E-01	1.640E-01	2.859E-01	2.794E-02	0.483
		318.01		-6.841E-02	3.112E-01	5.086E-01	4.901E-02	-0.135

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		792.07		-6.666E-01	7.467E-01	1.142E+00	1.160E-01	-0.584
		903.28		-5.114E-01	7.066E-01	1.076E+00	1.067E-01	-0.475
		920.93		-2.503E-01	3.104E-01	4.639E-01	4.572E-02	-0.539
		59.72		5.769E-02	1.738E-01	2.601E-01	1.842E-02	0.222
		61.14		-4.346E-02	9.808E-02	1.407E-01	1.005E-02	-0.309
		69.30		-1.145E-01	1.774E-01	2.833E-01	2.159E-02	-0.404
		592.07		-1.287E+00	1.621E+00	2.363E+00	2.308E-01	-0.545
		646.12	*	-9.206E-03	2.906E-02	4.762E-02	4.755E-03	-0.193
		717.42		-7.379E-01	6.466E-01	9.667E-01	9.799E-02	-0.763
		874.81		-1.699E-01	4.517E-01	7.201E-01	7.210E-02	-0.236
RE-188		880.27		5.073E-02	6.455E-01	1.074E+00	1.074E-01	0.047
		155.03	*	9.774E-02	1.272E-01	2.095E-01	1.798E-02	0.467
	+	477.96		4.305E+00	3.218E+00	4.680E+00	4.253E-01	0.920
W-188		633.10		-2.636E-01	1.860E+00	2.921E+00	2.904E-01	-0.090
	+	63.58		2.607E+01	4.264E+01	5.395E+01	3.921E+00	0.483
IR-192		227.08		2.725E+00	9.032E+00	1.541E+01	1.468E+00	0.177
		290.67	*	-3.188E+00	5.793E+00	8.087E+00	7.996E-01	-0.394
	+	295.96		5.107E-01	1.311E-01	1.885E-01	1.866E-02	2.710
		308.46		-8.041E-02	6.365E-02	9.580E-02	9.367E-03	-0.839
		316.51	*	9.164E-03	2.338E-02	3.970E-02	3.840E-03	0.231
		468.07		-6.609E-02	5.097E-02	7.371E-02	7.082E-03	-0.897
		604.41		-1.997E-01	3.679E-01	4.754E-01	6.583E-02	-0.420
AU-195		612.46		-3.666E-01	6.283E-01	8.132E-01	8.943E-02	-0.451
		65.12		-6.859E-04	1.124E-01	1.648E-01	1.212E-02	-0.004
		66.83		4.064E-03	6.073E-02	8.948E-02	6.673E-03	0.045
	+	75.70		4.951E-01	1.459E-01	2.718E-01	2.212E-02	1.822
		98.88	*	1.198E-01	1.559E-01	2.578E-01	2.270E-02	0.465
	+	129.76		2.529E+00	1.744E+00	3.206E+00	2.678E-01	0.789
TL-200		367.94	*	3.388E-06	1.744E+00	Half-Life too short		
		579.30		-6.799E-04	1.744E+00	Half-Life too short		
		828.27		2.503E-04	1.744E+00	Half-Life too short		
		1205.75		-1.446E-04	1.744E+00	Half-Life too short		
TL-201		68.90		4.817E-01	2.689E+00	4.432E+00	3.367E-01	0.109
		70.82		-9.534E-01	1.760E+00	2.503E+00	1.936E-01	-0.381
		80.30		-3.658E+00	3.486E+00	4.787E+00	4.110E-01	-0.764
		135.34		-2.033E+00	1.749E+01	2.783E+01	2.333E+00	-0.073
		167.43	*	4.393E+00	4.479E+00	7.467E+00	6.533E-01	0.588
TL-202		68.90		4.470E-02	2.495E-01	4.113E-01	3.124E-02	0.109
		70.82		-8.823E-02	1.628E-01	2.316E-01	1.791E-02	-0.381
		80.30		-3.386E-01	3.227E-01	4.431E-01	3.805E-02	-0.764
		439.56	*	8.422E-03	5.018E-02	8.281E-02	7.275E-03	0.102
HG-203		70.83		-3.812E-01	7.124E-01	1.012E+00	1.322E-01	-0.377
		72.87		5.844E-01	4.245E-01	6.496E-01	8.278E-02	0.900
	+	82.60		9.265E-01	7.649E-01	1.130E+00	1.568E-01	0.820
		279.20	*	1.420E-02	2.754E-02	4.720E-02	4.800E-03	0.301
BI-207		72.80		1.211E-01	1.238E-01	1.885E-01	1.488E-02	0.643
	+	74.97		2.748E-01	8.097E-02	1.352E-01	1.092E-02	2.032
	+	84.90		1.616E-01	1.323E-01	2.105E-01	1.913E-02	0.768
		569.67		1.233E-03	2.172E-02	3.506E-02	3.387E-03	0.035

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		1063.62	*	-1.465E-02	3.852E-02	6.027E-02	5.442E-03	-0.243
		1770.23		-6.083E-02	2.609E-01	3.309E-01	2.715E-02	-0.184
		81.07		-1.949E-01	1.566E-01	2.122E-01	1.839E-02	-0.918
	+	83.78		1.066E-01	8.724E-02	1.350E-01	1.209E-02	0.790
		94.90		2.734E-01	1.662E-01	2.594E-01	2.333E-02	1.054
		122.32		-3.466E-01	1.240E+00	1.964E+00	1.766E-01	-0.176
		144.24		7.622E-01	5.025E-01	8.398E-01	7.979E-02	0.908
		154.21		1.394E-01	2.934E-01	4.773E-01	4.505E-02	0.292
	+	269.46		3.164E-01	1.981E-01	2.520E-01	2.534E-02	1.255
	+	323.87	*	4.898E-01	4.926E-01	7.694E-01	1.399E-01	0.637
PO-209	+	338.28		3.821E+00	1.339E+00	1.695E+00	2.178E-01	2.254
		445.03		7.873E-01	1.527E+00	2.588E+00	3.168E-01	0.304
		260.50		2.453E+00	6.498E+00	1.109E+01	1.091E+00	0.221
		262.80		-1.029E+01	1.769E+01	2.854E+01	2.812E+00	-0.360
		896.60	*	3.546E+00	5.084E+00	8.970E+00	8.922E-01	0.395
PB-211		404.84	*	4.386E-01	7.894E-01	1.124E+00	7.043E-01	0.390
		427.08		-4.026E-01	1.473E+00	2.299E+00	1.429E+00	-0.175
		831.96		-6.441E-01	9.537E-01	1.331E+00	8.368E-01	-0.484
BI-212	+	727.18	*	6.001E-01	3.956E-01	4.490E-01	5.096E-02	1.337
		785.46		5.706E-01	1.313E+00	2.263E+00	2.298E-01	0.252
		1620.62		5.835E-01	7.814E-01	1.463E+00	1.232E-01	0.399
PO-215		81.07		-1.949E-01	1.566E-01	2.122E-01	1.839E-02	-0.918
	+	83.78		1.066E-01	8.724E-02	1.350E-01	1.209E-02	0.790
		94.90		2.734E-01	1.662E-01	2.594E-01	2.333E-02	1.054
		122.32		-3.466E-01	1.240E+00	1.964E+00	1.766E-01	-0.176
		144.24		7.622E-01	5.025E-01	8.398E-01	7.979E-02	0.908
		154.21		1.394E-01	2.934E-01	4.773E-01	4.505E-02	0.292
	+	269.46		3.164E-01	1.981E-01	2.520E-01	2.534E-02	1.255
		323.87	*	4.898E-01	4.926E-01	7.694E-01	1.399E-01	0.637
	+	338.28		3.821E+00	1.339E+00	1.695E+00	2.178E-01	2.254
		445.03		7.873E-01	1.527E+00	2.588E+00	3.168E-01	0.304
RN-219	+	271.23		4.060E-01	2.551E-01	3.122E-01	3.563E-02	1.300
		401.81	*	-3.362E-02	2.953E-01	4.798E-01	7.163E-02	-0.070
		549.76	*	-1.019E+01	1.932E+01	2.958E+01	2.826E+00	-0.344
RA-223		81.07		-1.949E-01	1.566E-01	2.122E-01	1.839E-02	-0.918
	+	83.78		1.066E-01	8.724E-02	1.350E-01	1.209E-02	0.790
		94.90		2.734E-01	1.662E-01	2.594E-01	2.333E-02	1.054
		122.32		-3.466E-01	1.240E+00	1.964E+00	1.766E-01	-0.176
		144.24		7.622E-01	5.025E-01	8.398E-01	7.979E-02	0.908
		154.21		1.394E-01	2.934E-01	4.773E-01	4.505E-02	0.292
	+	269.46		3.164E-01	1.981E-01	2.520E-01	2.534E-02	1.255
		323.87	*	4.898E-01	4.926E-01	7.694E-01	1.399E-01	0.637
	+	338.28		3.821E+00	1.339E+00	1.695E+00	2.178E-01	2.254
		445.03		7.873E-01	1.527E+00	2.588E+00	3.168E-01	0.304
AC-227		79.80		-1.489E+00	1.217E+00	1.600E+00	3.435E-01	-0.931
		236.00		1.723E-01	1.896E-01	2.944E-01	3.816E-02	0.585
		256.20	*	5.074E-02	2.660E-01	4.498E-01	7.215E-02	0.113
		286.10		8.120E-01	1.100E+00	1.897E+00	2.672E-01	0.428
	+	299.80		2.546E+00	1.822E+00	1.864E+00	3.375E-01	1.366

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		304.40		1.650E+00	1.420E+00	2.228E+00	4.234E-01	0.741
		334.20		-2.231E+00	1.937E+00	2.451E+00	4.848E-01	-0.910
		79.80		-1.489E+00	1.218E+00	1.600E+00	3.479E-01	-0.931
	+	94.00		3.479E+00	2.541E+00	2.676E+00	5.873E-01	1.300
		236.00		1.723E-01	1.894E-01	2.944E-01	3.494E-02	0.585
		256.20	*	5.074E-02	2.660E-01	4.498E-01	8.391E-02	0.113
		286.10		8.120E-01	1.364E+00	1.897E+00	1.906E+00	0.428
	+	299.80		2.546E+00	1.822E+00	1.864E+00	3.375E-01	1.366
		304.40		1.650E+00	1.420E+00	2.228E+00	4.234E-01	0.741
		334.20		-2.231E+00	1.937E+00	2.451E+00	4.848E-01	-0.910
AC-228	+	338.32		9.151E-01	4.823E-01	4.056E-01	1.680E-01	2.256
	+	911.07	*	8.929E-01	2.060E-01	3.350E-01	4.104E-02	2.665
		969.11		4.650E-01	2.664E-01	4.473E-01	1.062E-01	1.040
RA-228	+	338.32		9.151E-01	4.823E-01	4.056E-01	1.680E-01	2.256
	+	911.07	*	8.929E-01	2.060E-01	3.350E-01	4.104E-02	2.665
		969.11		4.650E-01	2.664E-01	4.473E-01	1.062E-01	1.040
TH-229	+	85.43		1.595E-01	1.306E-01	2.129E-01	1.948E-02	0.749
		88.47		1.458E-02	1.152E-01	1.327E-01	1.250E-02	0.110
		100.00		3.922E-02	1.313E-01	2.132E-01	1.867E-02	0.184
PA-231		193.63	*	3.506E-02	3.497E-01	5.952E-01	5.421E-02	0.059
		210.97		2.399E-01	5.855E-01	8.846E-01	8.256E-02	0.271
		283.67	*	-4.031E-01	1.047E+00	1.702E+00	2.717E-01	-0.237
	+	301.29		1.018E+00	7.176E-01	7.200E-01	9.436E-02	1.414
		81.07		-1.949E-01	1.566E-01	2.122E-01	1.839E-02	-0.918
TH-231	+	83.78		1.066E-01	8.724E-02	1.350E-01	1.209E-02	0.790
		94.90		2.734E-01	1.662E-01	2.594E-01	2.333E-02	1.054
		122.32		-3.466E-01	1.240E+00	1.964E+00	1.766E-01	-0.176
		144.24		7.622E-01	5.025E-01	8.398E-01	7.979E-02	0.908
		154.21		1.394E-01	2.934E-01	4.773E-01	4.505E-02	0.292
U-231	+	269.46		3.164E-01	1.981E-01	2.520E-01	2.534E-02	1.255
		323.87	*	4.898E-01	4.926E-01	7.694E-01	1.399E-01	0.637
	+	338.28		3.821E+00	1.339E+00	1.695E+00	2.178E-01	2.254
		445.03		7.873E-01	1.527E+00	2.588E+00	3.168E-01	0.304
	+	84.21		4.452E+00	3.645E+00	5.712E+00	5.146E-01	0.780
TH-232	+	92.29		3.334E+00	2.341E+00	2.799E+00	2.560E-01	1.191
		95.87	*	-5.269E-01	7.534E-01	1.041E+00	9.309E-02	-0.506
		108.00		-9.027E-01	1.446E+00	2.266E+00	1.931E-01	-0.398
	+	338.32		9.151E-01	3.103E-01	4.056E-01	3.801E-02	2.256
	+	911.07	*	8.929E-01	2.060E-01	3.350E-01	4.104E-02	2.665
PA-233		969.11		4.650E-01	2.664E-01	4.473E-01	1.062E-01	1.040
	+	75.28		8.019E+00	2.573E+00	4.044E+00	6.091E-01	1.983
	+	86.59		1.761E+00	1.404E+00	1.882E+00	5.088E-01	0.936
	+	300.12		7.097E-01	5.037E-01	5.225E-01	8.149E-02	1.358
		311.98	*	2.468E-02	4.178E-02	7.189E-02	7.132E-03	0.343
PA-234		340.50		4.983E-01	5.351E-01	8.117E-01	1.956E-01	0.614
		398.62		2.250E-01	1.423E+00	2.357E+00	6.261E-01	0.095
		415.76		3.284E-01	1.220E+00	2.030E+00	4.372E-01	0.162
	+	63.00		7.575E-01	1.243E+00	1.596E+00	2.358E-01	0.475
	+	94.67		3.103E-01	2.196E-01	1.988E-01	2.519E-02	1.561

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		98.44		5.629E-02	7.005E-02	1.044E-01	5.826E-02	0.539
		99.86		2.171E-01	3.279E-01	5.401E-01	4.735E-02	0.402
		111.00		1.100E-01	1.256E-01	2.097E-01	2.511E-02	0.525
		131.20		3.882E-03	8.014E-02	1.146E-01	9.582E-03	0.034
		152.70		2.556E-01	2.395E-01	3.948E-01	6.717E-02	0.647
	+	186.00		2.492E+00	1.541E+00	1.847E+00	5.785E-01	1.349
		226.40		5.205E-02	2.867E-01	4.866E-01	6.717E-02	0.107
		227.20		3.662E-02	3.077E-01	5.208E-01	4.960E-02	0.070
		248.90		-9.168E-02	5.693E-01	9.459E-01	2.163E-01	-0.097
		293.70		2.206E+00	7.219E-01	1.079E+00	1.937E-01	2.045
		369.80		-9.592E-02	6.035E-01	9.813E-01	2.145E-01	-0.098
		568.70		4.139E-02	7.170E-01	1.157E+00	1.117E-01	0.036
		569.50		6.099E-02	1.894E-01	3.129E-01	3.022E-02	0.195
		574.00		-7.614E-01	1.087E+00	1.627E+00	1.576E-01	-0.468
		699.00		-3.653E-01	5.674E-01	8.764E-01	1.735E-01	-0.417
		706.10		-6.593E-01	8.170E-01	1.186E+00	5.324E-01	-0.556
		733.00		-1.084E-01	3.199E-01	4.447E-01	1.015E-01	-0.244
		742.81		-1.085E+00	1.237E+00	1.506E+00	1.015E+00	-0.720
		796.30		9.049E-01	6.956E-01	1.209E+00	3.333E-01	0.749
		805.60		-9.748E-02	7.554E-01	1.225E+00	3.811E-01	-0.080
		819.60		-4.739E-01	8.954E-01	1.379E+00	5.293E-01	-0.344
		826.30		-2.384E-02	5.841E-01	9.657E-01	4.351E-01	-0.025
		831.60		-4.528E-01	4.823E-01	6.970E-01	2.112E-01	-0.650
		876.40		-1.834E-01	6.990E-01	1.086E+00	1.118E+00	-0.169
		880.51		4.992E-02	2.259E-01	3.807E-01	3.805E-02	0.131
		883.24		1.779E-02	2.358E-01	3.918E-01	2.641E-01	0.045
		899.00		1.045E-01	5.837E-01	9.784E-01	4.304E-01	0.107
		925.00		-3.845E-01	8.842E-01	1.345E+00	1.323E-01	-0.286
		926.50		-3.349E-02	1.328E-01	2.060E-01	5.298E-02	-0.163
		946.00	*	1.005E-01	2.329E-01	3.975E-01	7.675E-02	0.253
		949.00		1.647E-01	3.686E-01	6.295E-01	6.128E-02	0.262
		980.50		4.321E-01	5.201E-01	9.239E-01	8.846E-02	0.468
PA-234M		1394.10		6.915E-02	7.439E-01	1.262E+00	8.208E-01	0.055
		766.42		1.568E+01	1.237E+01	1.611E+01	8.218E+00	0.974
		1001.03	*	2.207E+00	3.363E+00	5.853E+00	6.261E-01	0.377
U-235		89.95		-1.579E+00	1.283E+00	1.226E+00	3.808E-01	-1.288
	+	93.35		1.082E+00	8.132E-01	8.989E-01	2.532E-01	1.204
		105.00		-1.124E-01	7.535E-01	1.208E+00	3.604E-01	-0.093
		143.76	*	1.435E-01	1.563E-01	2.537E-01	4.422E-02	0.565
		163.35		-7.978E-02	3.583E-01	5.481E-01	1.048E-01	-0.146
	+	185.71		9.231E-02	4.989E-02	6.872E-02	6.185E-03	1.343
		205.31		9.108E-02	3.991E-01	6.020E-01	1.167E-01	0.151
NP-236	+	94.67		2.353E-01	1.653E-01	1.509E-01	1.360E-02	1.559
		98.44		4.254E-02	4.748E-02	7.890E-02	6.962E-03	0.539
		111.00		8.321E-02	9.476E-02	1.586E-01	1.342E-02	0.525
		160.31	*	5.233E-03	6.019E-02	9.606E-02	8.312E-03	0.054
NP-239		99.55		4.991E-02	1.101E-01	1.800E-01	1.580E-02	0.277
		117.00	*	-3.705E-02	1.285E-01	2.037E-01	1.707E-02	-0.182
	+	209.75		5.607E-01	5.576E-01	9.346E-01	8.708E-02	0.600

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	228.18			-1.875E-02	1.581E-01	2.646E-01	2.523E-02	-0.071
	277.60			1.108E-01	1.258E-01	2.189E-01	2.178E-02	0.506
	334.30			-1.230E+00	1.077E+00	1.396E+00	1.317E-01	-0.881
AM-241	59.54	*		3.398E-02	9.174E-02	1.376E-01	1.077E-02	0.247
CM-243	99.55			5.136E-02	1.133E-01	1.852E-01	1.626E-02	0.277
	103.76	*		-1.552E-02	6.718E-02	1.074E-01	9.273E-03	-0.145
	117.00			-3.812E-02	1.322E-01	2.096E-01	1.756E-02	-0.182
	209.75	+		5.527E-01	5.497E-01	9.213E-01	8.584E-02	0.600
	228.18			-1.894E-02	1.598E-01	2.674E-01	2.549E-02	-0.071
	277.60			1.117E-01	1.268E-01	2.207E-01	2.195E-02	0.506
AM-246	798.80			-2.065E-01	1.093E-01	1.470E-01	1.492E-02	-1.405
	1036.00			-1.132E-01	2.320E-01	3.600E-01	3.323E-02	-0.314
	1062.04			-9.828E-02	1.686E-01	2.574E-01	2.327E-02	-0.382
	1078.86	*		1.637E-02	1.086E-01	1.799E-01	1.603E-02	0.091
CM-247	278.00			3.653E-01	5.192E-01	8.969E-01	8.924E-02	0.407
	287.40			4.527E-01	8.905E-01	1.523E+00	1.509E-01	0.297
	402.60	*		1.690E-03	2.681E-02	4.411E-02	3.730E-03	0.038
CF-249	252.85			5.188E-01	6.160E-01	1.074E+00	1.049E-01	0.483
	333.44			-3.671E-02	1.613E-01	1.920E-01	1.812E-02	-0.191
	387.95	*		4.849E-03	2.732E-02	4.541E-02	3.832E-03	0.107
CF-251	176.60	*		-5.129E-02	9.298E-02	1.426E-01	1.265E-02	-0.360
	227.00			8.422E-02	2.717E-01	4.638E-01	4.416E-02	0.182
	285.00			3.883E-02	1.242E+00	2.073E+00	2.058E-01	0.019

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]G1202015436 *
* Acquisition date   : 22-JAN-2010 10:24:55 Detector SN#      :      *
* Detector ID        : GAM20          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 02:00:32.20 Half life ratio         : 8.000  *
*****
*                                     *
*               SAMPLE DATA          *
*                                     *
* Sample date        : 7-JAN-2010 12:00:00 Nuclide Library    : SOLID *
* Sample ID          : G1202015436    Analyst initials      : MXR1  *
* Batch Number       : 941635          Sample Quantity       : 1.5581E+02 GRAM *
* Recovery           : 1.00000         Carrier Weight        : 0.00000 *
*****
*                                     *
*               QC DATA              *
*                                     *
* Standard Weight    : 0.00000         *
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope       :      *
* MSD DPM            : 0.000           MSD Isotope           :      *
* LCS DPM            : 0.000           LCS Isotope            :      *
* LCSD DPM           : 0.000           LCSD Isotope           :      *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
BE-7	4.493E-01	3.295E-01	4.332E-01	0.000E+00
K-40	3.094E+01	3.047E+00	4.330E-01	0.000E+00
CD-109	9.149E-01	6.777E-01	1.134E+00	0.000E+00
SN-126	8.995E-02	6.663E-02	1.040E-01	0.000E+00
BA-137M	2.753E-01	5.778E-02	4.730E-02	0.000E+00
CS-137	2.910E-01	6.110E-02	5.000E-02	0.000E+00
TL-208	3.142E-01	6.375E-02	3.829E-02	0.000E+00
BI-210	5.639E-01	2.106E+00	2.643E+00	0.000E+00
PB-210	5.639E-01	2.106E+00	2.643E+00	0.000E+00
PO-210	5.639E-01	2.106E+00	2.643E+00	0.000E+00
BI-211	2.055E+00	3.450E-01	2.434E-01	0.000E+00
PB-212	9.208E-01	1.215E-01	6.808E-02	0.000E+00
PO-212	9.208E-01	1.215E-01	6.808E-02	0.000E+00
BI-214	6.425E-01	1.307E-01	7.519E-02	0.000E+00
PB-214	7.149E-01	1.255E-01	8.327E-02	0.000E+00
PO-214	7.149E-01	1.255E-01	8.327E-02	0.000E+00
PO-216	9.208E-01	1.215E-01	6.808E-02	0.000E+00
PO-218	7.149E-01	1.255E-01	8.327E-02	0.000E+00
RA-224	2.251E+00	9.049E-01	7.744E-01	0.000E+00
RA-226	6.425E-01	1.307E-01	7.519E-02	0.000E+00
TH-228	9.346E-01	1.233E-01	6.910E-02	0.000E+00
TH-230	6.425E-01	1.307E-01	7.519E-02	0.000E+00
TH-234	6.498E-01	1.046E+00	1.239E+00	0.000E+00
U-234	6.425E-01	1.307E-01	7.519E-02	0.000E+00
NP-237	2.641E-01	2.028E-01	2.646E-01	0.000E+00
U-238	6.498E-01	1.046E+00	1.239E+00	0.000E+00
AM-243	1.531E-01	4.421E-02	6.281E-02	0.000E+00
ANH-511	7.005E-02	4.704E-02	3.505E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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NA-22	-9.644E-03	3.575E-02	5.786E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	3.665E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.106E-02	1.694E-02	2.328E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	2.937E-02	5.195E-02	0.000E+00	FAIL ABUN
SC-46	1.542E-02	2.845E-02	5.146E-02	0.000E+00	FAIL ABUN
V-48	-6.051E-02	5.128E-02	7.596E-02	0.000E+00	NOT IDENT.
CR-51	-1.194E-01	2.490E-01	4.288E-01	0.000E+00	NOT IDENT.
MN-52	3.188E-02	1.547E-01	2.739E-01	0.000E+00	NOT IDENT.
MN-54	-6.244E-03	2.668E-02	4.531E-02	0.000E+00	NOT IDENT.
CO-56	-2.162E-02	2.787E-02	4.453E-02	0.000E+00	NOT IDENT.
CO-57	-3.799E-03	1.769E-02	3.093E-02	0.000E+00	NOT IDENT.
CO-58	5.133E-03	2.975E-02	5.248E-02	0.000E+00	NOT IDENT.
FE-59	1.733E-04	6.987E-02	1.181E-01	0.000E+00	NOT IDENT.
CO-60	2.092E-02	2.884E-02	5.207E-02	0.000E+00	NOT IDENT.
ZN-65	-1.823E-02	8.100E-02	1.145E-01	0.000E+00	NOT IDENT.
GE-68	2.001E-01	8.465E-01	1.470E+00	0.000E+00	NOT IDENT.
AS-73	2.300E-01	3.966E-01	7.510E-01	0.000E+00	NOT IDENT.
AS-74	4.923E-02	6.923E-02	1.235E-01	0.000E+00	NOT IDENT.
SE-75	-8.997E-03	3.140E-02	5.148E-02	0.000E+00	NOT IDENT.
BR-77	-2.120E+00	7.371E+00	1.230E+01	0.000E+00	FAIL ABUN
SR-82	3.015E-01	2.887E-01	4.931E-01	0.000E+00	NOT IDENT.
RB-83	-4.090E-03	5.008E-02	8.505E-02	0.000E+00	NOT IDENT.
RB-84	3.952E-03	5.506E-02	9.561E-02	0.000E+00	NOT IDENT.
KR-85	6.364E+00	6.059E+00	9.941E+00	0.000E+00	NOT IDENT.
SR-85	3.257E-02	3.101E-02	5.087E-02	0.000E+00	NOT IDENT.
RB-86	-9.371E-02	5.622E-01	9.352E-01	0.000E+00	NOT IDENT.
Y-88	9.874E-03	2.071E-02	3.841E-02	0.000E+00	NOT IDENT.
ZR-88	1.224E-02	1.916E-02	3.510E-02	0.000E+00	NOT IDENT.
Y-91	1.945E+00	1.481E+01	2.533E+01	0.000E+00	NOT IDENT.
NB-94	1.503E-02	2.479E-02	4.552E-02	0.000E+00	NOT IDENT.
NB-95	2.980E-02	3.398E-02	5.649E-02	0.000E+00	NOT IDENT.
NB-95M	1.186E-02	9.333E-02	1.508E-01	0.000E+00	NOT IDENT.
ZR-95	-5.732E-03	4.724E-02	8.175E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.550E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.204E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.318E+00	7.964E+00	1.377E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.696E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.168E-03	2.344E-02	4.280E-02	0.000E+00	NOT IDENT.
RH-102	7.329E-03	2.759E-02	4.260E-02	0.000E+00	NOT IDENT.
RU-103	4.858E-04	2.659E-02	4.572E-02	0.000E+00	FAIL ABUN
RH-106	1.367E-01	2.295E-01	4.057E-01	0.000E+00	FAIL ABUN
RU-106	1.367E-01	2.291E-01	4.057E-01	0.000E+00	FAIL ABUN
AG-108M	-3.447E-03	2.435E-02	4.185E-02	0.000E+00	NOT IDENT.
AG-110M	-2.747E-03	2.799E-02	4.271E-02	0.000E+00	NOT IDENT.
IN-111	-3.736E-01	7.750E-01	1.193E+00	0.000E+00	NOT IDENT.
IN-113M	-1.192E-02	2.882E-02	4.883E-02	0.000E+00	NOT IDENT.
SN-113	-1.192E-02	2.882E-02	4.883E-02	0.000E+00	NOT IDENT.
IN-114M	-9.053E-02	1.373E-01	2.143E-01	0.000E+00	NOT IDENT.
CD-115	-3.343E+00	7.468E+00	1.226E+01	0.000E+00	NOT IDENT.
SN-117M	3.663E-03	3.922E-02	6.843E-02	0.000E+00	NOT IDENT.
SB-122	-3.364E-01	1.455E+00	2.421E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.330E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.717E-04	2.071E-02	3.594E-02	0.000E+00	NOT IDENT.
I-124	-2.350E-01	5.354E-01	7.449E-01	0.000E+00	NOT IDENT.
SB-124	2.404E-02	4.555E-02	8.533E-02	0.000E+00	NOT IDENT.
SB-125	1.107E-02	6.411E-02	1.119E-01	0.000E+00	NOT IDENT.
TE-125M	4.019E+00	6.372E+00	1.163E+01	0.000E+00	NOT IDENT.
I-126	8.477E-02	1.375E-01	2.263E-01	0.000E+00	NOT IDENT.
SB-126	1.348E-01	1.137E-01	1.958E-01	0.000E+00	FAIL ABUN
SB-127	1.095E-01	9.356E-01	1.666E+00	0.000E+00	FAIL ABUN
XE-127	-1.433E-02	3.125E-02	5.615E-02	0.000E+00	NOT IDENT.
I-131	2.641E-02	8.106E-02	1.457E-01	0.000E+00	NOT IDENT.
TE-132	-5.289E-02	4.558E-01	8.256E-01	0.000E+00	NOT IDENT.
BA-133	1.040E-02	3.501E-02	5.556E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.852E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.614E-02	3.350E-02	6.444E-02	0.000E+00	NOT IDENT.
CS-135	1.157E-01	1.221E-01	2.057E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.663E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.383E-02	8.411E-02	1.280E-01	0.000E+00	FAIL ABUN
CE-139	-2.204E-02	2.077E-02	3.376E-02	0.000E+00	NOT IDENT.
BA-140	-1.904E-02	1.829E-01	3.088E-01	0.000E+00	NOT IDENT.
LA-140	-5.474E-02	5.846E-02	8.379E-02	0.000E+00	FAIL ABUN
CE-141	4.181E-02	4.354E-02	7.928E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.080E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.871E-02	1.396E-01	2.504E-01	0.000E+00	NOT IDENT.
PM-144	1.354E-03	2.433E-02	4.270E-02	0.000E+00	FAIL ABUN
PR-144	9.177E-02	1.648E+00	2.893E+00	0.000E+00	NOT IDENT.

PM-146	-1.541E-02	3.087E-02	5.124E-02	0.000E+00	NOT IDENT.
ND-147	2.248E-02	4.050E-01	6.944E-01	0.000E+00	NOT IDENT.
PM-149	4.748E+01	6.057E+01	1.124E+02	0.000E+00	NOT IDENT.
EU-152	1.831E-02	7.911E-02	1.252E-01	0.000E+00	NOT IDENT.
GD-153	-2.514E-02	5.837E-02	9.044E-02	0.000E+00	FAIL ABUN
EU-154	-3.478E-02	1.002E-01	1.608E-01	0.000E+00	NOT IDENT.
EU-155	2.229E-02	7.410E-02	1.338E-01	0.000E+00	FAIL ABUN
TB-160	6.743E-02	1.083E-01	1.967E-01	0.000E+00	FAIL ABUN
HO-166M	2.250E-02	4.273E-02	7.822E-02	0.000E+00	FAIL ABUN
TM-171	-9.245E+00	1.849E+01	2.955E+01	0.000E+00	NOT IDENT.
LU-176	1.960E-02	1.788E-02	3.056E-02	0.000E+00	FAIL ABUN
LU-177	7.758E-01	7.560E-01	1.371E+00	0.000E+00	FAIL ABUN
LU-177M	5.594E-02	1.460E-01	2.308E-01	0.000E+00	FAIL ABUN
HF-181	1.076E-02	3.291E-02	5.135E-02	0.000E+00	NOT IDENT.
W-181	-1.262E-01	2.393E-01	3.826E-01	0.000E+00	NOT IDENT.
TA-182	-1.251E-02	1.653E-01	2.746E-01	0.000E+00	FAIL ABUN
RE-183	6.798E-02	8.138E-02	1.430E-01	0.000E+00	FAIL ABUN
RE-184	1.382E-01	1.608E-01	3.024E-01	0.000E+00	NOT IDENT.
OS-185	-9.206E-03	2.848E-02	4.913E-02	0.000E+00	NOT IDENT.
RE-188	9.774E-02	1.246E-01	2.243E-01	0.000E+00	FAIL ABUN
W-188	-3.188E+00	5.677E+00	8.523E+00	0.000E+00	FAIL ABUN
IR-192	9.164E-03	2.291E-02	4.175E-02	0.000E+00	FAIL ABUN
AU-195	1.198E-01	1.528E-01	2.793E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.873E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.393E+00	4.390E+00	7.983E+00	0.000E+00	NOT IDENT.
TL-202	8.422E-03	4.917E-02	8.634E-02	0.000E+00	NOT IDENT.
HG-203	1.420E-02	2.699E-02	4.980E-02	0.000E+00	FAIL ABUN
BI-207	-1.465E-02	3.775E-02	6.133E-02	0.000E+00	FAIL ABUN
TL-207	4.898E-01	4.828E-01	8.086E-01	0.000E+00	FAIL ABUN
PO-209	3.546E+00	4.982E+00	9.173E+00	0.000E+00	NOT IDENT.
PB-211	4.386E-01	7.737E-01	1.175E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.877E-01	4.618E-01	0.000E+00	FAIL ABUN
PO-215	4.898E-01	4.828E-01	8.086E-01	0.000E+00	FAIL ABUN
RN-219	-3.362E-02	2.894E-01	5.014E-01	0.000E+00	FAIL ABUN
RN-220	-1.019E+01	1.893E+01	3.065E+01	0.000E+00	NOT IDENT.
RA-223	4.898E-01	4.828E-01	8.086E-01	0.000E+00	FAIL ABUN
AC-227	5.074E-02	2.607E-01	4.756E-01	0.000E+00	FAIL ABUN
TH-227	5.074E-02	2.607E-01	4.756E-01	0.000E+00	FAIL ABUN
AC-228	0.000E+00	2.019E-01	3.424E-01	0.000E+00	FAIL ABUN
RA-228	0.000E+00	2.019E-01	3.424E-01	0.000E+00	FAIL ABUN
TH-229	3.506E-02	3.427E-01	6.340E-01	0.000E+00	FAIL ABUN
PA-231	-4.031E-01	1.026E+00	1.795E+00	0.000E+00	FAIL ABUN
TH-231	4.898E-01	4.828E-01	8.086E-01	0.000E+00	FAIL ABUN
U-231	-5.269E-01	7.383E-01	1.128E+00	0.000E+00	FAIL ABUN
TH-232	0.000E+00	2.019E-01	3.424E-01	0.000E+00	FAIL ABUN
PA-233	2.468E-02	4.095E-02	7.563E-02	0.000E+00	FAIL ABUN
PA-234	1.005E-01	2.283E-01	4.059E-01	0.000E+00	FAIL ABUN
PA-234M	2.207E+00	3.296E+00	5.967E+00	0.000E+00	NOT IDENT.
U-235	1.435E-01	1.531E-01	2.723E-01	0.000E+00	FAIL ABUN
NP-236	5.233E-03	5.898E-02	1.028E-01	0.000E+00	FAIL ABUN
NP-239	-3.705E-02	1.259E-01	2.198E-01	0.000E+00	FAIL ABUN
AM-241	3.398E-02	8.990E-02	1.509E-01	0.000E+00	NOT IDENT.
CM-243	-1.552E-02	6.583E-02	1.162E-01	0.000E+00	FAIL ABUN
AM-246	1.637E-02	1.065E-01	1.830E-01	0.000E+00	NOT IDENT.
CM-247	1.690E-03	2.628E-02	4.610E-02	0.000E+00	NOT IDENT.
CF-249	4.849E-03	2.678E-02	4.750E-02	0.000E+00	NOT IDENT.
CF-251	-5.129E-02	9.112E-02	1.522E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 12:26:02.15

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015436.CNF;1
Sample date        : 7-JAN-2010 12:00:00. Acquisition date : 22-JAN-2010 10:24:55
Sample ID          : G1202015436      Sample quantity   : 1.55810E+02 GRAM
Detector name      : GAM20             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:32.20  0.4%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 941635             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.59	50	10.42*	3.154E+00	3.700E-01	4.493E-01	74.82
K-40	1460.81	1717	10.67*	1.253E+00	3.094E+01	3.094E+01	10.05
CD-109	88.03	96	3.72*	6.920E+00	8.947E-01	9.149E-01	75.59
SN-126	64.28	48	9.60	4.649E+00	2.572E-01	2.572E-01	164.02
	86.94	96	8.90	6.920E+00	3.740E-01	3.740E-01	85.73
	87.57	96	37.00*	6.920E+00	8.995E-02	8.995E-02	75.59
BA-137M	661.65	250	89.98*	2.435E+00	2.750E-01	2.753E-01	21.42
CS-137	661.65	250	85.12*	2.435E+00	2.907E-01	2.910E-01	21.43
TL-208	277.35	-----	6.80	4.722E+00	-----	Line Not Found	-----
	510.84	87	21.60	2.992E+00	3.243E-01	3.243E-01	69.02
	583.14	296	84.20*	2.696E+00	3.142E-01	3.142E-01	20.71
	860.37	-----	12.46	1.954E+00	-----	Line Not Found	-----
BI-210	46.50	19	4.05*	2.030E+00	5.632E-01	5.639E-01	381.09
PB-210	46.50	19	4.05*	2.030E+00	5.632E-01	5.639E-01	381.09
PO-210	46.50	19	4.05*	2.030E+00	5.632E-01	5.639E-01	381.07
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	438	12.94*	3.970E+00	2.055E+00	2.055E+00	17.13
PB-212	74.81	254	10.70	6.053E+00	9.443E-01	9.443E-01	30.91
	77.11	414	18.00	6.261E+00	8.852E-01	8.852E-01	18.35
	87.30	96	8.00	6.920E+00	4.160E-01	4.160E-01	76.24
	238.63	895	44.60*	5.250E+00	9.208E-01	9.208E-01	13.47
	300.09	87	3.41	4.460E+00	1.374E+00	1.374E+00	70.17
PO-212	74.81	254	10.70	6.053E+00	9.443E-01	9.443E-01	30.91
	77.11	414	18.00	6.261E+00	8.852E-01	8.852E-01	18.35
	87.30	96	8.00	6.920E+00	4.160E-01	4.160E-01	76.24
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	895	44.60*	5.250E+00	9.208E-01	9.208E-01	13.47
	300.09	87	3.41	4.460E+00	1.374E+00	1.374E+00	70.17
BI-214	609.31	322	46.30*	2.604E+00	6.425E-01	6.425E-01	20.76
	1120.29	97	15.10	1.557E+00	9.940E-01	9.940E-01	48.11
	1764.49	74	15.80	1.100E+00	1.026E+00	1.026E+00	24.66
PB-214	74.81	254	6.21	6.053E+00	1.627E+00	1.627E+00	30.38

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	414	10.50	6.261E+00	1.517E+00	1.517E+00	19.87
	87.30	96	4.67	6.920E+00	7.127E-01	7.127E-01	75.98
	241.98	192	7.49	5.207E+00	1.187E+00	1.187E+00	41.40
	295.21	241	19.20	4.513E+00	6.709E-01	6.709E-01	26.40
	351.92	438	37.20*	3.970E+00	7.149E-01	7.149E-01	17.91
	74.81	254	6.21	6.053E+00	1.627E+00	1.627E+00	30.38
	77.11	414	10.50	6.261E+00	1.517E+00	1.517E+00	19.87
	87.30	96	4.67	6.920E+00	7.127E-01	7.127E-01	75.98
	241.98	192	7.49	5.207E+00	1.187E+00	1.187E+00	41.40
	295.21	241	19.20	4.513E+00	6.709E-01	6.709E-01	26.40
PO-216	351.92	438	37.20*	3.970E+00	7.149E-01	7.149E-01	17.91
	74.81	254	10.70	6.053E+00	9.443E-01	9.443E-01	30.91
	77.11	414	18.00	6.261E+00	8.852E-01	8.852E-01	18.35
	87.30	96	8.00	6.920E+00	4.160E-01	4.160E-01	76.24
	238.63	895	44.60*	5.250E+00	9.208E-01	9.208E-01	13.47
	300.09	87	3.41	4.460E+00	1.374E+00	1.374E+00	70.17
	74.81	254	6.21	6.053E+00	1.627E+00	1.627E+00	30.38
	77.11	414	10.50	6.261E+00	1.517E+00	1.517E+00	19.87
	87.30	96	4.67	6.920E+00	7.127E-01	7.127E-01	75.98
	241.98	192	7.49	5.207E+00	1.187E+00	1.187E+00	41.40
PO-218	295.21	241	19.20	4.513E+00	6.709E-01	6.709E-01	26.40
	351.92	438	37.20*	3.970E+00	7.149E-01	7.149E-01	17.91
	240.98	192	3.95*	5.207E+00	2.251E+00	2.251E+00	41.02
	609.31	322	46.30*	2.604E+00	6.425E-01	6.425E-01	20.76
	1120.29	97	15.10	1.557E+00	9.940E-01	9.940E-01	48.11
	1764.49	74	15.80	1.100E+00	1.026E+00	1.026E+00	24.66
	74.81	254	10.70	6.053E+00	9.443E-01	9.585E-01	29.49
	77.11	414	18.00	6.261E+00	8.852E-01	8.984E-01	18.35
	87.30	96	8.00	6.920E+00	4.160E-01	4.223E-01	75.59
	238.63	895	44.60*	5.250E+00	9.208E-01	9.346E-01	13.47
TH-228	300.09	87	3.41	4.460E+00	1.374E+00	1.394E+00	91.27
	609.31	322	46.30*	2.604E+00	6.425E-01	6.425E-01	20.76
	1120.29	97	15.10	1.557E+00	9.940E-01	9.940E-01	48.11
	1764.49	74	15.80	1.100E+00	1.026E+00	1.026E+00	24.66
	63.29	48	3.80*	4.649E+00	6.498E-01	6.498E-01	164.30
	92.38	145	5.41	7.184E+00	9.004E-01	9.004E-01	72.00
	609.31	322	46.30*	2.604E+00	6.425E-01	6.425E-01	20.76
	1120.29	97	15.10	1.557E+00	9.940E-01	9.940E-01	48.11
	1764.49	74	15.80	1.100E+00	1.026E+00	1.026E+00	24.66
	86.50	96	12.60*	6.920E+00	2.641E-01	2.641E-01	78.35
U-234	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
	63.29	48	3.80*	4.649E+00	6.498E-01	6.498E-01	164.30
	92.38	145	5.41	7.184E+00	9.004E-01	9.004E-01	70.23
	74.67	254	66.00*	6.053E+00	1.531E-01	1.531E-01	29.47
	86.72	96	0.34	6.920E+00	9.906E+00	9.906E+00	75.59
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
	511.00	87	100.00*	2.992E+00	7.005E-02	7.005E-02	68.52

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 3
Number of lines tentatively identified by NID 29 90.63%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.44D	1.21	3.700E-01	4.493E-01	3.362E-01	74.82	
K-40	1.28E+09Y	1.00	3.094E+01	3.094E+01	0.311E+01	10.05	
CD-109	464.00D	1.02	8.947E-01	9.149E-01	6.916E-01	75.59	
SN-126	1.00E+05Y	1.00	8.995E-02	8.995E-02	6.799E-02	75.59	
BA-137M	30.17Y	1.00	2.750E-01	2.753E-01	0.590E-01	21.42	
CS-137	30.17Y	1.00	2.907E-01	2.910E-01	0.623E-01	21.43	
TL-208	1.41E+10Y	1.00	3.142E-01	3.142E-01	0.650E-01	20.71	
BI-210	22.26Y	1.00	5.632E-01	5.639E-01	21.49E-01	381.09	
PB-210	22.26Y	1.00	5.632E-01	5.639E-01	21.49E-01	381.09	
PO-210	22.26Y	1.00	5.632E-01	5.639E-01	21.49E-01	381.07	
BI-211	7.04E+08Y	1.00	2.055E+00	2.055E+00	0.352E+00	17.13	
PB-212	1.41E+10Y	1.00	9.208E-01	9.208E-01	1.240E-01	13.47	
PO-212	1.41E+10Y	1.00	9.208E-01	9.208E-01	1.240E-01	13.47	
BI-214	1600.00Y	1.00	6.425E-01	6.425E-01	1.334E-01	20.76	
PB-214	1600.00Y	1.00	7.149E-01	7.149E-01	1.280E-01	17.91	
PO-214	1600.00Y	1.00	7.149E-01	7.149E-01	1.280E-01	17.91	
PO-216	1.41E+10Y	1.00	9.208E-01	9.208E-01	1.240E-01	13.47	
PO-218	1600.00Y	1.00	7.149E-01	7.149E-01	1.280E-01	17.91	
RA-224	1.41E+10Y	1.00	2.251E+00	2.251E+00	0.923E+00	41.02	
RA-226	1600.00Y	1.00	6.425E-01	6.425E-01	1.334E-01	20.76	
TH-228	1.91Y	1.01	9.208E-01	9.346E-01	1.259E-01	13.47	
TH-230	4.47E+09Y	1.00	6.425E-01	6.425E-01	1.334E-01	20.76	
TH-234	4.47E+09Y	1.00	6.498E-01	6.498E-01	10.68E-01	164.30	
U-234	4.47E+09Y	1.00	6.425E-01	6.425E-01	1.334E-01	20.76	
NP-237	2.14E+06Y	1.00	2.641E-01	2.641E-01	2.070E-01	78.35	
U-238	4.47E+09Y	1.00	6.498E-01	6.498E-01	10.68E-01	164.30	
AM-243	7380.00Y	1.00	1.531E-01	1.531E-01	0.451E-01	29.47	
ANH-511	1.00E+09Y	1.00	7.005E-02	7.005E-02	4.800E-02	68.52	

Total Activity : 4.936E+01 4.948E+01

Grand Total Activity : 4.936E+01 4.948E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.07	74	311	1.00	168.05	166	6	1.03E-02	81.4	6.76E+00	T
0	129.36	59	150	0.96	258.51	256	5	8.13E-03	68.4	7.29E+00	T
0	185.80	128	282	0.90	371.22	367	9	1.78E-02	53.3	6.18E+00	T
0	208.99	43	166	0.71	417.55	415	6	6.01E-03	99.0	5.74E+00	T
0	270.23	86	175	1.97	539.88	535	10	1.19E-02	61.8	4.81E+00	T
0	327.73	50	115	1.06	654.74	652	8	6.88E-03	79.7	4.18E+00	T
0	338.31	177	158	1.27	675.89	671	12	2.46E-02	32.6	4.09E+00	T
0	410.23	49	81	1.30	819.57	814	9	6.84E-03	71.8	3.54E+00	T
0	727.26	66	81	1.80	1453.24	1445	16	9.19E-03	64.9	2.25E+00	T
0	770.91	82	99	3.53	1540.52	1530	21	1.13E-02	66.2	2.14E+00	
0	911.09	191	45	1.64	1820.85	1816	10	2.65E-02	19.5	1.86E+00	T
0	1378.25	23	32	1.60	2755.61	2748	14	3.25E-03	***	1.31E+00	
0	1588.00	19	11	1.45	3175.58	3172	8	2.70E-03	72.8	1.18E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015436.CNF;1
* Acquisition date   : 22-JAN-2010 10:24:55   Detector SN#      :
* Detector ID        : GAM20                  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 02:00:32.20          Half life ratio     : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 7-JAN-2010 12:00:00.   Nuclide Library   : SOLID
* Sample ID          : G1202015436            Analyst initials  : MXR1
* Batch Number       : 941635                 Sample Quantity   : 1.55810E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11.7MS/Isotope
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A               LCS Isotope        :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	4.493E-01	3.362E-01	4.164E-01	4.047E-02	1.079
K-40	3.094E+01	3.109E+00	4.293E-01	3.743E-02	72.088
CD-109	9.149E-01	6.916E-01	1.044E+00	9.868E-02	0.877
SN-126	8.995E-02	6.799E-02	9.571E-02	9.002E-03	0.940
BA-137M	2.753E-01	5.896E-02	4.587E-02	4.603E-03	6.001
CS-137	2.910E-01	6.234E-02	4.849E-02	4.873E-03	6.001
TL-208	3.142E-01	6.505E-02	3.700E-02	3.804E-03	8.490
BI-210	5.639E-01	2.149E+00	2.396E+00	2.222E-01	0.235
PB-210	5.639E-01	2.149E+00	2.396E+00	2.222E-01	0.235
PO-210	5.639E-01	2.149E+00	2.396E+00	2.010E-01	0.235
BI-211	2.055E+00	3.520E-01	2.321E-01	2.223E-02	8.856
PB-212	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
PO-212	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
BI-214	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
PB-214	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004
PO-214	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004
PO-216	9.208E-01	1.240E-01	6.426E-02	6.834E-03	14.328
PO-218	7.149E-01	1.280E-01	7.940E-02	8.653E-03	9.004

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	2.251E+00	9.233E-01	7.312E-01	7.067E-02	3.079
RA-226	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
TH-228	9.346E-01	1.259E-01	6.522E-02	6.936E-03	14.328
TH-230	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
TH-234	6.498E-01	1.068E+00	1.132E+00	1.966E-01	0.574
U-234	6.425E-01	1.334E-01	7.276E-02	8.097E-03	8.830
NP-237	2.641E-01	2.070E-01	2.435E-01	5.509E-02	1.085
U-238	6.498E-01	1.068E+00	1.132E+00	1.966E-01	0.574
AM-243	1.531E-01	4.511E-02	5.759E-02	4.635E-03	2.658
ANH-511	7.005E-02	4.800E-02	3.375E-02	3.145E-03	2.075

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	-9.644E-03		3.648E-02	5.714E-02	4.734E-03	-0.169
NA-24	-1.503E-01		1.870E-01	Half-Life too short		
AL-26	-1.106E-02		1.728E-02	2.322E-02	1.886E-03	-0.476
TI-44	1.633E-01	+	2.997E-02	4.769E-02	4.002E-03	3.425
SC-46	1.542E-02		2.903E-02	5.031E-02	5.016E-03	0.306
V-48	-6.051E-02		5.233E-02	7.448E-02	7.118E-03	-0.812
CR-51	-1.194E-01		2.541E-01	4.078E-01	4.089E-02	-0.293
MN-52	3.188E-02		1.578E-01	2.714E-01	2.297E-02	0.117
MN-54	-6.244E-03		2.722E-02	4.423E-02	4.468E-03	-0.141
CO-56	-2.162E-02		2.844E-02	4.348E-02	4.382E-03	-0.497
CO-57	-3.799E-03		1.805E-02	2.870E-02	2.396E-03	-0.132
CO-58	5.133E-03		3.036E-02	5.118E-02	5.197E-03	0.100
FE-59	1.733E-04		7.130E-02	1.162E-01	1.096E-02	0.001
CO-60	2.092E-02		2.942E-02	5.149E-02	4.313E-03	0.406
ZN-65	-1.823E-02		8.266E-02	1.127E-01	9.700E-03	-0.162
GE-68	2.001E-01		8.638E-01	1.445E+00	1.289E-01	0.139
AS-73	2.300E-01		4.047E-01	6.831E-01	5.071E-02	0.337
AS-74	4.923E-02		7.065E-02	1.194E-01	1.169E-02	0.412
SE-75	-8.997E-03		3.204E-02	4.872E-02	4.824E-03	-0.185
BR-77	-2.120E+00		7.521E+00	1.185E+01	1.112E+00	-0.179
SR-82	3.015E-01		2.946E-01	4.803E-01	4.880E-02	0.628
RB-83	-4.090E-03		5.110E-02	8.194E-02	7.685E-03	-0.050
RB-84	3.952E-03		5.618E-02	9.346E-02	9.339E-03	0.042
KR-85	6.364E+00		6.183E+00	9.575E+00	8.941E-01	0.665
SR-85	3.257E-02		3.164E-02	4.900E-02	4.576E-03	0.665
RB-86	-9.371E-02		5.737E-01	9.192E-01	8.207E-02	-0.102
Y-88	9.874E-03		2.114E-02	3.833E-02	3.093E-03	0.258
ZR-88	1.224E-02		1.955E-02	3.357E-02	2.808E-03	0.365
Y-91	1.945E+00		1.511E+01	2.497E+01	2.028E+00	0.078
NB-94	1.503E-02		2.530E-02	4.422E-02	4.474E-03	0.340
NB-95	2.980E-02		3.467E-02	5.501E-02	5.590E-03	0.542
NB-95M	1.186E-02		9.524E-02	1.423E-01	1.529E-02	0.083
ZR-95	-5.732E-03		4.820E-02	7.957E-02	8.684E-03	-0.072

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-2.600E-03		3.342E-02	Half-Life too short		
ZR-97	6.936E-01		6.145E-01	Half-Life too short		
MO-99	-1.318E+00		8.127E+00	1.339E+01	2.157E+00	-0.098
TC-99M	-1.000E+10		8.651E+09	Half-Life too short		
RH-101	3.168E-03		2.391E-02	4.021E-02	3.686E-03	0.079
RH-102	7.329E-03		2.815E-02	4.094E-02	3.712E-03	0.179
RU-103	4.858E-04		2.714E-02	4.400E-02	6.397E-03	0.011
RH-106	1.367E-01		2.342E-01	3.928E-01	5.584E-02	0.348
RU-106	1.367E-01		2.338E-01	3.928E-01	3.888E-02	0.348
AG-108M	-3.447E-03		2.485E-02	4.013E-02	3.642E-03	-0.086
AG-110M	-2.747E-03		2.856E-02	4.141E-02	4.243E-03	-0.066
IN-111	-3.736E-01		7.908E-01	1.127E+00	1.094E-01	-0.331
IN-113M	-1.192E-02		2.940E-02	4.669E-02	4.028E-03	-0.255
SN-113	-1.192E-02		2.940E-02	4.669E-02	4.028E-03	-0.255
IN-114M	-9.053E-02		1.401E-01	2.011E-01	1.822E-02	-0.450
CD-115	-3.343E+00		7.621E+00	1.182E+01	1.114E+00	-0.283
SN-117M	3.663E-03		4.003E-02	6.393E-02	5.517E-03	0.057
SB-122	-3.364E-01		1.484E+00	2.338E+00	2.252E-01	-0.144
I-123	-5.976E-02		1.699E+00	Half-Life too short		
TE-123M	-3.717E-04		2.114E-02	3.357E-02	2.917E-03	-0.011
I-124	-2.350E-01		5.464E-01	7.205E-01	7.074E-02	-0.326
SB-124	2.404E-02		4.648E-02	8.496E-02	7.383E-03	0.283
SB-125	1.107E-02		6.541E-02	1.073E-01	9.495E-03	0.103
TE-125M	4.019E+00		6.502E+00	1.076E+01	1.100E+00	0.374
I-126	8.477E-02		1.403E-01	2.196E-01	2.206E-02	0.386
SB-126	1.348E-01		1.160E-01	1.903E-01	1.930E-02	0.708
SB-127	1.095E-01		9.547E-01	1.618E+00	2.019E-01	0.068
XE-127	-1.433E-02		3.188E-02	5.279E-02	4.872E-03	-0.271
I-131	2.641E-02		8.271E-02	1.390E-01	1.304E-02	0.190
TE-132	-5.289E-02		4.651E-01	7.785E-01	1.261E-01	-0.068
BA-133	1.040E-02		3.573E-02	5.300E-02	7.159E-03	0.196
I-133	-1.865E-03		1.966E-03	Half-Life too short		
CS-134	4.614E-02		3.419E-02	6.281E-02	6.409E-03	0.735
CS-135	1.157E-01		1.246E-01	1.947E-01	2.158E-02	0.594
I-135	1.606E+09		1.359E+09	Half-Life too short		
CS-136	-8.383E-02		8.583E-02	1.257E-01	1.193E-02	-0.667
CE-139	-2.204E-02		2.120E-02	3.158E-02	2.757E-03	-0.698
BA-140	-1.904E-02		1.866E-01	2.978E-01	9.940E-02	-0.064
LA-140	-5.474E-02		5.965E-02	8.328E-02	7.031E-03	-0.657
CE-141	4.181E-02		4.443E-02	7.390E-02	6.380E-03	0.566
CE-143	2.051E-04		5.510E-05	Half-Life too short		
CE-144	6.871E-02		1.424E-01	2.329E-01	3.593E-02	0.295
PM-144	1.354E-03		2.482E-02	4.147E-02	4.192E-03	0.033
PR-144	9.177E-02		1.682E+00	2.810E+00	2.840E-01	0.033
PM-146	-1.541E-02		3.150E-02	4.920E-02	5.388E-03	-0.313
ND-147	2.248E-02		4.132E-01	6.694E-01	1.034E-01	0.034
PM-149	4.748E+01		6.180E+01	1.066E+02	1.737E+01	0.446
EU-152	1.831E-02		8.073E-02	1.193E-01	1.164E-02	0.153

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.514E-02		5.956E-02	8.347E-02	7.402E-03	-0.301
EU-154	-3.478E-02		1.023E-01	1.588E-01	1.754E-02	-0.219
EU-155	2.229E-02		7.561E-02	1.237E-01	1.075E-02	0.180
TB-160	6.743E-02		1.105E-01	1.922E-01	1.922E-02	0.351
HO-166M	2.250E-02		4.361E-02	7.601E-02	7.699E-03	0.296
TM-171	-9.245E+00		1.887E+01	2.702E+01	2.013E+00	-0.342
LU-176	1.960E-02		1.825E-02	2.903E-02	2.832E-03	0.675
LU-177	7.758E-01	+	7.715E-01	1.290E+00	1.200E-01	0.602
LU-177M	5.594E-02		1.490E-01	2.210E-01	1.892E-02	0.253
HF-181	1.076E-02		3.358E-02	4.938E-02	4.502E-03	0.218
W-181	-1.262E-01		2.442E-01	3.496E-01	2.573E-02	-0.361
TA-182	-1.251E-02		1.686E-01	2.709E-01	2.210E-02	-0.046
RE-183	6.798E-02		8.304E-02	1.337E-01	1.160E-02	0.509
RE-184	1.382E-01		1.640E-01	2.859E-01	2.794E-02	0.483
OS-185	-9.206E-03		2.906E-02	4.762E-02	4.755E-03	-0.193
RE-188	9.774E-02		1.272E-01	2.095E-01	1.798E-02	0.467
W-188	-3.188E+00		5.793E+00	8.087E+00	7.996E-01	-0.394
IR-192	9.164E-03		2.338E-02	3.970E-02	3.840E-03	0.231
AU-195	1.198E-01		1.559E-01	2.578E-01	2.270E-02	0.465
TL-200	3.388E-06		1.466E-04	Half-Life	too short	
TL-201	4.393E+00		4.479E+00	7.467E+00	6.533E-01	0.588
TL-202	8.422E-03		5.018E-02	8.281E-02	7.275E-03	0.102
HG-203	1.420E-02		2.754E-02	4.720E-02	4.800E-03	0.301
BI-207	-1.465E-02		3.852E-02	6.027E-02	5.442E-03	-0.243
TL-207	4.898E-01		4.926E-01	7.694E-01	1.399E-01	0.637
PO-209	3.546E+00		5.084E+00	8.970E+00	8.922E-01	0.395
PB-211	4.386E-01		7.894E-01	1.124E+00	7.043E-01	0.390
BI-212	6.001E-01	+	3.956E-01	4.490E-01	5.096E-02	1.337
PO-215	4.898E-01		4.926E-01	7.694E-01	1.399E-01	0.637
RN-219	-3.362E-02		2.953E-01	4.798E-01	7.163E-02	-0.070
RN-220	-1.019E+01		1.932E+01	2.958E+01	2.826E+00	-0.344
RA-223	4.898E-01		4.926E-01	7.694E-01	1.399E-01	0.637
AC-227	5.074E-02		2.660E-01	4.498E-01	7.215E-02	0.113
TH-227	5.074E-02		2.660E-01	4.498E-01	8.391E-02	0.113
AC-228	8.929E-01	+	2.060E-01	3.350E-01	4.104E-02	2.665
RA-228	8.929E-01	+	2.060E-01	3.350E-01	4.104E-02	2.665
TH-229	3.506E-02		3.497E-01	5.952E-01	5.421E-02	0.059
PA-231	-4.031E-01		1.047E+00	1.702E+00	2.717E-01	-0.237
TH-231	4.898E-01		4.926E-01	7.694E-01	1.399E-01	0.637
U-231	-5.269E-01		7.534E-01	1.041E+00	9.309E-02	-0.506
TH-232	8.929E-01	+	2.060E-01	3.350E-01	4.104E-02	2.665
PA-233	2.468E-02		4.178E-02	7.189E-02	7.132E-03	0.343
PA-234	1.005E-01		2.329E-01	3.975E-01	7.675E-02	0.253
PA-234M	2.207E+00		3.363E+00	5.853E+00	6.261E-01	0.377
U-235	1.435E-01		1.563E-01	2.537E-01	4.422E-02	0.565
NP-236	5.233E-03		6.019E-02	9.606E-02	8.312E-03	0.054
NP-239	-3.705E-02		1.285E-01	2.037E-01	1.707E-02	-0.182
AM-241	3.398E-02		9.174E-02	1.376E-01	1.077E-02	0.247

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.552E-02		6.718E-02	1.074E-01	9.273E-03	-0.145
AM-246	1.637E-02		1.086E-01	1.799E-01	1.603E-02	0.091
CM-247	1.690E-03		2.681E-02	4.411E-02	3.730E-03	0.038
CF-249	4.849E-03		2.732E-02	4.541E-02	3.832E-03	0.107
CF-251	-5.129E-02		9.298E-02	1.426E-01	1.265E-02	-0.360

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202015436          *
* Acquisition date   : 22-JAN-2010 10:24:55 Detector SN#      :              *
* Detector ID        : GAM20                      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 02:00:32.20                Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 7-JAN-2010 12:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202015436                Analyst initials: MXR1        *
* Batch Number       : 941635                      Sample Quantity : 1.5581E+02 GRAM *
* Recovery           : 1.00000                     Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope       :              *
* MSD DPM             : 0.000                      MSD Isotope    :              *
* LCS DPM             : 0.000                      LCS Isotope    :              *
* LCSD DPM            : 0.000                      LCSD Isotope   :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
BE-7	4.493E-01	3.295E-01	2.167E-01	1.681E-01
K-40	3.094E+01	3.047E+00	2.166E-01	1.554E+00
CD-109	9.149E-01	6.777E-01	5.672E-01	3.458E-01
SN-126	8.995E-02	6.663E-02	5.202E-02	3.400E-02
BA-137M	2.753E-01	5.778E-02	2.366E-02	2.948E-02
CS-137	2.910E-01	6.110E-02	2.501E-02	3.117E-02
TL-208	3.142E-01	6.375E-02	1.915E-02	3.252E-02
BI-210	5.639E-01	2.106E+00	1.322E+00	1.074E+00
PB-210	5.639E-01	2.106E+00	1.322E+00	1.074E+00
PO-210	5.639E-01	2.106E+00	1.322E+00	1.074E+00
BI-211	2.055E+00	3.450E-01	1.218E-01	1.760E-01
PB-212	9.208E-01	1.215E-01	3.406E-02	6.200E-02
PO-212	9.208E-01	1.215E-01	3.406E-02	6.200E-02
BI-214	6.425E-01	1.307E-01	3.762E-02	6.670E-02
PB-214	7.149E-01	1.255E-01	4.166E-02	6.401E-02
PO-214	7.149E-01	1.255E-01	4.166E-02	6.401E-02
PO-216	9.208E-01	1.215E-01	3.406E-02	6.200E-02
PO-218	7.149E-01	1.255E-01	4.166E-02	6.401E-02
RA-224	2.251E+00	9.049E-01	3.874E-01	4.617E-01
RA-226	6.425E-01	1.307E-01	3.762E-02	6.670E-02
TH-228	9.346E-01	1.233E-01	3.457E-02	6.293E-02
TH-230	6.425E-01	1.307E-01	3.762E-02	6.670E-02
TH-234	6.498E-01	1.046E+00	6.200E-01	5.339E-01
U-234	6.425E-01	1.307E-01	3.762E-02	6.670E-02
NP-237	2.641E-01	2.028E-01	1.324E-01	1.035E-01
U-238	6.498E-01	1.046E+00	6.200E-01	5.339E-01
AM-243	1.531E-01	4.421E-02	3.142E-02	2.255E-02
ANH-511	7.005E-02	4.704E-02	1.754E-02	2.400E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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NA-22	-9.644E-03	3.575E-02	2.895E-02	1.824E-02	NOT IDENT.
NA-24	-1.503E+05	3.665E+05	0.000E+00	1.870E+05	SHORT HLIF
AL-26	-1.106E-02	1.694E-02	1.165E-02	8.642E-03	NOT IDENT.
TI-44	1.633E-01	2.937E-02	2.599E-02	1.499E-02	FAIL ABUN
SC-46	1.542E-02	2.845E-02	2.574E-02	1.452E-02	FAIL ABUN
V-48	-6.051E-02	5.128E-02	3.800E-02	2.616E-02	NOT IDENT.
CR-51	-1.194E-01	2.490E-01	2.145E-01	1.271E-01	NOT IDENT.
MN-52	3.188E-02	1.547E-01	1.370E-01	7.890E-02	NOT IDENT.
MN-54	-6.244E-03	2.668E-02	2.267E-02	1.361E-02	NOT IDENT.
CO-56	-2.162E-02	2.787E-02	2.228E-02	1.422E-02	NOT IDENT.
CO-57	-3.799E-03	1.769E-02	1.547E-02	9.026E-03	NOT IDENT.
CO-58	5.133E-03	2.975E-02	2.626E-02	1.518E-02	NOT IDENT.
FE-59	1.733E-04	6.987E-02	5.909E-02	3.565E-02	NOT IDENT.
CO-60	2.092E-02	2.884E-02	2.605E-02	1.471E-02	NOT IDENT.
ZN-65	-1.823E-02	8.100E-02	5.730E-02	4.133E-02	NOT IDENT.
GE-68	2.001E-01	8.465E-01	7.354E-01	4.319E-01	NOT IDENT.
AS-73	2.300E-01	3.966E-01	3.757E-01	2.024E-01	NOT IDENT.
AS-74	4.923E-02	6.923E-02	6.178E-02	3.532E-02	NOT IDENT.
SE-75	-8.997E-03	3.140E-02	2.575E-02	1.602E-02	NOT IDENT.
BR-77	-2.120E+00	7.371E+00	6.155E+00	3.761E+00	FAIL ABUN
SR-82	3.015E-01	2.887E-01	2.467E-01	1.473E-01	NOT IDENT.
RB-83	-4.090E-03	5.008E-02	4.255E-02	2.555E-02	NOT IDENT.
RB-84	3.952E-03	5.506E-02	4.783E-02	2.809E-02	NOT IDENT.
KR-85	6.364E+00	6.059E+00	4.974E+00	3.092E+00	NOT IDENT.
SR-85	3.257E-02	3.101E-02	2.545E-02	1.582E-02	NOT IDENT.
RB-86	-9.371E-02	5.622E-01	4.679E-01	2.869E-01	NOT IDENT.
Y-88	9.874E-03	2.071E-02	1.922E-02	1.057E-02	NOT IDENT.
ZR-88	1.224E-02	1.916E-02	1.756E-02	9.773E-03	NOT IDENT.
Y-91	1.945E+00	1.481E+01	1.267E+01	7.556E+00	NOT IDENT.
NB-94	1.503E-02	2.479E-02	2.277E-02	1.265E-02	NOT IDENT.
NB-95	2.980E-02	3.398E-02	2.826E-02	1.734E-02	NOT IDENT.
NB-95M	1.186E-02	9.333E-02	7.543E-02	4.762E-02	NOT IDENT.
ZR-95	-5.732E-03	4.724E-02	4.090E-02	2.410E-02	NOT IDENT.
NB-97	-2.600E+03	6.550E+04	0.000E+00	3.342E+04	SHORT HLIF
ZR-97	6.936E+05	1.204E+06	0.000E+00	6.145E+05	SHORT HLIF
MO-99	-1.318E+00	7.964E+00	6.887E+00	4.063E+00	NOT IDENT.
TC-99M	-1.000E+16	1.696E+16	0.000E+00	8.651E+15	SHORT HLIF
RH-101	3.168E-03	2.344E-02	2.142E-02	1.196E-02	NOT IDENT.
RH-102	7.329E-03	2.759E-02	2.131E-02	1.408E-02	NOT IDENT.
RU-103	4.858E-04	2.659E-02	2.287E-02	1.357E-02	FAIL ABUN
RH-106	1.367E-01	2.295E-01	2.030E-01	1.171E-01	FAIL ABUN
RU-106	1.367E-01	2.291E-01	2.030E-01	1.169E-01	FAIL ABUN
AG-108M	-3.447E-03	2.435E-02	2.094E-02	1.242E-02	NOT IDENT.
AG-110M	-2.747E-03	2.799E-02	2.137E-02	1.428E-02	NOT IDENT.
IN-111	-3.736E-01	7.750E-01	5.970E-01	3.954E-01	NOT IDENT.
IN-113M	-1.192E-02	2.882E-02	2.443E-02	1.470E-02	NOT IDENT.
SN-113	-1.192E-02	2.882E-02	2.443E-02	1.470E-02	NOT IDENT.
IN-114M	-9.053E-02	1.373E-01	1.072E-01	7.007E-02	NOT IDENT.
CD-115	-3.343E+00	7.468E+00	6.133E+00	3.810E+00	NOT IDENT.
SN-117M	3.663E-03	3.922E-02	3.424E-02	2.001E-02	NOT IDENT.
SB-122	-3.364E-01	1.455E+00	1.211E+00	7.422E-01	NOT IDENT.
I-123	-5.976E+04	3.330E+06	0.000E+00	1.699E+06	SHORT HLIF
TE-123M	-3.717E-04	2.071E-02	1.798E-02	1.057E-02	NOT IDENT.
I-124	-2.350E-01	5.354E-01	3.726E-01	2.732E-01	NOT IDENT.
SB-124	2.404E-02	4.555E-02	4.269E-02	2.324E-02	NOT IDENT.
SB-125	1.107E-02	6.411E-02	5.599E-02	3.271E-02	NOT IDENT.
TE-125M	4.019E+00	6.372E+00	5.816E+00	3.251E+00	NOT IDENT.
I-126	8.477E-02	1.375E-01	1.132E-01	7.015E-02	NOT IDENT.
SB-126	1.348E-01	1.137E-01	9.795E-02	5.799E-02	FAIL ABUN
SB-127	1.095E-01	9.356E-01	8.337E-01	4.773E-01	FAIL ABUN
XE-127	-1.433E-02	3.125E-02	2.809E-02	1.594E-02	NOT IDENT.
I-131	2.641E-02	8.106E-02	7.287E-02	4.136E-02	NOT IDENT.
TE-132	-5.289E-02	4.558E-01	4.131E-01	2.325E-01	NOT IDENT.
BA-133	1.040E-02	3.501E-02	2.780E-02	1.786E-02	NOT IDENT.
I-133	-1.865E+03	3.852E+03	0.000E+00	1.966E+03	SHORT HLIF
CS-134	4.614E-02	3.350E-02	3.224E-02	1.709E-02	NOT IDENT.
CS-135	1.157E-01	1.221E-01	1.029E-01	6.229E-02	NOT IDENT.
I-135	1.606E+15	2.663E+15	0.000E+00	1.359E+15	SHORT HLIF
CS-136	-8.383E-02	8.411E-02	6.403E-02	4.291E-02	FAIL ABUN
CE-139	-2.204E-02	2.077E-02	1.689E-02	1.060E-02	NOT IDENT.
BA-140	-1.904E-02	1.829E-01	1.545E-01	9.331E-02	NOT IDENT.
LA-140	-5.474E-02	5.846E-02	4.192E-02	2.983E-02	FAIL ABUN
CE-141	4.181E-02	4.354E-02	3.966E-02	2.222E-02	NOT IDENT.
CE-143	2.051E+02	1.080E+02	0.000E+00	5.510E+01	SHORT HLIF
CE-144	6.871E-02	1.396E-01	1.253E-01	7.122E-02	NOT IDENT.
PM-144	1.354E-03	2.433E-02	2.136E-02	1.241E-02	FAIL ABUN
PR-144	9.177E-02	1.648E+00	1.447E+00	8.409E-01	NOT IDENT.

PM-146	-1.541E-02	3.087E-02	2.564E-02	1.575E-02	NOT IDENT.
ND-147	2.248E-02	4.050E-01	3.474E-01	2.066E-01	NOT IDENT.
PM-149	4.748E+01	6.057E+01	5.622E+01	3.090E+01	NOT IDENT.
EU-152	1.831E-02	7.911E-02	6.264E-02	4.036E-02	NOT IDENT.
GD-153	-2.514E-02	5.837E-02	4.525E-02	2.978E-02	FAIL ABUN
EU-154	-3.478E-02	1.002E-01	8.043E-02	5.113E-02	NOT IDENT.
EU-155	2.229E-02	7.410E-02	6.693E-02	3.780E-02	FAIL ABUN
TB-160	6.743E-02	1.083E-01	9.840E-02	5.527E-02	FAIL ABUN
HO-166M	2.250E-02	4.273E-02	3.913E-02	2.180E-02	FAIL ABUN
TM-171	-9.245E+00	1.849E+01	1.479E+01	9.433E+00	NOT IDENT.
LU-176	1.960E-02	1.788E-02	1.529E-02	9.124E-03	FAIL ABUN
LU-177	7.758E-01	7.560E-01	6.860E-01	3.857E-01	FAIL ABUN
LU-177M	5.594E-02	1.460E-01	1.155E-01	7.448E-02	FAIL ABUN
HF-181	1.076E-02	3.291E-02	2.569E-02	1.679E-02	NOT IDENT.
W-181	-1.262E-01	2.393E-01	1.914E-01	1.221E-01	NOT IDENT.
TA-182	-1.251E-02	1.653E-01	1.374E-01	8.432E-02	FAIL ABUN
RE-183	6.798E-02	8.138E-02	7.155E-02	4.152E-02	FAIL ABUN
RE-184	1.382E-01	1.608E-01	1.513E-01	8.202E-02	NOT IDENT.
OS-185	-9.206E-03	2.848E-02	2.458E-02	1.453E-02	NOT IDENT.
RE-188	9.774E-02	1.246E-01	1.122E-01	6.359E-02	FAIL ABUN
W-188	-3.188E+00	5.677E+00	4.264E+00	2.896E+00	FAIL ABUN
IR-192	9.164E-03	2.291E-02	2.089E-02	1.169E-02	FAIL ABUN
AU-195	1.198E-01	1.528E-01	1.397E-01	7.795E-02	FAIL ABUN
TL-200	3.388E+00	2.873E+02	0.000E+00	1.466E+02	SHORT HLIF
TL-201	4.393E+00	4.390E+00	3.994E+00	2.240E+00	NOT IDENT.
TL-202	8.422E-03	4.917E-02	4.319E-02	2.509E-02	NOT IDENT.
HG-203	1.420E-02	2.699E-02	2.492E-02	1.377E-02	FAIL ABUN
BI-207	-1.465E-02	3.775E-02	3.069E-02	1.926E-02	FAIL ABUN
TL-207	4.898E-01	4.828E-01	4.045E-01	2.463E-01	FAIL ABUN
PO-209	3.546E+00	4.982E+00	4.589E+00	2.542E+00	NOT IDENT.
PB-211	4.386E-01	7.737E-01	5.877E-01	3.947E-01	NOT IDENT.
BI-212	6.001E-01	3.877E-01	2.310E-01	1.978E-01	FAIL ABUN
PO-215	4.898E-01	4.828E-01	4.045E-01	2.463E-01	FAIL ABUN
RN-219	-3.362E-02	2.894E-01	2.509E-01	1.477E-01	FAIL ABUN
RN-220	-1.019E+01	1.893E+01	1.534E+01	9.659E+00	NOT IDENT.
RA-223	4.898E-01	4.828E-01	4.045E-01	2.463E-01	FAIL ABUN
AC-227	5.074E-02	2.607E-01	2.379E-01	1.330E-01	FAIL ABUN
TH-227	5.074E-02	2.607E-01	2.379E-01	1.330E-01	FAIL ABUN
AC-228	8.929E-01	2.019E-01	1.713E-01	1.030E-01	FAIL ABUN
RA-228	8.929E-01	2.019E-01	1.713E-01	1.030E-01	FAIL ABUN
TH-229	3.506E-02	3.427E-01	3.172E-01	1.749E-01	FAIL ABUN
PA-231	-4.031E-01	1.026E+00	8.978E-01	5.233E-01	FAIL ABUN
TH-231	4.898E-01	4.828E-01	4.045E-01	2.463E-01	FAIL ABUN
U-231	-5.269E-01	7.383E-01	5.645E-01	3.767E-01	FAIL ABUN
TH-232	8.929E-01	2.019E-01	1.713E-01	1.030E-01	FAIL ABUN
PA-233	2.468E-02	4.095E-02	3.784E-02	2.089E-02	FAIL ABUN
PA-234	1.005E-01	2.283E-01	2.031E-01	1.165E-01	FAIL ABUN
PA-234M	2.207E+00	3.296E+00	2.985E+00	1.682E+00	NOT IDENT.
U-235	1.435E-01	1.531E-01	1.362E-01	7.813E-02	FAIL ABUN
NP-236	5.233E-03	5.898E-02	5.143E-02	3.009E-02	FAIL ABUN
NP-239	-3.705E-02	1.259E-01	1.099E-01	6.424E-02	FAIL ABUN
AM-241	3.398E-02	8.990E-02	7.549E-02	4.587E-02	NOT IDENT.
CM-243	-1.552E-02	6.583E-02	5.814E-02	3.359E-02	FAIL ABUN
AM-246	1.637E-02	1.065E-01	9.155E-02	5.432E-02	NOT IDENT.
CM-247	1.690E-03	2.628E-02	2.306E-02	1.341E-02	NOT IDENT.
CF-249	4.849E-03	2.678E-02	2.377E-02	1.366E-02	NOT IDENT.
CF-251	-5.129E-02	9.112E-02	7.615E-02	4.649E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON, SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	253.8281
46.50	253.8281
46.50	253.8281
48.70	249.1609
49.72	233.5367
51.35	302.1143
52.39	259.9233
52.97	248.3983
53.15	248.4874
53.44	253.5648
54.07	253.8817
56.28	336.3343
56.28	336.3361
57.37	0.0000
57.53	281.4498
57.53	281.4505
57.60	281.4872
57.98	260.7874
57.98	260.7874
59.32	299.3660
59.32	299.3660
59.40	299.4102
59.54	299.4888
59.72	299.5895
60.01	296.7530
61.10	336.3973
61.14	336.4213
61.30	336.5204
63.00	316.4640
63.29	316.6286
63.29	316.6286
63.58	316.7932
64.28	365.5239
65.12	390.2710
65.20	390.3261
65.20	390.3261
66.05	381.8183
66.72	380.7474
66.83	347.4415
66.91	347.4904
67.20	347.6652
67.20	347.6652
67.75	346.4757
67.85	345.3190
68.90	363.4008
68.90	363.4008
69.30	400.2163
69.67	400.4688
70.82	406.3364
70.82	406.3364
70.83	406.3424
72.80	393.8822
72.87	380.1322
72.87	380.1322
74.67	418.1477
74.81	418.2432
74.81	418.2432
74.81	418.2432
74.81	418.2432
74.81	418.2432
74.81	418.2432
74.81	418.2432
74.97	418.3511
75.28	418.5607
75.70	418.8429
77.11	419.7892
77.11	419.7892

77.11	419.7892
77.11	419.7892
77.11	419.7892
77.11	419.7892
77.11	419.7892
78.38	420.6338
79.62	421.4514
79.80	421.5697
79.80	421.5697
80.11	421.7731
80.18	421.8187
80.30	421.8976
80.30	421.8976
80.57	422.0740
81.00	422.3541
81.07	422.3998
81.07	422.3998
81.07	422.3998
81.07	422.3998
82.60	277.0725
83.37	277.3944
83.78	361.7743
83.78	361.7743
83.78	361.7743
83.78	361.7743
84.21	358.8872
84.90	356.1352
85.43	356.4187
86.29	356.8745
86.50	356.9858
86.54	357.0067
86.59	357.0328
86.72	357.1006
86.79	357.1371
86.94	341.5497
87.30	489.0829
87.30	489.0829
87.30	489.0829
87.30	489.0829
87.30	489.0829
87.30	489.0829
87.30	489.0829
87.57	483.0030
87.88	558.5315
88.03	558.6537
88.36	492.9823
88.47	493.0614
89.95	560.2155
91.11	460.2689
92.29	357.4671
92.38	357.5138
92.38	357.5138
93.35	358.0043
94.00	234.2456
94.67	234.4636
94.67	234.4658
94.90	259.8961
94.90	259.8961
94.90	259.8961
94.90	259.8961
95.87	291.9852
95.87	291.9852
96.73	300.2772
97.43	278.3014
98.44	246.3053
98.44	246.3053
98.88	253.8889
99.55	267.9423
99.55	267.9423
99.86	258.4817
100.00	275.5537
100.10	275.5919
103.18	304.5071
103.76	276.9396
105.00	289.1725
105.31	270.0033
108.00	307.5030
109.28	256.3141

111.00	229.8914
111.00	229.8914
111.76	260.3614
112.95	285.6348
115.19	224.5869
116.30	231.4130
117.00	237.0482
117.00	237.0482
117.66	264.4452
121.11	227.3001
121.62	251.4935
121.78	255.9161
122.06	251.6257
122.32	249.5142
122.32	249.5142
122.32	249.5142
122.32	249.5142
123.07	236.5928
127.23	264.1626
129.76	253.8928
131.20	227.2198
133.02	209.4066
133.54	222.8310
135.34	249.9413
136.00	235.6727
136.25	253.5289
136.48	253.5939
140.51	265.8858
140.51	0.0000
142.18	287.6322
142.65	282.1772
143.76	218.6113
144.24	201.8994
144.24	201.8994
144.24	201.8994
144.24	201.8994
145.22	221.1981
145.44	221.2502
147.16	281.2856
152.43	237.5787
152.70	220.6693
153.22	220.7874
154.21	241.4126
154.21	241.4126
154.21	241.4126
154.21	241.4126
155.03	234.8080
156.02	249.8051
158.56	235.6461
159.00	0.0000
159.00	242.5826
160.31	247.4627
161.27	224.8694
162.32	213.6754
162.64	214.8869
163.35	237.9123
163.89	234.6060
165.85	236.2009
167.43	168.8098
171.28	191.3347
171.86	205.2783
172.10	205.3254
176.55	229.3544
176.60	229.3665
181.06	207.6326
184.41	205.8179
185.71	217.2744
186.00	217.3311
190.27	228.0142
192.34	202.6994
193.63	211.7523
197.04	212.3822
198.01	213.4473
198.60	214.4401
200.40	228.9742
201.83	211.4821
202.84	217.0016
205.31	196.7797

208.36	214.4385
208.81	210.9437
209.75	203.9531
209.75	203.9531
210.97	190.5495
215.65	192.3620
216.55	185.3076
218.09	179.2339
222.10	191.5605
223.80	197.2498
226.40	194.0306
227.00	188.6793
227.08	188.6904
227.20	195.0603
228.16	191.5745
228.18	191.5777
228.18	191.5777
231.56	0.0000
235.69	198.7274
236.00	211.9280
236.00	211.9280
238.63	180.3183
238.63	180.3183
238.63	180.3183
238.63	180.3183
239.00	180.3694
240.98	180.6414
241.98	180.7767
241.98	180.7767
241.98	180.7767
244.69	175.0776
245.39	173.6971
247.94	168.6808
248.90	161.4216
249.79	146.7601
252.40	154.4398
252.85	144.3148
252.85	144.3148
254.15	0.0000
256.20	153.0139
256.20	153.0139
260.50	136.7448
260.90	149.8123
262.80	145.3574
264.65	145.5478
268.24	143.6742
268.79	158.6998
269.46	135.7450
269.46	135.7450
269.46	135.7450
269.46	135.7450
271.23	146.9737
273.65	157.7384
276.40	134.3863
277.35	136.4906
277.60	138.3979
277.60	138.3979
278.00	140.3195
278.60	139.4343
279.20	132.8932
279.53	137.6369
280.46	162.2513
281.68	162.3864
283.67	139.9153
284.30	140.9220
285.00	142.8804
285.90	129.7127
286.10	131.6233
286.10	131.6233
287.40	139.3198
288.45	0.0000
290.67	148.9332
290.80	148.9476
291.72	141.4345
293.26	0.0000
293.70	138.5728
295.21	120.4191
295.21	120.4191

295.21	120.4191
295.96	114.3787
296.50	114.4189
297.23	114.4739
298.57	114.5746
299.80	134.5416
299.80	134.5416
300.09	134.5674
300.09	134.5674
300.09	134.5674
300.09	134.5674
300.12	134.5695
301.29	134.6727
302.84	150.1271
303.76	122.6250
303.91	122.6367
304.40	99.6741
304.40	99.6741
304.84	90.4993
306.84	93.6877
308.46	130.6833
311.98	98.2320
316.51	108.1719
318.01	122.7735
319.02	128.6550
319.41	125.7828
320.08	123.9004
323.87	93.1436
323.87	93.1436
323.87	93.1436
323.87	93.1436
325.23	119.6339
328.77	132.3518
333.44	130.1249
334.20	151.5341
334.20	151.5341
334.30	151.5435
338.28	121.3681
338.28	121.3681
338.28	121.3681
338.28	121.3681
338.32	121.3719
338.32	121.3719
338.32	121.3719
340.50	137.9941
340.57	138.0006
344.27	121.0156
345.85	115.3604
350.59	0.0000
351.07	113.6109
351.92	109.5231
351.92	109.5231
351.92	109.5231
355.39	0.0000
356.01	113.9361
364.48	105.3466
366.43	120.3870
367.43	115.4778
367.94	0.0000
369.80	105.6636
374.96	94.9725
383.85	105.4855
387.95	92.6331
388.63	100.7248
391.69	92.8212
391.69	92.8212
392.90	72.6899
398.62	89.1158
400.65	93.2662
401.10	98.3587
401.81	103.4677
402.60	103.5113
404.84	89.4099
410.95	110.8968
411.60	109.3036
413.65	101.2541
414.70	89.8718
415.30	93.4026

415.76	98.0962
417.63	0.0000
418.52	96.1888
423.70	89.2621
427.08	83.2495
427.89	78.1431
432.53	105.1221
433.93	102.1013
439.47	89.9736
439.56	89.9776
439.89	91.0266
443.98	69.4454
444.90	69.4771
445.03	69.4812
445.03	69.4812
445.03	69.4812
445.03	69.4812
453.90	93.7381
463.38	77.4270
468.07	114.3023
473.00	84.0881
475.06	109.4209
475.35	109.4352
476.78	119.6166
477.59	101.1226
477.96	82.5978
482.03	70.9334
484.57	72.9187
487.03	81.4659
490.36	0.0000
492.35	76.3627
497.08	66.9615
507.63	0.0000
510.53	0.0000
510.84	81.2811
511.00	81.2863
511.85	81.3177
511.85	81.3177
513.99	87.3923
513.99	87.3923
520.41	79.4786
520.65	85.9302
527.90	82.9710
528.96	0.0000
529.64	85.1912
529.87	0.0000
531.02	76.6097
537.32	74.6538
543.00	71.5833
546.56	0.0000
549.76	80.4904
552.65	67.5192
555.20	65.4108
563.23	79.8504
563.90	82.0610
568.70	71.2604
569.32	63.6039
569.50	63.6074
569.67	69.0966
573.80	80.2002
574.00	80.2069
574.64	69.2369
578.91	72.2205
579.30	0.0000
583.14	56.2435
585.48	38.8556
591.81	60.8662
592.07	60.8730
593.00	68.6450
595.88	70.9414
600.56	79.9585
602.52	0.0000
602.71	81.8050
602.71	81.8050
603.60	80.0530
604.41	78.2998
604.70	78.3084
609.31	61.2892

609.31	61.2892
609.31	61.2892
609.31	61.2892
610.33	60.6455
612.46	94.6133
614.37	75.0340
618.01	73.7968
621.84	59.3500
621.84	59.3500
631.29	49.4503
633.02	49.4825
633.10	53.9824
634.78	57.6188
635.90	55.8424
636.97	65.7766
645.85	68.7080
646.12	64.1947
656.30	63.5315
657.75	69.6195
657.90	0.0000
661.65	80.3281
661.65	80.3281
664.57	0.0000
666.33	57.6943
666.33	57.6943
675.00	60.3136
677.61	55.7965
685.20	65.1220
692.80	71.7368
695.00	60.7487
696.49	61.7018
696.49	61.7018
697.00	65.3959
697.49	67.2505
698.33	72.7992
698.50	72.8031
699.00	81.1121
702.63	69.2175
706.10	81.3162
706.58	0.0000
706.67	83.1797
709.31	63.8301
711.68	59.2547
713.82	57.4454
717.42	76.9979
720.50	51.0778
721.93	0.0000
722.20	46.4612
722.78	63.5103
722.78	63.5103
722.89	63.5120
722.95	63.5136
723.30	79.0151
724.18	82.1375
727.18	75.3976
733.00	69.9518
735.90	60.6836
739.58	64.4988
742.81	74.8633
744.21	60.8550
747.13	56.2295
751.79	64.7650
752.31	50.6949
753.82	54.4770
755.35	51.6860
756.15	55.4594
756.87	47.0105
763.93	58.1166
765.79	58.1527
766.42	53.4487
766.84	61.3168
776.49	42.5852
778.00	58.3861
778.57	55.2401
778.89	61.5596
783.80	56.9150
785.46	60.7422
792.07	77.9921

795.84	44.7567
796.30	42.8588
798.80	84.8325
801.93	51.5228
805.60	57.3149
810.29	56.4432
810.76	61.2359
815.85	59.4177
817.79	54.6593
818.51	54.6718
819.60	56.6089
826.30	51.9209
828.27	0.0000
831.60	70.3053
831.96	63.5701
834.83	63.6265
836.80	0.0000
846.75	60.9590
848.13	57.1116
856.28	0.0000
856.80	84.4384
860.37	56.3532
867.32	52.5775
867.82	50.6378
871.10	53.6116
873.19	53.6451
874.81	60.5015
875.33	0.0000
876.40	64.4354
879.36	52.7673
880.27	64.5095
880.51	58.6494
881.50	60.6226
883.24	62.6109
884.67	66.5523
889.25	46.0614
896.60	37.3218
898.02	34.3890
899.00	44.2277
903.28	56.0913
911.07	46.3563
911.07	46.3563
911.07	46.3563
919.63	49.4373
920.93	50.4447
925.00	48.5227
925.24	48.5263
926.50	47.5523
935.52	40.7227
937.48	63.6016
944.10	59.7393
946.00	49.8083
949.00	57.8272
962.29	56.0410
964.01	119.1424
966.15	98.1747
968.20	74.1752
969.11	80.2090
969.11	80.2090
969.11	80.2090
977.42	53.2601
980.50	36.2074
983.50	59.3889
989.30	43.3517
996.32	58.5862
1001.03	43.4892
1001.68	42.4850
1004.76	75.9302
1021.30	0.0000
1024.50	0.0000
1034.80	52.0459
1036.00	56.1454
1037.82	44.9367
1038.57	53.1197
1038.76	0.0000
1045.16	48.0947
1046.59	54.2525
1048.07	65.5406

1050.47	56.3589
1050.47	56.3589
1062.04	52.4145
1063.62	50.3805
1076.63	47.4532
1077.35	39.2079
1078.86	48.5124
1085.78	49.6313
1099.22	53.9500
1112.02	56.5017
1112.84	52.0508
1115.52	64.2411
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.29	46.9336
1120.51	46.9358
1121.28	46.9446
1124.00	0.0000
1129.67	53.7614
1131.51	0.0000
1147.95	0.0000
1167.94	73.8555
1173.22	70.7818
1175.09	62.3562
1177.93	90.9551
1189.05	72.1072
1204.90	60.6683
1205.75	0.0000
1213.00	70.3796
1221.42	76.9289
1230.97	70.6729
1235.34	67.5281
1236.41	0.0000
1238.25	61.1358
1246.25	59.0981
1260.41	0.0000
1271.85	58.3611
1274.45	56.2326
1274.54	55.1512
1291.56	47.7619
1298.22	0.0000
1312.09	37.0729
1325.50	31.7145
1325.50	31.7145
1332.49	26.2852
1333.61	33.9607
1360.21	28.4621
1362.66	0.0000
1365.15	25.7339
1368.21	20.2329
1368.53	0.0000
1376.25	11.0547
1384.27	22.1465
1394.10	19.4183
1395.20	18.4977
1407.95	24.1105
1434.06	20.5113
1436.60	16.7900
1457.56	0.0000
1460.81	26.2466
1489.15	11.3120
1509.49	13.2503
1596.49	25.0193
1620.62	9.6663
1678.03	0.0000
1691.02	7.8324
1691.02	7.8324
1706.46	0.0000
1750.46	0.0000
1764.49	7.9339
1764.49	7.9339
1764.49	7.9339
1764.49	7.9339
1770.23	6.8072
1771.40	14.8938
1791.20	0.0000
1808.65	9.9927

1836.01

7.0271

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202015436

Total Uranium Activity	1.9997E+00	ug/g
Total Uranium Counting Unc.	3.1138E+00	ug/g
Total Uranium Tpu	1.5887E-06	ug/g
Total Uranium Mda	1.8456E+00	ug/g


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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 941635          SAMPLE ID   : G1202015436
*  ANALYST       : MXR1            DETECTOR    : GAM20
*  SAMPLE DATE   : 7-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 22-JAN-2010 10:24:55.15  SAMPLE ALQT: 155.810 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.679E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.383E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.203E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.066E+00

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VAX/VMS Nuclide Identification Report Generated 22-JAN-2010 11:26:01.14

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015437.CNF;1
Sample date     : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 10:25:30
Sample ID       : G1202015437      Sample quantity   : 1.55440E+02 GRAM
Detector name   : GAM25            Detector geometry: CAN
Elapsed live time: 0 01:00:00.00    Elapsed real time: 0 01:00:01.93  0.1%
Energy tolerance : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit  : 75.00000         Sensitivity     : 5.00000
Batch ID        : 941635            Detector SN#    :
Matrix Spike ID :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	49.82	289	1600	0.77	99.19	94	10	8.02E-02	26.5	
2	0	59.56*	9677	994	0.92	118.68	115	8	2.69E+00	1.2	
3	2	74.84*	265	347	0.86	149.23	145	12	7.36E-02	12.2	4.64E-01
4	2	77.17*	449	261	0.74	153.89	145	12	1.25E-01	7.1	
5	0	88.07	2498	539	0.99	175.70	171	11	6.94E-01	2.7	
6	0	92.95*	188	320	1.38	185.46	182	9	5.23E-02	19.3	
7	0	122.18	291	293	0.83	243.90	240	8	8.08E-02	11.8	
8	0	186.01*	66	234	0.70	371.56	368	7	1.83E-02	41.9	
9	0	209.10	64	180	1.39	417.74	414	7	1.79E-02	36.7	
10	3	238.67*	568	159	1.06	476.88	470	17	1.58E-01	5.5	2.37E+00
11	3	241.40	129	225	1.46	482.32	470	17	3.59E-02	24.6	
12	0	295.00	144	194	1.33	589.52	585	9	3.99E-02	19.4	
13	0	338.49*	144	234	1.25	676.50	670	13	4.00E-02	23.5	
14	0	351.96*	214	152	1.13	703.44	699	8	5.94E-02	12.2	
15	0	510.38*	89	171	1.50	1020.26	1013	14	2.48E-02	34.4	
16	0	583.44*	166	107	1.38	1166.37	1160	14	4.60E-02	15.7	
17	0	609.22*	193	113	1.38	1217.93	1212	14	5.37E-02	13.8	
18	0	661.59*	2399	163	1.38	1322.67	1316	14	6.66E-01	2.3	
19	0	727.46	53	94	0.71	1454.41	1450	11	1.46E-02	38.2	
20	0	911.08*	141	158	1.49	1821.65	1815	16	3.91E-02	21.7	
21	0	969.18*	71	93	1.25	1937.84	1933	12	1.96E-02	29.9	
22	0	1173.06	1874	48	1.74	2345.62	2336	18	5.20E-01	2.5	
23	0	1332.33	1633	34	1.98	2664.18	2656	15	4.54E-01	2.6	
24	1	1763.21*	31	1	2.28	3526.00	3521	18	8.70E-03	21.2	4.80E+00
25	1	1765.71*	30	5	2.28	3531.00	3521	18	8.29E-03	27.0	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015437.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 10:25:30
 Sample ID : G1202015437 Sample quantity : 155.44 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA25 Detector geometry: CAN
 Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.93 0.1%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance: 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

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	*	2.026E-01	5.439E-02	4.544E-02	5.860E-03	4.459
		136.48		-1.168E-01	2.313E-01	3.771E-01	4.624E-02	-0.310
CO-60	+	1173.22		6.759E+00	6.490E-01	1.155E-01	9.508E-03	58.511
	+	1332.49	*	6.585E+00	6.346E-01	9.269E-02	7.528E-03	71.044
CD-109	+	88.03	*	3.496E+01	4.210E+00	1.170E+00	1.257E-01	29.877
SN-126		64.28		-9.321E-02	2.750E-01	4.410E-01	7.027E-02	-0.211
	+	86.94		1.445E+01	6.098E+00	4.813E-01	2.014E-01	30.023
	+	87.57	*	3.476E+00	4.186E-01	1.161E-01	1.245E-02	29.939
BA-137M	+	661.65	*	5.775E+00	6.946E-01	1.169E-01	1.295E-02	49.389
CS-137	+	661.65	*	6.105E+00	7.350E-01	1.236E-01	1.371E-02	49.389
TL-208		277.35		2.304E-01	5.917E-01	9.581E-01	1.361E-01	0.240
	+	510.84		7.105E-01	4.976E-01	4.179E-01	5.534E-02	1.700
	+	583.14	*	3.809E-01	1.271E-01	9.955E-02	1.122E-02	3.826
		860.37		3.250E-01	6.083E-01	1.034E+00	1.081E-01	0.314
BI-211		72.87		-1.150E-02	2.361E+00	3.421E+00	3.453E-01	-0.003
	+	351.07	*	2.053E+00	5.447E-01	5.047E-01	5.318E-02	4.068
PB-212	+	74.81		1.235E+00	3.467E-01	4.012E-01	5.539E-02	3.077
	+	77.11		1.248E+00	2.176E-01	2.404E-01	2.464E-02	5.191
	+	87.30		1.608E+01	2.516E+00	5.363E-01	7.858E-02	29.975
	+	238.63	*	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
		300.09		8.457E-01	1.249E+00	2.040E+00	2.540E-01	0.415
PO-212	+	74.81		1.235E+00	3.467E-01	4.012E-01	5.539E-02	3.077
	+	77.11		1.248E+00	2.176E-01	2.404E-01	2.464E-02	5.191
	+	87.30		1.608E+01	2.516E+00	5.363E-01	7.858E-02	29.975
		115.19		-4.720E+00	3.599E+00	5.625E+00	6.976E-01	-0.839
	+	238.63	*	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
		300.09		8.457E-01	1.249E+00	2.040E+00	2.540E-01	0.415
BI-214	+	609.31	*	8.396E-01	2.525E-01	1.969E-01	2.377E-02	4.263
		1120.29		8.037E-01	5.916E-01	1.076E+00	1.168E-01	0.747
	+	1764.49		9.701E-01	5.304E-01	4.480E-01	3.691E-02	2.165
PB-214	+	74.81		2.127E+00	5.850E-01	6.913E-01	8.692E-02	3.077
	+	77.11		2.139E+00	4.071E-01	4.121E-01	5.263E-02	5.191
	+	87.30		2.754E+01	3.938E+00	9.187E-01	1.212E-01	29.975
	+	241.98		1.575E+00	7.969E-01	8.285E-01	9.881E-02	1.902

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		8.024E-01	3.268E-01	3.411E-01	4.327E-02	2.352
	+	351.92	*	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
	+	74.81		2.127E+00	5.850E-01	6.913E-01	8.692E-02	3.077
	+	77.11		2.139E+00	4.071E-01	4.121E-01	5.263E-02	5.191
	+	87.30		2.754E+01	3.938E+00	9.187E-01	1.212E-01	29.975
PO-216	+	241.98		1.575E+00	7.969E-01	8.285E-01	9.881E-02	1.902
	+	295.21		8.024E-01	3.268E-01	3.411E-01	4.327E-02	2.352
	+	351.92	*	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
	+	74.81		1.235E+00	3.467E-01	4.012E-01	5.539E-02	3.077
	+	77.11		1.248E+00	2.176E-01	2.404E-01	2.464E-02	5.191
PO-218	+	87.30		1.608E+01	2.516E+00	5.363E-01	7.858E-02	29.975
	+	238.63	*	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
	+	300.09		8.457E-01	1.249E+00	2.040E+00	2.540E-01	0.415
	+	74.81		2.127E+00	5.850E-01	6.913E-01	8.692E-02	3.077
	+	77.11		2.139E+00	4.071E-01	4.121E-01	5.263E-02	5.191
RA-224	+	87.30		2.754E+01	3.938E+00	9.187E-01	1.212E-01	29.975
	+	241.98		1.575E+00	7.969E-01	8.285E-01	9.881E-02	1.902
	+	295.21		8.024E-01	3.268E-01	3.411E-01	4.327E-02	2.352
	+	351.92	*	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
	+	240.98	*	2.987E+00	1.502E+00	1.534E+00	1.612E-01	1.947
RA-226	+	609.31	*	8.396E-01	2.525E-01	1.969E-01	2.377E-02	4.263
	+	1120.29		8.037E-01	5.916E-01	1.076E+00	1.168E-01	0.747
	+	1764.49		9.701E-01	5.304E-01	4.480E-01	3.691E-02	2.165
	+	338.32		1.520E+00	9.543E-01	5.722E-01	2.385E-01	2.656
	+	911.07	*	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059
RA-228	+	969.11		1.293E+00	8.306E-01	9.949E-01	2.348E-01	1.299
	+	338.32		1.520E+00	9.543E-01	5.722E-01	2.385E-01	2.656
	+	911.07	*	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059
	+	969.11		1.293E+00	8.306E-01	9.949E-01	2.348E-01	1.299
	+	74.81		1.244E+00	3.297E-01	4.042E-01	4.132E-02	3.077
TH-228	+	77.11		1.257E+00	2.192E-01	2.422E-01	2.482E-02	5.191
	+	87.30		1.619E+01	1.950E+00	5.403E-01	5.786E-02	29.975
	+	238.63	*	1.160E+00	1.836E-01	1.356E-01	1.544E-02	8.554
	+	300.09		8.520E-01	1.353E+00	2.055E+00	1.226E+00	0.415
	+	609.31	*	8.395E-01	2.525E-01	1.969E-01	2.377E-02	4.263
TH-230	+	1120.29		8.037E-01	5.916E-01	1.076E+00	1.168E-01	0.747
	+	1764.49		9.701E-01	5.304E-01	4.480E-01	3.691E-02	2.165
	+	338.32		1.520E+00	7.312E-01	5.722E-01	5.964E-02	2.656
	+	911.07	*	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059
	+	969.11		1.293E+00	8.306E-01	9.949E-01	2.348E-01	1.299
U-234	+	609.31	*	8.395E-01	2.525E-01	1.969E-01	2.377E-02	4.263
	+	1120.29		8.037E-01	5.916E-01	1.076E+00	1.168E-01	0.747
	+	1764.49		9.701E-01	5.304E-01	4.480E-01	3.691E-02	2.165
	+	59.54	*	1.337E+01	1.423E+00	1.628E-01	1.692E-02	82.089
	+	74.67	*	2.001E-01	5.301E-02	6.501E-02	6.602E-03	3.079
AM-243	+	86.72		3.827E+02	4.609E+01	1.274E+01	1.360E+00	30.052
	+	117.66		5.032E-01	4.353E+00	6.672E+00	8.389E-01	0.075
	+	142.18		7.108E+00	2.035E+01	3.440E+01	3.885E+00	0.207
	+	511.00	*	1.535E-01	1.067E-01	9.029E-02	9.293E-03	1.700
	+							

----- 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	*	3.173E-01	6.039E-01	1.012E+00	1.072E-01	0.313
NA-22		1274.54	*	4.887E-03	4.751E-02	7.942E-02	6.512E-03	0.062
NA-24		1368.53	*	-2.729E-04	4.751E-02	Half-Life too short		
AL-26		1129.67		5.985E-01	2.926E+00	4.957E+00	4.232E-01	0.121
		1808.65	*	2.679E-02	4.798E-02	8.810E-02	7.219E-03	0.304
K-40		1460.81	*	-2.340E-02	6.384E-01	1.085E+00	9.240E-02	-0.022
TI-44		67.85		2.507E-02	2.943E-02	4.804E-02	4.781E-03	0.522
	+	78.38	*	2.302E-01	4.014E-02	5.617E-02	5.784E-03	4.099
SC-46		889.25	*	-2.398E-02	9.226E-02	1.474E-01	1.411E-02	-0.163
		1120.51		1.401E-01	9.404E-02	1.730E-01	1.487E-02	0.810
V-48		944.10		-3.576E-01	1.825E+00	2.915E+00	2.735E-01	-0.123
		983.50	*	5.585E-02	1.240E-01	2.062E-01	1.910E-02	0.271
		1312.09		2.069E-02	7.144E-02	1.224E-01	9.972E-03	0.169
CR-51		320.08	*	3.853E-02	4.832E-01	8.177E-01	9.080E-02	0.047
MN-52		744.21		5.059E-03	1.705E-01	2.828E-01	3.056E-02	0.018
		848.13		-8.994E-01	5.899E+00	9.535E+00	9.554E-01	-0.094
		935.52		3.766E-02	2.645E-01	4.320E-01	4.062E-02	0.087
		1246.25		1.267E+00	3.486E+00	6.004E+00	4.931E-01	0.211
	+	1333.61		3.264E+02	3.146E+01	3.746E+01	3.043E+00	8.713
		1434.06	*	3.050E-02	1.198E-01	2.038E-01	1.680E-02	0.150
MN-54		834.83	*	-2.500E-02	7.939E-02	1.270E-01	1.289E-02	-0.197
CO-56		846.75	*	-9.645E-04	8.158E-02	1.332E-01	1.337E-02	-0.007
		977.42		3.438E-01	6.848E+00	1.077E+01	1.001E+00	0.032
		1037.82		1.261E-01	6.510E-01	1.106E+00	1.050E-01	0.114
		1175.09		2.713E+02	2.636E+01	3.188E+01	2.624E+00	8.510
		1238.25		7.871E-02	1.050E-01	1.870E-01	1.585E-02	0.421
		1360.21		1.100E-01	1.120E+00	1.863E+00	1.520E-01	0.059
		1771.40		2.942E-02	2.726E-01	4.028E-01	3.316E-02	0.073
CO-58		810.76	*	5.341E-02	7.567E-02	1.303E-01	1.352E-02	0.410
FE-59		142.65		9.681E-01	2.761E+00	4.667E+00	5.250E-01	0.207
		192.34		2.579E-02	1.138E+00	1.861E+00	2.608E-01	0.014
		1099.22	*	-6.077E-03	1.833E-01	3.050E-01	2.872E-02	-0.020
		1291.56		6.775E-03	1.334E-01	2.207E-01	2.073E-02	0.031
ZN-65		1115.52	*	-2.722E-01	1.933E-01	2.868E-01	2.477E-02	-0.949
GE-68		1077.35	*	8.180E-01	2.882E+00	4.906E+00	4.343E-01	0.167
AS-73		53.44	*	-1.098E-02	4.864E-01	7.199E-01	6.910E-02	-0.015
AS-74		595.88	*	-4.647E-02	1.265E-01	1.959E-01	2.123E-02	-0.237
		634.78		6.923E-02	4.911E-01	8.321E-01	9.151E-02	0.083
SE-75		66.05		-5.416E-01	2.697E+00	4.235E+00	4.882E-01	-0.128
		96.73		-2.491E-01	6.784E-01	1.022E+00	1.575E-01	-0.244
	+	121.11		1.063E+00	2.953E-01	3.652E-01	5.367E-02	2.910
		136.00		-2.974E-03	4.228E-02	7.057E-02	8.373E-03	-0.042
		198.60		-5.800E-02	2.451E+00	3.990E+00	4.189E-01	-0.015
		264.65	*	-3.189E-02	6.406E-02	9.872E-02	1.082E-02	-0.323
		279.53		1.028E-01	1.664E-01	2.725E-01	3.109E-02	0.377
		303.91		-4.220E+00	3.014E+00	4.622E+00	6.153E-01	-0.913
		400.65		1.514E-01	4.288E-01	7.232E-01	8.365E-02	0.209
BR-77	+	87.88		8.080E+02	9.731E+01	7.707E+01	8.276E+00	10.484
		200.40		-6.671E+00	2.395E+01	3.845E+01	3.725E+00	-0.174

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	239.00		1.956E+01	2.969E+00	4.418E+00	4.626E-01	4.428
		249.79		-4.027E+00	1.035E+01	1.616E+01	1.724E+00	-0.249
		281.68		2.291E+00	1.488E+01	2.378E+01	2.650E+00	0.096
		297.23		1.335E-01	1.017E+01	1.524E+01	1.679E+00	0.009
		303.76		-5.192E+01	2.917E+01	4.373E+01	4.787E+00	-1.187
		439.47		1.124E+01	3.117E+01	5.214E+01	5.022E+00	0.216
		484.57		3.479E+01	4.633E+01	7.877E+01	7.932E+00	0.442
		520.65	*	-5.295E-01	2.148E+00	3.412E+00	3.537E-01	-0.155
		574.64		-1.344E+01	4.114E+01	6.419E+01	6.884E+00	-0.209
		578.91		3.051E+00	1.848E+01	2.625E+01	2.822E+00	0.116
		585.48		7.051E+01	3.802E+01	6.130E+01	6.610E+00	1.150
		755.35		1.244E+00	3.566E+01	5.906E+01	6.346E+00	0.021
		817.79		4.591E+01	3.239E+01	5.756E+01	5.928E+00	0.798
SR-82		698.33		-5.539E+01	4.579E+01	6.796E+01	7.473E+00	-0.815
		776.49	*	6.743E-02	6.041E-01	1.004E+00	1.065E-01	0.067
		1395.20		2.754E+00	1.147E+01	1.949E+01	1.599E+00	0.141
RB-83		520.41	*	-5.441E-02	1.276E-01	2.001E-01	2.074E-02	-0.272
		529.64		-1.152E-02	1.823E-01	2.929E-01	3.056E-02	-0.039
		552.65		-2.454E-01	3.490E-01	5.291E-01	5.604E-02	-0.464
RB-84		881.50	*	-7.572E-02	1.355E-01	2.110E-01	2.039E-02	-0.359
KR-85		513.99	*	8.545E-01	1.525E+01	2.168E+01	2.237E+00	0.039
SR-85		513.99	*	4.040E-03	7.212E-02	1.025E-01	1.058E-02	0.039
RB-86		1076.63	*	1.211E+00	1.375E+00	2.426E+00	2.149E-01	0.499
Y-88		898.02		-2.893E-04	9.711E-02	1.578E-01	1.501E-02	-0.002
		1836.01	*	2.045E-02	5.202E-02	9.254E-02	7.563E-03	0.221
ZR-88		392.90	*	1.481E-02	5.189E-02	8.732E-02	7.948E-03	0.170
Y-91		1204.90	*	-1.320E+01	2.207E+01	3.374E+01	2.776E+00	-0.391
NB-94		702.63	*	4.133E-02	5.649E-02	9.865E-02	1.083E-02	0.419
		871.10		-2.255E-03	8.128E-02	1.322E-01	1.293E-02	-0.017
NB-95		765.79	*	-5.039E-02	7.635E-02	1.198E-01	1.280E-02	-0.421
NB-95M		235.69	*	-3.479E-02	1.776E-01	2.506E-01	2.872E-02	-0.139
ZR-95		724.18		3.376E-02	1.790E-01	2.627E-01	3.021E-02	0.129
		756.15	*	-1.591E-02	1.321E-01	2.163E-01	2.477E-02	-0.074
NB-97		657.90	*	1.709E-04	1.321E-01	Half-Life	too short	
		1024.50		1.568E-02	1.321E-01	Half-Life	too short	
ZR-97		254.15		3.813E-04	1.321E-01	Half-Life	too short	
		355.39		-2.284E-04	1.321E-01	Half-Life	too short	
		507.63	*	-5.059E-04	1.321E-01	Half-Life	too short	
		602.52		6.353E-03	1.321E-01	Half-Life	too short	
		1021.30		3.528E-03	1.321E-01	Half-Life	too short	
		1147.95		-3.941E-03	1.321E-01	Half-Life	too short	
		1362.66		-1.566E-03	1.321E-01	Half-Life	too short	
		1750.46		-4.601E-03	1.321E-01	Half-Life	too short	
MO-99		140.51		3.993E-01	4.259E+00	7.127E+00	2.045E+00	0.056
		181.06		-4.418E+00	3.314E+00	4.599E+00	8.553E-01	-0.961
		366.43		-2.149E+01	2.093E+01	3.264E+01	3.199E+00	-0.658
		739.58	*	1.905E+00	3.211E+00	5.521E+00	9.130E-01	0.345
		778.00		-4.399E-02	9.526E+00	1.569E+01	1.664E+00	-0.003
TC-99M		140.51	*	2.304E+00	9.526E+00	Half-Life	too short	

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	127.23			-4.423E-03	3.430E-02	5.736E-02	7.178E-03	-0.077
	198.01	*		6.341E-03	4.641E-02	7.615E-02	7.337E-03	0.083
	325.23			-5.229E-01	3.516E-01	5.368E-01	5.718E-02	-0.974
RH-102	418.52			-2.697E-01	5.204E-01	8.303E-01	7.807E-02	-0.325
	475.06	*		-4.173E-03	6.039E-02	9.805E-02	9.789E-03	-0.043
	631.29			7.270E-02	1.016E-01	1.781E-01	1.956E-02	0.408
	697.49			-1.280E-01	1.252E-01	1.895E-01	2.084E-02	-0.675
	766.84			-2.869E-02	2.122E-01	3.469E-01	3.703E-02	-0.083
	1046.59			-1.010E-01	2.583E-01	4.207E-01	3.790E-02	-0.240
	1112.84			6.384E-01	4.818E-01	8.706E-01	7.527E-02	0.733
RU-103	497.08	*		3.583E-02	7.075E-02	1.182E-01	1.792E-02	0.303
	610.33	+		7.915E+00	2.603E+00	3.063E+00	5.505E-01	2.584
RH-106	511.85	+		7.555E-01	5.254E-01	6.170E-01	6.355E-02	1.224
	621.84	*		-3.733E-02	5.397E-01	9.031E-01	1.352E-01	-0.041
	1050.47			-8.148E-01	5.130E+00	8.497E+00	7.639E-01	-0.096
RU-106	511.85	+		7.555E-01	5.254E-01	6.170E-01	6.355E-02	1.224
	621.84	*		-3.733E-02	5.397E-01	9.031E-01	9.889E-02	-0.041
	1050.47			-8.148E-01	5.130E+00	8.497E+00	7.639E-01	-0.096
AG-108M	433.93	*		5.819E-03	6.435E-02	1.063E-01	1.050E-02	0.055
	614.37			5.146E-02	7.378E-02	1.152E-01	1.289E-02	0.447
	722.95			-1.219E-03	8.656E-02	1.245E-01	1.391E-02	-0.010
AG-110M	657.75	*		9.791E-02	8.341E-02	1.322E-01	1.490E-02	0.740
	677.61			1.291E-01	5.610E-01	9.511E-01	1.069E-01	0.136
	706.67			-1.899E-01	3.727E-01	5.953E-01	6.641E-02	-0.319
	763.93			1.707E-02	3.148E-01	5.216E-01	5.680E-02	0.033
	884.67			-3.198E-02	1.150E-01	1.834E-01	1.812E-02	-0.174
	937.48			-1.660E-01	2.987E-01	4.655E-01	4.508E-02	-0.357
	1384.27			1.206E-01	1.781E-01	3.274E-01	2.765E-02	0.368
IN-111	171.28			-1.845E-01	1.858E-01	2.886E-01	2.607E-02	-0.639
	245.39	*		2.128E-01	2.685E-01	4.039E-01	4.277E-02	0.527
IN-113M	391.69	*		2.422E-02	7.757E-02	1.307E-01	1.221E-02	0.185
SN-113	391.69	*		2.422E-02	7.757E-02	1.307E-01	1.221E-02	0.185
IN-114M	190.27	*		3.679E-02	2.318E-01	3.644E-01	3.449E-02	0.101
CD-115	260.90			7.569E+00	1.793E+01	2.927E+01	3.180E+00	0.259
	492.35			-1.033E+00	6.797E+00	1.094E+01	1.109E+00	-0.094
	527.90	*		-1.697E+00	1.853E+00	2.774E+00	2.892E-01	-0.612
SN-117M	156.02			-8.197E-01	1.815E+00	2.939E+00	2.930E-01	-0.279
	158.56	*		3.144E-02	4.365E-02	7.478E-02	7.260E-03	0.420
SB-122	563.90	*		2.438E-01	5.113E-01	8.492E-01	9.055E-02	0.287
	692.80			4.403E+00	1.066E+01	1.827E+01	2.012E+00	0.241
I-123	159.00	*		1.795E-04	1.066E+01	Half-Life	too short	
	528.96			-1.392E-02	1.066E+01	Half-Life	too short	
TE-123M	159.00	*		1.469E-02	3.203E-02	5.425E-02	5.267E-03	0.271
I-124	602.71	*		3.262E-01	3.346E-01	5.547E-01	6.029E-02	0.588
	722.78			-1.237E-01	2.538E+00	3.636E+00	3.965E-01	-0.034
	1325.50			-8.758E+00	1.500E+01	1.801E+01	1.465E+00	-0.486
	1376.25			7.896E+00	1.090E+01	1.978E+01	1.618E+00	0.399
	1509.49			4.476E+00	5.439E+00	1.017E+01	8.433E-01	0.440
	1691.02			-1.425E+00	1.433E+00	1.753E+00	1.453E-01	-0.813

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	602.71			6.225E-02	6.384E-02	1.058E-01	1.151E-02	0.588
	645.85			-2.872E-01	8.528E-01	1.395E+00	1.596E-01	-0.206
	709.31			3.251E+00	4.599E+00	8.010E+00	8.777E-01	0.406
	713.82			-2.289E+00	2.785E+00	4.307E+00	5.942E-01	-0.531
	722.78			-3.422E-02	7.019E-01	1.006E+00	1.112E-01	-0.034
	968.20		+	1.218E+01	7.366E+00	1.000E+01	9.316E-01	1.218
	1045.16			3.026E-01	5.102E+00	8.586E+00	7.741E-01	0.035
	1325.50			-2.587E+00	4.432E+00	5.321E+00	4.327E-01	-0.486
	1368.21			-3.013E+00	1.898E+00	1.808E+00	2.386E-01	-1.666
	1436.60			-1.092E-01	4.796E+00	7.758E+00	6.395E-01	-0.014
	1691.02		*	-9.296E-02	9.348E-02	1.144E-01	9.886E-03	-0.813
SB-125	427.89		*	7.761E-02	1.726E-01	2.910E-01	2.811E-02	0.267
	463.38			8.883E-01	5.915E-01	1.029E+00	1.078E-01	0.863
	600.56			-1.135E-01	3.270E-01	5.069E-01	5.764E-02	-0.224
	635.90			-8.197E-01	5.231E-01	7.668E-01	8.861E-02	-1.069
TE-125M	109.28		*	2.096E+00	8.656E+00	1.485E+01	1.971E+00	0.141
I-126	388.63			-5.436E-02	2.385E-01	3.904E-01	3.584E-02	-0.139
	666.33		*	-1.483E-02	2.448E-01	3.537E-01	3.915E-02	-0.042
	753.82			9.567E-01	1.932E+00	3.300E+00	3.549E-01	0.290
SB-126	223.80			-4.770E-01	3.687E+00	5.910E+00	6.014E-01	-0.081
	278.60			3.100E+00	2.527E+00	4.251E+00	4.740E-01	0.729
	296.50		+	5.193E+00	2.090E+00	2.796E+00	3.083E-01	1.857
	414.70			-1.799E-02	8.685E-02	1.415E-01	1.324E-02	-0.127
	415.30			-1.166E+00	7.240E+00	1.183E+01	1.108E+00	-0.099
	555.20			1.091E+00	4.690E+00	7.668E+00	8.135E-01	0.142
	573.80			-5.580E-01	1.227E+00	1.893E+00	2.029E-01	-0.295
	593.00			-7.704E-02	1.143E+00	1.815E+00	1.965E-01	-0.042
	656.30			2.708E+00	4.983E+00	7.599E+00	8.407E-01	0.356
	666.33			-6.090E-03	1.005E-01	1.452E-01	1.608E-02	-0.042
	675.00			1.665E-02	2.379E+00	3.974E+00	4.393E-01	0.004
	695.00			2.891E-02	8.473E-02	1.447E-01	1.592E-02	0.200
	697.00			-2.344E-01	2.872E-01	4.443E-01	4.887E-02	-0.527
	720.50		*	-3.980E-02	1.789E-01	2.839E-01	3.099E-02	-0.140
	856.80			-8.509E-01	6.989E-01	1.031E+00	1.025E-01	-0.825
	989.30			1.563E-01	1.894E+00	3.069E+00	2.838E-01	0.051
	1034.80			-7.966E+00	1.275E+01	2.038E+01	1.847E+00	-0.391
	1213.00			4.192E+00	3.957E+00	7.278E+00	5.987E-01	0.576
SB-127	61.10			1.001E+02	1.516E+01	2.082E+01	2.174E+00	4.811
	252.40			1.536E-01	1.642E+00	2.638E+00	1.110E+00	0.058
	290.80			-1.671E+00	8.485E+00	1.254E+01	1.457E+00	-0.133
	411.60			4.764E-01	5.424E+00	8.999E+00	1.340E+00	0.053
	444.90			2.383E+00	4.945E+00	8.314E+00	9.785E-01	0.287
	473.00			-2.789E-02	8.745E-01	1.423E+00	1.757E-01	-0.020
	543.00			1.514E+00	7.326E+00	1.198E+01	1.718E+00	0.126
	603.60			5.184E+00	5.468E+00	8.702E+00	1.109E+00	0.596
	685.20		*	-4.724E-01	5.915E-01	9.192E-01	1.083E-01	-0.514
	698.50			-6.211E+00	6.254E+00	9.422E+00	1.515E+00	-0.659
	722.20			2.577E+00	1.499E+01	2.199E+01	2.518E+00	0.117
	783.80			1.197E+00	1.797E+00	3.090E+00	3.826E-01	0.387

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	57.60			5.877E+00	4.437E+00	6.737E+00	6.568E-01	0.872
	145.22			-3.683E-02	6.766E-01	1.125E+00	1.240E-01	-0.033
	172.10			-5.129E-02	1.275E-01	2.055E-01	1.861E-02	-0.250
	202.84	*		-3.436E-02	5.573E-02	8.763E-02	8.535E-03	-0.392
I-131	374.96			4.665E-02	2.980E-01	5.001E-01	4.788E-02	0.093
	80.18			3.882E-01	2.071E+00	3.011E+00	3.127E-01	0.129
	284.30			1.857E-01	1.189E+00	1.900E+00	2.175E-01	0.098
	364.48	*		-5.352E-02	1.014E-01	1.638E-01	1.675E-02	-0.327
TE-132	636.97			-3.118E+00	1.553E+00	2.161E+00	2.454E-01	-1.443
	722.89			-4.233E-01	7.552E+00	1.081E+01	1.180E+00	-0.039
	49.72	+		5.526E+00	2.985E+00	2.735E+00	2.752E-01	2.021
	111.76			3.016E+00	5.977E+00	1.034E+01	1.302E+00	0.292
BA-133	116.30			-1.307E+00	5.374E+00	8.985E+00	1.159E+00	-0.146
	228.16	*		-5.135E-02	1.916E-01	3.040E-01	4.759E-02	-0.169
	53.15			1.526E+00	2.145E+00	3.243E+00	3.110E-01	0.470
	79.62			-1.309E-01	1.146E+00	1.639E+00	2.666E-01	-0.080
I-133	81.00			-6.000E-02	8.247E-02	1.236E-01	2.091E-02	-0.485
	276.40			-4.095E-01	5.965E-01	9.026E-01	1.450E-01	-0.454
	302.84			-1.775E-01	2.149E-01	3.452E-01	5.147E-02	-0.514
	356.01	*		-1.906E-02	8.252E-02	1.192E-01	1.690E-02	-0.160
I-133	383.85	+		1.366E-01	5.074E-01	8.551E-01	1.120E-01	0.160
	510.53			3.295E-03	5.074E-01	Half-Life	too short	
	529.87	*		-4.089E-07	5.074E-01	Half-Life	too short	
	706.58			-8.315E-04	5.074E-01	Half-Life	too short	
CS-134	856.28			-2.211E-03	5.074E-01	Half-Life	too short	
	875.33			1.880E-05	5.074E-01	Half-Life	too short	
	1236.41			3.591E-04	5.074E-01	Half-Life	too short	
	1298.22			-3.258E-04	5.074E-01	Half-Life	too short	
CS-134	475.35			-5.270E-01	3.992E+00	6.457E+00	6.448E-01	-0.082
	563.23			5.161E-01	6.480E-01	1.098E+00	1.177E-01	0.470
	569.32			2.132E-01	3.521E-01	5.878E-01	6.341E-02	0.363
	604.70			8.970E-03	6.358E-02	9.469E-02	1.032E-02	0.095
CS-135	795.84	*		-1.094E-03	9.009E-02	1.480E-01	1.558E-02	-0.007
	801.93			1.072E-01	7.761E-01	1.295E+00	1.356E-01	0.083
	1038.57			1.067E+00	8.617E+00	1.457E+01	1.318E+00	0.073
	1167.94			3.717E+00	5.138E+00	7.974E+00	6.595E-01	0.466
I-135	1365.15			5.254E-01	1.029E+00	1.898E+00	1.629E-01	0.277
	268.24	*		7.207E-02	2.461E-01	3.976E-01	4.800E-02	0.181
	288.45			-8.423E+01	2.461E-01	Half-Life	too short	
	417.63			-9.007E+01	2.461E-01	Half-Life	too short	
I-135	546.56			5.176E+00	2.461E-01	Half-Life	too short	
	836.80			-2.600E+01	2.461E-01	Half-Life	too short	
	1038.76			1.791E+01	2.461E-01	Half-Life	too short	
	1124.00			-3.338E+02	2.461E-01	Half-Life	too short	
I-135	1131.51			2.939E+01	2.461E-01	Half-Life	too short	
	1260.41	*		9.732E+00	2.461E-01	Half-Life	too short	
	1457.56			2.612E+01	2.461E-01	Half-Life	too short	
	1678.03			1.005E+01	2.461E-01	Half-Life	too short	
I-135	1706.46			9.104E+00	2.461E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136	1791.20			1.544E+00	2.461E-01	Half-Life too short		
	66.91			1.904E-01	3.179E-01	5.136E-01	8.321E-02	0.371
	86.29			2.053E+00	9.252E-01	1.381E+00	1.974E-01	1.486
	153.22			3.743E-01	5.144E-01	8.819E-01	9.805E-02	0.424
	163.89			-8.639E-01	8.927E-01	1.395E+00	1.411E-01	-0.619
	176.55			-1.866E-01	3.186E-01	5.076E-01	4.883E-02	-0.368
	273.65			1.465E-01	4.649E-01	7.510E-01	8.650E-02	0.195
	340.57			1.726E-01	1.463E-01	2.328E-01	2.464E-02	0.741
	818.51			1.444E-01	1.136E-01	2.005E-01	2.064E-02	0.720
	1048.07	*		-8.016E-02	1.617E-01	2.611E-01	2.441E-02	-0.307
CE-139	1235.34			-6.400E-02	4.879E-01	7.923E-01	9.156E-02	-0.081
	165.85	*		4.258E-02	3.652E-02	6.334E-02	5.648E-03	0.672
BA-140	162.64			-4.529E-01	6.081E-01	9.642E-01	9.392E-02	-0.470
	304.84			-1.666E+00	1.332E+00	1.948E+00	5.615E-01	-0.855
LA-140	423.70			9.246E-01	2.301E+00	3.846E+00	1.256E+00	0.240
	537.32	*		2.271E-03	2.928E-01	4.723E-01	1.591E-01	0.005
	328.77			5.166E-01	3.094E-01	5.543E-01	6.093E-02	0.932
	432.53			-1.885E+00	2.687E+00	4.227E+00	4.200E-01	-0.446
	487.03			-2.575E-01	1.826E-01	2.661E-01	2.808E-02	-0.968
	751.79			1.208E+00	2.250E+00	3.854E+00	4.438E-01	0.314
	815.85			-4.525E-01	5.004E-01	7.651E-01	8.538E-02	-0.591
	867.82			1.607E-01	2.136E+00	3.502E+00	3.579E-01	0.046
	919.63			-2.826E+00	5.264E+00	7.345E+00	8.313E-01	-0.385
	925.24			4.341E-01	1.971E+00	3.239E+00	3.214E-01	0.134
CE-141	1596.49	*		-2.726E-02	8.207E-02	1.291E-01	1.073E-02	-0.211
	145.44	*		1.360E-02	6.037E-02	1.017E-01	1.131E-02	0.134
CE-143	57.37			4.543E+00	1.771E+01	2.632E+01	2.830E+00	0.173
	231.56			1.997E+01	7.769E+01	1.265E+02	4.054E+01	0.158
+	293.26	*		7.357E+00	4.737E+00	7.377E+00	1.659E+00	0.997
	350.59			3.351E+02	1.333E+02	1.330E+02	4.184E+01	2.519
	490.36			1.306E+02	1.237E+02	2.023E+02	6.471E+01	0.646
	664.57			6.380E+02	2.285E+02	1.779E+02	5.873E+01	3.587
	721.93			-1.341E+01	6.001E+01	8.418E+01	2.516E+01	-0.159
CE-144	80.11			3.582E-01	1.816E+00	2.642E+00	2.740E-01	0.136
	133.54	*		1.017E-01	2.281E-01	3.892E-01	6.881E-02	0.261
PM-144	476.78			2.342E-02	1.380E-01	2.271E-01	2.430E-02	0.103
	618.01			1.096E-02	5.414E-02	9.236E-02	1.027E-02	0.119
PR-144	696.49	*		-3.863E-03	5.489E-02	9.087E-02	9.997E-03	-0.043
	778.57			6.885E-01	4.383E+00	7.307E+00	7.745E-01	0.094
PM-146	696.49	*		-2.607E-01	3.705E+00	6.132E+00	6.746E-01	-0.043
	1489.15			6.246E+00	1.778E+01	3.053E+01	2.528E+00	0.205
ND-147	453.90	*		-2.983E-02	8.994E-02	1.443E-01	1.685E-02	-0.207
	633.02			3.385E+00	2.851E+00	4.645E+00	1.765E+00	0.729
	735.90			-2.585E-01	2.876E-01	4.258E-01	1.250E-01	-0.607
	747.13			-1.054E-01	1.752E-01	2.751E-01	4.254E-02	-0.383
	91.11			3.262E-01	1.639E-01	2.331E-01	2.675E-02	1.399
	319.41			9.773E-02	3.240E+00	5.470E+00	5.877E-01	0.018
	439.89			3.191E+00	7.303E+00	1.226E+01	1.182E+00	0.260
	531.02	*		3.662E-01	6.216E-01	1.042E+00	1.675E-01	0.351

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149		285.90	*	3.159E-01	1.280E+01	2.028E+01	3.455E+00	0.016
EU-152	+	121.78		5.992E-01	1.635E-01	2.123E-01	2.925E-02	2.823
		244.69		2.570E-01	5.425E-01	8.001E-01	8.463E-02	0.321
		344.27	*	-2.609E-02	1.681E-01	2.449E-01	2.630E-02	-0.107
		443.98		1.027E-02	1.946E+00	3.193E+00	3.090E-01	0.003
		778.89		1.185E-01	5.159E-01	8.644E-01	9.160E-02	0.137
		867.32		5.273E-01	1.900E+00	3.159E+00	3.103E-01	0.167
		964.01		5.813E-01	7.579E-01	1.130E+00	1.054E-01	0.515
		1085.78		2.010E-01	8.768E-01	1.488E+00	1.310E-01	0.135
		1112.02		1.002E+00	6.860E-01	1.248E+00	1.080E-01	0.803
		1407.95		2.120E-02	2.626E-01	4.329E-01	3.557E-02	0.049
GD-153		69.67		-4.684E-01	1.090E+00	1.688E+00	1.687E-01	-0.278
		83.37		5.217E+00	1.440E+01	2.108E+01	2.217E+00	0.247
		97.43	*	-3.828E-02	7.396E-02	1.104E-01	1.243E-02	-0.347
		103.18		4.536E-02	9.551E-02	1.661E-01	1.928E-02	0.273
EU-154	+	123.07		4.204E-01	1.170E-01	1.423E-01	2.107E-02	2.954
		247.94		9.455E-03	5.426E-01	8.695E-01	1.135E-01	0.011
		591.81		8.248E-01	1.156E+00	1.940E+00	2.595E-01	0.425
		723.30		3.408E-02	3.640E-01	5.293E-01	6.159E-02	0.064
		756.87		-5.148E-01	1.562E+00	2.517E+00	3.417E-01	-0.205
		873.19		-1.609E-02	6.962E-01	1.133E+00	1.481E-01	-0.014
		996.32		7.244E-02	8.529E-01	1.381E+00	2.494E-01	0.052
		1004.76		-2.125E-01	4.981E-01	7.727E-01	9.325E-02	-0.275
		1274.45	*	-1.872E-02	1.386E-01	2.229E-01	2.449E-02	-0.084
EU-155	+	48.70		3.231E+00	1.743E+00	1.516E+00	1.443E-01	2.131
	+	60.01		4.335E+02	4.383E+01	2.065E+01	2.031E+00	20.996
		86.54		9.822E-01	1.746E-01	2.481E-01	2.665E-02	3.959
		105.31	*	3.023E-02	1.014E-01	1.749E-01	2.067E-02	0.173
TB-160	+	86.79		1.039E+01	1.251E+00	7.391E-01	7.896E-02	14.051
		197.04		6.323E-01	7.296E-01	1.235E+00	1.187E-01	0.512
		215.65		3.135E-01	9.813E-01	1.615E+00	1.616E-01	0.194
		298.57		1.121E-01	1.781E-01	2.771E-01	3.049E-02	0.404
		879.36	*	-5.415E-02	2.926E-01	4.699E-01	4.553E-02	-0.115
		962.29		5.120E-01	1.231E+00	1.929E+00	1.801E-01	0.265
		966.15		4.911E-03	5.391E-01	7.505E-01	6.996E-02	0.007
		1177.93		6.272E-02	6.049E-01	8.753E-01	7.205E-02	0.072
		1271.85		-4.738E-01	8.213E-01	1.232E+00	1.009E-01	-0.385
HO-166M		80.57		-2.504E-02	2.401E-01	3.433E-01	3.567E-02	-0.073
		184.41		7.682E-02	5.042E-02	8.191E-02	7.645E-03	0.938
		280.46		-8.164E-02	1.403E-01	2.141E-01	2.388E-02	-0.381
		410.95		2.848E-01	4.311E-01	7.371E-01	6.867E-02	0.386
		711.68	*	9.178E-03	1.098E-01	1.836E-01	2.011E-02	0.050
		752.31		2.169E-01	5.491E-01	9.322E-01	1.003E-01	0.233
		810.29		7.050E-02	1.201E-01	2.054E-01	2.129E-02	0.343
TM-171		51.35		-9.465E-01	1.602E+01	2.374E+01	2.267E+00	-0.040
		52.39		5.059E+00	8.776E+00	1.324E+01	1.267E+00	0.382
	+	59.40		2.269E+03	2.295E+02	1.102E+02	1.084E+01	20.584
		66.72	*	9.500E+00	1.701E+01	2.754E+01	2.734E+00	0.345
LU-176	+	88.36		8.244E+00	9.928E-01	7.755E-01	8.347E-02	10.629

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177		201.83		-3.386E-02	3.993E-02	6.195E-02	6.020E-03	-0.547
		306.84	*	2.454E-02	3.782E-02	6.591E-02	7.192E-03	0.372
		401.10		-3.918E+00	1.214E+01	1.972E+01	1.814E+00	-0.199
		112.95		6.619E-01	7.559E-01	1.323E+00	1.621E-01	0.500
	+	208.36	*	1.033E+00	7.653E-01	1.113E+00	1.097E-01	0.929
	LU-177M	52.97		7.768E-01	9.231E-01	1.400E+00	1.342E-01	0.555
		54.07		-2.211E-01	5.321E-01	7.764E-01	7.466E-02	-0.285
		61.30		5.428E+00	1.123E+00	1.746E+00	1.719E-01	3.109
		121.62	+	2.976E+00	7.986E-01	1.050E+00	1.350E-01	2.834
		147.16		6.225E-02	7.093E-01	1.187E+00	1.286E-01	0.052
		171.86		-4.409E-01	5.794E-01	9.142E-01	8.271E-02	-0.482
		218.09		-2.133E-01	1.194E+00	1.914E+00	1.926E-01	-0.111
		268.79		1.208E+00	1.218E+00	2.032E+00	2.234E-01	0.594
		319.02		-9.087E-02	4.039E-01	6.727E-01	7.231E-02	-0.135
		367.43		-1.088E+00	1.522E+00	2.427E+00	2.373E-01	-0.448
		413.65	*	-1.514E-01	3.070E-01	4.913E-01	4.593E-02	-0.308
	HF-181	56.28		7.248E-01	6.177E-01	9.395E-01	9.107E-02	0.771
		57.53		4.002E-01	3.753E-01	5.678E-01	5.533E-02	0.705
		65.20		-1.042E+00	5.025E-01	7.083E-01	7.010E-02	-1.471
		133.02		6.717E-02	6.444E-02	1.125E-01	1.357E-02	0.597
		136.25		-1.751E-01	4.556E-01	7.482E-01	8.828E-02	-0.234
W-181		345.85		1.801E-02	2.657E-01	4.324E-01	4.442E-02	0.042
		482.03	*	1.647E-02	7.586E-02	1.251E-01	1.257E-02	0.132
		56.28		3.084E-01	2.625E-01	3.992E-01	3.870E-02	0.773
		57.53		1.685E-01	1.595E-01	2.412E-01	2.351E-02	0.699
		65.20	*	-4.396E-01	2.120E-01	2.987E-01	2.957E-02	-1.471
TA-182		67.75		5.096E-02	6.703E-02	1.091E-01	1.086E-02	0.467
		100.10		9.102E-02	1.512E-01	2.646E-01	3.021E-02	0.344
		152.43		8.074E-02	3.775E-01	6.337E-01	6.548E-02	0.127
		222.10		-6.932E-02	4.729E-01	7.579E-01	7.686E-02	-0.091
		1001.68		-4.567E-01	4.551E+00	7.321E+00	6.736E-01	-0.062
RE-183		1121.28		3.230E-01	2.627E-01	4.768E-01	4.096E-02	0.677
		1189.05		-6.673E-02	4.319E-01	7.032E-01	5.788E-02	-0.095
		1221.42	*	1.552E-01	2.295E-01	4.088E-01	3.362E-02	0.380
		1230.97		4.467E-03	5.239E-01	8.653E-01	7.113E-02	0.005
		57.98		1.756E+00	2.528E-01	3.323E-01	3.245E-02	5.285
	+	59.32		8.682E+00	8.779E-01	4.215E-01	4.142E-02	20.599
		67.20		3.642E-02	1.145E-01	1.836E-01	1.825E-02	0.198
		162.32	*	-6.361E-02	1.231E-01	1.979E-01	1.842E-02	-0.321
	+	208.81		1.908E+00	1.413E+00	2.092E+00	2.064E-01	0.912
		291.72		-4.771E-01	1.396E+00	2.041E+00	2.259E-01	-0.234
RE-184		57.98		6.767E+00	9.740E-01	1.280E+00	1.250E-01	5.285
	+	59.32		3.342E+01	3.380E+00	1.623E+00	1.595E-01	20.599
		67.20		1.403E-01	4.412E-01	7.074E-01	7.029E-02	0.198
		161.27		-1.998E-02	4.074E-01	6.726E-01	6.337E-02	-0.030
		216.55		1.266E-01	3.690E-01	6.075E-01	6.092E-02	0.208
		252.85	*	1.219E-01	3.414E-01	5.567E-01	5.970E-02	0.219
		318.01		7.908E-02	6.914E-01	1.173E+00	1.262E-01	0.067
		792.07		-1.866E-01	1.868E+00	3.051E+00	3.204E-01	-0.061

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	+	903.28		-2.654E-01	2.413E+00	3.657E+00	3.461E-01	-0.073
		920.93		1.618E-01	1.117E+00	1.828E+00	1.724E-01	0.089
		59.72		2.414E+01	2.441E+00	1.164E+00	1.145E-01	20.751
		61.14		9.529E-01	1.485E-01	2.153E-01	2.120E-02	4.425
		69.30		-1.139E-01	1.871E-01	2.874E-01	2.870E-02	-0.396
		592.07		3.104E+00	4.453E+00	7.474E+00	8.085E-01	0.415
		646.12	*	-1.920E-02	7.533E-02	1.240E-01	1.368E-02	-0.155
RE-188	*	717.42		5.844E-01	1.528E+00	2.608E+00	2.850E-01	0.224
		874.81		1.017E-01	1.264E+00	2.071E+00	2.018E-01	0.049
		880.27		-4.238E-01	1.696E+00	2.711E+00	2.624E-01	-0.156
		155.03	*	7.776E-02	1.888E-01	3.193E-01	3.217E-02	0.244
		477.96		3.357E+00	5.957E+00	1.001E+01	1.002E+00	0.335
		633.10		6.180E+00	4.811E+00	8.679E+00	9.539E-01	0.712
		63.58		1.642E+01	2.762E+01	4.293E+01	4.237E+00	0.383
W-188		227.08		-9.511E+00	1.692E+01	2.640E+01	2.704E+00	-0.360
		290.67	*	-1.161E+00	1.084E+01	1.613E+01	1.787E+00	-0.072
IR-192	+	295.96		5.692E-01	2.292E-01	3.157E-01	3.497E-02	1.803
		308.46		1.300E-01	1.409E-01	2.479E-01	2.709E-02	0.524
		316.51	*	-2.825E-04	5.231E-02	8.821E-02	9.528E-03	-0.003
		468.07		2.601E-02	1.292E-01	2.132E-01	2.230E-02	0.122
		604.41		1.590E-01	8.087E-01	1.210E+00	1.768E-01	0.131
		612.46		2.752E-01	1.302E+00	1.947E+00	2.327E-01	0.141
		65.12		-2.100E-01	9.933E-02	1.396E-01	1.381E-02	-1.505
AU-195	+	66.83		3.441E-02	5.540E-02	8.985E-02	8.921E-03	0.383
		75.70		6.291E-01	1.666E-01	2.803E-01	2.858E-02	2.244
		98.88	*	6.328E-02	1.909E-01	3.309E-01	3.755E+02	0.191
		129.76		-2.518E-01	2.964E+00	4.961E+00	6.112E-01	-0.051
		367.94	*	-9.195E-01	5.828E+00	9.626E+00	9.396E-01	-0.096
		579.30		1.703E+01	5.232E+01	7.552E+01	8.119E+00	0.226
		828.27		3.563E+01	7.916E+01	1.337E+02	1.365E+01	0.266
TL-200		1205.75		-2.426E+01	2.459E+01	3.566E+01	2.934E+00	-0.680
		68.90		-4.173E-02	5.449E-01	8.584E-01	8.565E-02	-0.049
		70.82		-1.306E-01	3.506E-01	4.989E-01	5.004E-02	-0.262
		80.30		-2.962E-02	7.662E-01	1.100E+00	1.142E-01	-0.027
		135.34		2.483E+00	4.853E+00	8.317E+00	9.876E-01	0.299
		167.43	*	1.366E+00	1.515E+00	2.603E+00	2.329E-01	0.525
		68.90		-1.401E-02	1.830E-01	2.882E-01	2.876E-02	-0.049
TL-202		70.82		-4.372E-02	1.174E-01	1.671E-01	1.676E-02	-0.262
		80.30		-9.922E-03	2.567E-01	3.685E-01	3.824E-02	-0.027
		439.56	*	4.482E-02	9.150E-02	1.540E-01	1.484E-02	0.291
		70.83		-2.622E-01	7.028E-01	9.992E-01	1.453E-01	-0.262
		72.87		-2.039E-03	4.188E-01	6.067E-01	8.621E-02	-0.003
		82.60		-7.667E-01	8.989E-01	1.339E+00	2.006E-01	-0.573
		279.20	*	8.061E-02	5.709E-02	9.674E-02	1.098E-02	0.833
BI-207	+	72.80		-1.316E-02	1.372E-01	1.978E-01	1.996E-02	-0.067
		74.97		3.591E-01	9.512E-02	1.547E-01	1.573E-02	2.321
		84.90		1.509E-01	1.950E-01	2.901E-01	3.072E-02	0.520
		569.67		3.345E-02	5.528E-02	9.227E-02	9.870E-03	0.363
		1063.62	*	3.929E-05	1.176E-01	1.968E-01	1.757E-02	0.000

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		1770.23		4.141E-01	5.801E-01	1.046E+00	8.610E-02	0.396
		81.07		-1.380E-01	1.815E-01	2.728E-01	2.841E-02	-0.506
		83.78		1.507E-01	1.253E-01	1.899E-01	2.000E-02	0.794
		94.90		1.282E-01	2.004E-01	3.206E-01	3.564E-02	0.400
	+	122.32		1.428E+01	3.864E+00	5.113E+00	6.805E-01	2.794
		144.24		-3.322E-01	7.963E-01	1.297E+00	1.545E-01	-0.256
		154.21		3.705E-01	4.704E-01	8.075E-01	8.797E-02	0.459
		269.46		3.117E-01	2.925E-01	4.893E-01	5.455E-02	0.637
		323.87	*	-1.139E+00	1.034E+00	1.597E+00	3.002E-01	-0.713
	+	338.28		6.345E+00	3.104E+00	3.364E+00	4.588E-01	1.886
PO-209		445.03		1.486E+00	4.640E+00	7.737E+00	9.960E-01	0.192
		260.50		2.197E+00	1.467E+01	2.359E+01	2.562E+00	0.093
		262.80		5.792E+00	4.013E+01	6.449E+01	7.027E+00	0.090
		896.60	*	1.240E+00	1.818E+01	2.970E+01	2.818E+00	0.042
BI-210		46.50	*	5.477E-02	8.945E-01	1.374E+00	1.417E-01	0.040
PB-210		46.50	*	5.477E-02	8.945E-01	1.374E+00	1.417E-01	0.040
PO-210		46.50	*	5.477E-02	8.945E-01	1.374E+00	1.309E-01	0.040
PB-211		404.84	*	4.709E-01	1.685E+00	2.786E+00	1.748E+00	0.169
		427.08		5.790E-01	3.889E+00	6.428E+00	4.002E+00	0.090
		831.96		2.507E+00	3.040E+00	4.541E+00	2.856E+00	0.552
BI-212	+	727.18	*	1.048E+00	8.116E-01	1.085E+00	1.303E-01	0.966
		785.46		1.740E+00	3.609E+00	6.132E+00	6.471E-01	0.284
PO-215		1620.62		-1.254E+00	2.209E+00	3.355E+00	2.789E-01	-0.374
		81.07		-1.380E-01	1.815E-01	2.728E-01	2.841E-02	-0.506
		83.78		1.507E-01	1.253E-01	1.899E-01	2.000E-02	0.794
		94.90		1.282E-01	2.004E-01	3.206E-01	3.564E-02	0.400
	+	122.32		1.428E+01	3.864E+00	5.113E+00	6.805E-01	2.794
		144.24		-3.322E-01	7.963E-01	1.297E+00	1.545E-01	-0.256
		154.21		3.705E-01	4.704E-01	8.075E-01	8.797E-02	0.459
		269.46		3.117E-01	2.925E-01	4.893E-01	5.455E-02	0.637
		323.87	*	-1.139E+00	1.034E+00	1.597E+00	3.002E-01	-0.713
	+	338.28		6.345E+00	3.104E+00	3.364E+00	4.588E-01	1.886
RN-219		445.03		1.486E+00	4.640E+00	7.737E+00	9.960E-01	0.192
		271.23		-2.446E-01	3.955E-01	6.050E-01	7.503E-02	-0.404
		401.81	*	-4.491E-01	7.679E-01	1.224E+00	1.881E-01	-0.367
RN-220		549.76	*	1.947E+01	4.732E+01	7.842E+01	8.291E+00	0.248
RA-223		81.07		-1.380E-01	1.815E-01	2.728E-01	2.841E-02	-0.506
		83.78		1.507E-01	1.253E-01	1.899E-01	2.000E-02	0.794
		94.90		1.282E-01	2.004E-01	3.206E-01	3.564E-02	0.400
	+	122.32		1.428E+01	3.864E+00	5.113E+00	6.805E-01	2.794
		144.24		-3.322E-01	7.963E-01	1.297E+00	1.545E-01	-0.256
		154.21		3.705E-01	4.704E-01	8.075E-01	8.797E-02	0.459
		269.46		3.117E-01	2.925E-01	4.893E-01	5.455E-02	0.637
		323.87	*	-1.139E+00	1.034E+00	1.597E+00	3.002E-01	-0.713
	+	338.28		6.345E+00	3.104E+00	3.364E+00	4.588E-01	1.886
		445.03		1.486E+00	4.640E+00	7.737E+00	9.960E-01	0.192
AC-227		79.80		3.434E-01	1.429E+00	2.081E+00	4.632E-01	0.165
		236.00		2.073E-02	3.605E-01	5.181E-01	7.029E-02	0.040
		256.20	*	-1.858E-01	5.962E-01	9.336E-01	1.555E-01	-0.199

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		286.10		3.205E-01	2.414E+00	3.849E+00	5.754E-01	0.083
		299.80		2.080E+00	2.364E+00	3.862E+00	7.250E-01	0.538
		304.40		-3.250E+00	2.804E+00	4.318E+00	8.476E-01	-0.753
		334.20		-1.396E-01	3.767E+00	5.559E+00	1.129E+00	-0.025
		79.80		3.434E-01	1.429E+00	2.081E+00	4.687E-01	0.165
	+	94.00		7.038E+00	3.150E+00	3.169E+00	7.243E-01	2.221
		236.00		2.073E-02	3.605E-01	5.181E-01	6.489E-02	0.040
		256.20	*	-1.858E-01	5.965E-01	9.336E-01	1.792E-01	-0.199
		286.10		3.205E-01	2.435E+00	3.849E+00	3.873E+00	0.083
		299.80		2.080E+00	2.364E+00	3.862E+00	7.250E-01	0.538
TH-229		304.40		-3.250E+00	2.804E+00	4.318E+00	8.476E-01	-0.753
		334.20		-1.396E-01	3.767E+00	5.559E+00	1.129E+00	-0.025
		85.43		1.376E-01	1.939E-01	2.875E-01	3.052E-02	0.479
	+	88.47		4.745E+00	5.715E-01	4.440E-01	4.781E-02	10.688
		100.00		1.016E-01	1.644E-01	2.879E-01	3.286E-02	0.353
		193.63	*	-3.959E-01	6.943E-01	1.099E+00	1.049E-01	-0.360
PA-231		210.97		2.579E-01	1.175E+00	1.725E+00	1.710E-01	0.150
		283.67	*	-2.123E+00	2.486E+00	3.684E+00	6.166E-01	-0.576
TH-231		301.29		9.909E-01	8.540E-01	1.508E+00	2.112E-01	0.657
		81.07		-1.380E-01	1.815E-01	2.728E-01	2.841E-02	-0.506
		83.78		1.507E-01	1.253E-01	1.899E-01	2.000E-02	0.794
		94.90		1.282E-01	2.004E-01	3.206E-01	3.564E-02	0.400
	+	122.32		1.428E+01	3.864E+00	5.113E+00	6.805E-01	2.794
		144.24		-3.322E-01	7.963E-01	1.297E+00	1.545E-01	-0.256
		154.21		3.705E-01	4.704E-01	8.075E-01	8.797E-02	0.459
		269.46		3.117E-01	2.925E-01	4.893E-01	5.455E-02	0.637
		323.87	*	-1.139E+00	1.034E+00	1.597E+00	3.002E-01	-0.713
	+	338.28		6.345E+00	3.104E+00	3.364E+00	4.588E-01	1.886
		445.03		1.486E+00	4.640E+00	7.737E+00	9.960E-01	0.192
		84.21		1.993E+00	1.517E+00	2.307E+00	2.436E-01	0.864
U-231	+	92.29		1.949E+00	7.806E-01	9.582E-01	1.051E-01	2.034
		95.87	*	1.311E-01	2.654E-01	4.218E-01	4.712E-02	0.311
PA-233		108.00		-8.452E-02	5.661E-01	9.561E-01	1.139E-01	-0.088
	+	75.28		1.048E+01	3.079E+00	4.478E+00	7.288E-01	2.341
	+	86.59		6.804E+01	1.913E+01	4.207E+00	1.159E+00	16.172
		300.12		4.222E-01	6.463E-01	1.051E+00	1.720E-01	0.402
PA-234		311.98	*	-5.693E-03	1.034E-01	1.741E-01	1.922E-02	-0.033
		340.50		1.387E+00	1.116E+00	1.716E+00	4.210E-01	0.808
		398.62		-1.269E+00	3.821E+00	6.181E+00	1.657E+00	-0.205
		415.76		8.446E-01	2.909E+00	4.871E+00	1.065E+00	0.173
		63.00		8.784E-01	8.648E-01	1.357E+00	2.202E-01	0.647
		94.67		1.578E-01	1.468E-01	2.382E-01	3.391E-02	0.663
		98.44		1.208E-03	7.894E-02	1.351E-01	7.600E-02	0.009
		99.86		2.663E-01	4.163E-01	7.295E-01	8.321E-02	0.365
		111.00		-6.481E-02	1.952E-01	3.263E-01	4.824E-02	-0.199
		131.20		-9.781E-02	1.192E-01	1.914E-01	2.337E-02	-0.511
		152.70		1.318E-01	3.824E-01	6.448E-01	1.158E-01	0.204
	+	186.00		2.481E+00	2.221E+00	3.027E+00	9.515E-01	0.819
		226.40		-9.954E-02	5.601E-01	8.941E-01	1.279E-01	-0.111

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		227.20		-3.479E-01	6.175E-01	9.630E-01	9.864E-02	-0.361
		248.90		-9.655E-01	1.262E+00	1.896E+00	4.411E-01	-0.509
	+	293.70		3.851E+00	1.654E+00	1.992E+00	3.711E-01	1.934
		369.80		2.281E+00	1.519E+00	2.594E+00	5.768E-01	0.879
		568.70		-7.329E-01	1.800E+00	2.783E+00	2.975E-01	-0.263
		569.50		2.970E-01	4.907E-01	8.191E-01	8.761E-02	0.363
		574.00		-1.118E+00	2.719E+00	4.210E+00	4.513E-01	-0.266
		699.00		-9.263E-01	1.177E+00	1.808E+00	3.664E-01	-0.512
		706.10		-1.920E+00	2.085E+00	2.914E+00	1.314E+00	-0.659
		733.00		4.971E-01	7.468E-01	1.142E+00	2.645E-01	0.435
		742.81		-2.122E-02	2.600E+00	4.300E+00	2.904E+00	-0.005
		796.30		-9.643E-02	1.788E+00	2.928E+00	8.110E-01	-0.033
		805.60		-8.678E-01	1.960E+00	3.074E+00	9.591E-01	-0.282
		819.60		1.549E+00	2.855E+00	4.753E+00	1.827E+00	0.326
		826.30		-1.188E+00	1.825E+00	2.709E+00	1.221E+00	-0.439
		831.60		1.229E+00	1.392E+00	2.335E+00	7.084E-01	0.526
		876.40		4.164E-02	1.924E+00	3.140E+00	3.231E+00	0.013
		880.51		-3.179E-01	6.593E-01	1.035E+00	1.001E-01	-0.307
		883.24		1.313E-01	6.808E-01	1.114E+00	7.505E-01	0.118
		899.00		9.641E-02	2.038E+00	3.323E+00	1.458E+00	0.029
		925.00		4.384E-01	3.132E+00	5.122E+00	4.828E-01	0.086
		926.50		9.482E-02	4.626E-01	7.587E-01	1.939E-01	0.125
		946.00	*	-2.214E-02	8.290E-01	1.338E+00	2.559E-01	-0.017
		949.00		-4.219E-01	1.206E+00	1.903E+00	1.783E-01	-0.222
		980.50		9.967E-01	1.774E+00	2.972E+00	2.757E-01	0.335
		1394.10		1.961E-01	1.558E+00	2.588E+00	1.683E+00	0.076
PA-234M		766.42		-1.189E+01	2.354E+01	3.619E+01	1.850E+01	-0.329
		1001.03	*	1.908E+00	1.067E+01	1.753E+01	1.836E+00	0.109
TH-234		63.29	*	6.838E-01	7.425E-01	1.159E+00	2.157E-01	0.590
	+	92.38		1.821E+00	7.847E-01	9.017E-01	1.742E-01	2.020
U-235		89.95		4.207E+00	1.726E+00	1.769E+00	5.583E-01	2.378
	+	93.35		2.189E+00	1.053E+00	1.099E+00	3.171E-01	1.993
		105.00		3.414E-01	9.934E-01	1.709E+00	5.277E-01	0.200
		143.76	*	-8.818E-02	2.449E-01	3.995E-01	7.544E-02	-0.221
		163.35		-6.838E-01	6.029E-01	9.146E-01	1.769E-01	-0.748
	+	185.71		9.187E-02	7.752E-02	1.132E-01	1.060E-02	0.812
		205.31		6.339E-01	7.539E-01	1.143E+00	2.245E-01	0.554
NP-236		94.67		1.213E-01	1.109E-01	1.809E-01	2.008E-02	0.671
		98.44		8.844E-04	5.967E-02	1.021E-01	1.156E-02	0.009
		111.00		-4.902E-02	1.476E-01	2.468E-01	2.990E-02	-0.199
		160.31	*	9.891E-03	9.575E-02	1.594E-01	1.518E-02	0.062
NP-237		86.50	*	2.128E+00	5.964E-01	5.865E-01	1.362E-01	3.629
		95.87		4.126E-01	8.406E-01	1.327E+00	3.403E-01	0.311
U-238		63.29	*	6.838E-01	7.425E-01	1.159E+00	2.157E-01	0.590
	+	92.38		1.821E+00	7.293E-01	9.017E-01	9.897E-02	2.020
NP-239		99.55		8.036E-02	1.392E-01	2.435E-01	2.772E-02	0.330
		117.00	*	4.692E-02	1.907E-01	3.262E-01	4.087E-02	0.144
	+	209.75		1.624E+00	1.203E+00	1.840E+00	1.819E-01	0.883
		228.18		-8.419E-02	3.226E-01	5.124E-01	5.259E-02	-0.164

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243		277.60		1.400E-01	2.871E-01	4.673E-01	5.204E-02	0.300
		334.30		-1.377E-01	2.131E+00	3.139E+00	3.295E-01	-0.044
		99.55		8.264E-02	1.432E-01	2.504E-01	2.851E-02	0.330
		103.76	*	1.555E-02	9.021E-02	1.549E-01	1.804E-02	0.100
		117.00		4.825E-02	1.961E-01	3.355E-01	4.203E-02	0.144
AM-246	+	209.75		1.600E+00	1.185E+00	1.813E+00	1.792E-01	0.883
		228.18		-8.503E-02	3.258E-01	5.175E-01	5.311E-02	-0.164
		277.60		1.411E-01	2.893E-01	4.709E-01	5.243E-02	0.300
		798.80		-6.372E-02	2.756E-01	4.450E-01	4.652E-02	-0.143
		1036.00		-2.778E-01	6.585E-01	1.070E+00	9.694E-02	-0.260
CM-247		1062.04		1.191E-01	5.101E-01	8.674E-01	7.748E-02	0.137
		1078.86	*	-7.333E-02	3.280E-01	5.395E-01	4.772E-02	-0.136
		278.00		1.121E+00	1.176E+00	1.956E+00	2.179E-01	0.573
CF-249		287.40		9.344E-01	1.886E+00	3.071E+00	3.410E-01	0.304
		402.60	*	-2.329E-02	6.667E-02	1.080E-01	9.958E-03	-0.216
		252.85		4.721E-01	1.322E+00	2.156E+00	2.312E-01	0.219
CF-251		333.44		-1.170E-01	2.867E-01	4.104E-01	4.315E-02	-0.285
		387.95	*	-2.110E-02	7.121E-02	1.161E-01	1.069E-02	-0.182
		176.60	*	-9.822E-02	1.648E-01	2.624E-01	2.402E-02	-0.374
		227.00		-3.263E-01	5.476E-01	8.523E-01	8.727E-02	-0.383
		285.00		4.552E-01	2.701E+00	4.319E+00	4.804E-01	0.105

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]G1202015437
* Acquisition date   : 22-JAN-2010 10:25:30 Detector SN#      :
* Detector ID        : GAM25 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 01:00:01.93 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202015437 Analyst initials: MXR1
* Batch Number       : 941635 Sample Quantity : 1.5544E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM             : 0.000 LCS Isotope                  :
* LCSD DPM            : 0.000 LCSD Isotope                 :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
CO-57	2.026E-01	5.330E-02	4.894E-02	0.000E+00
CO-60	6.585E+00	6.219E-01	9.372E-02	0.000E+00
CD-109	3.496E+01	4.126E+00	1.270E+00	0.000E+00
SN-126	3.476E+00	4.102E-01	1.261E-01	0.000E+00
BA-137M	5.775E+00	6.807E-01	1.205E-01	0.000E+00
CS-137	6.105E+00	7.203E-01	1.274E-01	0.000E+00
TL-208	3.809E-01	1.245E-01	1.030E-01	0.000E+00
BI-211	2.053E+00	5.339E-01	5.292E-01	0.000E+00
PB-212	1.152E+00	1.786E-01	1.426E-01	0.000E+00
PO-212	1.152E+00	1.786E-01	1.426E-01	0.000E+00
BI-214	8.396E-01	2.474E-01	2.035E-01	0.000E+00
PB-214	7.143E-01	1.893E-01	2.068E-01	0.000E+00
PO-214	7.143E-01	1.893E-01	2.068E-01	0.000E+00
PO-216	1.152E+00	1.786E-01	1.426E-01	0.000E+00
PO-218	7.143E-01	1.893E-01	2.068E-01	0.000E+00
RA-224	2.987E+00	1.472E+00	1.624E+00	0.000E+00
RA-226	8.396E-01	2.474E-01	2.035E-01	0.000E+00
AC-228	1.462E+00	6.434E-01	4.884E-01	0.000E+00
RA-228	1.462E+00	6.434E-01	4.884E-01	0.000E+00
TH-228	1.160E+00	1.800E-01	1.436E-01	0.000E+00
TH-230	8.395E-01	2.474E-01	2.035E-01	0.000E+00
TH-232	1.462E+00	6.434E-01	4.884E-01	0.000E+00
U-234	8.395E-01	2.474E-01	2.035E-01	0.000E+00
AM-241	1.337E+01	1.395E+00	1.784E-01	0.000E+00
AM-243	2.001E-01	5.195E-02	7.087E-02	0.000E+00
ANH-511	1.535E-01	1.046E-01	9.373E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	3.173E-01	5.919E-01	1.053E+00	0.000E+00 NOT IDENT.

NA-22	4.887E-03	4.656E-02	8.040E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.647E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.679E-02	4.702E-02	8.831E-02	0.000E+00	NOT IDENT.
K-40	-2.340E-02	6.256E-01	1.094E+00	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.934E-02	6.116E-02	0.000E+00	FAIL ABUN
SC-46	-2.398E-02	9.041E-02	1.507E-01	0.000E+00	NOT IDENT.
V-48	5.585E-02	1.215E-01	2.102E-01	0.000E+00	NOT IDENT.
CR-51	3.853E-02	4.735E-01	8.593E-01	0.000E+00	NOT IDENT.
MN-52	3.050E-02	1.174E-01	2.056E-01	0.000E+00	FAIL ABUN
MN-54	-2.500E-02	7.780E-02	1.301E-01	0.000E+00	NOT IDENT.
CO-56	-9.645E-04	7.995E-02	1.364E-01	0.000E+00	NOT IDENT.
CO-58	5.341E-02	7.416E-02	1.336E-01	0.000E+00	NOT IDENT.
FE-59	-6.077E-03	1.796E-01	3.100E-01	0.000E+00	NOT IDENT.
ZN-65	-2.722E-01	1.894E-01	2.914E-01	0.000E+00	NOT IDENT.
GE-68	8.180E-01	2.824E+00	4.990E+00	0.000E+00	NOT IDENT.
AS-73	-1.098E-02	4.767E-01	7.911E-01	0.000E+00	NOT IDENT.
AS-74	-4.647E-02	1.240E-01	2.025E-01	0.000E+00	NOT IDENT.
SE-75	-3.189E-02	6.278E-02	1.043E-01	0.000E+00	FAIL ABUN
BR-77	-5.295E-01	2.105E+00	3.540E+00	0.000E+00	FAIL ABUN
SR-82	6.743E-02	5.920E-01	1.030E+00	0.000E+00	NOT IDENT.
RB-83	-5.441E-02	1.251E-01	2.076E-01	0.000E+00	NOT IDENT.
RB-84	-7.572E-02	1.328E-01	2.158E-01	0.000E+00	NOT IDENT.
KR-85	8.545E-01	1.495E+01	2.251E+01	0.000E+00	NOT IDENT.
SR-85	4.040E-03	7.068E-02	1.064E-01	0.000E+00	NOT IDENT.
RB-86	1.211E+00	1.348E+00	2.468E+00	0.000E+00	NOT IDENT.
Y-88	2.045E-02	5.098E-02	9.273E-02	0.000E+00	NOT IDENT.
ZR-88	1.481E-02	5.085E-02	9.128E-02	0.000E+00	NOT IDENT.
Y-91	-1.320E+01	2.162E+01	3.421E+01	0.000E+00	NOT IDENT.
NB-94	4.133E-02	5.536E-02	1.015E-01	0.000E+00	NOT IDENT.
NB-95	-5.039E-02	7.482E-02	1.230E-01	0.000E+00	NOT IDENT.
NB-95M	-3.479E-02	1.740E-01	2.655E-01	0.000E+00	NOT IDENT.
ZR-95	-1.591E-02	1.294E-01	2.222E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.269E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.822E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.905E+00	3.147E+00	5.674E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.408E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	6.341E-03	4.548E-02	8.102E-02	0.000E+00	NOT IDENT.
RH-102	-4.173E-03	5.918E-02	1.020E-01	0.000E+00	NOT IDENT.
RU-103	3.583E-02	6.934E-02	1.228E-01	0.000E+00	FAIL ABUN
RH-106	-3.733E-02	5.289E-01	9.325E-01	0.000E+00	FAIL ABUN
RU-106	-3.733E-02	5.289E-01	9.325E-01	0.000E+00	FAIL ABUN
AG-108M	5.819E-03	6.307E-02	1.108E-01	0.000E+00	NOT IDENT.
AG-110M	9.791E-02	8.174E-02	1.363E-01	0.000E+00	NOT IDENT.
IN-111	2.128E-01	2.631E-01	4.274E-01	0.000E+00	NOT IDENT.
IN-113M	2.422E-02	7.602E-02	1.366E-01	0.000E+00	NOT IDENT.
SN-113	2.422E-02	7.602E-02	1.366E-01	0.000E+00	NOT IDENT.
IN-114M	3.679E-02	2.271E-01	3.881E-01	0.000E+00	NOT IDENT.
CD-115	-1.697E+00	1.816E+00	2.878E+00	0.000E+00	NOT IDENT.
SN-117M	3.144E-02	4.278E-02	8.001E-02	0.000E+00	NOT IDENT.
SB-122	2.438E-01	5.011E-01	8.792E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.835E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.469E-02	3.139E-02	5.804E-02	0.000E+00	NOT IDENT.
I-124	3.262E-01	3.279E-01	5.733E-01	0.000E+00	NOT IDENT.
SB-124	-9.296E-02	9.161E-02	1.149E-01	0.000E+00	FAIL ABUN
SB-125	7.761E-02	1.691E-01	3.035E-01	0.000E+00	NOT IDENT.
TE-125M	2.096E+00	8.483E+00	1.604E+01	0.000E+00	NOT IDENT.
I-126	-1.483E-02	2.399E-01	3.645E-01	0.000E+00	NOT IDENT.
SB-126	-3.980E-02	1.753E-01	2.920E-01	0.000E+00	FAIL ABUN
SB-127	-4.724E-01	5.796E-01	9.467E-01	0.000E+00	NOT IDENT.
XE-127	-3.436E-02	5.461E-02	9.318E-02	0.000E+00	NOT IDENT.
I-131	-5.352E-02	9.936E-02	1.715E-01	0.000E+00	NOT IDENT.
TE-132	-5.135E-02	1.878E-01	3.223E-01	0.000E+00	FAIL ABUN
BA-133	-1.906E-02	8.087E-02	1.249E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.292E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-1.094E-03	8.829E-02	1.518E-01	0.000E+00	NOT IDENT.
CS-135	7.207E-02	2.411E-01	4.198E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.187E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.016E-02	1.585E-01	2.658E-01	0.000E+00	NOT IDENT.
CE-139	4.258E-02	3.579E-02	6.769E-02	0.000E+00	NOT IDENT.
BA-140	2.271E-03	2.870E-01	4.896E-01	0.000E+00	NOT IDENT.
LA-140	-2.726E-02	8.043E-02	1.299E-01	0.000E+00	NOT IDENT.
CE-141	1.360E-02	5.916E-02	1.091E-01	0.000E+00	NOT IDENT.
CE-143	7.357E+00	4.642E+00	7.770E+00	0.000E+00	FAIL ABUN
CE-144	1.017E-01	2.235E-01	4.183E-01	0.000E+00	NOT IDENT.
PM-144	-3.863E-03	5.380E-02	9.354E-02	0.000E+00	NOT IDENT.
PR-144	-2.607E-01	3.631E+00	6.313E+00	0.000E+00	NOT IDENT.
PM-146	-2.983E-02	8.815E-02	1.503E-01	0.000E+00	NOT IDENT.
ND-147	3.662E-01	6.092E-01	1.081E+00	0.000E+00	NOT IDENT.

PM-149	3.159E-01	1.255E+01	2.137E+01	0.000E+00	NOT IDENT.
EU-152	-2.609E-02	1.647E-01	2.569E-01	0.000E+00	FAIL ABUN
GD-153	-3.828E-02	7.248E-02	1.195E-01	0.000E+00	NOT IDENT.
EU-154	-1.872E-02	1.358E-01	2.256E-01	0.000E+00	FAIL ABUN
EU-155	3.023E-02	9.936E-02	1.890E-01	0.000E+00	FAIL ABUN
TB-160	-5.415E-02	2.868E-01	4.807E-01	0.000E+00	FAIL ABUN
HO-166M	9.178E-03	1.077E-01	1.889E-01	0.000E+00	NOT IDENT.
TM-171	9.500E+00	1.667E+01	3.010E+01	0.000E+00	FAIL ABUN
LU-176	2.454E-02	3.706E-02	6.935E-02	0.000E+00	FAIL ABUN
LU-177	1.033E+00	7.500E-01	1.183E+00	0.000E+00	FAIL ABUN
LU-177M	-1.514E-01	3.008E-01	5.129E-01	0.000E+00	FAIL ABUN
HF-181	1.647E-02	7.435E-02	1.301E-01	0.000E+00	NOT IDENT.
W-181	-4.396E-01	2.077E-01	3.267E-01	0.000E+00	NOT IDENT.
TA-182	1.552E-01	2.249E-01	4.143E-01	0.000E+00	NOT IDENT.
RE-183	-6.361E-02	1.207E-01	2.116E-01	0.000E+00	FAIL ABUN
RE-184	1.219E-01	3.346E-01	5.886E-01	0.000E+00	FAIL ABUN
OS-185	-1.920E-02	7.382E-02	1.279E-01	0.000E+00	FAIL ABUN
RE-188	7.776E-02	1.851E-01	3.419E-01	0.000E+00	NOT IDENT.
W-188	-1.161E+00	1.062E+01	1.700E+01	0.000E+00	NOT IDENT.
IR-192	-2.825E-04	5.127E-02	9.273E-02	0.000E+00	FAIL ABUN
AU-195	6.328E-02	1.871E-01	3.583E-01	0.000E+00	FAIL ABUN
TL-200	-9.195E-01	5.712E+00	1.008E+01	0.000E+00	NOT IDENT.
TL-201	1.366E+00	1.485E+00	2.782E+00	0.000E+00	NOT IDENT.
TL-202	4.482E-02	8.967E-02	1.605E-01	0.000E+00	NOT IDENT.
HG-203	8.061E-02	5.594E-02	1.020E-01	0.000E+00	NOT IDENT.
BI-207	3.929E-05	1.153E-01	2.003E-01	0.000E+00	FAIL ABUN
TL-207	-1.139E+00	1.013E+00	1.678E+00	0.000E+00	FAIL ABUN
PO-209	1.240E+00	1.782E+01	3.036E+01	0.000E+00	NOT IDENT.
BI-210	5.477E-02	8.766E-01	1.515E+00	0.000E+00	NOT IDENT.
PB-210	5.477E-02	8.766E-01	1.515E+00	0.000E+00	NOT IDENT.
PO-210	5.477E-02	8.766E-01	1.515E+00	0.000E+00	NOT IDENT.
PB-211	4.709E-01	1.651E+00	2.910E+00	0.000E+00	NOT IDENT.
BI-212	1.048E+00	7.954E-01	1.115E+00	0.000E+00	FAIL ABUN
PO-215	-1.139E+00	1.013E+00	1.678E+00	0.000E+00	FAIL ABUN
RN-219	-4.491E-01	7.525E-01	1.278E+00	0.000E+00	NOT IDENT.
RN-220	1.947E+01	4.638E+01	8.124E+01	0.000E+00	NOT IDENT.
RA-223	-1.139E+00	1.013E+00	1.678E+00	0.000E+00	FAIL ABUN
AC-227	-1.858E-01	5.843E-01	9.869E-01	0.000E+00	NOT IDENT.
TH-227	-1.858E-01	5.846E-01	9.869E-01	0.000E+00	FAIL ABUN
TH-229	-3.959E-01	6.804E-01	1.170E+00	0.000E+00	FAIL ABUN
PA-231	-2.123E+00	2.436E+00	3.884E+00	0.000E+00	NOT IDENT.
TH-231	-1.139E+00	1.013E+00	1.678E+00	0.000E+00	FAIL ABUN
U-231	1.311E-01	2.601E-01	4.570E-01	0.000E+00	FAIL ABUN
PA-233	-5.693E-03	1.013E-01	1.830E-01	0.000E+00	FAIL ABUN
PA-234	-2.214E-02	8.125E-01	1.366E+00	0.000E+00	FAIL ABUN
PA-234M	1.908E+00	1.046E+01	1.787E+01	0.000E+00	NOT IDENT.
TH-234	6.838E-01	7.276E-01	1.268E+00	0.000E+00	FAIL ABUN
U-235	-8.818E-02	2.400E-01	4.286E-01	0.000E+00	FAIL ABUN
NP-236	9.891E-03	9.383E-02	1.705E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	5.845E-01	6.371E-01	0.000E+00	NOT IDENT.
U-238	6.838E-01	7.276E-01	1.268E+00	0.000E+00	FAIL ABUN
NP-239	4.692E-02	1.869E-01	3.517E-01	0.000E+00	FAIL ABUN
CM-243	1.555E-02	8.840E-02	1.675E-01	0.000E+00	FAIL ABUN
AM-246	-7.333E-02	3.215E-01	5.488E-01	0.000E+00	NOT IDENT.
CM-247	-2.329E-02	6.534E-02	1.128E-01	0.000E+00	NOT IDENT.
CF-249	-2.110E-02	6.978E-02	1.214E-01	0.000E+00	NOT IDENT.
CF-251	-9.822E-02	1.615E-01	2.800E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015437.CNF;1
Sample date     : 15-JAN-2010 00:00:00 Acquisition date : 22-JAN-2010 10:25:30
Sample ID       : G1202015437           Sample quantity : 1.55440E+02 GRAM
Detector name   : GAM25                 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:01.93  0.1%
Energy tolerance: 1.50000 keV           Analyst Initials : MXR1
Abundance limit : 75.00000              Sensitivity      : 5.00000
Batch ID        : 941635                 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	291	85.51*	8.263E+00	1.988E-01	2.026E-01	26.84
	136.48	-----	10.60	7.796E+00	-----	Line Not Found	-----
CO-60	1173.22	1874	100.00	1.342E+00	6.741E+00	6.759E+00	9.60
	1332.49	1633	100.00*	1.201E+00	6.567E+00	6.585E+00	9.64
CD-109	88.03	2498	3.72*	9.380E+00	3.457E+01	3.496E+01	12.04
SN-126	64.28	-----	9.60	9.782E+00	-----	Line Not Found	-----
	86.94	2498	8.90	9.380E+00	1.445E+01	1.445E+01	42.20
	87.57	2498	37.00*	9.380E+00	3.476E+00	3.476E+00	12.04
BA-137M	661.65	2399	89.98*	2.231E+00	5.772E+00	5.775E+00	12.03
CS-137	661.65	2399	85.12*	2.231E+00	6.102E+00	6.105E+00	12.04
TL-208	277.35	-----	6.80	4.738E+00	-----	Line Not Found	-----
	510.84	89	21.60	2.810E+00	7.105E-01	7.105E-01	70.04
	583.14	166	84.20*	2.495E+00	3.809E-01	3.809E-01	33.37
	860.37	-----	12.46	1.765E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	9.724E+00	-----	Line Not Found	-----
	351.07	214	12.94*	3.885E+00	2.053E+00	2.053E+00	26.53
PB-212	74.81	265	10.70	9.694E+00	1.235E+00	1.235E+00	28.09
	77.11	449	18.00	9.651E+00	1.248E+00	1.248E+00	17.44
	87.30	2498	8.00	9.380E+00	1.608E+01	1.608E+01	15.65
	238.63	568	44.60*	5.338E+00	1.152E+00	1.152E+00	15.83
	300.09	-----	3.41	4.442E+00	-----	Line Not Found	-----
PO-212	74.81	265	10.70	9.694E+00	1.235E+00	1.235E+00	28.09
	77.11	449	18.00	9.651E+00	1.248E+00	1.248E+00	17.44
	87.30	2498	8.00	9.380E+00	1.608E+01	1.608E+01	15.65
	115.19	-----	0.60	8.498E+00	-----	Line Not Found	-----
	238.63	568	44.60*	5.338E+00	1.152E+00	1.152E+00	15.83
	300.09	-----	3.41	4.442E+00	-----	Line Not Found	-----
BI-214	609.31	193	46.30*	2.401E+00	8.395E-01	8.396E-01	30.07
	1120.29	-----	15.10	1.398E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.407E-01	9.701E-01	9.701E-01	54.67
PB-214	74.81	265	6.21	9.694E+00	2.127E+00	2.127E+00	27.50
	77.11	449	10.50	9.651E+00	2.139E+00	2.139E+00	19.03

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	2498	4.67	9.380E+00	2.754E+01	2.754E+01	14.30
	241.98	129	7.49	5.291E+00	1.575E+00	1.575E+00	50.58
	295.21	144	19.20	4.505E+00	8.024E-01	8.024E-01	40.73
	351.92	214	37.20*	3.885E+00	7.143E-01	7.143E-01	27.04
	74.81	265	6.21	9.694E+00	2.127E+00	2.127E+00	27.50
	77.11	449	10.50	9.651E+00	2.139E+00	2.139E+00	19.03
	87.30	2498	4.67	9.380E+00	2.754E+01	2.754E+01	14.30
	241.98	129	7.49	5.291E+00	1.575E+00	1.575E+00	50.58
PO-216	295.21	144	19.20	4.505E+00	8.024E-01	8.024E-01	40.73
	351.92	214	37.20*	3.885E+00	7.143E-01	7.143E-01	27.04
	74.81	265	10.70	9.694E+00	1.235E+00	1.235E+00	28.09
	77.11	449	18.00	9.651E+00	1.248E+00	1.248E+00	17.44
	87.30	2498	8.00	9.380E+00	1.608E+01	1.608E+01	15.65
	238.63	568	44.60*	5.338E+00	1.152E+00	1.152E+00	15.83
	300.09	-----	3.41	4.442E+00	-----	Line Not Found	-----
	74.81	265	6.21	9.694E+00	2.127E+00	2.127E+00	27.50
PO-218	77.11	449	10.50	9.651E+00	2.139E+00	2.139E+00	19.03
	87.30	2498	4.67	9.380E+00	2.754E+01	2.754E+01	14.30
	241.98	129	7.49	5.291E+00	1.575E+00	1.575E+00	50.58
	295.21	144	19.20	4.505E+00	8.024E-01	8.024E-01	40.73
	351.92	214	37.20*	3.885E+00	7.143E-01	7.143E-01	27.04
	240.98	129	3.95*	5.291E+00	2.987E+00	2.987E+00	50.27
	609.31	193	46.30*	2.401E+00	8.395E-01	8.396E-01	30.07
	1120.29	-----	15.10	1.398E+00	-----	Line Not Found	-----
AC-228	1764.49	30	15.80	9.407E-01	9.701E-01	9.701E-01	54.67
	338.32	144	11.40	4.016E+00	1.520E+00	1.520E+00	62.80
	911.07	141	27.70*	1.678E+00	1.462E+00	1.462E+00	44.91
	969.11	71	16.60	1.589E+00	1.293E+00	1.293E+00	64.26
	338.32	144	11.40	4.016E+00	1.520E+00	1.520E+00	62.80
	911.07	141	27.70*	1.678E+00	1.462E+00	1.462E+00	44.91
	969.11	71	16.60	1.589E+00	1.293E+00	1.293E+00	64.26
	74.81	265	10.70	9.694E+00	1.235E+00	1.244E+00	26.51
TH-228	77.11	449	18.00	9.651E+00	1.248E+00	1.257E+00	17.44
	87.30	2498	8.00	9.380E+00	1.608E+01	1.619E+01	12.04
	238.63	568	44.60*	5.338E+00	1.152E+00	1.160E+00	15.83
	300.09	-----	3.41	4.442E+00	-----	Line Not Found	-----
	609.31	193	46.30*	2.401E+00	8.395E-01	8.395E-01	30.07
	1120.29	-----	15.10	1.398E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.407E-01	9.701E-01	9.701E-01	54.67
	338.32	144	11.40	4.016E+00	1.520E+00	1.520E+00	48.12
TH-232	911.07	141	27.70*	1.678E+00	1.462E+00	1.462E+00	44.91
	969.11	71	16.60	1.589E+00	1.293E+00	1.293E+00	64.26
	609.31	193	46.30*	2.401E+00	8.395E-01	8.395E-01	30.07
	1120.29	-----	15.10	1.398E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.407E-01	9.701E-01	9.701E-01	54.67
	59.54	9677	35.90*	9.741E+00	1.336E+01	1.337E+01	10.65
	74.67	265	66.00*	9.694E+00	2.001E-01	2.001E-01	26.49
	86.72	2498	0.34	9.380E+00	3.827E+02	3.827E+02	12.04
AM-243	117.66	-----	0.55	8.415E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	7.617E+00	-----	Line Not Found	-----
ANH-511	511.00	89	100.00*	2.810E+00	1.535E-01	1.535E-01	69.54

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202015437

Page : 4
Acquisition date : 22-JAN-2010 10:25:30

Total number of lines in spectrum 25
Number of unidentified lines 1
Number of lines tentatively identified by NID 24 96.00%

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	1.988E-01	2.026E-01	0.544E-01	26.84	
CO-60	5.27Y	1.00	6.567E+00	6.585E+00	0.635E+00	9.64	
CD-109	464.00D	1.01	3.457E+01	3.496E+01	0.421E+01	12.04	
SN-126	1.00E+05Y	1.00	3.476E+00	3.476E+00	0.419E+00	12.04	
BA-137M	30.17Y	1.00	5.772E+00	5.775E+00	0.695E+00	12.03	
CS-137	30.17Y	1.00	6.102E+00	6.105E+00	0.735E+00	12.04	
TL-208	1.41E+10Y	1.00	3.809E-01	3.809E-01	1.271E-01	33.37	
BI-211	7.04E+08Y	1.00	2.053E+00	2.053E+00	0.545E+00	26.53	
PB-212	1.41E+10Y	1.00	1.152E+00	1.152E+00	0.182E+00	15.83	
PO-212	1.41E+10Y	1.00	1.152E+00	1.152E+00	0.182E+00	15.83	
BI-214	1600.00Y	1.00	8.395E-01	8.396E-01	2.525E-01	30.07	
PB-214	1600.00Y	1.00	7.143E-01	7.143E-01	1.931E-01	27.04	
PO-214	1600.00Y	1.00	7.143E-01	7.143E-01	1.931E-01	27.04	
PO-216	1.41E+10Y	1.00	1.152E+00	1.152E+00	0.182E+00	15.83	
PO-218	1600.00Y	1.00	7.143E-01	7.143E-01	1.931E-01	27.04	
RA-224	1.41E+10Y	1.00	2.987E+00	2.987E+00	1.502E+00	50.27	
RA-226	1600.00Y	1.00	8.395E-01	8.396E-01	2.525E-01	30.07	
AC-228	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.657E+00	44.91	
RA-228	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.657E+00	44.91	
TH-228	1.91Y	1.01	1.152E+00	1.160E+00	0.184E+00	15.83	
TH-230	4.47E+09Y	1.00	8.395E-01	8.395E-01	2.525E-01	30.07	
TH-232	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.657E+00	44.91	
U-234	4.47E+09Y	1.00	8.395E-01	8.395E-01	2.525E-01	30.07	
AM-241	432.20Y	1.00	1.336E+01	1.337E+01	0.142E+01	10.65	
AM-243	7380.00Y	1.00	2.001E-01	2.001E-01	0.530E-01	26.49	
ANH-511	1.00E+09Y	1.00	1.535E-01	1.535E-01	1.067E-01	69.54	

Total Activity : 9.032E+01 9.074E+01

Grand Total Activity : 9.032E+01 9.074E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202015437

Page : 5
Acquisition date : 22-JAN-2010 10:25:30

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	49.82	289	1600	0.77	99.19	94	10	8.02E-02	53.1	9.41E+00	T
0	92.95	188	320	1.38	185.46	182	9	5.23E-02	38.5	9.23E+00	T
0	186.01	66	234	0.70	371.56	368	7	1.83E-02	83.8	6.41E+00	T
0	209.10	64	180	1.39	417.74	414	7	1.79E-02	73.4	5.90E+00	T
0	727.46	53	94	0.71	1454.41	1450	11	1.46E-02	76.5	2.05E+00	T
1	1763.21	31	1	2.28	3526.00	3521	18	8.70E-03	42.4	9.42E-01	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202015437.CNF;1
* Acquisition date   : 22-JAN-2010 10:25:30   Detector SN#      :
* Detector ID        : GAM25                  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 01:00:01.93          Half life ratio    : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00   Nuclide Library   : SOLID
* Sample ID          : G1202015437           Analyst initials    : MXR1
* Batch Number       : 941635                Sample Quantity    : 1.55440E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43.34MS Isotope         :
* MSD ID              :                      MSD Isotope         :
* LCS ID              : 1032-A                LCS Isotope         :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	2.026E-01	5.439E-02	4.544E-02	5.860E-03	4.459
CO-60	6.585E+00	6.346E-01	9.269E-02	7.528E-03	71.044
CD-109	3.496E+01	4.210E+00	1.170E+00	1.257E-01	29.877
SN-126	3.476E+00	4.186E-01	1.161E-01	1.245E-02	29.939
BA-137M	5.775E+00	6.946E-01	1.169E-01	1.295E-02	49.389
CS-137	6.105E+00	7.350E-01	1.236E-01	1.371E-02	49.389
TL-208	3.809E-01	1.271E-01	9.955E-02	1.122E-02	3.826
BI-211	2.053E+00	5.447E-01	5.047E-01	5.318E-02	4.068
PB-212	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
PO-212	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
BI-214	8.396E-01	2.525E-01	1.969E-01	2.377E-02	4.263
PB-214	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
PO-214	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
PO-216	1.152E+00	1.823E-01	1.346E-01	1.533E-02	8.554
PO-218	7.143E-01	1.931E-01	1.972E-01	2.316E-02	3.622
RA-224	2.987E+00	1.502E+00	1.534E+00	1.612E-01	1.947
RA-226	8.396E-01	2.525E-01	1.969E-01	2.377E-02	4.263
AC-228	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059
TH-228	1.160E+00	1.836E-01	1.356E-01	1.544E-02	8.554
TH-230	8.395E-01	2.525E-01	1.969E-01	2.377E-02	4.263
TH-232	1.462E+00	6.566E-01	4.780E-01	5.685E-02	3.059
U-234	8.395E-01	2.525E-01	1.969E-01	2.377E-02	4.263
AM-241	1.337E+01	1.423E+00	1.628E-01	1.692E-02	82.089
AM-243	2.001E-01	5.301E-02	6.501E-02	6.602E-03	3.079
ANH-511	1.535E-01	1.067E-01	9.029E-02	9.293E-03	1.700

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.173E-01		6.039E-01	1.012E+00	1.072E-01	0.313
NA-22	4.887E-03		4.751E-02	7.942E-02	6.512E-03	0.062
NA-24	-2.729E-04		8.405E-05	Half-Life too short		
AL-26	2.679E-02		4.798E-02	8.810E-02	7.219E-03	0.304
K-40	-2.340E-02		6.384E-01	1.085E+00	9.240E-02	-0.022
TI-44	2.302E-01	+	4.014E-02	5.617E-02	5.784E-03	4.099
SC-46	-2.398E-02		9.226E-02	1.474E-01	1.411E-02	-0.163
V-48	5.585E-02		1.240E-01	2.062E-01	1.910E-02	0.271
CR-51	3.853E-02		4.832E-01	8.177E-01	9.080E-02	0.047
MN-52	3.050E-02		1.198E-01	2.038E-01	1.680E-02	0.150
MN-54	-2.500E-02		7.939E-02	1.270E-01	1.289E-02	-0.197
CO-56	-9.645E-04		8.158E-02	1.332E-01	1.337E-02	-0.007
CO-58	5.341E-02		7.567E-02	1.303E-01	1.352E-02	0.410
FE-59	-6.077E-03		1.833E-01	3.050E-01	2.872E-02	-0.020
ZN-65	-2.722E-01		1.933E-01	2.868E-01	2.477E-02	-0.949
GE-68	8.180E-01		2.882E+00	4.906E+00	4.343E-01	0.167
AS-73	-1.098E-02		4.864E-01	7.199E-01	6.910E-02	-0.015
AS-74	-4.647E-02		1.265E-01	1.959E-01	2.123E-02	-0.237
SE-75	-3.189E-02		6.406E-02	9.872E-02	1.082E-02	-0.323
BR-77	-5.295E-01		2.148E+00	3.412E+00	3.537E-01	-0.155
SR-82	6.743E-02		6.041E-01	1.004E+00	1.065E-01	0.067
RB-83	-5.441E-02		1.276E-01	2.001E-01	2.074E-02	-0.272
RB-84	-7.572E-02		1.355E-01	2.110E-01	2.039E-02	-0.359
KR-85	8.545E-01		1.525E+01	2.168E+01	2.237E+00	0.039
SR-85	4.040E-03		7.212E-02	1.025E-01	1.058E-02	0.039
RB-86	1.211E+00		1.375E+00	2.426E+00	2.149E-01	0.499
Y-88	2.045E-02		5.202E-02	9.254E-02	7.563E-03	0.221
ZR-88	1.481E-02		5.189E-02	8.732E-02	7.948E-03	0.170
Y-91	-1.320E+01		2.207E+01	3.374E+01	2.776E+00	-0.391
NB-94	4.133E-02		5.649E-02	9.865E-02	1.083E-02	0.419
NB-95	-5.039E-02		7.635E-02	1.198E-01	1.280E-02	-0.421
NB-95M	-3.479E-02		1.776E-01	2.506E-01	2.872E-02	-0.139
ZR-95	-1.591E-02		1.321E-01	2.163E-01	2.477E-02	-0.074
NB-97	1.709E-04		6.473E-05	Half-Life too short		
ZR-97	-5.059E-04		9.297E-04	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1.905E+00		3.211E+00	5.521E+00	9.130E-01	0.345
TC-99M	2.304E+00		1.228E+01	Half-Life too short		
RH-101	6.341E-03		4.641E-02	7.615E-02	7.337E-03	0.083
RH-102	-4.173E-03		6.039E-02	9.805E-02	9.789E-03	-0.043
RU-103	3.583E-02		7.075E-02	1.182E-01	1.792E-02	0.303
RH-106	-3.733E-02		5.397E-01	9.031E-01	1.352E-01	-0.041
RU-106	-3.733E-02		5.397E-01	9.031E-01	9.889E-02	-0.041
AG-108M	5.819E-03		6.435E-02	1.063E-01	1.050E-02	0.055
AG-110M	9.791E-02		8.341E-02	1.322E-01	1.490E-02	0.740
IN-111	2.128E-01		2.685E-01	4.039E-01	4.277E-02	0.527
IN-113M	2.422E-02		7.757E-02	1.307E-01	1.221E-02	0.185
SN-113	2.422E-02		7.757E-02	1.307E-01	1.221E-02	0.185
IN-114M	3.679E-02		2.318E-01	3.644E-01	3.449E-02	0.101
CD-115	-1.697E+00		1.853E+00	2.774E+00	2.892E-01	-0.612
SN-117M	3.144E-02		4.365E-02	7.478E-02	7.260E-03	0.420
SB-122	2.438E-01		5.113E-01	8.492E-01	9.055E-02	0.287
I-123	1.795E-04		1.957E-04	Half-Life too short		
TE-123M	1.469E-02		3.203E-02	5.425E-02	5.267E-03	0.271
I-124	3.262E-01		3.346E-01	5.547E-01	6.029E-02	0.588
SB-124	-9.296E-02		9.348E-02	1.144E-01	9.886E-03	-0.813
SB-125	7.761E-02		1.726E-01	2.910E-01	2.811E-02	0.267
TE-125M	2.096E+00		8.656E+00	1.485E+01	1.971E+00	0.141
I-126	-1.483E-02		2.448E-01	3.537E-01	3.915E-02	-0.042
SB-126	-3.980E-02		1.789E-01	2.839E-01	3.099E-02	-0.140
SB-127	-4.724E-01		5.915E-01	9.192E-01	1.083E-01	-0.514
XE-127	-3.436E-02		5.573E-02	8.763E-02	8.535E-03	-0.392
I-131	-5.352E-02		1.014E-01	1.638E-01	1.675E-02	-0.327
TE-132	-5.135E-02		1.916E-01	3.040E-01	4.759E-02	-0.169
BA-133	-1.906E-02		8.252E-02	1.192E-01	1.690E-02	-0.160
I-133	-4.089E-07		1.169E-05	Half-Life too short		
CS-134	-1.094E-03		9.009E-02	1.480E-01	1.558E-02	-0.007
CS-135	7.207E-02		2.461E-01	3.976E-01	4.800E-02	0.181
I-135	9.732E+00		1.116E+01	Half-Life too short		
CS-136	-8.016E-02		1.617E-01	2.611E-01	2.441E-02	-0.307
CE-139	4.258E-02		3.652E-02	6.334E-02	5.648E-03	0.672
BA-140	2.271E-03		2.928E-01	4.723E-01	1.591E-01	0.005
LA-140	-2.726E-02		8.207E-02	1.291E-01	1.073E-02	-0.211
CE-141	1.360E-02		6.037E-02	1.017E-01	1.131E-02	0.134
CE-143	7.357E+00		4.737E+00	7.377E+00	1.659E+00	0.997
CE-144	1.017E-01		2.281E-01	3.892E-01	6.881E-02	0.261
PM-144	-3.863E-03		5.489E-02	9.087E-02	9.997E-03	-0.043
PR-144	-2.607E-01		3.705E+00	6.132E+00	6.746E-01	-0.043
PM-146	-2.983E-02		8.994E-02	1.443E-01	1.685E-02	-0.207
ND-147	3.662E-01		6.216E-01	1.042E+00	1.675E-01	0.351
PM-149	3.159E-01		1.280E+01	2.028E+01	3.455E+00	0.016
EU-152	-2.609E-02		1.681E-01	2.449E-01	2.630E-02	-0.107
GD-153	-3.828E-02		7.396E-02	1.104E-01	1.243E-02	-0.347
EU-154	-1.872E-02		1.386E-01	2.229E-01	2.449E-02	-0.084

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	3.023E-02		1.014E-01	1.749E-01	2.067E-02	0.173
TB-160	-5.415E-02		2.926E-01	4.699E-01	4.553E-02	-0.115
HO-166M	9.178E-03		1.098E-01	1.836E-01	2.011E-02	0.050
TM-171	9.500E+00		1.701E+01	2.754E+01	2.734E+00	0.345
LU-176	2.454E-02		3.782E-02	6.591E-02	7.192E-03	0.372
LU-177	1.033E+00	+	7.653E-01	1.113E+00	1.097E-01	0.929
LU-177M	-1.514E-01		3.070E-01	4.913E-01	4.593E-02	-0.308
HF-181	1.647E-02		7.586E-02	1.251E-01	1.257E-02	0.132
W-181	-4.396E-01		2.120E-01	2.987E-01	2.957E-02	-1.471
TA-182	1.552E-01		2.295E-01	4.088E-01	3.362E-02	0.380
RE-183	-6.361E-02		1.231E-01	1.979E-01	1.842E-02	-0.321
RE-184	1.219E-01		3.414E-01	5.567E-01	5.970E-02	0.219
OS-185	-1.920E-02		7.533E-02	1.240E-01	1.368E-02	-0.155
RE-188	7.776E-02		1.888E-01	3.193E-01	3.217E-02	0.244
W-188	-1.161E+00		1.084E+01	1.613E+01	1.787E+00	-0.072
IR-192	-2.825E-04		5.231E-02	8.821E-02	9.528E-03	-0.003
AU-195	6.328E-02		1.909E-01	3.309E-01	3.755E-02	0.191
TL-200	-9.195E-01		5.828E+00	9.626E+00	9.396E-01	-0.096
TL-201	1.366E+00		1.515E+00	2.603E+00	2.329E-01	0.525
TL-202	4.482E-02		9.150E-02	1.540E-01	1.484E-02	0.291
HG-203	8.061E-02		5.709E-02	9.674E-02	1.098E-02	0.833
BI-207	3.929E-05		1.176E-01	1.968E-01	1.757E-02	0.000
TL-207	-1.139E+00		1.034E+00	1.597E+00	3.002E-01	-0.713
PO-209	1.240E+00		1.818E+01	2.970E+01	2.818E+00	0.042
BI-210	5.477E-02		8.945E-01	1.374E+00	1.417E-01	0.040
PB-210	5.477E-02		8.945E-01	1.374E+00	1.417E-01	0.040
PO-210	5.477E-02		8.945E-01	1.374E+00	1.309E-01	0.040
PB-211	4.709E-01		1.685E+00	2.786E+00	1.748E+00	0.169
BI-212	1.048E+00	+	8.116E-01	1.085E+00	1.303E-01	0.966
PO-215	-1.139E+00		1.034E+00	1.597E+00	3.002E-01	-0.713
RN-219	-4.491E-01		7.679E-01	1.224E+00	1.881E-01	-0.367
RN-220	1.947E+01		4.732E+01	7.842E+01	8.291E+00	0.248
RA-223	-1.139E+00		1.034E+00	1.597E+00	3.002E-01	-0.713
AC-227	-1.858E-01		5.962E-01	9.336E-01	1.555E-01	-0.199
TH-227	-1.858E-01		5.965E-01	9.336E-01	1.792E-01	-0.199
TH-229	-3.959E-01		6.943E-01	1.099E+00	1.049E-01	-0.360
PA-231	-2.123E+00		2.486E+00	3.684E+00	6.166E-01	-0.576
TH-231	-1.139E+00		1.034E+00	1.597E+00	3.002E-01	-0.713
U-231	1.311E-01		2.654E-01	4.218E-01	4.712E-02	0.311
PA-233	-5.693E-03		1.034E-01	1.741E-01	1.922E-02	-0.033
PA-234	-2.214E-02		8.290E-01	1.338E+00	2.559E-01	-0.017
PA-234M	1.908E+00		1.067E+01	1.753E+01	1.836E+00	0.109
TH-234	6.838E-01		7.425E-01	1.159E+00	2.157E-01	0.590
U-235	-8.818E-02		2.449E-01	3.995E-01	7.544E-02	-0.221
NP-236	9.891E-03		9.575E-02	1.594E-01	1.518E-02	0.062
NP-237	2.128E+00		5.964E-01	5.865E-01	1.362E-01	3.629
U-238	6.838E-01		7.425E-01	1.159E+00	2.157E-01	0.590
NP-239	4.692E-02		1.907E-01	3.262E-01	4.087E-02	0.144

---- 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-02		9.021E-02	1.549E-01	1.804E-02	0.100
AM-246	-7.333E-02		3.280E-01	5.395E-01	4.772E-02	-0.136
CM-247	-2.329E-02		6.667E-02	1.080E-01	9.958E-03	-0.216
CF-249	-2.110E-02		7.121E-02	1.161E-01	1.069E-02	-0.182
CF-251	-9.822E-02		1.648E-01	2.624E-01	2.402E-02	-0.374

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]G1202015437          *
* Acquisition date   : 22-JAN-2010 10:25:30 Detector SN#      :              *
* Detector ID        : GAM25                      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 01:00:01.93              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202015437              Analyst initials: MXR1         *
* Batch Number       : 941635                   Sample Quantity : 1.5544E+02 GRAM *
* Recovery           : 1.00000                  Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 7-OCT-2009 09:38:43 MS Isotope         :              *
* MSD DPM             : 0.000                      MSD Isotope         :              *
* LCS DPM             : 0.000                      LCS Isotope         :              *
* LCSD DPM            : 0.000                      LCSD Isotope        :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
CO-57	2.026E-01	5.330E-02	2.448E-02	2.719E-02
CO-60	6.585E+00	6.219E-01	4.689E-02	3.173E-01
CD-109	3.496E+01	4.126E+00	6.355E-01	2.105E+00
SN-126	3.476E+00	4.102E-01	6.307E-02	2.093E-01
BA-137M	5.775E+00	6.807E-01	6.031E-02	3.473E-01
CS-137	6.105E+00	7.203E-01	6.375E-02	3.675E-01
TL-208	3.809E-01	1.245E-01	5.152E-02	6.354E-02
BI-211	2.053E+00	5.339E-01	2.647E-01	2.724E-01
PB-212	1.152E+00	1.786E-01	7.133E-02	9.114E-02
PO-212	1.152E+00	1.786E-01	7.133E-02	9.114E-02
BI-214	8.396E-01	2.474E-01	1.018E-01	1.262E-01
PB-214	7.143E-01	1.893E-01	1.034E-01	9.656E-02
PO-214	7.143E-01	1.893E-01	1.034E-01	9.656E-02
PO-216	1.152E+00	1.786E-01	7.133E-02	9.114E-02
PO-218	7.143E-01	1.893E-01	1.034E-01	9.656E-02
RA-224	2.987E+00	1.472E+00	8.126E-01	7.509E-01
RA-226	8.396E-01	2.474E-01	1.018E-01	1.262E-01
AC-228	1.462E+00	6.434E-01	2.444E-01	3.283E-01
RA-228	1.462E+00	6.434E-01	2.444E-01	3.283E-01
TH-228	1.160E+00	1.800E-01	7.186E-02	9.181E-02
TH-230	8.395E-01	2.474E-01	1.018E-01	1.262E-01
TH-232	1.462E+00	6.434E-01	2.444E-01	3.283E-01
U-234	8.395E-01	2.474E-01	1.018E-01	1.262E-01
AM-241	1.337E+01	1.395E+00	8.928E-02	7.117E-01
AM-243	2.001E-01	5.195E-02	3.545E-02	2.651E-02
ANH-511	1.535E-01	1.046E-01	4.689E-02	5.336E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	3.173E-01	5.919E-01	5.268E-01	3.020E-01 NOT IDENT.

NA-22	4.887E-03	4.656E-02	4.023E-02	2.376E-02	NOT IDENT.
NA-24	-2.729E+02	1.647E+02	0.000E+00	8.405E+01	SHORT HLIF
AL-26	2.679E-02	4.702E-02	4.418E-02	2.399E-02	NOT IDENT.
K-40	-2.340E-02	6.256E-01	5.474E-01	3.192E-01	NOT IDENT.
TI-44	2.302E-01	3.934E-02	3.060E-02	2.007E-02	FAIL ABUN
SC-46	-2.398E-02	9.041E-02	7.540E-02	4.613E-02	NOT IDENT.
V-48	5.585E-02	1.215E-01	1.052E-01	6.201E-02	NOT IDENT.
CR-51	3.853E-02	4.735E-01	4.299E-01	2.416E-01	NOT IDENT.
MN-52	3.050E-02	1.174E-01	1.029E-01	5.992E-02	FAIL ABUN
MN-54	-2.500E-02	7.780E-02	6.509E-02	3.969E-02	NOT IDENT.
CO-56	-9.645E-04	7.995E-02	6.826E-02	4.079E-02	NOT IDENT.
CO-58	5.341E-02	7.416E-02	6.682E-02	3.783E-02	NOT IDENT.
FE-59	-6.077E-03	1.796E-01	1.551E-01	9.163E-02	NOT IDENT.
ZN-65	-2.722E-01	1.894E-01	1.458E-01	9.664E-02	NOT IDENT.
GE-68	8.180E-01	2.824E+00	2.496E+00	1.441E+00	NOT IDENT.
AS-73	-1.098E-02	4.767E-01	3.958E-01	2.432E-01	NOT IDENT.
AS-74	-4.647E-02	1.240E-01	1.013E-01	6.326E-02	NOT IDENT.
SE-75	-3.189E-02	6.278E-02	5.216E-02	3.203E-02	FAIL ABUN
BR-77	-5.295E-01	2.105E+00	1.771E+00	1.074E+00	FAIL ABUN
SR-82	6.743E-02	5.920E-01	5.155E-01	3.020E-01	NOT IDENT.
RB-83	-5.441E-02	1.251E-01	1.039E-01	6.381E-02	NOT IDENT.
RB-84	-7.572E-02	1.328E-01	1.080E-01	6.776E-02	NOT IDENT.
KR-85	8.545E-01	1.495E+01	1.126E+01	7.627E+00	NOT IDENT.
SR-85	4.040E-03	7.068E-02	5.324E-02	3.606E-02	NOT IDENT.
RB-86	1.211E+00	1.348E+00	1.235E+00	6.877E-01	NOT IDENT.
Y-88	2.045E-02	5.098E-02	4.639E-02	2.601E-02	NOT IDENT.
ZR-88	1.481E-02	5.085E-02	4.567E-02	2.594E-02	NOT IDENT.
Y-91	-1.320E+01	2.162E+01	1.712E+01	1.103E+01	NOT IDENT.
NB-94	4.133E-02	5.536E-02	5.079E-02	2.824E-02	NOT IDENT.
NB-95	-5.039E-02	7.482E-02	6.154E-02	3.818E-02	NOT IDENT.
NB-95M	-3.479E-02	1.740E-01	1.328E-01	8.879E-02	NOT IDENT.
ZR-95	-1.591E-02	1.294E-01	1.112E-01	6.604E-02	NOT IDENT.
NB-97	1.709E+02	1.269E+02	0.000E+00	6.473E+01	SHORT HLIF
ZR-97	-5.059E+02	1.822E+03	0.000E+00	9.297E+02	SHORT HLIF
MO-99	1.905E+00	3.147E+00	2.839E+00	1.606E+00	NOT IDENT.
TC-99M	2.304E+06	2.408E+07	0.000E+00	1.228E+07	SHORT HLIF
RH-101	6.341E-03	4.548E-02	4.054E-02	2.321E-02	NOT IDENT.
RH-102	-4.173E-03	5.918E-02	5.102E-02	3.020E-02	NOT IDENT.
RU-103	3.583E-02	6.934E-02	6.143E-02	3.538E-02	FAIL ABUN
RH-106	-3.733E-02	5.289E-01	4.665E-01	2.699E-01	FAIL ABUN
RU-106	-3.733E-02	5.289E-01	4.665E-01	2.698E-01	FAIL ABUN
AG-108M	5.819E-03	6.307E-02	5.544E-02	3.218E-02	NOT IDENT.
AG-110M	9.791E-02	8.174E-02	6.821E-02	4.171E-02	NOT IDENT.
IN-111	2.128E-01	2.631E-01	2.138E-01	1.343E-01	NOT IDENT.
IN-113M	2.422E-02	7.602E-02	6.836E-02	3.878E-02	NOT IDENT.
SN-113	2.422E-02	7.602E-02	6.836E-02	3.878E-02	NOT IDENT.
IN-114M	3.679E-02	2.271E-01	1.942E-01	1.159E-01	NOT IDENT.
CD-115	-1.697E+00	1.816E+00	1.440E+00	9.267E-01	NOT IDENT.
SN-117M	3.144E-02	4.278E-02	4.003E-02	2.183E-02	NOT IDENT.
SB-122	2.438E-01	5.011E-01	4.399E-01	2.557E-01	NOT IDENT.
I-123	1.795E+02	3.835E+02	0.000E+00	1.957E+02	SHORT HLIF
TE-123M	1.469E-02	3.139E-02	2.904E-02	1.601E-02	NOT IDENT.
I-124	3.262E-01	3.279E-01	2.868E-01	1.673E-01	NOT IDENT.
SB-124	-9.296E-02	9.161E-02	5.747E-02	4.674E-02	FAIL ABUN
SB-125	7.761E-02	1.691E-01	1.518E-01	8.628E-02	NOT IDENT.
TE-125M	2.096E+00	8.483E+00	8.025E+00	4.328E+00	NOT IDENT.
I-126	-1.483E-02	2.399E-01	1.824E-01	1.224E-01	NOT IDENT.
SB-126	-3.980E-02	1.753E-01	1.461E-01	8.945E-02	FAIL ABUN
SB-127	-4.724E-01	5.796E-01	4.736E-01	2.957E-01	NOT IDENT.
XE-127	-3.436E-02	5.461E-02	4.662E-02	2.786E-02	NOT IDENT.
I-131	-5.352E-02	9.936E-02	8.582E-02	5.069E-02	NOT IDENT.
TE-132	-5.135E-02	1.878E-01	1.613E-01	9.580E-02	FAIL ABUN
BA-133	-1.906E-02	8.087E-02	6.249E-02	4.126E-02	NOT IDENT.
I-133	-4.089E-01	2.292E+01	0.000E+00	1.169E+01	SHORT HLIF
CS-134	-1.094E-03	8.829E-02	7.595E-02	4.504E-02	NOT IDENT.
CS-135	7.207E-02	2.411E-01	2.100E-01	1.230E-01	NOT IDENT.
I-135	9.732E+06	2.187E+07	0.000E+00	1.116E+07	SHORT HLIF
CS-136	-8.016E-02	1.585E-01	1.330E-01	8.084E-02	NOT IDENT.
CE-139	4.258E-02	3.579E-02	3.387E-02	1.826E-02	NOT IDENT.
BA-140	2.271E-03	2.870E-01	2.450E-01	1.464E-01	NOT IDENT.
LA-140	-2.726E-02	8.043E-02	6.497E-02	4.103E-02	NOT IDENT.
CE-141	1.360E-02	5.916E-02	5.457E-02	3.018E-02	NOT IDENT.
CE-143	7.357E+00	4.642E+00	3.887E+00	2.369E+00	FAIL ABUN
CE-144	1.017E-01	2.235E-01	2.093E-01	1.140E-01	NOT IDENT.
PM-144	-3.863E-03	5.380E-02	4.680E-02	2.745E-02	NOT IDENT.
PR-144	-2.607E-01	3.631E+00	3.158E+00	1.852E+00	NOT IDENT.
PM-146	-2.983E-02	8.815E-02	7.520E-02	4.497E-02	NOT IDENT.
ND-147	3.662E-01	6.092E-01	5.407E-01	3.108E-01	NOT IDENT.

PM-149	3.159E-01	1.255E+01	1.069E+01	6.401E+00	NOT IDENT.
EU-152	-2.609E-02	1.647E-01	1.285E-01	8.403E-02	FAIL ABUN
GD-153	-3.828E-02	7.248E-02	5.980E-02	3.698E-02	NOT IDENT.
EU-154	-1.872E-02	1.358E-01	1.129E-01	6.928E-02	FAIL ABUN
EU-155	3.023E-02	9.936E-02	9.457E-02	5.069E-02	FAIL ABUN
TB-160	-5.415E-02	2.868E-01	2.405E-01	1.463E-01	FAIL ABUN
HO-166M	9.178E-03	1.077E-01	9.453E-02	5.492E-02	NOT IDENT.
TM-171	9.500E+00	1.667E+01	1.506E+01	8.507E+00	FAIL ABUN
LU-176	2.454E-02	3.706E-02	3.469E-02	1.891E-02	FAIL ABUN
LU-177	1.033E+00	7.500E-01	5.916E-01	3.826E-01	FAIL ABUN
LU-177M	-1.514E-01	3.008E-01	2.566E-01	1.535E-01	FAIL ABUN
HF-181	1.647E-02	7.435E-02	6.507E-02	3.793E-02	NOT IDENT.
W-181	-4.396E-01	2.077E-01	1.635E-01	1.060E-01	NOT IDENT.
TA-182	1.552E-01	2.249E-01	2.073E-01	1.148E-01	NOT IDENT.
RE-183	-6.361E-02	1.207E-01	1.059E-01	6.157E-02	FAIL ABUN
RE-184	1.219E-01	3.346E-01	2.945E-01	1.707E-01	FAIL ABUN
OS-185	-1.920E-02	7.382E-02	6.398E-02	3.767E-02	FAIL ABUN
RE-188	7.776E-02	1.851E-01	1.710E-01	9.442E-02	NOT IDENT.
W-188	-1.161E+00	1.062E+01	8.503E+00	5.418E+00	NOT IDENT.
IR-192	-2.825E-04	5.127E-02	4.639E-02	2.616E-02	FAIL ABUN
AU-195	6.328E-02	1.871E-01	1.793E-01	9.545E-02	FAIL ABUN
TL-200	-9.195E-01	5.712E+00	5.043E+00	2.914E+00	NOT IDENT.
TL-201	1.366E+00	1.485E+00	1.392E+00	7.575E-01	NOT IDENT.
TL-202	4.482E-02	8.967E-02	8.032E-02	4.575E-02	NOT IDENT.
HG-203	8.061E-02	5.594E-02	5.104E-02	2.854E-02	NOT IDENT.
BI-207	3.929E-05	1.153E-01	1.002E-01	5.881E-02	FAIL ABUN
TL-207	-1.139E+00	1.013E+00	8.397E-01	5.171E-01	FAIL ABUN
PO-209	1.240E+00	1.782E+01	1.519E+01	9.091E+00	NOT IDENT.
BI-210	5.477E-02	8.766E-01	7.581E-01	4.472E-01	NOT IDENT.
PB-210	5.477E-02	8.766E-01	7.581E-01	4.472E-01	NOT IDENT.
PO-210	5.477E-02	8.766E-01	7.581E-01	4.472E-01	NOT IDENT.
PB-211	4.709E-01	1.651E+00	1.456E+00	8.424E-01	NOT IDENT.
BI-212	1.048E+00	7.954E-01	5.580E-01	4.058E-01	FAIL ABUN
PO-215	-1.139E+00	1.013E+00	8.397E-01	5.171E-01	FAIL ABUN
RN-219	-4.491E-01	7.525E-01	6.396E-01	3.839E-01	NOT IDENT.
RN-220	1.947E+01	4.638E+01	4.064E+01	2.366E+01	NOT IDENT.
RA-223	-1.139E+00	1.013E+00	8.397E-01	5.171E-01	FAIL ABUN
AC-227	-1.858E-01	5.843E-01	4.937E-01	2.981E-01	NOT IDENT.
TH-227	-1.858E-01	5.846E-01	4.937E-01	2.983E-01	FAIL ABUN
TH-229	-3.959E-01	6.804E-01	5.855E-01	3.472E-01	FAIL ABUN
PA-231	-2.123E+00	2.436E+00	1.943E+00	1.243E+00	NOT IDENT.
TH-231	-1.139E+00	1.013E+00	8.397E-01	5.171E-01	FAIL ABUN
U-231	1.311E-01	2.601E-01	2.286E-01	1.327E-01	FAIL ABUN
PA-233	-5.693E-03	1.013E-01	9.158E-02	5.168E-02	FAIL ABUN
PA-234	-2.214E-02	8.125E-01	6.835E-01	4.145E-01	FAIL ABUN
PA-234M	1.908E+00	1.046E+01	8.938E+00	5.336E+00	NOT IDENT.
TH-234	6.838E-01	7.276E-01	6.344E-01	3.712E-01	FAIL ABUN
U-235	-8.818E-02	2.400E-01	2.144E-01	1.225E-01	FAIL ABUN
NP-236	9.891E-03	9.383E-02	8.529E-02	4.787E-02	NOT IDENT.
NP-237	2.128E+00	5.845E-01	3.187E-01	2.982E-01	NOT IDENT.
U-238	6.838E-01	7.276E-01	6.344E-01	3.712E-01	FAIL ABUN
NP-239	4.692E-02	1.869E-01	1.760E-01	9.534E-02	FAIL ABUN
CM-243	1.555E-02	8.840E-02	8.381E-02	4.510E-02	FAIL ABUN
AM-246	-7.333E-02	3.215E-01	2.745E-01	1.640E-01	NOT IDENT.
CM-247	-2.329E-02	6.534E-02	5.645E-02	3.334E-02	NOT IDENT.
CF-249	-2.110E-02	6.978E-02	6.075E-02	3.560E-02	NOT IDENT.
CF-251	-9.822E-02	1.615E-01	1.401E-01	8.238E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	460.2393
46.50	460.2393
46.50	460.2393
48.70	725.2576
49.72	728.5383
51.35	838.9449
52.39	790.1879
52.97	790.6588
53.15	807.3444
53.44	881.5420
54.07	875.0416
56.28	834.0594
56.28	834.0709
57.37	949.2996
57.53	949.9031
57.53	949.9096
57.60	957.6124
57.98	959.0449
57.98	959.0449
59.32	642.0875
59.32	642.0875
59.40	642.2879
59.54	642.6342
59.72	643.0807
60.01	643.7974
61.10	375.8835
61.14	375.9405
61.30	376.1685
63.00	267.5807
63.29	269.3896
63.29	269.3896
63.58	284.9128
64.28	312.7570
65.12	413.6854
65.20	413.8055
65.20	413.8055
66.05	335.5163
66.72	323.6005
66.83	323.7308
66.91	323.8205
67.20	335.7307
67.20	335.7307
67.75	327.0995
67.85	322.5743
68.90	355.1996
68.90	355.1996
69.30	369.6874
69.67	364.3229
70.82	362.6274
70.82	362.6274
70.83	362.6393
72.80	354.0321
72.87	354.1145
72.87	354.1145
74.67	343.1588
74.81	343.3154
74.81	343.3154
74.81	343.3154
74.81	343.3154
74.81	343.3154
74.81	343.3154
74.81	343.3154
74.97	343.4940
75.28	343.8401
75.70	344.3098
77.11	345.8708
77.11	345.8708

77.11	345.8708
77.11	345.8708
77.11	345.8708
77.11	345.8708
77.11	345.8708
78.38	289.9878
79.62	324.8903
79.80	302.5434
79.80	302.5434
80.11	302.8341
80.18	302.8991
80.30	312.6825
80.30	312.6825
80.57	312.9430
81.00	340.4128
81.07	340.4857
81.07	340.4857
81.07	340.4857
81.07	340.4857
82.60	373.7300
83.37	340.0226
83.78	312.7520
83.78	312.7520
83.78	312.7520
83.78	312.7520
84.21	309.8923
84.90	341.5831
85.43	347.0297
86.29	438.1664
86.50	438.4353
86.54	438.4869
86.59	438.5521
86.72	322.0550
86.79	322.1188
86.94	322.2623
87.30	322.5993
87.30	322.5993
87.30	322.5993
87.30	322.5993
87.30	322.5993
87.30	322.5993
87.57	322.8525
87.88	323.1416
88.03	323.2812
88.36	323.5882
88.47	323.6919
89.95	174.1412
91.11	174.7127
92.29	187.8107
92.38	187.8582
92.38	187.8582
93.35	188.3629
94.00	188.7005
94.67	186.5244
94.67	186.5266
94.90	187.9052
94.90	187.9052
94.90	187.9052
94.90	187.9052
95.87	177.0209
95.87	177.0209
96.73	198.9786
97.43	209.5079
98.44	190.9744
98.44	190.9744
98.88	186.9476
99.55	184.7251
99.55	184.7251
99.86	181.4673
100.00	181.5334
100.10	181.5832
103.18	186.4711
103.76	191.9117
105.00	186.4720
105.31	190.0741
108.00	208.7488
109.28	212.0243

111.00	233.0666
111.00	233.0666
111.76	205.4046
112.95	189.2645
115.19	214.1662
116.30	189.8797
117.00	175.9691
117.00	175.9691
117.66	186.9202
121.11	185.7091
121.62	196.7010
121.78	196.7723
122.06	196.8959
122.32	197.0107
122.32	197.0107
122.32	197.0107
122.32	197.0107
123.07	198.6931
127.23	200.9787
129.76	197.5078
131.20	224.7154
133.02	173.0983
133.54	192.6442
135.34	178.5658
136.00	196.4123
136.25	203.0023
136.48	204.9529
140.51	191.6828
140.51	0.0000
142.18	192.3251
142.65	189.6894
143.76	207.9878
144.24	210.0697
144.24	210.0697
144.24	210.0697
144.24	210.0697
145.22	194.4305
145.44	188.8489
147.16	185.6940
152.43	191.4063
152.70	189.5889
153.22	179.2312
154.21	177.6436
154.21	177.6436
154.21	177.6436
154.21	177.6436
155.03	185.6102
156.02	199.4405
158.56	169.4013
159.00	0.0000
159.00	174.3805
160.31	188.3934
161.27	184.8298
162.32	195.9006
162.64	205.7649
163.35	220.6732
163.89	216.0002
165.85	181.4451
167.43	178.0172
171.28	198.0245
171.86	200.2041
172.10	191.3626
176.55	212.7963
176.60	212.8137
181.06	217.4194
184.41	182.1790
185.71	206.9053
186.00	205.9860
190.27	208.4202
192.34	206.0258
193.63	219.7950
197.04	195.1466
198.01	216.1202
198.60	222.5236
200.40	216.9089
201.83	228.8220
202.84	218.7543
205.31	167.8096

208.36	179.5966
208.81	181.8186
209.75	205.2217
209.75	205.2217
210.97	205.5887
215.65	192.1228
216.55	195.5599
218.09	207.7052
222.10	197.0994
223.80	187.9028
226.40	183.1913
227.00	199.5209
227.08	199.5435
227.20	199.5755
228.16	192.2756
228.18	192.2811
228.18	192.2811
231.56	192.0831
235.69	201.3352
236.00	201.4178
236.00	201.4178
238.63	203.7648
238.63	203.7648
238.63	203.7648
238.63	203.7648
239.00	203.8632
240.98	204.3949
241.98	212.9142
241.98	212.9142
241.98	212.9142
244.69	173.9127
245.39	167.4384
247.94	174.0872
248.90	189.8423
249.79	172.2748
252.40	169.4986
252.85	165.1330
252.85	165.1330
254.15	0.0000
256.20	187.1139
256.20	187.1139
260.50	165.5844
260.90	156.6493
262.80	158.1437
264.65	172.0854
268.24	178.5159
268.79	169.5318
269.46	163.9746
269.46	163.9746
269.46	163.9746
269.46	163.9746
271.23	215.6704
273.65	175.0915
276.40	200.9160
277.35	173.5523
277.60	173.6045
277.60	173.6045
278.00	158.7314
278.60	151.9375
279.20	142.8275
279.53	165.9287
280.46	196.0990
281.68	160.5660
283.67	181.7708
284.30	150.6193
285.00	149.5814
285.90	155.5373
286.10	155.5727
286.10	155.5727
287.40	140.6891
288.45	0.0000
290.67	151.2448
290.80	154.0671
291.72	161.2358
293.26	144.6602
293.70	144.7306
295.21	172.4211
295.21	172.4211

295.21	172.4211
295.96	188.7646
296.50	191.6949
297.23	205.9577
298.57	166.7038
299.80	162.6846
299.80	162.6846
300.09	162.7351
300.09	162.7351
300.09	162.7351
300.09	162.7351
300.12	162.7407
301.29	145.2367
302.84	173.8687
303.76	195.3534
303.91	179.3977
304.40	169.7188
304.40	169.7188
304.84	176.0235
306.84	141.6555
308.46	143.6879
311.98	167.5170
316.51	166.5158
318.01	155.9603
319.02	166.9534
319.41	157.0901
320.08	153.5852
323.87	170.5127
323.87	170.5127
323.87	170.5127
323.87	170.5127
325.23	188.9158
328.77	133.0811
333.44	147.9961
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334.20	134.9116
334.30	134.9251
338.28	136.1959
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338.28	136.1959
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338.32	136.2004
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338.32	136.2004
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340.57	137.2408
344.27	136.2593
345.85	131.3824
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351.07	128.2126
351.92	161.1431
351.92	161.1431
351.92	161.1431
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356.01	158.7749
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366.43	165.4377
367.43	162.7512
367.94	151.4673
369.80	113.7946
374.96	147.6800
383.85	133.4982
387.95	159.0456
388.63	154.3188
391.69	152.7997
391.69	152.7997
392.90	148.1207
398.62	160.5311
400.65	137.4199
401.10	159.8985
401.81	171.7031
402.60	158.1512
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410.95	133.7131
411.60	145.5904
413.65	154.7074
414.70	143.0087
415.30	142.0928

415.76	130.3021
417.63	0.0000
418.52	151.3775
423.70	133.1453
427.08	144.4734
427.89	138.5864
432.53	169.1315
433.93	153.2895
439.47	161.0132
439.56	155.9933
439.89	156.0336
443.98	160.5794
444.90	149.5786
445.03	154.6482
445.03	154.6482
445.03	154.6482
453.90	168.9509
463.38	150.7010
468.07	159.4677
473.00	155.9261
475.06	155.1315
475.35	160.3381
476.78	150.1530
477.59	142.9884
477.96	144.0649
482.03	138.2603
484.57	113.5206
487.03	158.5892
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492.35	144.5382
497.08	122.9593
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510.53	0.0000
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511.00	127.3581
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511.85	125.7341
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513.99	134.4302
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568.70	100.3644
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569.67	86.0814
573.80	101.7958
574.00	101.8098
574.64	105.1732
578.91	92.3559
579.30	90.6022
583.14	86.8121
585.48	82.0341
591.81	85.0431
592.07	85.0547
593.00	98.5408
595.88	102.0806
600.56	104.6222
602.52	0.0000
602.71	77.2412
602.71	77.2412
603.60	79.6445
604.41	93.2144
604.70	93.2321
609.31	94.9973

609.31	94.9973
609.31	94.9973
609.31	94.9973
610.33	95.0563
612.46	99.7090
614.37	78.6496
618.01	84.5787
621.84	85.6809
621.84	85.6809
631.29	86.1582
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633.10	75.2374
634.78	93.6801
635.90	123.1485
636.97	128.7412
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646.12	97.9905
656.30	102.2737
657.75	107.0095
657.90	0.0000
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661.65	109.1105
664.57	99.6354
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666.33	90.3819
675.00	89.2504
677.61	87.4963
685.20	87.8596
692.80	79.6831
695.00	73.1274
696.49	73.1857
696.49	73.1857
697.00	84.6152
697.49	86.5389
698.33	91.3359
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711.68	83.3573
713.82	97.8388
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720.50	91.9769
721.93	91.5117
722.20	80.2836
722.78	89.9450
722.78	89.9450
722.89	89.9495
722.95	88.3455
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752.31	89.0205
753.82	86.1523
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756.87	100.9908
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831.60	86.3613
831.96	86.3759
834.83	110.9080
836.80	0.0000
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867.82	103.2666
871.10	106.5180
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881.50	103.8843
883.24	99.8039
884.67	108.1894
889.25	119.8684
896.60	109.7911
898.02	112.9966
899.00	109.9039
903.28	107.4824
911.07	97.8430
911.07	97.8430
911.07	97.8430
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920.93	114.0961
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946.00	135.5638
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962.29	118.1963
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969.11	136.4759
969.11	136.4759
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983.50	95.3584
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996.32	93.6594
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1046.59	98.9889
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1050.47	95.4225
1062.04	87.4595
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1077.35	96.3739
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1099.22	95.2464
1112.02	69.1563
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1120.29	62.7075
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1173.22	47.4109
1175.09	43.1532
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1189.05	44.7441
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1213.00	26.4716
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1274.54	17.9978
1291.56	21.1094
1298.22	0.0000
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1325.50	24.3760
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1360.21	14.3674
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1368.21	21.6016
1368.53	0.0000
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1394.10	15.5469
1395.20	14.5150
1407.95	19.7708
1434.06	13.6279
1436.60	16.7845
1457.56	0.0000
1460.81	25.3477
1489.15	14.9012
1509.49	8.5618
1596.49	17.8311
1620.62	24.5500
1678.03	0.0000
1691.02	13.4512
1691.02	13.4512
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1750.46	0.0000
1764.49	8.7994
1764.49	8.7994
1764.49	8.7994
1764.49	8.7994
1770.23	3.4265
1771.40	5.1412
1791.20	0.0000
1808.65	7.9015

1836.01

8.9444

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202015437

Total Uranium Activity	1.9934E+00	ug/g
Total Uranium Counting Unc.	2.1675E+00	ug/g
Total Uranium Tpu	1.1059E-06	ug/g
Total Uranium Mda	1.8898E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 941635                          SAMPLE ID   : G1202015437
*  ANALYST       : MXR1                             DETECTOR    : GAM25
*  SAMPLE DATE   : 15-JAN-2010 00:00:00.00          COUNT TIME   : 0 01:00:00.00
*  ANALYSIS DATE : 22-JAN-2010 10:25:30.75          SAMPLE ALQT  : 155.440 GRAM
*
*****

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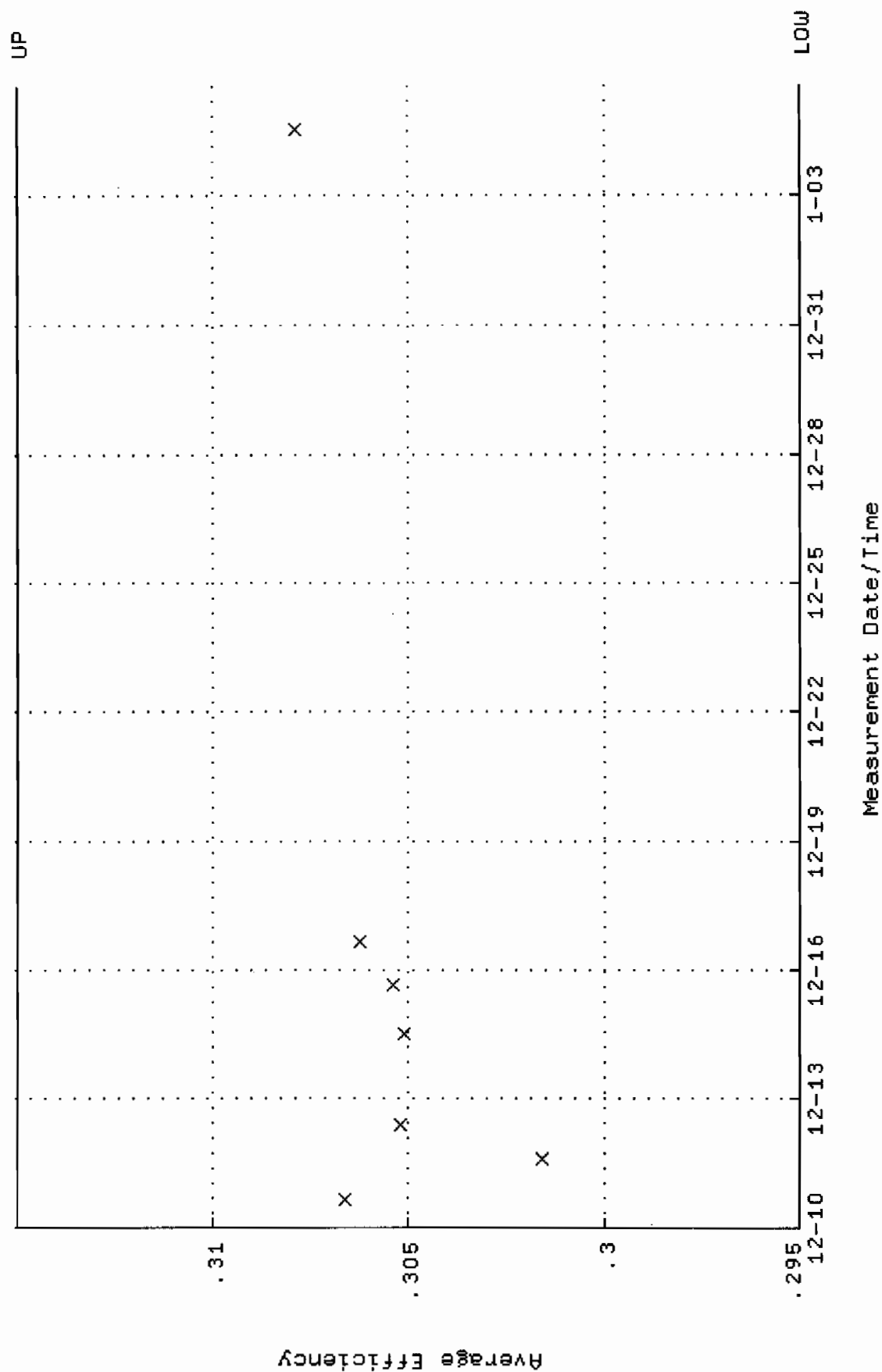
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.861E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.241E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 5.756E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.819E+00

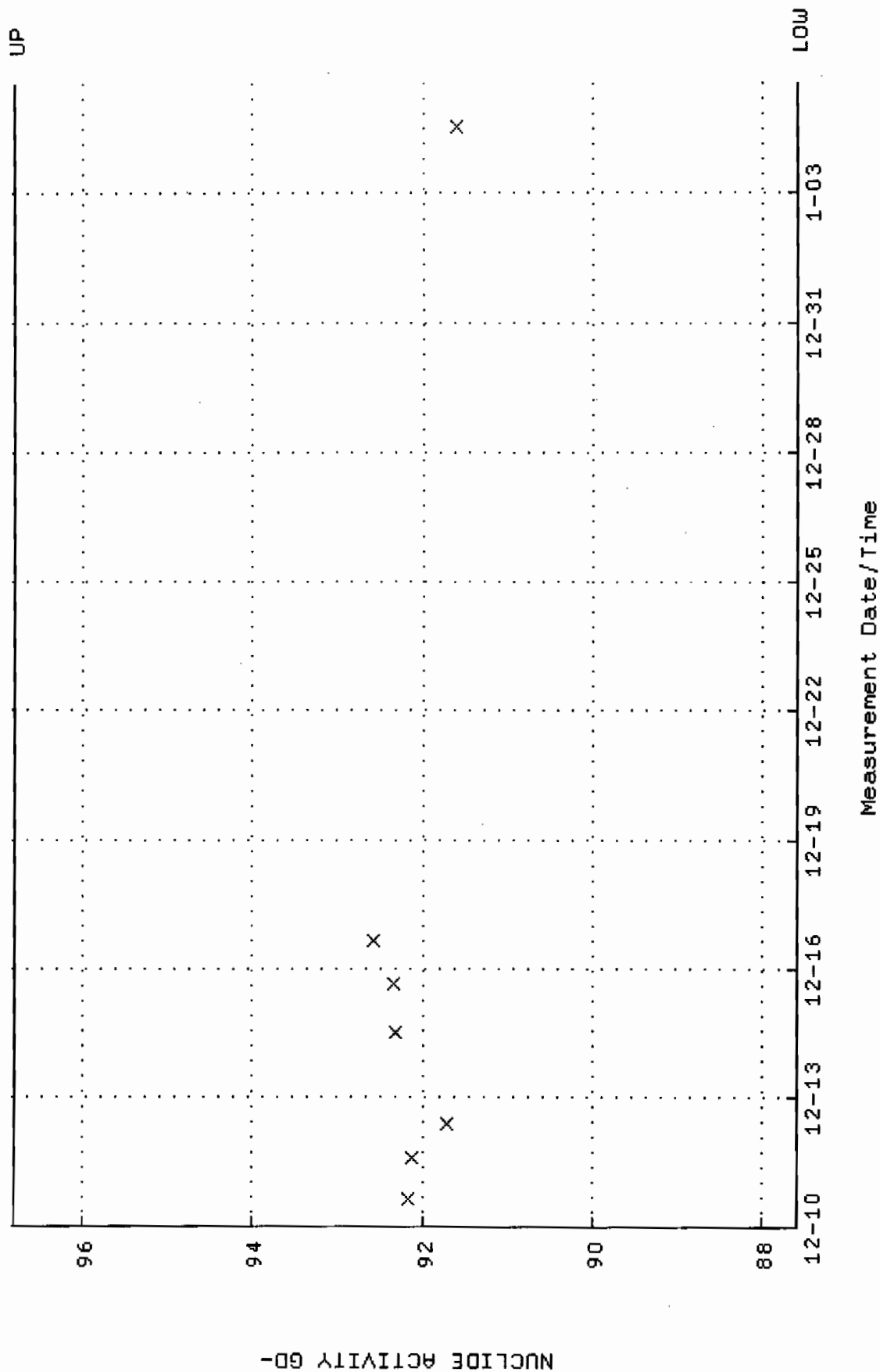
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BACKGROUND AND EFFICIENCY DATA

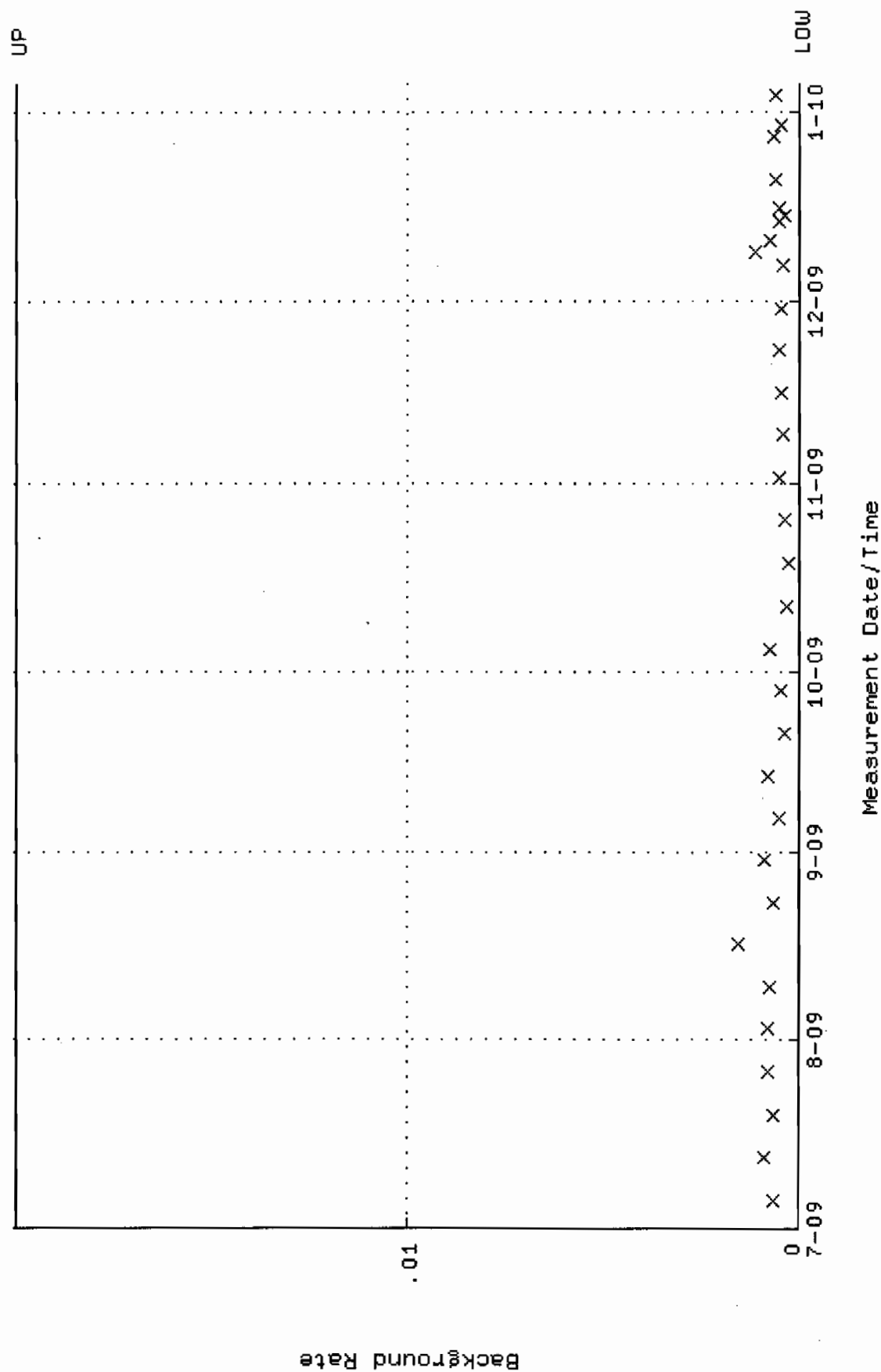
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-DEC-2009 15:29:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.294995 through 0.314995



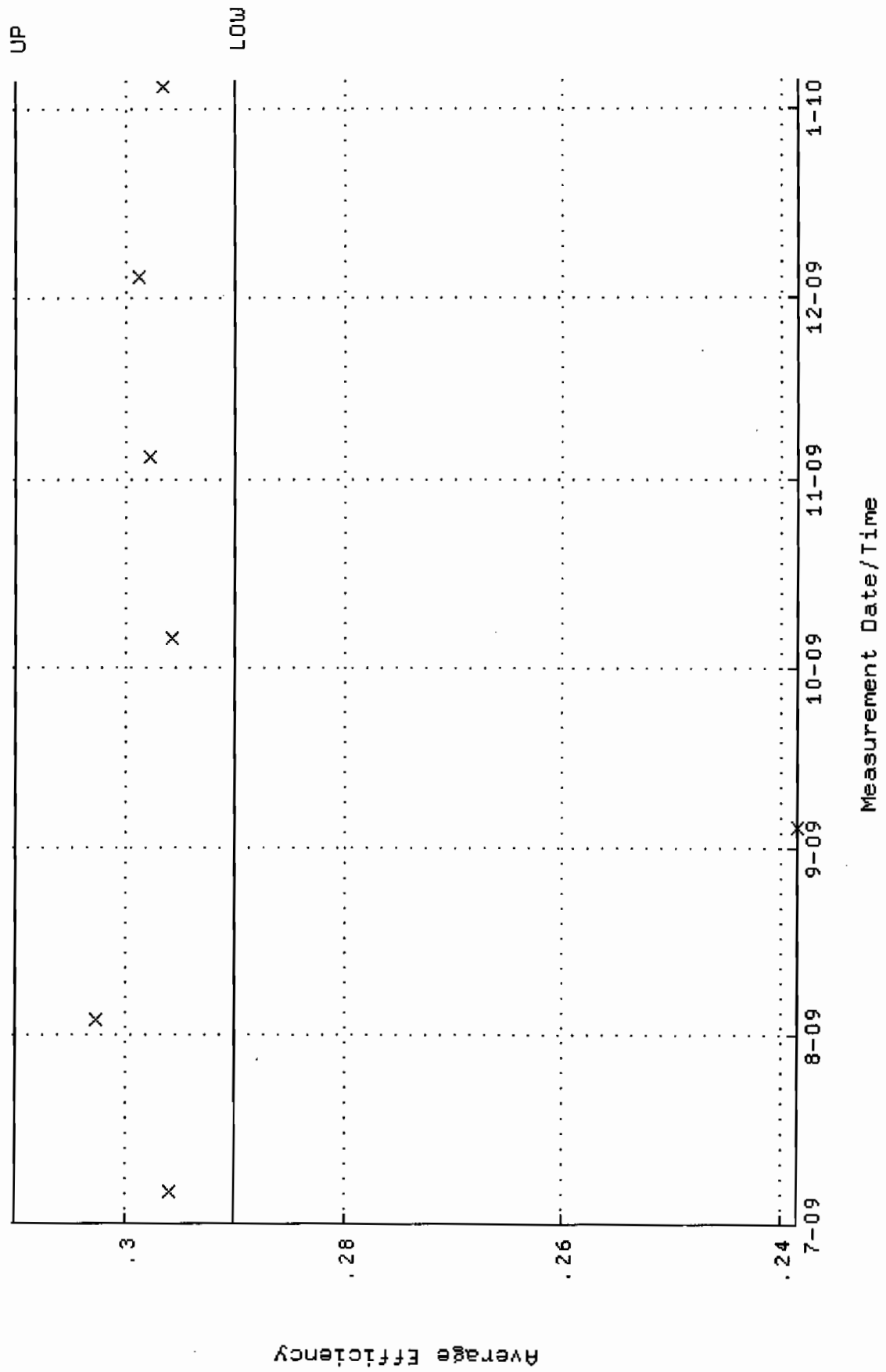
QA filename : DKA100:[ENV_ALPHA.QA.W]w004.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-DEC-2009 15:29:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.5863 through 96.8059



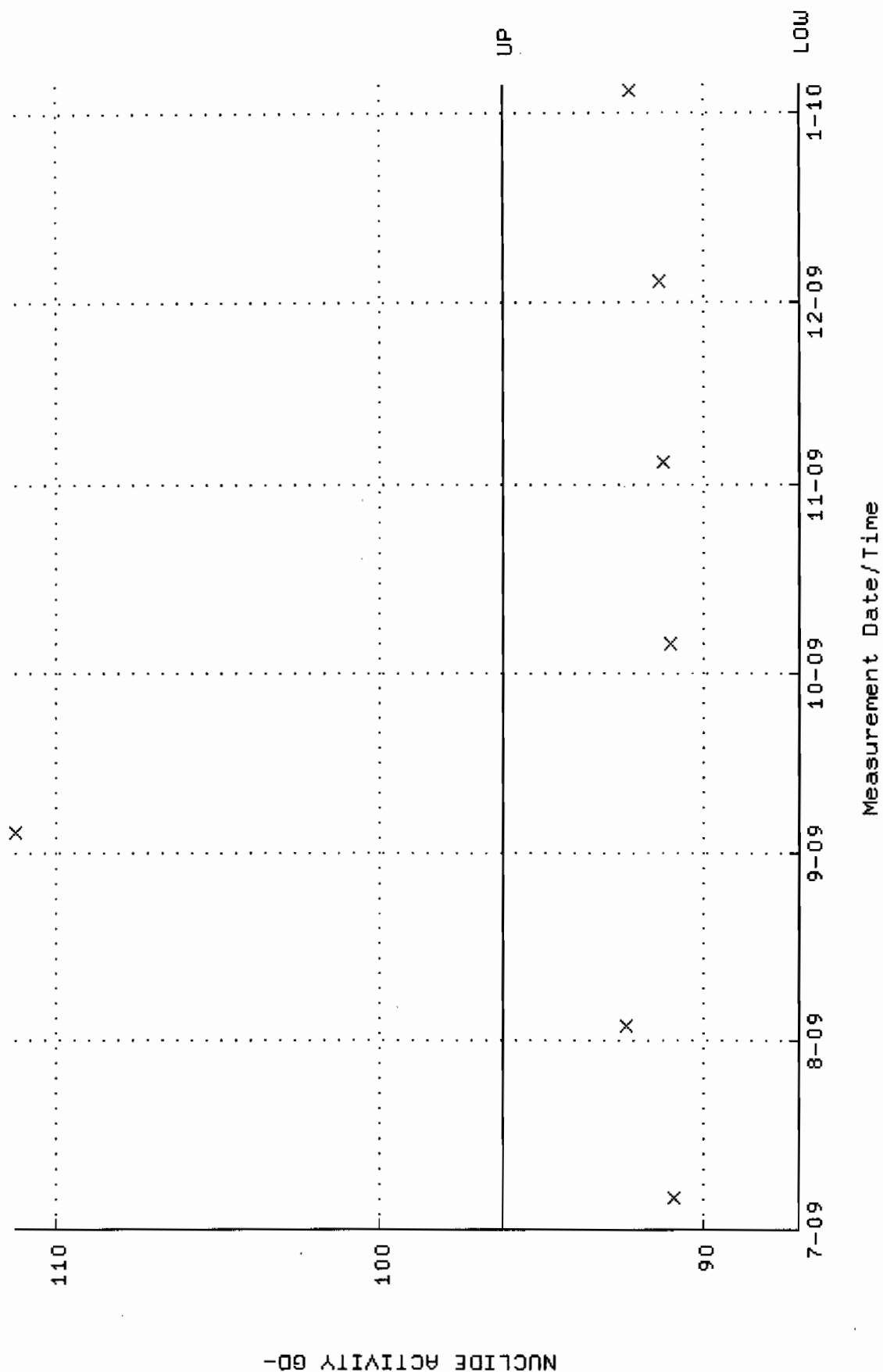
QA filename : DKA100:[ENV_ALPHA.QA.B]B004.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



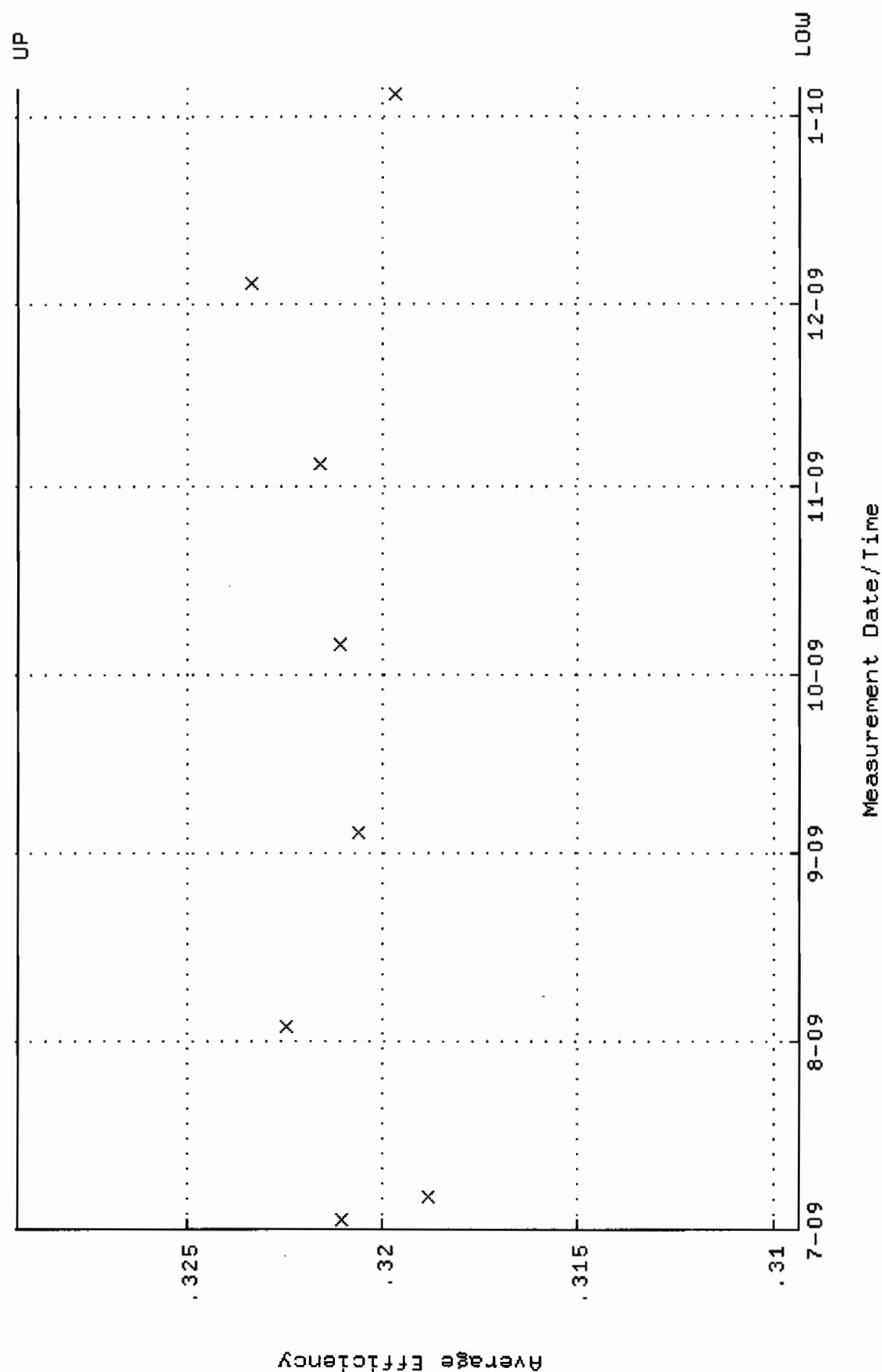
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



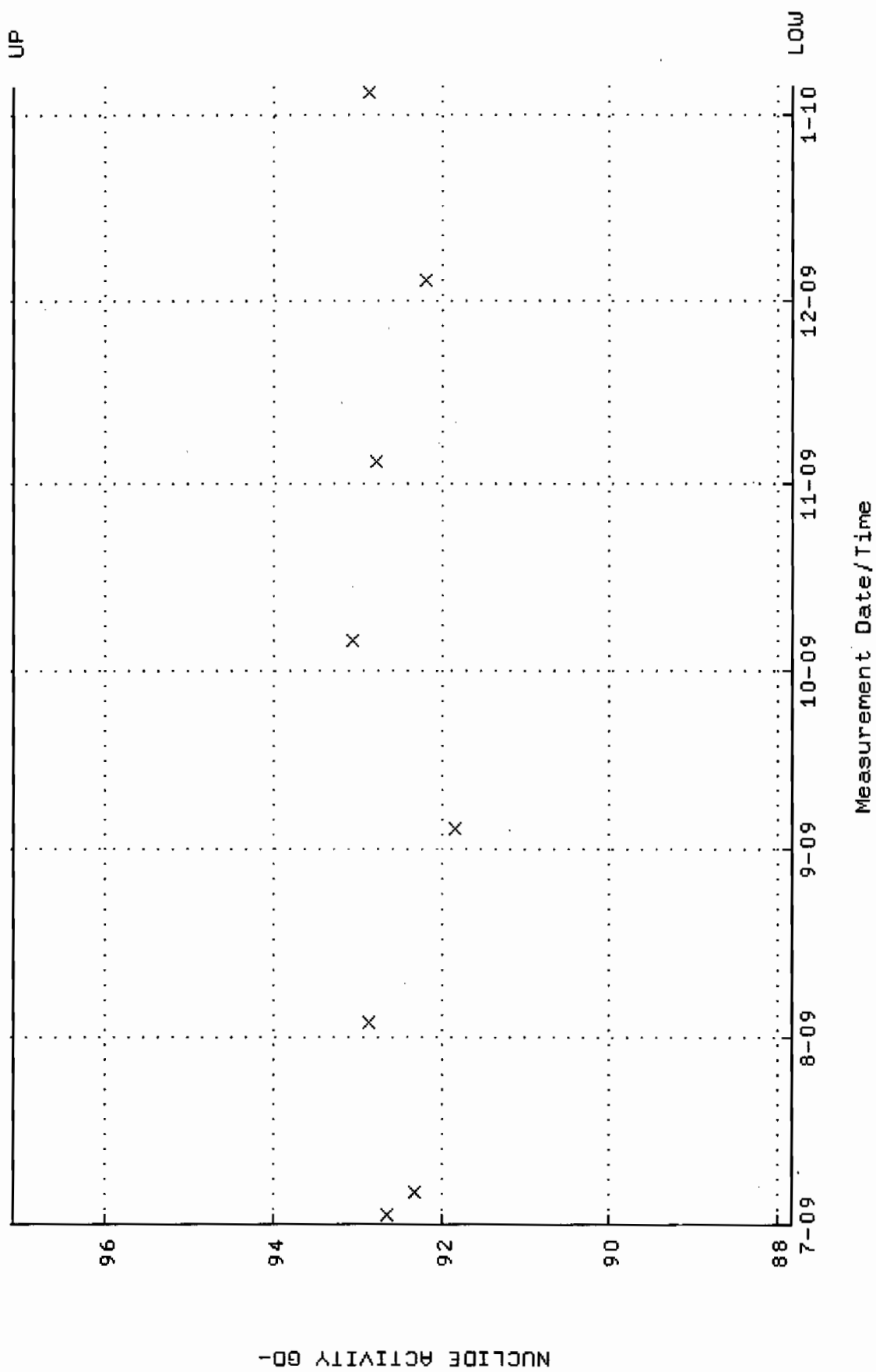
QA filename : DKA100:[ENV_ALPHA.QA.W]w007.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.0687 through 96.2339



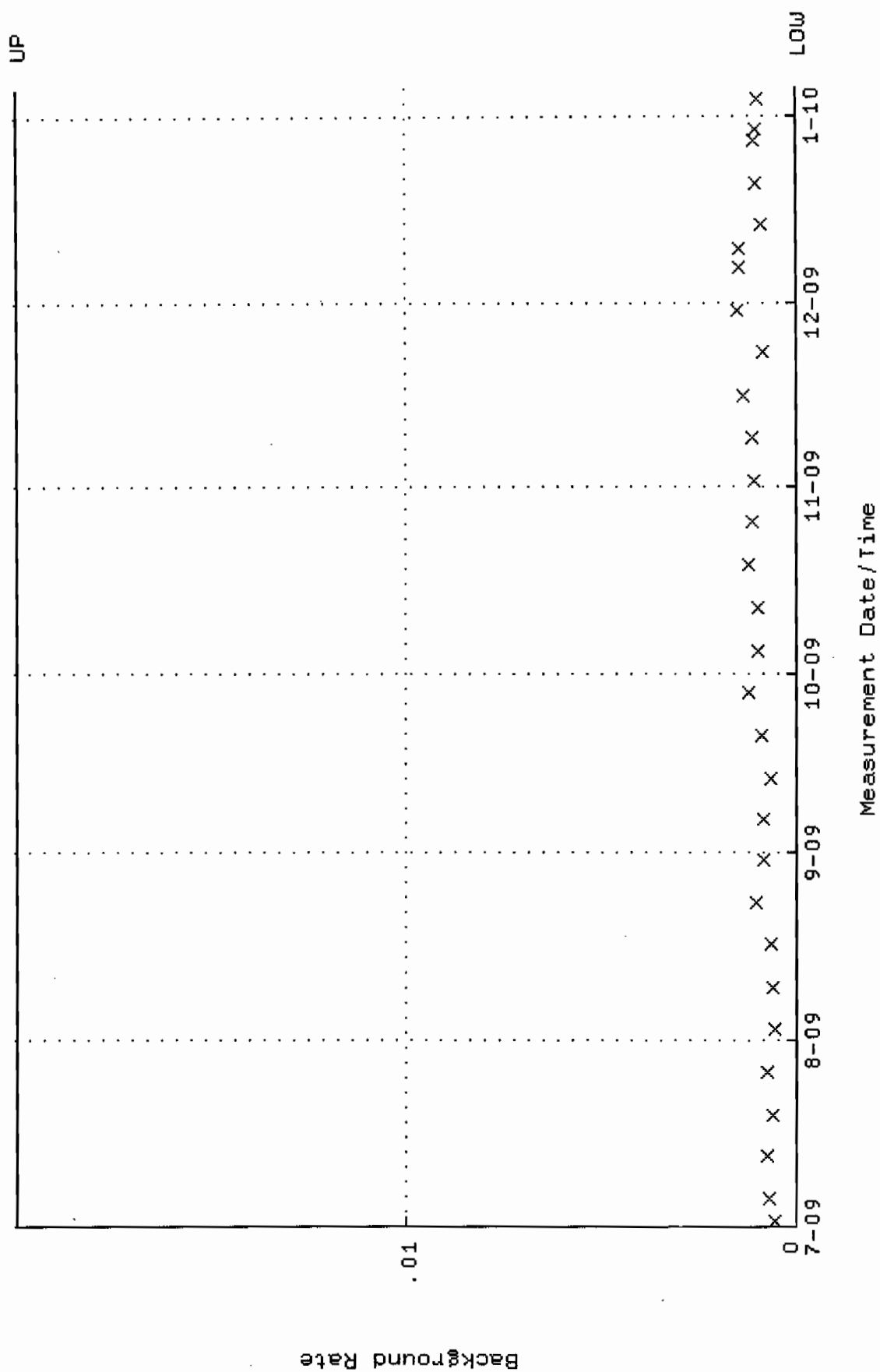
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.309318 through 0.329318



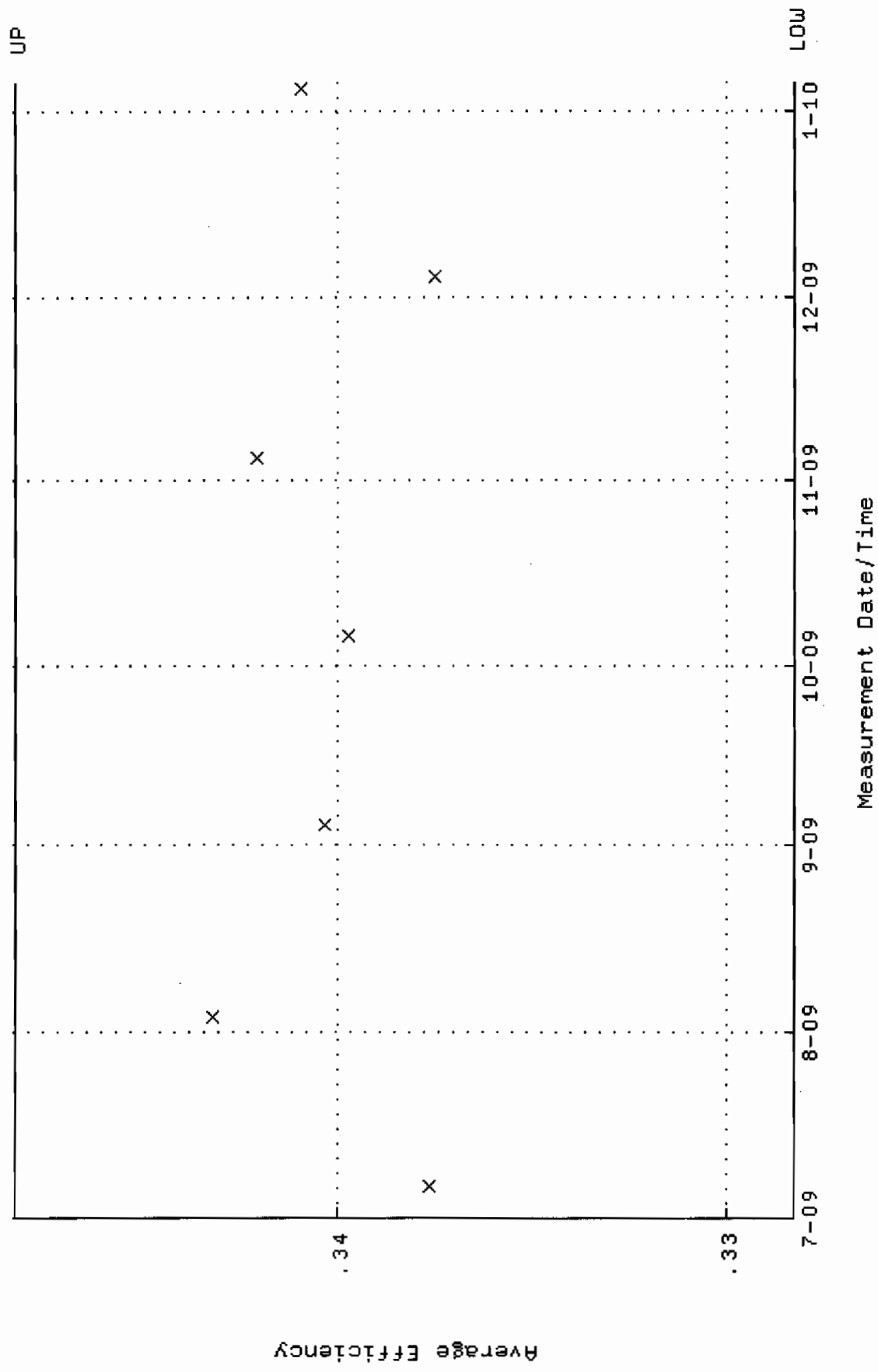
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 Lower/Upper Lmts: 87.8346 through 97.0804



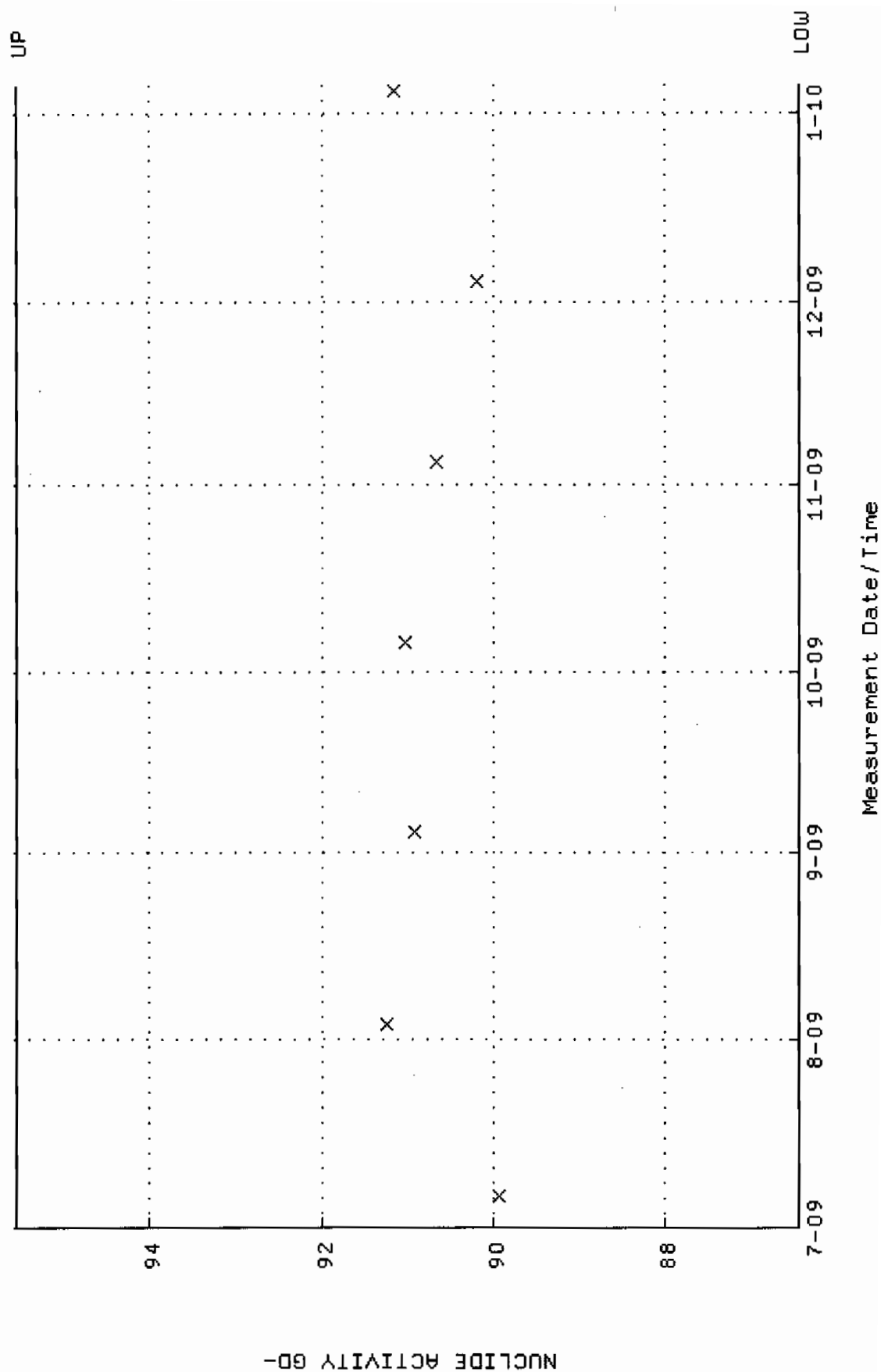
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUL-2009 21:39:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



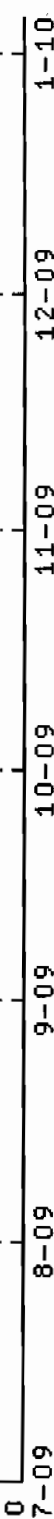
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.328261 through 0.348261



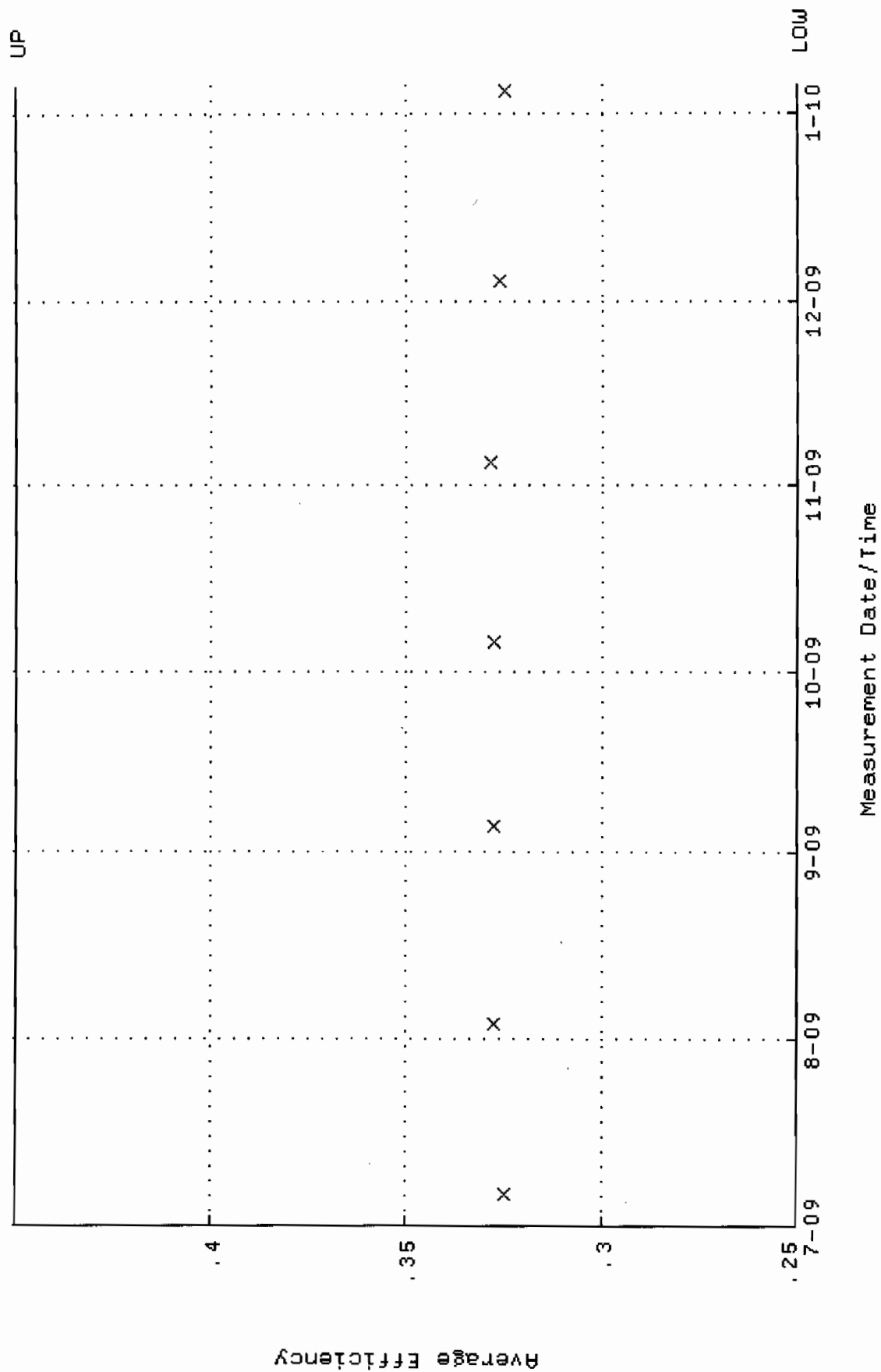
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.4475 through 95.5473



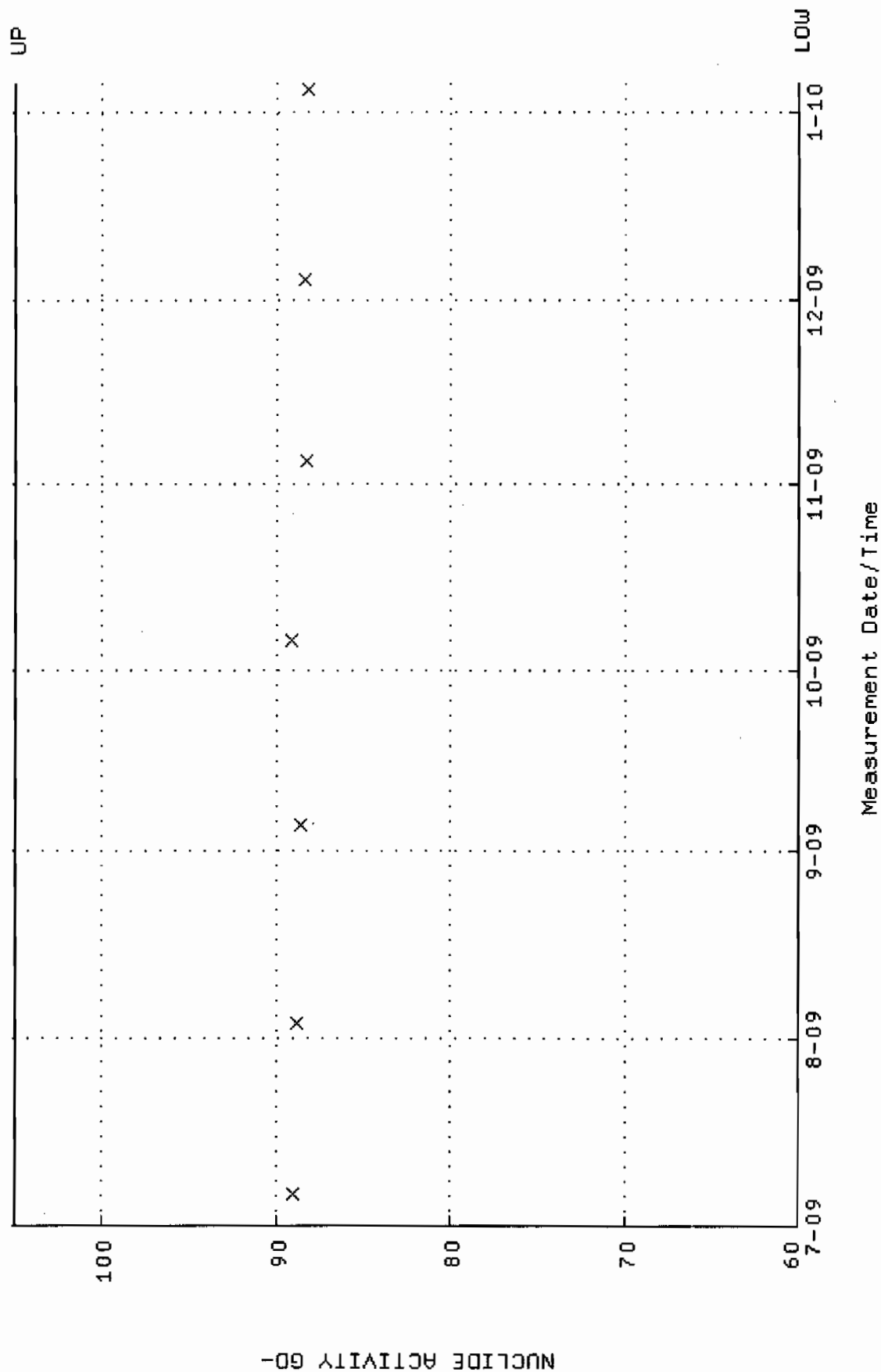
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



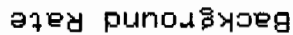
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 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



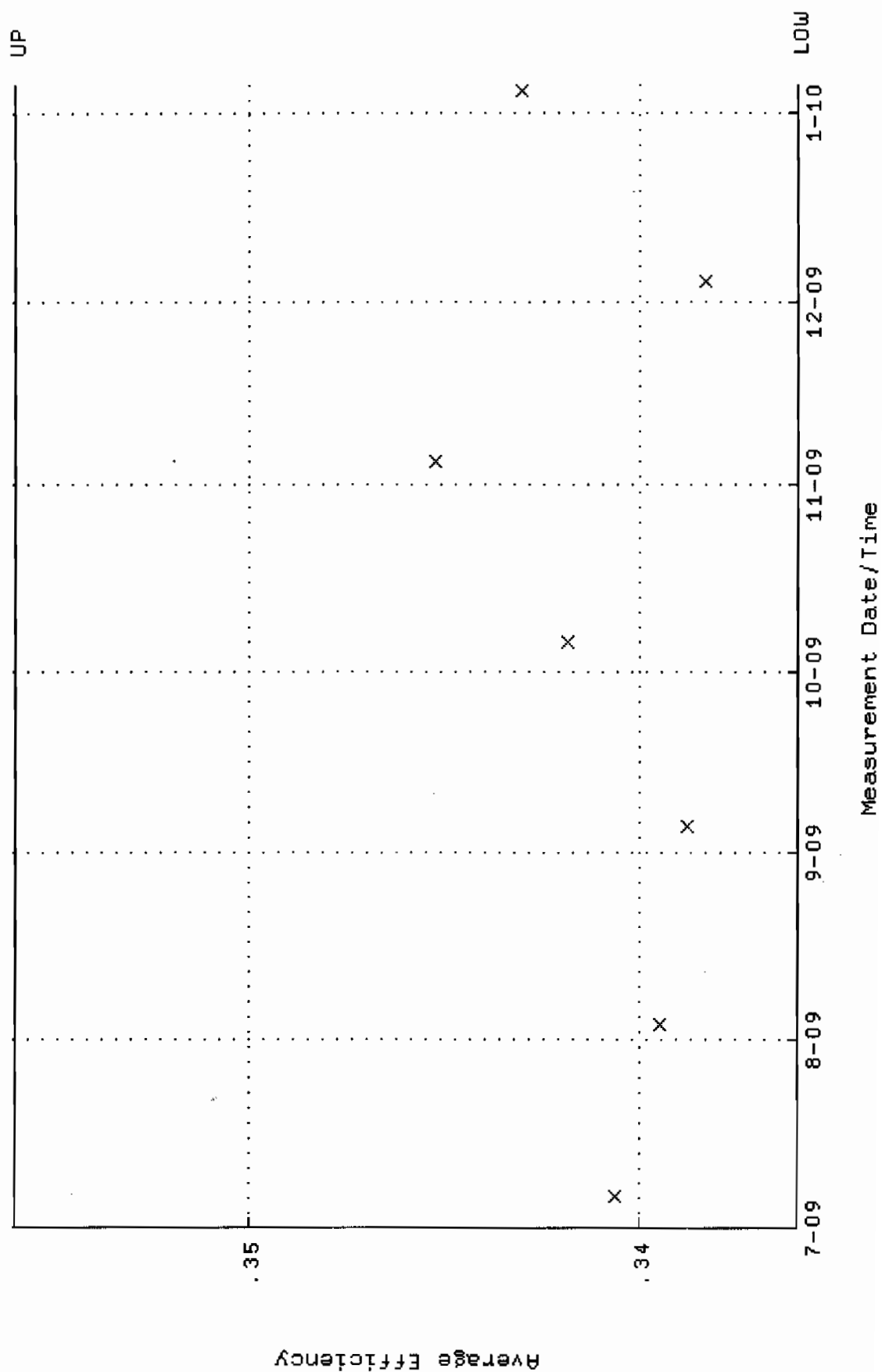
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



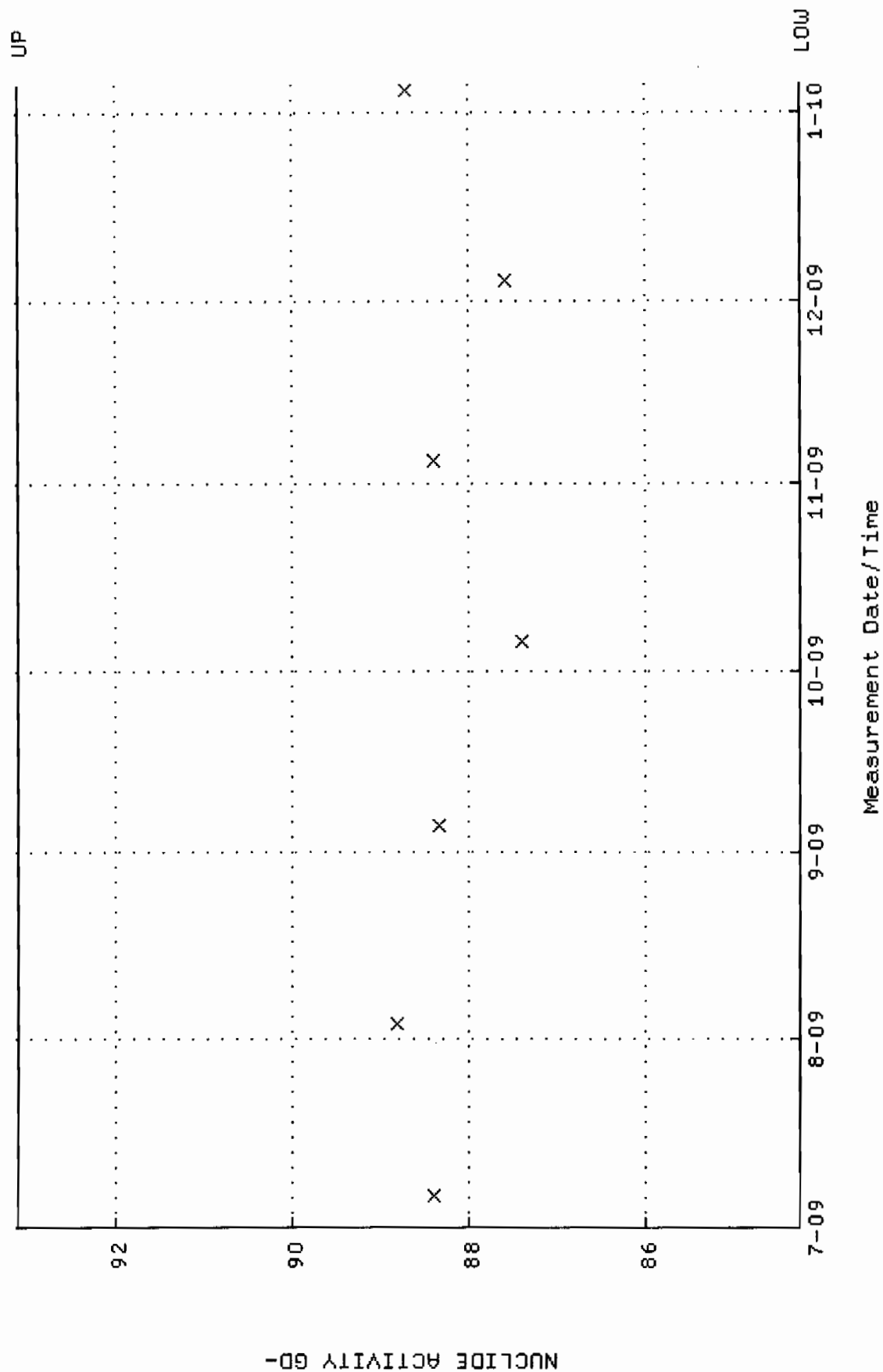
Lower/Upper Lmts: 0.00000E+00 through 2.00000E-02



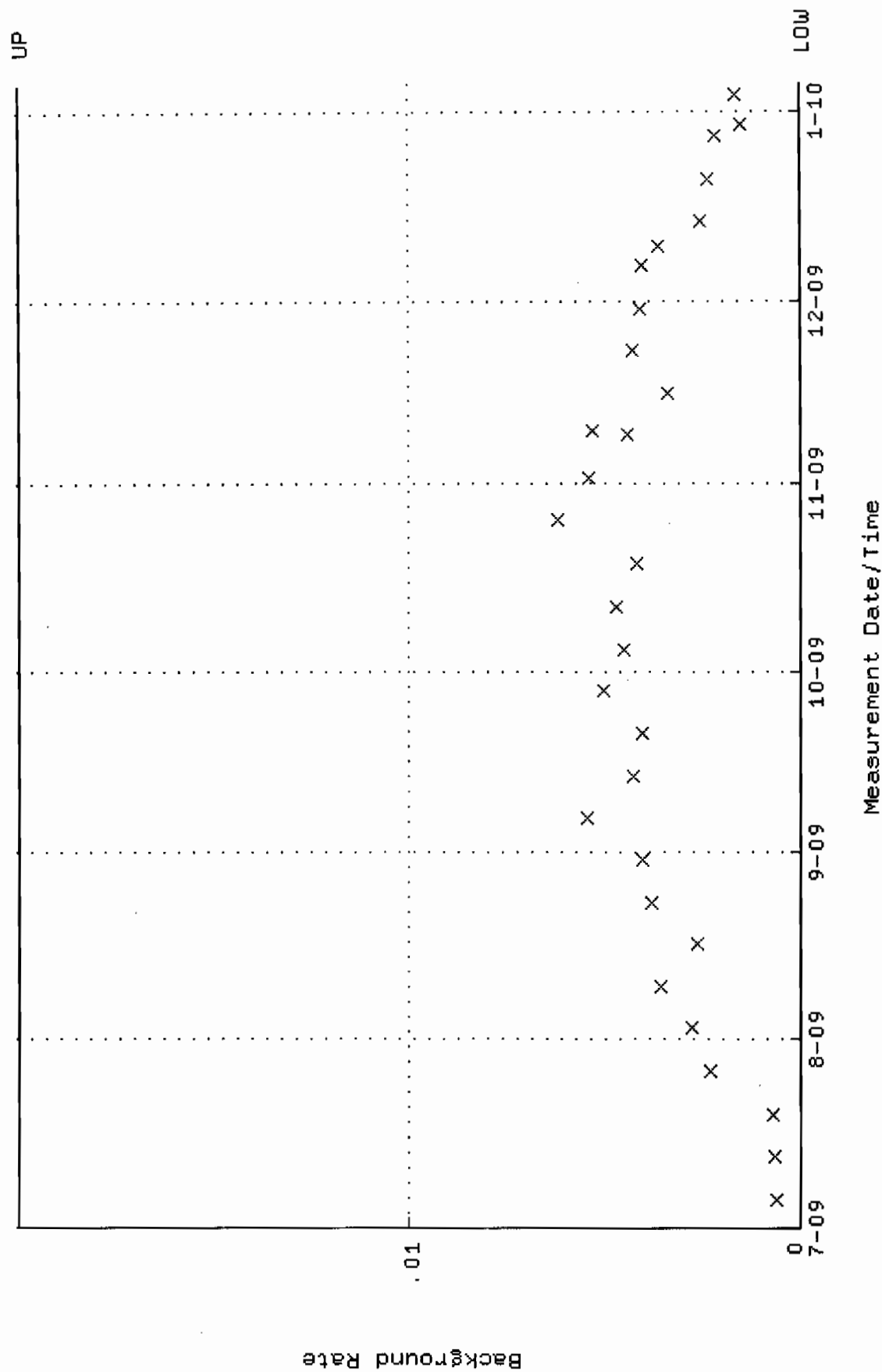
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.335973 through 0.355973



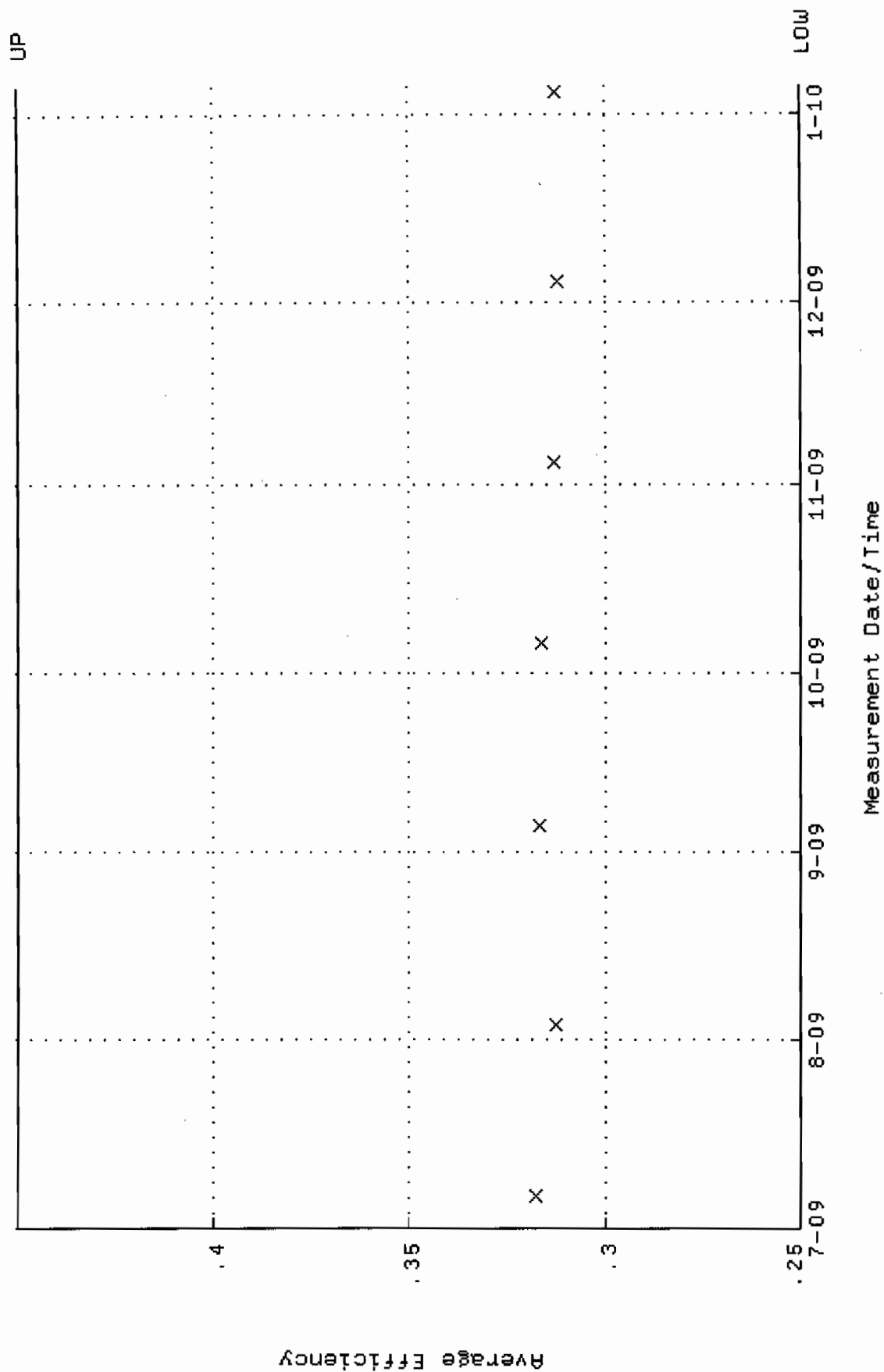
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 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.2440 through 93.1118



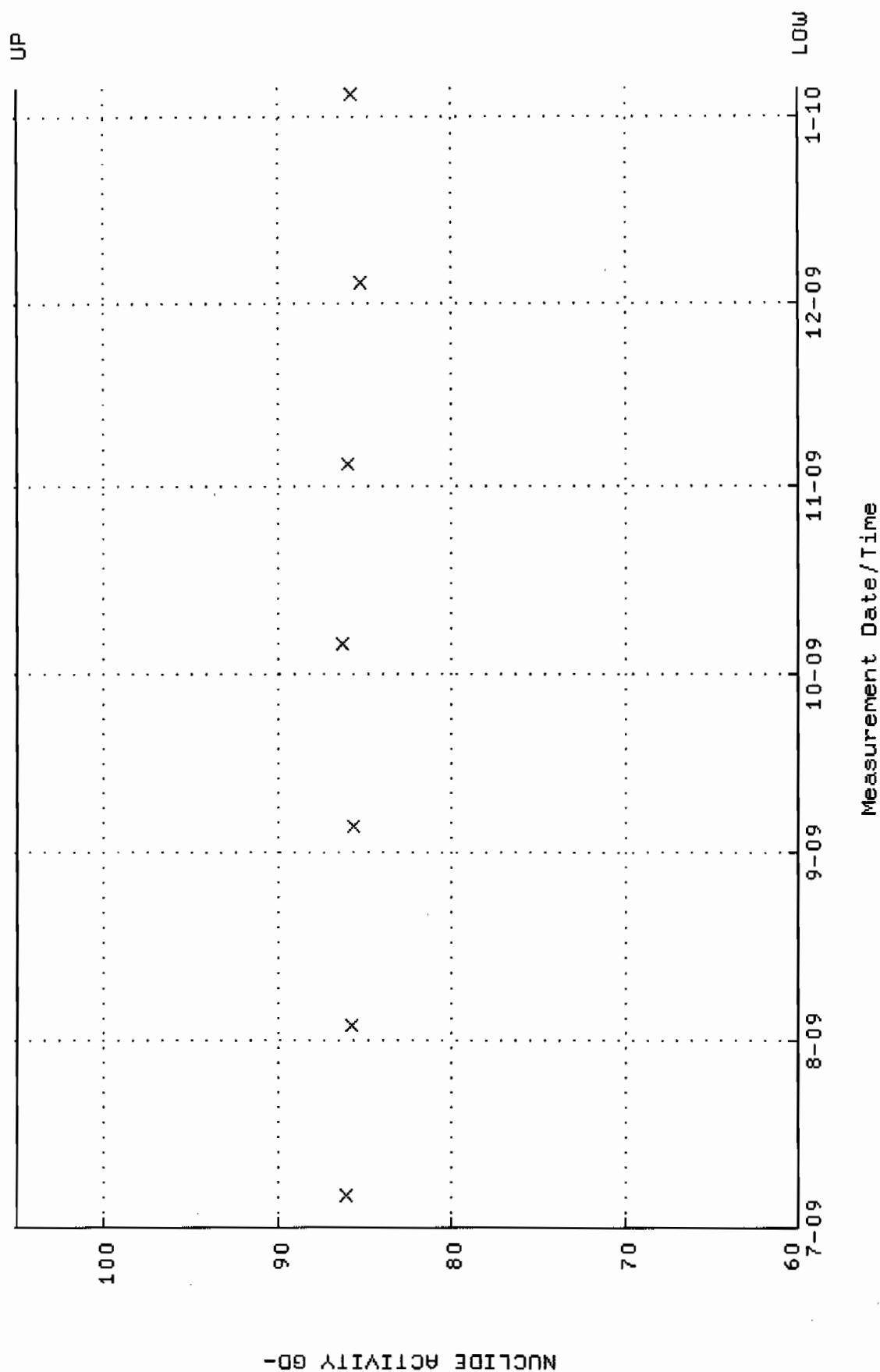
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 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



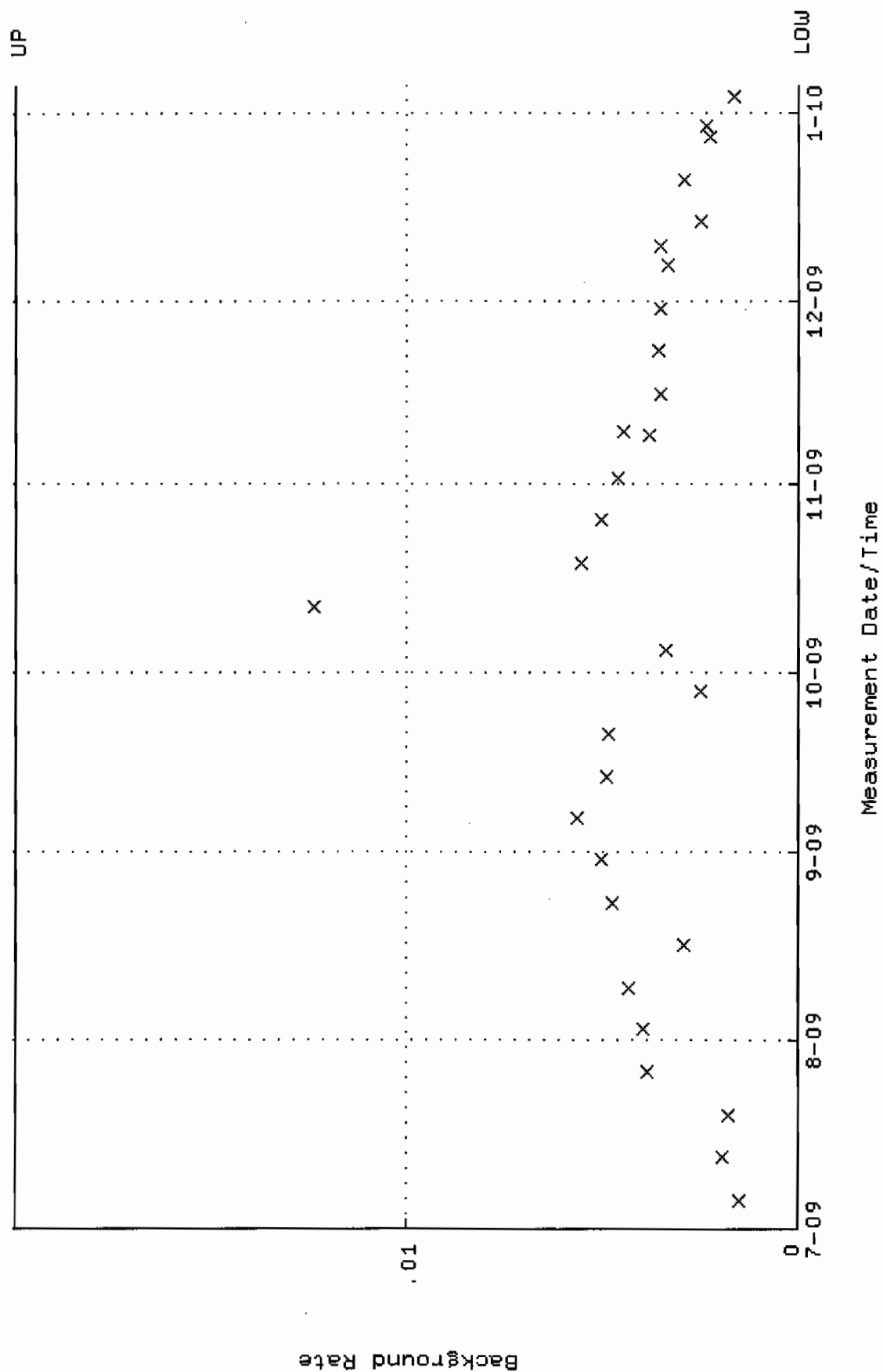
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



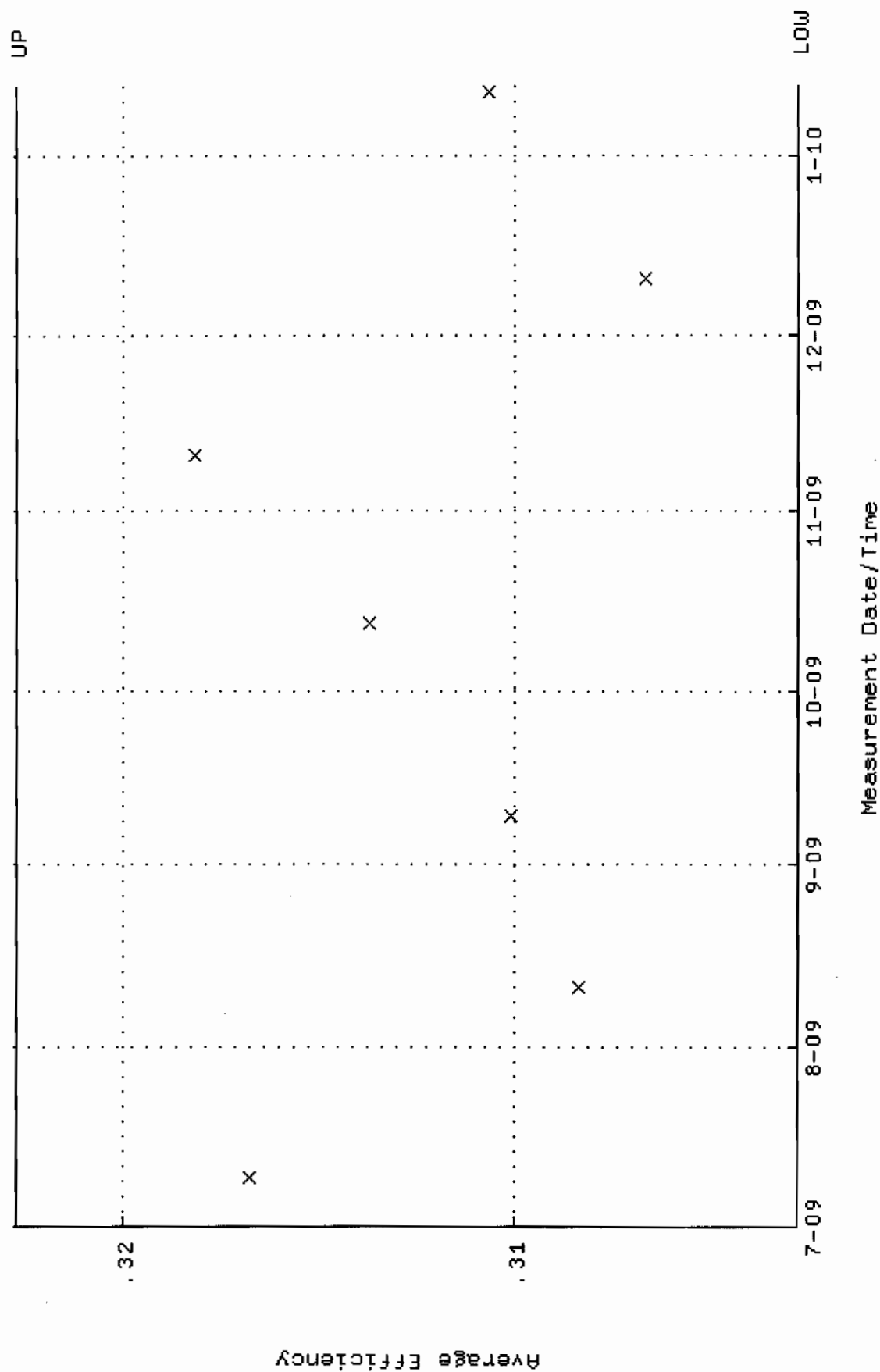
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 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:17 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



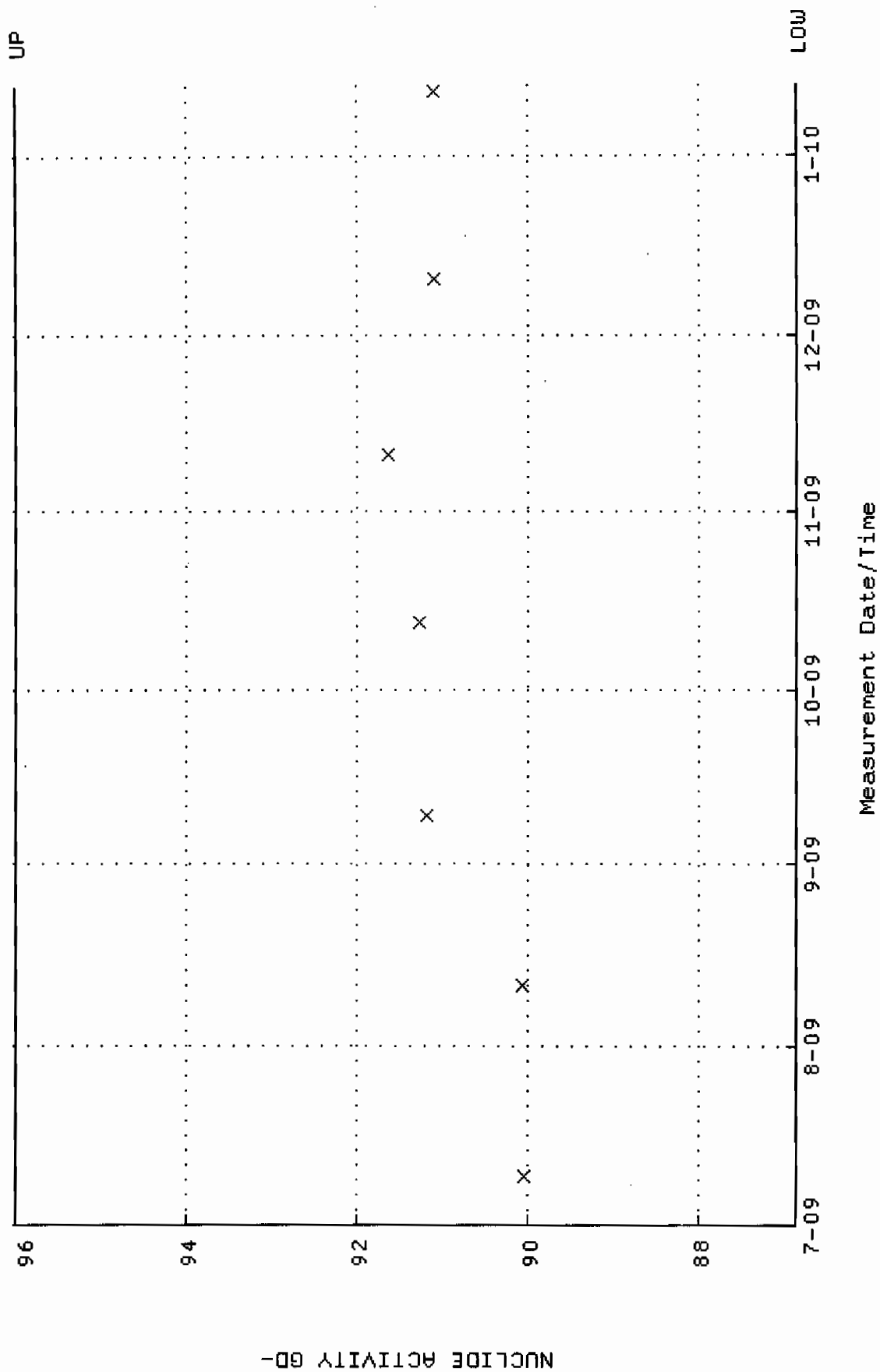
QA filename : DKA100:[ENV_ALPHA.QA.B]B048.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:00 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



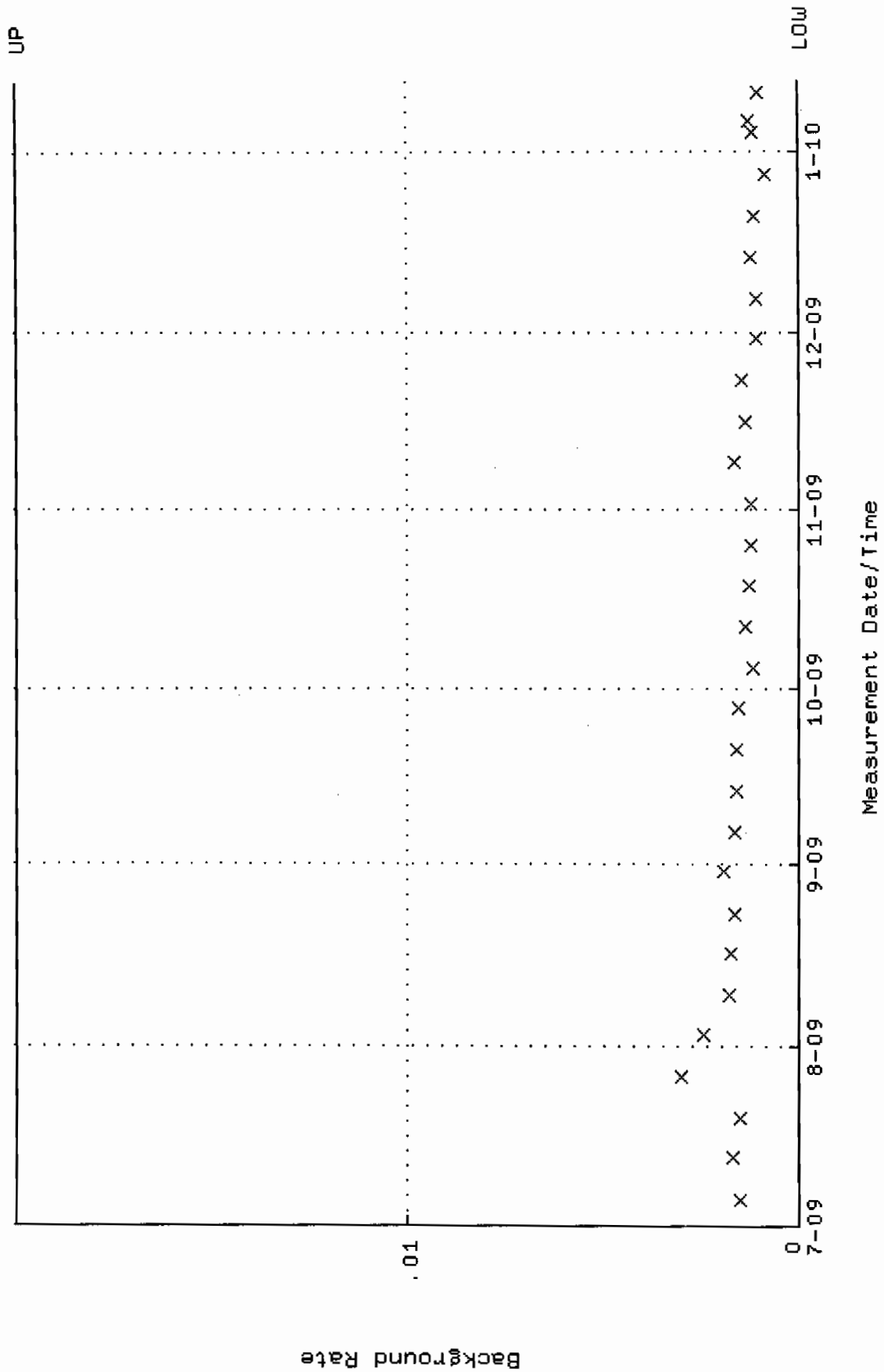
QA filename : DKA100:[ENV_ALPHA.QA.W]W065.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.302750 through 0.322750



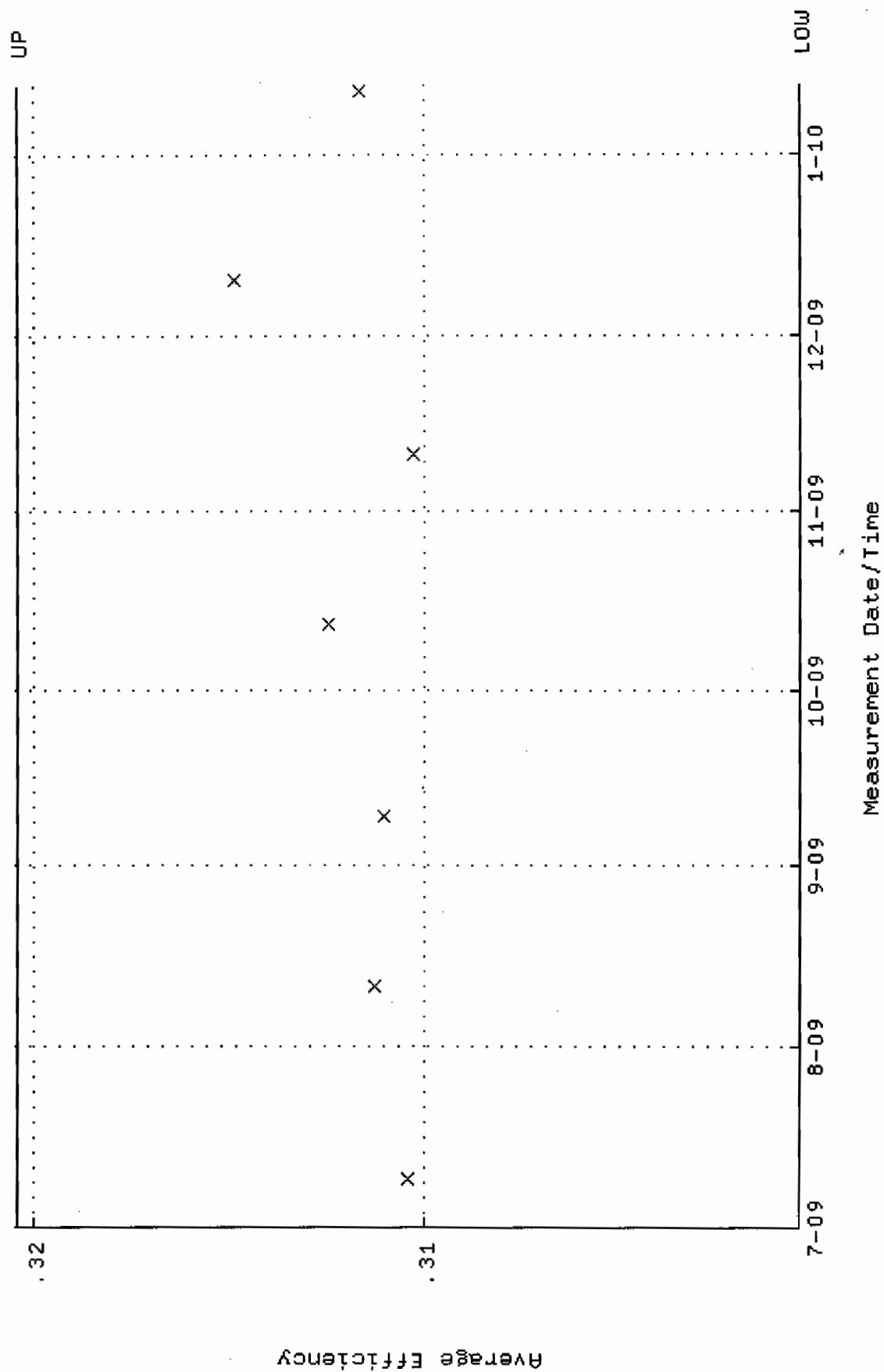
QA filename : DKA100:[ENV_ALPHA.QA.W]W065.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.8638 through 96.0074



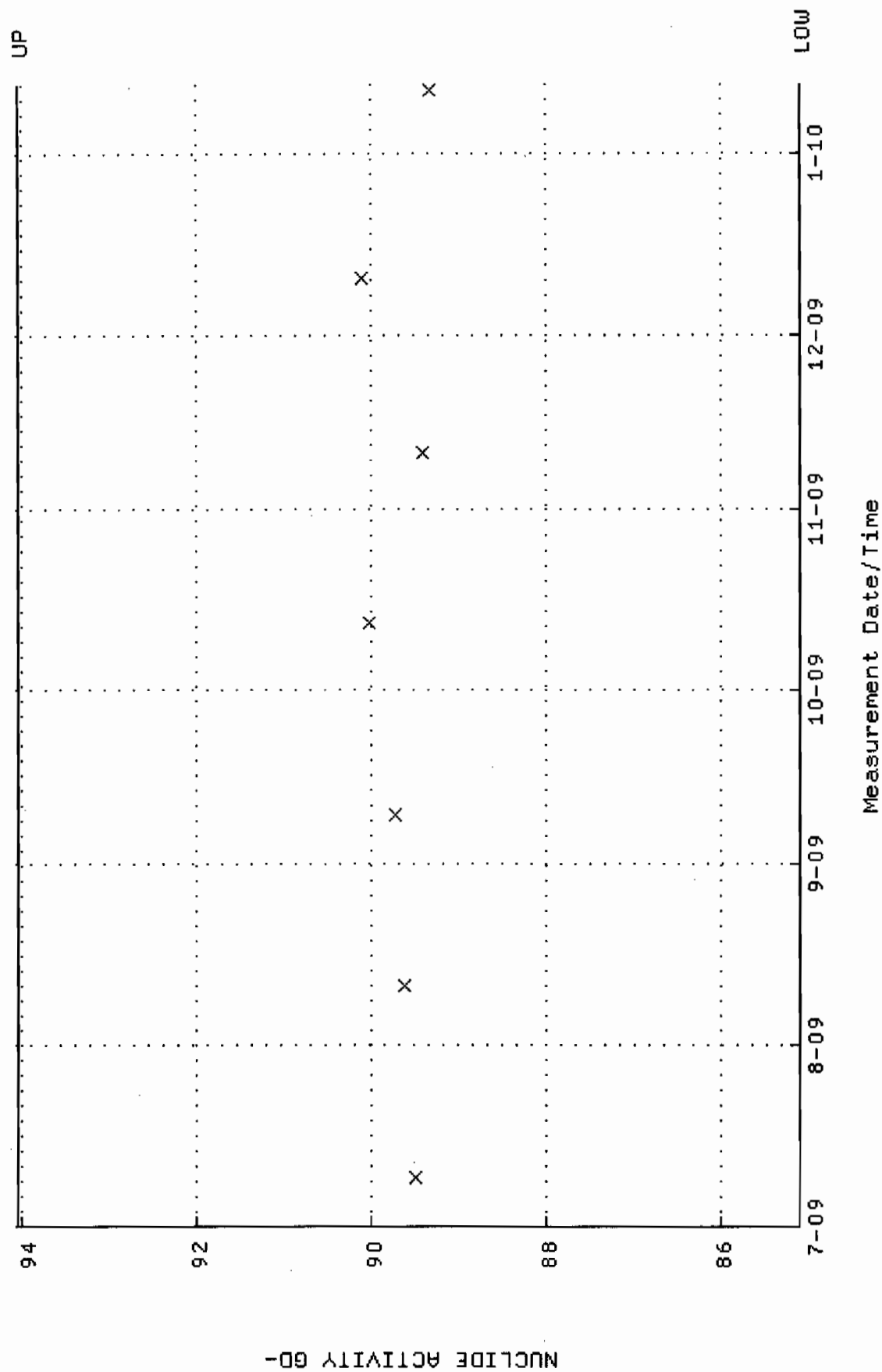
QA filename : DKA100:[ENV_ALPHA.QA.B]B065.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



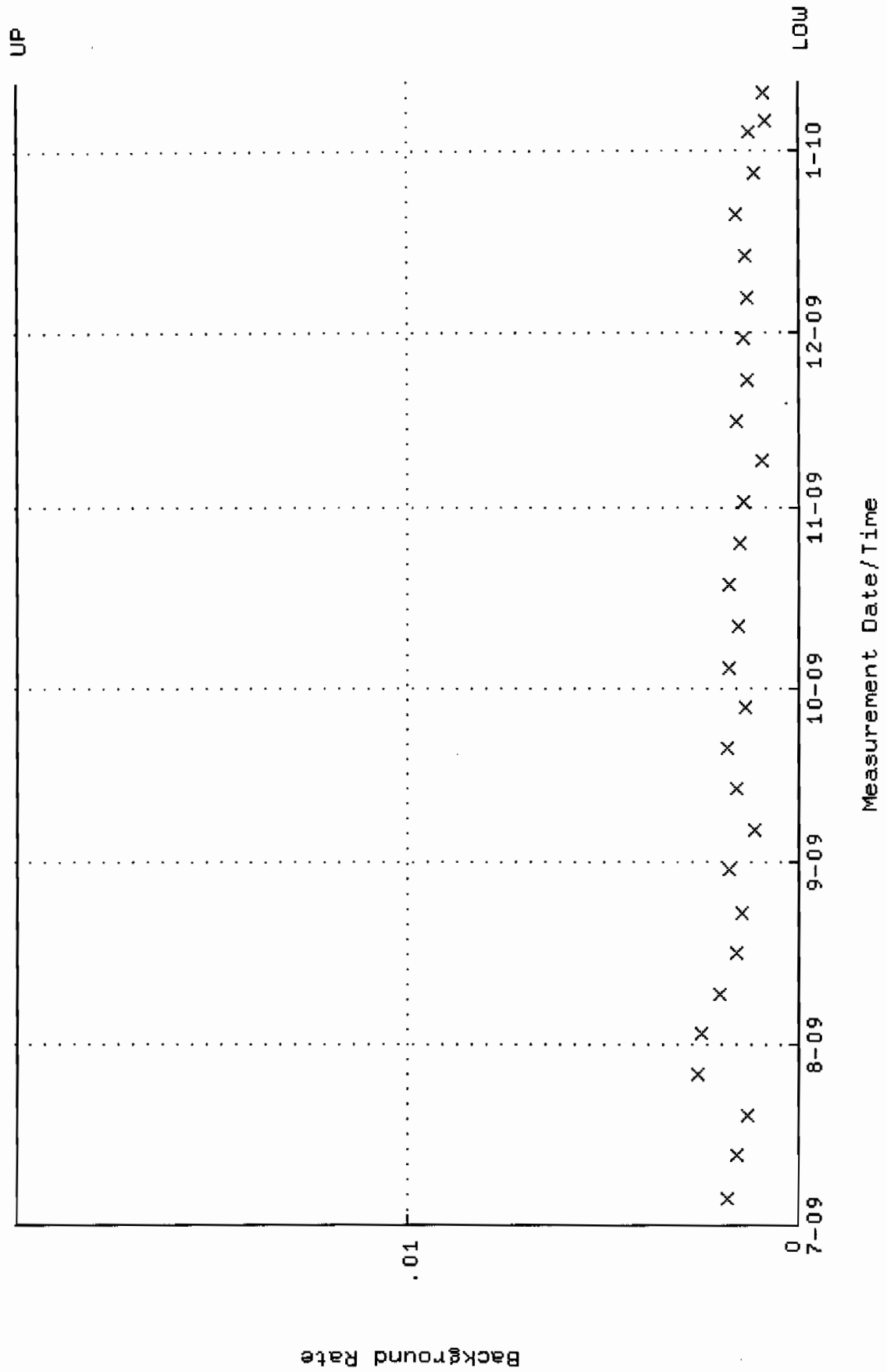
QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.300416 through 0.320416



QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.0864 through 94.0428



QA filename : DKA100:[ENV_ALPHA.QA.B]B066.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

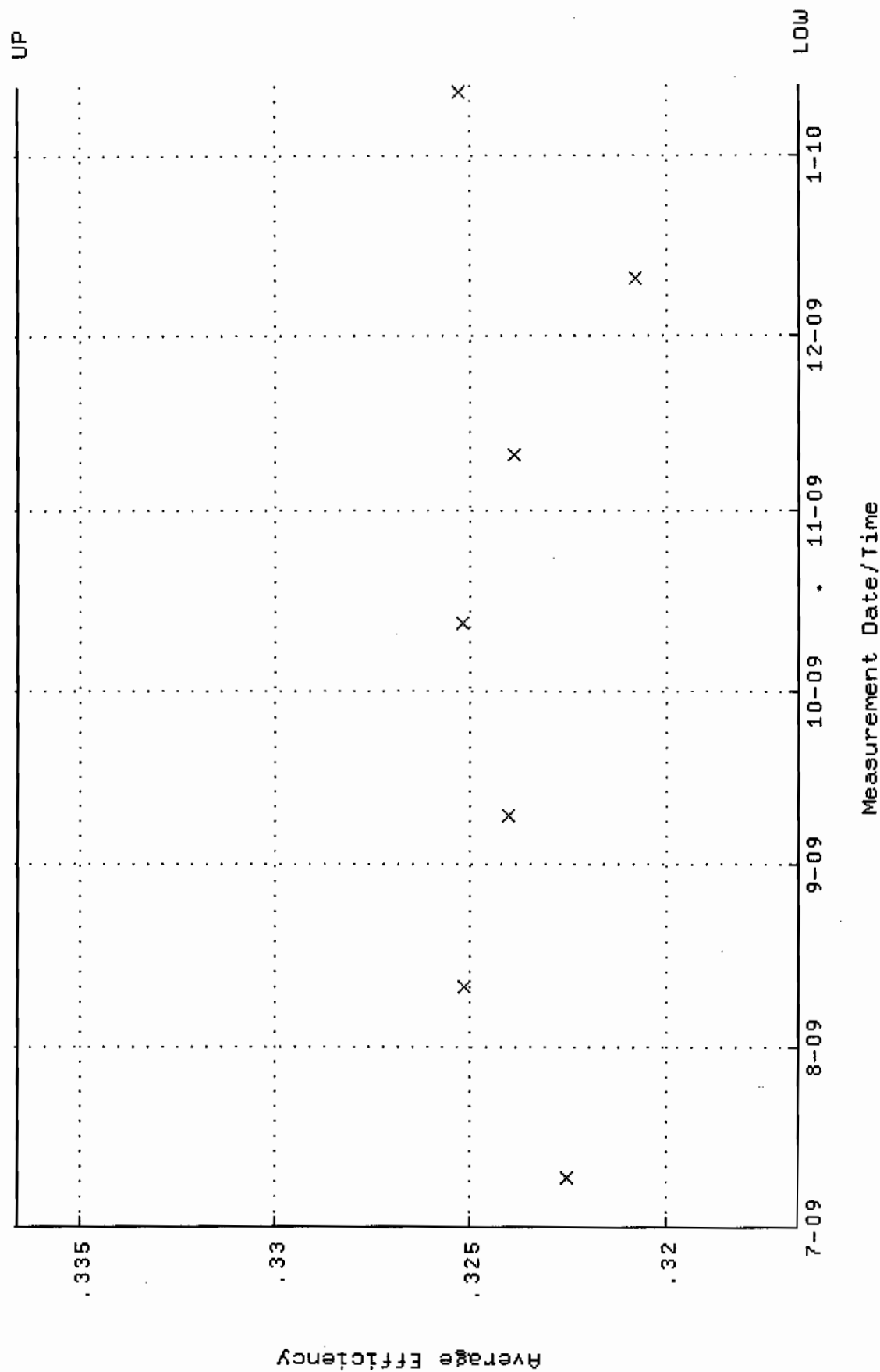


QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2

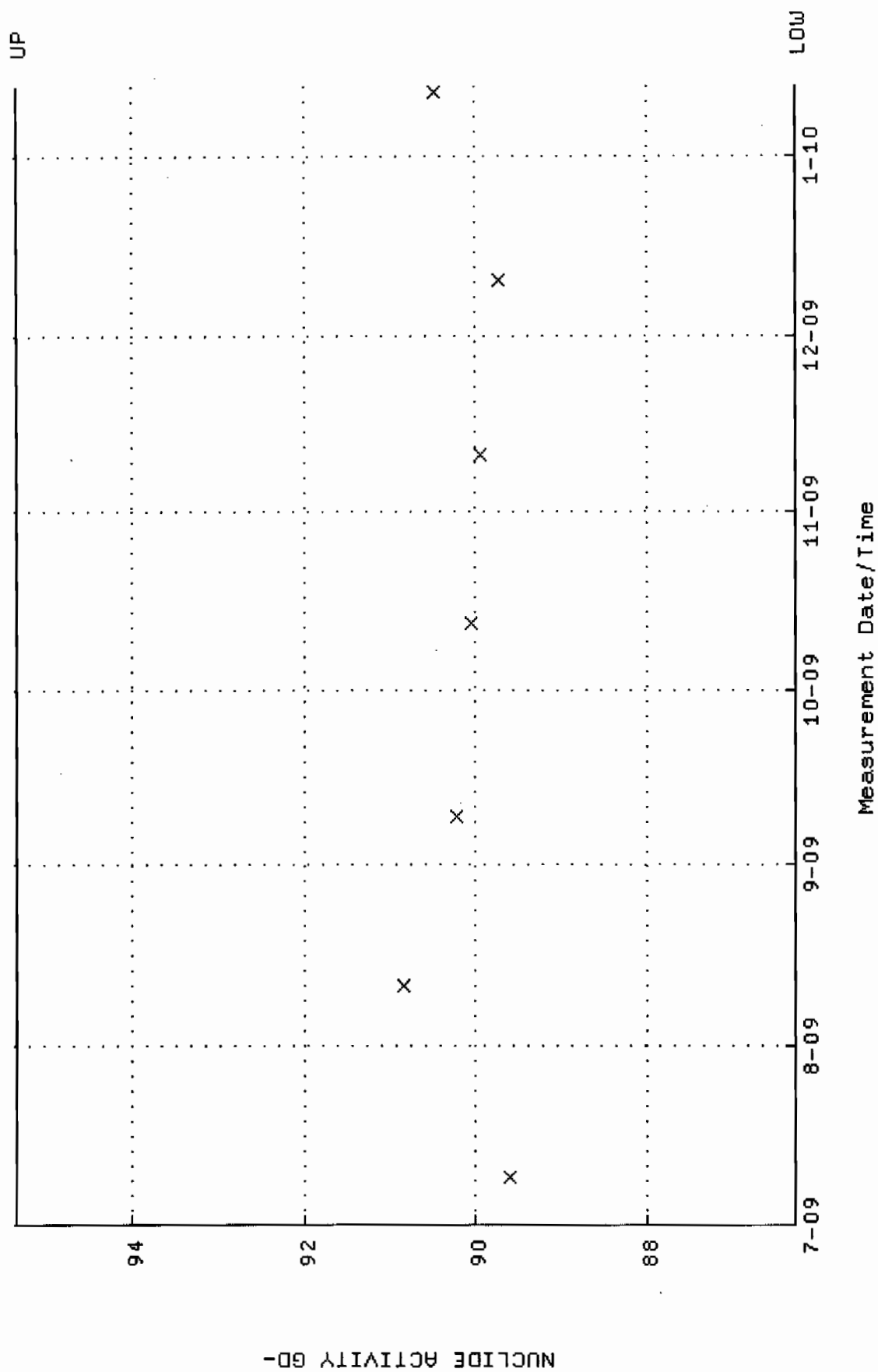
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00

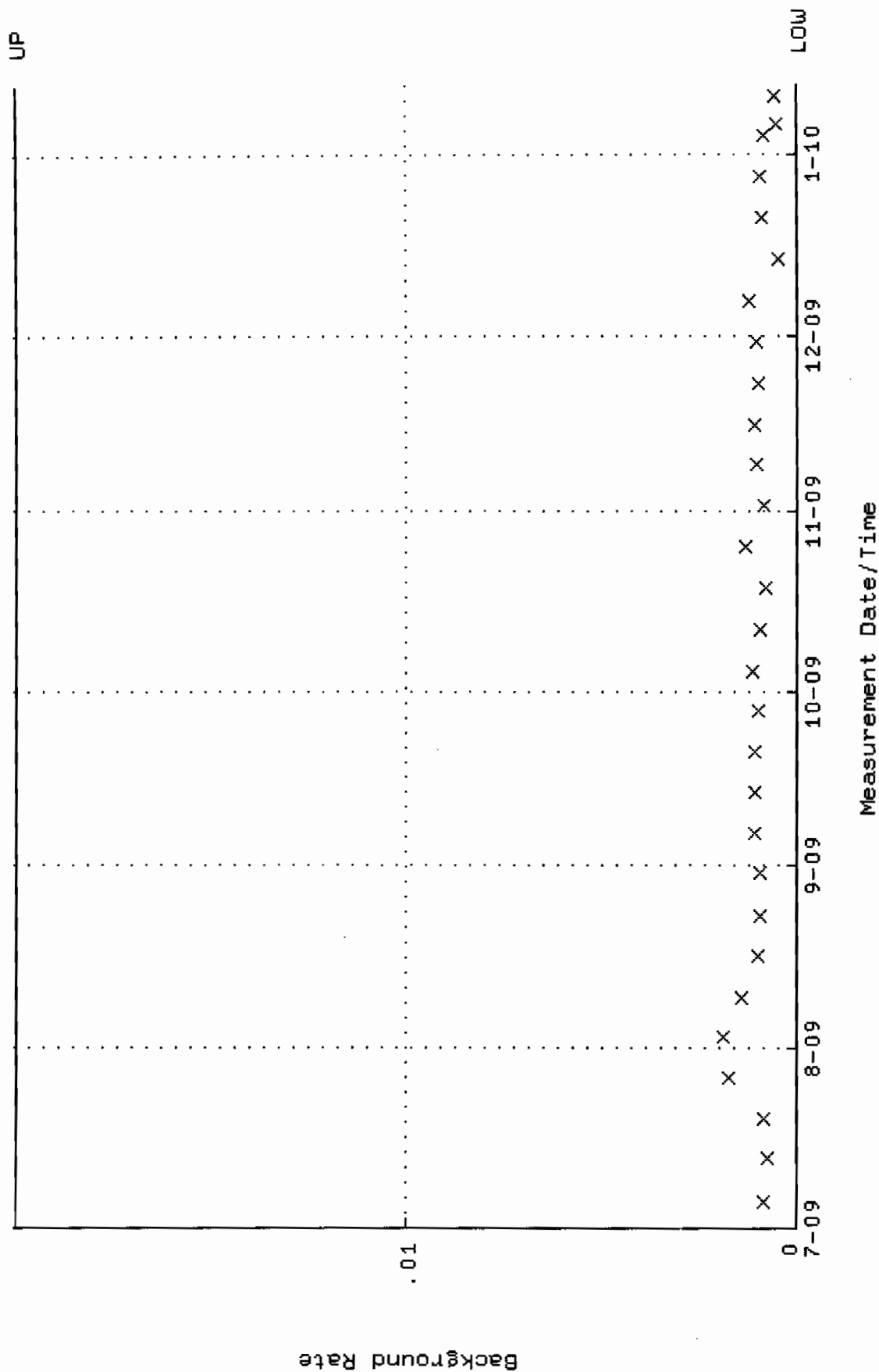
Lower/Upper Lmts: 0.316597 through 0.336597



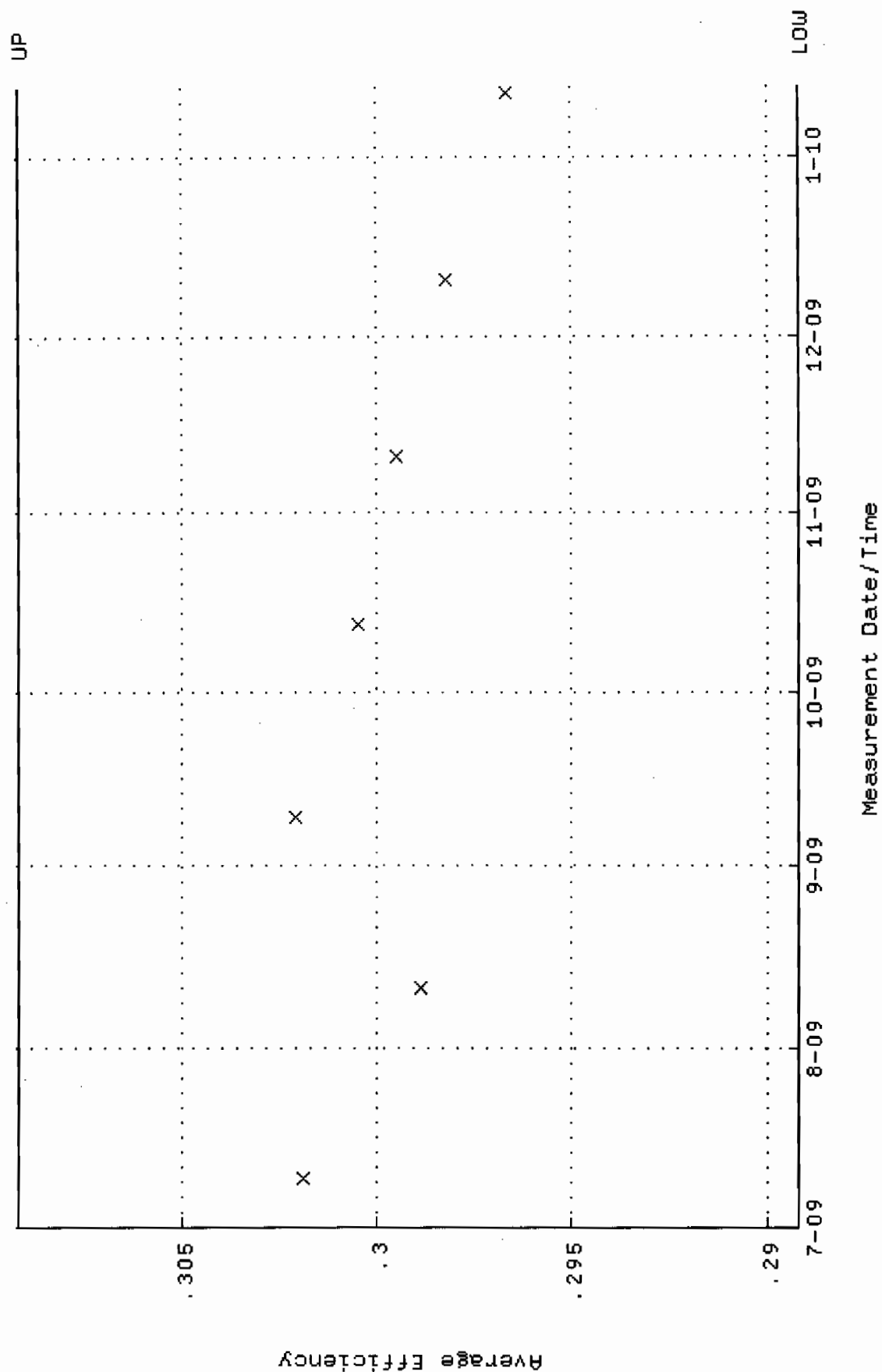
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.2683 through 95.3491



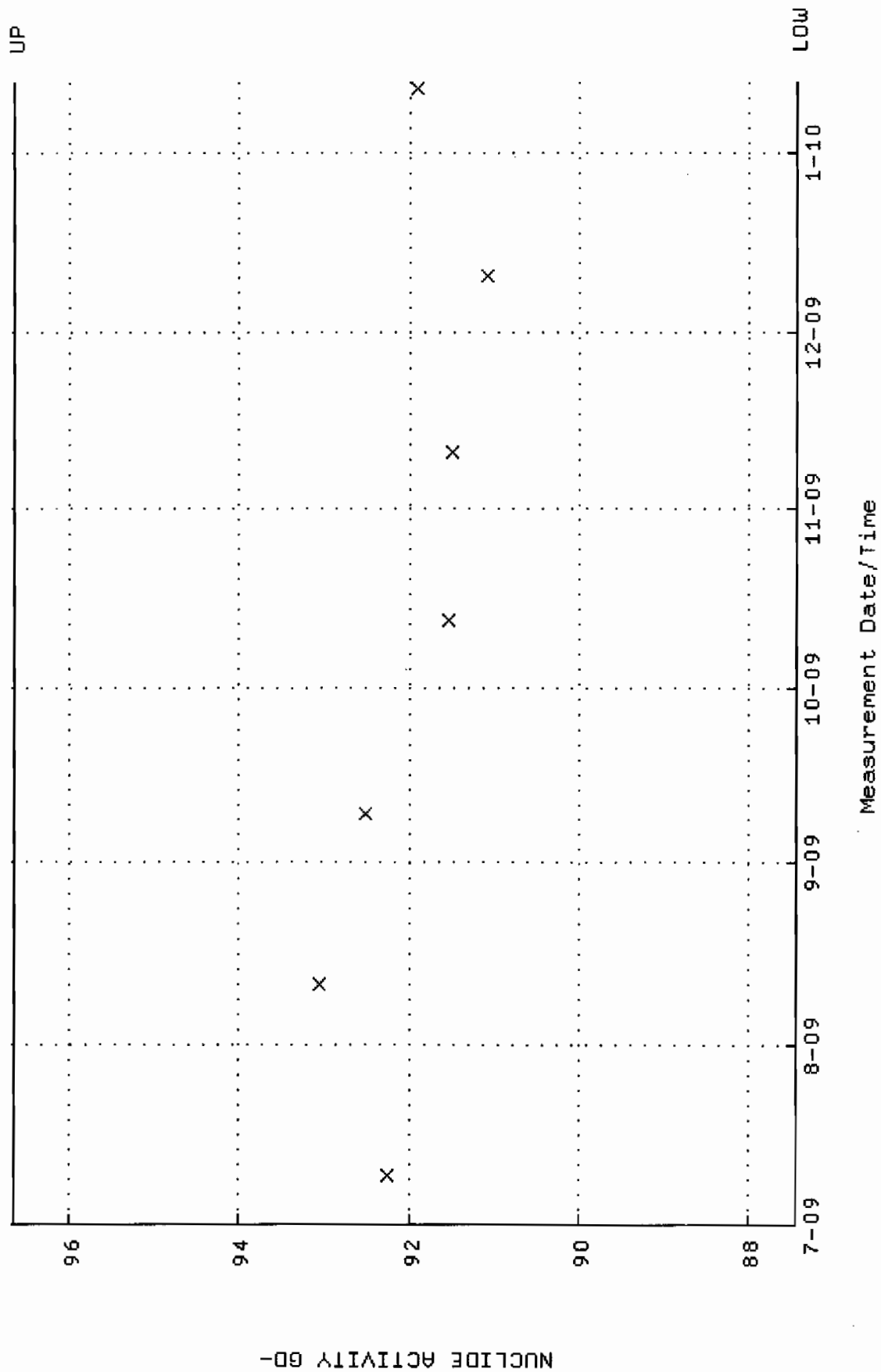
QA filename : DKA100:[ENV_ALPHA.QA.B]B067.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



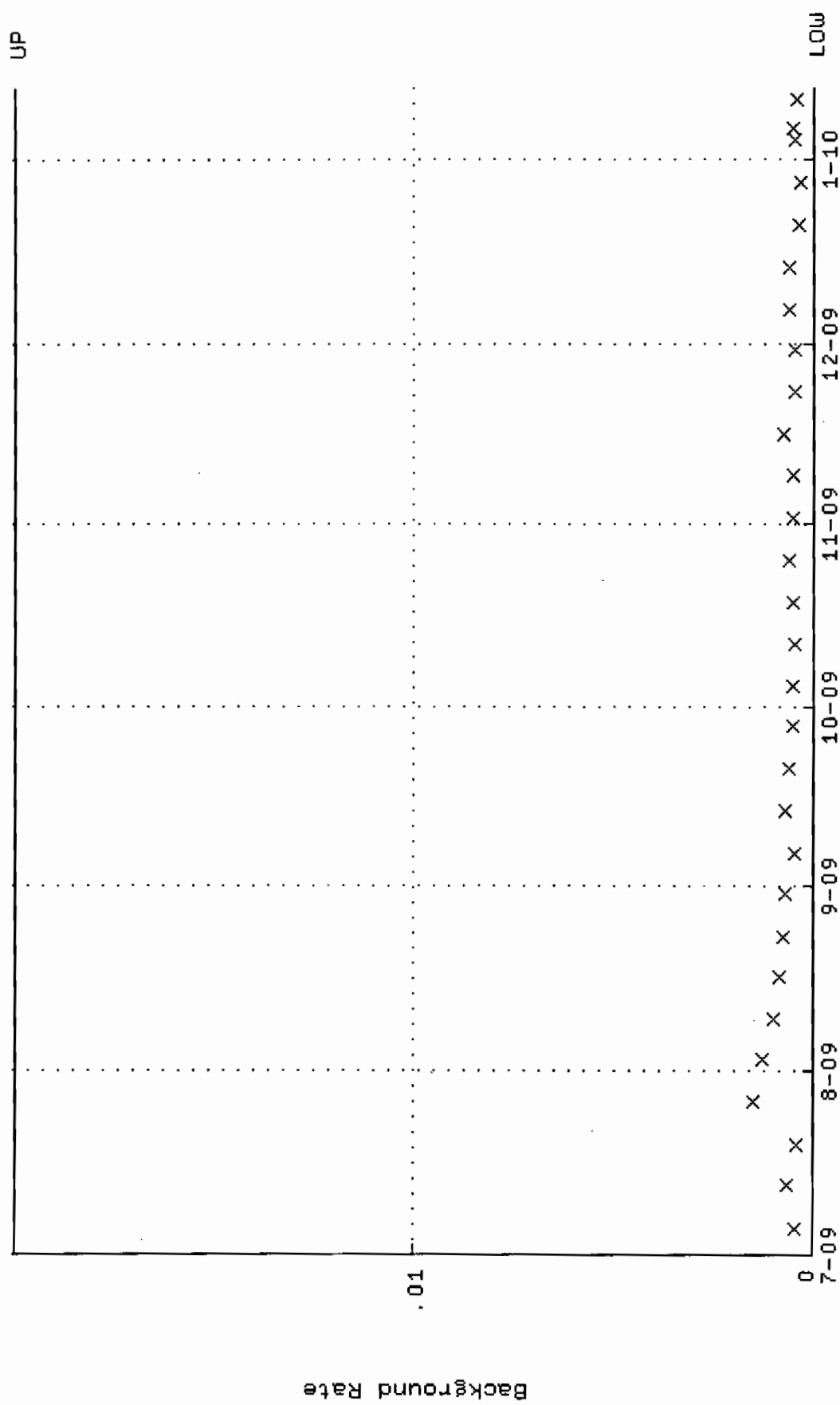
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.289178 through 0.309178



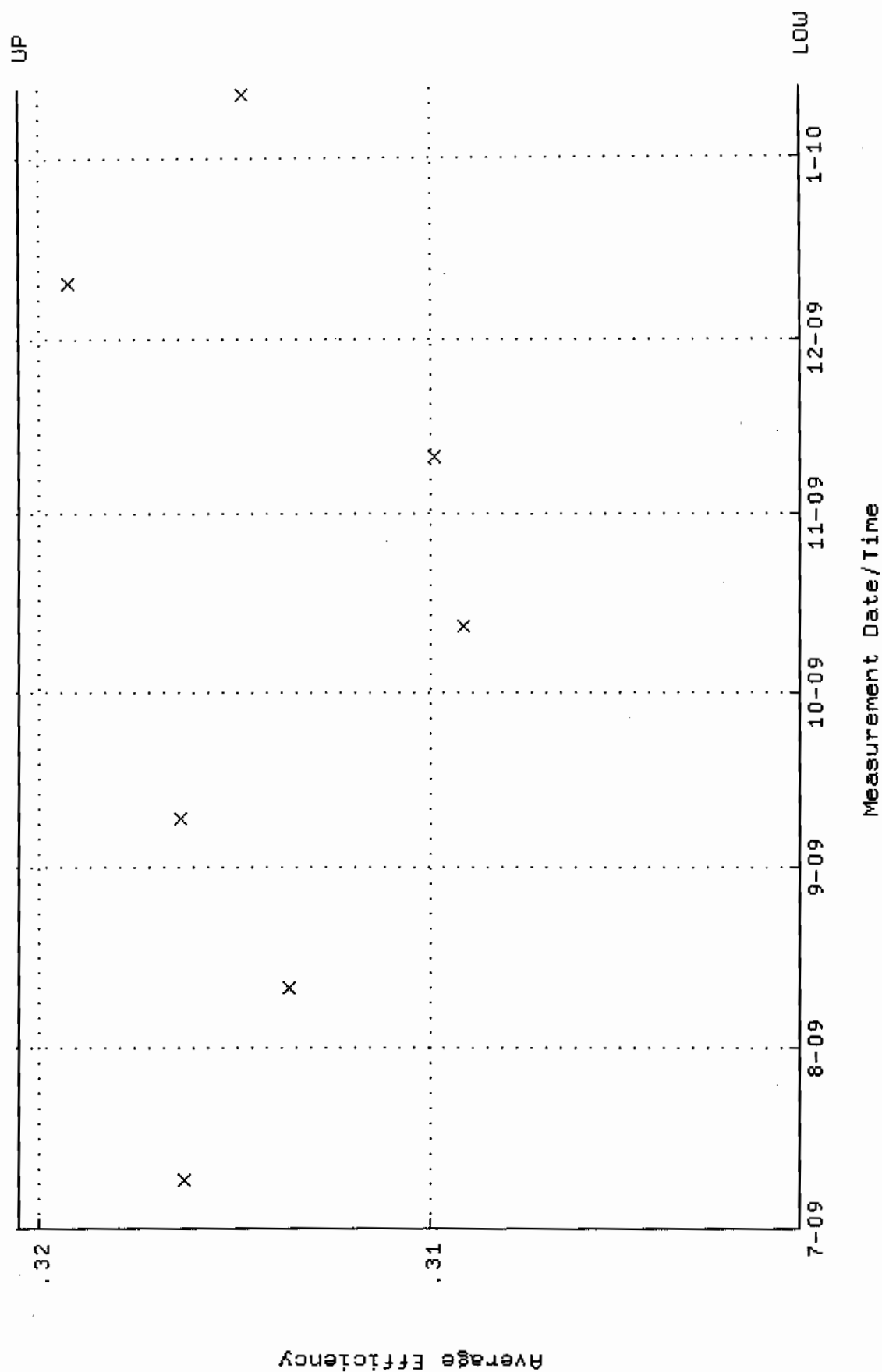
QA filename : DKA100:[ENV_ALPHA.QA.W]W068.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:10 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.4419 through 96.6463



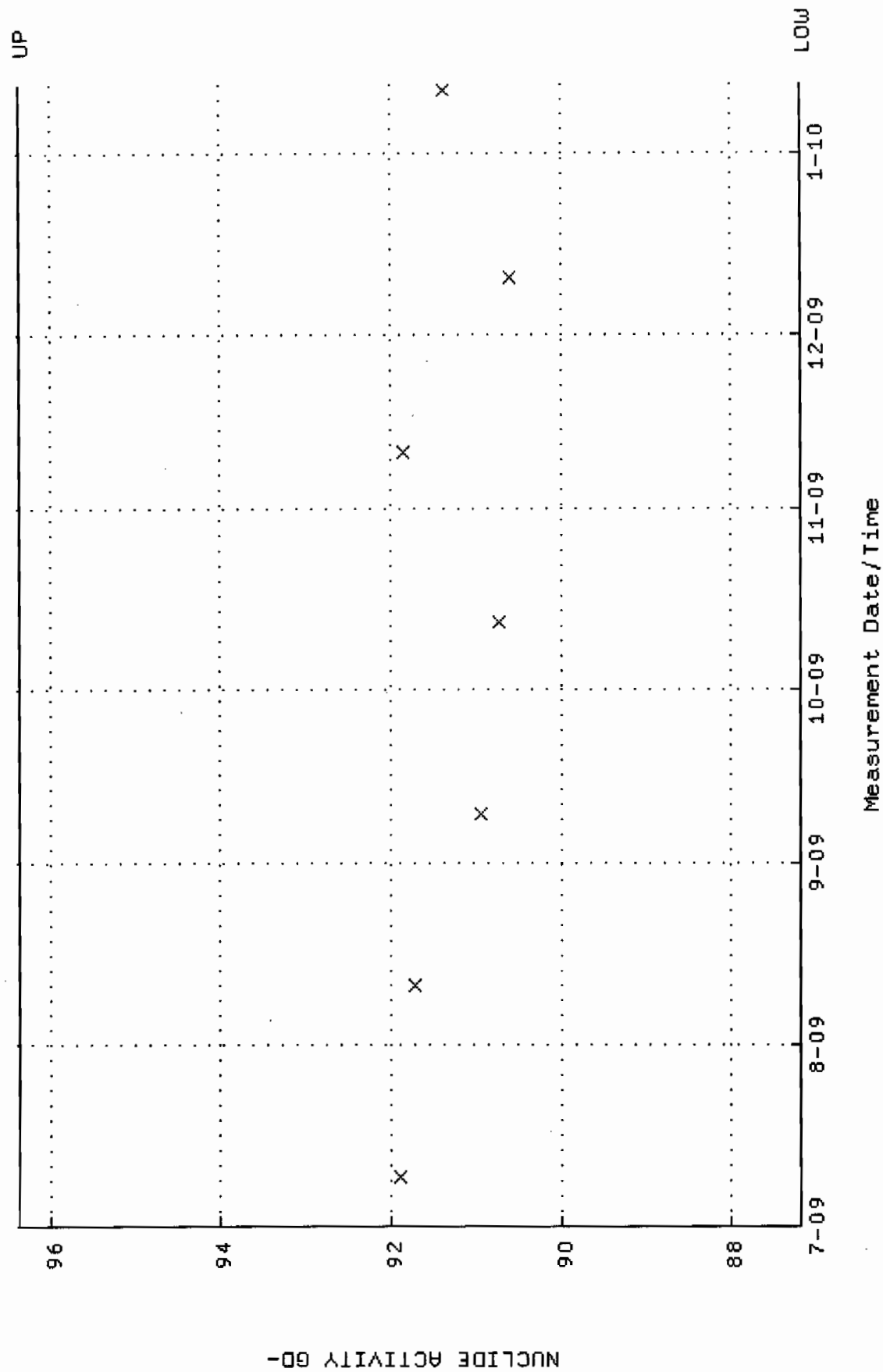
QA filename : DKA100:[ENV_ALPHA.QA.B]B068.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:01 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



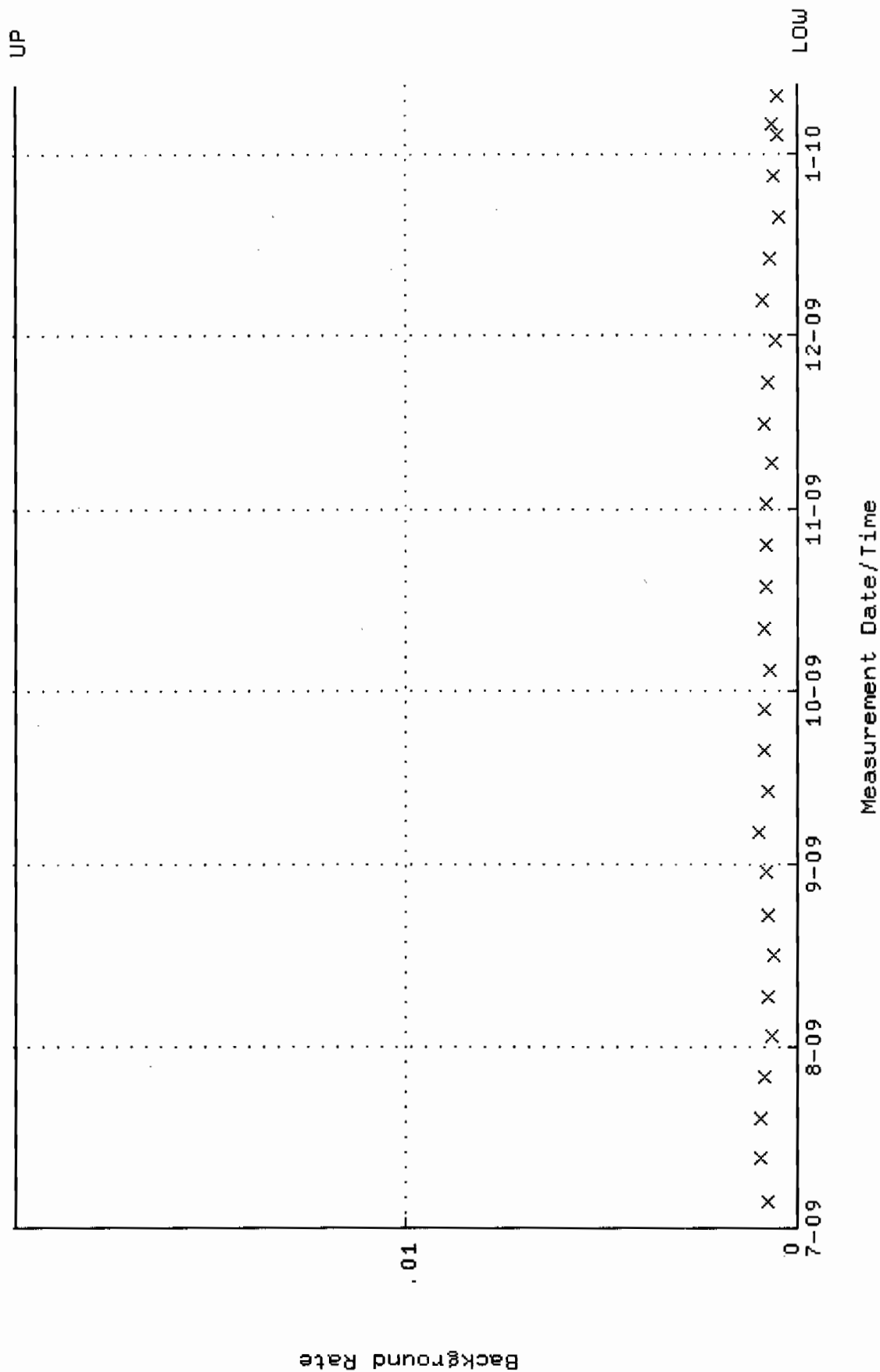
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.300530 through 0.320530



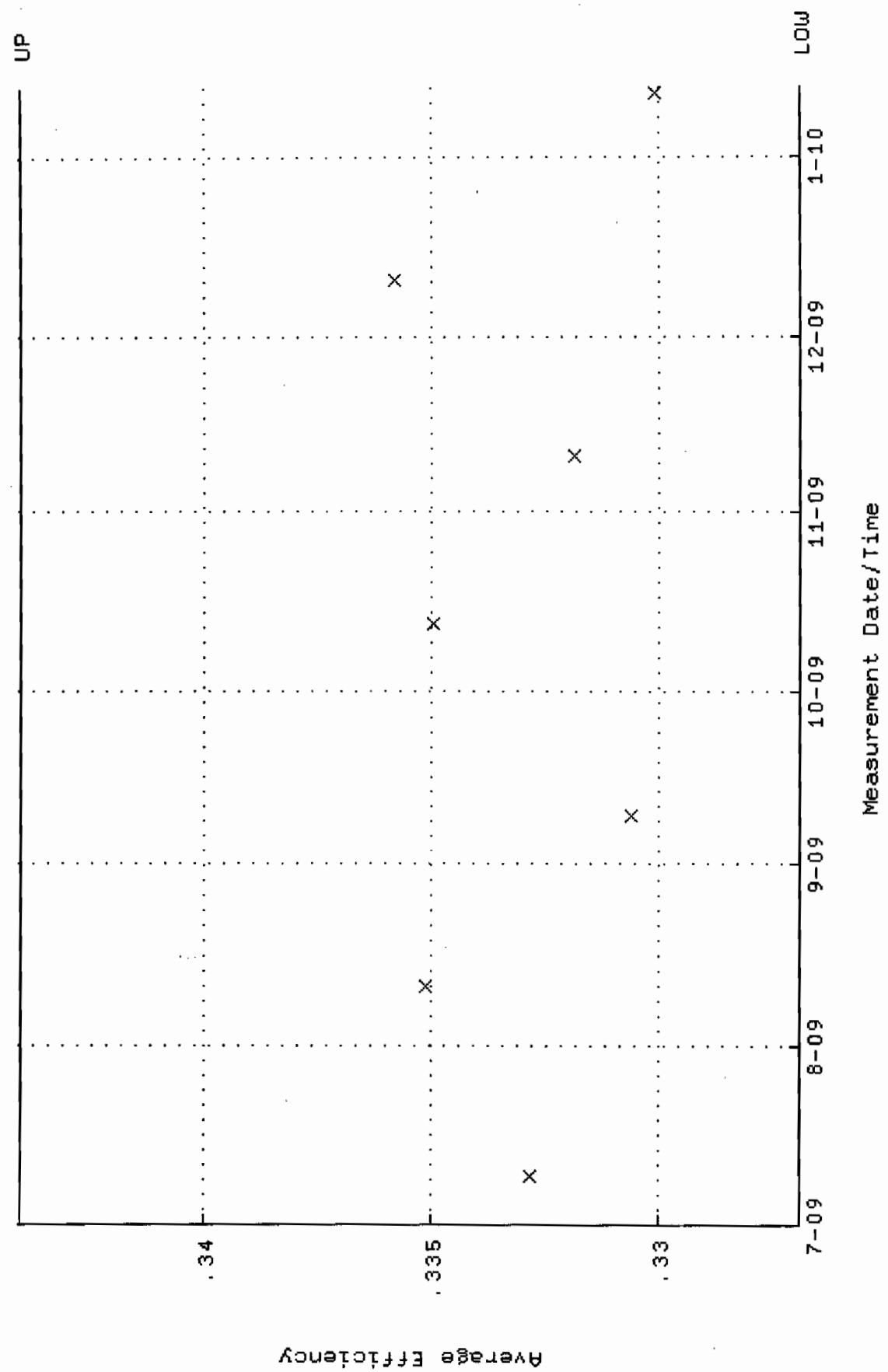
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:12 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.1845 through 96.3619



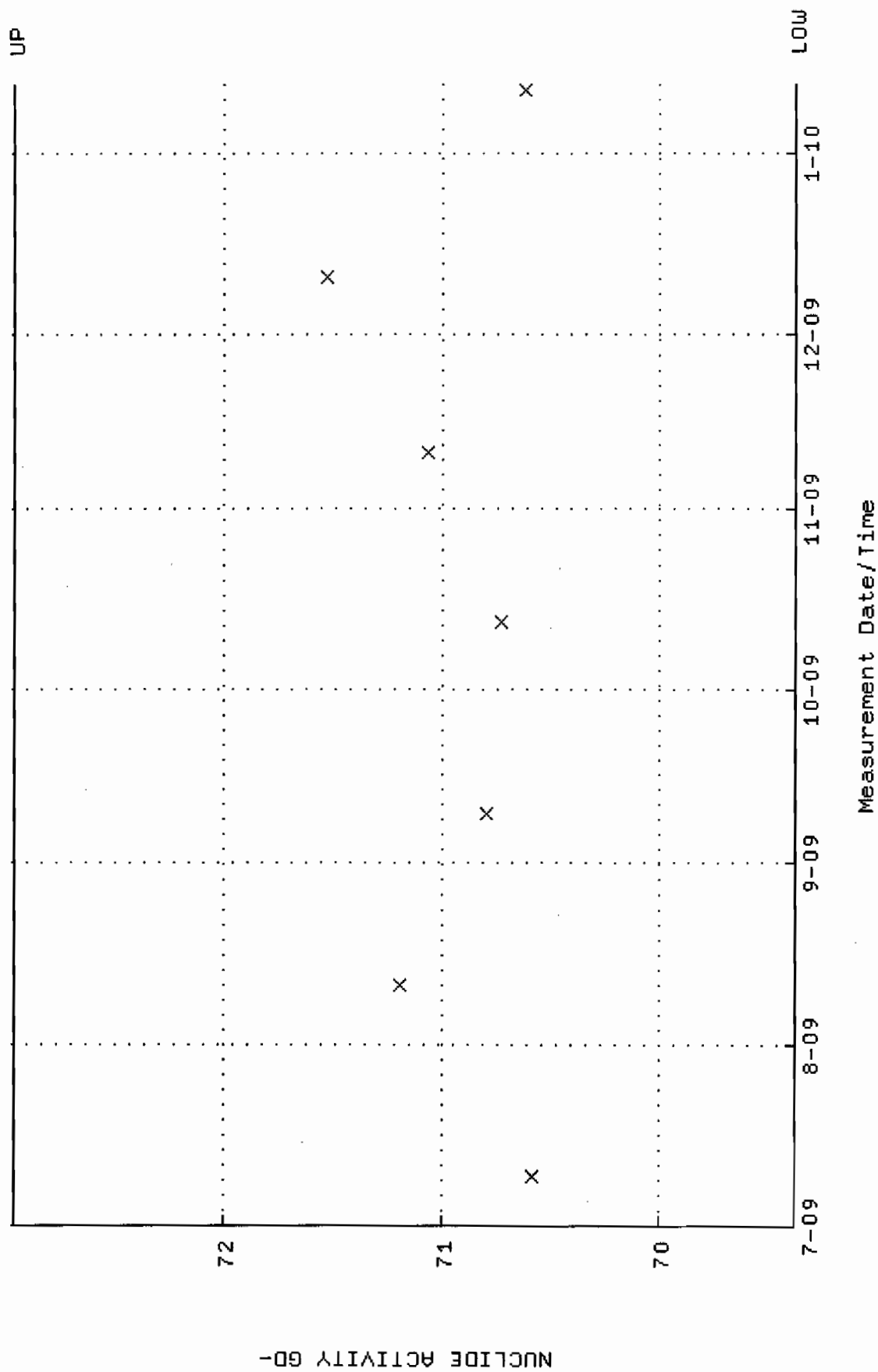
QA filename : DKA100:[ENV_ALPHA.QA.B]B087.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:04 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



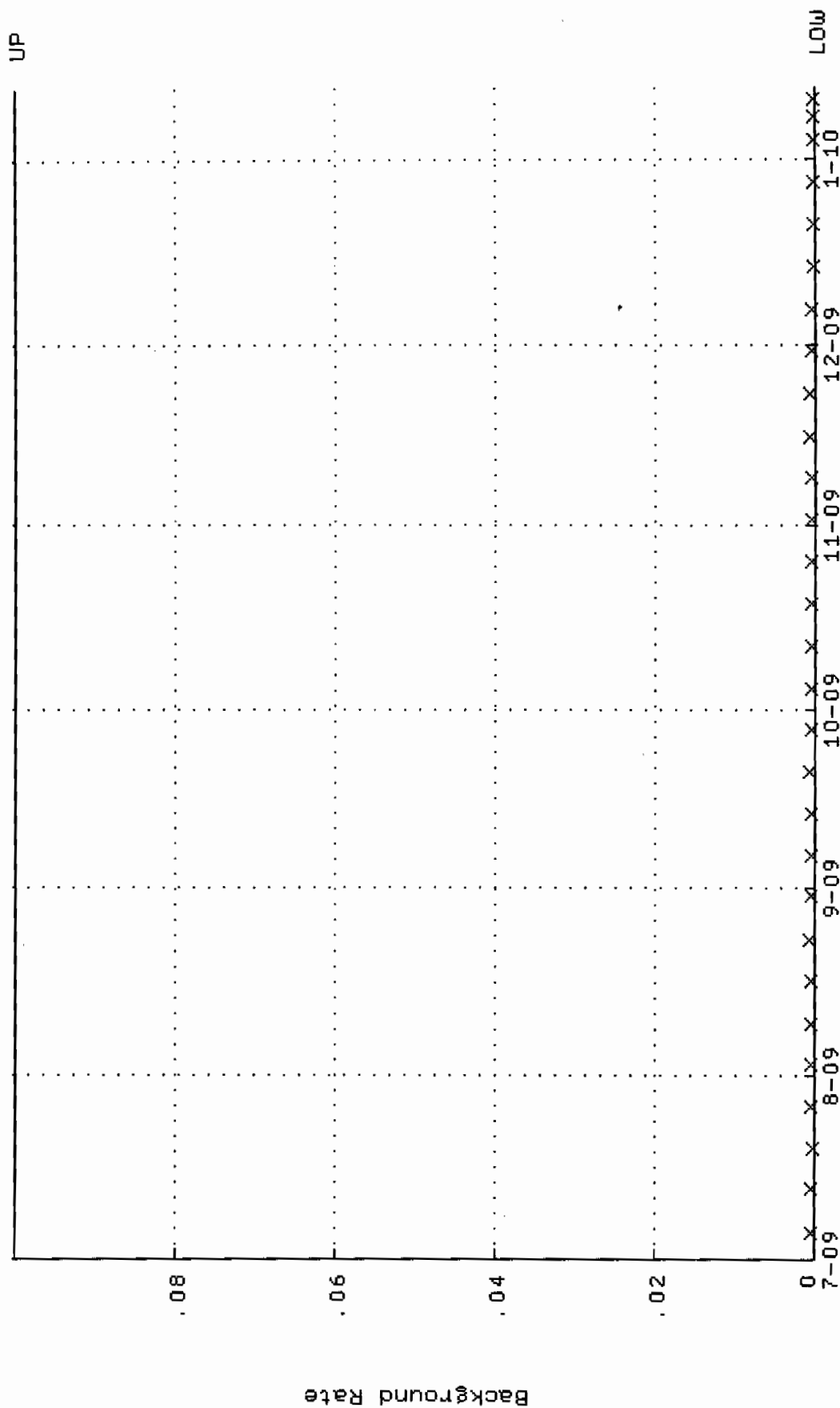
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.326915 through 0.344021



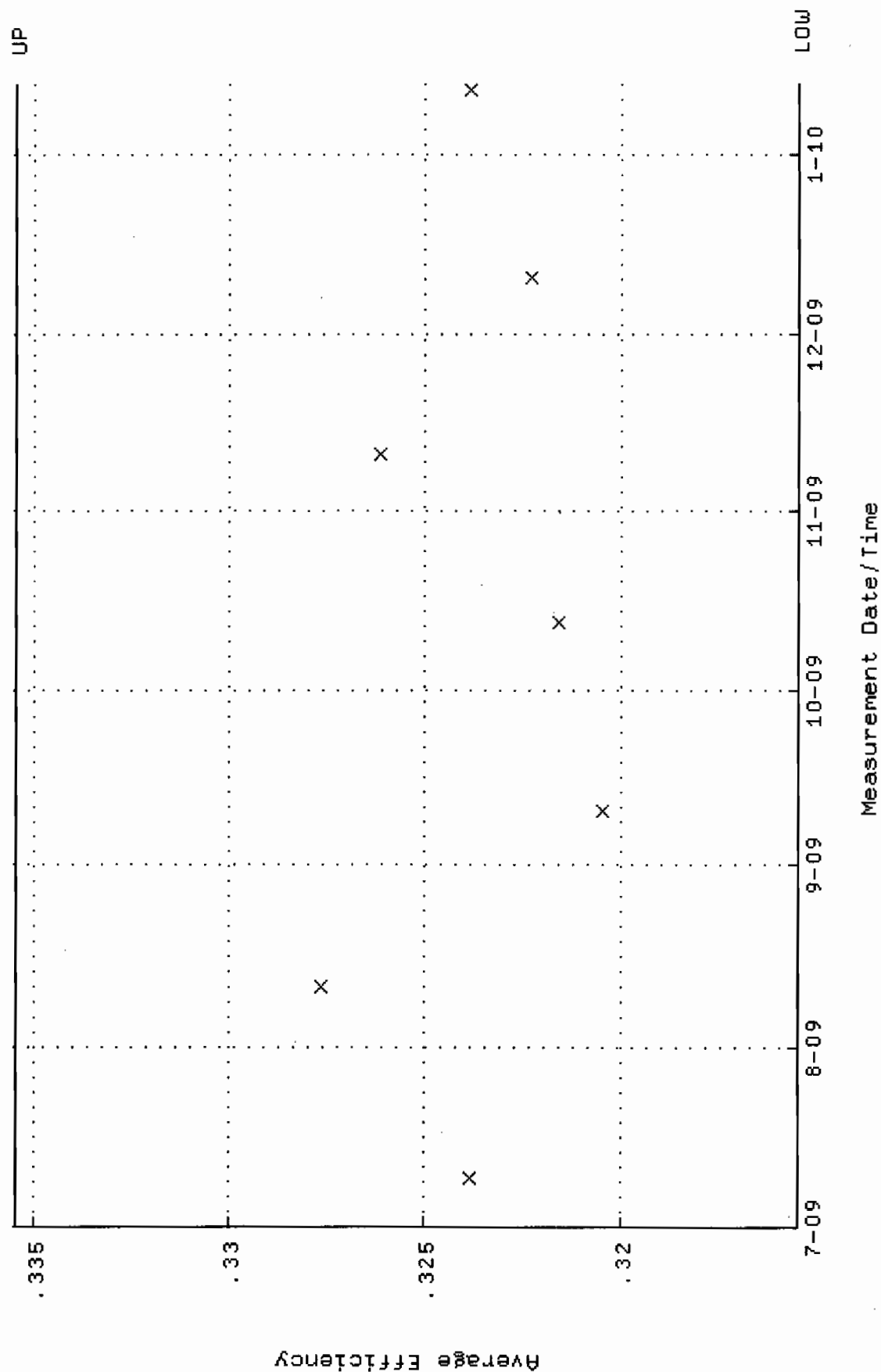
QA filename : DKA100:[ENV_ALPHA.QA.W]w102.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 69.3731 through 72.9663



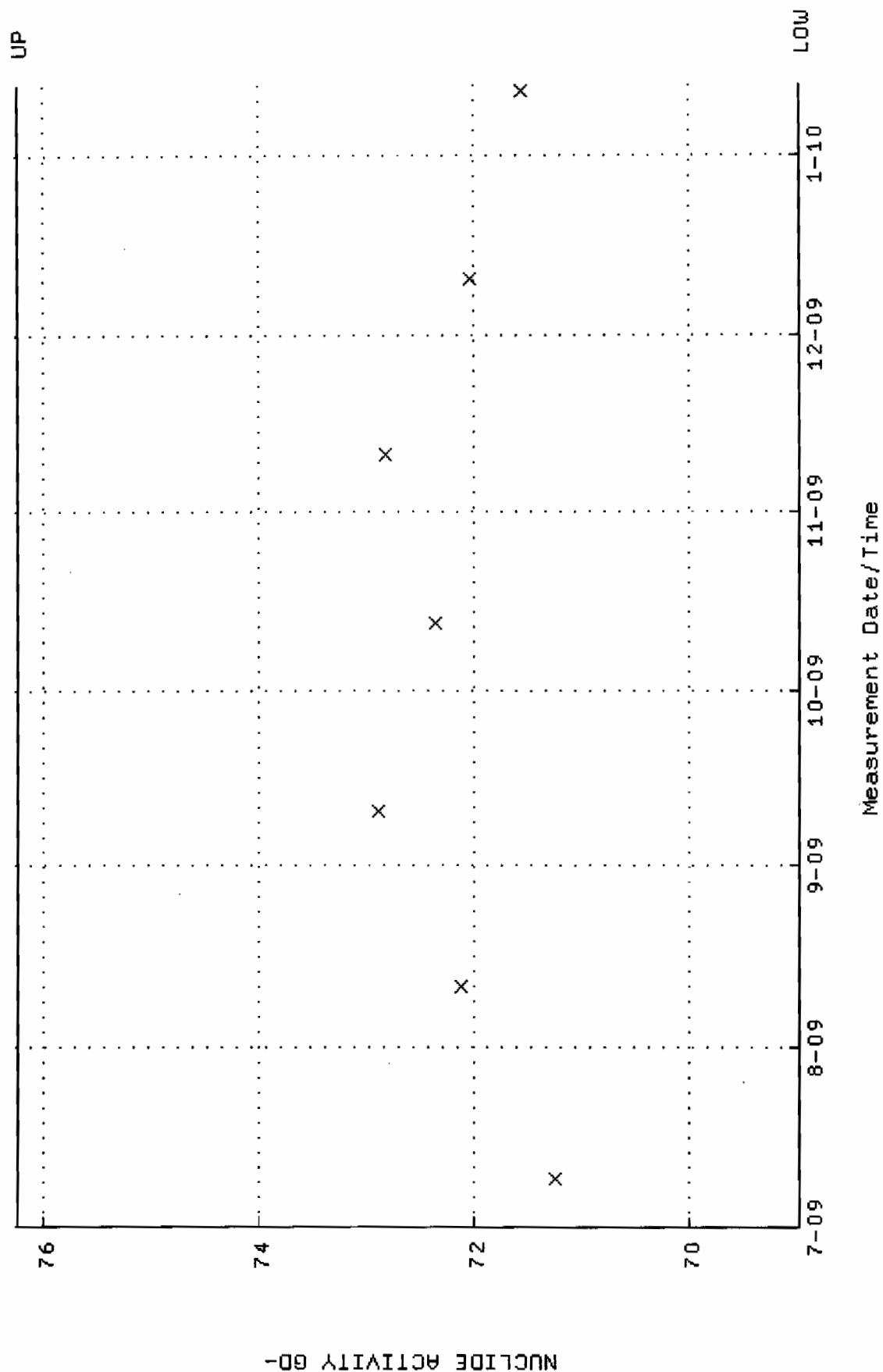
QA filename : DKA100:[ENV_ALPHA.QA.B]B102.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:06 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



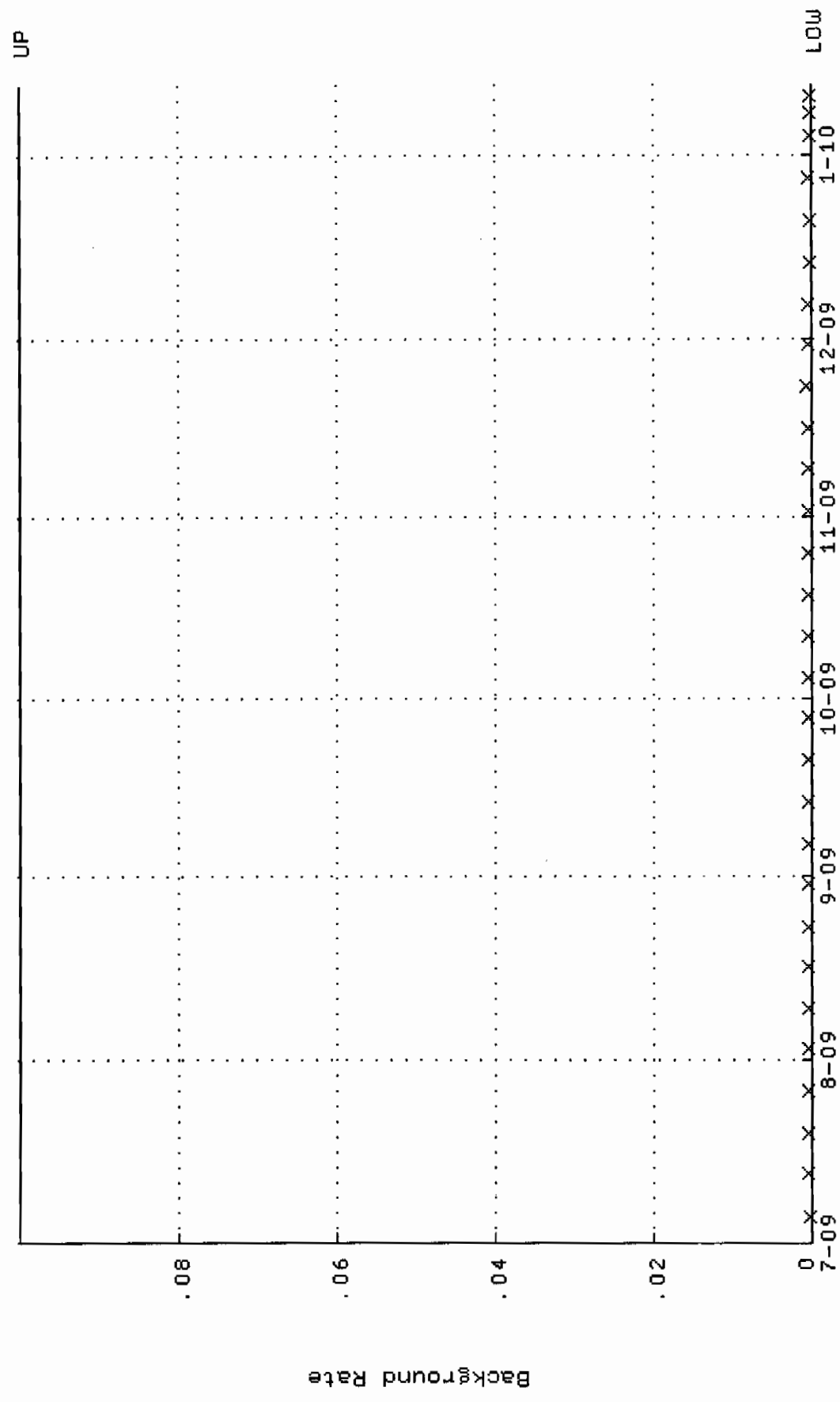
QA filename : DKA100:[ENV_ALPHA.QA.W]w105.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.315468 through 0.335468



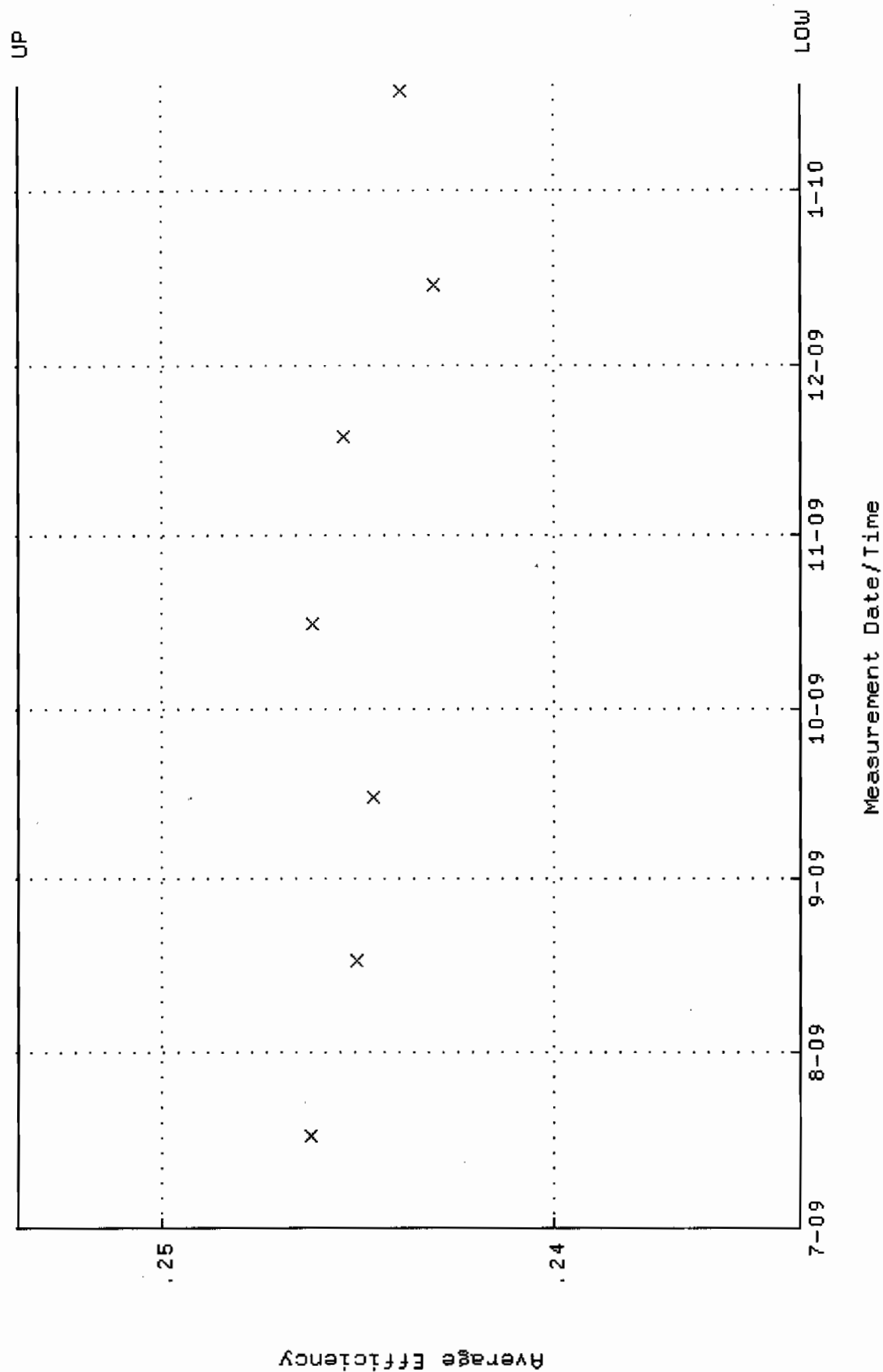
QA filename : DKA100:[ENV_ALPHA.QA.W]W105.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-JUL-2009 08:08:15 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 68.9774 through 76.2382



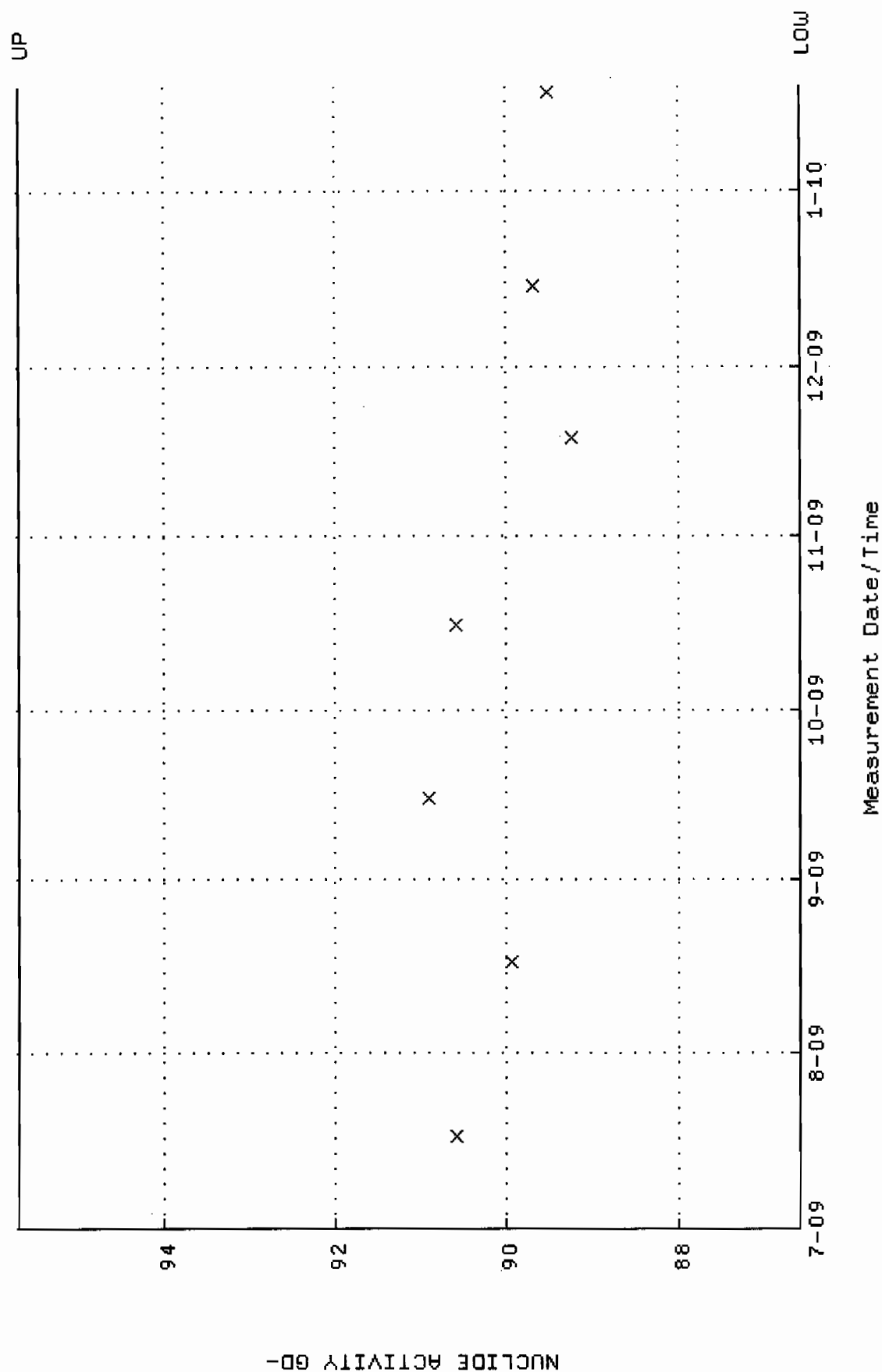
QA filename : DKA100:[ENV_ALPHA.QA.B]B105.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:12:06 through 12-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



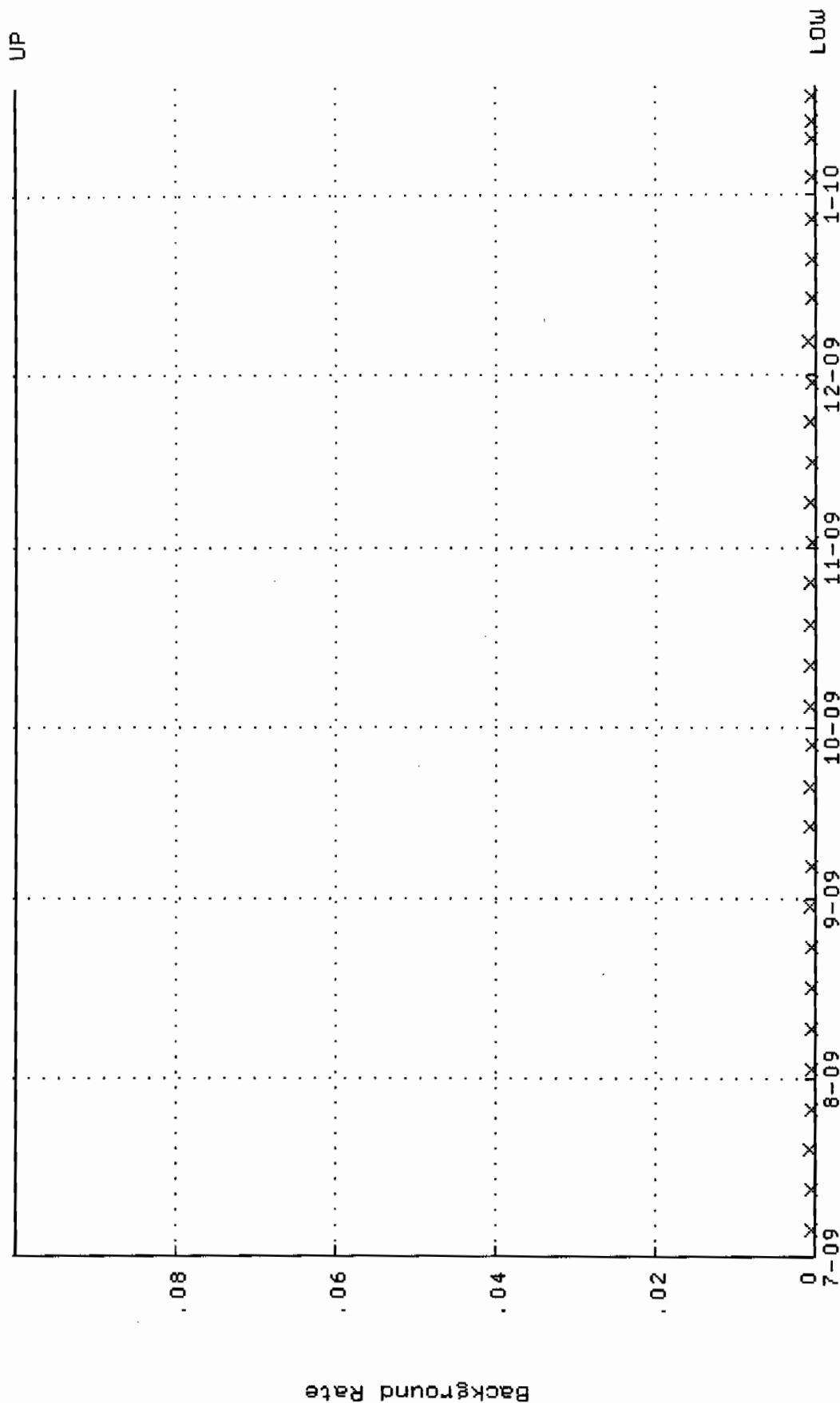
QA filename : DKA100:[ENV_ALPHA.QA.W]W151.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-JUL-2009 09:13:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.233693 through 0.253693



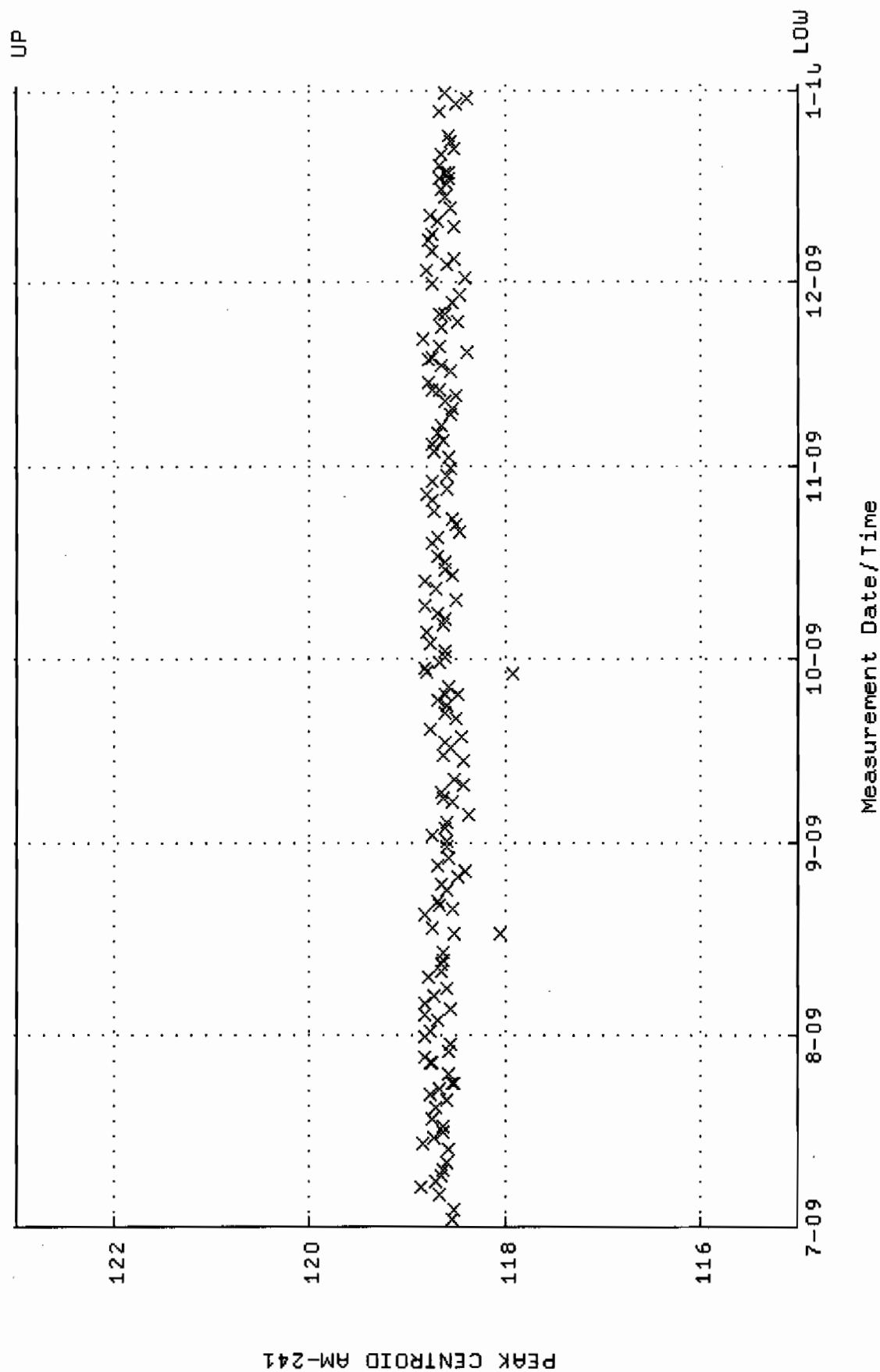
QA filename : DKA100:[ENV_ALPHA.QA.W]U151.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:13:48 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.5749 through 95.6881



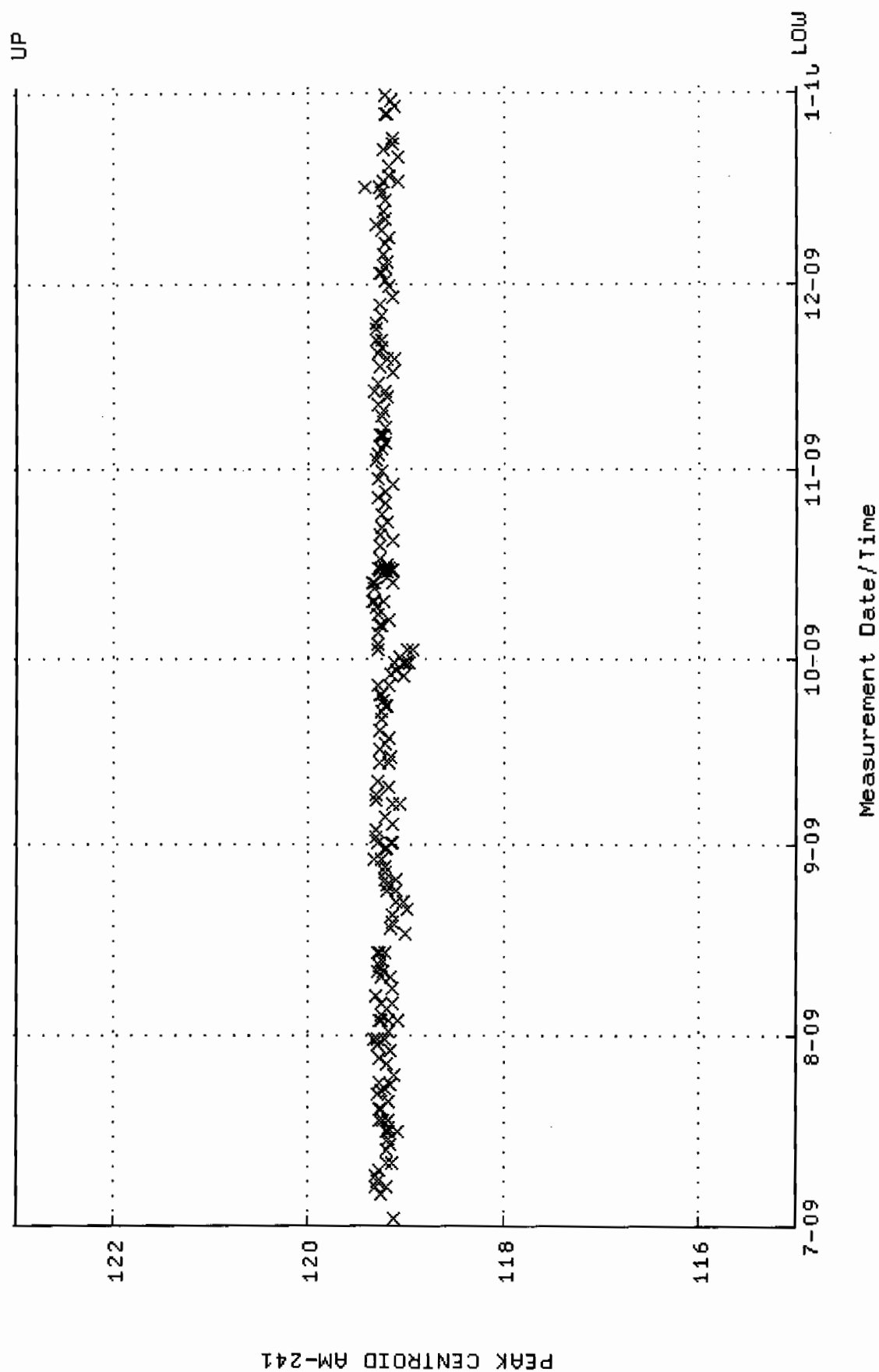
QA filename : DKA100:[ENV_ALPHA.QA.B]B151.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:57:53 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



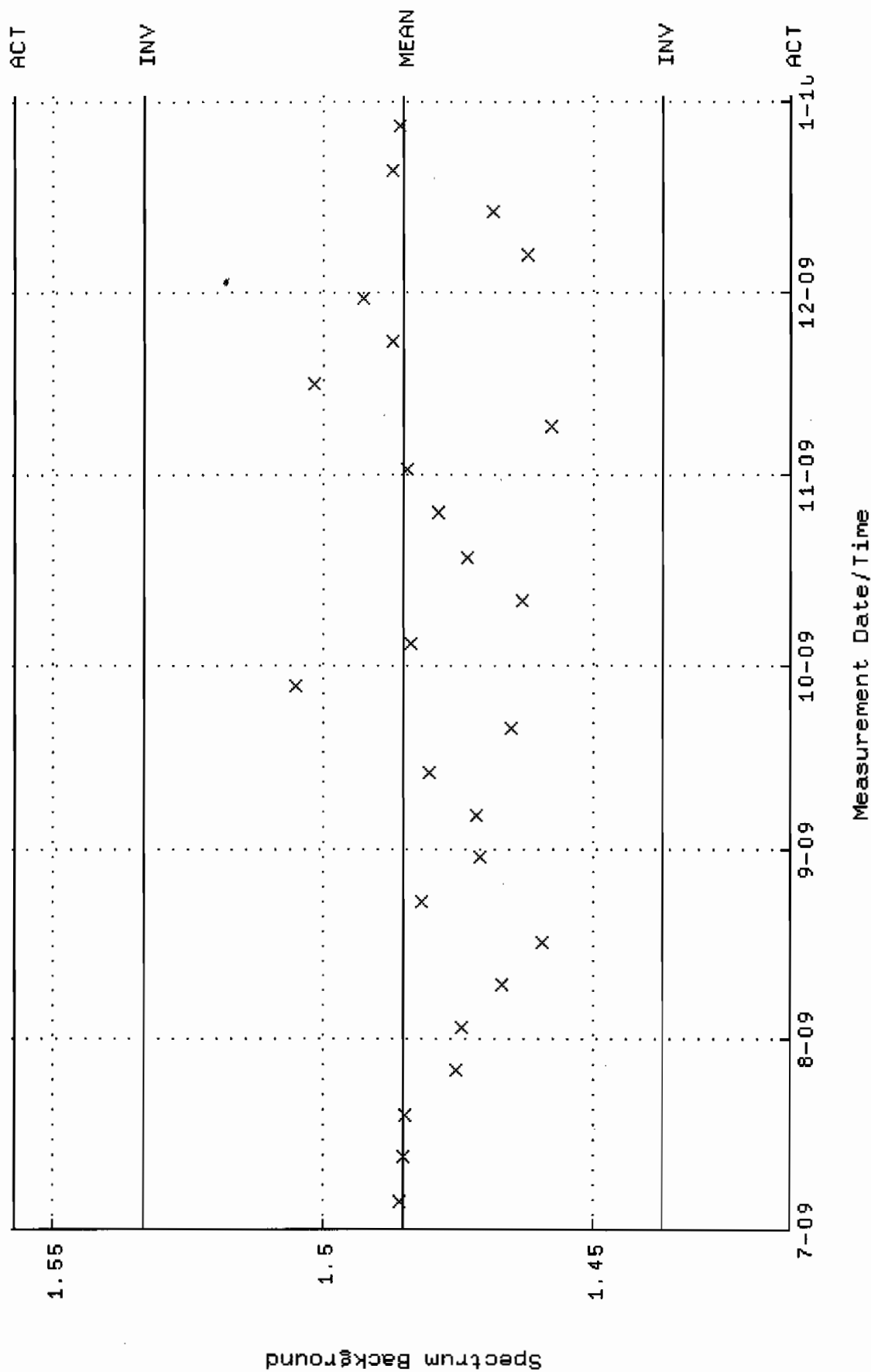
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



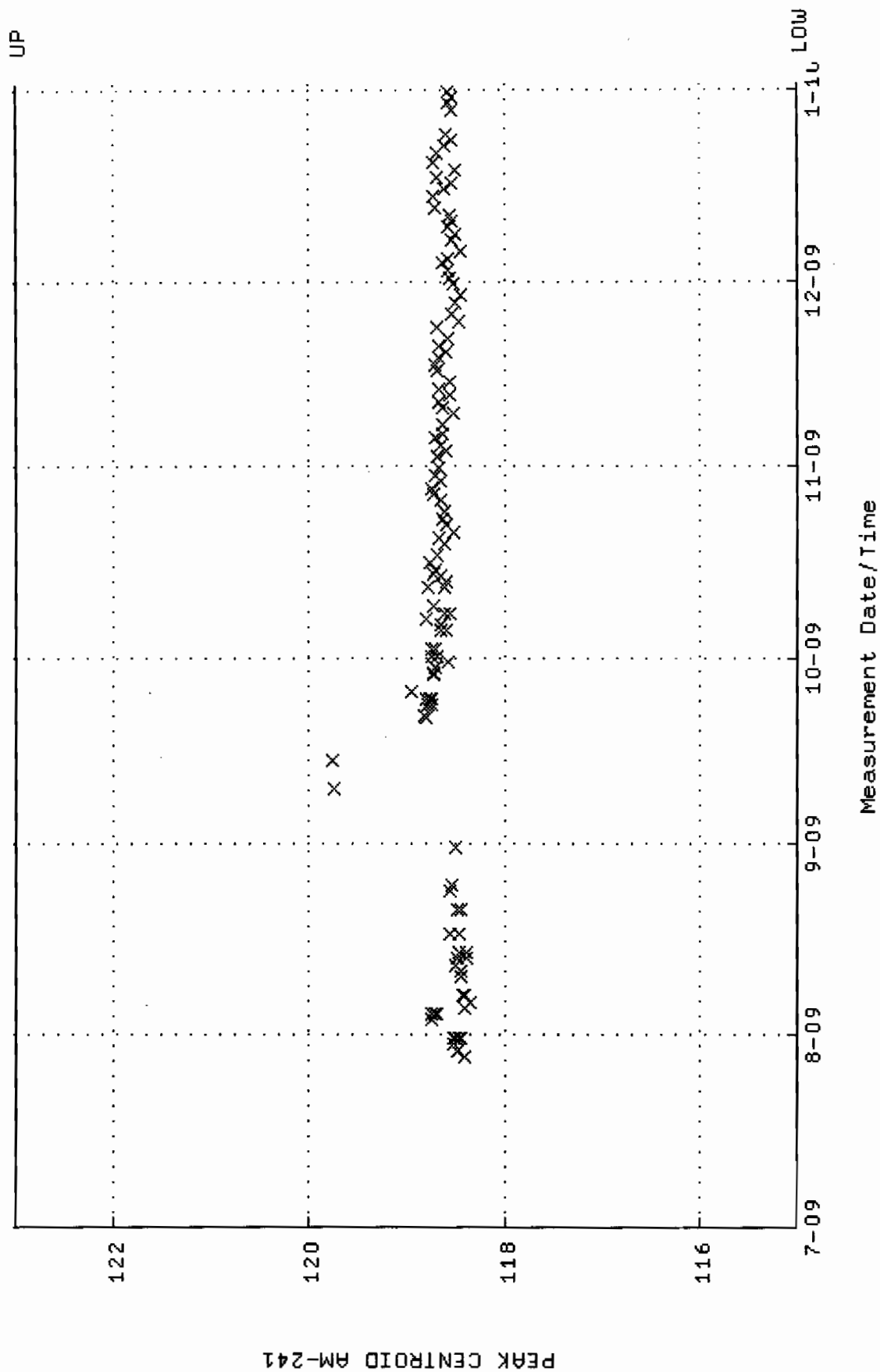
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



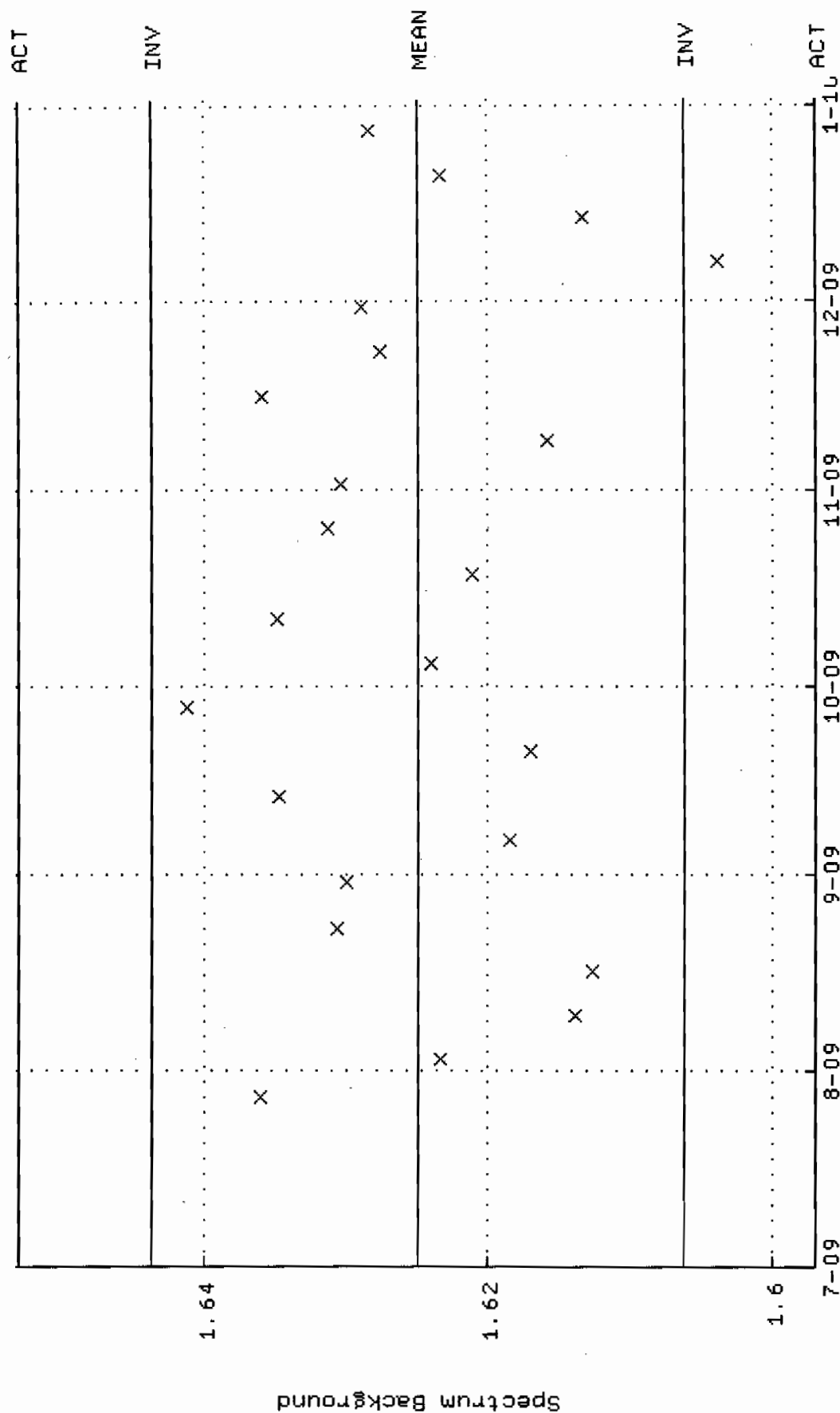
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



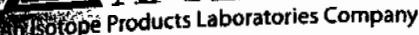
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM25-2LMB.QAF;1
 Parameter Name : PSCENTRD-59 (PEAK CENTROID AM-241)
 Start/End Dates : 28-JUL-2009 10:32:53 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM25.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 27-JUL-2009 17:25:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.62502 +- 9.370414E-03 (0.58 %)



STANDARDS DATA



1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytixinc.com

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. Analytcs 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, Radiochemist

Q A APPROVED:

This standard will expire one year after the calibration date.

rec'd 11/3/20
RC-S-045-073-0

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

**ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS
 BATCH 127
 CALIBRATION DATE: October 1, 2006 12:00 EST**

Isotope	Energy (keV)	Calibration Method ¹	Statistics ²	Calibration ²	Peak Fitting ²	Geometry ²	Impurities ²	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

²As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1032
Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL
Reference Date:	10/01/2006
Ampoule Mass (g):	5.31725 g
Uncertainty:	+/- 2.81 %
LogBook No:	RC-S-045-073

A Solution Material Info	
Isotope:	Mixed Gamma
Prepared By:	Daniel Roy
Prep Date:	11/30/2006
Verification Date:	12/02/2009
Expiration Date:	12/02/2010
Primary Code:	1032-A
Dilution(mL):	100 mL
Mass of Parent(g):	5.2579 g
Density(g/mL):	1.0611
Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)} * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)} * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241

Isotope	Result	pCi/L - Ver. Jar. 1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

Mean Value (Counting) = 2485.67
Stdev = 64.065
Pass
Rule 3 (Pass/Fail)

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.5666667
Rule 2 (Pass/Fail) Pass

pCi/L
pCi/L
pCi/L

M. Stamps
12/2/09
independent
12/2/09

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	pC/L - Ver. Jar. 1
Mixed Gamma N1	854.2	pC/L - Ver. Jar. 3
Mixed Gamma N2	907.6	pC/L - Ver. Jar. 2
Mixed Gamma N3	898.9	

Mean Value (Counting) =
Stdev =

886.90
28.651

95.01 Pass

Rule 3 (Pass/Fail)

Certificate Value =

Lower Limit =

Upper Limit =

Rule 1 (Pass/Fail)

Two sigma =

10 % of Mean =

Rule 2 (Pass/Fail)

pC/L

pC/L

pC/L

933.44144

829.597644

944.202356

Pass

57.30235597

88.69000000

Pass

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

Handwritten: 12/2/09
12/2/09
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - VER-IAE-5
Mixed Gamma N1	1572	pCi/L - VER-IAE-2
Mixed Gamma N2	1495	pCi/L - VER-IAE-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67
Stdev = 42.829
Rule 3 (Pass/Fail) Pass

Certificate Value = 1545.8378
Lower Limit = 1437.008431
Upper Limit = 1608.324902
Rule 1 (Pass/Fail) Pass
Two sigma = 85.65823564
10 % of Mean = 152.26666667
Rule 2 (Pass/Fail) Pass

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.

U.S. Stamp issued 12/2/09

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 DATA 4/11/2000 *fit c cell 12/1/04*

angela d. 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
Tn-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	22.1 ± 1.2	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

Attention Nancy Slater At GEL
Not For Log In

9911627-01-20

SF 2001-COC (10-97)

Supervision (5-97) & use

Internal Lab
Batch No.

SARWR No. N/A

Press F1 for Instructions for each field.

AR/COC-

602945

Page 1 of 1

Dept. No./Mail Stop: 7132 / 1042		Contract No.: AJ-2480A	
Project/Task Manager: PAM PUISSANT		Case No.: 10204 13	
Project Name:		SMO Authorization: <i>[Signature]</i>	
Record Center Code: N/A		Bill to: Sandia National Laboratories	
Logbook Ref. No.: N/A		Supplier Services, Dept.	
Service Order No.:		P.O. Box 5800 MS 0154	
Location		Reference LOV (available at SMO)	
Building N/A	Tech Area VI	Container	Sample
Sample No. -	Room N/A	Type	Type
Fraction	ER Sample ID or	Volume	Method
	Sample Location Detail		
050484 - 001	PEM-1	1 L	4C SA
050485 - 001	TRM-2	1 L	4C SA
050486 - 001	-NRW-2	1 L	4C SA
-			
-			
-			
-			
-			
-			
-			
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No.		Special Instructions/QC Requirements	
Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date		Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Name Douglas E. Perry		These samples are not characterized and must be sent to GEL for analysis at their discretion.	
Signature <i>[Signature]</i>		Please list as separate report.	
1. Relinquished by <i>[Signature]</i> Date 11-16-99 Time 0900		Date	
1. Received by		Date	
2. Relinquished by		Date	
2. Received by		Date	
3. Relinquished by		Date	
3. Received by		Date	
1st Copy To Accompany Samples, Laboratory Copy (White)		2nd Copy SMO Suspense Copy (Yellow)	
1st Copy To Accompany Samples, Return to SMO (Blue)		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. Lehe 4/30/04
 Lott & Shale 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

CERTIFICATE OF CALIBRATION

ALPHA STANDARD SOLUTION

Radionuclide: Am-243
Half Life: 7380 \pm 40 years
Catalog No.: 7243
Source No.: 445-96-2

Customer: GENERAL ENGINEERING LABS
P.O.No.: 9290-RAD
Reference Date: January 1 1994 12:00 PST.
Contained Radioactivity: (Am-243) 101.2 μ Ci
Contained Radioactivity: (Am-243) 3750 kBq

Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form: Am(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 μ Ci/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) integrated under: 228, 278 keV.
Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: $\pm 3.0\%$
b. Random uncertainty in assay: $\pm 0.4\%$
c. Random uncertainty in weighing(s): $\pm 0.0\%$
d. Total uncertainty at the 99% confidence level: $\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE



1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 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 $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 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 $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989		Rule 3 (Pass/Fail)
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

M. Aders 5/15/09
Taheri 07/09



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. Unterwieser, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED
2/2/05

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

Recommended Procedure for Opening the SRM Ampoule

- 1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.
- 2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.
- 3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.
- 4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.
- 5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.
- 6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.
- 7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.
- 8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. **NEVER PIPETTE BY MOUTH.**
- 9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·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	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O	50	0.81
	HNO ₃	3.2	0.19
	²⁴² Pu ⁺⁶	8 × 10 ⁻⁷	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·g ⁻¹ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three 4π liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i , the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $|\partial y/\partial x_i| \cdot$ (x/y) [m]	Relative Uncertainty Of Output Quantity, $u_c(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				0.72

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	--	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	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 ($\mu\text{Sv/h}$): <0.1 - -
- [b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.
- [c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].
- [d] The reported value, y , of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \dots, x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i , used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y , $u_i(y) \equiv |\partial y / \partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y . The **combined standard uncertainty** of y , $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k=2$ to obtain U , the **expanded uncertainty** of y .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ for energies greater than 5.0 MeV.
- [h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.
- [i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
 $5 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\text{g}^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity x_i .
- [m] The relative change in the output quantity y divided by the relative change in the input quantity x_i . If $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$, then a 1% change in x_i results in a 1% change in y . If $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y .
- [n] Relative component of combined standard uncertainty of output quantity y , rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_i(y)/y \equiv |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_i(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of 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. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. Thus $u(y) / y$ 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		A Solution Material Info	
Parent Code:	1374	Isotope:	Plutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	12/02/2009
Reference Date:	06/07/1994	Verification Date:	12/08/2009
Ampoule Mass (g):	5.5 g	Expiration Date:	12/08/2010
Uncertainty:	+/- .72 %	Primary Code:	1374-A
LogBook No:	RC-S-051-093	Dilution(mL):	250 mL
		Mass of Parent(g):	5.3616 g
		Density(g/mL):	1.0136
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8553 \text{ dpm/mL}$
$(5.3616 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0136 \text{ g/mL}) / (250 \text{ mL}) = 33.4010 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
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GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Pu-242 Standard 1374-A

A.Drochter 12/8/2009	Isotope	Value	Uncertainty
	1374-A	1.610	0.2480
	1374-A	1.580	0.2510
	1374-A	1.530	0.2440
Mean Value (Counting) =	1.573	103.17	Pass
Stdev =	0.040414519		Rule 3 (Pass/Fail)
Target =	1.52		
Lower Limit =	1.492504296		
Upper Limit =	1.654162371		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.080829038		
10 % of Mean =	0.157333333		
Rule 2 (Pass/Fail)	Pass		

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements

Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule 3 = The determined mean value shall be within 5% of the certificate value.

The analyst prepared three standard verification sources for standard 1374-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium (and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

Not called
12/11/09
12/19/09
12/9/09



Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytisc.com

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

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 HNO₃ solution.

Source Prepared By: WLS

W. Mao, Radiochemist

QA Approved: DM Montgomery

D. M. Montgomery, QA Manager

Date: 12-11-08

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

Calculations Converting parent activity to dpm/mL/dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/30/2008	12/30/2009
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	01/09/2009	12/30/2009
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

GEL Laboratories LLC

Version 1.0 9/18/2000

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter

Date: 12/10/09

Analyst: A. Drochter	Serial #	Value	Uncertainty	
Date: 12/10/09	1283-H N1	2.020	pCi/L	0.238
	1283-H N2	2.000	pCi/L	0.234
	1283-H N3	2.060	pCi/L	0.242
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
12/14/09

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 941635

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244597001	SAMPLE	MXR1	GAM14	22-JAN-10 07:38	DONE	CAN	06-MAR-09 00:00
244600001	SAMPLE	MXR1	GAM10	22-JAN-10 07:54	DONE	CAN	16-MAR-09 00:00
244600002	SAMPLE	MXR1	GAM11	22-JAN-10 07:55	DONE	CAN	18-NOV-09 00:00
244600003	SAMPLE	MXR1	GAM12	22-JAN-10 07:55	DONE	CAN	10-FEB-09 00:00
244600004	SAMPLE	MXR1	GAM16	22-JAN-10 07:56	DONE	CAN	16-NOV-09 00:00
244600005	SAMPLE	MXR1	GAM20	22-JAN-10 07:57	DONE	CAN	26-AUG-09 00:00
244600006	SAMPLE	MXR1	GAM17	22-JAN-10 08:05	DONE	CAN	06-JAN-10 00:00
244600007	SAMPLE	MXR1	GAM25	22-JAN-10 08:05	DONE	CAN	07-OCT-09 00:00
244600008	SAMPLE	MXR1	GAM15	22-JAN-10 08:35	DONE	CAN	16-FEB-09 00:00
244600009	SAMPLE	MXR1	GAM18	22-JAN-10 08:36	DONE	CAN	23-APR-09 00:00
244600010	SAMPLE	MXR1	GAM21	22-JAN-10 08:37	DONE	CAN	28-JUL-09 00:00
244600011	SAMPLE	MXR1	GAM22	22-JAN-10 08:37	DONE	CAN	02-DEC-09 00:00
244600012	SAMPLE	MXR1	GAM07	22-JAN-10 08:49	DONE	CAN	20-JUL-09 00:00
244600013	SAMPLE	MXR1	GAM23	22-JAN-10 08:50	DONE	CAN	02-JUN-09 00:00
244612001	SAMPLE	MXR1	GAM13	22-JAN-10 09:02	DONE	CAN	02-FEB-09 00:00
244613001	SAMPLE	MXR1	GAM19	22-JAN-10 09:03	DONE	CAN	12-MAR-09 00:00
1202015435	MB	MXR1	GAM14	22-JAN-10 09:49	DONE	CAN	06-MAR-09 00:00
1202015436	DUP	MXR1	GAM20	22-JAN-10 10:24	DONE	CAN	26-AUG-09 00:00
1202015437	LCS	MXR1	GAM25	22-JAN-10 10:25	DONE	CAN	07-OCT-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:941693

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202015579	MB	HAKB	1043	20-JAN-10 12:59	DONE		
1202015581	LCS	HAKB	1048	20-JAN-10 12:59	DONE		
244597001	SAMPLE	HAKB	1087	20-JAN-10 16:41	DONE		
244600001	SAMPLE	HAKB	1088	20-JAN-10 16:41	DONE		
244600002	SAMPLE	HAKB	1089	20-JAN-10 16:41	DONE		
244600003	SAMPLE	HAKB	1090	20-JAN-10 16:41	DONE		
244600004	SAMPLE	HAKB	1091	20-JAN-10 16:41	DONE		
244600005	SAMPLE	HAKB	1092	20-JAN-10 16:41	DONE		
244600006	SAMPLE	HAKB	1093	20-JAN-10 16:41	DONE		
244600007	SAMPLE	HAKB	1094	20-JAN-10 16:41	DONE		
244600008	SAMPLE	HAKB	1095	20-JAN-10 16:41	DONE		
244600009	SAMPLE	HAKB	1097	20-JAN-10 16:41	DONE		
244600010	SAMPLE	HAKB	1099	20-JAN-10 16:41	DONE		
244600011	SAMPLE	HAKB	1100	20-JAN-10 16:41	DONE		
244600012	SAMPLE	HAKB	1101	20-JAN-10 16:41	DONE		
244600013	SAMPLE	HAKB	1102	20-JAN-10 16:41	DONE		
244612001	SAMPLE	HAKB	1103	20-JAN-10 16:41	DONE		
244613001	SAMPLE	HAKB	1104	20-JAN-10 16:41	DONE		
1202015580	DUP	HAKB	1105	20-JAN-10 16:41	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:941694

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244597001	SAMPLE	HAKB	1025	19-JAN-10 13:20	DONE		
244600001	SAMPLE	HAKB	1026	19-JAN-10 13:20	DONE		
244600002	SAMPLE	HAKB	1027	19-JAN-10 13:20	DONE		
244600003	SAMPLE	HAKB	1028	19-JAN-10 13:20	DONE		
244600004	SAMPLE	HAKB	1029	19-JAN-10 13:20	DONE		
244600005	SAMPLE	HAKB	1030	19-JAN-10 13:20	DONE		
244600006	SAMPLE	HAKB	1038	19-JAN-10 13:20	DONE		
244600007	SAMPLE	HAKB	1039	19-JAN-10 13:20	DONE		
244600008	SAMPLE	HAKB	1040	19-JAN-10 13:20	DONE		
244600009	SAMPLE	HAKB	1042	19-JAN-10 13:20	DONE		
244600010	SAMPLE	HAKB	1045	19-JAN-10 13:20	DONE		
244600011	SAMPLE	HAKB	1047	19-JAN-10 13:20	DONE		
244600012	SAMPLE	HAKB	1048	19-JAN-10 13:20	DONE		
1202015582	MB	HAKB	1065	19-JAN-10 13:20	DONE		
1202015583	DUP	HAKB	1066	19-JAN-10 13:20	DONE		
1202015584	LCS	HAKB	1067	19-JAN-10 13:20	DONE		
244600013	SAMPLE	HAKB	1068	19-JAN-10 13:20	DONE		
244612001	SAMPLE	HAKB	1069	19-JAN-10 13:20	DONE		
244613001	SAMPLE	HAKB	1070	19-JAN-10 13:20	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:941697

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244597001	SAMPLE	HAKB	1151	20-JAN-10 20:16	DONE		
244600001	SAMPLE	HAKB	1152	20-JAN-10 20:16	DONE		
244600002	SAMPLE	HAKB	1153	20-JAN-10 20:16	DONE		
244600003	SAMPLE	HAKB	1154	20-JAN-10 20:16	DONE		
244600004	SAMPLE	HAKB	1155	20-JAN-10 20:16	DONE		
244600005	SAMPLE	HAKB	1156	20-JAN-10 20:16	DONE		
244600006	SAMPLE	HAKB	1157	20-JAN-10 20:16	DONE		
244600007	SAMPLE	HAKB	1158	20-JAN-10 20:16	DONE		
244600008	SAMPLE	HAKB	1159	20-JAN-10 20:16	DONE		
244600009	SAMPLE	HAKB	1160	20-JAN-10 20:16	DONE		
244600010	SAMPLE	HAKB	1001	20-JAN-10 20:17	DONE		
244600011	SAMPLE	HAKB	1002	20-JAN-10 20:17	DONE		
244600012	SAMPLE	HAKB	1003	20-JAN-10 20:17	DONE		
244600013	SAMPLE	HAKB	1004	20-JAN-10 20:17	DONE		
244612001	SAMPLE	HAKB	1005	20-JAN-10 20:17	DONE		
244613001	SAMPLE	HAKB	1006	20-JAN-10 20:17	DONE		
1202015590	MB	HAKB	1007	20-JAN-10 20:17	DONE		
1202015591	DUP	HAKB	1008	20-JAN-10 20:17	DONE		
1202015592	LCS	HAKB	1009	20-JAN-10 20:17	DONE		