

Friday, February 19, 2010

LOS ALAMOS

NATIONAL LABORATORY

REQUEST NUMBER: 10-1969

ATTN: Valerie Davis

These Samples are on:

General Engineering Laboratories, Inc., Charleston, SC.

LANL Request Number: 10-1969

2040 Savage Rd

Per Agreement Number: 126310011

Charleston, SC 29407

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/19/2010

TURNAROUND/REPORT DUE: 3/21/2010

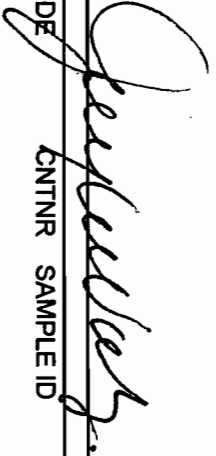
TURNAROUND REQ'D: 30 Days

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
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EPA:300.0	1	RE15-10-8348	R	2/15/2010	
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RE15-10-8349	R	2/15/2010	
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EPA:901.1	1	RE15-10-8348	R	2/15/2010	
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RE15-10-8349	R	2/15/2010	
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EPA:906.0	1	RE15-10-8348	R	2/15/2010	
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RE15-10-8349	R	2/15/2010	
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HASL-300:AM-241	1	RE15-10-8348	R	2/15/2010	
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RE15-10-8349	R	2/15/2010	
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HASL-300:ISOPU	1	RE15-10-8348	R	2/15/2010	
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Friday, February 19, 2010

Page 2 of 2
REQUEST NUMBER: 10-1969

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-8349	R	2/15/2010	
	HASL-300:ISOU	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6010B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6020	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6850	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:7471A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8260B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8270C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8321A_MOD	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9012A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9045C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	

Final Page of REQUEST NUMBER 10-1969

Friday, February 19, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1969

LOS ALAMOS

REQUEST NUMBER: 10-1969

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/21/2010

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
RE15-10-8349	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8349	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8349	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8349	1	POLY	H3	Ice	R
RE15-10-8349	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8349	1	POLY	Perchlorate+CN+N03+pH	Ice	R
RE15-10-8348	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8348	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8348	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8348	1	POLY	H3	Ice	R
RE15-10-8348	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8348	1	POLY	Perchlorate+CN+N03+pH	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

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2507

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

SAMPLE ID: RE15-10-8348

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		02/15/2010		MEDIA:	QBT3		F: 11
TIME COLLECTED (HH:MM)		11:24		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-009(c)	OK		SAMPLE TECH CODE:	HA		DC
LOCATION ID:	15-610844			FIELD QC TYPE:	NA		OK
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		
TOP DEPTH:	Q	3.0		SAMPLE USAGE:	INV		
BOTTOM DEPTH:	Q	4.0		SCREEN/PORT DESC:	NA		
FIELD MATRIX:	R	5		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA	NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION:

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

SAMPLE DESC: light brown soil with few tuff fragments

SAMPLE COMMENTS: none

LOCATION DESC: ^{JP} R44-2/15/10 below tank inlet pipe @ R44 tank

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 33 dpm
Beta/Gamma = 2210 dpm

PID ~~Reading~~ = ppm = 0.0 ppm

COLLECTED BY (PRINT)

Jon Roberson

REVIEWED BY (PRINT)

Nicholas Gallegos

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) Estevan Lejan	2/16/10	(Printed Name) Sheri Sherwood	2/16/10
(Signature)	08:21 AM	(Signature)	0824
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2507

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

SAMPLE ID: RE15-10-8349

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		02/15/2010	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		11:30	SUB-MEDIA:		TUFF 1
PRS ID:	15-009(c)	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610844	↓	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	↓	FIELD PREP:		NA
TOP DEPTH:	0	8.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	9.0	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	R	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE:		NA	COMPOSITE TIME INTERVAL:		NA
BOREHOLE: YES/NO/NA			WATER FLOWING: YES/NO		NA
BOREHOLE DECLINATION:		NA	BOREHOLE DIRECTION:		NA

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

SAMPLE DESC: light pinkish brown ash flow tuff

SAMPLE COMMENTS: none

LOCATION DESC: 5 feet below tank inlet pipe @ R44 tank

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 0 dpm
Beta/Gamma \leq 2100 dpmPID ~~XXXX~~ = ppm = $\frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

Jon Roberson

REVIEWED BY (PRINT)

Nickolas Gallegos

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) Estevan Leyva	2/16/10	(Printed Name) Sheri Sherwood	2/16/10
(Signature)	08:20 pm	(Signature)	0820
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time



2609 North River Road, Port Allen, Louisiana 70767
1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-10-00262
Analysis Description: Gross Alpha/Beta in (Soil, Sludge, Waste, Sediment (SO))
Analysis Test Method: GPC-A-003

Request or PO Number: N/A
Date Received: 2/17/2010
Report Date: 02/18/10 12:34

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	HDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracker/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00262-001	RE15-10-8302	GROSS ALPHA	6.817	4.732	14.397	4.405	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-001	RE15-10-8302	GROSS BETA	25.135	4.841	7.848	3.393	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-002	RE15-10-8303	GROSS ALPHA	5.392	3.976	12.127	3.443	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-002	RE15-10-8303	GROSS BETA	32.960	5.742	8.016	3.483	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-003	RE15-10-8310	GROSS ALPHA	4.815	3.949	13.061	3.913	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-003	RE15-10-8310	GROSS BETA	28.560	5.211	7.666	3.298	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-004	RE15-10-8311	GROSS ALPHA	16.706	6.638	13.740	4.170	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-004	RE15-10-8311	GROSS BETA	31.065	5.505	7.578	3.274	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-005	RE15-10-8312	GROSS ALPHA	9.299	5.281	13.981	4.169	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-005	RE15-10-8312	GROSS BETA	41.326	6.770	7.991	3.448	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-006	RE15-10-8313	GROSS ALPHA	7.489	4.853	13.949	4.119	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-006	RE15-10-8313	GROSS BETA	43.056	6.963	7.921	3.412	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-007	RE15-10-8314	GROSS ALPHA	5.109	4.119	13.539	4.037	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-007	RE15-10-8314	GROSS BETA	24.911	4.797	7.864	3.408	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-008	RE15-10-8315	GROSS ALPHA	-4.587	0.925	16.695	5.307	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-008	RE15-10-8315	GROSS BETA	41.335	6.715	8.074	3.495	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-009	RE15-10-8254	GROSS ALPHA	9.792	5.179	12.801	3.634	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-009	RE15-10-8254	GROSS BETA	24.323	4.794	8.108	3.525	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-010	RE15-10-8268	GROSS ALPHA	8.073	5.086	14.434	4.219	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-010	RE15-10-8268	GROSS BETA	26.329	5.062	8.262	3.585	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-011	RE15-10-8253	GROSS ALPHA	3.451	3.582	13.138	3.819	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-011	RE15-10-8253	GROSS BETA	32.688	5.715	7.891	3.407	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-012	RE15-10-8252	GROSS ALPHA	2.746	3.546	13.798	4.188	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-012	RE15-10-8252	GROSS BETA	35.047	6.091	8.879	3.904	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-013	RE15-10-8264	GROSS ALPHA	18.758	7.035	13.380	3.990	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-013	RE15-10-8264	GROSS BETA	37.384	6.327	7.991	3.459	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-014	RE15-10-8251	GROSS ALPHA	9.207	4.947	12.428	3.572	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-014	RE15-10-8251	GROSS BETA	28.501	5.280	8.199	3.569	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-015	RE15-10-8250	GROSS ALPHA	9.265	5.182	13.645	4.049	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-015	RE15-10-8250	GROSS BETA	36.111	6.111	7.756	3.345	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-016	RE15-10-8249	GROSS ALPHA	3.355	4.301	16.569	5.426	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-016	RE15-10-8249	GROSS BETA	27.286	5.120	8.204	3.568	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-017	RE15-10-8248	GROSS ALPHA	2.496	3.730	14.783	4.559	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-017	RE15-10-8248	GROSS BETA	31.617	5.622	8.177	3.548	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-018	RE15-10-8247	GROSS ALPHA	3.909	4.426	16.310	5.230	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-018	RE15-10-8247	GROSS BETA	30.943	5.717	9.264	4.075	U	pc/g	2/18/2010	CR	N/A	SO	



2609 North River Road, Port Allen, Louisiana 70767
1 (800) 401-4277 FAX (225) 381-2996

ARS Sample Delivery Group: ARS1-10-00262

Request or PO Number: N/A

Analysis Description: Gross Alpha/Beta in (Soil, Sludge, Waste, Sediment [SO])

Date Received: 2/17/2010

Analysis Test Method: GPC-A-003

Report Date: 02/18/10 12:34

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00262-019	RE15-10-8894	GROSS ALPHA	7.676	5.176	15.661	5.050	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-019	RE15-10-8894	GROSS BETA	23.779	4.717	7.870	3.391	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-020	RE15-10-8349	GROSS ALPHA	14.120	6.531	15.732	5.045	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-020	RE15-10-8349	GROSS BETA	38.731	6.505	8.084	3.491	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-021	RE15-10-8348	GROSS ALPHA	12.891	6.315	15.594	5.082	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-021	RE15-10-8348	GROSS BETA	42.571	6.852	7.546	3.242	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-022	RE16-10-1514	GROSS ALPHA	1.837	3.758	15.319	4.839	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-022	RE16-10-1514	GROSS BETA	45.190	7.195	8.022	3.465	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-023	RE16-10-13141	GROSS ALPHA	-1.251	2.802	15.097	5.002	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-023	RE16-10-13141	GROSS BETA	26.989	4.999	7.752	3.346	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-024	RE16-10-13142	GROSS ALPHA	9.142	5.361	14.808	4.762	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-024	RE16-10-13142	GROSS BETA	35.501	6.042	7.756	3.343	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-025	RE16-10-13143	GROSS ALPHA	8.291	5.673	16.892	5.656	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-025	RE16-10-13143	GROSS BETA	37.273	6.288	7.980	3.444	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-026	RE16-10-13147	GROSS ALPHA	5.527	5.069	17.198	6.082	U	pc/g	2/18/2010	CR	N/A	SO	
ARS1-10-00262-026	RE16-10-13147	GROSS BETA	32.272	5.756	8.540	3.729	U	pc/g	2/18/2010	CR	N/A	SO	

NOTES:

Project Manager 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.

TELAP Certificate # 01949

NE LAP Certificate # E87558

DATA VALIDATION COVER SHEET

5114-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/1/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Linda Thal ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

Section II. Completeness Check

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

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

1. The ICV and/or CCV %Ds for dichlorodifluoromethane, chloromethane and 2-hexanone were >20%. The associated sample results were NDs and, thus, were qualified UJ,V7c.
2. The MS/MSD was performed on a sample from another LANL RN and was not spiked with trichlorotrifluoroethane. No sample data were qualified as a result.


Reviewed by: Mary Donovan

Level: I


Date: 04/02/10

VALIDATOR'S SIGNATURE: Linda Thal


DATE: 4/1/10

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5114-2 Volatile Organic Compound (VOC) 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, V9	J-, V9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, V9a	J-, V9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The instrument performance sample did not pass method acceptance criteria.	R, V16	R, V16
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4. Samples were analyzed outside specific method tune time criteria.	N/A	J, V16b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5. The required instrument performance sample information is missing. Contact the SMO or external laboratory for information.	R, V16c	R, V16c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. The affected results were not analyzed with a valid 5-point calibration curve and/or a standard at the reporting limit.	UJ or R, V7	J, V7
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The affected analytes were analyzed with an initial calibration curve that exceeded the %RSD criteria and/or the associated multipoint calibration correlation coefficient is <0.995.	UJ, V7a	J, V7a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes were analyzed with an RRF of <0.05 in the initial calibration and/or CCV.	R, V7b	J, V7b
<input checked="" type="checkbox"/>	<input 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, V7c	J, V7c
<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, V7d	J, V7d
<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, V7f	R, V7f

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5114-2 Volatile Organic Compound (VOC) 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"/>	12. The sample result is $\leq 5X$ (10X for common organic laboratory contaminants) the concentration of the related analyte in the method blank.	U, V4	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 $>5X$ (10X for common laboratory contaminants).	N/A	J, V4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, and/or equipment blank.	U, V4d	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, V4e	R, V4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The IS retention time has shifted by more than 30 seconds.	UJ, V0	J, V0
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17. Analyte is positively confirmed but outside the IS retention time window; however, spectral matches must be provided.	N/A	J, V0a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. Required IS retention time documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V0b	R, V0b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	19. The quantitating IS are count is $<10\%$ of the expected value, which indicates increased potential for false negative results and other possible problems with sample quantitation. Follow method-specific windows.	R, V1a	J, V1a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. The IS area count for the quantitating IS is $<50\%$ but $>10\%$ for organics window relation to the previous continuing calibration. Follow the method-specific windows.	UJ, V1b	J, V1b

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5114-2 Volatile Organic Compound (VOC) Analytical Data Validation Checklist	Records Use only 

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 IS area count for the quantitating IS is >200% of the area count for the previous organic continuing calibration. Follow the method-specific windows.	UJ, V1c	J, V1c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. Required IS information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V1d	R, V1d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The surrogate is <10%R. Follow the external laboratory limits located within the associated data package.	R, V3	J-, V3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The surrogate is < the Lower Acceptance Limit (LAL) but ≥10%R. Follow the external laboratory limits located within the associated data package.	UJ, V3a	J-, V3a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The surrogate %R is > the Upper Acceptance Limit (UAL) Follow the external laboratory limits located within the associated data package.	N/A	J+, V3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. At least one surrogate is > the UAL and one surrogate is < the LAL. Follow the external laboratory limits located within the associated data package.	UJ, V3c	J, V3c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	27. Required surrogate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V3d	R, V3d
<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, V12	J-, V12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29. The LCS percent recovery was < the LAL but > 10%. Follow the external laboratory limits located within the associated data package.	UV, V12a	J-, V12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30. The LCS percent recover was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, V12b

VOLATILE ORGANIC COMPOUND (VOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5114-2 Volatile Organic Compound (VOC) Analytical Data Validation Checklist	Records Use only 

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"/>	31. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V12c	R, V12c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	32. The affected analyte is considered not detected because mass spectrum did not meet specifications.	N/A	U, V8
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	33. The mass spectrum column documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, V8a	R, V8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	34. Duplicate, dilution, or reanalysis.	UJ, V88	J, V88
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35. The affected analytes have elevated detection limits and may not meet project DQOs because the sample was diluted without any target analytes identified due to matrix interference. Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.	UJ, R, V15	R, V15
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	36. Qualification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB, NQ, NQ
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	37. The LANL project chemist identified quality deficiencies in the reported data that requires further qualification. This code can only be used and/or under advisement by the LANL project chemist.	UJ, R, V19	J, R, V19

Volatile
Certificate of Analysis
Sample Summary

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SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8260B
Inst: VOA4.I
Analyst: ACJ
Allquot: 5 g
Column: RTX-VOLATILES

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-038
Dilution: 1
Purge Vol: 5 mL
Final Volume: 5 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.04	ug/kg	0.353	1.04 UJ,V7c
74-87-3	Chloromethane	U	1.04	ug/kg	0.311	1.04 UJ,V7c
75-01-4	Vinyl chloride	U	1.04	ug/kg	0.311	1.04
74-83-9	Bromomethane	U	1.04	ug/kg	0.311	1.04
75-00-3	Chloroethane	U	1.04	ug/kg	0.311	1.04
75-69-4	Trichlorofluoromethane	U	1.04	ug/kg	0.311	1.04
67-64-1	Acetone	U	5.19	ug/kg	1.72	5.19
75-35-4	1,1-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
74-88-4	Iodomethane	U	5.19	ug/kg	1.66	5.19
75-09-2	Methylene chloride	U	5.19	ug/kg	2.08	5.19
75-15-0	Carbon disulfide	U	5.19	ug/kg	1.30	5.19
156-60-5	trans-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
75-34-3	1,1-Dichloroethane	U	1.04	ug/kg	0.311	1.04
78-93-3	2-Butanone	U	5.19	ug/kg	1.56	5.19
156-59-2	cis-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
594-20-7	2,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
67-66-3	Chloroform	U	1.04	ug/kg	0.311	1.04
74-97-5	Bromochloromethane	U	1.04	ug/kg	0.343	1.04
71-55-6	1,1,1-Trichloroethane	U	1.04	ug/kg	0.311	1.04
563-58-6	1,1-Dichloropropene	U	1.04	ug/kg	0.311	1.04
56-23-5	Carbon tetrachloride	U	1.04	ug/kg	0.311	1.04
107-06-2	1,2-Dichloroethane	U	1.04	ug/kg	0.311	1.04
71-43-2	Benzene	U	1.04	ug/kg	0.311	1.04
79-01-6	Trichloroethylene	U	1.04	ug/kg	0.343	1.04
78-87-5	1,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
75-27-4	Bromodichloromethane	U	1.04	ug/kg	0.311	1.04
74-95-3	Dibromomethane	U	1.04	ug/kg	0.311	1.04
108-10-1	4-Methyl-2-pentanone	U	5.19	ug/kg	1.30	5.19
10061-01-5	cis-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
108-88-3	Toluene	U	1.04	ug/kg	0.311	1.04
10061-02-6	trans-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
79-00-5	1,1,2-Trichloroethane	U	1.04	ug/kg	0.311	1.04
591-78-6	2-Hexanone	U	5.19	ug/kg	1.56	5.19 UJ,V7c
142-28-9	1,3-Dichloropropane	U	1.04	ug/kg	0.311	1.04
127-18-4	Tetrachloroethylene	U	1.04	ug/kg	0.311	1.04
124-48-1	Dibromochloromethane	U	1.04	ug/kg	0.311	1.04
106-93-4	1,2-Dibromoethane	U	1.04	ug/kg	0.311	1.04
108-90-7	Chlorobenzene	U	1.04	ug/kg	0.311	1.04

Volatile
Certificate of Analysis
Sample Summary

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SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8260B
Inst: VOA4.I
Analyst: ACJ
Aliquot: 5 g
Column: RTX-VOLATILES

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-038
Dilution: 1
Purge Vol: 5 mL
Final Volume: 5 mL
Level: LOW

Client ID: RE15-10-8348
Batch ID: 957517
Run Date: 02/25/2010 02:42
Prep Date: 02/24/2010 22:47
Data File: 4z322.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.04	ug/kg	0.311	1.04
179601-23-1	m,p-Xylenes	U	2.08	ug/kg	0.311	2.08
95-47-6	o-Xylene	U	1.04	ug/kg	0.311	1.04
100-42-5	Styrene	U	1.04	ug/kg	0.311	1.04
75-25-2	Bromoform	U	1.04	ug/kg	0.311	1.04
79-34-5	1,1,2,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
96-18-4	1,2,3-Trichloropropane	U	1.04	ug/kg	0.311	1.04
108-86-1	Bromobenzene	U	1.04	ug/kg	0.311	1.04
103-65-1	n-Propylbenzene	U	1.04	ug/kg	0.311	1.04
95-49-8	2-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-82-8	Isopropylbenzene	U	1.04	ug/kg	0.311	1.04
108-67-8	1,3,5-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
106-43-4	4-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-06-6	tert-Butylbenzene	U	1.04	ug/kg	0.311	1.04
95-63-6	1,2,4-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
135-98-8	sec-Butylbenzene	U	1.04	ug/kg	0.311	1.04
99-87-6	4-Isopropyltoluene	U	1.04	ug/kg	0.311	1.04
541-73-1	1,3-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
106-46-7	1,4-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
104-51-8	n-Butylbenzene	U	1.04	ug/kg	0.311	1.04
96-12-8	1,2-Dibromo-3-chloropropane	U	1.04	ug/kg	0.311	1.04
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.19	ug/kg	1.66	5.19
630-20-6	1,1,1,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
95-50-1	1,2-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	4.48	10.8	ug/kg		J
	Unknown Hydrocarbon	13.35	7.68	ug/kg		J
	Unknown Hydrocarbon	13.86	51.9	ug/kg		J
	Unknown Siloxane	14.83	12.8	ug/kg		J
	Unknown Siloxane	16.79	24.4	ug/kg		J

Volatile
Certificate of Analysis
Sample Summary

Page 1 of 2

SDG Number: 10-1969
 Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
 Date Received: 02/20/2010 08:55
 Client: LANL010
 Method: SW846 8260B
 Inst: VOA4.I
 Analyst: ACJ
 Allquot: 5 g
 Column: RTX-VOLATILES

Matrix: R
 %Moisture: 6.9
 Project: LANL01004
 SOP Ref: GL-OA-E-038
 Dilution: 1
 Purge Vol: 5 mL
 Final Volume: 5 mL
 Level: LOW

Client ID: RE15-10-8349
 Batch ID: 957517
 Run Date: 02/25/2010 02:14
 Prep Date: 02/24/2010 22:46
 Data File: 4z321.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.07	ug/kg	0.365	1.07 UJ,V7c
74-87-3	Chloromethane	U	1.07	ug/kg	0.322	1.07 UJ,V7c
75-01-4	Vinyl chloride	U	1.07	ug/kg	0.322	1.07
74-83-9	Bromomethane	U	1.07	ug/kg	0.322	1.07
75-00-3	Chloroethane	U	1.07	ug/kg	0.322	1.07
75-69-4	Trichlorofluoromethane	U	1.07	ug/kg	0.322	1.07
67-64-1	Acetone	U	5.37	ug/kg	1.78	5.37
75-35-4	1,1-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
74-88-4	Iodomethane	U	5.37	ug/kg	1.72	5.37
75-09-2	Methylene chloride	U	5.37	ug/kg	2.15	5.37
75-15-0	Carbon disulfide	U	5.37	ug/kg	1.34	5.37
156-60-5	trans-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
75-34-3	1,1-Dichloroethane	U	1.07	ug/kg	0.322	1.07
78-93-3	2-Butanone	U	5.37	ug/kg	1.61	5.37
156-59-2	cis-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
594-20-7	2,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
67-66-3	Chloroform	U	1.07	ug/kg	0.322	1.07
74-97-5	Bromochloromethane	U	1.07	ug/kg	0.355	1.07
71-55-6	1,1,1-Trichloroethane	U	1.07	ug/kg	0.322	1.07
563-58-6	1,1-Dichloropropene	U	1.07	ug/kg	0.322	1.07
56-23-5	Carbon tetrachloride	U	1.07	ug/kg	0.322	1.07
107-06-2	1,2-Dichloroethane	U	1.07	ug/kg	0.322	1.07
71-43-2	Benzene	U	1.07	ug/kg	0.322	1.07
79-01-6	Trichloroethylene	U	1.07	ug/kg	0.355	1.07
78-87-5	1,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
75-27-4	Bromodichloromethane	U	1.07	ug/kg	0.322	1.07
74-95-3	Dibromomethane	U	1.07	ug/kg	0.322	1.07
108-10-1	4-Methyl-2-pentanone	U	5.37	ug/kg	1.34	5.37
10061-01-5	cis-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
108-88-3	Toluene	U	1.07	ug/kg	0.322	1.07
10061-02-6	trans-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
79-00-5	1,1,2-Trichloroethane	U	1.07	ug/kg	0.322	1.07
591-78-6	2-Hexanone	U	5.37	ug/kg	1.61	5.37 UJ,V7c
142-28-9	1,3-Dichloropropane	U	1.07	ug/kg	0.322	1.07
127-18-4	Tetrachloroethylene	U	1.07	ug/kg	0.322	1.07
124-48-1	Dibromochloromethane	U	1.07	ug/kg	0.322	1.07
106-93-4	1,2-Dibromoethane	U	1.07	ug/kg	0.322	1.07
108-90-7	Chlorobenzene	U	1.07	ug/kg	0.322	1.07

**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00

Matrix: R

Date Received: 02/20/2010 08:55

%Moisture: 6.9

Client: LANL010

Project: LANL01004

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Inst: VOA4.I

Dilution: 1

Client ID: RE15-10-8349

Batch ID: 957517

Run Date: 02/25/2010 02:14

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 22:46

Allquot: 5 g

Final Volume: 5 mL

Data File: 4z321.d

Column: RTX-VOLATILES

Level: LOW

CAS No.	Parmname	Qualflr	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.07	ug/kg	0.322	1.07
179601-23-1	m,p-Xylenes	U	2.15	ug/kg	0.322	2.15
95-47-6	o-Xylene	U	1.07	ug/kg	0.322	1.07
100-42-5	Styrene	U	1.07	ug/kg	0.322	1.07
75-25-2	Bromoform	U	1.07	ug/kg	0.322	1.07
79-34-5	1,1,2,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
96-18-4	1,2,3-Trichloropropane	U	1.07	ug/kg	0.322	1.07
108-86-1	Bromobenzene	U	1.07	ug/kg	0.322	1.07
103-65-1	n-Propylbenzene	U	1.07	ug/kg	0.322	1.07
95-49-8	2-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-82-8	Isopropylbenzene	U	1.07	ug/kg	0.322	1.07
108-67-8	1,3,5-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
106-43-4	4-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-06-6	tert-Butylbenzene	U	1.07	ug/kg	0.322	1.07
95-63-6	1,2,4-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
135-98-8	sec-Butylbenzene	U	1.07	ug/kg	0.322	1.07
99-87-6	4-Isopropyltoluene	U	1.07	ug/kg	0.322	1.07
541-73-1	1,3-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
106-46-7	1,4-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
104-51-8	n-Butylbenzene	U	1.07	ug/kg	0.322	1.07
96-12-8	1,2-Dibromo-3-chloropropane	U	1.07	ug/kg	0.322	1.07
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.37	ug/kg	1.72	5.37
630-20-6	1,1,1,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
95-50-1	1,2-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Siloxane	14.83	140	ug/kg		J
	Unknown Siloxane	16.79	42.6	ug/kg		J

DATA VALIDATION COVER SHEET

5115-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/1/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Linda Thal ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

☒ OTHER (DESCRIBE): SVOCs


Section II. Completeness Check

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

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

1. The ICV and/or CCV %Ds for pyridine; 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol were >20%. The associated sample results were NDs and, thus, were qualified UJ,SV7c.
2. The MS %R for di-n-octylphthalate and RPD for hexachlorocyclopentadiene did not meet laboratory acceptance criteria. Since the analysis of an MS or an MSD was not a client requirement, no sample data were qualified as a result.

Reviewed by: Mary DonovanLevel: IDate: 04/02/10VALIDATOR'S SIGNATURE: Linda ThalDATE: 4/1/10

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5115-2 Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist	Records Use only 

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

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST


5115-2

Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist


Records Use only



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

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5115-2 Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist	Records Use only 

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

SEMIVOLATILE ORGANIC COMPOUND (SVOC) ANALYTICAL DATA VALIDATION CHECKLIST	
5115-2 Semivolatile Organic Compound (SVOC) Analytical Data Validation Checklist	Records Use only 

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

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Allquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8348
Batch ID: 956677
Run Date: 03/05/2010 17:40
Prep Date: 02/23/2010 21:09
Data File: s3c0523.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	345	ug/kg	69.0	345
108-95-2	Phenol	U	345	ug/kg	69.0	345
95-57-8	2-Chlorophenol	U	345	ug/kg	69.0	345
106-46-7	1,4-Dichlorobenzene	U	345	ug/kg	69.0	345
621-64-7	N-Nitrosodipropylamine	U	345	ug/kg	69.0	345
59-50-7	4-Chloro-3-methylphenol	U	345	ug/kg	69.0	345
83-32-9	Acenaphthene	U	34.5	ug/kg	11.4	34.5
121-14-2	2,4-Dinitrotoluene	U	345	ug/kg	34.5	345
100-02-7	4-Nitrophenol	U	345	ug/kg	114	345
87-86-5	Pentachlorophenol	U	345	ug/kg	86.3	345
129-00-0	Pyrene	U	34.5	ug/kg	10.4	34.5
110-86-1	Pyridine	U	345	ug/kg	69.0	345 UJ,SV7c
62-53-3	Aniline	U	345	ug/kg	104	345
111-44-4	bis(2-Chloroethyl) ether	U	345	ug/kg	69.0	345
541-73-1	1,3-Dichlorobenzene	U	345	ug/kg	69.0	345
100-51-6	Benzyl alcohol	U	345	ug/kg	104	345
95-50-1	1,2-Dichlorobenzene	U	345	ug/kg	69.0	345
108-60-1	bis(2-Chloroisopropyl)ether	U	345	ug/kg	69.0	345
95-48-7	o-Cresol	U	345	ug/kg	69.0	345
65794-96-9	m,p-Cresols	U	345	ug/kg	104	345
67-72-1	Hexachloroethane	U	345	ug/kg	69.0	345
98-95-3	Nitrobenzene	U	345	ug/kg	69.0	345
78-59-1	Isophorone	U	345	ug/kg	69.0	345
88-75-5	2-Nitrophenol	U	345	ug/kg	69.0	345
105-67-9	2,4-Dimethylphenol	U	345	ug/kg	121	345
111-91-1	bis(2-Chloroethoxy)methane	U	345	ug/kg	69.0	345
120-83-2	2,4-Dichlorophenol	U	345	ug/kg	69.0	345
65-85-0	Benzoic acid	U	690	ug/kg	173	690
91-20-3	Naphthalene	U	34.5	ug/kg	10.4	34.5
106-47-8	4-Chloroaniline	U	345	ug/kg	69.0	345
87-68-3	Hexachlorobutadiene	U	345	ug/kg	69.0	345
91-57-6	2-Methylnaphthalene	U	34.5	ug/kg	6.90	34.5
77-47-4	Hexachlorocyclopentadiene	U	345	ug/kg	69.0	345
88-06-2	2,4,6-Trichlorophenol	U	345	ug/kg	69.0	345
95-95-4	2,4,5-Trichlorophenol	U	345	ug/kg	69.0	345
91-58-7	2-Chloronaphthalene	U	34.5	ug/kg	11.4	34.5
88-74-4	2-Nitroaniline	U	345	ug/kg	69.0	345
	o-Nitroaniline					
99-09-2	3-Nitroaniline	U	345	ug/kg	69.0	345

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

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8348
Batch ID: 956677
Run Date: 03/05/2010 17:40
Prep Date: 02/23/2010 21:09
Data File: s3c0523.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	345	ug/kg	69.0	345
606-20-2	2,6-Dinitrotoluene	U	345	ug/kg	34.5	345
208-96-8	Acenaphthylene	U	34.5	ug/kg	10.4	34.5
51-28-5	2,4-Dinitrophenol	U	690	ug/kg	131	690 UJ,SV7c
132-64-9	Dibenzofuran	U	345	ug/kg	69.0	345
84-66-2	Diethylphthalate	U	345	ug/kg	69.0	345
86-73-7	Fluorene	U	34.5	ug/kg	10.4	34.5
7005-72-3	4-Chlorophenylphenylether	U	345	ug/kg	69.0	345
534-52-1	2-Methyl-4,6-dinitrophenol	U	345	ug/kg	69.0	345 UJ,SV7c
100-01-6	4-Nitroaniline	U	345	ug/kg	104	345
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	345	ug/kg	69.0	345
122-66-7	Azobenzene	U	345	ug/kg	69.0	345
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	345	ug/kg	69.0	345
118-74-1	Hexachlorobenzene	U	345	ug/kg	69.0	345
85-01-8	Phenanthrene	U	34.5	ug/kg	10.4	34.5
120-12-7	Anthracene	U	34.5	ug/kg	6.90	34.5
84-74-2	Di-n-butylphthalate	U	345	ug/kg	69.0	345
206-44-0	Fluoranthene	U	34.5	ug/kg	10.4	34.5
85-68-7	Butylbenzylphthalate	U	345	ug/kg	69.0	345
56-55-3	Benzo(a)anthracene	U	34.5	ug/kg	10.4	34.5
91-94-1	3,3'-Dichlorobenzidine	U	345	ug/kg	104	345
218-01-9	Chrysene	U	34.5	ug/kg	10.4	34.5
117-81-7	bis(2-Ethylhexyl)phthalate	U	345	ug/kg	69.0	345
117-84-0	Di-n-octylphthalate	U	345	ug/kg	69.0	345
205-99-2	Benzo(b)fluoranthene	U	34.5	ug/kg	10.4	34.5
207-08-9	Benzo(k)fluoranthene	U	34.5	ug/kg	10.4	34.5
50-32-8	Benzo(a)pyrene	U	34.5	ug/kg	10.4	34.5
193-39-5	Indeno(1,2,3-cd)pyrene	U	34.5	ug/kg	10.4	34.5
53-70-3	Dibenzo(a,h)anthracene	U	34.5	ug/kg	10.4	34.5
191-24-2	Benzo(ghi)perylene	U	34.5	ug/kg	10.4	34.5
120-82-1	1,2,4-Trichlorobenzene	U	345	ug/kg	69.0	345

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.74	439	ug/kg		JA
	Unknown	5.51	238	ug/kg		J

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 247551002	Date Received: 02/20/2010 08:55	%Moisture: 3.7
	Client: LANL010	Project: LANL01004
Client ID: RE15-10-8348	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/05/2010 17:40	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.08 g	Final Volume: 1 mL
Data File: s3c0523.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Flt	Qual
77-53-2	Cedrol	6.28	253	ug/kg	96	NJ
	Unknown	7.93	210	ug/kg		J
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1800	ug/kg	98	NJ
	Unknown	8.47	187	ug/kg		J
	Unknown	8.75	295	ug/kg		J
301-02-0	9-Octadecenamide, (Z)-	8.97	492	ug/kg	89	NJ
	Unknown	11.36	171	ug/kg		J
	Unknown	12.28	216	ug/kg		J
	Unknown	13.98	808	ug/kg		J

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8349
Batch ID: 956677
Run Date: 03/05/2010 17:17
Prep Date: 02/23/2010 21:09
Data File: s3c0522.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	356	ug/kg	71.2	356
108-95-2	Phenol	U	356	ug/kg	71.2	356
95-57-8	2-Chlorophenol	U	356	ug/kg	71.2	356
106-46-7	1,4-Dichlorobenzene	U	356	ug/kg	71.2	356
621-64-7	N-Nitrosodipropylamine	U	356	ug/kg	71.2	356
59-50-7	4-Chloro-3-methylphenol	U	356	ug/kg	71.2	356
83-32-9	Acenaphthene	U	35.6	ug/kg	11.7	35.6
121-14-2	2,4-Dinitrotoluene	U	356	ug/kg	35.6	356
100-02-7	4-Nitrophenol	U	356	ug/kg	117	356
87-86-5	Pentachlorophenol	U	356	ug/kg	89.0	356
129-00-0	Pyrene	J	19.8	ug/kg	10.7	35.6
110-86-1	Pyridine	U	356	ug/kg	71.2	356 UJ,SV7c
62-53-3	Aniline	U	356	ug/kg	107	356
111-44-4	bis(2-Chloroethyl) ether	U	356	ug/kg	71.2	356
541-73-1	1,3-Dichlorobenzene	U	356	ug/kg	71.2	356
100-51-6	Benzyl alcohol	U	356	ug/kg	107	356
95-50-1	1,2-Dichlorobenzene	U	356	ug/kg	71.2	356
108-60-1	bis(2-Chloroisopropyl)ether	U	356	ug/kg	71.2	356
95-48-7	o-Cresol	U	356	ug/kg	71.2	356
65794-96-9	m,p-Cresols	U	356	ug/kg	107	356
67-72-1	Hexachloroethane	U	356	ug/kg	71.2	356
98-95-3	Nitrobenzene	U	356	ug/kg	71.2	356
78-59-1	Isophorone	U	356	ug/kg	71.2	356
88-75-5	2-Nitrophenol	U	356	ug/kg	71.2	356
105-67-9	2,4-Dimethylphenol	U	356	ug/kg	125	356
111-91-1	bis(2-Chloroethoxy)methane	U	356	ug/kg	71.2	356
120-83-2	2,4-Dichlorophenol	U	356	ug/kg	71.2	356
65-85-0	Benzoic acid	U	712	ug/kg	178	712
91-20-3	Naphthalene	U	35.6	ug/kg	10.7	35.6
106-47-8	4-Chloroaniline	U	356	ug/kg	71.2	356
87-68-3	Hexachlorobutadiene	U	356	ug/kg	71.2	356
91-57-6	2-Methylnaphthalene	U	35.6	ug/kg	7.12	35.6
77-47-4	Hexachlorocyclopentadiene	U	356	ug/kg	71.2	356
88-06-2	2,4,6-Trichlorophenol	U	356	ug/kg	71.2	356
95-95-4	2,4,5-Trichlorophenol	U	356	ug/kg	71.2	356
91-58-7	2-Chloronaphthalene	U	35.6	ug/kg	11.7	35.6
88-74-4	2-Nitroaniline	U	356	ug/kg	71.2	356
99-09-2	<i>o</i> -Nitroaniline					
	3-Nitroaniline	U	356	ug/kg	71.2	356

Semi-Volatile
Certificate of Analysis
Sample Summary

Page 2 of 3

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8349
Batch ID: 956677
Run Date: 03/05/2010 17:17
Prep Date: 02/23/2010 21:09
Data File: s3c0522.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	356	ug/kg	71.2	356
606-20-2	2,6-Dinitrotoluene	U	356	ug/kg	35.6	356
208-96-8	Acenaphthylene	U	35.6	ug/kg	10.7	35.6
51-28-5	2,4-Dinitrophenol	U	712	ug/kg	135	712 UJ,SV7c
132-64-9	Dibenzofuran	U	356	ug/kg	71.2	356
84-66-2	Diethylphthalate	U	356	ug/kg	71.2	356
86-73-7	Fluorene	U	35.6	ug/kg	10.7	35.6
7005-72-3	4-Chlorophenylphenylether	U	356	ug/kg	71.2	356
534-52-1	2-Methyl-4,6-dinitrophenol	U	356	ug/kg	71.2	356 UJ,SV7c
100-01-6	4-Nitroaniline	U	356	ug/kg	107	356
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	356	ug/kg	71.2	356
122-66-7	Azobenzene	U	356	ug/kg	71.2	356
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	356	ug/kg	71.2	356
118-74-1	Hexachlorobenzene	U	356	ug/kg	71.2	356
85-01-8	Phenanthrene	U	35.6	ug/kg	10.7	35.6
120-12-7	Anthracene	U	35.6	ug/kg	7.12	35.6
84-74-2	Di-n-butylphthalate	U	356	ug/kg	71.2	356
206-44-0	Fluoranthene	J	23.0	ug/kg	10.7	35.6
85-68-7	Butylbenzylphthalate	U	356	ug/kg	71.2	356
56-55-3	Benzo(a)anthracene	U	35.6	ug/kg	10.7	35.6
91-94-1	3,3'-Dichlorobenzidine	U	356	ug/kg	107	356
218-01-9	Chrysene	U	35.6	ug/kg	10.7	35.6
117-81-7	bis(2-Ethylhexyl)phthalate	U	356	ug/kg	71.2	356
117-84-0	Di-n-octylphthalate	U	356	ug/kg	71.2	356
205-99-2	Benzo(b)fluoranthene	J	22.2	ug/kg	10.7	35.6
207-08-9	Benzo(k)fluoranthene	U	35.6	ug/kg	10.7	35.6
50-32-8	Benzo(a)pyrene	J	11.7	ug/kg	10.7	35.6
193-39-5	Indeno(1,2,3-cd)pyrene	U	35.6	ug/kg	10.7	35.6
53-70-3	Dibenzo(a,h)anthracene	U	35.6	ug/kg	10.7	35.6
191-24-2	Benzo(ghi)perylene	U	35.6	ug/kg	10.7	35.6
120-82-1	1,2,4-Trichlorobenzene	U	356	ug/kg	71.2	356

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.75	719	ug/kg		JA
	Unknown	5.51	195	ug/kg		J

Semi-Volatile
Certificate of Analysis
Sample Summary

Page 3 of 3


SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Allquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW


Client ID: RE15-10-8349
Batch ID: 956677
Run Date: 03/05/2010 17:17
Prep Date: 02/23/2010 21:09
Data File: s3c0522.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Flt	Qual
5794-03-6	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-me	5.71	161	ug/kg	83	NJ
77-53-2	Cedrol	6.28	214	ug/kg	93	NJ
17312-55-9	Decane, 3,8-dimethyl-	6.39	217	ug/kg	81	NJ
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1620	ug/kg	98	NJ
	Unknown	8.78	246	ug/kg		J
301-02-0	9-Octadecenamide, (Z)-	8.97	265	ug/kg	91	NJ


DATA VALIDATION COVER SHEET	
5121-1 <p style="text-align: center;">Data Validation Cover Sheet</p>	Records Use only 

Section I.		
REQUEST NUMBER: <u>10-1969</u>	VALIDATION DATE: <u>4/1/10</u>	LAB CODE: <u>GEL</u>
CONTRACT LABORATORY NAME: <u>GEL Laboratories LLC</u>		
VALIDATOR: <u>Linda Thal</u> ORGANIZATION: <u>Analytical Quality Associates, Inc.</u>		
ANALYTICAL SUITE (CHECK ALL THAT APPLY):		
<input type="checkbox"/> TPH-GRO	<input type="checkbox"/> HIGH EXPLOSIVES	<input type="checkbox"/> DIOXIN FURANS
<input type="checkbox"/> TPH-DRO	<input type="checkbox"/> METALS	<input type="checkbox"/> PCB CONGENERS
<input type="checkbox"/> GENERAL CHEMISTRY	<input type="checkbox"/> RADIOCHEMISTRY	<input type="checkbox"/> LCMSMS HIGH EXPLOSIVES
		<input checked="" type="checkbox"/> LCMSMS PERCHLORATES
		<input type="checkbox"/> ORGANOCHLORINE 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/MSD was performed on a sample from another LANL RN and the raw data for the parent sample was not included in the data package. No sample data were qualified as a result.							
Reviewed by: <u>Mary Donovan</u> Level: <u>I</u> Date: <u>04/02/10</u>							
VALIDATOR'S SIGNATURE: <u><i>Linda Thal</i></u>				DATE: <u>4/1/10</u>			
Form 5121-1, Revision 0.0				LOS ALAMOS Environmental Restoration Project			

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"/>	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 checked="" type="checkbox"/>	<input type="checkbox"/>	16. The affected analyte is considered not detected because ion abundance ratios did not meet specifications.	N/A	R, PERC8
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The ion ratio documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	N/A	R, PERC8a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ PERC9	J-, PERC9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. The holding time was > 2 times the applicable holding time requirement.	R, PERC9a	J-, PERC9a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The LCS percent recovery was <10%. Follow the external laboratory limits.	R, PERC12	J-, PERC12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. The LCS percent recovery was < the Lower Acceptance Limit but >10%. Follow the external laboratory limits.	UJ, PERC12a	J-, PERC12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The LCS percent recovery was > the Upper Acceptance Limit. Follow the external laboratory limits.	N/A	J+, PERC12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, PERC12c	R, PERC12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	24. The MS/MSD percent recovery was <10%	R, PERC12d	R, PERC12d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. The MS/MSD percent recovery was >10% but <75%	UJ, PERC12e	J, PERC12e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The MS/MSD percent recovery was >125%.	N/A	J+, PERC12f

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

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

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: 957937

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE15-10-8349

Date Received: 20-FEB-10

GEL Job No (SDG): 10-1969

GEL Sample ID: 247551001

Date Filtered: 05-MAR-10

Injection Volume (uL): 20

%Solids: 93.1

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.562	ug/kg	J	1	11-MAR-10 20:58	per0311012a
	Perchlorate Isotope Ratio			3.15			1	11-MAR-10 20:58	per0311012a
14797-73-0	Perchlorate-101	.537	2.15	0.537	ug/kg	U	1	11-MAR-10 20:58	per0311012a
	Perchlorate-O(18)			5.18	ug/kg		1	11-MAR-10 20:58	per0311012a

[^] 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 $\frac{1}{\% \text{Solids}}$

LT 4/1/10

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: 957937
 Extraction Type: Solid Prep
 Sample Volume/Weight: 2.00 g
 Concentrated Extract Volume: 20.0
 Client Sample No. RE15-10-8348
 Date Received: 20-FEB-10
 GEL Job No (SDG): 10-1969
 GEL Sample ID: 247551002
 Date Filtered: 05-MAR-10
 Injection Volume (uL): 20
 %Solids: 96.3

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.519	2.08	0.599	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate Isotope Ratio			3.11			1	11-MAR-10 21:07	per0311013a
14797-73-0	Perchlorate-101	.519	2.08	0.553	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate-O(18)			5.05	ug/kg		1	11-MAR-10 21:07	per0311013a

[^] 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 %Solids
 Aliquot

LT 4/1/10

DATA VALIDATION COVER SHEET

5122-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/1/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Linda Thal 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 %D for RDX was >20% with positive bias. The associated sample results were NDs and, thus, were not qualified.
2. It should be noted that the raw ICAL data from the instrument used for the secondary HE analysis were not reported in the data package. Thus, the surrogate RT criteria could not be evaluated. No sample data were qualified as a result.
3. The LCS %R for TATB was > the laboratory's UAL. The associated sample results were NDs and, thus, were not qualified.
4. The MS/MSD RPD for tetryl did not meet laboratory acceptance criteria. The associated sample results were NDs and, thus, were qualified UJ,HE12g. The MS/MSD was performed on a sample from another LANL RN and the raw data for the parent sample were not included in the data package. No sample data were qualified as a result.

Reviewed by: Mary Donovan

Level: I


Date: 04/02/10

VALIDATOR'S SIGNATURE: Linda Thal


DATE: 4/1/10

Form 5122-1, Revision 0.0


LOS ALAMOS
Environmental Restoration Project

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


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

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

Yes No N/A				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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	32. The MS/MSD percent recover was >70%.	N/A	J+, HE12f
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	33. The MS/MSD relative percent difference was >30%.	UJ, HE12g	J, HE12g
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	34. The affected analytes are considered suspect because the sample was diluted without any target analytes identified due to matrix interference. (Qualify as Reject if the analytical laboratory cannot provide proof for matrix interference.)	UJ, R, HE15	R, HE15
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35. The sample was diluted because target analytes were > the initial verification calibration.	UJ, HE15a	J, HE15a

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

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1962

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319066a

Date Analyzed: 21-MAR-10 00:51

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 UJ,HE12g	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
		<u>Sample Amount</u>		

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160018.wiff

Date Analyzed: 16-MAR-10 12:44

Units: ug/kg

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

*Concentration =

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319067a

Date Analyzed: 21-MAR-10 01:21

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 UJ,HE12g	500	U
606-20-2	2,6-Dinitrotoluene	500	U
78-11-5	PETN	1000	U
88-72-2	o-Nitrotoluene	500	U
98-95-3	Nitrobenzene	500	U
99-08-1	m-Nitrotoluene	500	U
99-35-4	1,3,5-Trinitrobenzene	500	U
99-65-0	m-Dinitrobenzene	500	U
99-99-0	p-Nitrotoluene	500	U

*Concentration =

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160019.wiff

Date Analyzed: 16-MAR-10 13:00

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

DATA VALIDATION COVER SHEET

5118-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/1/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Linda Thal 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):


- The MS %Rs for Al, Fe, Mn, Ca, Mg, K and Na were > the laboratory's UALs. The Ca, Mg, K and Na sample results were detects and, thus, were qualified J+,I6b. The associated parent sample results for Al, Mn and Fe were detects >4X the spike amounts and, thus, no sample results were qualified based on professional judgment. The MS %R for Se was < the laboratory's LAL but $\geq 10\%$. The associated sample results were NDs and, thus, were qualified UJ,I6a.
- The duplicate RPD for U was >35% and both the original sample and duplicate results were $\geq 5X$ the PQL. The associated sample results were detects and, thus, were qualified J,I10a.
- It should be noted that the matrix QC for all target analytes were performed on samples from other LANL RNs. No sample data were qualified as a result.

Reviewed by: Mary DonovanLevel: IDate: 04/02/10VALIDATOR'S SIGNATURE: *Linda Thal*DATE: 4/1/10


DATA VALIDATION COVER SHEET	
5118-1 Data Validation Cover Sheet	Records Use only  Los Alamos NATIONAL LABORATORY EST. 1943
Form 5118-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

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


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

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

Yes No N/A (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The sample result is $\leq 5X$ the concentration of the related analyte in the instrument blank and continuing calibration blank.	U, I4b	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Continuing calibration blanks were not analyzed at the appropriate method frequency.	UJ, I4c	J, I4c
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20. The sample result is $\leq 5X$ the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, I4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, I4e	R, I4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22. The associated matrix spike recovery was $< 10\%$. Follow the external laboratory limits located within the associated data package.	R, I6	R, I6
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	23. The associated matrix spike recovery was $<$ the LAL but $> 10\%$. Follow the external laboratory limits located within the associated data package.	UJ, I6a	J+, I6a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. The associated matrix spike recovery was $>$ the UAL. Follow the external laboratory limits located within the associated data package.	UJ, I6b	J+, I6b

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

Yes No N/A (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 (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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: 10-1969

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 247551001

BASIS: Dry Weight

DATE COLLECTED 15-FEB-10

CLIENT ID: RE15-10-8349

LEVEL: Low

DATE RECEIVED 20-FEB-10

MATRIX: SOIL

%SOLIDS: 93.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2770000	ug/Kg		7190	21100	21100	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-36-0	Antimony	602	ug/Kg	J	349	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-38-2	Arsenic	0.734	mg/kg	J	0.21	1.05	1.05	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-39-3	Barium	32900	ug/Kg		106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-41-7	Beryllium	0.663	mg/kg		0.021	0.105	0.105	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-43-9	Cadmium	134	ug/Kg	J	106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-70-2	Calcium J+,I6b	1070000	ug/Kg		8460	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-47-3	Chromium	1840	ug/Kg		159	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-48-4	Cobalt	1010	ug/Kg		159	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-50-8	Copper	4120	ug/Kg		317	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-89-6	Iron	9510000	ug/Kg		8460	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-92-1	Lead	6410	ug/Kg		264	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-95-4	Magnesium J+,I6b	456000	ug/Kg		8990	31700	31700	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-96-5	Manganese	332000	ug/Kg		211	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-97-6	Mercury	6.34	ug/kg	J	3.92	11.5	11.5	1	AV	JXL1	03/08/10 10:35	030810S1-4	958689
7440-02-0	Nickel	1.93	mg/kg		0.105	0.42	0.42	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-09-7	Potassium J+,I6b	592000	ug/Kg		6770	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7782-49-2	Selenium UJ,I6a	1.05	mg/kg	U	0.525	1.05	1.05	2	MS	SKJ	03/19/10 05:05	100318-2	955818
7440-22-4	Silver	529	ug/Kg	U	106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-23-5	Sodium J+,I6b	383000	ug/Kg		7400	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-28-0	Thallium	0.210	mg/kg	U	0.0629	0.21	0.21	2	MS	SKJ	03/19/10 05:05	100318-2	955818
7440-61-1	Uranium J,I10a	1.09	mg/kg		0.0138	0.042	0.042	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-62-2	Vanadium	5300	ug/Kg		106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-66-6	Zinc	52600	ug/Kg		349	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
955816	955815	SW846 3050B	0.508	g	50	mL	02/25/10	AXG2
955818	955817	SW846 3050B	0.512	g	50	mL	02/25/10	AXG2
958689	958687	SW846 7471A Prep	0.559	g	30	mL	03/06/10	TXB3

LT 4/1/10

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1969

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 247551002

BASIS: Dry Weight

DATE COLLECTED 15-FEB-10

CLIENT ID: RE15-10-8348

LEVEL: Low

DATE RECEIVED 20-FEB-10

MATRIX: SOIL

%SOLIDS: 96.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	4090000	ug/Kg		6880	20200	20200	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-36-0	Antimony	386	ug/Kg	J	334	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-38-2	Arsenic	1.26	mg/kg		0.189	0.945	0.945	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-39-3	Barium	55000	ug/Kg		101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-41-7	Beryllium	0.602	mg/kg		0.0189	0.0945	0.0945	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-43-9	Cadmium	164	ug/Kg	J	101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-70-2	Calcium J+,I6b	1290000	ug/Kg		8090	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-47-3	Chromium	4710	ug/Kg		152	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-48-4	Cobalt	1880	ug/Kg		152	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-50-8	Copper	5690	ug/Kg		304	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-89-6	Iron	10600000	ug/Kg		8090	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-92-1	Lead	8140	ug/Kg		253	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-95-4	Magnesium J+,I6b	711000	ug/Kg		8600	30400	30400	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-96-5	Manganese	282000	ug/Kg		202	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-97-6	Mercury	13.3	ug/kg		3.91	11.5	11.5	1	AV	JXL1	03/08/10 10:36	030810S1-4	958689
7440-02-0	Nickel	4.63	mg/kg		0.0945	0.378	0.378	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-09-7	Potassium J+,I6b	639000	ug/Kg		6480	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7782-49-2	Selenium UJ,I6a	0.945	mg/kg	U	0.473	0.945	0.945	2	MS	SKJ	03/19/10 05:09	100318-2	955818
7440-22-4	Silver	506	ug/Kg	U	101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-23-5	Sodium J+,I6b	177000	ug/Kg		7080	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-28-0	Thallium	0.189	mg/kg	U	0.0567	0.189	0.189	2	MS	SKJ	03/19/10 05:09	100318-2	955818
7440-61-1	Uranium J,I10a	1.63	mg/kg		0.0125	0.0378	0.0378	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-62-2	Vanadium	10500	ug/Kg		101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-66-6	Zinc	36900	ug/Kg		334	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
955816	955815	SW846 3050B	0.513	g	50	mL	02/25/10	AXG2
955818	955817	SW846 3050B	0.549	g	50	mL	02/25/10	AXG2
958689	958687	SW846 7471A Prep	0.542	g	30	mL	03/06/10	TXB3

DATA VALIDATION COVER SHEET

5120-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/2/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Linda Thal ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

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

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 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):

- The matrix QC analyses for ion chromatography and total cyanide were performed on samples from other LANL RNs. No sample data were qualified as a result.


Reviewed by: Mary DonovanLevel: IDate: 04/02/10

VALIDATOR'S SIGNATURE: _____


*Linda Thal*DATE: 4/2/10

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 General Chemistry 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"/>	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 (Check One)				Assign Qualifier Listed Below If Criterion = Yes	
				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: March 17, 2010

Client SDG: 10-1969

Client Sample ID: RE15-10-8349
Sample ID: 247551001
Matrix: R
Collect Date: 15-FEB-10 12:00
Receive Date: 20-FEB-10
Collector: Client
Moisture: 6.91%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Electrode Analysis											
<i>SW9045C pH "As Received"</i>											
pH at Temp 20.4C	H	9.03	0.010	0.100	SU	1	TXT1	02/22/10	1447	956095	1
Flow Injection Analysis											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	73.0	269	ug/kg	1	AXC2	03/01/10	1532	955989	2
Ion Chromatography											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		1.21	0.322	1.07	mg/kg	1	MAR1	03/10/10	1529	957881	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	03/10/10	1030	957878
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/26/10	1540	955988

The following Analytical Methods were performed

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

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: March 17, 2010

Client SDG: 10-1969

Client Sample ID: RE15-10-8348
Sample ID: 247551002
Matrix: R
Collect Date: 15-FEB-10 12:00
Receive Date: 20-FEB-10
Collector: Client
Moisture: 3.67%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Electrode Analysis											
<i>SW9045C pH "As Received"</i>											
pH at Temp 20.3C	H	6.63	0.010	0.100	SU	1	TXT1	02/22/10	1452	956095	1
Flow Injection Analysis											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	66.6	245	ug/kg	1	AXC2	03/01/10	1533	955989	2
Ion Chromatography											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		1.10	0.311	1.04	mg/kg	1	MAR1	03/10/10	1557	957881	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	03/10/10	1030	957878
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/26/10	1540	955988

The following Analytical Methods were performed

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

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1969 VALIDATION DATE: 4/2/10 LAB CODE: GEL

CONTRACT LABORATORY NAME: GEL Laboratories LLC

VALIDATOR: Linda Thal 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):

- The gamma spec sample results that were rejected by the laboratory due to interference or low abundance were qualified R,R5a.
- An MS was not performed for the tritium analysis. The LCS met laboratory acceptance criteria and, thus, no sample results were qualified.
- The matrix QC analyses for all target analytes except gamma spec were performed on samples from other LANL RNs. No sample data were qualified as a result.


Reviewed by: Mary Donovan

Level: I


Date: 04/02/10

VALIDATOR'S SIGNATURE: Linda Thal


DATE: 4/2/10

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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: March 19, 2010

Client Sample ID: RE15-10-8349
Sample ID: 247551001
Matrix: R
Collect Date: 15-FEB-10
Receive Date: 20-FEB-10
Collector: Client
Moisture: 6.91%

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	-0.000275	0.0225	+/-0.00154	0.050	pCi/g		AYB1	03/17/10	0728	961200	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0205	0.0242	+/-0.00847	0.050	pCi/g		AYB1	03/17/10	0856	961201	3
Plutonium-239/240	U	0.0148	0.0205	+/-0.00665	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.958	0.101	+/-0.0906	0.100	pCi/g		AYB1	03/17/10	1834	961204	4
Uranium-235/236		0.0621	0.0619	+/-0.0172	0.100	pCi/g						
Uranium-238		1.45	0.0712	+/-0.127	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0243	0.299	+/-0.0934	0.200	pCi/g		MXR1	03/04/10	1640	956158	5
Bismuth-211	UI	3.98	R,R5a	+/-0.217		pCi/g						
Bismuth-214		1.20		+/-0.0859	0.200	pCi/g						
Cadmium-109	UI	2.44	R,R5a	+/-0.503		pCi/g						
Cerium-139	U	1.74E-05		+/-0.0122	0.050	pCi/g						
Cesium-134	UI	0.0938	R,R5a	+/-0.035	0.100	pCi/g						
Cesium-137	U	0.00361		+/-0.0144	0.100	pCi/g						
Cobalt-60	U	0.0165		+/-0.0149	0.100	pCi/g						
Europium-152	U	-0.0216		+/-0.0449	0.200	pCi/g						
Lanthanum-140	U	0.00915		+/-0.0395		pCi/g						
Lead-212		1.79		+/-0.0805	0.100	pCi/g						
Lead-214		1.44		+/-0.0883	0.100	pCi/g						
Mercury-203	U	0.039		+/-0.0183	0.100	pCi/g						
Potassium-40		32.6		+/-1.43	1.00	pCi/g						
Radium-223	U	0.184		+/-0.288		pCi/g						
Radium-224	UI	4.79	R,R5a	+/-0.521		pCi/g						
Radium-226		1.20		+/-0.0859		pCi/g						
Radium-228		1.88		+/-0.180	0.500	pCi/g						
Ruthenium-106	U	0.0371		+/-0.127	0.800	pCi/g						

LT 4/2/10

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Certificate of Analysis

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

Report Date: March 19, 2010

Client Sample ID:
Sample ID:

RE15-10-8349
247551001

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Sodium-22	U	0.00545	0.0605	+/-0.0181	0.080	pCi/g						
Strontium-85	UI	0.0643	R,R5a	+/-0.0173		pCi/g						
Thallium-208		0.510	0.0475	+/-0.0398	0.080	pCi/g						
Thorium-227	U	-0.121	0.348	+/-0.105		pCi/g						
Thorium-231	U	0.184	0.853	+/-0.288		pCi/g						
Thorium-234	U	2.35	2.37	+/-1.12	2.00	pCi/g						
Tin-113	U	-0.0198	0.0585	+/-0.0175	0.100	pCi/g						
Uranium-235	U	-0.0268	0.303	+/-0.0931	0.500	pCi/g						
Yttrium-88	U	0.0287	0.0517	+/-0.0142	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	246	217	+/-73.3	250	pCi/L	KXK2	03/11/10	1437	956742	6		
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The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	84.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

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: March 19, 2010

Client Sample ID: RE15-10-8348
Sample ID: 247551002
Matrix: R
Collect Date: 15-FEB-10
Receive Date: 20-FEB-10
Collector: Client
Moisture: 3.67%

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	0.00155	0.0307	+/-0.00266	0.050	pCi/g		AYB1	03/18/10	1439	961200	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0047	0.0289	+/-0.00708	0.050	pCi/g		AYB1	03/18/10	2059	961201	3
Plutonium-239/240	U	0.00397	0.0245	+/-0.00434	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.886	0.0988	+/-0.0847	0.100	pCi/g		AYB1	03/17/10	1834	961204	5
Uranium-235/236		0.0693	0.0603	+/-0.020	0.100	pCi/g						
Uranium-238		0.960	0.0694	+/-0.0903	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.357	0.501	+/-0.149	0.200	pCi/g		MXR1	03/04/10	1850	956158	6
Bismuth-211	UI	4.11 R,R5a	0.428	+/-0.323		pCi/g						
Bismuth-214		1.42	0.124	+/-0.109	0.200	pCi/g						
Cadmium-109	UI	2.40 R,R5a	1.71	+/-0.708		pCi/g						
Cerium-139	U	-0.00729	0.0641	+/-0.0191	0.050	pCi/g						
Cesium-134	U	0.0968	0.107	+/-0.0323	0.100	pCi/g						
Cesium-137	U	-0.00652	0.0753	+/-0.0222	0.100	pCi/g						
Cobalt-60	U	0.0116	0.0735	+/-0.0219	0.100	pCi/g						
Europium-152	U	-0.00242	0.202	+/-0.0719	0.200	pCi/g						
Lanthanum-140	U	0.031	0.180	+/-0.0602		pCi/g						
Lead-212		1.97	0.116	+/-0.137	0.100	pCi/g						
Lead-214		1.49	0.156	+/-0.124	0.100	pCi/g						
Mercury-203	U	0.0647	0.0886	+/-0.0244	0.100	pCi/g						
Potassium-40		37.3	0.583	+/-2.10	1.00	pCi/g						
Radium-223	U	0.172	1.42	+/-0.471		pCi/g						
Radium-224	UI	4.71 R,R5a	1.24	+/-0.794		pCi/g						
Radium-226		1.42	0.124	+/-0.109		pCi/g						
Radium-228		2.22	0.248	+/-0.214	0.500	pCi/g						
Ruthenium-106	U	0.0994	0.610	+/-0.181	0.800	pCi/g						
Sodium-22	U	0.0094	0.0889	+/-0.0268	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: March 19, 2010

Client Sample ID: RE15-10-8348
Sample ID: 247551002
Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.107	R,R5a	0.0928	+/-0.0283	pCi/g						
Thallium-208		0.568		0.0675	+/-0.051	pCi/g						
Thorium-227	U	-0.147		0.521	+/-0.153	pCi/g						
Thorium-231	U	0.172		1.42	+/-0.471	pCi/g						
Thorium-234	U	1.01		4.21	+/-1.19	pCi/g						
Tin-113	U	-0.0215		0.0931	+/-0.028	pCi/g						
Uranium-235	U	0.0298		0.453	+/-0.133	pCi/g						
Yttrium-88	U	0.00194		0.0671	+/-0.0203	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		321		209	+/-75.4	pCi/L		KXK2	03/11/10	1509	956742	7
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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, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	77.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.0	(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.

Friday, February 19, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1969

LOS ALAMOS

REQUEST NUMBER: 10-1969

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/21/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2475511

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-8349	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8349	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8349	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8349	1	POLY	H3	Ice	R
RE15-10-8349	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8349	1	POLY	Perchlorate+CN+N03+pH	Ice	R
RE15-10-8348	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8348	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8348	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8348	1	POLY	H3	Ice	R
RE15-10-8348	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8348	1	POLY	Perchlorate+CN+N03+pH	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

REQUEST NUMBER: 10-1969

Friday, February 19, 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: 10-1969

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/19/2010

TURNAROUND/REPORT DUE: 3/21/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ERM CONTACT:

Signature:

Jeffrey...

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-300.0	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	EPA-901.1	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	EPA-906.0	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	HASL-300:AM-241	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	HASL-300:ISOPU	1	RE15-10-8348	R	2/15/2010	

Friday, February 19, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-8349	R	2/15/2010	
	HASL-300:ISOU	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8010B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8020	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6850	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:7471A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8260B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8270C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8321A_MOD	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9012A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9045C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	

Final Page of REQUEST NUMBER 10-1969



February 24, 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: 247551
SDG: 10-1969

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on February 20, 2010, and analyzed for Explosives by LCMSMS, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals, Perchlorates by LCMSMS and Radiochemistry. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

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

Sincerely,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1969
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 247551
SDG: 10-1969

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 247551
SDG # : 10-1969**

February 24, 2010

Laboratory Identification:

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

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on February 20, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 12C temperature. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:


<u>Laboratory ID</u>	<u>Client ID</u>
247551001	RE15-10-8349
247551002	RE15-10-8348

Case Narrative

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

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

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



Valerie Davis

Project Manager

List of current GEL Certifications as of 24 February 2010

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

Chain of Custody and Supporting Documentation

Friday, February 19, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1969

LOS ALAMOS

REQUEST NUMBER: 10-1969

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/21/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

2475517.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-8349	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8349	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8349	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8349	1	POLY	H3	Ice	R
RE15-10-8349	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8349	1	POLY	Perchlorate+CN+N03+pH	Ice	R
RE15-10-8348	1	SEPTUM AMBER GLASS	8260B	Ice	R
RE15-10-8348	1	AMBER GLASS	8270C+NMED Exp	Ice	R
RE15-10-8348	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8348	1	POLY	H3	Ice	R
RE15-10-8348	1	POLY	METALS+U-GEL	Ice	R
RE15-10-8348	1	POLY	Perchlorate+CN+N03+pH	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Gregory 2/19/10 1400

Greg Tyler *Greg Tyler* 2-20-10 0855

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

Friday, February 19, 2010

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

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

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/19/2010

TURNAROUND/REPORT DUE: 3/21/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:



REQUEST NUMBER: 10-1969

These Samples are on:

LANL Request Number: 10-1969
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:300.0	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	EPA:901.1	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	EPA:906.0	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	HASL-300-AM-241	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	HASL-300-ISOPU	1	RE15-10-8348	R	2/15/2010	

Friday, February 19, 2010

Page 2 of 2

REQUEST NUMBER: 10-1969

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-8349	R	2/15/2010	
	HASL-300:ISOU	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6010B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6020	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:6850	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:7471A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8260B	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8270C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:8321A_MOD	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9012A	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	
	SW-846:9045C	1	RE15-10-8348	R	2/15/2010	
		1	RE15-10-8349	R	2/15/2010	

Final Page of REQUEST NUMBER 10-1969



SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCO/Work Order: 10-1969		
Received By: Greg Tyler			Date Received: 2/20/10		
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*: 40cpm		
Classified Radioactive II by RSO?		X			
COC/Samples marked containing PCBs?		X			
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:		
Samples identified as Foreign Soil?		X			

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within 0 ≤ 6 deg. C?	X			Preservation Method: ice bags blue ice dry ice none other 2-6C 12C
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: 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 7850 1448 2C 7209 7850 1404 12C

7209 7850 1426 2C

7209 7850 1437 3C

7209 7850 1460 4C

7209 7850 1470 6C

7209 7850 1459 6C

7209 7850 1415 5C

7209 7850 1390 12C

ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTNGT: 55.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTNGT: 55.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 68010AMR3A0532VA00

CHARLESTON SC 29407
(843) 556-8171
REF: 68010AMR3A05329E00



2 of 2
NPSN 7209 7850 1448
Matr# 7209 7850 1437 0201
SATURDAY ###
PRIORITY OVERNIGHT

2 of 2
NPSN 7209 7850 1426
Matr# 7209 7850 1415 0201
SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS

X0 CHSA

29407
SC-US
CHS



ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTNGT: 55.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

ORIGIN ID: SAFA (505) 665-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 83
LOS ALAMOS, NM 87545
UNITED STATES US

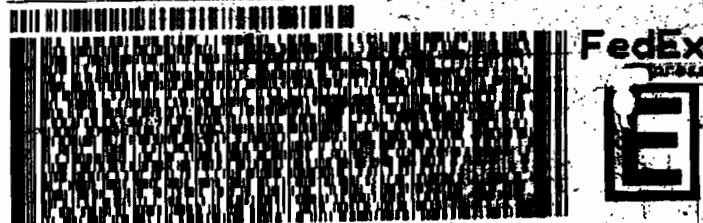
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ACTNGT: 55.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

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(843) 556-8171
REF: 68010AMR3A0532VA00

CHARLESTON SC 29407
(843) 556-8171
REF: 68010AMR3A0532VA00



1 of 2
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Matr# 7209 7850 1437 0201
SATURDAY ###
PRIORITY OVERNIGHT

2 of 2
NPSN 7209 7850 1460
Matr# 7209 7850 1450 0201
SATURDAY ###
PRIORITY OVERNIGHT

X0 CHSA

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SC-US
CHS

X0 CHSA

29407
SC-US
CHS



ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 83
LOS ALAMOS NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTWGT: 52.8 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 83
LOS ALAMOS NM 87545
UNITED STATES US

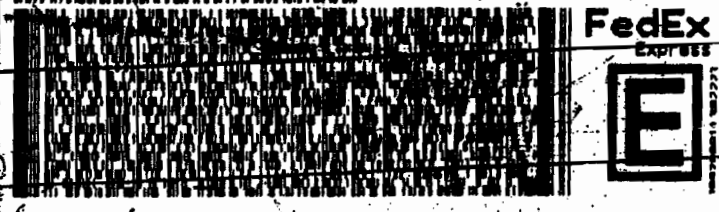
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ACTWGT: 59.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 555-8171
REF: 6B010AMR3A0532VA00

CHARLESTON SC 29407
(843) 555-8171
REF: 6B010AMR3A0532VA00



TRKH 7209 7850 1470
0201

SATURDAY ### A1
PRIORITY OVERNIGHT

1 of 2
TRKH 7209 7850 1459
0201
NN-MASTER NN

SATURDAY ### A1
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS

X0 CHSA

29407
SC-US
CHS



ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 83
LOS ALAMOS NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTWGT: 59.0 LB MAN
CAD: 0014176/CAFE2450
BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 555-8171
REF: 6B010AMR3A05529E00



TRKH 7209 7850 1415
0201
NN-MASTER NN

SATURDAY ### A1
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS

MAILING ID: SARA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1287 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19FEB10
ACTWGT: 59.0 LB MAX
CAD: 0014176/CAFE2450

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

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Express

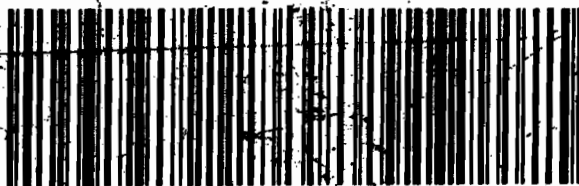


2 of 3 ### SATURDAY ### A1
NPS# 7209 7850 1390 PRIORITY OVERNIGHT
Matr# 7209 7850 1389 0261

X0 CHSA

29407
SC-US
CHS

0014176/CAFE2450



LOS ALAMOS, NM 87545
UNITED STATES US

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

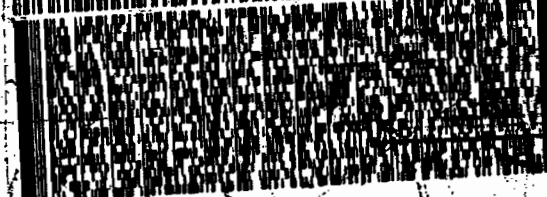
CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

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Express

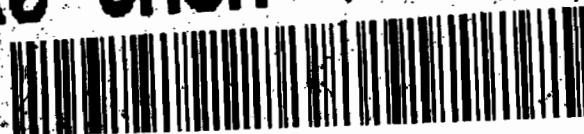


3 of 3 ### SATURDAY ### A1
NPS# 7209 7850 1404 PRIORITY OVERNIGHT
Matr# 7209 7850 1389 0261

X0 CHSA

29407
SC-US
CHS

0014176/CAFE2450



Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier Explanation

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

GC/MS Volatile Analysis

**GC/MS Volatile Organics
Los Alamos National Laboratory (LANL)
SDG 10-1969**

Method/Analysis Information

Procedure: Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer
Analytical Method: SW846 8260B
Prep Method: SW846 5030
Analytical Batch Number: 957517
Prep Batch Number: 957513

Sample Analysis

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

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202053117	Method Blank (MB)
1202053120	Laboratory Control Sample (LCS)
1202053121	Laboratory Control Sample (LCS)
1202053118	247245001(RE46-10-12664) Post Spike (PS)
1202053119	247245001(RE46-10-12664) Post Spike Duplicate (PSD)

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

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

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV# 14.

Raw data reports are processed and reviewed by the analyst using the Target software package. False positives have been removed from the Target quantitation reports per standard operating procedures (SOP) section 19.1.2.

Calibration Information

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

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

Due to software limitations, the Calibration Summary Form 6 may not indicate all the calibration files comprising the initial calibration. A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

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

Initial Calibration

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

Continuing Calibration Verification Requirements

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

Quality Control (QC) Information

Method Blank (MB) Statement

The MB analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

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

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 247245001 (RE46-10-12664) was designated for spike analysis.

Matrix Spike (PS) Recovery Statement

The spike recoveries were within the required acceptance limits.

Matrix Spike Duplicate (PSD) Recovery Statement

The spike duplicate recoveries were within the required acceptance limits.

Relative Percent Difference (RPD) Statement

The RPD(s) between the matrix spike pair met the acceptance limits.

Internal Standard (ISTD) Acceptance

The internal standard responses in all client and quality control samples met the required acceptance criteria.

Technical Information

Holding Time Specifications

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

Sample Preservation and Integrity

All samples met the sample preservation and integrity requirements.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

Re-analyses were not required for samples in this SDG.

Miscellaneous Information**Electronic Package Comment**

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

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

Data Exception (DER) Documentation

A Data Exception Document was not required for this SDG.

Manual Integrations

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

TIC Comment

Tentatively identified compounds (TIC) were required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Residual Chlorine

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

System Configuration

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

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

Certification Statement

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

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1969 GEL Work Order: 247551

The Qualifiers in this report are defined as follows:

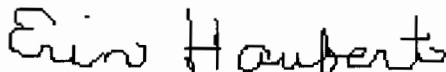
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Review/Validation

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

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

Signature:



Name: Erin Haubert

Date: 16 MAR 2010

Title: Data Validator

Roadmap for LANL 10-1969 VOA

This roadmap was analyzed by acj on 03-04-2010, 16:33.

This roadmap was reviewed by sar00518 on 03-08-2010, 18:02.

Sample

exclude	manual	datafile	smpid	clientid	injdate	injtime	sublist	dilution	batchid	comment
<input type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z321.d	247551001	RE15-10-8349	25-FEB-2010	02:14	10-1969.sub	1	957517	<input type="text"/>
<input type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z322.d	247551002	RE15-10-8348	25-FEB-2010	02:42	10-1969.sub	1	957517	<input type="text"/>

QC Sample

exclude	manual	datafile	smpid	clientid	sampletype	injdate	injtime	sublist	dilution	batchid	comment
<input type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z304LA.d	1202053120	LCS	lcs	24-FEB-2010	18:01	all.sub	1	957517	<input type="text"/>
<input type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z306SA.d	1202053121	LCS	lcs	24-FEB-2010	18:56	all.sub	1	957517	<input type="text"/>
<input type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z307BA.d	1202053117	BLANK	mb	24-FEB-2010	19:24	all.sub	1	957517	<input type="text"/>
<input checked="" type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z324.d	1202053118	RE46-10-12664MS	ms	25-FEB-2010	03:37	10-1876.sub	1	957517	<input type="text"/>
<input checked="" type="checkbox"/>	N	/chem/VOA4.i/022410v4/4z325.d	1202053119	RE46-10-12664MSD	msd	25-FEB-2010	04:04	10-1876.sub	1	957517	<input type="text"/>

Sample Data Summary

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 247551002	Date Received: 02/20/2010 08:55	%Moisture: 3.7
	Client: LANL010	Project: LANL01004
Client ID: RE15-10-8348	Method: SW846 8260B	SOP Ref: GL-OA-E-038
Batch ID: 957517	Inst: VOA4.1	Dilution: 1
Run Date: 02/25/2010 02:42	Analyst: ACJ	Purge Vol: 5 mL
Prep Date: 02/24/2010 22:47	Aliquot: 5 g	Final Volume: 5 mL
Data File: 4z322.d	Column: RTX-VOLATILES	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.04	ug/kg	0.353	1.04
74-87-3	Chloromethane	U	1.04	ug/kg	0.311	1.04
75-01-4	Vinyl chloride	U	1.04	ug/kg	0.311	1.04
74-83-9	Bromomethane	U	1.04	ug/kg	0.311	1.04
75-00-3	Chloroethane	U	1.04	ug/kg	0.311	1.04
75-69-4	Trichlorofluoromethane	U	1.04	ug/kg	0.311	1.04
67-64-1	Acetone	U	5.19	ug/kg	1.72	5.19
75-35-4	1,1-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
74-88-4	Iodomethane	U	5.19	ug/kg	1.66	5.19
75-09-2	Methylene chloride	U	5.19	ug/kg	2.08	5.19
75-15-0	Carbon disulfide	U	5.19	ug/kg	1.30	5.19
156-60-5	trans-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
75-34-3	1,1-Dichloroethane	U	1.04	ug/kg	0.311	1.04
78-93-3	2-Butanone	U	5.19	ug/kg	1.56	5.19
156-59-2	cis-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
594-20-7	2,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
67-66-3	Chloroform	U	1.04	ug/kg	0.311	1.04
74-97-5	Bromochloromethane	U	1.04	ug/kg	0.343	1.04
71-55-6	1,1,1-Trichloroethane	U	1.04	ug/kg	0.311	1.04
563-58-6	1,1-Dichloropropene	U	1.04	ug/kg	0.311	1.04
56-23-5	Carbon tetrachloride	U	1.04	ug/kg	0.311	1.04
107-06-2	1,2-Dichloroethane	U	1.04	ug/kg	0.311	1.04
71-43-2	Benzene	U	1.04	ug/kg	0.311	1.04
79-01-6	Trichloroethylene	U	1.04	ug/kg	0.343	1.04
78-87-5	1,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
75-27-4	Bromodichloromethane	U	1.04	ug/kg	0.311	1.04
74-95-3	Dibromomethane	U	1.04	ug/kg	0.311	1.04
108-10-1	4-Methyl-2-pentanone	U	5.19	ug/kg	1.30	5.19
10061-01-5	cis-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
108-88-3	Toluene	U	1.04	ug/kg	0.311	1.04
10061-02-6	trans-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
79-00-5	1,1,2-Trichloroethane	U	1.04	ug/kg	0.311	1.04
591-78-6	2-Hexanone	U	5.19	ug/kg	1.56	5.19
142-28-9	1,3-Dichloropropane	U	1.04	ug/kg	0.311	1.04
127-18-4	Tetrachloroethylene	U	1.04	ug/kg	0.311	1.04
124-48-1	Dibromochloromethane	U	1.04	ug/kg	0.311	1.04
106-93-4	1,2-Dibromoethane	U	1.04	ug/kg	0.311	1.04
108-90-7	Chlorobenzene	U	1.04	ug/kg	0.311	1.04

Volatile
Certificate of Analysis
Sample Summary

Page 2 of 2

SDG Number: 10-1969
 Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00

Matrix: R

Date Received: 02/20/2010 08:55

%Moisture: 3.7

Client: LANL010

Project: LANL01004

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Inst: VOA4.1

Dilution: 1

Client ID: RE15-10-8348

Batch ID: 957517

Run Date: 02/25/2010 02:42

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 22:47

Aliquot: 5 g

Final Volume: 5 mL

Data File: 4z322.d

Column: RTX-VOLATILES

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.04	ug/kg	0.311	1.04
179601-23-1	m,p-Xylenes	U	2.08	ug/kg	0.311	2.08
95-47-6	o-Xylene	U	1.04	ug/kg	0.311	1.04
100-42-5	Styrene	U	1.04	ug/kg	0.311	1.04
75-25-2	Bromoform	U	1.04	ug/kg	0.311	1.04
79-34-5	1,1,2,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
96-18-4	1,2,3-Trichloropropane	U	1.04	ug/kg	0.311	1.04
108-86-1	Bromobenzene	U	1.04	ug/kg	0.311	1.04
103-65-1	n-Propylbenzene	U	1.04	ug/kg	0.311	1.04
95-49-8	2-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-82-8	Isopropylbenzene	U	1.04	ug/kg	0.311	1.04
108-67-8	1,3,5-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
106-43-4	4-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-06-6	tert-Butylbenzene	U	1.04	ug/kg	0.311	1.04
95-63-6	1,2,4-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
135-98-8	sec-Butylbenzene	U	1.04	ug/kg	0.311	1.04
99-87-6	4-Isopropyltoluene	U	1.04	ug/kg	0.311	1.04
541-73-1	1,3-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
106-46-7	1,4-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
104-51-8	n-Butylbenzene	U	1.04	ug/kg	0.311	1.04
96-12-8	1,2-Dibromo-3-chloropropane	U	1.04	ug/kg	0.311	1.04
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.19	ug/kg	1.66	5.19
630-20-6	1,1,1,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
95-50-1	1,2-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	4.48	10.8	ug/kg		J
	Unknown Hydrocarbon	13.35	7.68	ug/kg		J
	Unknown Hydrocarbon	13.86	51.9	ug/kg		J
	Unknown Siloxane	14.83	12.8	ug/kg		J
	Unknown Siloxane	16.79	24.4	ug/kg		J

Volatile
Certificate of Analysis
Sample Summary

Page 1 of 2

SDG Number: 10-1969
 Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00

Matrix: R

Date Received: 02/20/2010 08:55

%Moisture: 6.9

Client: LANL010

Project: LANL01004

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Inst: VOA4.I

Dilution: 1

Client ID: RE15-10-8349

Batch ID: 957517

Run Date: 02/25/2010 02:14

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 22:46

Aliquot: 5 g

Final Volume: 5 mL

Data File: 4z321.d

Column: RTX-VOLATILES

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.07	ug/kg	0.365	1.07
74-87-3	Chloromethane	U	1.07	ug/kg	0.322	1.07
75-01-4	Vinyl chloride	U	1.07	ug/kg	0.322	1.07
74-83-9	Bromomethane	U	1.07	ug/kg	0.322	1.07
75-00-3	Chloroethane	U	1.07	ug/kg	0.322	1.07
75-69-4	Trichlorofluoromethane	U	1.07	ug/kg	0.322	1.07
67-64-1	Acetone	U	5.37	ug/kg	1.78	5.37
75-35-4	1,1-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
74-88-4	Iodomethane	U	5.37	ug/kg	1.72	5.37
75-09-2	Methylene chloride	U	5.37	ug/kg	2.15	5.37
75-15-0	Carbon disulfide	U	5.37	ug/kg	1.34	5.37
156-60-5	trans-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
75-34-3	1,1-Dichloroethane	U	1.07	ug/kg	0.322	1.07
78-93-3	2-Butanone	U	5.37	ug/kg	1.61	5.37
156-59-2	cis-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
594-20-7	2,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
67-66-3	Chloroform	U	1.07	ug/kg	0.322	1.07
74-97-5	Bromochloromethane	U	1.07	ug/kg	0.355	1.07
71-55-6	1,1,1-Trichloroethane	U	1.07	ug/kg	0.322	1.07
563-58-6	1,1-Dichloropropene	U	1.07	ug/kg	0.322	1.07
56-23-5	Carbon tetrachloride	U	1.07	ug/kg	0.322	1.07
107-06-2	1,2-Dichloroethane	U	1.07	ug/kg	0.322	1.07
71-43-2	Benzene	U	1.07	ug/kg	0.322	1.07
79-01-6	Trichloroethylene	U	1.07	ug/kg	0.355	1.07
78-87-5	1,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
75-27-4	Bromodichloromethane	U	1.07	ug/kg	0.322	1.07
74-95-3	Dibromomethane	U	1.07	ug/kg	0.322	1.07
108-10-1	4-Methyl-2-pentanone	U	5.37	ug/kg	1.34	5.37
10061-01-5	cis-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
108-88-3	Toluene	U	1.07	ug/kg	0.322	1.07
10061-02-6	trans-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
79-00-5	1,1,2-Trichloroethane	U	1.07	ug/kg	0.322	1.07
591-78-6	2-Hexanone	U	5.37	ug/kg	1.61	5.37
142-28-9	1,3-Dichloropropane	U	1.07	ug/kg	0.322	1.07
127-18-4	Tetrachloroethylene	U	1.07	ug/kg	0.322	1.07
124-48-1	Dibromochloromethane	U	1.07	ug/kg	0.322	1.07
106-93-4	1,2-Dibromoethane	U	1.07	ug/kg	0.322	1.07
108-90-7	Chlorobenzene	U	1.07	ug/kg	0.322	1.07

Volatile
Certificate of Analysis
Sample Summary

Page 2 of 2

SDG Number: 10-1969
 Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
 Date Received: 02/20/2010 08:55
 Client: LANL010
 Method: SW846 8260B
 Inst: VOA4.I
 Analyst: ACJ
 Aliquot: 5 g
 Column: RTX-VOLATILES

Matrix: R
 %Moisture: 6.9
 Project: LANL01004
 SOP Ref: GL-OA-E-038
 Dilution: 1
 Purge Vol: 5 mL
 Final Volume: 5 mL
 Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.07	ug/kg	0.322	1.07
179601-23-1	m,p-Xylenes	U	2.15	ug/kg	0.322	2.15
95-47-6	o-Xylene	U	1.07	ug/kg	0.322	1.07
100-42-5	Styrene	U	1.07	ug/kg	0.322	1.07
75-25-2	Bromoform	U	1.07	ug/kg	0.322	1.07
79-34-5	1,1,2,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
96-18-4	1,2,3-Trichloropropane	U	1.07	ug/kg	0.322	1.07
108-86-1	Bromobenzene	U	1.07	ug/kg	0.322	1.07
103-65-1	n-Propylbenzene	U	1.07	ug/kg	0.322	1.07
95-49-8	2-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-82-8	Isopropylbenzene	U	1.07	ug/kg	0.322	1.07
108-67-8	1,3,5-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
106-43-4	4-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-06-6	tert-Butylbenzene	U	1.07	ug/kg	0.322	1.07
95-63-6	1,2,4-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
135-98-8	sec-Butylbenzene	U	1.07	ug/kg	0.322	1.07
99-87-6	4-Isopropyltoluene	U	1.07	ug/kg	0.322	1.07
541-73-1	1,3-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
106-46-7	1,4-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
104-51-8	n-Butylbenzene	U	1.07	ug/kg	0.322	1.07
96-12-8	1,2-Dibromo-3-chloropropane	U	1.07	ug/kg	0.322	1.07
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.37	ug/kg	1.72	5.37
630-20-6	1,1,1,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
95-50-1	1,2-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Siloxane	14.83	140	ug/kg		J
	Unknown Siloxane	16.79	42.6	ug/kg		J

QC Summary

Volatile
Surrogate Recovery Report

Page 1 of 1

SDG Number: 10-1969

Matrix Type: SOLID

CAP Column (1) : RTX-VOLATILES

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1202053120	LCS for batch 957513	97	92	102
1202053121	LCS for batch 957513	97	93	105
1202053117	MB for batch 957513	100	96	112
247551001	RE15-10-8349	103	97	116
247551002	RE15-10-8348	102	97	123

Surrogate**Acceptance Limits**

DCED4 = 1,2-Dichloroethane-d4

(66%-134%)

TOL = Toluene-d8

(71%-128%)

BFB = Bromofluorobenzene

(65%-130%)

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Volatile
Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike

Client ID: RE46-10-12664PS

Matrix: S

Lab Sample ID: 1202053118

%Moisture: 10

Instrument: VOA4.I

Analysis Date: 02/25/2010 03:37

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
75-71-8	PS Dichlorodifluoromethane	50.0	0.00 U	34.6	69	39-148
74-87-3	PS Chloromethane	50.0	0.00 U	44.1	88	42-131
75-01-4	PS Vinyl chloride	50.0	0.00 U	50.1	100	50-127
74-83-9	PS Bromomethane	50.0	0.00 U	50.9	102	26-135
75-00-3	PS Chloroethane	50.0	0.00 U	49.0	98	54-128
75-69-4	PS Trichlorofluoromethane	50.0	0.00 U	45.7	91	55-138
67-64-1	PS Acetone	250	0.00 U	132	53	20-144
75-35-4	PS 1,1-Dichloroethylene	50.0	0.00 U	42.8	86	55-128
74-88-4	PS Iodomethane	250	0.00 U	208	83	47-132
75-09-2	PS Methylene chloride	50.0	0.00 U	43.2	86	56-123
75-15-0	PS Carbon disulfide	250	0.00 U	236	94	53-133
156-60-5	PS trans-1,2-Dichloroethylene	50.0	0.00 U	43.6	87	57-119
75-34-3	PS 1,1-Dichloroethane	50.0	0.00 U	44.8	90	62-125
78-93-3	PS 2-Butanone	250	0.00 U	163	65	30-150
156-59-2	PS cis-1,2-Dichloroethylene	50.0	0.00 U	46.0	92	60-124
594-20-7	PS 2,2-Dichloropropane	50.0	0.00 U	46.8	94	56-129
67-66-3	PS Chloroform	50.0	0.00 U	43.6	87	62-120
74-97-5	PS Bromochloromethane	50.0	0.00 U	43.0	86	51-135
71-55-6	PS 1,1,1-Trichloroethane	50.0	0.00 U	43.2	86	58-129
563-58-6	PS 1,1-Dichloropropene	50.0	0.00 U	42.3	85	59-126
56-23-5	PS Carbon tetrachloride	50.0	0.00 U	44.1	88	55-132
107-06-2	PS 1,2-Dichloroethane	50.0	0.00 U	48.0	96	54-121

Volatile

Page 2 of 6

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike

Client ID: RE46-10-12664PS

Matrix: S

Lab Sample ID: 1202053118

%Moisture: 10

Instrument: VOA4.I

Analysis Date: 02/25/2010 03:37

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
71-43-2	PS Benzene	50.0	0.00 U	42.2	84	58-120
79-01-6	PS Trichloroethylene	50.0	0.00 U	40.5	81	54-130
78-87-5	PS 1,2-Dichloropropane	50.0	0.00 U	44.4	89	59-121
75-27-4	PS Bromodichloromethane	50.0	0.00 U	43.5	87	57-130
74-95-3	PS Dibromomethane	50.0	0.00 U	43.7	87	57-124
108-10-1	PS 4-Methyl-2-pentanone	250	0.00 U	237	95	40-137
10061-01-5	PS cis-1,3-Dichloropropylene	50.0	0.00 U	41.8	84	50-131
108-88-3	PS Toluene	50.0	0.00 U	40.6	81	54-119
10061-02-6	PS trans-1,3-Dichloropropylene	50.0	0.00 U	43.8	88	47-133
79-00-5	PS 1,1,2-Trichloroethane	50.0	0.00 U	43.3	87	60-130
591-78-6	PS 2-Hexanone	250	0.00 U	173	69	30-139
142-28-9	PS 1,3-Dichloropropane	50.0	0.00 U	45.4	91	59-125
127-18-4	PS Tetrachloroethylene	50.0	0.00 U	37.0	74	50-126
124-48-1	PS Dibromochloromethane	50.0	0.00 U	42.7	85	54-131
106-93-4	PS 1,2-Dibromoethane	50.0	0.00 U	43.6	87	55-127
108-90-7	PS Chlorobenzene	50.0	0.00 U	40.6	81	50-130
100-41-4	PS Ethylbenzene	50.0	0.00 U	40.8	82	50-121
179601-23-1	PS m,p-Xylenes	100	0.00 U	79.5	79	47-125
95-47-6	PS o-Xylene	50.0	0.00 U	41.4	83	51-127
100-42-5	PS Styrene	50.0	0.00 U	40.7	81	41-136
75-25-2	PS Bromoform	50.0	0.00 U	41.9	84	48-143
79-34-5	PS 1,1,2,2-Tetrachloroethane	50.0	0.00 U	47.7	95	52-129

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike

Client ID: RE46-10-12664PS

Matrix: S

Lab Sample ID: 1202053118

%Moisture: 10

Instrument: VOA4.I

Analysis Date: 02/25/2010 03:37

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
96-18-4	PS 1,2,3-Trichloropropane	50.0	0.00 U	47.1	94	56-139
108-86-1	PS Bromobenzene	50.0	0.00 U	40.5	81	54-125
103-65-1	PS n-Propylbenzene	50.0	0.00 U	39.7	79	46-127
95-49-8	PS 2-Chlorotoluene	50.0	0.00 U	41.5	83	47-130
98-82-8	PS Isopropylbenzene	50.0	0.00 U	39.4	79	42-126
108-67-8	PS 1,3,5-Trimethylbenzene	50.0	0.00 U	39.5	79	44-132
106-43-4	PS 4-Chlorotoluene	50.0	0.00 U	40.2	80	46-127
98-06-6	PS tert-Butylbenzene	50.0	0.00 U	39.3	79	48-136
95-63-6	PS 1,2,4-Trimethylbenzene	50.0	0.00 U	38.5	77	42-132
135-98-8	PS sec-Butylbenzene	50.0	0.00 U	37.3	75	47-130
99-87-6	PS 4-Isopropyltoluene	50.0	0.00 U	36.1	72	36-142
541-73-1	PS 1,3-Dichlorobenzene	50.0	0.00 U	38.0	76	41-130
106-46-7	PS 1,4-Dichlorobenzene	50.0	0.00 U	38.0	76	41-126
104-51-8	PS n-Butylbenzene	50.0	0.00 U	34.5	69	37-136
96-12-8	PS 1,2-Dibromo-3-chloropropane	50.0	0.00 U	42.2	84	42-143
630-20-6	PS 1,1,1,2-Tetrachloroethane	50.0	0.00 U	41.9	84	58-127
95-50-1	PS 1,2-Dichlorobenzene	50.0	0.00 U	38.0	76	42-128

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike Duplicate

Client ID: RE46-10-12664PSD

Matrix: S

Lab Sample ID: 1202053119

% Moisture: 10

Instrument: VOA4.1

Analysis Date: 02/25/2010 04:04

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
75-71-8	PSD Dichlorodifluoromethane	50.0	0.00	U 37.1	74	39-148	7	0-19
74-87-3	PSD Chloromethane	50.0	0.00	U 43.4	87	42-131	2	0-23
75-01-4	PSD Vinyl chloride	50.0	0.00	U 51.6	103	50-127	3	0-23
74-83-9	PSD Bromomethane	50.0	0.00	U 51.2	102	26-135	1	0-22
75-00-3	PSD Chloroethane	50.0	0.00	U 50.2	100	54-128	2	0-25
75-69-4	PSD Trichlorofluoromethane	50.0	0.00	U 47.0	94	55-138	3	0-21
67-64-1	PSD Acetone	250	0.00	U 133	53	20-144	1	0-22
75-35-4	PSD 1,1-Dichloroethylene	50.0	0.00	U 43.7	87	55-128	2	0-20
74-88-4	PSD Iodomethane	250	0.00	U 219	87	47-132	5	0-20
75-09-2	PSD Methylene chloride	50.0	0.00	U 43.3	87	56-123	0	0-20
75-15-0	PSD Carbon disulfide	250	0.00	U 239	96	53-133	1	0-22
156-60-5	PSD trans-1,2-Dichloroethylene	50.0	0.00	U 44.6	89	57-119	2	0-20
75-34-3	PSD 1,1-Dichloroethane	50.0	0.00	U 45.6	91	62-125	2	0-20
78-93-3	PSD 2-Butanone	250	0.00	U 166	66	30-150	2	0-21
156-59-2	PSD cis-1,2-Dichloroethylene	50.0	0.00	U 47.3	95	60-124	3	0-20
594-20-7	PSD 2,2-Dichloropropane	50.0	0.00	U 48.0	96	56-129	2	0-20
67-66-3	PSD Chloroform	50.0	0.00	U 44.3	89	62-120	2	0-25
74-97-5	PSD Bromochloromethane	50.0	0.00	U 44.0	88	51-135	2	0-20
71-55-6	PSD 1,1,1-Trichloroethane	50.0	0.00	U 45.8	92	58-129	6	0-20
563-58-6	PSD 1,1-Dichloropropene	50.0	0.00	U 43.6	87	59-126	3	0-20
56-23-5	PSD Carbon tetrachloride	50.0	0.00	U 45.9	92	55-132	4	0-20
107-06-2	PSD 1,2-Dichloroethane	50.0	0.00	U 48.1	96	54-121	0	0-20

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike Duplicate

Client ID: RE46-10-12664PSD

Matrix: S

Lab Sample ID: 1202053119

%Moisture: 10

Instrument: VOA4.I

Analysis Date: 02/25/2010 04:04

Dilution: 1

Analyst: ACJ

Prep Batch II 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
71-43-2	PSD Benzene	50.0	0.00 U	43.2	86	58-120	2	0-20
79-01-6	PSD Trichloroethylene	50.0	0.00 U	41.8	84	54-130	3	0-23
78-87-5	PSD 1,2-Dichloropropane	50.0	0.00 U	45.2	90	59-121	2	0-20
75-27-4	PSD Bromodichloromethane	50.0	0.00 U	44.0	88	57-130	1	0-20
74-95-3	PSD Dibromomethane	50.0	0.00 U	44.3	89	57-124	1	0-20
108-10-1	PSD 4-Methyl-2-pentanone	250	0.00 U	242	97	40-137	2	0-25
10061-01-5	PSD cis-1,3-Dichloropropylene	50.0	0.00 U	41.9	84	50-131	0	0-20
108-88-3	PSD Toluene	50.0	0.00 U	41.5	83	54-119	2	0-23
10061-02-6	PSD trans-1,3-Dichloropropylene	50.0	0.00 U	43.9	88	47-133	0	0-24
79-00-5	PSD 1,1,2-Trichloroethane	50.0	0.00 U	43.4	87	60-130	0	0-20
591-78-6	PSD 2-Hexanone	250	0.00 U	176	70	30-139	2	0-21
142-28-9	PSD 1,3-Dichloropropane	50.0	0.00 U	46.2	92	59-125	2	0-20
127-18-4	PSD Tetrachloroethylene	50.0	0.00 U	37.2	74	50-126	0	0-20
124-48-1	PSD Dibromochloromethane	50.0	0.00 U	44.2	88	54-131	3	0-23
106-93-4	PSD 1,2-Dibromoethane	50.0	0.00 U	44.5	89	55-127	2	0-23
108-90-7	PSD Chlorobenzene	50.0	0.00 U	40.6	81	50-130	0	0-24
100-41-4	PSD Ethylbenzene	50.0	0.00 U	40.5	81	50-121	1	0-24
179601-23-1	PSD m,p-Xylenes	100	0.00 U	80.7	81	47-125	2	0-25
95-47-6	PSD o-Xylene	50.0	0.00 U	41.3	83	51-127	0	0-24
100-42-5	PSD Styrene	50.0	0.00 U	40.3	81	41-136	1	0-24
75-25-2	PSD Bromoform	50.0	0.00 U	44.2	88	48-143	5	0-20
79-34-5	PSD 1,1,2,2-Tetrachloroethane	50.0	0.00 U	48.3	97	52-129	1	0-20

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Post Spike Duplicate

Client ID: RE46-10-12664PSD

Matrix: S

Lab Sample ID: 1202053119

%Moisture: 10

Instrument: VOA4.1

Analysis Date: 02/25/2010 04:04

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
96-18-4	PSD 1,2,3-Trichloropropane	50.0	0.00 U	46.8	94	56-139	1	0-34
108-86-1	PSD Bromobenzene	50.0	0.00 U	40.4	81	54-125	0	0-22
103-65-1	PSD n-Propylbenzene	50.0	0.00 U	38.5	77	46-127	3	0-25
95-49-8	PSD 2-Chlorotoluene	50.0	0.00 U	40.5	81	47-130	2	0-24
98-82-8	PSD Isopropylbenzene	50.0	0.00 U	38.9	78	42-126	1	0-22
108-67-8	PSD 1,3,5-Trimethylbenzene	50.0	0.00 U	38.3	77	44-132	3	0-25
106-43-4	PSD 4-Chlorotoluene	50.0	0.00 U	38.9	78	46-127	3	0-26
98-06-6	PSD tert-Butylbenzene	50.0	0.00 U	37.7	75	48-136	4	0-24
95-63-6	PSD 1,2,4-Trimethylbenzene	50.0	0.00 U	37.3	75	42-132	3	0-26
135-98-8	PSD sec-Butylbenzene	50.0	0.00 U	35.6	71	47-130	5	0-27
99-87-6	PSD 4-Isopropyltoluene	50.0	0.00 U	34.5	69	36-142	5	0-27
541-73-1	PSD 1,3-Dichlorobenzene	50.0	0.00 U	36.9	74	41-130	3	0-25
106-46-7	PSD 1,4-Dichlorobenzene	50.0	0.00 U	37.1	74	41-126	2	0-25
104-51-8	PSD n-Butylbenzene	50.0	0.00 U	32.1	64	37-136	7	0-29
96-12-8	PSD 1,2-Dibromo-3-chloropropane	50.0	0.00 U	44.2	88	42-143	5	0-21
630-20-6	PSD 1,1,1,2-Tetrachloroethane	50.0	0.00 U	42.3	85	58-127	1	0-20
95-50-1	PSD 1,2-Dichlorobenzene	50.0	0.00 U	38.0	76	42-128	0	0-24

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 957513

Matrix: SOIL

Lab Sample ID: 1202053120

Instrument: VOA4.I

Analysis Date: 02/24/2010 18:01

Dilution: 1

Analyst: ACJ

Pre Batch II 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
75-71-8	LCS Dichlorodifluoromethane	50.0	0.0	38.0	76	52-151
74-87-3	LCS Chloromethane	50.0	0.0	44.3	89	56-130
75-01-4	LCS Vinyl chloride	50.0	0.0	53.1	106	66-130
74-83-9	LCS Bromomethane	50.0	0.0	55.8	112	70-126
75-00-3	LCS Chloroethane	50.0	0.0	52.6	105	67-129
75-69-4	LCS Trichlorofluoromethane	50.0	0.0	52.7	105	73-143
67-64-1	LCS Acetone	250	0.0	258	103	30-140
75-35-4	LCS 1,1-Dichloroethylene	50.0	0.0	48.2	96	71-129
74-88-4	LCS Iodomethane	250	0.0	245	98	72-125
75-09-2	LCS Methylene chloride	50.0	0.0	47.4	95	64-121
75-15-0	LCS Carbon disulfide	250	0.0	270	108	70-133
156-60-5	LCS trans-1,2-Dichloroethylene	50.0	0.0	48.8	98	73-120
75-34-3	LCS 1,1-Dichloroethane	50.0	0.0	48.6	97	73-120
78-93-3	LCS 2-Butanone	250	0.0	247	99	32-145
156-59-2	LCS cis-1,2-Dichloroethylene	50.0	0.0	49.5	99	74-124
594-20-7	LCS 2,2-Dichloropropane	50.0	0.0	53.7	107	73-134
67-66-3	LCS Chloroform	50.0	0.0	47.4	95	74-120
74-97-5	LCS Bromochloromethane	50.0	0.0	48.6	97	73-122
71-55-6	LCS 1,1,1-Trichloroethane	50.0	0.0	49.7	99	74-132
563-58-6	LCS 1,1-Dichloropropene	50.0	0.0	49.5	99	79-128
56-23-5	LCS Carbon tetrachloride	50.0	0.0	52.8	106	75-135
107-06-2	LCS 1,2-Dichloroethane	50.0	0.0	49.6	99	65-120

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 957513

Matrix: SOIL

Lab Sample ID: 1202053120

Instrument: VOA4.I

Analysis Date: 02/24/2010 18:01

Dilution: 1

Analyst: ACJ

Pren Batch II 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
71-43-2	LCS Benzene	50.0	0.0	47.1	94	74-120
79-01-6	LCS Trichloroethylene	50.0	0.0	48.2	96	77-124
78-87-5	LCS 1,2-Dichloropropane	50.0	0.0	48.3	97	73-120
75-27-4	LCS Bromodichloromethane	50.0	0.0	47.4	95	75-128
74-95-3	LCS Dibromomethane	50.0	0.0	47.9	96	75-120
108-10-1	LCS 4-Methyl-2-pentanone	250	0.0	276	110	63-133
10061-01-5	LCS cis-1,3-Dichloropropylene	50.0	0.0	47.7	95	78-127
108-88-3	LCS Toluene	50.0	0.0	45.7	91	74-120
10061-02-6	LCS trans-1,3-Dichloropropylene	50.0	0.0	48.0	96	70-125
79-00-5	LCS 1,1,2-Trichloroethane	50.0	0.0	46.2	92	75-120
591-78-6	LCS 2-Hexanone	250	0.0	242	97	40-153
142-28-9	LCS 1,3-Dichloropropane	50.0	0.0	48.5	97	73-120
127-18-4	LCS Tetrachloroethylene	50.0	0.0	46.6	93	72-126
124-48-1	LCS Dibromochloromethane	50.0	0.0	48.5	97	74-126
106-93-4	LCS 1,2-Dibromoethane	50.0	0.0	48.8	98	79-120
108-90-7	LCS Chlorobenzene	50.0	0.0	46.2	92	76-120
100-41-4	LCS Ethylbenzene	50.0	0.0	45.9	92	74-120
179601-23-1	LCS m,p-Xylenes	100	0.0	94.6	95	76-120
95-47-6	LCS o-Xylene	50.0	0.0	47.5	95	76-122
100-42-5	LCS Styrene	50.0	0.0	47.2	94	75-125
75-25-2	LCS Bromoform	50.0	0.0	48.2	96	68-135
79-34-5	LCS 1,1,2,2-Tetrachloroethane	50.0	0.0	49.0	98	72-122

Quality Control Summary Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 957513

Matrix: SOIL

Lab Sample ID: 1202053120

Instrument: VOA4.I

Analysis Date: 02/24/2010 18:01

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
96-18-4	LCS 1,2,3-Trichloropropane	50.0	0.0	49.5	99	72-129
108-86-1	LCS Bromobenzene	50.0	0.0	45.2	90	74-120
103-65-1	LCS n-Propylbenzene	50.0	0.0	44.3	89	70-120
95-49-8	LCS 2-Chlorotoluene	50.0	0.0	45.3	91	70-120
98-82-8	LCS Isopropylbenzene	50.0	0.0	43.6	87	60-121
108-67-8	LCS 1,3,5-Trimethylbenzene	50.0	0.0	45.1	90	71-121
106-43-4	LCS 4-Chlorotoluene	50.0	0.0	44.5	89	71-120
98-06-6	LCS tert-Butylbenzene	50.0	0.0	42.3	85	75-123
95-63-6	LCS 1,2,4-Trimethylbenzene	50.0	0.0	43.8	88	73-120
135-98-8	LCS sec-Butylbenzene	50.0	0.0	45.1	90	74-123
99-87-6	LCS 4-Isopropyltoluene	50.0	0.0	44.9	90	76-127
541-73-1	LCS 1,3-Dichlorobenzene	50.0	0.0	45.0	90	75-120
106-46-7	LCS 1,4-Dichlorobenzene	50.0	0.0	45.2	90	73-120
104-51-8	LCS n-Butylbenzene	50.0	0.0	44.7	89	73-128
96-12-8	LCS 1,2-Dibromo-3-chloropropane	50.0	0.0	53.1	106	69-136
630-20-6	LCS 1,1,1,2-Tetrachloroethane	50.0	0.0	47.3	95	75-124
95-50-1	LCS 1,2-Dichlorobenzene	50.0	0.0	45.1	90	75-120

Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 957513

Matrix: SOIL

Lab Sample ID: 1202053121

Instrument: VOA4.I

Analysis Date: 02/24/2010 18:56

Dilution: 1

Analyst: ACJ

Prep Batch ID: 957513

Purge Vol: 5 mL

Batch ID: 957517

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
76-13-1	LCS 1,1,2-Trichloro-1,2,2-Trifluor Trichlorotrifluoroethane	250	0.0	217	87	67-140

Method Blank Summary

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SDG Number:	10-1969	Client:	LANL010	Matrix:	SOIL
Client ID:	MB for batch 957513	Instrument ID:	VOA4.I	Data File:	4z307BA.d
Lab Sample ID:	1202053117	Prep Date:	02/24/2010 16:30	Analyzed:	02/24/10 19:24
Column:	RTX-VOLATILES	Heated Purge:	Yes		

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

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 957513	1202053120	4z304LA.d	02/24/10	1801
02 LCS for batch 957513	1202053121	4z306SA.d	02/24/10	1856
03 RE15-10-8349	247551001	4z321.d	02/25/10	0214
04 RE15-10-8348	247551002	4z322.d	02/25/10	0242

Instrument Performance Check

BFB

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: VOA4.I

Injection Date/Time: 19-FEB-10 20:16

Column Description: DB-624

Lab File ID /021910v4/4y501.d

m/e	Ion Abundance Criteria	% Relative Abundance
95	Base Peak, 100% Relative Abundance	100
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	49.7
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6
174	50.0 - 100.0% of mass 95	79.9
175	5.0 - 9.0% of mass 174	7.4
176	95.0 - 101.0% of mass 174	96.7
177	5.0 - 9.0% of mass 176	6.8

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
VSTD0005	W4VM100219-01	4y503.d	19-FEB-10 21:11
VSTD001	W4VM100219-02	4y504.d	19-FEB-10 21:39
VSTD002	W4VM100219-04	4y506.d	19-FEB-10 22:35
VSTD005	W4VM100219-05	4y507.d	19-FEB-10 23:03
VSTD010	W4VM100219-06	4y508.d	19-FEB-10 23:30
VSTD020	W4VM100219-07	4y509.d	19-FEB-10 23:59
VSTD050	W4VM100219-08	4y510.d	20-FEB-10 00:27
VSTD100	W4VM100219-09	4y511.d	20-FEB-10 00:54
VSTD005S	W4VM100219-10	4y513.d	20-FEB-10 01:50
VSTD010S	W4VM100219-11	4y514.d	20-FEB-10 02:18
VSTD025S	W4VM100219-12	4y515.d	20-FEB-10 02:46
VSTD050S	W4VM100219-13	4y516.d	20-FEB-10 03:13
VSTD100S	W4VM100219-14	4y517.d	20-FEB-10 03:41
VSTD250S	W4VM100219-15	4y518.d	20-FEB-10 04:09
VSTD500S	W4VM100219-16	4y519.d	20-FEB-10 04:37
SECOND SOURCE	W4VM100219-18	4y522.d	20-FEB-10 06:01
SHORT SECOND SOURCE	W4VM100219-19	4y523.d	20-FEB-10 06:28

Instrument Performance Check

BFB

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: VOA4.I

Injection Date/Time: 24-FEB-10 16:39

Column Description: DB-624

Lab File ID /022410v4/4z301.d

m/e	Ion Abundance Criteria	% Relative Abundance
95	Base Peak, 100% Relative Abundance	100
50	15.0 - 40.0% of mass 95	20.4
75	30.0 - 60.0% of mass 95	51.2
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.6
174	50.0 - 100.0% of mass 95	79.3
175	5.0 - 9.0% of mass 174	6.9
176	95.0 - 101.0% of mass 174	95.7
177	5.0 - 9.0% of mass 176	6.4

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
VSTD050	W4VM100224-01	4z302.d	24-FEB-10 17:06
LCS	1202053120	4z304LA.d	24-FEB-10 18:01
VSTD250S	W4VM100224-04	4z305.d	24-FEB-10 18:29
LCS	1202053121	4z306SA.d	24-FEB-10 18:56
BLANK	1202053117	4z307BA.d	24-FEB-10 19:24
RE15-10-8349	247551001	4z321.d	25-FEB-10 02:14
RE15-10-8348	247551002	4z322.d	25-FEB-10 02:42

Internal Standard Area and RT Summary

Lab Name : GEL Laboratories LLC

Instrument: VOA4.1

GC Column: RTX-VOLATILES

Client SDG: 10-1969

STD Analysis Time: 24-FEB-10 17:06

Data File: 4z302.d

	Fluorobenzene				Chlorobenzene-d5				1,4-Dichlorobenzene-d4			
	Area	#	RT	#	Area	#	RT	#	Area	#	RT	#
12 Hour STD	1612938		10.6		1287051		13.8		885418		16.2	
Upper Limit	3225876		11.1		2574102		14.3		1770836		16.7	
Lower Limit	806469		10.1		643526		13.3		442709		15.7	
Sample ID												
BLK01LCS	1639912		10.6		1361379		13.8		944377		16.2	
BLK01SLCS	1677335		10.6		1353558		13.8		884004		16.2	
BLK01	1669495		10.6		1310311		13.8		780400		16.2	
RE15-10-8349	1365459		10.6		1054501		13.8		609385		16.2	
RE15-10-8348	1343898		10.6		1039699		13.8		542890		16.2	

Area Upper Limit = +100% of internal standard area

Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT

RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

* Value outside of QC Limits

Sample Data

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8260B
Inst: VOA4.I
Analyst: ACJ
Aliquot: 5 g
Column: RTX-VOLATILES

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-038
Dilution: 1
Purge Vol: 5 mL
Final Volume: 5 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.04	ug/kg	0.353	1.04
74-87-3	Chloromethane	U	1.04	ug/kg	0.311	1.04
75-01-4	Vinyl chloride	U	1.04	ug/kg	0.311	1.04
74-83-9	Bromomethane	U	1.04	ug/kg	0.311	1.04
75-00-3	Chloroethane	U	1.04	ug/kg	0.311	1.04
75-69-4	Trichlorofluoromethane	U	1.04	ug/kg	0.311	1.04
67-64-1	Acetone	U	5.19	ug/kg	1.72	5.19
75-35-4	1,1-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
74-88-4	Iodomethane	U	5.19	ug/kg	1.66	5.19
75-09-2	Methylene chloride	U	5.19	ug/kg	2.08	5.19
75-15-0	Carbon disulfide	U	5.19	ug/kg	1.30	5.19
156-60-5	trans-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
75-34-3	1,1-Dichloroethane	U	1.04	ug/kg	0.311	1.04
78-93-3	2-Butanone	U	5.19	ug/kg	1.56	5.19
156-59-2	cis-1,2-Dichloroethylene	U	1.04	ug/kg	0.311	1.04
594-20-7	2,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
67-66-3	Chloroform	U	1.04	ug/kg	0.311	1.04
74-97-5	Bromochloromethane	U	1.04	ug/kg	0.343	1.04
71-55-6	1,1,1-Trichloroethane	U	1.04	ug/kg	0.311	1.04
563-58-6	1,1-Dichloropropene	U	1.04	ug/kg	0.311	1.04
56-23-5	Carbon tetrachloride	U	1.04	ug/kg	0.311	1.04
107-06-2	1,2-Dichloroethane	U	1.04	ug/kg	0.311	1.04
71-43-2	Benzene	U	1.04	ug/kg	0.311	1.04
79-01-6	Trichloroethylene	U	1.04	ug/kg	0.343	1.04
78-87-5	1,2-Dichloropropane	U	1.04	ug/kg	0.311	1.04
75-27-4	Bromodichloromethane	U	1.04	ug/kg	0.311	1.04
74-95-3	Dibromomethane	U	1.04	ug/kg	0.311	1.04
108-10-1	4-Methyl-2-pentanone	U	5.19	ug/kg	1.30	5.19
10061-01-5	cis-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
108-88-3	Toluene	U	1.04	ug/kg	0.311	1.04
10061-02-6	trans-1,3-Dichloropropylene	U	1.04	ug/kg	0.311	1.04
79-00-5	1,1,2-Trichloroethane	U	1.04	ug/kg	0.311	1.04
591-78-6	2-Hexanone	U	5.19	ug/kg	1.56	5.19
142-28-9	1,3-Dichloropropane	U	1.04	ug/kg	0.311	1.04
127-18-4	Tetrachloroethylene	U	1.04	ug/kg	0.311	1.04
124-48-1	Dibromochloromethane	U	1.04	ug/kg	0.311	1.04
106-93-4	1,2-Dibromoethane	U	1.04	ug/kg	0.311	1.04
108-90-7	Chlorobenzene	U	1.04	ug/kg	0.311	1.04

Volatile
Certificate of Analysis
Sample Summary

Page 2 of 2

SDG Number: 10-1969
 Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00

Matrix: R

Date Received: 02/20/2010 08:55

%Moisture: 3.7

Client: LANL010

Project: LANL01004

Client ID: RE15-10-8348

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Batch ID: 957517

Inst: VOA4.I

Dilution: 1

Run Date: 02/25/2010 02:42

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 22:47

Aliquot: 5 g

Final Volume: 5 mL

Data File: 4z322.d

Column: RTX-VOLATILES

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.04	ug/kg	0.311	1.04
179601-23-1	m,p-Xylenes	U	2.08	ug/kg	0.311	2.08
95-47-6	o-Xylene	U	1.04	ug/kg	0.311	1.04
100-42-5	Styrene	U	1.04	ug/kg	0.311	1.04
75-25-2	Bromoform	U	1.04	ug/kg	0.311	1.04
79-34-5	1,1,2,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
96-18-4	1,2,3-Trichloropropane	U	1.04	ug/kg	0.311	1.04
108-86-1	Bromobenzene	U	1.04	ug/kg	0.311	1.04
103-65-1	n-Propylbenzene	U	1.04	ug/kg	0.311	1.04
95-49-8	2-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-82-8	Isopropylbenzene	U	1.04	ug/kg	0.311	1.04
108-67-8	1,3,5-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
106-43-4	4-Chlorotoluene	U	1.04	ug/kg	0.311	1.04
98-06-6	tert-Butylbenzene	U	1.04	ug/kg	0.311	1.04
95-63-6	1,2,4-Trimethylbenzene	U	1.04	ug/kg	0.311	1.04
135-98-8	sec-Butylbenzene	U	1.04	ug/kg	0.311	1.04
99-87-6	4-Isopropyltoluene	U	1.04	ug/kg	0.311	1.04
541-73-1	1,3-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
106-46-7	1,4-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04
104-51-8	n-Butylbenzene	U	1.04	ug/kg	0.311	1.04
96-12-8	1,2-Dibromo-3-chloropropane	U	1.04	ug/kg	0.311	1.04
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.19	ug/kg	1.66	5.19
630-20-6	1,1,1,2-Tetrachloroethane	U	1.04	ug/kg	0.311	1.04
95-50-1	1,2-Dichlorobenzene	U	1.04	ug/kg	0.311	1.04

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown	4.48	10.8	ug/kg		J
	Unknown Hydrocarbon	13.35	7.68	ug/kg		J
	Unknown Hydrocarbon	13.86	51.9	ug/kg		J
	Unknown Siloxane	14.83	12.8	ug/kg		J
	Unknown Siloxane	16.79	24.4	ug/kg		J

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z322.d

Lab Smp Id: 247551002

Client Smp ID: RE15-10-8348

Inj Date : 25-FEB-2010 02:42

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |247551002|957517|1|VOAF|1|

Misc Info : LANL 5G N/A

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 22

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: 10-1969.sub

Target Version: 3.50

Processing Host: prdsrv07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	3.67360	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN	FINAL
							(ug/l)	(ug/Kg)
* 40 Fluorobenzene	96	10.619	10.614	(1.000)	1343898	50.0000		
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1039699	50.0000		
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.180	(1.000)	542890	50.0000		
\$ 138 1,2-Dichloroethane-d4	65	10.259	10.260	(0.966)	347721	51.0327		53.0
\$ 47 Toluene-d8	98	12.253	12.247	(0.890)	1124322	48.5375		50.4
\$ 71 Bromofluorobenzene	95	14.953	14.954	(0.924)	608930	61.2597		63.6

ION RATIO REPORT

VOA REPORT

Data file: 4z322.d

Report Date: 02/25/2010 15:54

Lab. ID: 247551002

SampleType: SAMPLE

Injection Date: 25-FEB-2010 02:42

Operator: ACJ

Instrument: VOA4.i

Sample Info: |247551002|957517|1|VOAF|1|

Miscellaneous Info: LANL 5G N/A

Comment:

Method used: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1969

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
37	1,2-Dichloroethane			CAS#: 107-06-2		
62	21143	10.61	10.34	80-120	100	(T)
64	3895	10.61	10.34	2- 62	18	(T)

49	4-Methyl-2-pentanone			CAS#: 108-10-1		
58	10021	12.25	12.02	80-120	100	(T)
43	7024	12.25	12.02	229-289	70	(QT)
100	741358	12.25	12.02	6- 66	7398	(QT)

59	1,2-Dibromoethane			CAS#: 106-93-4		
107	28402	13.33	13.31	80-120	100	()
109	9778	13.32	13.32	65-125	34	(Q)

60	1,1,1,2-Tetrachloroethane			CAS#: 630-20-6		
131	24979	13.85	13.85	80-120	100	()
133	316362	13.86	13.85	66-126	1266	(Q)
119	362409	13.86	13.85	35- 95	1451	(Q)

58	Ethylbenzene			CAS#: 100-41-4		
91	735543	13.86	13.86	80-120	100	()
106	191015	13.86	13.86	2- 62	26	()

64	o-Xylene			CAS#: 95-47-6		
106	9544	13.97	14.41	80-120	100	(T)
91	17853	13.97	14.41	177-237	187	(T)

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
63 m,p-Xylenes		CAS#: 179601-23-1				
106	12310	13.97	13.97	80-120	100	()
91	26919	13.97	13.97	163-223	219	()

66 Bromoform		CAS#: 75-25-2				
173	2787	14.96	14.66	80-120	100	(T)
175	32629	14.95	14.66	19- 79	1171	(QT)

74 1,2,3-Trichloropropane		CAS#: 96-18-4				
110	6108	14.82	15.11	80-120	100	(T)
75	18553	14.82	15.11	240-300	304	(QT)
77	1043	14.81	15.11	57-117	17	(QT)

Q qualifier indicates ion failed ratio requirement						

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026
 Data file : /chem/VOA4.i/022410v4/4z322.d
 Lab Smp Id: 247551002 Client Smp ID: RE15-10-8348
 Inj Date : 25-FEB-2010 02:42
 Operator : ACJ Inst ID: VOA4.i
 Smp Info : |247551002|957517|1|VOAF|1|
 Misc Info : LANL 5G N/A
 Comment :
 Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
 Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
 Als bottle: 22
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: 10-1969.sub
 Target Version: 3.50
 Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	3.67360	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 40 Fluorobenzene	10.619	2915068	50.000
* 61 Chlorobenzene-d5	13.771	15299768	50.000
* 86 1,4-Dichlorobenzene-d4	16.179	3415465	50.000

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

RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL (ug/l)	FINAL (ug/Kg)		LIBRARY	LIB ENTRY	
Unknown				CAS #:			
4.481	605917	10.3928398	10.8	0		0	40
Unknown Hydrocarbon				CAS #:			
13.350	2263941	7.39861049	7.7	0		0	61
Unknown Hydrocarbon				CAS #:			
13.862	15299768	50.0000000	51.9	0		0	61 (L)
Unknown Siloxane				CAS #:			
14.825	3774244	12.3343188	12.8	0		0	61
Unknown Siloxane				CAS #:			
16.788	1603756	23.4778591	24.4	0		0	86

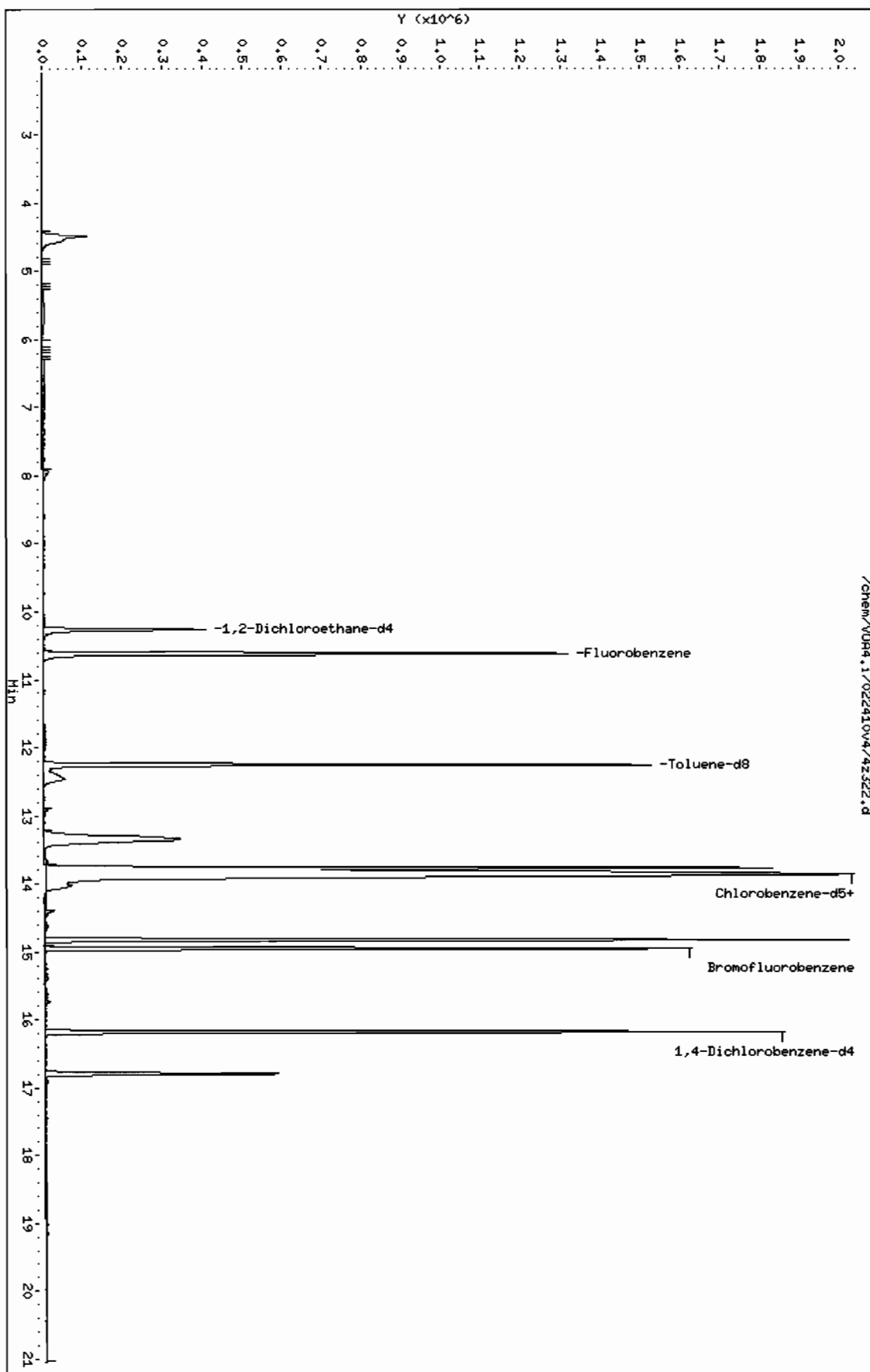
QC Flag Legend

L - Operator selected an alternate library search match.

Data File: /chem/V004.i/022410v4/42322.d
Date : 28-FEB-2010 02:42
Client ID: RE15-10-8348
Sample Info: 1247551002195751711V00F11

Column phase: RTX-VOLATILES

Instrument: V004.i
Operator: ACJ
Column diameter: 0.25



Data File: /chem/V0A4.i/022410v4/4z322.d

Page 1

Date : 25-FEB-2010 02:42

Client ID: RE15-10-8348

Instrument: V0A4.i

Sample Info: 1247551002195751711|V0AF111

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match

CAS Number

Library

Entry

Quality

Formula

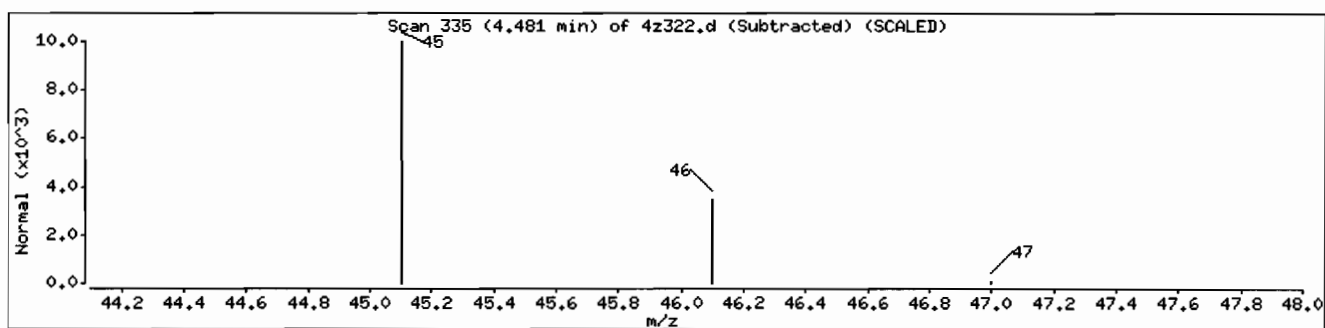
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Date : 25-FEB-2010 02:42

Client ID: RE15-10-8348

Instrument: V0A4.i

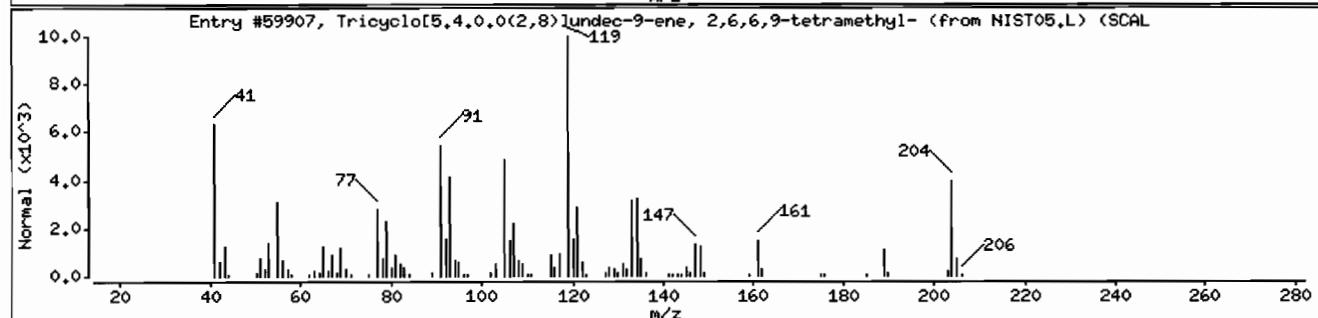
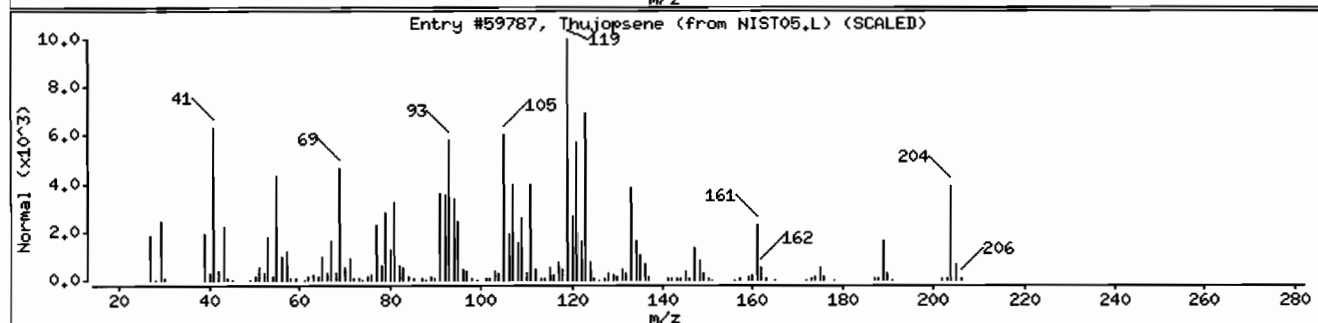
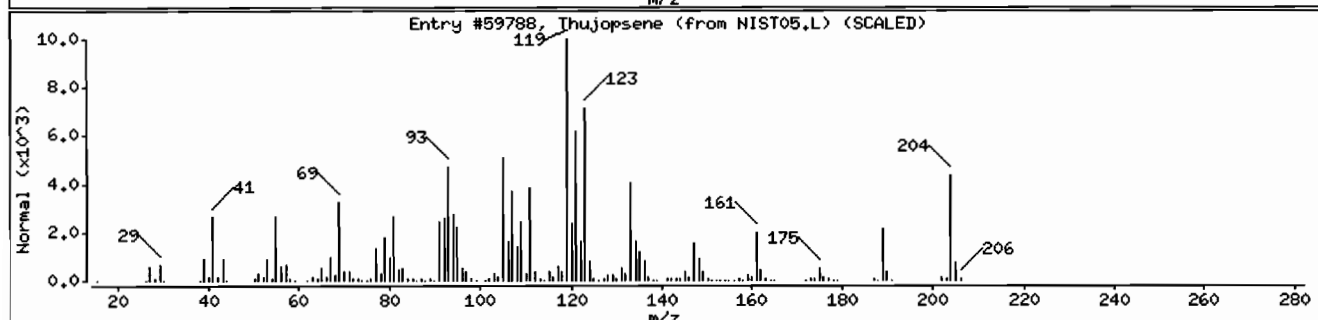
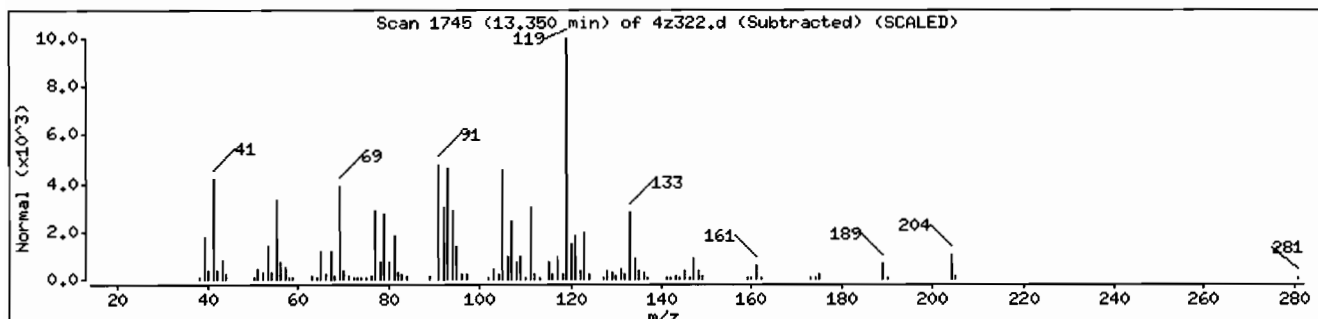
Sample Info: I247551002195751711V0AF111

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Hydrocarbon						
Thujopsene	470-40-6	NIST05.L	59788	64	C15H24	204
Thujopsene	470-40-6	NIST05.L	59787	62	C15H24	204
Tricyclo[5.4.0.0(2,8)]undec-9-ene, 2,6,6	5989-08-2	NIST05.L	59907	58	C15H24	204



Date : 25-FEB-2010 02:42

Client ID: RE15-10-8348

Instrument: VOA4.i

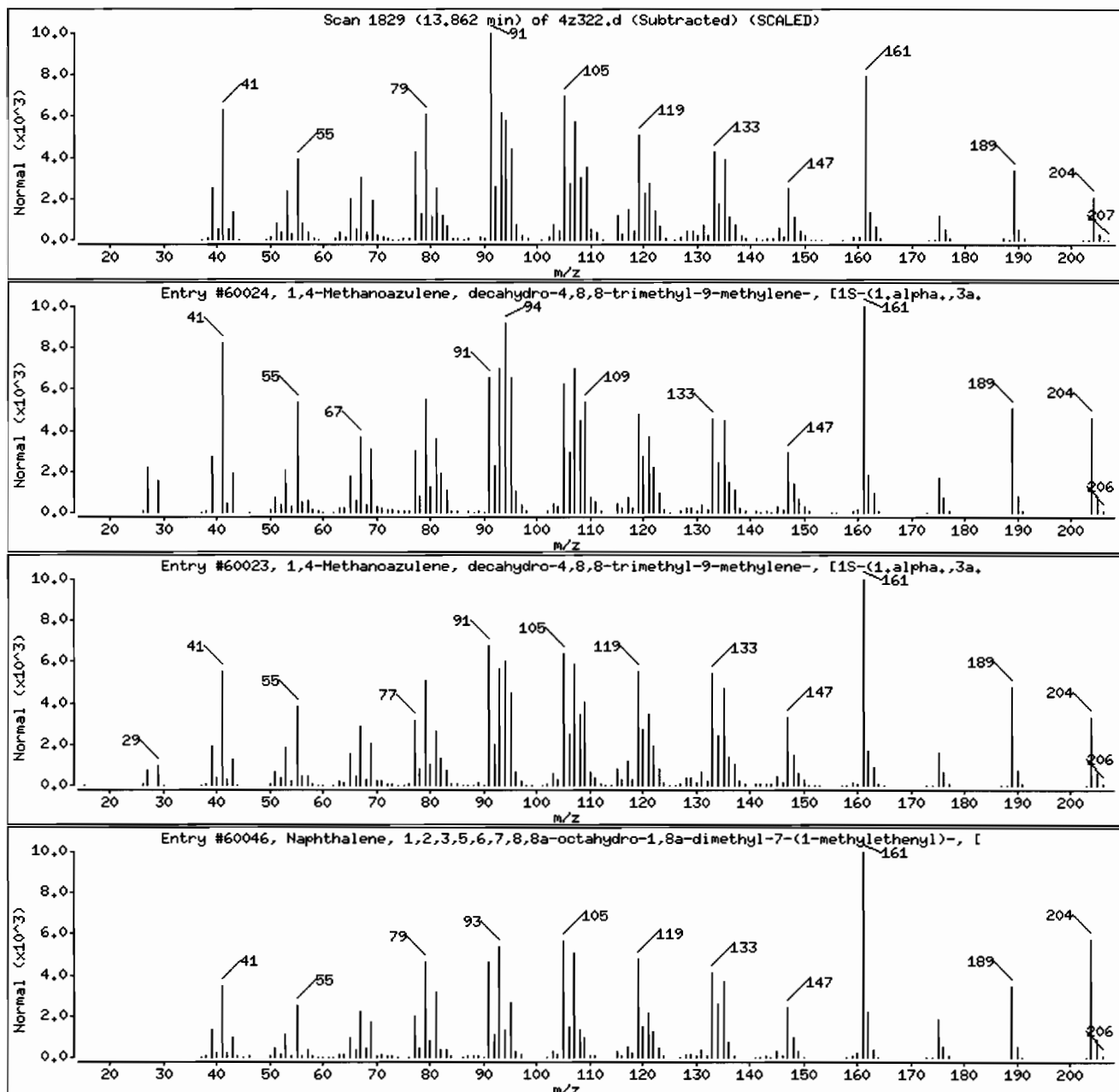
Sample Info: I247551002I957517I1I1VOAFI1I

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Hydrocarbon						
1,4-Methanoazulene, decahydro-4,8,8-trim	475-20-7	NIST05.L	60024	99	C15H24	204
1,4-Methanoazulene, decahydro-4,8,8-trim	475-20-7	NIST05.L	60023	98	C15H24	204
Naphthalene, 1,2,3,5,6,7,8,8a-octahydro-	4630-07-3	NIST05.L	60046	95	C15H24	204



Date : 25-FEB-2010 02:42

Client ID: RE15-10-8348

Instrument: V0A4.i

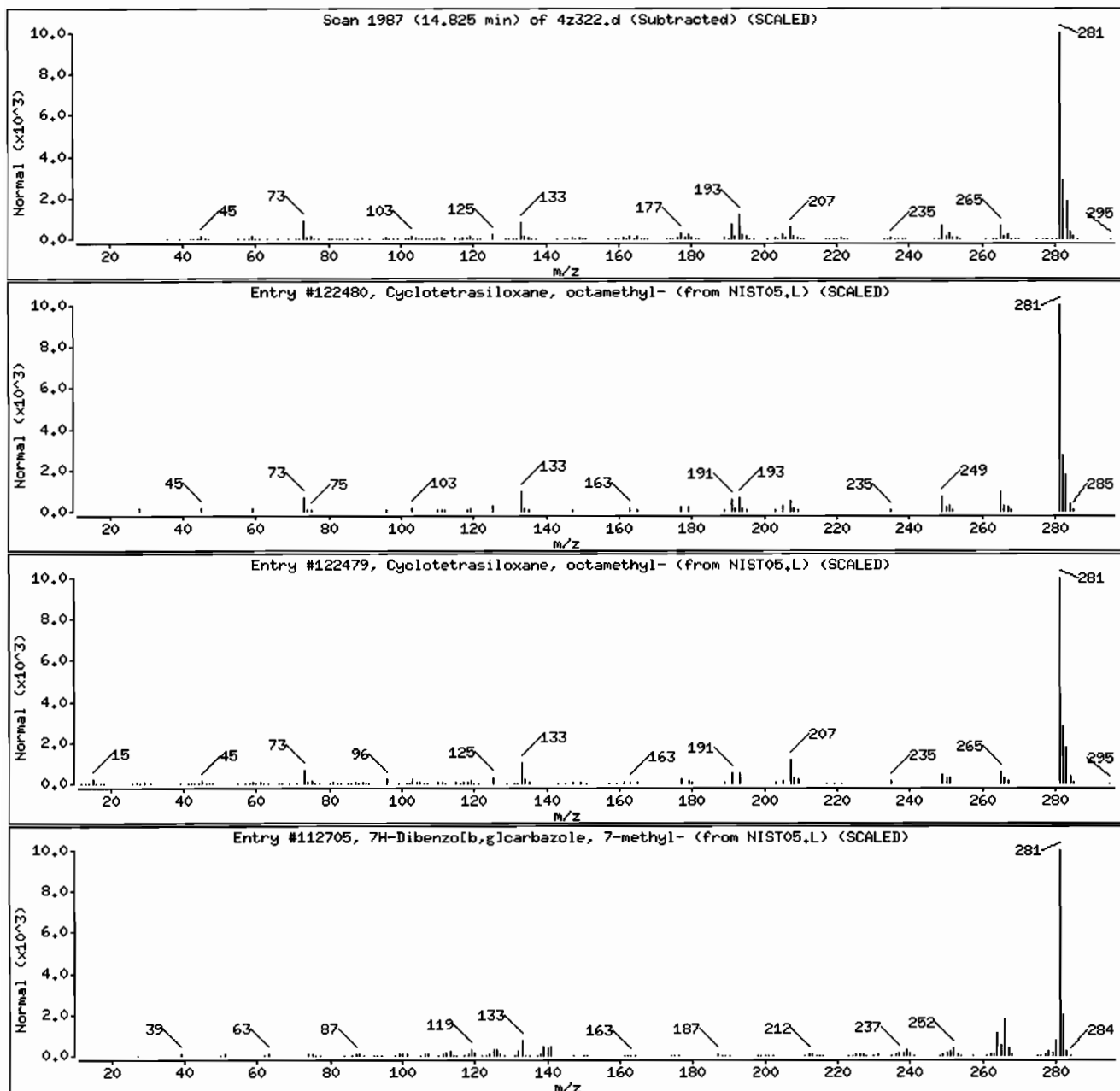
Sample Info: I2475510021957517111V0AF111

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Cyclotetrasiloxane, octamethyl-	556-67-2	NIST05.L	122480	83	C ₈ H ₂₄ O ₄ Si ₄	296
Cyclotetrasiloxane, octamethyl-	556-67-2	NIST05.L	122479	78	C ₈ H ₂₄ O ₄ Si ₄	296
7H-Dibenzo[b,g]carbazole, 7-methyl-	3557-49-1	NIST05.L	112705	53	C ₂₁ H ₁₅ N	281



Date : 25-FEB-2010 02:42

Client ID: RE15-10-8348

Instrument: V0A4.i

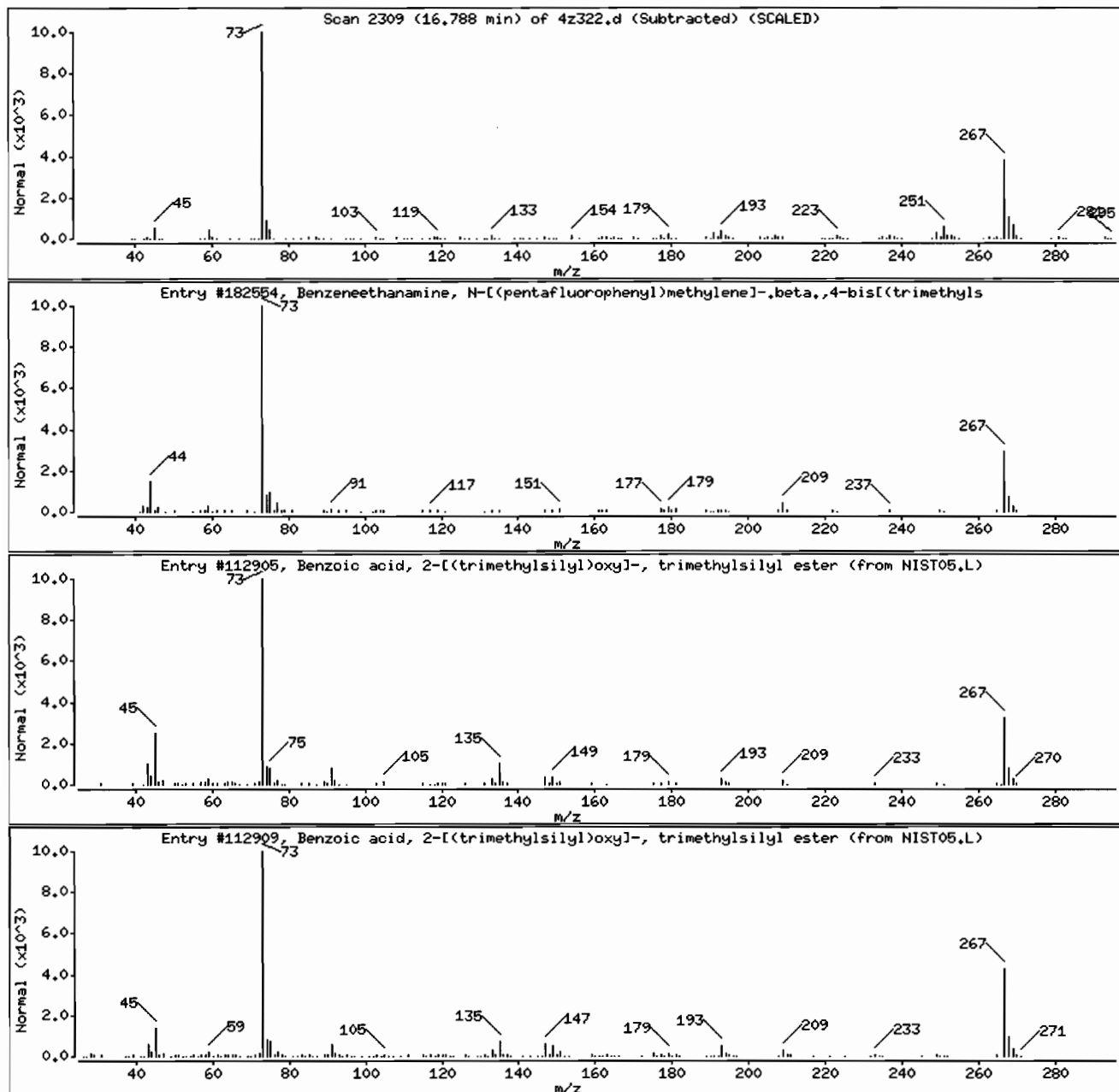
Sample Info: I247551002I95751711V0AFI11

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Benzeneethanamine, N-[(pentafluorophenyl)methylene]-	55429-85-1	NIST05.L	182554	59	C ₂₁ H ₂₆ F ₅ N ₂ O ₂ Si ₂	475
Benzoic acid, 2-[(trimethylsilyl)oxy]-,	3789-85-3	NIST05.L	112905	56	C ₁₃ H ₂₂ O ₃ Si ₂	282
Benzoic acid, 2-[(trimethylsilyl)oxy]-,	3789-85-3	NIST05.L	112909	56	C ₁₃ H ₂₂ O ₃ Si ₂	282



Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969
 Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00

Date Received: 02/20/2010 08:55

Client: LANL010

Method: SW846 8260B

Inst: VOA4.1

Analyst: ACJ

Aliquot: 5 g

Column: RTX-VOLATILES

Matrix: R

%Moisture: 6.9

Project: LANL01004

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Final Volume: 5 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane	U	1.07	ug/kg	0.365	1.07
74-87-3	Chloromethane	U	1.07	ug/kg	0.322	1.07
75-01-4	Vinyl chloride	U	1.07	ug/kg	0.322	1.07
74-83-9	Bromomethane	U	1.07	ug/kg	0.322	1.07
75-00-3	Chloroethane	U	1.07	ug/kg	0.322	1.07
75-69-4	Trichlorofluoromethane	U	1.07	ug/kg	0.322	1.07
67-64-1	Acetone	U	5.37	ug/kg	1.78	5.37
75-35-4	1,1-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
74-88-4	Iodomethane	U	5.37	ug/kg	1.72	5.37
75-09-2	Methylene chloride	U	5.37	ug/kg	2.15	5.37
75-15-0	Carbon disulfide	U	5.37	ug/kg	1.34	5.37
156-60-5	trans-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
75-34-3	1,1-Dichloroethane	U	1.07	ug/kg	0.322	1.07
78-93-3	2-Butanone	U	5.37	ug/kg	1.61	5.37
156-59-2	cis-1,2-Dichloroethylene	U	1.07	ug/kg	0.322	1.07
594-20-7	2,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
67-66-3	Chloroform	U	1.07	ug/kg	0.322	1.07
74-97-5	Bromochloromethane	U	1.07	ug/kg	0.355	1.07
71-55-6	1,1,1-Trichloroethane	U	1.07	ug/kg	0.322	1.07
563-58-6	1,1-Dichloropropene	U	1.07	ug/kg	0.322	1.07
56-23-5	Carbon tetrachloride	U	1.07	ug/kg	0.322	1.07
107-06-2	1,2-Dichloroethane	U	1.07	ug/kg	0.322	1.07
71-43-2	Benzene	U	1.07	ug/kg	0.322	1.07
79-01-6	Trichloroethylene	U	1.07	ug/kg	0.355	1.07
78-87-5	1,2-Dichloropropane	U	1.07	ug/kg	0.322	1.07
75-27-4	Bromodichloromethane	U	1.07	ug/kg	0.322	1.07
74-95-3	Dibromomethane	U	1.07	ug/kg	0.322	1.07
108-10-1	4-Methyl-2-pentanone	U	5.37	ug/kg	1.34	5.37
10061-01-5	cis-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
108-88-3	Toluene	U	1.07	ug/kg	0.322	1.07
10061-02-6	trans-1,3-Dichloropropylene	U	1.07	ug/kg	0.322	1.07
79-00-5	1,1,2-Trichloroethane	U	1.07	ug/kg	0.322	1.07
591-78-6	2-Hexanone	U	5.37	ug/kg	1.61	5.37
142-28-9	1,3-Dichloropropane	U	1.07	ug/kg	0.322	1.07
127-18-4	Tetrachloroethylene	U	1.07	ug/kg	0.322	1.07
124-48-1	Dibromochloromethane	U	1.07	ug/kg	0.322	1.07
106-93-4	1,2-Dibromoethane	U	1.07	ug/kg	0.322	1.07
108-90-7	Chlorobenzene	U	1.07	ug/kg	0.322	1.07

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969
 Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00

Matrix: R

Date Received: 02/20/2010 08:55

%Moisture: 6.9

Client: LANL010

Project: LANL01004

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Inst: VOA4.I

Dilution: 1

Client ID: RE15-10-8349

Batch ID: 957517

Run Date: 02/25/2010 02:14

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 22:46

Aliquot: 5 g

Final Volume: 5 mL

Data File: 4z321.d

Column: RTX-VOLATILES

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.07	ug/kg	0.322	1.07
179601-23-1	m,p-Xylenes	U	2.15	ug/kg	0.322	2.15
95-47-6	o-Xylene	U	1.07	ug/kg	0.322	1.07
100-42-5	Styrene	U	1.07	ug/kg	0.322	1.07
75-25-2	Bromoform	U	1.07	ug/kg	0.322	1.07
79-34-5	1,1,2,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
96-18-4	1,2,3-Trichloropropane	U	1.07	ug/kg	0.322	1.07
108-86-1	Bromobenzene	U	1.07	ug/kg	0.322	1.07
103-65-1	n-Propylbenzene	U	1.07	ug/kg	0.322	1.07
95-49-8	2-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-82-8	Isopropylbenzene	U	1.07	ug/kg	0.322	1.07
108-67-8	1,3,5-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
106-43-4	4-Chlorotoluene	U	1.07	ug/kg	0.322	1.07
98-06-6	tert-Butylbenzene	U	1.07	ug/kg	0.322	1.07
95-63-6	1,2,4-Trimethylbenzene	U	1.07	ug/kg	0.322	1.07
135-98-8	sec-Butylbenzene	U	1.07	ug/kg	0.322	1.07
99-87-6	4-Isopropyltoluene	U	1.07	ug/kg	0.322	1.07
541-73-1	1,3-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
106-46-7	1,4-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07
104-51-8	n-Butylbenzene	U	1.07	ug/kg	0.322	1.07
96-12-8	1,2-Dibromo-3-chloropropane	U	1.07	ug/kg	0.322	1.07
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.37	ug/kg	1.72	5.37
630-20-6	1,1,1,2-Tetrachloroethane	U	1.07	ug/kg	0.322	1.07
95-50-1	1,2-Dichlorobenzene	U	1.07	ug/kg	0.322	1.07

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Siloxane	14.83	140	ug/kg		J
	Unknown Siloxane	16.79	42.6	ug/kg		J

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z321.d
 Lab Smp Id: 247551001 Client Smp ID: RE15-10-8349
 Inj Date : 25-FEB-2010 02:14
 Operator : ACJ Inst ID: VOA4.i
 Smp Info : |247551001|957517|1|VOAF|1|
 Misc Info : LANL 5G N/A
 Comment :
 Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
 Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
 Als bottle: 21
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: 10-1969.sub
 Target Version: 3.50
 Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	6.91130	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT REL RT		ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.620	10.614 (1.000)	1365459	50.0000	
* 61 Chlorobenzene-d5	117	13.771	13.771 (1.000)	1054501	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180 (1.000)	609385	50.0000	
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260 (0.966)	357808	51.6839	55.5
\$ 47 Toluene-d8	98	12.253	12.247 (0.890)	1133973	48.2670	51.8
\$ 71 Bromofluorobenzene	95	14.954	14.954 (0.924)	644386	57.7529	62.0

ION RATIO REPORT

VOA REPORT

Data file: 4z321.d

Report Date: 02/25/2010 15:54

Lab. ID: 247551001

SampleType: SAMPLE

Injection Date: 25-FEB-2010 02:14

Operator: ACJ

Instrument: VOA4.i

Sample Info: |247551001|957517|1|VOAF|1|

Miscellaneous Info: LANL 5G N/A

Comment:

Method used: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1969

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
37	1,2-Dichloroethane			CAS#: 107-06-2		
62	21246	10.61	10.34	80-120	100	(T)
64	3601	10.62	10.34	2- 62	17	(T)

49	4-Methyl-2-pentanone			CAS#: 108-10-1		
58	10484	12.25	12.02	80-120	100	(T)
43	6641	12.25	12.02	229-289	63	(QT)
100	750024	12.25	12.02	6- 66	7153	(QT)

65	Styrene			CAS#: 100-42-5		
104	15099	14.83	14.40	80-120	100	(T)
78	709	14.81	14.40	22- 82	5	(QT)

66	Bromoform			CAS#: 75-25-2		
173	2796	14.95	14.66	80-120	100	(T)
175	34708	14.95	14.66	19- 79	1241	(QT)

67	Isopropylbenzene			CAS#: 98-82-8		
105	14714	14.82	14.76	80-120	100	(T)
120	6479	14.82	14.76	0- 57	44	(T)

74	1,2,3-Trichloropropane			CAS#: 96-18-4		
110	13737	14.83	15.11	80-120	100	(T)
75	40019	14.82	15.11	240-300	291	(T)
77	7890	14.80	15.11	57-117	57	(T)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026
Data file : /chem/VOA4.i/022410v4/4z321.d
Lab Smp Id: 247551001 Client Smp ID: RE15-10-8349
Inj Date : 25-FEB-2010 02:14
Operator : ACJ Inst ID: VOA4.i
Smp Info : |247551001|957517|1|VOAF|1|
Misc Info : LANL 5G N/A
Comment :
Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	6.91130	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 61 Chlorobenzene-d5	13.771	3431781	50.000
* 86 1,4-Dichlorobenzene-d4	16.180	3854255	50.000

CONCENTRATIONS				QUANT		
RT	AREA	ON-COL (ug/l)	FINAL (ug/Kg)	QUAL	LIBRARY	LIB ENTRY CPND #
=====	=====	=====	=====	=====	=====	=====
Unknown Siloxane						
14.826	8946856	130.352938	140	0		0 61

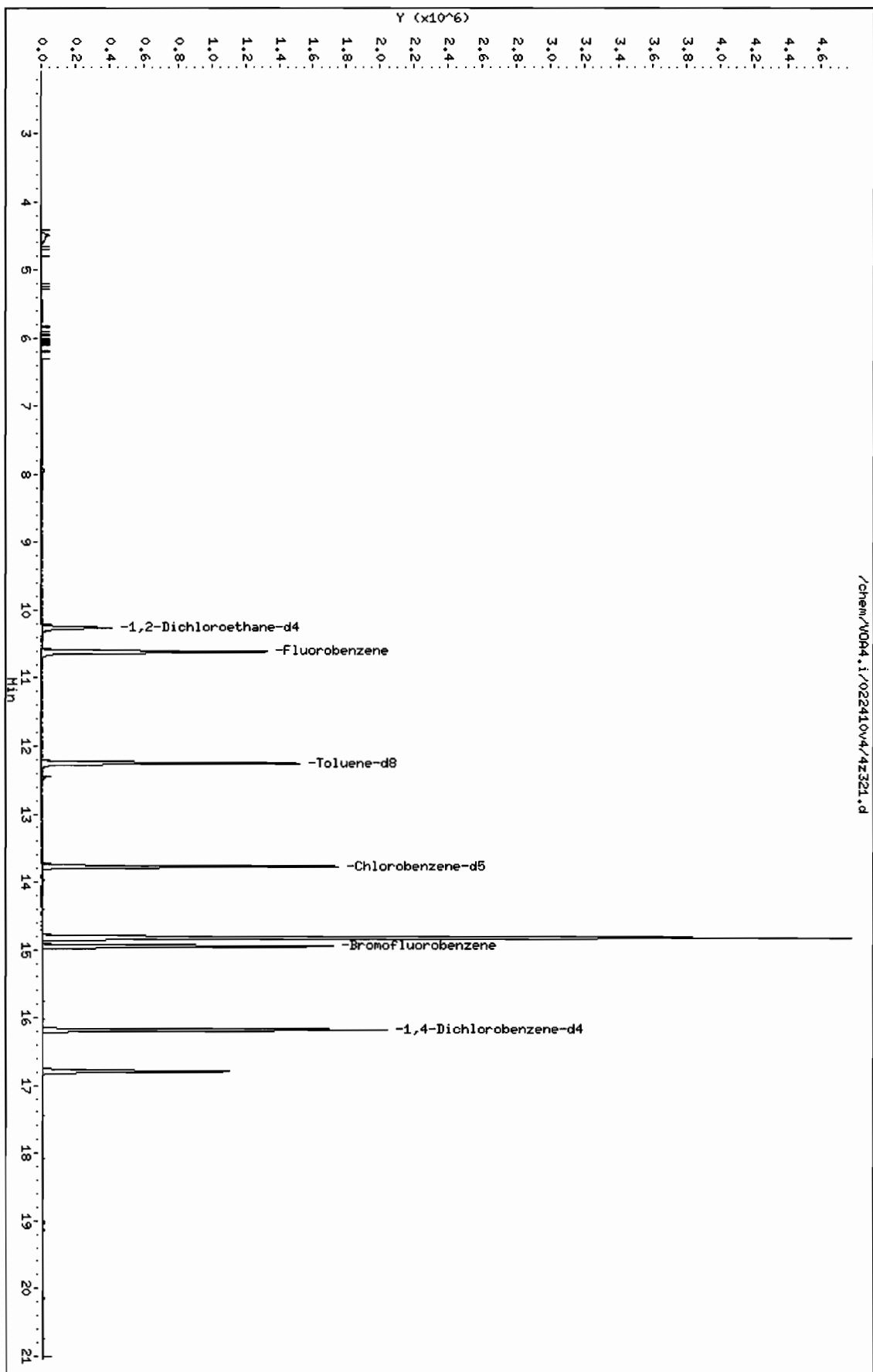
RT	AREA	CONCENTRATIONS		QUAL	QUANT		CPND #
		ON-COL (ug/l)	FINAL (ug/Kg)		LIBRARY	LIB ENTRY	
====	====	=====	=====	====	=====	=====	=====
Unknown Siloxane					CAS #:		
16.789	3053363	39.6102885	42.6	0		0	86

Data File: /chem/V004.i/022410v4/4z321.d
Date : 25-FEB-2010 02:14
Client ID: RE15-10-8349
Sample Info: 1247551001196751711V004F11

Column phase: RTX-VOLATILES

Instrument: V004.i
Operator: ACJ
Column diameter: 0.25

Page 1



Date : 25-FEB-2010 02:14

Client ID: RE15-10-8349

Instrument: VOA4.i

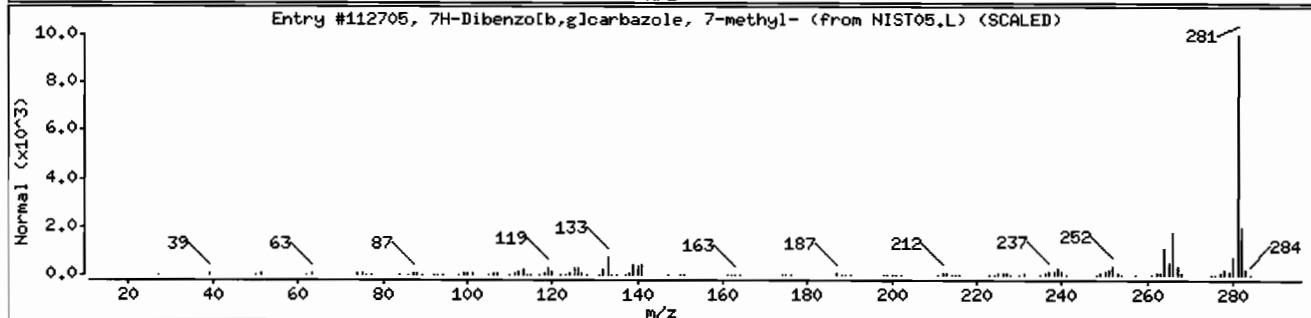
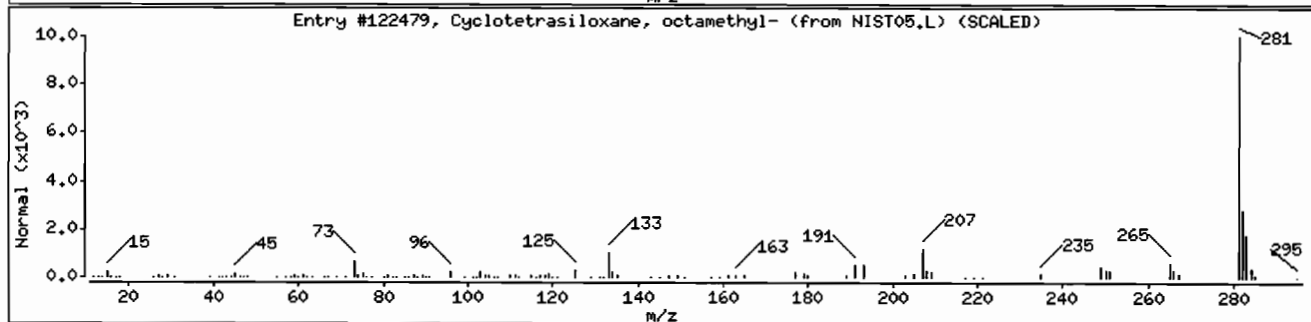
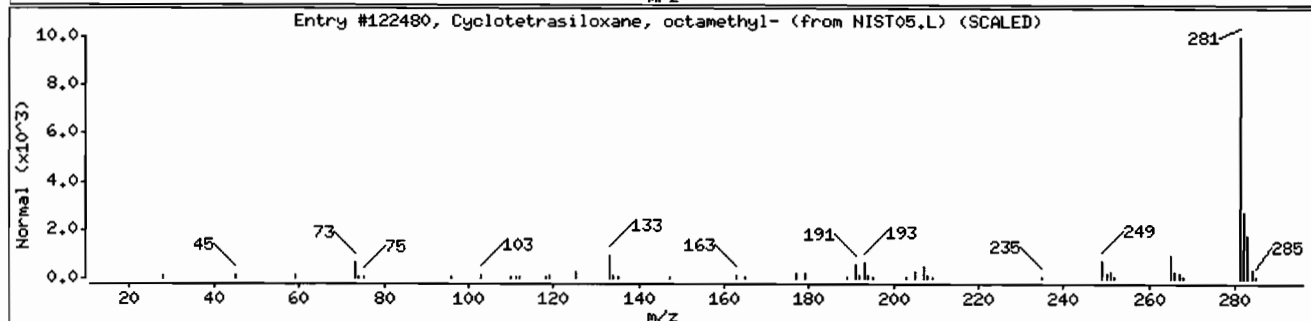
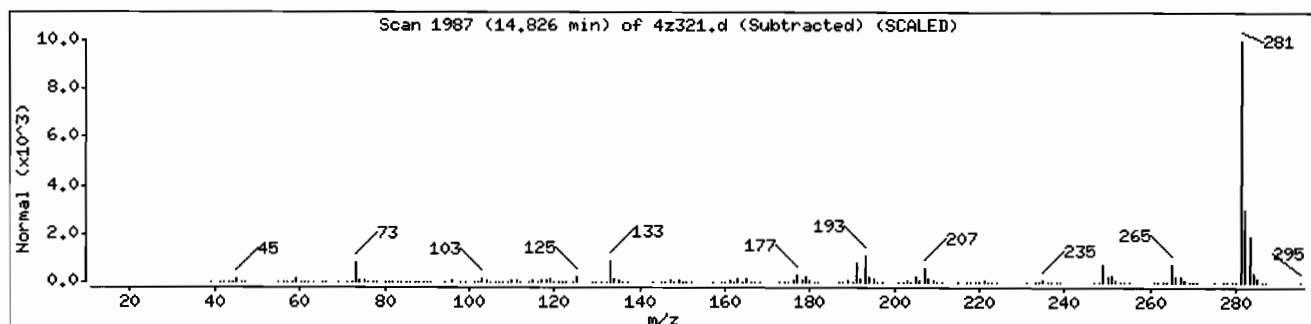
Sample Info: I2475510011957517111VOAF111

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Cyclotetrasiloxane, octamethyl-	556-67-2	NIST05.L	122480	90	C ₈ H ₂₄ O ₄ Si ₄	296
Cyclotetrasiloxane, octamethyl-	556-67-2	NIST05.L	122479	78	C ₈ H ₂₄ O ₄ Si ₄	296
7H-Dibenzo[b,g]carbazole, 7-methyl-	3557-49-1	NIST05.L	112705	53	C ₂₁ H ₁₅ N	281



Date : 25-FEB-2010 02:14

Client ID: RE15-10-8349

Instrument: VOA4.i

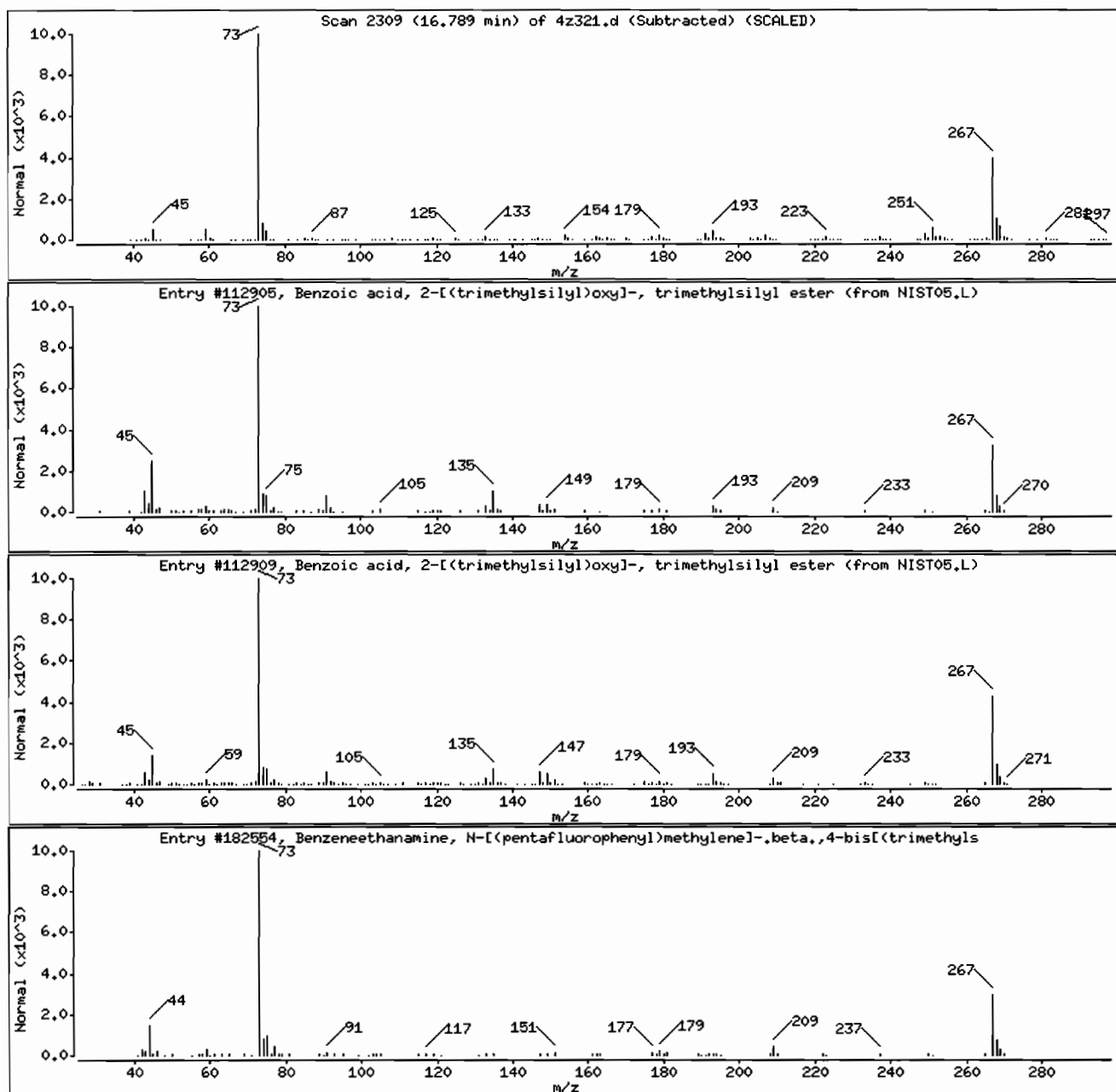
Sample Info: I247551001I957517I1I1VOAFI1I

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Benzoic acid, 2-[(trimethylsilyl)oxy]-,	3789-85-3	NIST05.L	112905	39	C13H22O3Si2	282
Benzoic acid, 2-[(trimethylsilyl)oxy]-,	3789-85-3	NIST05.L	112909	38	C13H22O3Si2	282
Benzeneethanamine, N-[(pentafluorophenyl)	55429-85-1	NIST05.L	182554	37	C21H26F5N02Si2	475



Standard Data

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

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

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

Report Date: 04-Mar-2010 09:53

Calibration History

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
Start Cal Date: 19-FEB-2010 21:11
End Cal Date : 20-FEB-2010 04:37

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 1.00000		
20-FEB-2010 01:50	ICALsubS	/chem/VOA4.i/021910v4/4y513.d
19-FEB-2010 21:39	CALsubL+	/chem/VOA4.i/021910v4/4y504.d
Cal Level: 2 , Cal Amount: 2.00000		
20-FEB-2010 02:18	ICALsubS	/chem/VOA4.i/021910v4/4y514.d
19-FEB-2010 22:35	CALsubL+	/chem/VOA4.i/021910v4/4y506.d
Cal Level: 3 , Cal Amount: 5.00000		
20-FEB-2010 02:46	ICALsubS	/chem/VOA4.i/021910v4/4y515.d
19-FEB-2010 23:03	CALsubL+	/chem/VOA4.i/021910v4/4y507.d
Cal Level: 4 , Cal Amount: 10.00000		
20-FEB-2010 03:13	ICALsubS	/chem/VOA4.i/021910v4/4y516.d
19-FEB-2010 23:30	CALsubL+	/chem/VOA4.i/021910v4/4y508.d
Cal Level: 5 , Cal Amount: 20.00000		
20-FEB-2010 03:41	ICALsubS	/chem/VOA4.i/021910v4/4y517.d
19-FEB-2010 23:59	CALsubL+	/chem/VOA4.i/021910v4/4y509.d
Cal Level: 6 , Cal Amount: 50.00000		
20-FEB-2010 04:09	ICALsubS	/chem/VOA4.i/021910v4/4y518.d
20-FEB-2010 00:27	CALsubL+	/chem/VOA4.i/021910v4/4y510.d
Cal Level: 7 , Cal Amount: 100.00000		
20-FEB-2010 04:37	ICALsubS	/chem/VOA4.i/021910v4/4y519.d
20-FEB-2010 04:37	CALsubS+SS	/chem/VOA4.i/021910v4/4y519.d
20-FEB-2010 00:54	CALsubL+	/chem/VOA4.i/021910v4/4y511.d
Cal Level: 8 , Cal Amount: 200.00000		
19-FEB-2010 21:11	BENZENE+	/chem/VOA4.i/021910v4/4y503.d

+-----+-----+-----+-----+-----+-----+	
| Ccal Level: 6 , Ccal Amount: 50.0	|
+-----+-----+-----+-----+-----+-----+	
| 24-FEB-2010 17:06 | CALsubL+ | /chem/VOA4.i/022410v4/4z302.d	|
+-----+-----+-----+-----+-----+-----+	
| Ccal Level: 6 , Ccal Amount: 50.0	|
+-----+-----+-----+-----+-----+-----+	
| 24-FEB-2010 18:29 | CALsubS+SS | /chem/VOA4.i/022410v4/4z305.d	|
+-----+-----+-----+-----+-----+-----+	

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2010 21:11
 End Cal Date : 20-FEB-2010 04:37
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Calibration File Names:

Level 1: /chem/VOA4.i/021910v4/4y513.d
 Level 2: /chem/VOA4.i/021910v4/4y514.d
 Level 3: /chem/VOA4.i/021910v4/4y515.d
 Level 4: /chem/VOA4.i/021910v4/4y516.d
 Level 5: /chem/VOA4.i/021910v4/4y517.d
 Level 6: /chem/VOA4.i/021910v4/4y518.d
 Level 7: /chem/VOA4.i/021910v4/4y519.d
 Level 8: /chem/VOA4.i/021910v4/4y503.d

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
M 1 Xylenes (total)	0.87116 0.81481	0.83923 +++++	0.85677	0.82553	0.88001	0.76140	0.83556	4.821
M 2 1,2-Dichloroethylene (total)	0.49492 0.44795	0.46601 +++++	0.47629	0.47986	0.44094	0.42792	0.46199	5.172
M 135 1,3-Dichloropropylene	0.54519 0.51132	0.51982 +++++	0.51252	0.51425	0.53124	0.48372	0.51686	3.682
153 Chlorotrifluoroethylene	0.17311 +++++	0.16553 +++++	0.20042	0.16593	0.19893	0.20193	0.18431	9.705
154 2-Chloro-1,1,1-trifluoroethane	0.54194 0.47490	0.53665 +++++	0.53067	0.51311	0.50623	0.53297	0.51949	4.521
3 Dichlorodifluoromethane	0.35706 0.30866	0.33021 +++++	0.37310	0.31776	0.29255	0.28836	0.32396	9.823
4 Chloromethane	0.61381 0.43911	0.53512 +++++	0.50731	0.53428	0.45384	0.45974	0.50618	12.127

GEL Laboratories LLC
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 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
5 Vinyl chloride	0.46985 0.42772	0.45667 ++++	0.45844	0.45954	0.43661	0.43028	0.44844	3.696
6 Bromomethane	0.30439 0.24210	0.24115 ++++	0.24082	0.23783	0.24376	0.24129	0.25019	9.579
7 Chloroethane	0.26301 0.23704	0.24969 ++++	0.24529	0.24702	0.24088	0.23599	0.24556	3.754
8 Trichlorofluoromethane	0.48215 0.53629	0.51692 ++++	0.54942	0.53821	0.52901	0.51481	0.52383	4.205
134 Ethyl Ether	0.26643 0.25012	0.25362 ++++	0.24088	0.24858	0.24796	0.24888	0.25092	3.120
9 Acrolein	0.04234 0.04898	0.04065 ++++	0.03518	0.03424	0.03858	0.04270	0.04038	12.434
12 Trichlorotrifluoroethane	0.16682 0.13225	0.16556 ++++	0.13947	0.13873	0.13088	0.11889	0.14180	12.684
10 Acetone	0.29628 0.23381	0.26446 ++++	0.24669	0.24124	0.22767	0.22758	0.24825	9.977
11 1,1-Dichloroethylene	0.65870 0.59692	0.59431 ++++	0.66197	0.66395	0.54029	0.57261	0.61268	8.053
147 Isopropyl Alcohol	0.02594 0.02471	0.02592 ++++	0.02382	0.02593	0.02514	0.02423	0.02510	3.496

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 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
13 Iodomethane	0.58899 0.62330	0.57207 ++++	0.61857	0.61886	0.54687	0.58303	0.59310	4.829
15 Acetonitrile	0.03927 0.03985	0.03921 ++++	0.04263	0.04328	0.03600	0.03898	0.03989	6.126
128 Methyl acetate	0.24717 0.22436	0.23242 ++++	0.26052	0.24275	0.20415	0.23037	0.23453	7.689
14 Carbon disulfide	1.17379 1.00007	1.06520 ++++	1.17981	1.19292	0.95620	1.02974	1.08539	8.882
16 Allyl chloride	0.46262 0.38403	0.48425 ++++	0.43635	0.42170	0.41393	0.40609	0.42985	7.980
148 tert-Butyl Alcohol	0.04256 0.04164	0.04268 ++++	0.03929	0.04370	0.04243	0.04021	0.04179	3.681
17 Methylene chloride	++++ 0.37932	0.52060 ++++	0.44873	0.43869	0.36224	0.37509	0.42078	14.378
18 Acrylonitrile	0.13723 0.11317	0.11503 ++++	0.11326	0.11517	0.11198	0.11164	0.11678	7.807
20 tert-Butyl methyl ether	0.98869 0.90809	1.00245 ++++	0.94156	1.00100	0.84998	0.86814	0.93713	6.780
21 trans-1,2-Dichloroethylene	0.49025 0.43767	0.44918 ++++	0.46014	0.47709	0.42329	0.41606	0.45053	6.060

GEL Laboratories LLC
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 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
23 Vinyl acetate	0.52279 0.51114	0.55318 ++++	0.51917	0.58719	0.56407	0.50851	0.53801	5.631
149 Isopropyl ether	1.02783 1.01114	1.05338 ++++	1.04776	1.06637	1.06014	1.03551	1.04316	1.865
22 1,1-Dichloroethane	0.62427 0.54815	0.55476 ++++	0.59433	0.58600	0.53264	0.51491	0.56501	6.763
24 2-Chloro-1,3-butadiene	0.47362 0.41489	0.46045 ++++	0.41377	0.40769	0.40797	0.41371	0.42744	6.425
150 Ethyl tert-butyl ether	1.00973 0.98238	1.02054 ++++	0.99010	1.01408	0.99394	0.99650	1.00104	1.392
30 2-Butanone	0.32038 0.28251	0.29227 ++++	0.28825	0.28748	0.27705	0.26428	0.28746	5.988
26 Ethyl acetate	0.36844 0.30372	0.35529 ++++	0.31836	0.32880	0.31937	0.30696	0.32871	7.428
31 cis-1,2-Dichloroethylene	0.49956 0.45824	0.48285 ++++	0.49244	0.48263	0.45859	0.43977	0.47344	4.564
25 2,2-Dichloropropane	0.28373 0.25537	0.26838 ++++	0.27773	0.26317	0.26024	0.23286	0.26307	6.303
28 Propionitrile	0.05393 0.04689	0.05463 ++++	0.04572	0.04669	0.04489	0.04397	0.04810	9.030

GEL Laboratories LLC
INITIAL CALIBRATION DATA

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 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
27 Methacrylonitrile	0.19982 0.19006	0.21236 ++++	0.19021	0.20038	0.19713	0.19101	0.19728	4.060
29 Bromochloromethane	0.19118 0.17289	0.16916 ++++	0.17976	0.17681	0.16621	0.16379	0.17426	5.368
32 Chloroform	0.64146 0.56885	0.61807 ++++	0.59255	0.60375	0.57967	0.53781	0.59173	5.726
72 Tetrahydrofuran	0.21229 0.17914	0.21837 ++++	0.19412	0.19669	0.18896	0.17966	0.19561	7.723
36 1,1,1-Trichloroethane	0.48953 0.43461	0.46173 ++++	0.47326	0.44146	0.43854	0.40084	0.44857	6.490
19 Isobutyl alcohol	0.01398 0.01335	0.01440 ++++	0.01229	0.01388	0.01370	0.01392	0.01364	4.957
129 Cyclohexane	0.70226 0.55282	0.59340 ++++	0.60152	0.56976	0.53424	0.50009	0.57916	11.125
34 1,1-Dichloropropene	0.47407 0.42040	0.44402 ++++	0.46338	0.44268	0.41485	0.38991	0.43562	6.708
33 Carbon tetrachloride	0.41956 0.43052	0.40321 ++++	0.44726	0.42517	0.41573	0.39430	0.41939	4.174
37 1,2-Dichloroethane	0.46882 0.43338	0.45354 ++++	0.46819	0.47484	0.44055	0.42184	0.45159	4.480

GEL Laboratories LLC
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 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
38 Benzene	1.42369 1.21582	1.30207 1.41587	1.33057	1.30994	1.20581	1.16344	1.29590	7.392
151 Methyl tert-amyl ether	0.97700 0.96106	1.01332 ++++	0.94944	0.97260	0.95487	0.95159	0.96856	2.304
139 Cyclohexene	0.67697 0.62630	0.63897 ++++	0.68363	0.64916	0.61437	0.58028	0.63852	5.629
131 n-Butyl alcohol	0.01123 0.01117	0.01053 0.01154	0.01111	0.01082	0.00928	0.01082	0.01081	6.396
39 Trichloroethylene	0.37781 0.33352	0.34653 ++++	0.36133	0.35278	0.33598	0.31050	0.34549	6.261
42 Methyl methacrylate	0.24664 0.22961	0.24574 ++++	0.22237	0.22966	0.22802	0.22699	0.23272	4.092
130 Methylcyclohexane	0.60591 0.55739	0.58007 ++++	0.59305	0.56676	0.54195	0.50442	0.56422	6.030
41 1,2-Dichloropropane	0.34135 0.32393	0.33943 ++++	0.33577	0.33876	0.33248	0.30690	0.33123	3.685
97 1,4-Dioxane	0.00350 0.00318	0.00352 ++++	0.00308	0.00322	0.00324	0.00330	0.00329	4.950
43 Dibromomethane	0.23442 0.20693	0.22700 ++++	0.21053	0.21629	0.20860	0.19625	0.21429	6.016

GEL Laboratories LLC
INITIAL CALIBRATION DATA

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 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
45 Bromodichloromethane	0.49425 0.44702	0.45673 ++++	0.44733	0.45725	0.47475	0.42528	0.45752	4.805
48 2-Nitropropane	0.11177 0.11144	0.11692 ++++	0.09933	0.10639	0.10753	0.10779	0.10874	5.032
44 2-Chloroethylvinyl ether	0.17101 0.16773	0.16485 ++++	0.16495	0.17127	0.16844	0.17193	0.16860	1.751
46 cis-1,3-Dichloropropylene	0.55370 0.52254	0.54647 ++++	0.52813	0.53049	0.54124	0.49731	0.53141	3.498
49 4-Methyl-2-pentanone	0.19079 0.16408	0.18751 ++++	0.18345	0.17930	0.18487	0.16346	0.17907	6.160
50 Toluene	1.17747 0.94225	1.11669 ++++	1.11328	1.03042	1.03428	0.91729	1.04738	9.100
51 Ethyl methacrylate	0.56017 0.48807	0.58781 ++++	0.54369	0.54495	0.54752	0.52783	0.54286	5.615
53 trans-1,3-Dichloropropylene	0.67518 0.57837	0.61866 ++++	0.63619	0.60925	0.65047	0.56446	0.61894	6.313
54 1,1,2-Trichloroethane	0.35859 0.29175	0.35171 ++++	0.32270	0.31354	0.33719	0.28459	0.32287	8.791
55 2-Hexanone	0.50036 0.42561	0.50091 ++++	0.49377	0.49013	0.50691	0.43630	0.47914	6.990

GEL Laboratories LLC
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 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
52 1,3-Dichloropropane	0.64333 0.57942	0.63879 ++++	0.63416	0.62360	0.65554	0.56734	0.62031	5.424
56 Tetrachloroethylene	0.35986 0.33562	0.36515 ++++	0.37574	0.34805	0.35467	0.31349	0.35037	5.888
57 Dibromochloromethane	0.45230 0.45148	0.45438 ++++	0.44527	0.44576	0.49593	0.43082	0.45371	4.453
59 1,2-Dibromoethane	0.43180 0.37676	0.38305 ++++	0.40020	0.39499	0.41768	0.36871	0.39617	5.694
152 1-Chlorohexane	0.35940 0.31578	0.31893 ++++	0.31687	0.27133	0.28661	0.30719	0.31087	8.951
62 Chlorobenzene	1.23788 1.08806	1.23444 ++++	1.20821	1.17933	1.23765	1.05464	1.17717	6.446
60 1,1,1,2-Tetrachloroethane	0.43245 0.45356	0.47110 ++++	0.45182	0.44117	0.47685	0.41790	0.44926	4.629
58 Ethylbenzene	2.25907 1.85977	2.13984 ++++	2.19100	2.05478	2.18997	1.83229	2.07524	8.121
63 m,p-Xylenes	0.86552 0.79079	0.83784 ++++	0.85312	0.81601	0.87471	0.74821	0.82660	5.455
64 o-Xylene	0.88244 0.86286	0.84197 ++++	0.86407	0.84458	0.89059	0.78778	0.85347	3.986

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 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
65 Styrene	1.42873 1.43607	1.47483 ++++	1.44523	1.43037	1.55085	1.34523	1.44447	4.249
66 Bromoform	0.49169 0.51458	0.50449 ++++	0.49890	0.48567	0.53857	0.47783	0.50168	4.043
67 Isopropylbenzene	3.89047 2.97098	3.78477 ++++	3.79698	3.40825	3.64320	2.92025	3.48784	11.502
68 cis-1,4-Dichloro-2-butene	0.28349 0.24982	0.28112 ++++	0.25214	0.25271	0.26272	0.25693	0.26270	5.343
70 Cyclohexanone	0.01484 ++++	0.01401 ++++	0.01211	0.01406	0.01444	++++	0.01389	7.573
73 1,1,2,2-Tetrachloroethane	1.03775 0.83319	0.97842 ++++	0.95320	0.91642	0.96163	0.80618	0.92669	8.844
69 trans-1,4-Dichloro-2-butene	0.24463 0.23669	0.26128 ++++	0.23595	0.24180	0.24847	0.24308	0.24456	3.505
74 1,2,3-Trichloropropane	0.27411 0.22723	0.24546 ++++	0.26331	0.24262	0.25470	0.22164	0.24701	7.602
75 Bromobenzene	0.95265 0.91522	0.95153 ++++	0.94369	0.89917	0.97053	0.82646	0.92275	5.296
76 n-Propylbenzene	4.65145 3.55962	4.54451 ++++	4.57508	4.20599	4.46517	3.54974	4.22165	11.291

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2010 21:11
 End Cal Date : 20-FEB-2010 04:37
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
78 1,3,5-Trimethylbenzene	3.49172 2.85913	3.43750 ++++	3.30366	3.11038	3.39399	2.77649	3.19612	8.972
77 2-Chlorotoluene	3.14874 2.60718	3.13775 ++++	3.09213	2.91926	3.08883	2.52867	2.93180	8.893
80 4-Chlorotoluene	2.84043 2.33331	2.76925 ++++	2.76543	2.59077	2.78506	2.24711	2.61877	9.108
81 tert-Butylbenzene	3.16260 2.88012	3.36158 ++++	3.40236	3.13083	3.39445	2.75849	3.15577	8.127
79 1,2,4-Trimethylbenzene	3.71574 2.86261	3.51518 ++++	3.46383	3.24555	3.49428	2.80831	3.30079	10.493
82 Pentachloroethane	0.26770 ++++	0.35169 ++++	0.32431	0.27670	0.33754	0.27446	0.30540	12.018
83 sec-Butylbenzene	4.60165 3.59140	4.48205 ++++	4.60517	4.20389	4.53905	3.63147	4.23638	10.576
84 4-Isopropyltoluene	3.77331 3.05064	3.71531 ++++	3.75082	3.44679	3.74160	3.00975	3.49832	9.676
85 1,3-Dichlorobenzene	1.91202 1.72229	1.90972 ++++	1.89834	1.84286	1.98109	1.62325	1.84137	6.804
87 1,4-Dichlorobenzene	1.94895 1.74171	1.96964 ++++	1.92938	1.82801	1.99836	1.63129	1.86391	7.301

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2010 21:11
 End Cal Date : 20-FEB-2010 04:37
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

	1.000	2.000	5.000	10.000	20.000	50.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
88 Benzyl chloride	1.32915	1.39102	1.31304	1.29688	1.36126	1.28232		
	1.11799	++++					1.29881	6.778
89 n-Butylbenzene	3.62495	3.58999	3.60323	3.32337	3.60173	2.83845		
	2.87810	++++					3.35141	10.519
90 1,2-Dichlorobenzene	1.82030	1.85764	1.82371	1.72182	1.91713	1.55614		
	1.62604	++++					1.76040	7.438
91 bis(2-Chloroisopropyl)ether	0.41094	0.40479	0.36232	0.39654	0.40500	0.38966		
	0.36744	++++					0.39096	4.891
92 1,2-Dibromo-3-chloropropane	0.17236	0.17039	0.18919	0.16872	0.19508	0.16232		
	0.17007	++++					0.17545	6.808
93 1,2,4-Trichlorobenzene	0.98001	1.01126	1.00135	1.00407	1.09810	0.85787		
	0.93898	++++					0.98452	7.466
94 Hexachlorobutadiene	0.67976	0.69836	0.64578	0.64762	0.70495	0.56733		
	0.60519	++++					0.64985	7.722
95 Naphthalene	2.19209	2.20614	2.13354	2.24738	2.41492	1.95303		
	1.95829	++++					2.15791	7.567
96 1,2,3-Trichlorobenzene	0.79246	0.78888	0.79254	0.83097	0.88159	0.70785		
	0.74367	++++					0.79114	7.107
\$ 138 1,2-Dichloroethane-d4	0.25536	0.25529	0.25107	0.25854	0.25126	0.25457		
	0.24844	++++					0.25350	1.345

GEL Laboratories LLC
INITIAL CALIBRATION DATA

Start Cal Date : 19-FEB-2010 21:11
 End Cal Date : 20-FEB-2010 04:37
 Quant Method : ISTD
 Origin : Disabled
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Cal Date : 24-Feb-2010 19:27 amj
 Curve Type : Average

	1.000	2.000	5.000	10.000	20.000	50.000		
Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
=====								
\$ 47 Toluene-d8	1.13252	1.13737	1.13194	1.10795	1.12926	1.09260		
	1.06619	++++					1.11398	2.382

\$ 71 Bromofluorobenzene	0.93501	0.94005	0.93577	0.90605	0.89906	0.89596		
	0.89649	++++					0.91548	2.228

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 20-FEB-2010 06:01
Lab File ID: 4y522.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100219-18 Quant Type: ISTD
Method: /chem/VOA4.i/021910v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
1 Xylenes (total)	0.83556	0.74227	0.050	-11.16427	30.00000	Averaged
2 1,2-Dichloroethylene (total)	0.46199	0.41553	0.050	-10.05627	30.00000	Averaged
135 1,3-Dichloropropylene	0.51686	0.47480	0.050	-8.13902	30.00000	Averaged
3 Dichlorodifluoromethane	0.32396	0.22080	0.050	-31.84411	30.00000	Averaged<-
4 Chloromethane	0.50618	0.38936	0.100	-23.07851	30.00000	Averaged|spcc
5 Vinyl chloride	0.44844	0.39541	0.050	-11.82609	20.00000	Averaged|ccc
6 Bromomethane	0.25019	0.22563	0.050	-9.81760	30.00000	Averaged
7 Chloroethane	0.24556	0.21737	0.050	-11.48143	30.00000	Averaged
8 Trichlorofluoromethane	0.52383	0.48089	0.050	-8.19690	30.00000	Averaged
134 Ethyl Ether	0.25092	0.23491	0.001	-6.38346	30.00000	Averaged
10 Acetone	0.24825	0.21282	0.050	-14.27149	40.00000	Averaged
15 Acetonitrile	0.03989	0.04138	0.010	3.75012	30.00000	Averaged
11 1,1-Dichloroethylene	0.61268	0.52650	0.050	-14.06497	20.00000	Averaged|ccc
128 Methyl acetate	0.23453	0.22798	0.010	-2.79589	40.00000	Averaged
13 Iodomethane	0.59310	0.54574	0.050	-7.98529	30.00000	Averaged
17 Methylene chloride	0.42078	0.36738	0.050	-12.68934	30.00000	Averaged
14 Carbon disulfide	1.08539	1.00069	0.050	-7.80387	30.00000	Averaged
20 tert-Butyl methyl ether	0.93713	0.87749	0.050	-6.36373	30.00000	Averaged
21 trans-1,2-Dichloroethylene	0.45053	0.39564	0.050	-12.18314	30.00000	Averaged
23 Vinyl acetate	0.53801	0.47790	0.010	-11.17132	40.00000	Averaged
22 1,1-Dichloroethane	0.56501	0.50538	0.100	-10.55301	30.00000	Averaged|spcc
30 2-Butanone	0.28746	0.24655	0.030	-14.23223	40.00000	Averaged
31 cis-1,2-Dichloroethylene	0.47344	0.43542	0.050	-8.03129	30.00000	Averaged
25 2,2-Dichloropropane	0.26307	0.23218	0.050	-11.74120	30.00000	Averaged
32 Chloroform	0.59173	0.53484	0.010	-9.61484	20.00000	Averaged|ccc
29 Bromochloromethane	0.17426	0.16226	0.010	-6.88493	30.00000	Averaged
36 1,1,1-Trichloroethane	0.44857	0.39385	0.010	-12.19855	30.00000	Averaged
129 Cyclohexane	0.57916	0.47601	0.010	-17.80968	30.00000	Averaged
34 1,1-Dichloropropene	0.43562	0.38560	0.010	-11.48164	30.00000	Averaged
131 n-Butyl alcohol	0.01081	0.01184	0.001	9.45698	40.00000	Averaged
33 Carbon tetrachloride	0.41939	0.39549	0.010	-5.70048	30.00000	Averaged
138 1,2-Dichloroethane-d4	0.25350	0.25162	0.001	-0.74287	30.00000	Averaged
37 1,2-Dichloroethane	0.45159	0.41841	0.010	-7.34745	30.00000	Averaged
38 Benzene	1.29590	1.14537	0.010	-11.61578	30.00000	Averaged
139 Cyclohexene	0.63852	0.54637	0.001	-14.43170	30.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 20-FEB-2010 06:01
Lab File ID: 4y522.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100219-18 Quant Type: ISTD
Method: /chem/VOA4.i/021910v4/VOA4-8260-021910.m

				MIN		MAX	
COMPOUND	RRF / AMOUNT	RF50	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE	
39 Trichloroethylene	0.34549	0.31084	0.010	-10.03068	30.00000	Averaged	
41 1,2-Dichloropropane	0.33123	0.30487	0.010	-7.95793	20.00000	Averaged	ccc
130 Methylcyclohexane	0.56422	0.48129	0.010	-14.69894	30.00000	Averaged	
45 Bromodichloromethane	0.45752	0.42700	0.010	-6.66998	30.00000	Averaged	
43 Dibromomethane	0.21429	0.19806	0.010	-7.57097	30.00000	Averaged	
44 2-Chloroethylvinyl ether	0.16860	0.16649	0.005	-1.24852	30.00000	Averaged	
49 4-Methyl-2-pentanone	0.17907	0.15997	0.010	-10.66648	40.00000	Averaged	
46 cis-1,3-Dichloropropylene	0.53141	0.48392	0.010	-8.93630	30.00000	Averaged	
\$ 47 Toluene-d8	1.11398	1.06910	0.010	-4.02884	30.00000	Averaged	
50 Toluene	1.04738	0.89106	0.010	-14.92483	20.00000	Averaged	ccc
53 trans-1,3-Dichloropropylene	0.61894	0.55059	0.010	-11.04347	30.00000	Averaged	
54 1,1,2-Trichloroethane	0.32287	0.28001	0.010	-13.27373	30.00000	Averaged	
55 2-Hexanone	0.47914	0.36873	0.010	-23.04250	40.00000	Averaged	
52 1,3-Dichloropropane	0.62031	0.56257	0.010	-9.30921	30.00000	Averaged	
56 Tetrachloroethylene	0.35037	0.29958	0.010	-14.49604	30.00000	Averaged	
57 Dibromochloromethane	0.45371	0.42458	0.010	-6.42041	30.00000	Averaged	
59 1,2-Dibromoethane	0.39617	0.36804	0.010	-7.10051	30.00000	Averaged	
62 Chlorobenzene	1.17717	1.04088	0.300	-11.57781	30.00000	Averaged	spcc
60 1,1,1,2-Tetrachloroethane	0.44926	0.41277	0.010	-8.12416	30.00000	Averaged	
58 Ethylbenzene	2.07524	1.77548	0.010	-14.44493	20.00000	Averaged	ccc
63 m,p-Xylenes	0.82660	0.72702	0.010	-12.04738	30.00000	Averaged	
64 o-Xylene	0.85347	0.77279	0.010	-9.45337	30.00000	Averaged	
65 Styrene	1.44447	1.32263	0.010	-8.43545	30.00000	Averaged	
66 Bromoform	0.50168	0.48341	0.100	-3.64023	30.00000	Averaged	spcc
67 Isopropylbenzene	3.48784	2.86573	0.010	-17.83663	30.00000	Averaged	
73 1,1,2,2-Tetrachloroethane	0.92669	0.82495	0.300	-10.97855	30.00000	Averaged	spcc
\$ 71 Bromofluorobenzene	0.91548	0.90309	0.010	-1.35357	30.00000	Averaged	
74 1,2,3-Trichloropropane	0.24701	0.22557	0.010	-8.68188	30.00000	Averaged	
75 Bromobenzene	0.92275	0.83365	0.010	-9.65585	30.00000	Averaged	
76 n-Propylbenzene	4.22165	3.48585	0.010	-17.42916	30.00000	Averaged	
77 2-Chlorotoluene	2.93180	2.53455	0.010	-13.54959	30.00000	Averaged	
78 1,3,5-Trimethylbenzene	3.19612	2.73087	0.010	-14.55680	30.00000	Averaged	
80 4-Chlorotoluene	2.61877	2.24203	0.010	-14.38582	30.00000	Averaged	
81 tert-Butylbenzene	3.15577	2.72156	0.010	-13.75944	30.00000	Averaged	
79 1,2,4-Trimethylbenzene	3.30079	2.77125	0.010	-16.04273	30.00000	Averaged	
83 sec-Butylbenzene	4.23638	3.54074	0.010	-16.42062	30.00000	Averaged	

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 20-FEB-2010 06:01
Lab File ID: 4y522.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100219-18 Quant Type: ISTD
Method: /chem/VOA4.i/021910v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
84 4-Isopropyltoluene	3.49832	2.90502	0.010	-16.95942	30.00000	Averaged
85 1,3-Dichlorobenzene	1.84137	1.59674	0.010	-13.28492	30.00000	Averaged
87 1,4-Dichlorobenzene	1.86391	1.62476	0.010	-12.83034	30.00000	Averaged
89 n-Butylbenzene	3.35141	2.70801	0.010	-19.19772	30.00000	Averaged
90 1,2-Dichlorobenzene	1.76040	1.54836	0.010	-12.04458	30.00000	Averaged
92 1,2-Dibromo-3-chloropropane	0.17545	0.17011	0.010	-3.04258	30.00000	Averaged
93 1,2,4-Trichlorobenzene	0.98452	0.84469	0.010	-14.20243	30.00000	Averaged
94 Hexachlorobutadiene	0.64985	0.54993	0.010	-15.37579	30.00000	Averaged
95 Naphthalene	2.15791	2.05140	0.010	-4.93613	30.00000	Averaged
96 1,2,3-Trichlorobenzene	0.79114	0.74230	0.010	-6.17291	30.00000	Averaged

Average %D / Drift Results.
=====

Calculated Average %D/Drift =	7.29941
Maximum Average %D/Drift =	20.00000
* Passed Average %D/Drift Test.	

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/021910v4/4y522.d

Lab Smp Id: W4VM100219-18

Client Smp ID: SECOND SOURCE

Inj Date : 20-FEB-2010 06:01

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |W4VM100219-18|ICV|1|VOAF|1|

Misc Info : GEL 5ML N/A UVM100125-01E/IVM100218-01

Comment :

Method : /chem/VOA4.i/021910v4/VOA4-8260-021910.m

Meth Date : 20-Feb-2010 11:31 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 22

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: CALsubL+.sub

Target Version: 3.50

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

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

Cpnd Variable Local Compound Variable

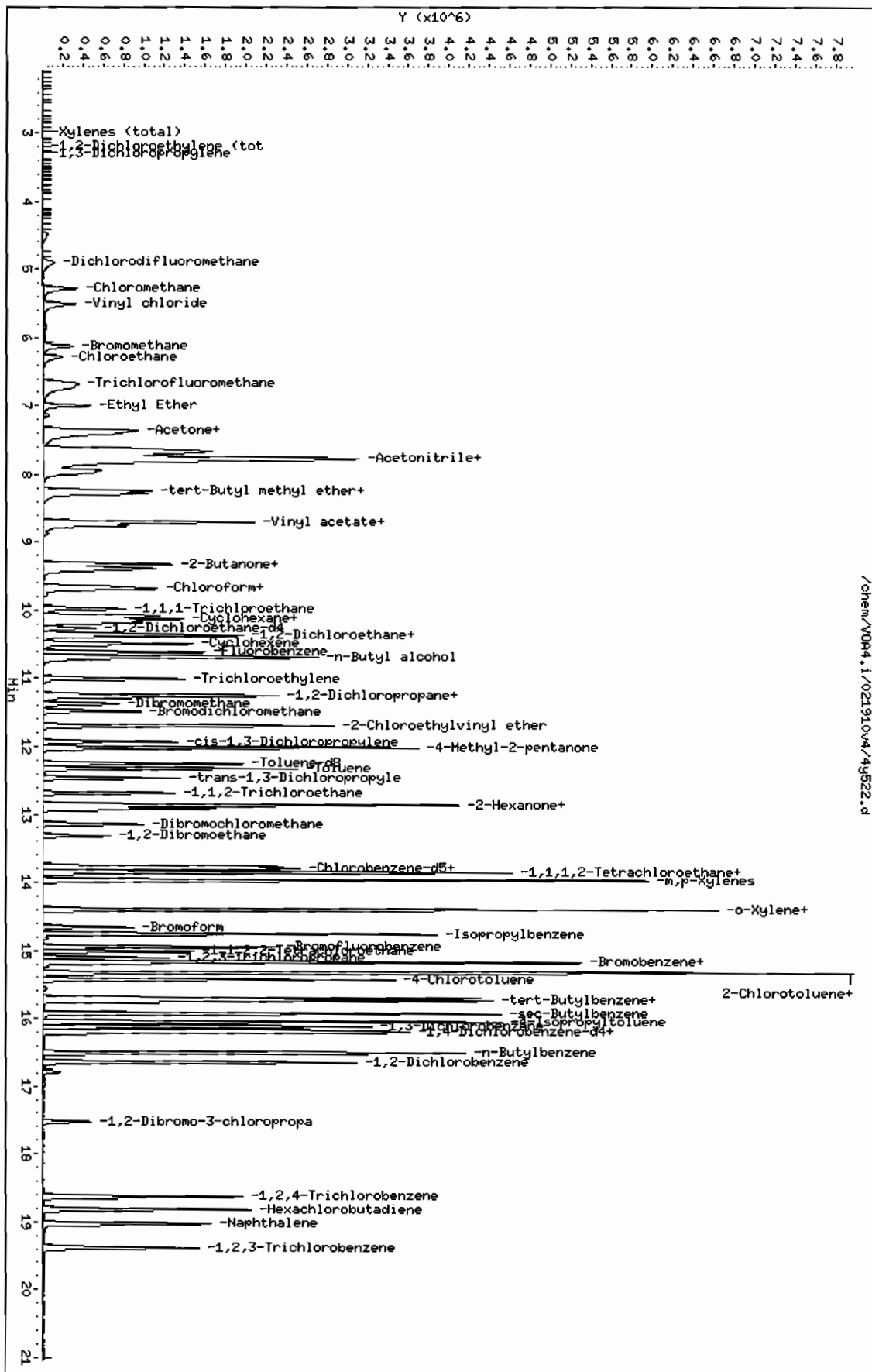
Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
							CAL-AMT	ON-COL
							(ug/l)	(ug/l)
M 1 Xylenes (total)		106				3245282	150.000	133
M 2 1,2-Dichloroethylene (total)		96				1432003	100.000	89.9
M 135 1,3-Dichloropropylene		75				1636261	100.000	91.9
3 Dichlorodifluoromethane		85	4.904	4.904	(0.462)	380456	50.0000	34.1
4 Chloromethane		50	5.284	5.284	(0.498)	670909	50.0000	38.5
5 Vinyl chloride		62	5.507	5.507	(0.519)	681339	50.0000	44.1
6 Bromomethane		94	6.123	6.123	(0.577)	388784	50.0000	45.1
7 Chloroethane		64	6.288	6.288	(0.592)	374547	50.0000	44.2
8 Trichlorofluoromethane		101	6.675	6.675	(0.629)	828632	50.0000	45.9
134 Ethyl Ether		59	6.998	6.998	(0.659)	404772	50.0000	46.8
10 Acetone		43	7.352	7.352	(0.692)	1833558	250.000	214
15 Acetonitrile		41	7.699	7.699	(0.725)	1782712	1250.00	1300
11 1,1-Dichloroethylene		61	7.401	7.401	(0.697)	907228	50.0000	43.0
128 Methyl acetate		43	7.748	7.748	(0.730)	1964158	250.000	243
13 Iodomethane		142	7.657	7.657	(0.721)	4701844	250.000	230
17 Methylene chloride		84	7.937	7.937	(0.747)	633044	50.0000	43.6

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
=====	=====	==	=====	=====	=====	=====	=====
14 Carbon disulfide	76	7.779	7.779	(0.732)	8621503	250.000	230
20 tert-Butyl methyl ether	73	8.236	8.236	(0.776)	1512025	50.0000	46.8
21 trans-1,2-Dichloroethylene	61	8.285	8.285	(0.780)	681729	50.0000	43.9
23 Vinyl acetate	43	8.705	8.705	(0.820)	4117418	250.000	222
22 1,1-Dichloroethane	63	8.760	8.760	(0.825)	870831	50.0000	44.7
30 2-Butanone	43	9.327	9.327	(0.878)	2124160	250.000	214
31 cis-1,2-Dichloroethylene	61	9.388	9.388	(0.884)	750274	50.0000	46.0
25 2,2-Dichloropropane	77	9.419	9.419	(0.887)	400073	50.0000	44.1
32 Chloroform	83	9.693	9.693	(0.913)	921592	50.0000	45.2
29 Bromochloromethane	128	9.656	9.656	(0.909)	279591	50.0000	46.6
36 1,1,1-Trichloroethane	97	9.980	9.980	(0.940)	678649	50.0000	43.9
129 Cyclohexane	56	10.083	10.083	(0.949)	820223	50.0000	41.1
34 1,1-Dichloropropene	75	10.132	10.132	(0.954)	664434	50.0000	44.2
131 n-Butyl alcohol	56	10.687	10.687	(1.006)	2039536	5000.00	5470
33 Carbon tetrachloride	117	10.175	10.175	(0.958)	681468	50.0000	47.1
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	433573	50.0000	49.6
37 1,2-Dichloroethane	62	10.339	10.339	(0.974)	720974	50.0000	46.3
38 Benzene	78	10.370	10.370	(0.976)	1973608	50.0000	44.2
139 Cyclohexene	67	10.492	10.492	(0.988)	941467	50.0000	42.8
* 40 Fluorobenzene	96	10.620	10.620	(1.000)	1723117	50.0000	
39 Trichloroethylene	95	11.004	11.004	(1.036)	535609	50.0000	45.0
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	525332	50.0000	46.0
130 Methylcyclohexane	83	11.260	11.260	(1.060)	829314	50.0000	42.6
45 Bromodichloromethane	83	11.479	11.479	(1.081)	735770	50.0000	46.7
43 Dibromomethane	93	11.376	11.376	(1.071)	341288	50.0000	46.2
44 2-Chloroethylvinyl ether	63	11.699	11.699	(1.102)	1434436	250.000	247
49 4-Methyl-2-pentanone	58	12.016	12.016	(0.872)	1165635	250.000	223
46 cis-1,3-Dichloropropylene	75	11.930	11.930	(1.123)	833856	50.0000	45.5
\$ 47 Toluene-d8	98	12.247	12.253	(0.889)	1558056	50.0000	48.0
50 Toluene	92	12.327	12.327	(0.895)	1298597	50.0000	42.5
53 trans-1,3-Dichloropropylene	75	12.461	12.461	(0.905)	802404	50.0000	44.5
54 1,1,2-Trichloroethane	83	12.680	12.680	(0.921)	408076	50.0000	43.4
55 2-Hexanone	43	12.857	12.857	(0.934)	2686893	250.000	192
52 1,3-Dichloropropane	76	12.875	12.875	(0.935)	819861	50.0000	45.3
56 Tetrachloroethylene	164	12.918	12.918	(0.938)	436594	50.0000	42.8
57 Dibromochloromethane	129	13.144	13.144	(0.954)	618760	50.0000	46.8
59 1,2-Dibromoethane	107	13.320	13.320	(0.967)	536365	50.0000	46.4
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1457360	50.0000	
62 Chlorobenzene	112	13.802	13.802	(1.002)	1516940	50.0000	44.2
60 1,1,1,2-Tetrachloroethane	131	13.851	13.851	(1.006)	601548	50.0000	45.9
58 Ethylbenzene	91	13.863	13.863	(1.007)	2587508	50.0000	42.8
63 m,p-Xylenes	106	13.973	13.973	(1.015)	2119053	100.000	88.0
64 o-Xylene	106	14.406	14.406	(1.046)	1126229	50.0000	45.3
65 Styrene	104	14.399	14.399	(1.046)	1927542	50.0000	45.8
66 Bromoform	173	14.655	14.655	(0.906)	481390	50.0000	48.2
67 Isopropylbenzene	105	14.759	14.759	(0.912)	2853734	50.0000	41.1
73 1,1,2,2-Tetrachloroethane	83	15.015	15.015	(0.928)	821495	50.0000	44.5

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
=====	=====	==	=====	=====	=====	=====	=====
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	899311	50.0000	49.3
74 1,2,3-Trichloropropane	110	15.107	15.107	(0.934)	224621	50.0000	45.6
75 Bromobenzene	156	15.168	15.168	(0.937)	830159	50.0000	45.2
76 n-Propylbenzene	91	15.180	15.180	(0.938)	3471262	50.0000	41.3
77 2-Chlorotoluene	91	15.332	15.332	(0.948)	2523939	50.0000	43.2
78 1,3,5-Trimethylbenzene	105	15.332	15.332	(0.948)	2719438	50.0000	42.7
80 4-Chlorotoluene	91	15.430	15.430	(0.954)	2232649	50.0000	42.8
81 tert-Butylbenzene	119	15.704	15.704	(0.971)	2710164	50.0000	43.1
79 1,2,4-Trimethylbenzene	105	15.741	15.741	(0.973)	2759648	50.0000	42.0
83 sec-Butylbenzene	105	15.930	15.930	(0.985)	3525920	50.0000	41.8
84 4-Isopropyltoluene	119	16.052	16.052	(0.992)	2892862	50.0000	41.5
85 1,3-Dichlorobenzene	146	16.119	16.119	(0.996)	1590059	50.0000	43.4
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180	(1.000)	995813	50.0000	
87 1,4-Dichlorobenzene	146	16.204	16.204	(1.002)	1617960	50.0000	43.6
89 n-Butylbenzene	91	16.503	16.503	(1.020)	2696676	50.0000	40.4
90 1,2-Dichlorobenzene	146	16.643	16.643	(1.029)	1541883	50.0000	44.0
92 1,2-Dibromo-3-chloropropane	157	17.527	17.527	(1.083)	169397	50.0000	48.5
93 1,2,4-Trichlorobenzene	180	18.630	18.630	(1.151)	841158	50.0000	42.9
94 Hexachlorobutadiene	225	18.819	18.819	(1.163)	547632	50.0000	42.3
95 Naphthalene	128	19.033	19.033	(1.176)	2042810	50.0000	47.5
96 1,2,3-Trichlorobenzene	180	19.386	19.386	(1.198)	739194	50.0000	46.9

Data File: /chem/V004.i/021910v4/49522.d
 Date: 20-FEB-2010 06:01
 Client ID: SECOND SOURCE
 Sample Info: 114VH100219-181ICV11.V004.I1
 Purge Volume: 5.0
 Column phase: RTX-VOLATILES

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 20-FEB-2010 06:28
Lab File ID: 4y523.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100219-19 Quant Type: ISTD
Method: /chem/VOA4.i/021910v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN		MAX		CURVE TYPE
			RRF	%D / %DRIFT	%D / %DRIFT		
153 Chlorotrifluoroethylene	0.18431	0.16926	0.010	-8.16462	30.00000	Averaged	
154 2-Chloro-1,1,1-trifluoroeth	0.51949	0.51112	0.010	-1.61184	30.00000	Averaged	
9 Acrolein	0.04038	0.04593	0.001	13.74360	30.00000	Averaged	
12 Trichlorotrifluoroethane	0.14180	0.12943	0.050	-8.72552	30.00000	Averaged	
147 Isopropyl Alcohol	0.02510	0.02514	0.010	0.18320	40.00000	Averaged	
16 Allyl chloride	0.42985	0.39354	0.010	-8.44835	30.00000	Averaged	
148 tert-Butyl Alcohol	0.04179	0.04088	0.010	-2.18360	40.00000	Averaged	
18 Acrylonitrile	0.11678	0.10523	0.010	-9.88940	30.00000	Averaged	
149 Isopropyl ether	1.04316	1.00113	0.010	-4.02913	30.00000	Averaged	
24 2-Chloro-1,3-butadiene	0.42744	0.39760	0.010	-6.98237	30.00000	Averaged	
150 Ethyl tert-butyl ether	1.00104	0.97666	0.010	-2.43550	30.00000	Averaged	
28 Propionitrile	0.04810	0.04221	0.010	-12.25394	30.00000	Averaged	
26 Ethyl acetate	0.32871	0.27618	0.010	-15.97803	40.00000	Averaged	
27 Methacrylonitrile	0.19728	0.17797	0.010	-9.78919	30.00000	Averaged	
72 Tetrahydrofuran	0.19561	0.17388	0.010	-11.10435	30.00000	Averaged	
19 Isobutyl alcohol	0.01364	0.01253	0.005	-8.18341	40.00000	Averaged	
151 Methyl tert-amyl ether	0.96856	0.93390	0.010	-3.57766	30.00000	Averaged	
42 Methyl methacrylate	0.23272	0.20993	0.010	-9.79320	30.00000	Averaged	
51 Ethyl methacrylate	0.54286	0.48529	0.010	-10.60574	30.00000	Averaged	
152 1-Chlorohexane	0.31087	0.28520	0.010	-8.25753	30.00000	Averaged	
97 1,4-Dioxane	0.00329	0.00319	0.001	-3.06986	40.00000	Averaged	
48 2-Nitropropane	0.10874	0.10131	0.010	-6.83069	30.00000	Averaged	
68 cis-1,4-Dichloro-2-butene	0.26270	0.24842	0.010	-5.43710	30.00000	Averaged	
70 Cyclohexanone	0.01389	0.01652	0.005	18.93839	40.00000	Averaged	
69 trans-1,4-Dichloro-2-butene	0.24456	0.23579	0.010	-3.58421	30.00000	Averaged	
82 Pentachloroethane	0.30540	0.28771	0.010	-5.79419	30.00000	Averaged	
88 Benzyl chloride	1.29881	1.06993	0.010	-17.62202	30.00000	Averaged	
91 bis(2-Chloroisopropyl) ether	0.39096	0.36324	0.010	-7.08915	30.00000	Averaged	
138 1,2-Dichloroethane-d4	0.25350	0.25323	0.001	-0.10779	30.00000	Averaged	
47 Toluene-d8	1.11398	1.11087	0.010	-0.27841	30.00000	Averaged	
71 Bromofluorobenzene	0.91548	0.93004	0.010	1.58989	30.00000	Averaged	

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 20-FEB-2010 06:28
Lab File ID: 4y523.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100219-19 Quant Type: ISTD
Method: /chem/VOA4.i/021910v4/VOA4-8260-021910.m

Average %D / Drift Results.	
=====	
Calculated Average %D/Drift =	7.29941
Maximum Average %D/Drift =	20.00000
* Passed Average %D/Drift Test.	

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/021910v4/4y523.d

Lab Smp Id: W4VM100219-19

Client Smp ID: SHORT SECOND SOURCE

Inj Date : 20-FEB-2010 06:28

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |W4VM100219-19|SHORTICV|1|VOAF|1|

Misc Info : GEL 5ML N/A UVM091216-08B/UVM100125-08C

Comment :

Method : /chem/VOA4.i/021910v4/VOA4-8260-021910.m

Meth Date : 20-Feb-2010 11:31 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 23

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: CALsubS+SS.sub

Target Version: 3.50

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

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

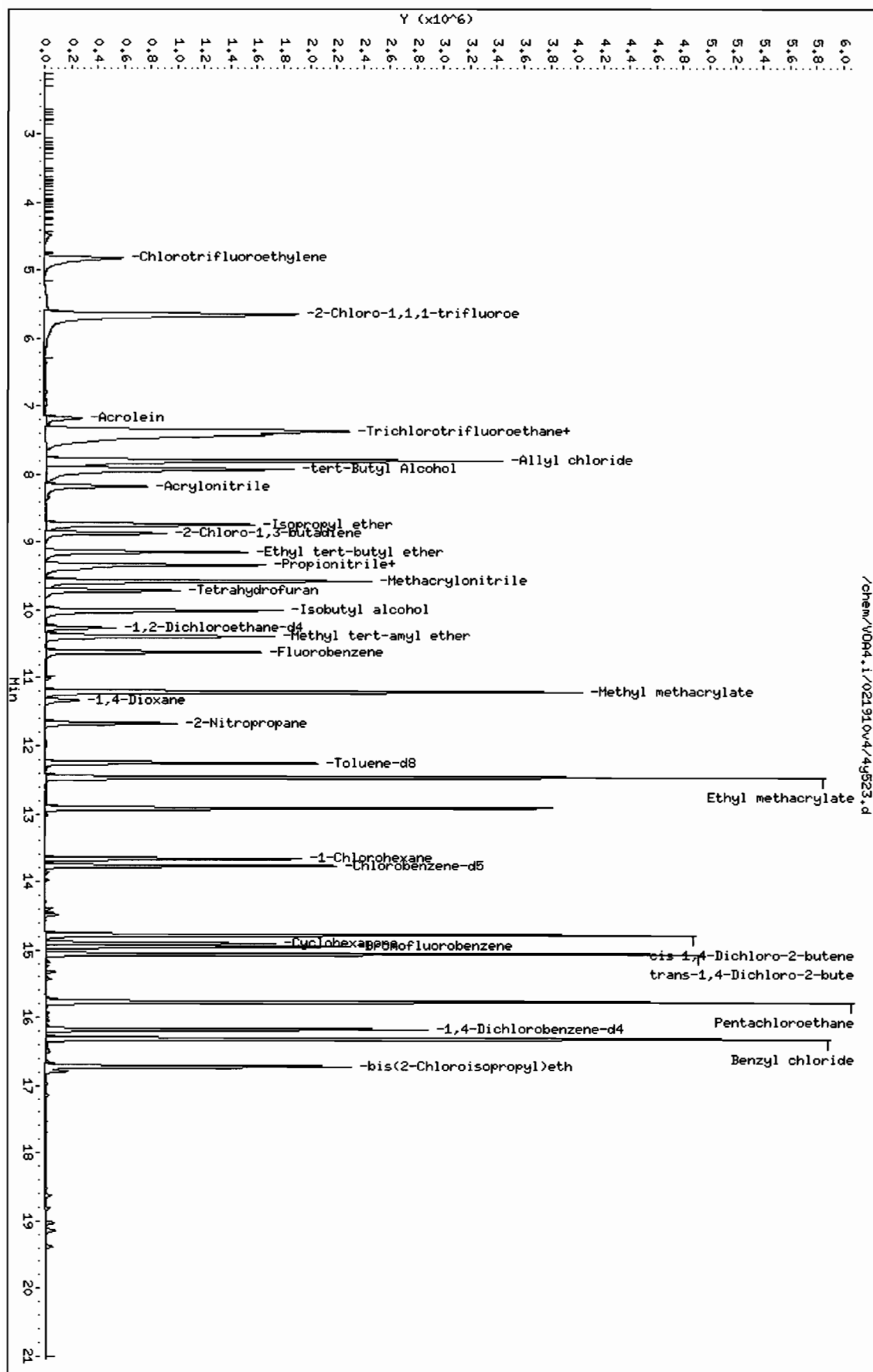
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG						AMOUNTS	
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
153 Chlorotrifluoroethylene	116		4.818	4.818	(0.454)	887431	150.000	138
154 2-Chloro-1,1,1-trifluoroethane	118		5.657	5.657	(0.533)	2679812	150.000	148
9 Acrolein	56		7.181	7.181	(0.676)	401367	250.000	284
12 Trichlorotrifluoroethane	85		7.364	7.364	(0.693)	1130972	250.000	228
147 Isopropyl Alcohol	45		7.431	7.431	(0.700)	2197249	2500.00	2500
16 Allyl chloride	41		7.797	7.797	(0.734)	3438860	250.000	229
148 tert-Butyl Alcohol	59		7.925	7.925	(0.746)	3571952	2500.00	2440
18 Acrylonitrile	53		8.175	8.175	(0.770)	919563	250.000	225
149 Isopropyl ether	45		8.742	8.742	(0.823)	1749645	50.0000	48.0
24 2-Chloro-1,3-butadiene	53		8.870	8.870	(0.835)	694868	50.0000	46.5
150 Ethyl tert-butyl ether	59		9.144	9.144	(0.861)	1706875	50.0000	48.8
28 Propionitrile	54		9.388	9.388	(0.884)	368824	250.000	219
26 Ethyl acetate	43		9.339	9.339	(0.879)	2413393	250.000	210
27 Methacrylonitrile	41		9.577	9.577	(0.902)	1555149	250.000	226
72 Tetrahydrofuran	42		9.711	9.711	(0.600)	808945	250.000	222
19 Isobutyl alcohol	41		10.004	10.004	(0.942)	1094767	2500.00	2300

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
=====	=====	==	=====	=====	=====	=====	=====
151 Methyl tert-amyl ether	73	10.388	10.388	(0.978)	1632153	50.0000	48.2
42 Methyl methacrylate	69	11.205	11.205	(1.055)	1834432	250.000	226
51 Ethyl methacrylate	69	12.461	12.461	(0.905)	3469784	250.000	223
152 1-Chlorohexane	55	13.662	13.662	(1.286)	498437	50.0000	45.9
97 1,4-Dioxane	88	11.327	11.327	(1.067)	278719	2500.00	2420
48 2-Nitropropane	43	11.674	11.674	(1.099)	885284	250.000	233
68 cis-1,4-Dichloro-2-butene	53	14.783	14.783	(0.914)	1155700	250.000	236
70 Cyclohexanone	42	14.905	14.905	(1.082)	590663	1250.00	1490
69 trans-1,4-Dichloro-2-butene	53	15.064	15.064	(0.931)	1096957	250.000	241
82 Pentachloroethane	167	15.771	15.771	(0.975)	1338463	250.000	236
88 Benzyl chloride	91	16.320	16.320	(1.009)	4977551	250.000	206
91 bis(2-Chloroisopropyl)ether	45	16.716	16.716	(1.033)	1689874	250.000	232
* 40 Fluorobenzene	96	10.620	10.620	(1.000)	1747668	50.0000	
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1429990	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180	(1.000)	930440	50.0000	
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	442564	50.0000	49.9
\$ 47 Toluene-d8	98	12.253	12.253	(0.890)	1588539	50.0000	49.9
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	865345	50.0000	50.8

Data File: /chem/V004.i/021910v4/4g523.d
 Date: 20-FEB-2010 06:28
 Client ID: SHORT SECOND SOURCE
 Sample Info: 1M4VH100219-19|SHORTCIV11|V004.11
 Purge Volume: 5.0
 Column Phase: RTX-VOLATILES

Instrument: V004.1
 Operator: ACJ
 Column diameter: 0.25



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 24-FEB-2010 17:06
Lab File ID: 4z302.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100224-01 Quant Type: ISTD
Method: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

				MIN		MAX	
COMPOUND		RRF / AMOUNT	RF50	RRF	%D / %DRIFT	%D / %DRIFT	CURVE TYPE
=====		=====	=====	=====	=====	=====	=====
M	1 Xylenes (total)	0.83556	0.74884	0.050	-10.37850	30.00000	Averaged
M	2 1,2-Dichloroethylene (total	0.46199	0.42572	0.050	-7.84939	30.00000	Averaged
M	135 1,3-Dichloropropylene	0.51686	0.45852	0.050	-11.28750	30.00000	Averaged
	3 Dichlorodifluoromethane	0.32396	0.21746	0.050	-32.87245	30.00000	Averaged|<-
	4 Chloromethane	0.50618	0.45694	0.100	-9.72744	30.00000	Averaged|spccc
	5 Vinyl chloride	0.44844	0.47001	0.050	4.80783	20.00000	Averaged|cccc
	6 Bromomethane	0.25019	0.28343	0.050	13.28476	30.00000	Averaged
	7 Chloroethane	0.24556	0.27277	0.050	11.08080	30.00000	Averaged
	8 Trichlorofluoromethane	0.52383	0.56386	0.050	7.64221	30.00000	Averaged
	134 Ethyl Ether	0.25092	0.26141	0.001	4.17889	30.00000	Averaged
	10 Acetone	0.24825	0.26460	0.050	6.58866	40.00000	Averaged
	15 Acetonitrile	0.03989	0.04503	0.010	12.89723	30.00000	Averaged
	11 1,1-Dichloroethylene	0.61268	0.54208	0.050	-11.52218	20.00000	Averaged|cccc
	128 Methyl acetate	0.23453	0.25339	0.010	8.03821	40.00000	Averaged
	13 Iodomethane	0.59310	0.51550	0.050	-13.08309	30.00000	Averaged
	17 Methylene chloride	0.42078	0.34762	0.050	-17.38603	30.00000	Averaged
	14 Carbon disulfide	1.08539	0.99764	0.050	-8.08419	30.00000	Averaged
	20 tert-Butyl methyl ether	0.93713	0.79930	0.050	-14.70822	30.00000	Averaged
	21 trans-1,2-Dichloroethylene	0.45053	0.41312	0.050	-8.30234	30.00000	Averaged
	23 Vinyl acetate	0.53801	0.62197	0.010	15.60722	40.00000	Averaged
	22 1,1-Dichloroethane	0.56501	0.51033	0.100	-9.67714	30.00000	Averaged|spccc
	30 2-Butanone	0.28746	0.28877	0.030	0.45528	40.00000	Averaged
	31 cis-1,2-Dichloroethylene	0.47344	0.43832	0.050	-7.41729	30.00000	Averaged
	25 2,2-Dichloropropane	0.26307	0.26228	0.050	-0.29774	30.00000	Averaged
	32 Chloroform	0.59173	0.52379	0.010	-11.48240	20.00000	Averaged|cccc
	29 Bromochloromethane	0.17426	0.14840	0.010	-14.83858	30.00000	Averaged
	36 1,1,1-Trichloroethane	0.44857	0.41277	0.010	-7.98043	30.00000	Averaged
	129 Cyclohexane	0.57916	0.45970	0.010	-20.62683	30.00000	Averaged
	34 1,1-Dichloropropene	0.43562	0.39410	0.010	-9.52998	30.00000	Averaged
	131 n-Butyl alcohol	0.01081	0.01186	0.001	9.69106	40.00000	Averaged
	33 Carbon tetrachloride	0.41939	0.39665	0.010	-5.42205	30.00000	Averaged
\$	138 1,2-Dichloroethane-d4	0.25350	0.23982	0.001	-5.40015	30.00000	Averaged
	37 1,2-Dichloroethane	0.45159	0.41213	0.010	-8.73854	30.00000	Averaged
	38 Benzene	1.29590	1.11647	0.010	-13.84566	30.00000	Averaged
	139 Cyclohexene	0.63852	0.57939	0.001	-9.26182	30.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 24-FEB-2010 17:06
Lab File ID: 4z302.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100224-01 Quant Type: ISTD
Method: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN	MAX	CURVE TYPE
RRF	%D	%DRIFT	%D	%DRIFT	
39 Trichloroethylene	0.34549	0.30171	0.010	-12.67170	30.00000 Averaged
41 1,2-Dichloropropane	0.33123	0.29472	0.010	-11.02274	20.00000 Averaged|ccc
130 Methylcyclohexane	0.56422	0.48578	0.010	-13.90259	30.00000 Averaged
45 Dibromodichloromethane	0.45752	0.40328	0.010	-11.85543	30.00000 Averaged
43 Dibromomethane	0.21429	0.18585	0.010	-13.26882	30.00000 Averaged
44 2-Chloroethylvinyl ether	0.16860	0.19788	0.005	17.36790	30.00000 Averaged
49 4-Methyl-2-pentanone	0.17907	0.17590	0.010	-1.76770	40.00000 Averaged
46 cis-1,3-Dichloropropylene	0.53141	0.46861	0.010	-11.81875	30.00000 Averaged
47 Toluene-d8	1.11398	1.05670	0.010	-5.14144	30.00000 Averaged
50 Toluene	1.04738	0.91701	0.010	-12.44758	20.00000 Averaged|ccc
53 trans-1,3-Dichloropropylene	0.61894	0.56199	0.010	-9.20147	30.00000 Averaged
54 1,1,2-Trichloroethane	0.32287	0.27352	0.010	-15.28516	30.00000 Averaged
55 2-Hexanone	0.47914	0.49646	0.010	3.61407	40.00000 Averaged
52 1,3-Dichloropropane	0.62031	0.56061	0.010	-9.62430	30.00000 Averaged
56 Tetrachloroethylene	0.35037	0.30695	0.010	-12.39279	30.00000 Averaged
57 Dibromochloromethane	0.45371	0.40588	0.010	-10.54130	30.00000 Averaged
59 1,2-Dibromoethane	0.39617	0.34851	0.010	-12.03058	30.00000 Averaged
62 Chlorobenzene	1.17717	1.01680	0.300	-13.62149	30.00000 Averaged|spcc
60 1,1,1,2-Tetrachloroethane	0.44926	0.39335	0.010	-12.44525	30.00000 Averaged
58 Ethylbenzene	2.07524	1.83261	0.010	-11.69164	20.00000 Averaged|ccc
63 m,p-Xylenes	0.82660	0.73930	0.010	-10.56106	30.00000 Averaged
64 o-Xylene	0.85347	0.76791	0.010	-10.02463	30.00000 Averaged
65 Styrene	1.44447	1.29925	0.010	-10.05342	30.00000 Averaged
66 Bromoform	0.50168	0.42506	0.100	-15.27247	30.00000 Averaged|spcc
67 Isopropylbenzene	3.48784	2.90868	0.010	-16.60528	30.00000 Averaged
73 1,1,2,2-Tetrachloroethane	0.92669	0.80331	0.300	-13.31343	30.00000 Averaged|spcc
71 Bromofluorobenzene	0.91548	0.93686	0.010	2.33493	30.00000 Averaged
74 1,2,3-Trichloropropane	0.24701	0.20949	0.010	-15.18860	30.00000 Averaged
75 Bromobenzene	0.92275	0.76292	0.010	-17.32141	30.00000 Averaged
76 n-Propylbenzene	4.22165	3.62321	0.010	-14.17546	30.00000 Averaged
77 2-Chlorotoluene	2.93180	2.53421	0.010	-13.56112	30.00000 Averaged
78 1,3,5-Trimethylbenzene	3.19612	2.76846	0.010	-13.38080	30.00000 Averaged
80 4-Chlorotoluene	2.61877	2.24918	0.010	-14.11307	30.00000 Averaged
81 tert-Butylbenzene	3.15577	2.74330	0.010	-13.07061	30.00000 Averaged
79 1,2,4-Trimethylbenzene	3.30079	2.79832	0.010	-15.22270	30.00000 Averaged
83 sec-Butylbenzene	4.23638	3.70122	0.010	-12.63248	30.00000 Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 24-FEB-2010 17:06
Lab File ID: 4z302.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100224-01 Quant Type: ISTD
Method: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN		MAX		CURVE TYPE
			RRF	% D / %DRIFT	% D / %DRIFT		
84 4-Isopropyltoluene	3.49832	3.05909	0.010	-12.55549	30.00000	Averaged	
85 1,3-Dichlorobenzene	1.84137	1.57287	0.010	-14.58132	30.00000	Averaged	
87 1,4-Dichlorobenzene	1.86391	1.59856	0.010	-14.23585	30.00000	Averaged	
89 n-Butylbenzene	3.35141	3.01159	0.010	-10.13945	30.00000	Averaged	
90 1,2-Dichlorobenzene	1.76040	1.51679	0.010	-13.83801	30.00000	Averaged	
92 1,2-Dibromo-3-chloropropane	0.17545	0.15550	0.010	-11.36736	30.00000	Averaged	
93 1,2,4-Trichlorobenzene	0.98452	0.83713	0.010	-14.97032	30.00000	Averaged	
94 Hexachlorobutadiene	0.64985	0.52088	0.010	-19.84696	30.00000	Averaged	
95 Naphthalene	2.15791	1.87381	0.010	-13.16551	30.00000	Averaged	
96 1,2,3-Trichlorobenzene	0.79114	0.65730	0.010	-16.91731	30.00000	Averaged	

Average %D / Drift Results.

Calculated Average %D/Drift = 11.53276

Maximum Average %D/Drift = 20.00000

* Passed Average %D/Drift Test.

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026
Data file : /chem/VOA4.i/022410v4/4z302.d
Lab Smp Id: W4VM100224-01 Client Smp ID: VSTD050
Inj Date : 24-FEB-2010 17:06
Operator : ACJ Inst ID: VOA4.i
Smp Info : |W4VM100224-01|CCV|1|VOAF|1|
Misc Info : GEL 5ML N/A UVM100202-07D/UVM100106-07C
Comment :
Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: CALsubL+.sub
Target Version: 3.50
Processing Host: prdsvr07

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

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

Cpnd Variable Local Compound Variable

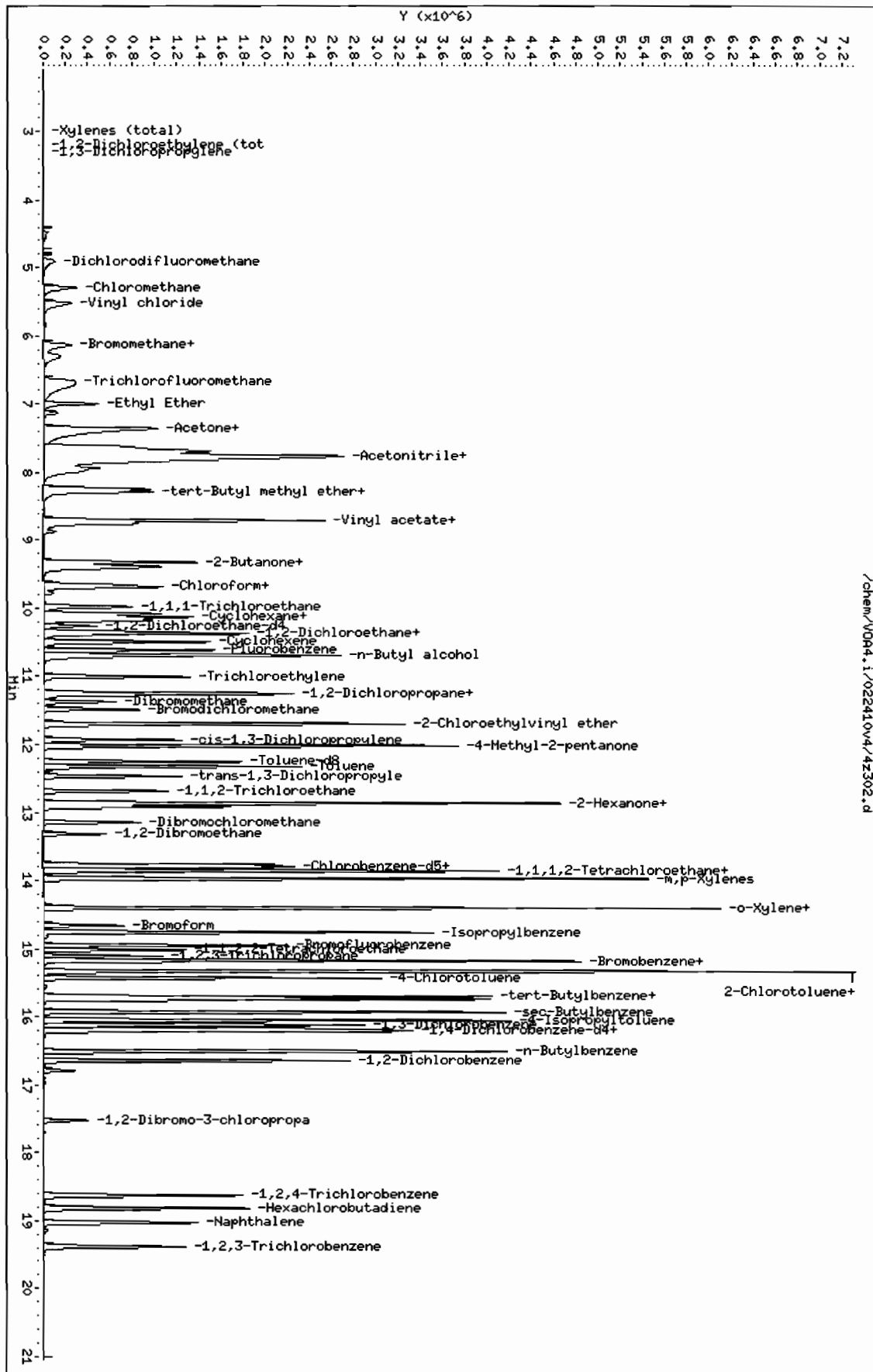
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ug/l)	ON-COL (ug/l)
M 1 Xylenes (total)	106				2891385	150.000	134
M 2 1,2-Dichloroethylene (total)	96				1373328	100.000	92.1
M 135 1,3-Dichloropropylene	75				1479140	100.000	88.7
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	350756	50.0000	33.6
4 Chloromethane	50	5.291	5.291	(0.499)	737012	50.0000	45.1
5 Vinyl chloride	62	5.514	5.514	(0.519)	758089	50.0000	52.4
6 Bromomethane	94	6.130	6.130	(0.578)	457153	50.0000	56.6
7 Chloroethane	64	6.302	6.302	(0.594)	439961	50.0000	55.5
8 Trichlorofluoromethane	101	6.669	6.669	(0.628)	909474	50.0000	53.8
134 Ethyl Ether	59	6.992	6.992	(0.659)	421639	50.0000	52.1
10 Acetone	43	7.352	7.352	(0.693)	2133946	250.000	266
15 Acetonitrile	41	7.699	7.699	(0.725)	1815845	1250.00	1410
11 1,1-Dichloroethylene	61	7.389	7.389	(0.696)	874347	50.0000	44.2
128 Methyl acetate	43	7.748	7.748	(0.730)	2043488	250.000	270
13 Iodomethane	142	7.669	7.669	(0.723)	4157365	250.000	217

Compounds	QUANT SIG			REL RT	RESPONSE	AMOUNTS	
	MASS	RT	EXP RT			CAL-AMT (ug/l)	ON-COL (ug/l)
=====	====	==	=====	=====	=====	=====	=====
17 Methylene chloride	84	7.937	7.937	(0.748)	560691	50.0000	41.3
14 Carbon disulfide	76	7.773	7.773	(0.732)	8045692	250.000	230
20 tert-Butyl methyl ether	73	8.236	8.236	(0.776)	1289214	50.0000	42.6
21 trans-1,2-Dichloroethylene	61	8.279	8.279	(0.780)	666339	50.0000	45.8
23 Vinyl acetate	43	8.705	8.705	(0.820)	5016025	250.000	289
22 1,1-Dichloroethane	63	8.754	8.754	(0.825)	823131	50.0000	45.2
30 2-Butanone	43	9.327	9.327	(0.879)	2328836	250.000	251
31 cis-1,2-Dichloroethylene	61	9.388	9.388	(0.885)	706989	50.0000	46.3
25 2,2-Dichloropropane	77	9.419	9.419	(0.887)	423048	50.0000	49.8
32 Chloroform	83	9.687	9.687	(0.913)	844840	50.0000	44.2
29 Bromochloromethane	128	9.656	9.656	(0.910)	239359	50.0000	42.6
36 1,1,1-Trichloroethane	97	9.980	9.980	(0.940)	665774	50.0000	46.0
129 Cyclohexane	56	10.083	10.083	(0.950)	741461	50.0000	39.7
34 1,1-Dichloropropene	75	10.132	10.132	(0.955)	635662	50.0000	45.2
131 n-Butyl alcohol	56	10.687	10.687	(1.007)	1913208	5000.00	5480
33 Carbon tetrachloride	117	10.175	10.175	(0.959)	639778	50.0000	47.3
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.967)	386807	50.0000	47.3
37 1,2-Dichloroethane	62	10.339	10.339	(0.974)	664742	50.0000	45.6
38 Benzene	78	10.370	10.370	(0.977)	1800804	50.0000	43.1
139 Cyclohexene	67	10.492	10.492	(0.988)	934513	50.0000	45.4
* 40 Fluorobenzene	96	10.614	10.614	(1.000)	1612938	50.0000	
39 Trichloroethylene	95	11.004	11.004	(1.037)	486644	50.0000	43.7
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	475368	50.0000	44.5
130 Methylcyclohexane	83	11.260	11.260	(1.061)	783534	50.0000	43.0
45 Bromodichloromethane	83	11.479	11.479	(1.082)	650458	50.0000	44.1
43 Dibromomethane	93	11.376	11.376	(1.072)	299772	50.0000	43.4
44 2-Chloroethylvinyl ether	63	11.699	11.699	(1.102)	1595842	250.000	293
49 4-Methyl-2-pentanone	58	12.016	12.016	(0.872)	1131961	250.000	246
46 cis-1,3-Dichloropropylene	75	11.930	11.930	(1.124)	755832	50.0000	44.1
\$ 47 Toluene-d8	98	12.247	12.247	(0.889)	1360028	50.0000	47.4
50 Toluene	92	12.321	12.321	(0.895)	1180236	50.0000	43.8
53 trans-1,3-Dichloropropylene	75	12.461	12.461	(0.905)	723308	50.0000	45.4
54 1,1,2-Trichloroethane	83	12.680	12.680	(0.921)	352030	50.0000	42.4
55 2-Hexanone	43	12.857	12.857	(0.934)	3194825	250.000	259
52 1,3-Dichloropropane	76	12.875	12.875	(0.935)	721535	50.0000	45.2
56 Tetrachloroethylene	164	12.918	12.918	(0.938)	395058	50.0000	43.8
57 Dibromochloromethane	129	13.144	13.144	(0.954)	522388	50.0000	44.7
59 1,2-Dibromoethane	107	13.314	13.314	(0.967)	448547	50.0000	44.0
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1287051	50.0000	
62 Chlorobenzene	112	13.802	13.802	(1.002)	1308705	50.0000	43.2
60 1,1,1,2-Tetrachloroethane	131	13.851	13.851	(1.006)	506265	50.0000	43.8
58 Ethylbenzene	91	13.863	13.863	(1.007)	2358668	50.0000	44.2
63 m,p-Xylenes	106	13.973	13.973	(1.015)	1903043	100.000	89.4
64 o-Xylene	106	14.406	14.406	(1.046)	988342	50.0000	45.0
65 Styrene	104	14.399	14.399	(1.046)	1672207	50.0000	45.0
66 Bromoform	173	14.655	14.655	(0.906)	376354	50.0000	42.4
67 Isopropylbenzene	105	14.759	14.759	(0.912)	2575396	50.0000	41.7

						AMOUNTS	
QUANT SIG						CAL-AMT	ON-COL
Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	(ug/l)	(ug/l)
=====	=====	==	=====	=====	=====	=====	=====
73 1,1,2,2-Tetrachloroethane	83	15.015	15.015	(0.928)	711267	50.0000	43.3
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	829512	50.0000	51.2
74 1,2,3-Trichloropropane	110	15.107	15.107	(0.934)	185489	50.0000	42.4
75 Bromobenzene	156	15.168	15.168	(0.937)	675499	50.0000	41.3
76 n-Propylbenzene	91	15.180	15.180	(0.938)	3208059	50.0000	42.9
77 2-Chlorotoluene	91	15.332	15.332	(0.948)	2243836	50.0000	43.2
78 1,3,5-Trimethylbenzene	105	15.332	15.332	(0.948)	2451241	50.0000	43.3
80 4-Chlorotoluene	91	15.430	15.430	(0.954)	1991462	50.0000	42.9
81 tert-Butylbenzene	119	15.704	15.704	(0.971)	2428963	50.0000	43.5
79 1,2,4-Trimethylbenzene	105	15.741	15.741	(0.973)	2477680	50.0000	42.4
83 sec-Butylbenzene	105	15.930	15.930	(0.985)	3277129	50.0000	43.7
84 4-Isopropyltoluene	119	16.052	16.052	(0.992)	2708570	50.0000	43.7
85 1,3-Dichlorobenzene	146	16.119	16.119	(0.996)	1392649	50.0000	42.7
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180	(1.000)	885418	50.0000	
87 1,4-Dichlorobenzene	146	16.204	16.204	(1.002)	1415398	50.0000	42.9
89 n-Butylbenzene	91	16.503	16.503	(1.020)	2666517	50.0000	44.9
90 1,2-Dichlorobenzene	146	16.643	16.643	(1.029)	1342996	50.0000	43.1
92 1,2-Dibromo-3-chloropropane	157	17.533	17.533	(1.084)	137686	50.0000	44.3
93 1,2,4-Trichlorobenzene	180	18.630	18.630	(1.151)	741214	50.0000	42.5
94 Hexachlorobutadiene	225	18.819	18.819	(1.163)	461195	50.0000	40.1
95 Naphthalene	128	19.033	19.033	(1.176)	1659109	50.0000	43.4
96 1,2,3-Trichlorobenzene	180	19.386	19.386	(1.198)	581984	50.0000	41.5

Data File: /chem/V004.i/022410v4/42302.d
 Date : 24-FEB-2010 17:06
 Client ID: VSTD050
 Sample Info: 1M4VH100224-01ICV11V0AF11
 Purge Volume: 5.0
 Column phase: RTX-VOLATILES

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 24-FEB-2010 18:29
Lab File ID: 4z305.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100224-04 Quant Type: ISTD
Method: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

COMPOUND	RRF / AMOUNT	RF50	MIN		MAX		CURVE TYPE
			RRF	%D / %DRIFT	%D / %DRIFT		
153 Chlorotrifluoroethylene	0.18431	0.17201	0.010	-6.67338	30.00000	Averaged	
154 2-Chloro-1,1,1-trifluoroeth	0.51949	0.57702	0.010	11.07282	30.00000	Averaged	
9 Acrolein	0.04038	0.05256	0.001	30.15896	30.00000	Averaged	
12 Trichlorotrifluoroethane	0.14180	0.11762	0.050	-17.04821	30.00000	Averaged	
147 Isopropyl Alcohol	0.02510	0.03101	0.010	23.56113	40.00000	Averaged	
16 Allyl chloride	0.42985	0.40034	0.010	-6.86612	30.00000	Averaged	
148 tert-Butyl Alcohol	0.04179	0.05050	0.010	20.83407	40.00000	Averaged	
18 Acrylonitrile	0.11678	0.11223	0.010	-3.89449	30.00000	Averaged	
149 Isopropyl ether	1.04316	1.03843	0.010	-0.45360	30.00000	Averaged	
24 2-Chloro-1,3-butadiene	0.42744	0.41791	0.010	-2.23008	30.00000	Averaged	
150 Ethyl tert-butyl ether	1.00104	0.97090	0.010	-3.01085	30.00000	Averaged	
28 Propionitrile	0.04810	0.04651	0.010	-3.30974	30.00000	Averaged	
26 Ethyl acetate	0.32871	0.29874	0.010	-9.11492	40.00000	Averaged	
27 Methacrylonitrile	0.19728	0.19124	0.010	-3.06133	30.00000	Averaged	
72 Tetrahydrofuran	0.19561	0.19870	0.010	1.58433	30.00000	Averaged	
19 Isobutyl alcohol	0.01364	0.01529	0.005	12.08024	40.00000	Averaged	
151 Methyl tert-amyl ether	0.96856	0.93136	0.010	-3.84009	30.00000	Averaged	
42 Methyl methacrylate	0.23272	0.21537	0.010	-7.45617	30.00000	Averaged	
51 Ethyl methacrylate	0.54286	0.49996	0.010	-7.90301	30.00000	Averaged	
152 1-Chlorohexane	0.31087	0.33526	0.010	7.84421	30.00000	Averaged	
97 1,4-Dioxane	0.00329	0.00359	0.001	9.14972	40.00000	Averaged	
48 2-Nitropropane	0.10874	0.11172	0.010	2.73877	30.00000	Averaged	
68 cis-1,4-Dichloro-2-butene	0.26270	0.29725	0.010	13.15143	30.00000	Averaged	
70 Cyclohexanone	0.01389	0.02026	0.005	45.84961	40.00000	Averaged	
69 trans-1,4-Dichloro-2-butene	0.24456	0.28737	0.010	17.50393	30.00000	Averaged	
82 Pentachloroethane	0.30540	0.40437	0.010	32.40511	30.00000	Averaged	
88 Benzyl chloride	1.29881	1.53399	0.010	18.10697	30.00000	Averaged	
91 bis(2-Chloroisopropyl)ether	0.39096	0.41058	0.010	5.01846	30.00000	Averaged	
138 1,2-Dichloroethane-d4	0.25350	0.23917	0.001	-5.65484	30.00000	Averaged	
47 Toluene-d8	1.11398	1.04526	0.010	-6.16872	30.00000	Averaged	
71 Bromofluorobenzene	0.91548	0.97420	0.010	6.41407	30.00000	Averaged	

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: VOA4.i Injection Date: 24-FEB-2010 18:29
Lab File ID: 4z305.d Init. Cal. Date(s): 19-FEB-2010 20-FEB-2010
Analysis Type: WATER Init. Cal. Times: 21:11 04:37
Lab Sample ID: W4VM100224-04 Quant Type: ISTD
Method: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Average %D / Drift Results.	
=====	
Calculated Average %D/Drift =	11.10192
Maximum Average %D/Drift =	20.00000
* Passed Average %D/Drift Test.	

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z305.d

Lab Smp Id: W4VM100224-04

Client Smp ID: VSTD250S

Inj Date : 24-FEB-2010 18:29

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |W4VM100224-04|SHORT|1|VOAF|1|

Misc Info : GEL 5ML N/A UVM091216-08B/UVM100125-08D

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 5

Continuing Calibration Sample

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: CALsubS+SS.sub

Target Version: 3.50

Processing Host: prdsvr07

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

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

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG			RESPONSE	AMOUNTS	
	MASS	RT	EXP RT REL RT		CAL-AMT (ug/l)	ON-COL (ug/l)
153 Chlorotrifluoroethylene	116	4.825	4.825 (0.454)	872989	150.000	140
154 2-Chloro-1,1,1-trifluoroethane	118	5.664	5.664 (0.533)	2928516	150.000	167
9 Acrolein	56	7.181	7.181 (0.676)	444598	250.000	325
12 Trichlorotrifluoroethane	85	7.358	7.358 (0.693)	994962	250.000	207
147 Isopropyl Alcohol	45	7.431	7.431 (0.700)	2623279	2500.00	3090
16 Allyl chloride	41	7.803	7.803 (0.735)	3386369	250.000	233
148 tert-Butyl Alcohol	59	7.925	7.925 (0.746)	4271315	2500.00	3020
18 Acrylonitrile	53	8.175	8.175 (0.770)	949363	250.000	240
149 Isopropyl ether	45	8.742	8.742 (0.823)	1756768	50.0000	49.8
24 2-Chloro-1,3-butadiene	53	8.870	8.870 (0.835)	707002	50.0000	48.9
150 Ethyl tert-butyl ether	59	9.144	9.144 (0.861)	1642523	50.0000	48.5
28 Propionitrile	54	9.394	9.394 (0.885)	393417	250.000	242
26 Ethyl acetate	43	9.339	9.339 (0.879)	2527005	250.000	227
27 Methacrylonitrile	41	9.577	9.577 (0.902)	1617666	250.000	242
72 Tetrahydrofuran	42	9.717	9.717 (0.601)	874787	250.000	254

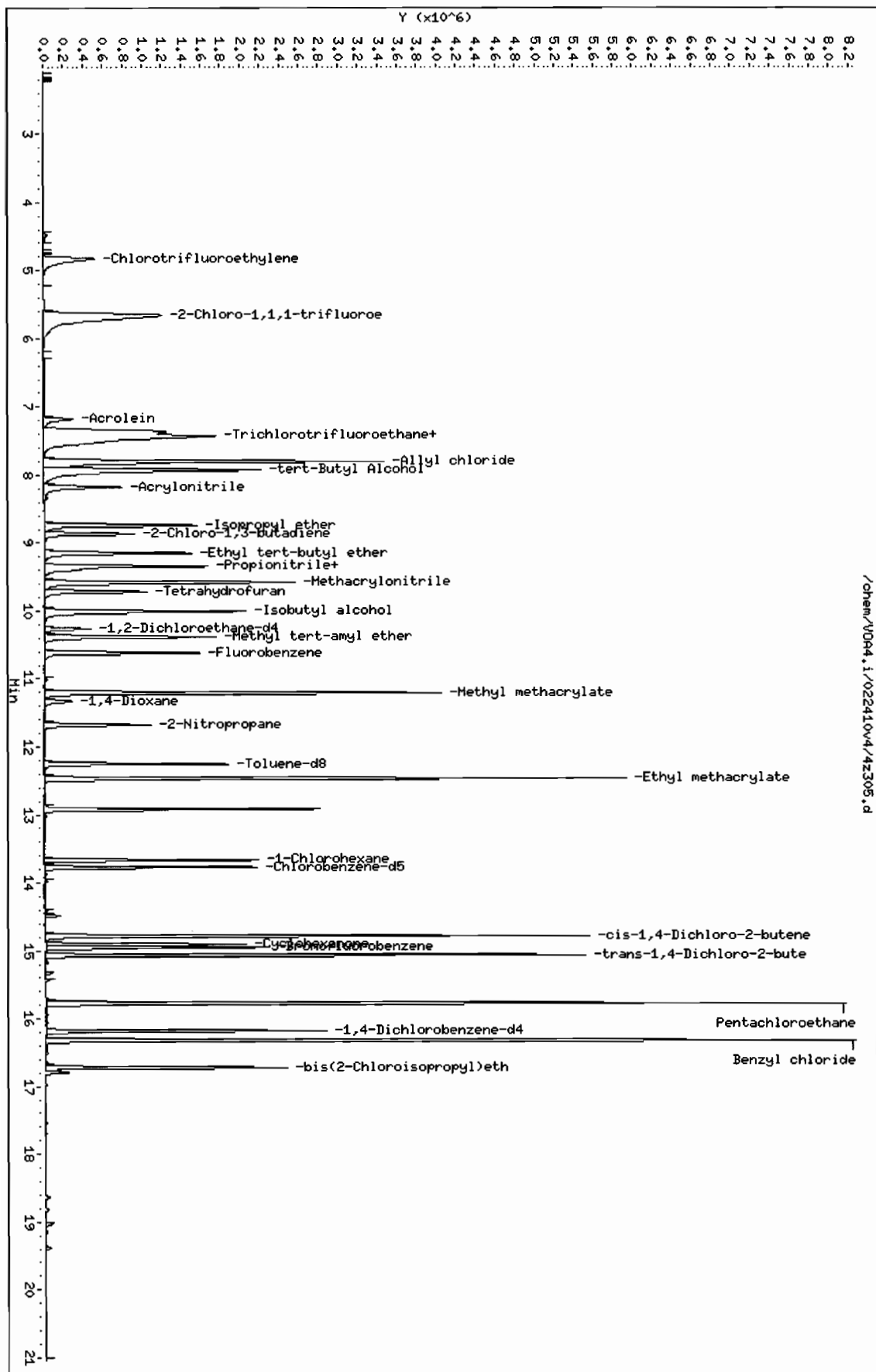
Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	=====	==	=====	=====	=====	=====	=====
19 Isobutyl alcohol	41	10.004	10.004	(0.942)	1293624	2500.00	2800
151 Methyl tert-amyl ether	73	10.388	10.388	(0.978)	1575635	50.0000	48.1
42 Methyl methacrylate	69	11.211	11.211	(1.056)	1821747	250.000	231
51 Ethyl methacrylate	69	12.467	12.467	(0.905)	3415696	250.000	230
152 1-Chlorohexane	55	13.662	13.662	(1.286)	567173	50.0000	53.9
97 1,4-Dioxane	88	11.327	11.327	(1.067)	303815	2500.00	2730
48 2-Nitropropane	43	11.674	11.674	(1.099)	944980	250.000	257
68 cis-1,4-Dichloro-2-butene	53	14.783	14.783	(0.914)	1308644	250.000	283
70 Cyclohexanone	42	14.905	14.905	(1.082)	692092	1250.00	1820
69 trans-1,4-Dichloro-2-butene	53	15.064	15.064	(0.931)	1265118	250.000	294
82 Pentachloroethane	167	15.771	15.771	(0.975)	1780207	250.000	331 (A)
88 Benzyl chloride	91	16.320	16.320	(1.009)	6753314	250.000	295
91 bis(2-Chloroisopropyl)ether	45	16.722	16.722	(1.034)	1807551	250.000	262
* 40 Fluorobenzene	96	10.620	10.620	(1.000)	1691754	50.0000	
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1366388	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.179	(1.000)	880492	50.0000	
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	404616	50.0000	47.2
\$ 47 Toluene-d8	98	12.253	12.253	(0.890)	1428227	50.0000	46.9
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	857778	50.0000	53.2

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: /chem/V004.i/022410v4/42305.d
 Date: 24-FEB-2010 18:29
 Client ID: VSTD250S
 Sample Info: 1M4VH100224-041SHORT111V0AF111
 Purge Volume: 5.0
 Column phase: RTX-VOLATILES

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25



QC Data

Data File: /chem/V0A4.i/021910v4/4y501.d

Page 1

Date : 19-FEB-2010 20:16

Client ID: BFB01

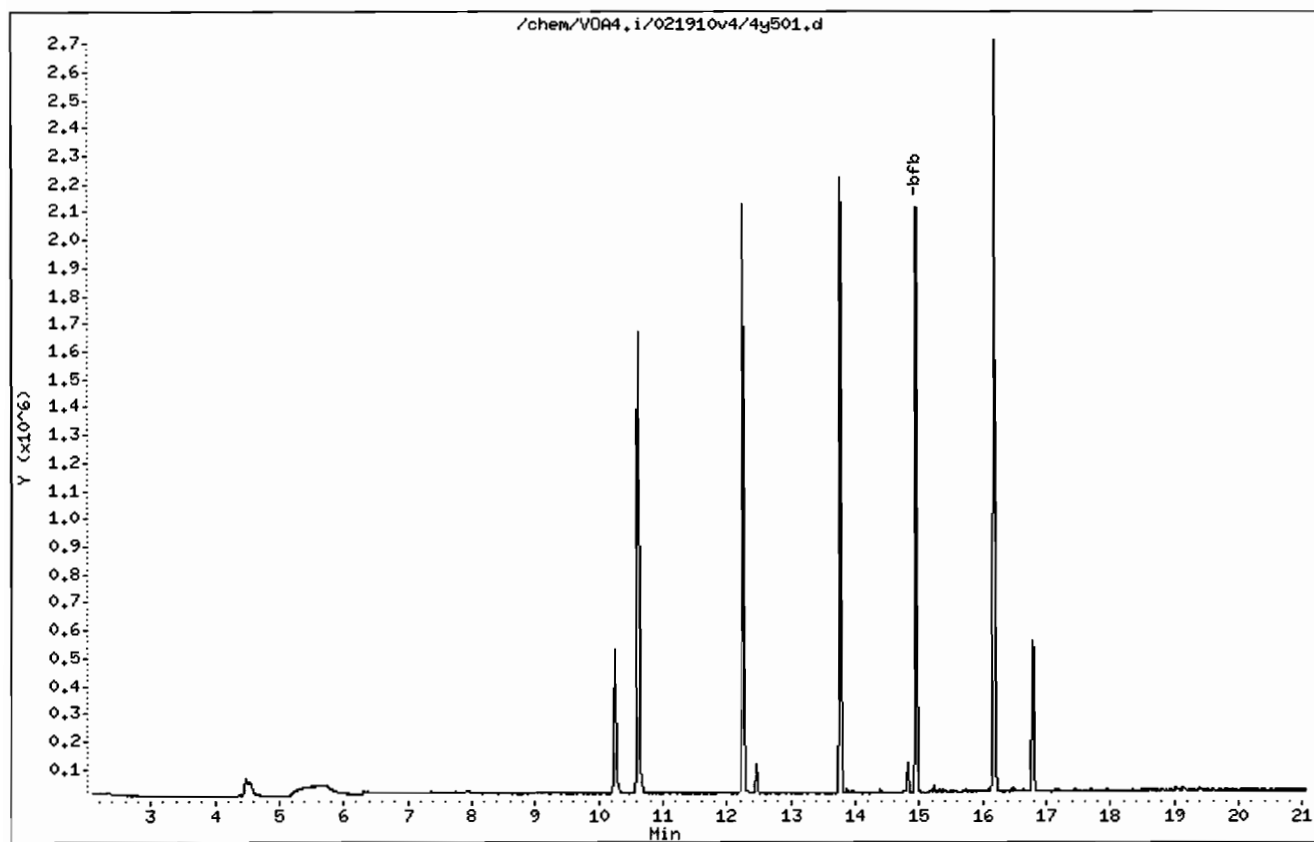
Instrument: V0A4.i

Sample Info: IUVM091216-10IBFB111/V0AF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25



Date : 19-FEB-2010 20:16

Client ID: BFB01

Instrument: V0A4.i

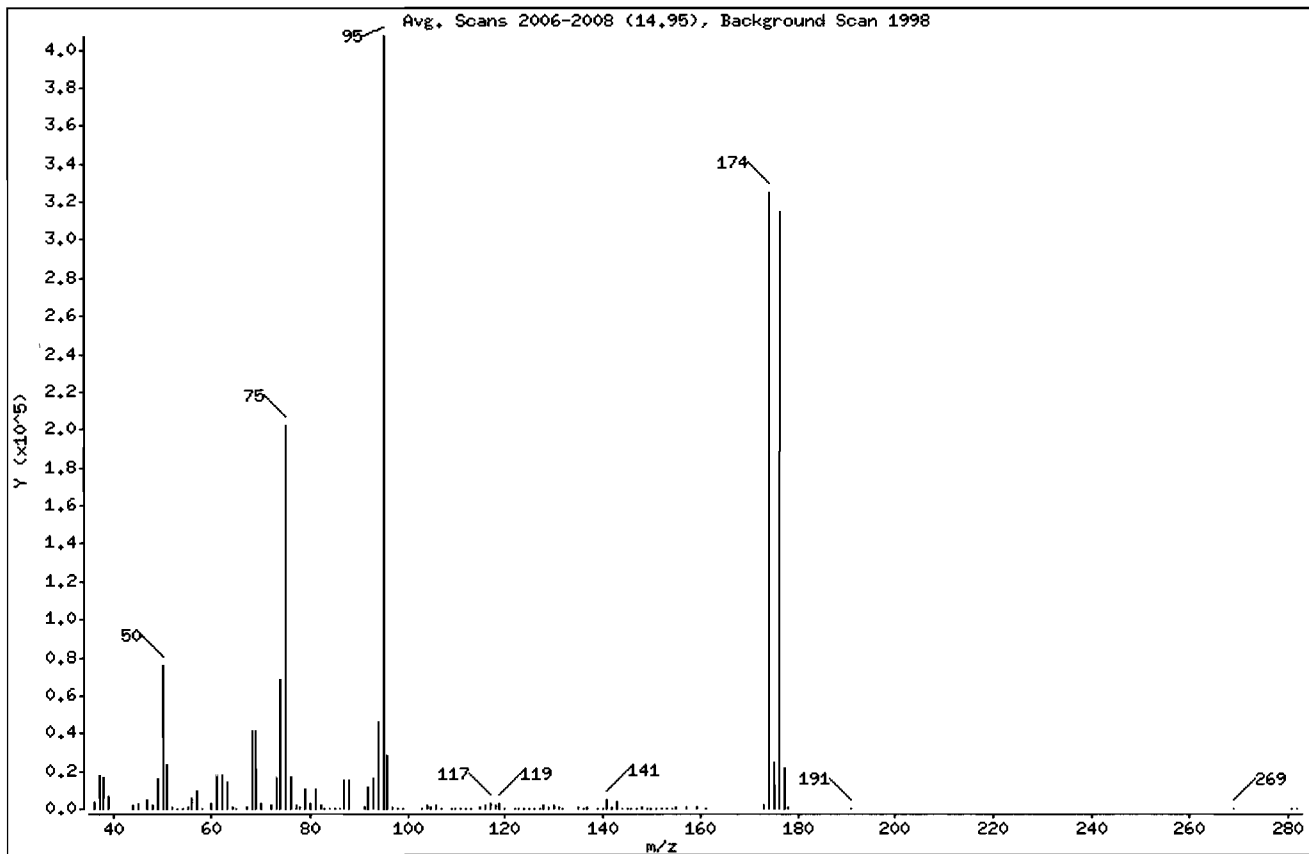
Sample Info: IUVH091216-10|BFB111|V0AF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.58
75	30.00 - 60.00% of mass 95	49.67
96	5.00 - 9.00% of mass 95	6.87
173	Less than 2.00% of mass 174	0.50 (0.62)
174	50.00 - 100.00% of mass 95	79.88
175	5.00 - 9.00% of mass 174	5.89 (7.38)
176	95.00 - 101.00% of mass 174	77.21 (96.65)
177	5.00 - 9.00% of mass 176	5.22 (6.76)

Date : 19-FEB-2010 20:16

Client ID: BFB01

Instrument: V0A4.i

Sample Info: IUVH091216-101BFB1111V0AF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0,25

Data File: 4y501.d

Spectrum: Avg. Scans 2006-2008 (14,95), Background Scan 1998

Location of Maximum: 95,00

Number of points: 114

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36,00	3353	73,00	15896	107,00	399	142,00	597
37,00	18232	74,00	68312	109,00	104	143,00	4112
38,00	16448	75,00	202240	110,00	284	144,00	178
39,00	6353	76,00	16888	111,00	321	145,00	390
44,00	2007	77,00	2039	112,00	263	146,00	333
45,00	3213	78,00	1377	113,00	380	147,00	407
47,00	4457	79,00	10382	115,00	469	148,00	1083
48,00	2278	80,00	3037	116,00	1518	149,00	265
49,00	15465	81,00	10137	117,00	2888	150,00	435
50,00	75664	82,00	2329	118,00	1618	151,00	79
51,00	23080	83,00	360	119,00	2380	152,00	229
52,00	1134	84,00	129	120,00	250	153,00	357
53,00	121	85,00	30	122,00	68	154,00	286
54,00	59	86,00	111	123,00	155	155,00	1068
55,00	685	87,00	15059	124,00	226	157,00	601
56,00	5214	88,00	14706	125,00	247	159,00	550
57,00	9437	91,00	1347	126,00	191	161,00	463
58,00	432	92,00	10861	127,00	155	173,00	2032
60,00	2966	93,00	16296	128,00	1721	174,00	325248
61,00	17256	94,00	45584	129,00	547	175,00	23992
62,00	17904	95,00	407168	130,00	1410	176,00	314368
63,00	14327	96,00	27968	131,00	566	177,00	21264
64,00	1186	97,00	713	132,00	106	178,00	646
65,00	241	98,00	64	135,00	836	191,00	69
67,00	932	99,00	56	136,00	90	269,00	108
68,00	41040	103,00	255	137,00	854	281,00	97
69,00	41504	104,00	1837	139,00	154	282,00	68
70,00	2866	105,00	586	140,00	223		
72,00	1649	106,00	1737	141,00	4415		

Data File: /chem/V0A4.i/022410v4/4z301.d

Page 1

Date : 24-FEB-2010 16:39

Client ID: BFB01

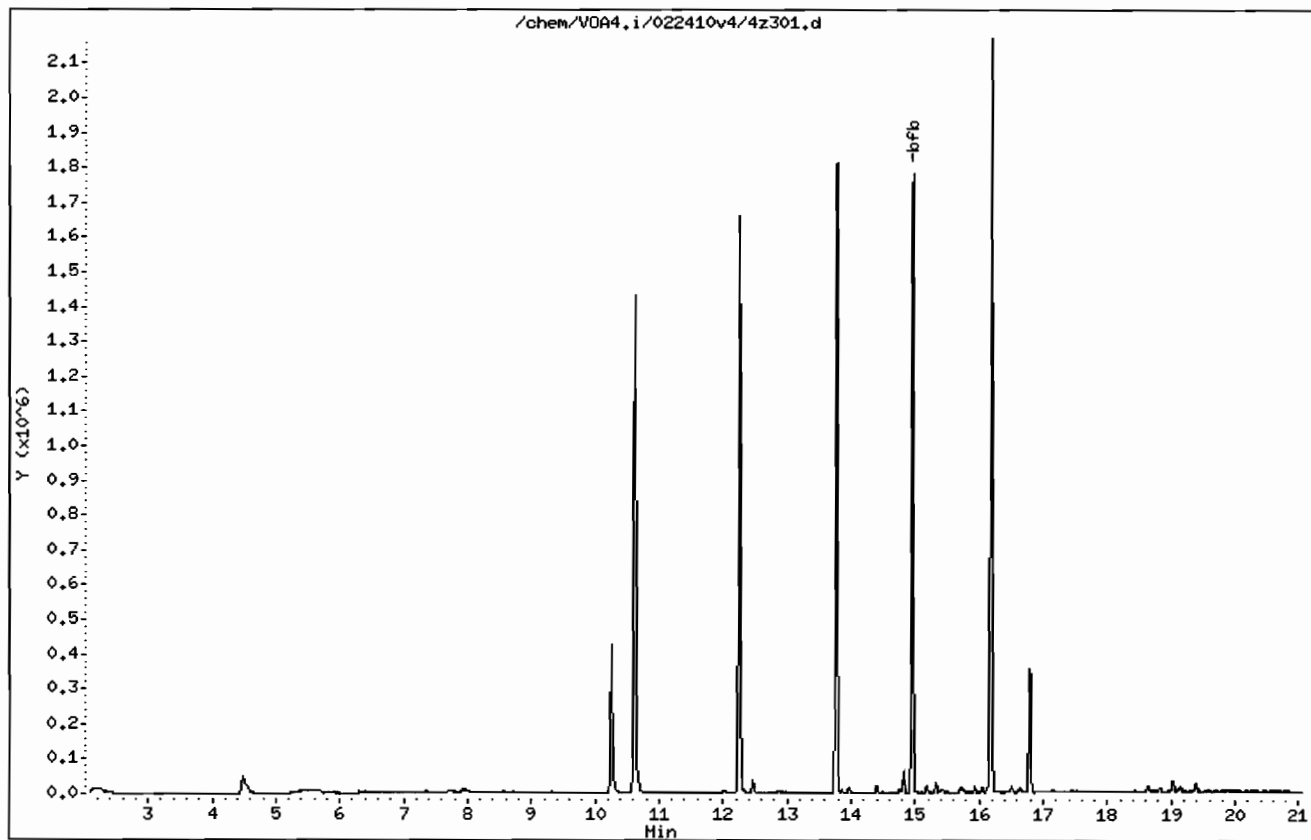
Instrument: V0A4.i

Sample Info: IUVH091216-101BFB1111V0AF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25



Date : 24-FEB-2010 16:39

Client ID: BFB01

Instrument: VOA4.i

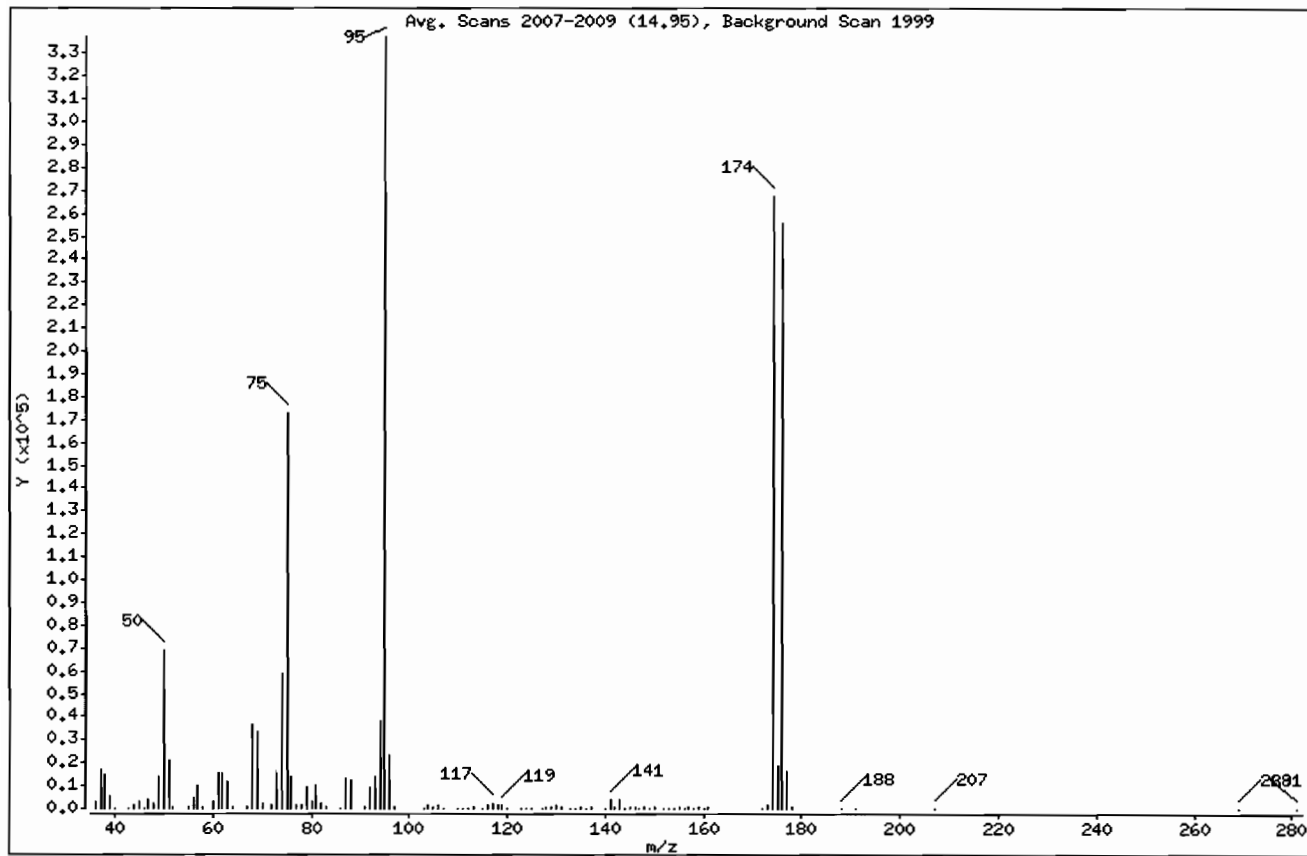
Sample Info: IUVM091216-101BFB111\VOAF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.42
75	30.00 - 60.00% of mass 95	51.16
96	5.00 - 9.00% of mass 95	6.90
173	Less than 2.00% of mass 174	0.48 (0.61)
174	50.00 - 100.00% of mass 95	79.28
175	5.00 - 9.00% of mass 174	5.50 (6.94)
176	95.00 - 101.00% of mass 174	75.90 (95.74)
177	5.00 - 9.00% of mass 176	4.86 (6.40)

Date : 24-FEB-2010 16:39

Client ID: BFB01

Instrument: VOA4.i

Sample Info: IUVH091216-10IBFB111\VOAF111

Operator: ACJ

Column phase: DB-624

Column diameter: 0.25

Data File: 4z301.d

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

Location of Maximum: 95.00

Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2925	72.00	1809	111.00	355	146.00	445
37.00	17264	73.00	15161	112.00	240	147.00	180
38.00	14918	74.00	59024	113.00	432	148.00	697
39.00	5739	75.00	172544	115.00	342	149.00	330
40.00	211	76.00	14029	116.00	1354	150.00	494
43.00	136	77.00	1850	117.00	2258	152.00	91
44.00	1233	78.00	1247	118.00	1594	153.00	172
45.00	3451	79.00	9322	119.00	1846	154.00	139
46.00	228	80.00	3059	120.00	60	155.00	740
47.00	3744	81.00	10161	123.00	76	156.00	66
48.00	1950	82.00	2656	124.00	159	157.00	477
49.00	14003	83.00	388	125.00	59	158.00	50
50.00	68888	86.00	314	127.00	74	159.00	555
51.00	21032	87.00	13292	128.00	1132	160.00	53
52.00	912	88.00	12075	129.00	548	161.00	427
55.00	719	91.00	1092	130.00	1543	172.00	57
56.00	4850	92.00	9439	131.00	580	173.00	1626
57.00	10092	93.00	13913	133.00	64	174.00	267392
58.00	439	94.00	38120	134.00	143	175.00	18560
60.00	2836	95.00	337280	135.00	676	176.00	256000
61.00	15178	96.00	23272	136.00	75	177.00	16382
62.00	15686	97.00	899	137.00	742	178.00	590
63.00	11911	103.00	58	140.00	275	188.00	64
64.00	951	104.00	1736	141.00	3721	191.00	54
67.00	915	105.00	611	142.00	497	207.00	128
68.00	36784	106.00	1597	143.00	3633	269.00	58
69.00	33664	107.00	338	144.00	151	281.00	42
70.00	2605	110.00	208	145.00	396		

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969		Matrix: SOIL
Lab Sample ID: 1202053117		
Client Sample: QC for batch 957513	Client: LANL010	Project: QC
Client ID: MB for batch 957513	Method: SW846 8260B	SOP Ref: GL-OA-E-038
Batch ID: 957517	Inst: VOA4.1	Dilution: 1
Run Date: 02/24/2010 19:24	Analyst: ACJ	Purge Vol: 5 mL
Prep Date: 02/24/2010 16:30	Aliquot: 5 g	Final Volume: 5 mL
Data File: 4z307BA.d	Column: RTX-VOLATILES	Level: LOW

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

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969		Matrix: SOIL
Lab Sample ID: 1202053117		
Client Sample: QC for batch 957513	Client: LANL010	Project: QC
Client ID: MB for batch 957513	Method: SW846 8260B	SOP Ref: GL-OA-E-038
Batch ID: 957517	Inst: VOA4.I	Dilution: 1
Run Date: 02/24/2010 19:24	Analyst: ACJ	Purge Vol: 5 mL
Prep Date: 02/24/2010 16:30	Aliquot: 5 g	Final Volume: 5 mL
Data File: 4z307BA.d	Column: RTX-VOLATILES	Level: LOW

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

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
No Tentatively Identified Compounds Found				ug/kg		

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z307BA.d

Lab Smp Id: 1202053117

Client Smp ID: BLANK

Inj Date : 24-FEB-2010 19:24

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |1202053117|957517|1|VOAF|1|

Misc Info : GEL 5G N/A

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 7

QC Sample: BLANK

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: all.sub

Target Version: 3.50

Processing Host: prdsvr07

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

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

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG				CONCENTRATIONS		
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/Kg)
\$ 138 1,2-Dichloroethane-d4	65	10.259	10.260	(0.966)	421346	49.7780	49.8
* 40 Fluorobenzene	96	10.619	10.614	(1.000)	1669495	50.0000	
97 1,4-Dioxane	88	11.326	11.327	(1.067)	3411	31.0447	31.0(a)
\$ 47 Toluene-d8	98	12.253	12.247	(0.890)	1395118	47.7893	47.8
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1310311	50.0000	
70 Cyclohexanone	42	14.911	14.905	(1.083)	8608	23.6458	23.6(a)
\$ 71 Bromofluorobenzene	95	14.953	14.954	(0.924)	801066	56.0623	56.1
69 trans-1,4-Dichloro-2-butene	53	15.069	15.064	(0.931)	2961	0.77573	0.78(a)
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.180	(1.000)	780400	50.0000	
88 Benzyl chloride	91	16.319	16.320	(1.009)	22879	1.12861	1.1(a)
91 bis(2-Chloroisopropyl)ether	45	16.721	16.722	(1.034)	12010	1.96819	2.0(a)

QC Flag Legend

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

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z307BA.d

Lab Smp Id: 1202053117

Client Smp ID: BLANK

Inj Date : 24-FEB-2010 19:24

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |1202053117|957517|1|VOAF|1|

Misc Info : GEL 5G N/A

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 7

QC Sample: BLANK

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: all.sub

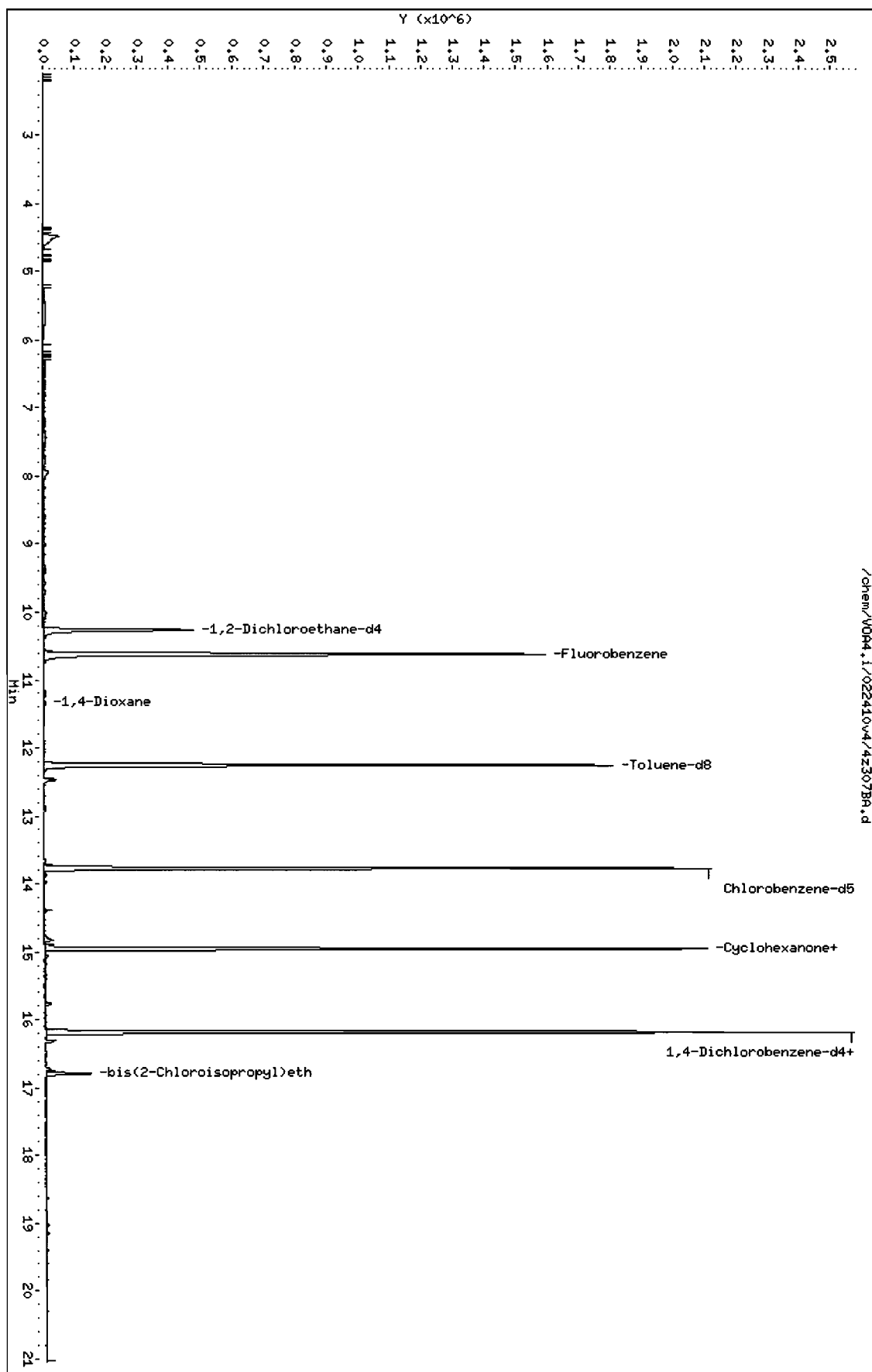
Target Version: 3.50

Processing Host: prdsvr07

- NO TENTATIVELY IDENTIFIED COMPOUNDS -

Data File: /chem/V004.i/022410v4/42307B9.d
Date : 24-FEB-2010 19:24
Client ID: BLANK
Sample Info: 11202053117195751711V00F1.1
Column phase: RTX-VOLATILES

Instrument: V004.i
Operator: RCJ
Column diameter: 0.25



Date : 24-FEB-2010 19:24

Client ID: BLANK

Instrument: V0A4.i

Sample Info: I1202053117195751711V0AF111

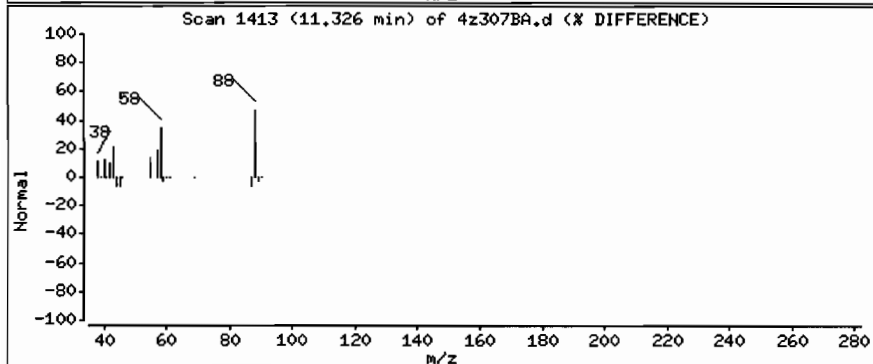
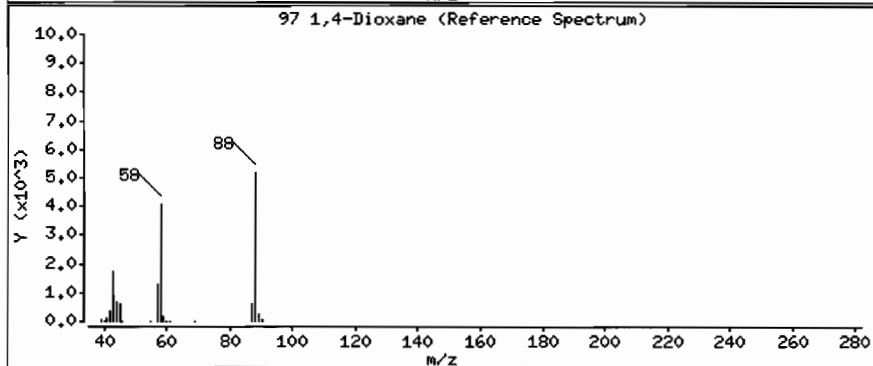
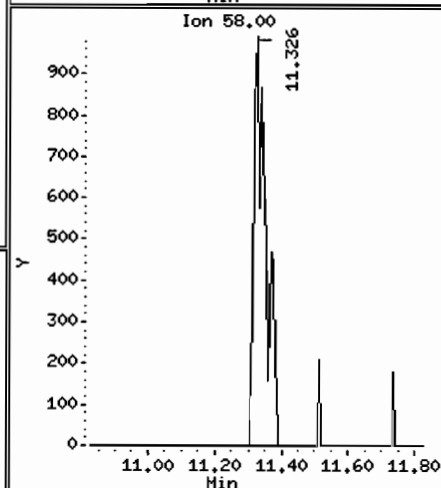
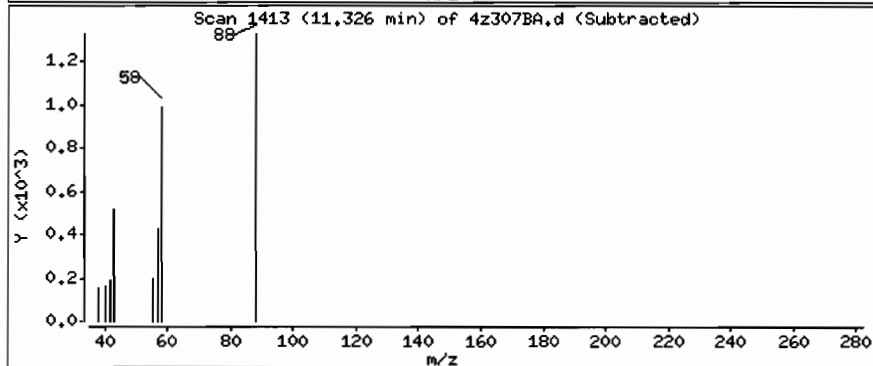
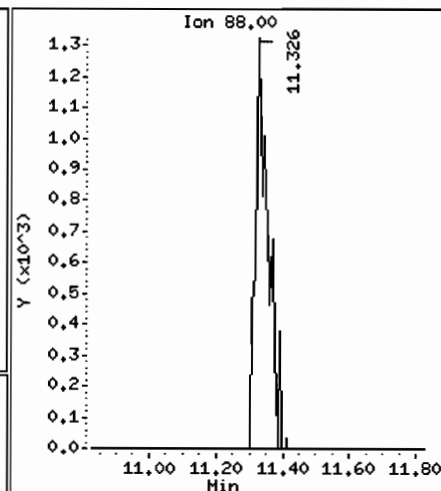
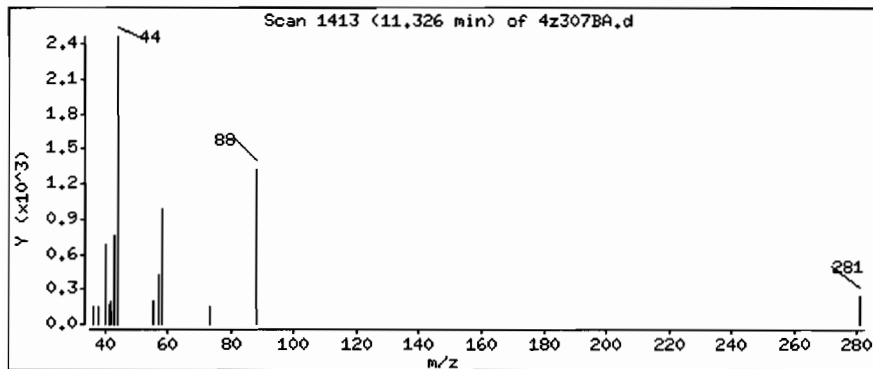
Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0,25

97 1,4-Dioxane

Concentration: 31,0 ug/Kg



Date : 24-FEB-2010 19:24

Client ID: BLANK

Instrument: VOA4.i

Sample Info: I1202053117195751711\VOAF11

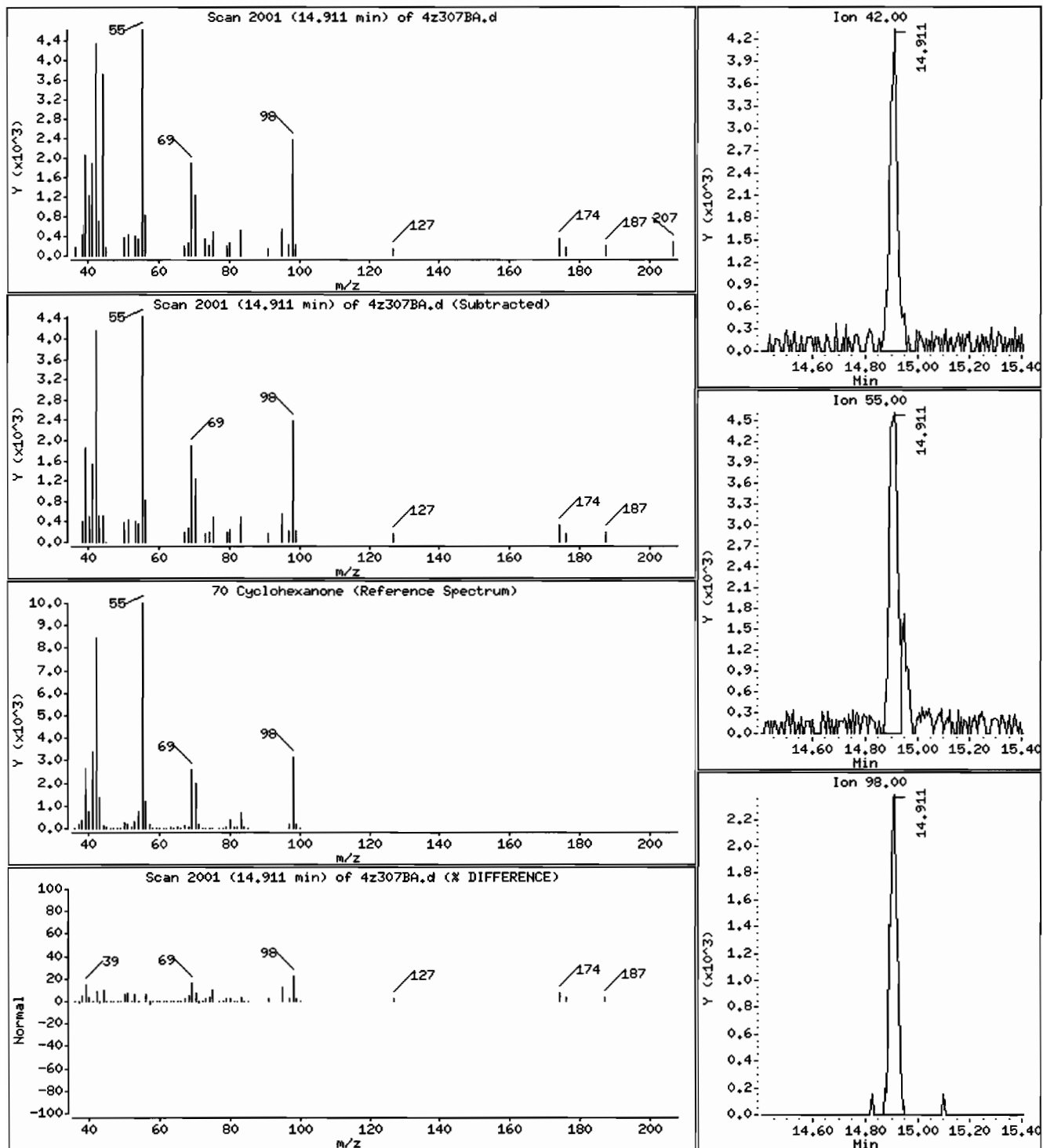
Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

70 Cyclohexanone

Concentration: 23.6 ug/Kg



Date : 24-FEB-2010 19:24

Client ID: BLANK

Instrument: V0A4.i

Sample Info: I1202053117195751711V0AF111

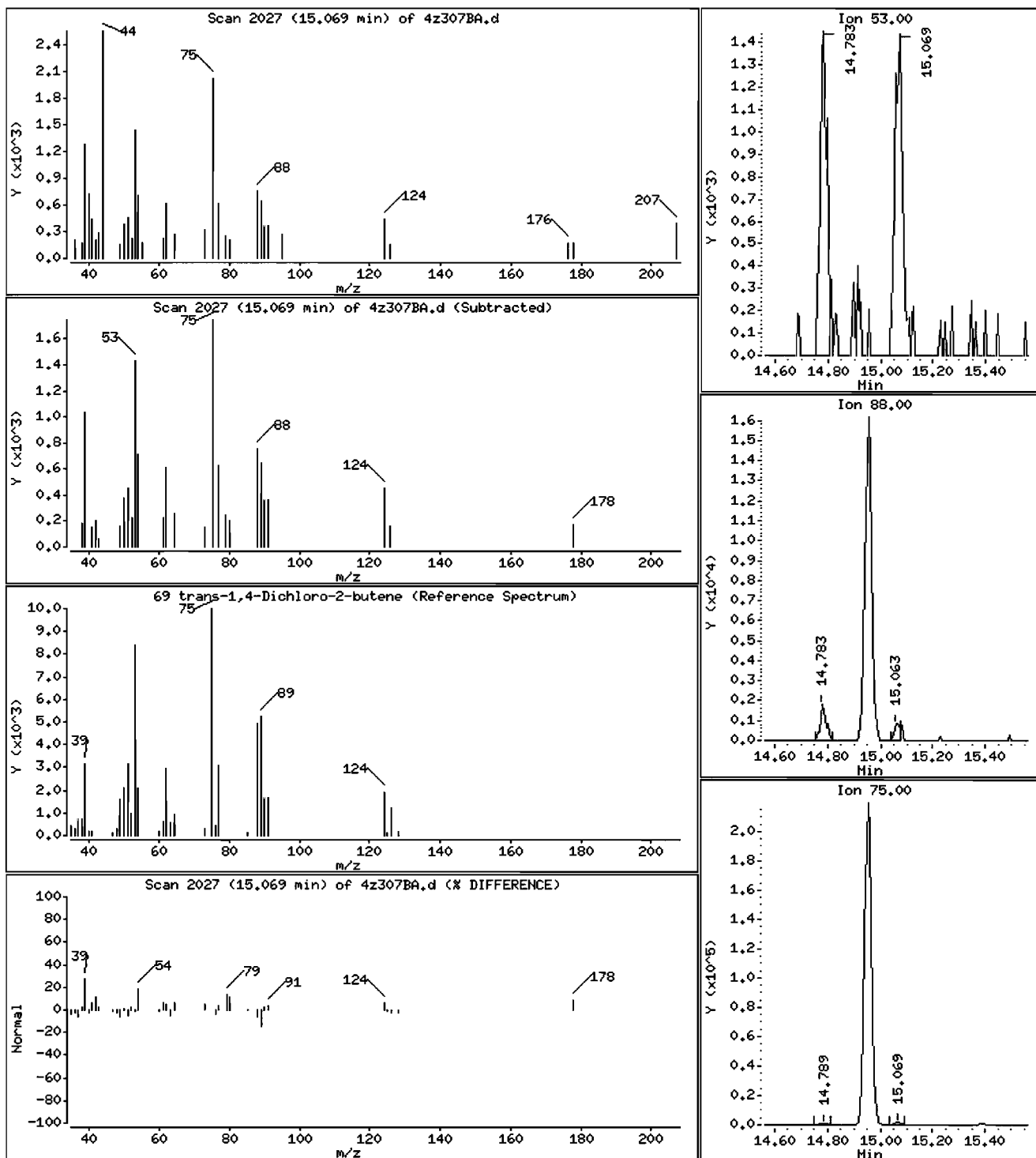
Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

69 trans-1,4-Dichloro-2-butene

Concentration: 0.78 ug/Kg



Date : 24-FEB-2010 19:24

Client ID: BLANK

Instrument: VOA4.i

Sample Info: I1202053117195751711\VOAF111

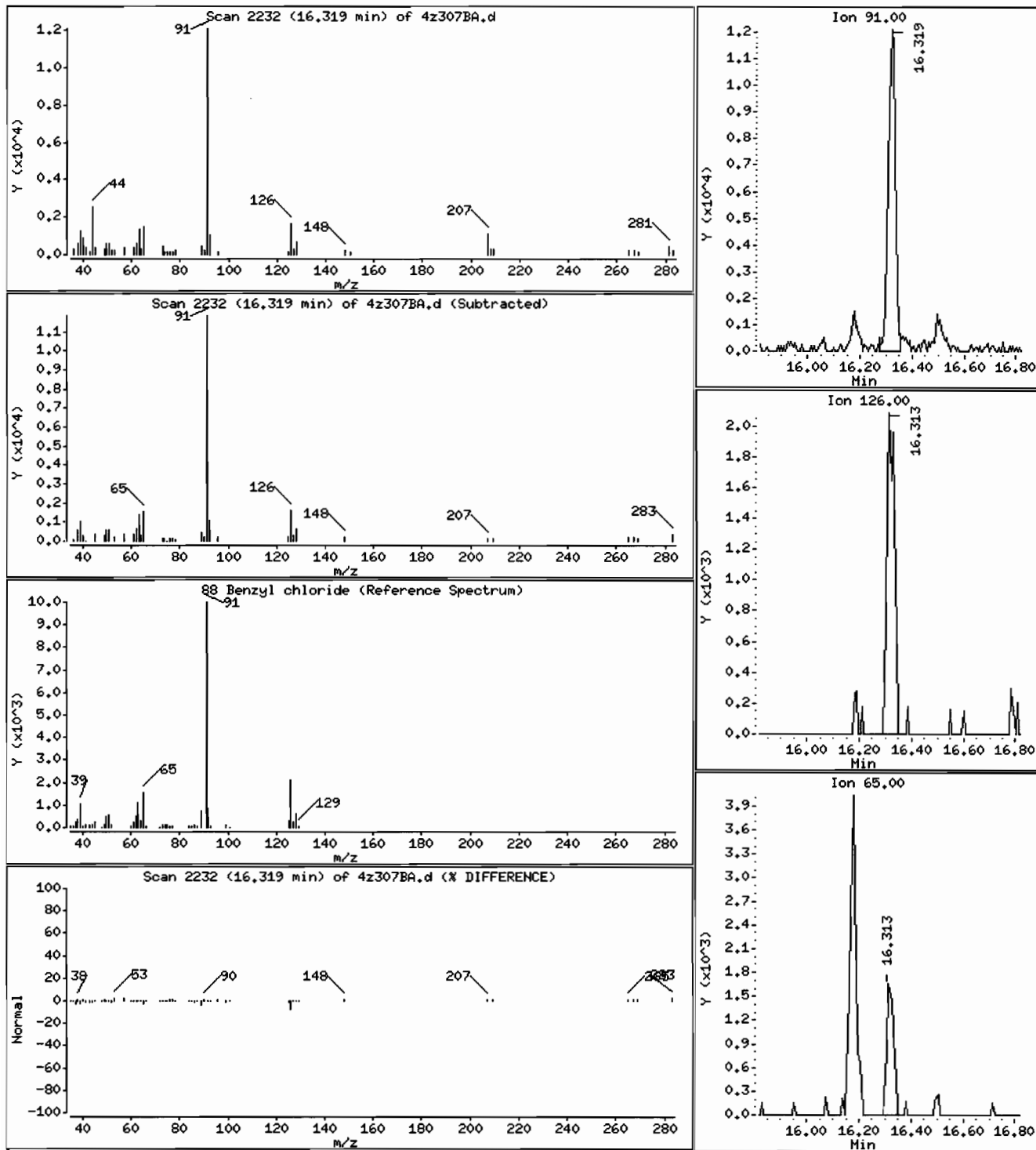
Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

88 Benzyl chloride

Concentration: 1.1 ug/Kg



Date : 24-FEB-2010 19:24

Client ID: BLANK

Instrument: VOA4.i

Sample Info: I12020531171957517111VOAF111

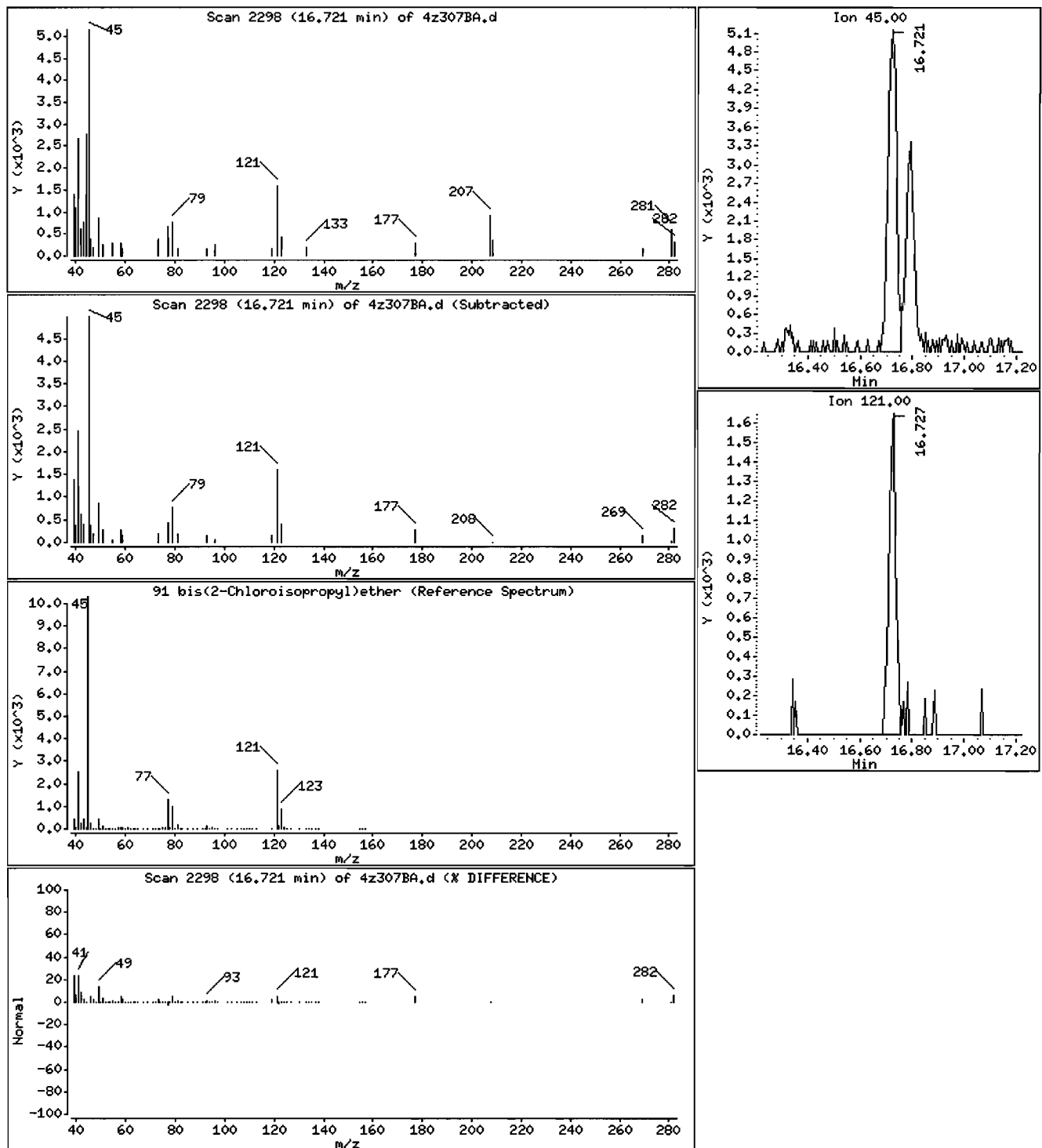
Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

91 bis(2-Chloroisopropyl)ether

Concentration: 2.0 ug/Kg



Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969

Lab Sample ID: 1202053120

Client Sample: QC for batch 957513

Client ID: LCS for batch 957513

Batch ID: 957517

Run Date: 02/24/2010 18:01

Prep Date: 02/24/2010 16:00

Data File: 4z304LA.d

Client: LANL010

Method: SW846 8260B

Inst: VOA4.I

Analyst: ACJ

Aliquot: 5 g

Column: RTX-VOLATILES

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-038

Dilution: 1

Purge Vol: 5 mL

Final Volume: 5 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
75-71-8	Dichlorodifluoromethane		38.0	ug/kg	0.340	1.00
74-87-3	Chloromethane		44.3	ug/kg	0.300	1.00
75-01-4	Vinyl chloride		53.1	ug/kg	0.300	1.00
74-83-9	Bromomethane		55.8	ug/kg	0.300	1.00
75-00-3	Chloroethane		52.6	ug/kg	0.300	1.00
75-69-4	Trichlorofluoromethane		52.7	ug/kg	0.300	1.00
67-64-1	Acetone		258	ug/kg	1.66	5.00
75-35-4	1,1-Dichloroethylene		48.2	ug/kg	0.300	1.00
74-88-4	Iodomethane		245	ug/kg	1.60	5.00
75-09-2	Methylene chloride		47.4	ug/kg	2.00	5.00
75-15-0	Carbon disulfide		270	ug/kg	1.25	5.00
156-60-5	trans-1,2-Dichloroethylene		48.8	ug/kg	0.300	1.00
75-34-3	1,1-Dichloroethane		48.6	ug/kg	0.300	1.00
78-93-3	2-Butanone		247	ug/kg	1.50	5.00
156-59-2	cis-1,2-Dichloroethylene		49.5	ug/kg	0.300	1.00
594-20-7	2,2-Dichloropropane		53.7	ug/kg	0.300	1.00
67-66-3	Chloroform		47.4	ug/kg	0.300	1.00
74-97-5	Bromochloromethane		48.6	ug/kg	0.330	1.00
71-55-6	1,1,1-Trichloroethane		49.7	ug/kg	0.300	1.00
563-58-6	1,1-Dichloropropene		49.5	ug/kg	0.300	1.00
56-23-5	Carbon tetrachloride		52.8	ug/kg	0.300	1.00
107-06-2	1,2-Dichloroethane		49.6	ug/kg	0.300	1.00
71-43-2	Benzene		47.1	ug/kg	0.300	1.00
79-01-6	Trichloroethylene		48.2	ug/kg	0.330	1.00
78-87-5	1,2-Dichloropropane		48.3	ug/kg	0.300	1.00
75-27-4	Bromodichloromethane		47.4	ug/kg	0.300	1.00
74-95-3	Dibromomethane		47.9	ug/kg	0.300	1.00
108-10-1	4-Methyl-2-pentanone		276	ug/kg	1.25	5.00
10061-01-5	cis-1,3-Dichloropropylene		47.7	ug/kg	0.300	1.00
108-88-3	Toluene		45.7	ug/kg	0.300	1.00
10061-02-6	trans-1,3-Dichloropropylene		48.0	ug/kg	0.300	1.00
79-00-5	1,1,2-Trichloroethane		46.2	ug/kg	0.300	1.00
591-78-6	2-Hexanone		242	ug/kg	1.50	5.00
142-28-9	1,3-Dichloropropane		48.5	ug/kg	0.300	1.00
127-18-4	Tetrachloroethylene		46.6	ug/kg	0.300	1.00
124-48-1	Dibromochloromethane		48.5	ug/kg	0.300	1.00
106-93-4	1,2-Dibromoethane		48.8	ug/kg	0.300	1.00
108-90-7	Chlorobenzene		46.2	ug/kg	0.300	1.00

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969
 Lab Sample ID: 1202053120
 Client Sample: QC for batch 957513
 Client ID: LCS for batch 957513
 Batch ID: 957517
 Run Date: 02/24/2010 18:01
 Prep Date: 02/24/2010 16:00
 Data File: 4z304LA.d

Client: LANL010
 Method: SW846 8260B
 Inst: VOA4.1
 Analyst: ACJ
 Aliquot: 5 g
 Column: RTX-VOLATILES

Matrix: SOIL
 Project: QC
 SOP Ref: GL-OA-E-038
 Dilution: 1
 Purge Vol: 5 mL
 Final Volume: 5 mL
 Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene		45.9	ug/kg	0.300	1.00
179601-23-1	m,p-Xylenes		94.6	ug/kg	0.300	2.00
95-47-6	o-Xylene		47.5	ug/kg	0.300	1.00
100-42-5	Styrene		47.2	ug/kg	0.300	1.00
75-25-2	Bromoform		48.2	ug/kg	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane		49.0	ug/kg	0.300	1.00
96-18-4	1,2,3-Trichloropropane		49.5	ug/kg	0.300	1.00
108-86-1	Bromobenzene		45.2	ug/kg	0.300	1.00
103-65-1	n-Propylbenzene		44.3	ug/kg	0.300	1.00
95-49-8	2-Chlorotoluene		45.3	ug/kg	0.300	1.00
98-82-8	Isopropylbenzene		43.6	ug/kg	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene		45.1	ug/kg	0.300	1.00
106-43-4	4-Chlorotoluene		44.5	ug/kg	0.300	1.00
98-06-6	tert-Butylbenzene		42.3	ug/kg	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene		43.8	ug/kg	0.300	1.00
135-98-8	sec-Butylbenzene		45.1	ug/kg	0.300	1.00
99-87-6	4-Isopropyltoluene		44.9	ug/kg	0.300	1.00
541-73-1	1,3-Dichlorobenzene		45.0	ug/kg	0.300	1.00
106-46-7	1,4-Dichlorobenzene		45.2	ug/kg	0.300	1.00
104-51-8	n-Butylbenzene		44.7	ug/kg	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane		53.1	ug/kg	0.300	1.00
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	U	5.00	ug/kg	1.60	5.00
	Trichlorotrifluoroethane					
630-20-6	1,1,1,2-Tetrachloroethane		47.3	ug/kg	0.300	1.00
95-50-1	1,2-Dichlorobenzene		45.1	ug/kg	0.300	1.00

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z304LA.d

Lab Smp Id: 1202053120

Client Smp ID: LCS

Inj Date : 24-FEB-2010 18:01

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |1202053120|957517|1|VOAF|1|

Misc Info : GEL 5G N/A UVM100220-01A/IVM100224-01

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 4

QC Sample: LCS

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: all.sub

Target Version: 3.50

Processing Host: prdsvr07

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

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

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN (ug/l)	FINAL (ug/Kg)
M 1 Xylenes (total)	106				3232045		142.062	142
M 2 1,2-Dichloroethylene (total)	96				1490196		98.3306	98.3
M 135 1,3-Dichloropropylene	75				1640691		96.7831	96.8
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	403933		38.0165	38.0
4 Chloromethane	50	5.291	5.291	(0.498)	735393		44.2963	44.3
5 Vinyl chloride	62	5.521	5.514	(0.520)	781179		53.1118	53.1
6 Bromomethane	94	6.130	6.130	(0.577)	458213		55.8399	55.8
7 Chloroethane	64	6.295	6.302	(0.593)	423996		52.6446	52.6
8 Trichlorofluoromethane	101	6.675	6.669	(0.629)	904699		52.6579	52.6
134 Ethyl Ether	59	6.998	6.992	(0.659)	406018		49.3346	49.3
10 Acetone	43	7.358	7.352	(0.693)	2101005		258.043	258
11 1,1-Dichloroethylene	61	7.395	7.389	(0.696)	969021		48.2226	48.2

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
13 Iodomethane	142	7.663	7.669	(0.722)	4769203	245.171	245
15 Acetonitrile	41	7.699	7.699	(0.725)	2225556	1701.18	1700(R)
128 Methyl acetate	43	7.748	7.748	(0.730)	2292208	297.986	298
14 Carbon disulfide	76	7.785	7.773	(0.733)	9608175	269.901	270
17 Methylene chloride	84	7.974	7.937	(0.751)	654045	47.3920	47.4
20 tert-Butyl methyl ether	73	8.242	8.236	(0.776)	1484692	48.3043	48.3
21 trans-1,2-Dichloroethylene	61	8.285	8.279	(0.780)	721204	48.8077	48.8
23 Vinyl acetate	43	8.711	8.705	(0.820)	5370041	304.327	304
22 1,1-Dichloroethane	63	8.760	8.754	(0.825)	900380	48.5872	48.6
30 2-Butanone	43	9.327	9.327	(0.878)	2329842	247.114	247
31 cis-1,2-Dichloroethylene	61	9.388	9.388	(0.884)	768992	49.5229	49.5
25 2,2-Dichloropropane	77	9.419	9.419	(0.887)	463616	53.7330	53.7
29 Bromochloromethane	128	9.656	9.656	(0.909)	277731	48.5942	48.6
32 Chloroform	83	9.693	9.687	(0.913)	919269	47.3658	47.4
36 1,1,1-Trichloroethane	97	9.979	9.980	(0.940)	730742	49.6689	49.7
129 Cyclohexane	56	10.083	10.083	(0.949)	838565	44.1458	44.1
34 1,1-Dichloropropene	75	10.132	10.132	(0.954)	707445	49.5152	49.5
33 Carbon tetrachloride	117	10.175	10.175	(0.958)	726408	52.8091	52.8
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	403343	48.5107	48.5
37 1,2-Dichloroethane	62	10.339	10.339	(0.974)	734572	49.5948	49.6
38 Benzene	78	10.376	10.370	(0.977)	2000061	47.0567	47.0
139 Cyclohexene	67	10.492	10.492	(0.988)	1015115	48.4716	48.5
* 40 Fluorobenzene	96	10.620	10.614	(1.000)	1639912	50.0000	
131 n-Butyl alcohol	56	10.693	10.687	(1.007)	2594948	7316.52	7320(R)
39 Trichloroethylene	95	11.004	11.004	(1.036)	546453	48.2240	48.2
130 Methylcyclohexane	83	11.266	11.260	(1.061)	874905	47.2781	47.3
41 1,2-Dichloropropane	63	11.241	11.241	(1.059)	525023	48.3275	48.3
43 Dibromomethane	93	11.376	11.376	(1.071)	336852	47.9281	47.9
45 Bromodichloromethane	83	11.485	11.479	(1.082)	712003	47.4488	47.4
44 2-Chloroethylvinyl ether	63	11.699	11.699	(1.102)	1557977	281.746	282
46 cis-1,3-Dichloropropylene	75	11.930	11.930	(1.123)	832031	47.7373	47.7
49 4-Methyl-2-pentanone	58	12.016	12.016	(0.872)	1346099	276.094	276
\$ 47 Toluene-d8	98	12.253	12.247	(0.890)	1390352	45.8395	45.8
50 Toluene	92	12.327	12.321	(0.895)	1304320	45.7373	45.7
53 trans-1,3-Dichloropropylene	75	12.467	12.461	(0.905)	808660	47.9853	48.0
54 1,1,2-Trichloroethane	83	12.686	12.680	(0.921)	406512	46.2423	46.2
55 2-Hexanone	43	12.857	12.857	(0.934)	3161988	242.375	242
52 1,3-Dichloropropane	76	12.875	12.875	(0.935)	818352	48.4530	48.4
56 Tetrachloroethylene	164	12.924	12.918	(0.938)	444634	46.6088	46.6
57 Dibromochloromethane	129	13.150	13.144	(0.955)	599373	48.5192	48.5
59 1,2-Dibromoethane	107	13.320	13.314	(0.967)	526754	48.8336	48.8
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1361379	50.0000	
62 Chlorobenzene	112	13.802	13.802	(1.002)	1481137	46.2111	46.2
60 1,1,1,2-Tetrachloroethane	131	13.851	13.851	(1.006)	578015	47.2528	47.2
58 Ethylbenzene	91	13.863	13.863	(1.007)	2592065	45.8741	45.9
63 m,p-Xylenes	106	13.973	13.973	(1.015)	2128142	94.5574	94.6
64 o-Xylene	106	14.405	14.406	(1.046)	1103903	47.5044	47.5

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL	
						(ug/l)	(ug/Kg)	
=====	=====	==	=====	=====	=====	=====	=====	
65 Styrene	104	14.405	14.399	(1.046)	1854562	47.1544	47.2	
66 Bromoform	173	14.655	14.655	(0.906)	456803	48.2092	48.2	
67 Isopropylbenzene	105	14.759	14.759	(0.912)	2871104	43.5829	43.6	
S 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	882666	51.0470	51.0	
73 1,1,2,2-Tetrachloroethane	83	15.021	15.015	(0.928)	856948	48.9606	49.0	
74 1,2,3-Trichloropropane	110	15.107	15.107	(0.934)	230811	49.4727	49.5	
75 Bromobenzene	156	15.167	15.168	(0.937)	787131	45.1636	45.2	
76 n-Propylbenzene	91	15.186	15.180	(0.939)	3531534	44.2900	44.3	
78 1,3,5-Trimethylbenzene	105	15.332	15.332	(0.948)	2723694	45.1190	45.1	
77 2-Chlorotoluene	91	15.332	15.332	(0.948)	2510328	45.3337	45.3	
80 4-Chlorotoluene	91	15.430	15.430	(0.954)	2200861	44.4960	44.5	
81 tert-Butylbenzene	119	15.704	15.704	(0.971)	2523414	42.3357	42.3	
79 1,2,4-Trimethylbenzene	105	15.747	15.741	(0.973)	2727625	43.7514	43.8	
83 sec-Butylbenzene	105	15.936	15.930	(0.985)	3608982	45.1039	45.1	
84 4-Isopropyltoluene	119	16.051	16.052	(0.992)	2966974	44.9034	44.9	
85 1,3-Dichlorobenzene	146	16.125	16.119	(0.997)	1564087	44.9723	45.0	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.180	(1.000)	944377	50.0000		
87 1,4-Dichlorobenzene	146	16.210	16.204	(1.002)	1592135	45.2252	45.2	
89 n-Butylbenzene	91	16.503	16.503	(1.020)	2828516	44.6844	44.7	
90 1,2-Dichlorobenzene	146	16.643	16.643	(1.029)	1498999	45.0833	45.1	
92 1,2-Dibromo-3-chloropropane	157	17.527	17.533	(1.083)	175942	53.0941	53.1	
93 1,2,4-Trichlorobenzene	180	18.636	18.630	(1.152)	825279	44.3814	44.4	
94 Hexachlorobutadiene	225	18.819	18.819	(1.163)	500028	40.7383	40.7	
95 Naphthalene	128	19.033	19.033	(1.176)	1968542	48.2986	48.3	
96 1,2,3-Trichlorobenzene	180	19.392	19.386	(1.199)	675049	45.1760	45.2	

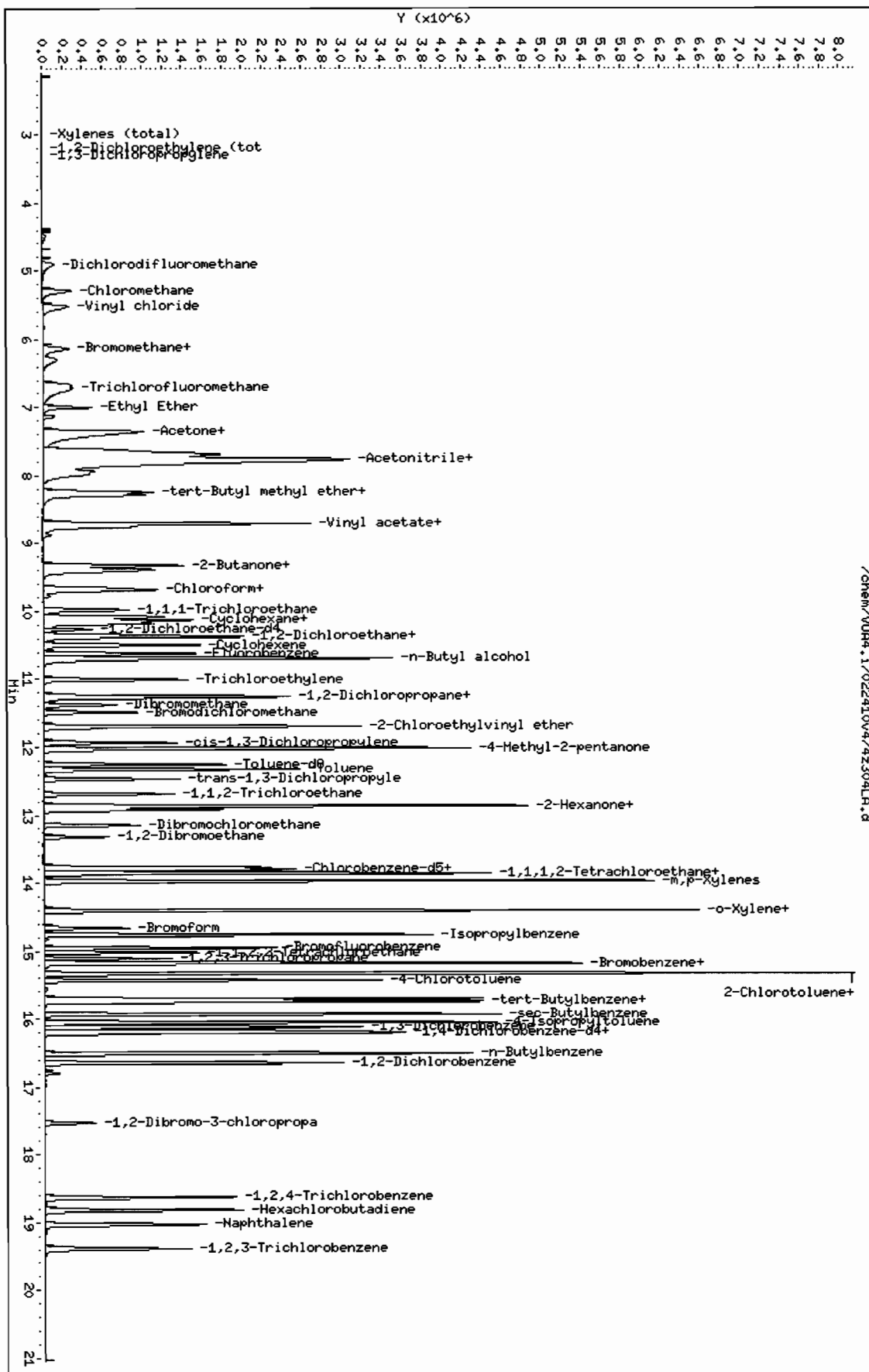
QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: /chem/V004.i/022410v4/4z304LA.d
 Date : 24-FEB-2010 18:01
 Client ID: LCS
 Sample Info: 11202053120195751711V004F11

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25

Column phase: RTX-VOLATILES



**Volatile
Certificate of Analysis
Sample Summary**

SDG Number: 10-1969

Matrix: SOIL

Lab Sample ID: 1202053121

Client Sample: QC for batch 957513

Client: LANL010

Project: QC

Client ID: LCS for batch 957513

Method: SW846 8260B

SOP Ref: GL-OA-E-038

Batch ID: 957517

Inst: VOA4.I

Dilution: 1

Run Date: 02/24/2010 18:56

Analyst: ACJ

Purge Vol: 5 mL

Prep Date: 02/24/2010 16:15

Aliquot: 5 g

Final Volume: 5 mL

Data File: 4z306SA.d

Column: RTX-VOLATILES

Level: LOW

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

Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969		Matrix: SOIL
Lab Sample ID: 1202053121		
Client Sample: QC for batch 957513	Client: LANL010	Project: QC
Client ID: LCS for batch 957513	Method: SW846 8260B	SOP Ref: GL-OA-E-038
Batch ID: 957517	Inst: VOA4.I	Dilution: 1
Run Date: 02/24/2010 18:56	Analyst: ACJ	Purge Vol: 5 mL
Prep Date: 02/24/2010 16:15	Aliquot: 5 g	Final Volume: 5 mL
Data File: 4z306SA.d	Column: RTX-VOLATILES	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
100-41-4	Ethylbenzene	U	1.00	ug/kg	0.300	1.00
179601-23-1	m,p-Xylenes	U	2.00	ug/kg	0.300	2.00
95-47-6	o-Xylene	U	1.00	ug/kg	0.300	1.00
100-42-5	Styrene	U	1.00	ug/kg	0.300	1.00
75-25-2	Bromoform	U	1.00	ug/kg	0.300	1.00
79-34-5	1,1,2,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
96-18-4	1,2,3-Trichloropropane	U	1.00	ug/kg	0.300	1.00
108-86-1	Bromobenzene	U	1.00	ug/kg	0.300	1.00
103-65-1	n-Propylbenzene	U	1.00	ug/kg	0.300	1.00
95-49-8	2-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-82-8	Isopropylbenzene	U	1.00	ug/kg	0.300	1.00
108-67-8	1,3,5-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
106-43-4	4-Chlorotoluene	U	1.00	ug/kg	0.300	1.00
98-06-6	tert-Butylbenzene	U	1.00	ug/kg	0.300	1.00
95-63-6	1,2,4-Trimethylbenzene	U	1.00	ug/kg	0.300	1.00
135-98-8	sec-Butylbenzene	U	1.00	ug/kg	0.300	1.00
99-87-6	4-Isopropyltoluene	U	1.00	ug/kg	0.300	1.00
541-73-1	1,3-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
106-46-7	1,4-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00
104-51-8	n-Butylbenzene	U	1.00	ug/kg	0.300	1.00
96-12-8	1,2-Dibromo-3-chloropropane	U	1.00	ug/kg	0.300	1.00
76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane		217	ug/kg	1.60	5.00
	Trichlorotrifluoroethane					
630-20-6	1,1,1,2-Tetrachloroethane	U	1.00	ug/kg	0.300	1.00
95-50-1	1,2-Dichlorobenzene	U	1.00	ug/kg	0.300	1.00

GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z306SA.d
 Lab Smp Id: 1202053121 Client Smp ID: LCS
 Inj Date : 24-FEB-2010 18:56
 Operator : ACJ Inst ID: VOA4.i
 Smp Info : |1202053121|957517|1|VOAF|1|
 Misc Info : GEL 5G N/A UVM091216-08B/UVM100125-08D
 Comment :
 Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
 Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
 Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
 Als bottle: 6 QC Sample: LCS
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: all.sub
 Target Version: 3.50
 Processing Host: prdsrvr07

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

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

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL
							(ug/l)	(ug/Kg)
153 Chlorotrifluoroethylene	116	4.826	4.825	(0.454)	905955	146.525	146	
154 2-Chloro-1,1,1-trifluoroethane	118	5.664	5.664	(0.533)	2941695	168.798	169	
9 Acrolein	56	7.181	7.181	(0.676)	427902	315.870	316	
12 Trichlorotrifluoroethane	85	7.364	7.358	(0.693)	1033061	217.171	217	
147 Isopropyl Alcohol	45	7.431	7.431	(0.700)	2702773	3210.00	3210	
16 Allyl chloride	41	7.803	7.803	(0.735)	3365096	233.361	233	
148 tert-Butyl Alcohol	59	7.931	7.925	(0.747)	4414114	3148.68	3150	
18 Acrylonitrile	53	8.175	8.175	(0.770)	943080	240.725	241	
149 Isopropyl ether	45	8.742	8.742	(0.823)	1783745	50.9720	51.0	
24 2-Chloro-1,3-butadiene	53	8.870	8.870	(0.835)	689281	48.0694	48.1	
150 Ethyl tert-butyl ether	59	9.144	9.144	(0.861)	1683484	50.1312	50.1	
26 Ethyl acetate	43	9.340	9.339	(0.879)	2478410	224.759	225	

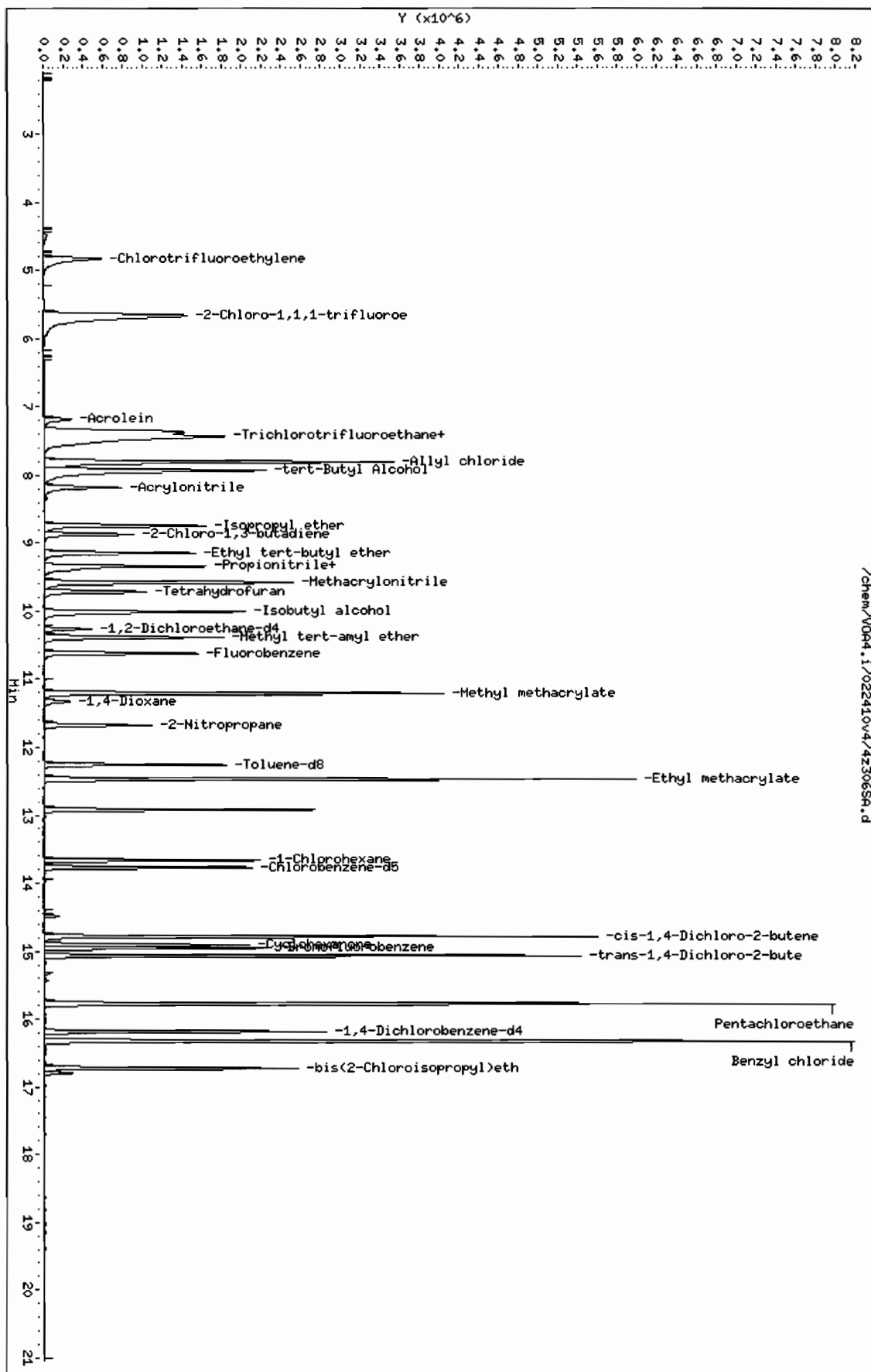
Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL	
						(ug/l)	(ug/Kg)	
=====	=====	==	=====	=====	=====	=====	=====	
28 Propionitrile	54	9.394	9.394	(0.885)	389383	241.304	241	
27 Methacrylonitrile	41	9.577	9.577	(0.902)	1593609	240.795	241	
72 Tetrahydrofuran	42	9.711	9.717	(0.600)	844824	244.288	244	
19 Isobutyl alcohol	41	10.010	10.004	(0.943)	1269360	2773.09	2770	
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	414131	48.6969	48.7	
151 Methyl tert-amyl ether	73	10.388	10.388	(0.978)	1620024	49.8594	49.8	
* 40 Fluorobenzene	96	10.620	10.614	(1.000)	1677335	50.0000		
42 Methyl methacrylate	69	11.211	11.211	(1.056)	1792586	229.613	230	
97 1,4-Dioxane	88	11.327	11.327	(1.067)	303182	2746.47	2750	
48 2-Nitropropane	43	11.674	11.674	(1.099)	933671	255.955	256	
\$ 47 Toluene-d8	98	12.254	12.247	(0.890)	1404418	46.5708	46.6	
51 Ethyl methacrylate	69	12.467	12.467	(0.905)	3381799	230.118	230	
152 1-Chlorohexane	55	13.662	13.662	(1.286)	565117	54.1885	54.2	
* 61 Chlorobenzene-d5	117	13.772	13.771	(1.000)	1353558	50.0000		
68 cis-1,4-Dichloro-2-butene	53	14.784	14.783	(0.914)	1289279	277.585	278	
70 Cyclohexanone	42	14.906	14.905	(1.082)	701012	1864.12	1860 (A)	
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	852522	52.6709	52.7	
69 trans-1,4-Dichloro-2-butene	53	15.064	15.064	(0.931)	1231378	284.789	285	
82 Pentachloroethane	167	15.771	15.771	(0.975)	1698068	314.485	314 (A)	
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180	(1.000)	884004	50.0000		
88 Benzyl chloride	91	16.320	16.320	(1.009)	6657801	289.935	290	
91 bis(2-Chloroisopropyl)ether	45	16.722	16.722	(1.034)	1861456	269.302	269	

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: /chem/V004.i/022410v4/4z306SA.d
 Date : 24-FEB-2010 18:56
 Client ID: LCS
 Sample Info: 11202053121195751711V004F111
 Column phase: RTX-VOLATILES

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25



Miscellaneous Data

Prep Logbook

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

Batch ID: 957513 Verified by: _____ Type: _____ Sample Id: _____ Description: _____ Serial Number: _____ Spike Amount: _____ Spike Units: _____
Analyst: Amy Jamison
Method: SW846 5030
Lab SOP: GL-OA-E-038 REV# 14
Instrument: Sartorius Balance B-001

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202053120 LCS	24-FEB-2010 16:00:00	Soil	5	5	1	
1202053121 LCS	24-FEB-2010 16:15:00	Soil	5	5	1	
1202053117 MB	24-FEB-2010 16:30:00	Soil	5	5	1	
247245005	24-FEB-2010 22:37:00	Misc Solid	5	5	1	
247552001	24-FEB-2010 22:38:00	Misc Solid	5	5	1	
247245001	24-FEB-2010 22:39:00	Soil	5	5	1	
1202053118 PS (247245001)	24-FEB-2010 22:40:00	Soil	5	5	1	
1202053119 PSD (247245001)	24-FEB-2010 22:41:00	Soil	5	5	1	
247245002	24-FEB-2010 22:42:00	Soil	5	5	1	
247245003	24-FEB-2010 22:43:00	Soil	5	5	1	
247245004	24-FEB-2010 22:44:00	Soil	5	5	1	
247245006	24-FEB-2010 22:45:00	Soil	5	5	1	
247551001	24-FEB-2010 22:46:00	Soil	5	5	1	
247551002	24-FEB-2010 22:47:00	Soil	5	5	1	
247552002	24-FEB-2010 22:48:00	Soil	5	5	1	
Reagent/Solvent Lot ID	Description	Amount	Comments:			

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC

Date: 2/19/2010

Method 8260B/624 Operator: ACJ

REVIEWED BY: ACJ
DATE: 2/2/10

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:

Multiplier Voltage: 1576

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 2/19/2010

(See pg. 54 for ICAL Std. Sci. Ids)

NaHSO4 lot # N/A

Cl test lot #

Sequence Number: 021910V4

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

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

Analysis Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil.	Factor	pH	AS	Matrix	Analyst	Cl test (Y/N)	Acceptable (O/X)	Comments
2/19/2010	20:16	4Y501.D	UVM091216-10		BFB1	5ML	1	1	N/A	1	W	ACJ	N/A	O	
2/19/2010	20:44	4Y502.D	12020----	GEL	BLANK	5ML	1	1	N/A	2	W	ACJ	N/A	X	
2/19/2010	21:11	4Y503.D	W4VM100219-01	GEL	VSTD0005	5ML	1	1	N/A	3	W	ACJ	N/A	O	UVM100106-01C/UVM100202-01C
2/19/2010	21:39	4Y504.D	W4VM100219-02	GEL	VSTD0001	5ML	1	1	N/A	4	W	ACJ	N/A	O	UVM100106-02C/UVM100202-02C
2/19/2010	22:07	4Y505.D	W4VM100219-03	GEL	VSTD0001	5ML	1	1	N/A	5	W	ACJ	N/A	X	UVM100106-02C/UVM100202-02C; NOT NEEDED
2/19/2010	22:35	4Y506.D	W4VM100219-04	GEL	VSTD0002	5ML	1	1	N/A	6	W	ACJ	N/A	O	UVM100106-03C/UVM100202-03C
2/19/2010	23:03	4Y507.D	W4VM100219-05	GEL	VSTD0005	5ML	1	1	N/A	7	W	ACJ	N/A	O	UVM100106-04C/UVM100202-04C
2/19/2010	23:30	4Y508.D	W4VM100219-06	GEL	VSTD0010	5ML	1	1	N/A	8	W	ACJ	N/A	O	UVM100106-05C/UVM100202-05C
2/19/2010	23:59	4Y509.D	W4VM100219-07	GEL	VSTD0020	5ML	1	1	N/A	9	W	ACJ	N/A	O	UVM100106-06C/UVM100202-06C
2/20/2010	0:27	4Y510.D	W4VM100219-08	GEL	VSTD0050	5ML	1	1	N/A	10	W	ACJ	N/A	O	UVM100106-07C/UVM100202-07C
2/20/2010	0:54	4Y511.D	W4VM100219-09	GEL	VSTD0100	5ML	1	1	N/A	11	W	ACJ	N/A	O	UVM100106-08C/UVM100202-08C
2/20/2010	1:22	4Y512.D	12020----	GEL	BLANK	5ML	1	1	N/A	12	W	ACJ	N/A	X	
2/20/2010	1:50	4Y513.D	W4VM100219-10	GEL	VSTD005S	5ML	1	1	N/A	13	W	ACJ	N/A	O	UVM100215-01/UVM100125-01D
2/20/2010	2:18	4Y514.D	W4VM100219-11	GEL	VSTD010S	5ML	1	1	N/A	14	W	ACJ	N/A	O	UVM100215-02/UVM100125-02D
2/20/2010	2:46	4Y515.D	W4VM100219-12	GEL	VSTD025S	5ML	1	1	N/A	15	W	ACJ	N/A	O	UVM100215-03/UVM100125-03D
2/20/2010	3:13	4Y516.D	W4VM100219-13	GEL	VSTD050S	5ML	1	1	N/A	16	W	ACJ	N/A	O	UVM100215-04/UVM100125-04D
2/20/2010	3:41	4Y517.D	W4VM100219-14	GEL	VSTD100S	5ML	1	1	N/A	17	W	ACJ	N/A	O	UVM100215-05/UVM100125-05D
2/20/2010	4:09	4Y518.D	W4VM100219-15	GEL	VSTD200S	5ML	1	1	N/A	18	W	ACJ	N/A	O	UVM100215-06/UVM100125-06D
2/20/2010	4:37	4Y519.D	W4VM100219-16	GEL	VSTD500S	5ML	1	1	N/A	19	W	ACJ	N/A	O	UVM100215-07/UVM100125-07D
2/20/2010	5:05	4Y520.D	12020----	GEL	BLANK	5ML	1	1	N/A	20	W	ACJ	N/A	X	
2/20/2010	5:33	4Y521.D	W4VM100219-17	GEL	ICV	5ML	1	1	N/A	21	W	ACJ	N/A	X	UVM100125-02C/UVM100218-01
2/20/2010	6:01	4Y522.D	W4VM100219-18	GEL	ICV	5ML	1	1	N/A	22	W	ACJ	N/A	O	UVM100125-01E/UVM100218-01
2/20/2010	6:28	4Y523.D	W4VM100219-19	GEL	SHORTICV	5ML	1	1	N/A	23	W	ACJ	N/A	O	UVM091216-08B/UVM100125-08C

Date: 2/24/2010

Method 8260B/624 Operator: ACJ

REVIEWED BY: MS
DATE: 03/04/10

HARDWARE CONFIGURATION & METHOD CONDITIONS SUMMARY No# 1

Daily Instrument Readings:

Multiplier Voltage: 1671

CALIBRATION & CC INFORMATION:

Initial Calibration Date: 2/19/2010

(See pg. 54 for ICAL Std. Sci. Ids)

NaHSO4 lot # N/A

Cl test lot # 81710

Sequence Number: 022410V4

Daily Standard	Solution ID#	Volume Added for Purge (ul)	MS/ Bk/	CVV	CCV	LCS	BFB
IS	UVM100114-01	1	1	1	1	1	1
SS	UVM091216-10	1	1	1	1	1	1
LCS/MS	W4VM100224-03					5+5	
BFB	UVM091216-10						1
SHORT	W4VM100224-04/05				5+5	5+5	
DEEC	N/A					5	

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

Analysis		Date	Time	Data File	Lab Sample ID	Client	Batch #	Wt.(g) or Vol(ml/ul)	Dil.	Factor	pH	AS	Matrix	Analyst	Cl test	Acceptable	Comments
2/24/2010	16:39	4Z301.D		UVM091216-10		GEL	BFB1	5ML	1	1	N/A	1	W	ACJ	N/A	O	
2/24/2010	17:06	4Z302.D		W4VM100224-01		GEL	CCV	5ML	1	1	N/A	2	W	ACJ	N/A	O	UVM100202-07DUVM100106-07C
2/24/2010	17:33	4Z303.D		W4VM100224-02		GEL	LCS	5ML	1	1	N/A	3	W	ACJ	N/A	X	UVM100220-01AIVM100224-01; NOT NEEDED
2/24/2010	18:01	4Z304.D		W4VM100224-03		GEL	LCS	5G	1	1	N/A	4	S	ACJ	N/A	O	UVM100220-01AIVM100224-01
2/24/2010	18:29	4Z305.D		W4VM100224-04		GEL	SHORT	5ML	1	1	N/A	5	W	ACJ	N/A	O	UVM091216-08BUVM100125-08D
2/24/2010	18:56	4Z306.D		W4VM100224-05		GEL	SHORT	5G	1	1	N/A	6	S	ACJ	N/A	O	UVM091216-08BUVM100125-08D
2/24/2010	19:24	4Z307.D		12020----		GEL	BLANK	5G	1	1	N/A	7	S	ACJ	N/A	O	
2/24/2010	19:51	4Z308.D		12020----		GEL	BLANK	5ML	1	1	N/A	8	W	ACJ	N/A	X	NOT NEEDED
2/24/2010	20:19	4Z309.D		247116013		LANL	956401	5G	1	1	N/A	9	S	ACJ	N/A	O	
2/24/2010	20:47	4Z310.D		247116014		LANL	956401	5G	1	1	N/A	10	S	ACJ	N/A	O	
2/24/2010	21:15	4Z311.D		247116015		LANL	956401	5G	1	1	N/A	11	S	ACJ	N/A	O	
2/24/2010	21:43	4Z312.D		247116016		LANL	956401	5G	1	1	N/A	12	S	ACJ	N/A	O	
2/24/2010	22:11	4Z313.D		247116017		LANL	956401	5G	1	1	N/A	13	S	ACJ	N/A	O	
2/24/2010	23:01	4Z314.D		247245005		LANL	957517	5G	1	1	N/A	14	S	ACJ	N/A	O	
2/24/2010	23:29	4Z315.D		247552001		LANL	957517	5G	1	1	N/A	15	S	ACJ	N/A	O	
2/24/2010	23:56	4Z316.D		247245001		LANL	957517	5G	1	1	N/A	16	S	ACJ	N/A	O	
2/25/2010	0:24	4Z317.D		247245002		LANL	957517	5G	1	1	N/A	17	S	ACJ	N/A	O	
2/25/2010	0:51	4Z318.D		247245003		LANL	957517	5G	1	1	N/A	18	S	ACJ	N/A	O	SS HIGH; CONFIRMED BY 42416
2/25/2010	1:19	4Z319.D		247245004		LANL	957517	5G	1	1	N/A	19	S	ACJ	N/A	O	IS LOW; CONFIRMED BY 42417
2/25/2010	1:47	4Z320.D		247245006		LANL	957517	5G	1	1	N/A	20	S	ACJ	N/A	O	
2/25/2010	2:14	4Z321.D		247551001		LANL	957517	5G	1	1	N/A	21	S	ACJ	N/A	O	IS LOW; CONFIRMED BY 42418
2/25/2010	2:42	4Z322.D		247551002		LANL	957517	5G	1	1	N/A	22	S	ACJ	N/A	O	
2/25/2010	3:09	4Z323.D		247552002		LANL	957517	5G	1	1	N/A	23	S	ACJ	N/A	O	
2/25/2010	3:37	4Z324.D		1202053118		LANL	957517	5G	1	1	N/A	24	S	ACJ	N/A	O	MS 247245001
2/25/2010	4:04	4Z325.D		1202053119		LANL	957517	5G	1	1	N/A	25	S	ACJ	N/A	O	MSD 247245001

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026
Data file : /chem/VOA4.i/022410v4/4z316.d
Lab Smp Id: 247245001 Client Smp ID: RE46-10-12664
Inj Date : 24-FEB-2010 23:56
Operator : ACJ Inst ID: VOA4.i
Smp Info : |247245001|957517|1|VOAF|1|
Misc Info : LANL 5G N/A
Comment :
Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1876.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	9.98920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN	FINAL
							(ug/l)	(ug/Kg)
* 40 Fluorobenzene	96	10.620	10.614	(1.000)	1380735	50.0000		
* 61 Chlorobenzene-d5	117	13.771	13.771	(1.000)	1063046	50.0000		
* 86 1,4-Dichlorobenzene-d4	152	16.180	16.180	(1.000)	588195	50.0000		
\$ 138 1,2-Dichloroethane-d4	65	10.260	10.260	(0.966)	355437	50.7734		56.4
\$ 47 Toluene-d8	98	12.253	12.247	(0.890)	1146483	48.4072		53.8
\$ 71 Bromofluorobenzene	95	14.954	14.954	(0.924)	634851	58.9481		65.5

ION RATIO REPORT

VOA REPORT

Data file: 4z316.d

Report Date: 02/25/2010 15:53

Lab. ID: 247245001

SampleType: SAMPLE

Injection Date: 24-FEB-2010 23:56

Operator: ACJ

Instrument: VOA4.i

Sample Info: |247245001|957517|1|VOAF|1|

Miscellaneous Info: LANL 5G N/A

Comment:

Method used: /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1876

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
37	1,2-Dichloroethane			CAS#: 107-06-2		
62	20561	10.62	10.34	80-120	100	(T)
64	3790	10.61	10.34	2- 62	18	(T)

39	Trichloroethylene			CAS#: 79-01-6		
95	119876	10.61	11.00	80-120	100	(T)
97	90775	10.61	11.00	36- 96	76	(T)
130	1495	11.00	11.00	70-130	1	(Q)

49	4-Methyl-2-pentanone			CAS#: 108-10-1		
58	10022	12.25	12.02	80-120	100	(T)
43	6777	12.25	12.02	229-289	68	(QT)
100	754721	12.25	12.02	6- 66	7530	(QT)

66	Bromoform			CAS#: 75-25-2		
173	2846	14.95	14.66	80-120	100	(T)
175	33446	14.95	14.66	19- 79	1175	(QT)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

VOLATILE GC/MS : SOP# GL-OA-E-038,-039,-026
Data file : /chem/VOA4.i/022410v4/4z316.d
Lab Smp Id: 247245001 Client Smp ID: RE46-10-12664
Inj Date : 24-FEB-2010 23:56
Operator : ACJ Inst ID: VOA4.i
Smp Info : |247245001|957517|1|VOAF|1|
Misc Info : LANL 5G N/A
Comment :
Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m
Meth Date : 04-Mar-2010 16:24 amj Quant Type: ISTD
Cal Date : 20-FEB-2010 04:09 Cal File: 4y518.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1876.sub
Target Version: 3.50
Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	9.98920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 40 Fluorobenzene	10.620	3080748	50.000
* 86 1,4-Dichlorobenzene-d4	16.180	3705932	50.000

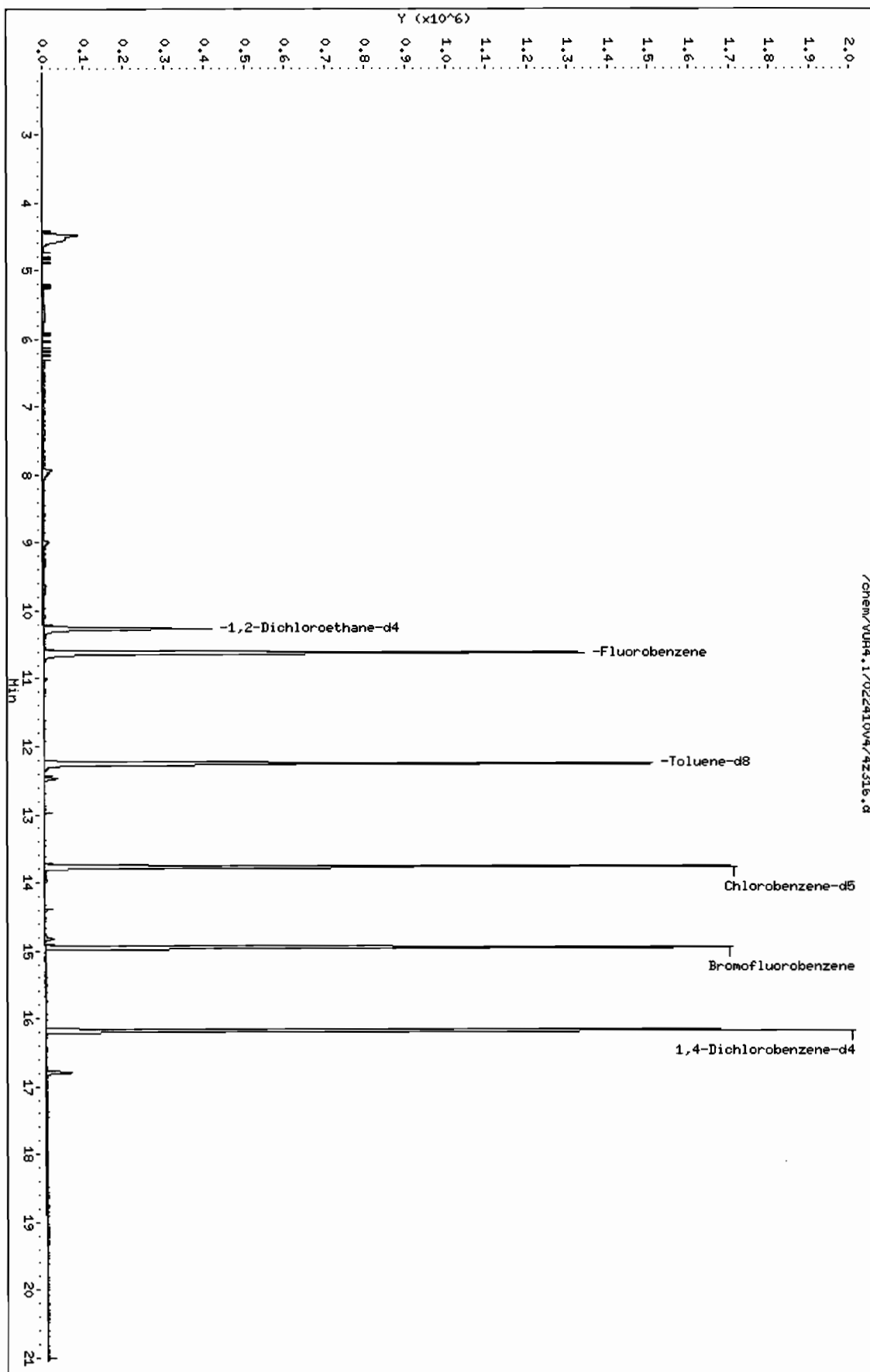
RT	CONCENTRATIONS			QUAL	QUANT		
	AREA	ON-COL (ug/l)	FINAL (ug/Kg)		LIBRARY	LIB ENTRY	CPND #
=====	=====	=====	=====	=====	=====	=====	=====
Unknown				CAS #:			
4.481	538629	8.74185613	9.7	0		0	40

CONCENTRATIONS				QUANT			
RT	AREA	ON-COL(ug/l)	FINAL(ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
=====	=====	=====	=====	=====	=====	=====	=====
Unknown Siloxane				CAS #:			
16.789	405695	5.47358472	6.1	0		0	86

Data File: /chem/V004.i/022410v4/42316.d
Date : 24-FEB-2010 23:56
Client ID: RE46-10-12664
Sample Info: 1247245001195751711.V004F11

Instrument: V004.i
Operator: ACJ
Column diameter: 0.25

Column phase: RTX-VOLATILES



Date : 24-FEB-2010 23:56

Client ID: RE46-10-12664

Instrument: V0A4.i

Sample Info: I247245001195751711V0AF111

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match

CAS Number

Library

Entry

Quality Formula

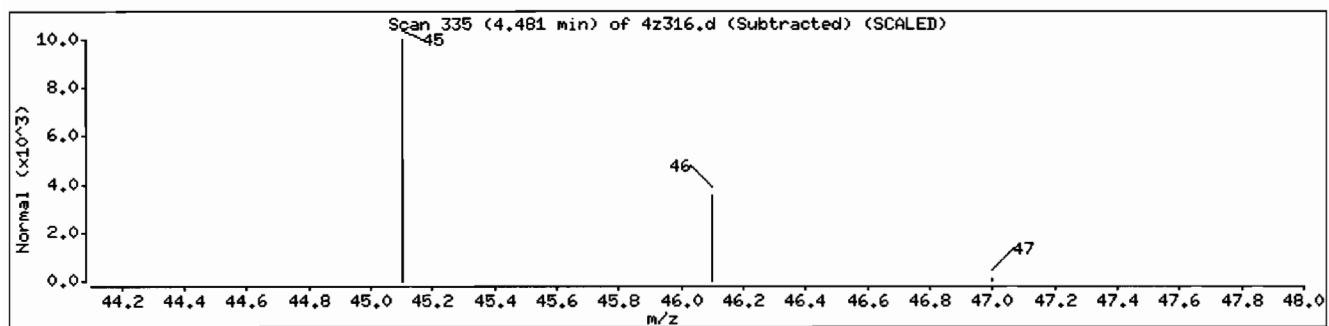
Weight

Unknown

0

0

0



Date : 24-FEB-2010 23:56

Client ID: RE46-10-12664

Instrument: VOA4.i

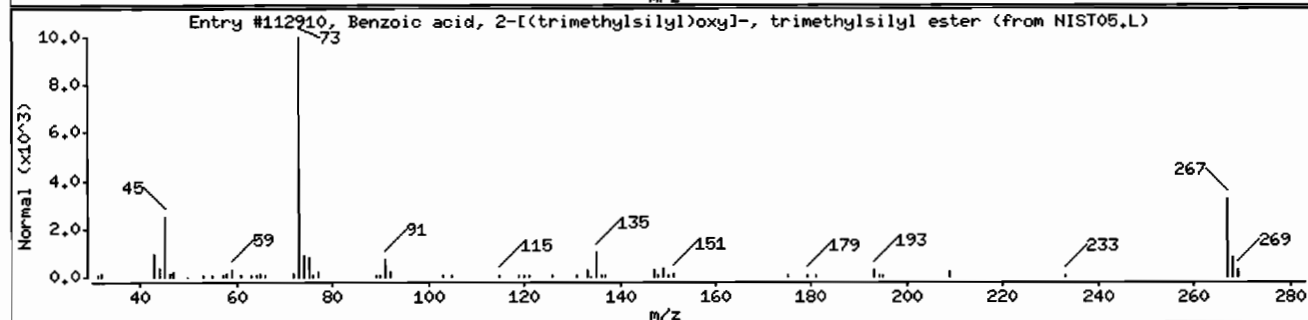
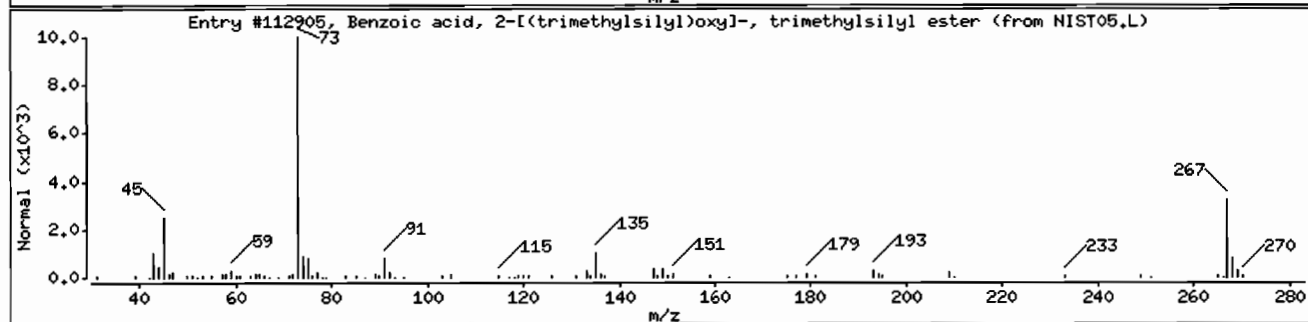
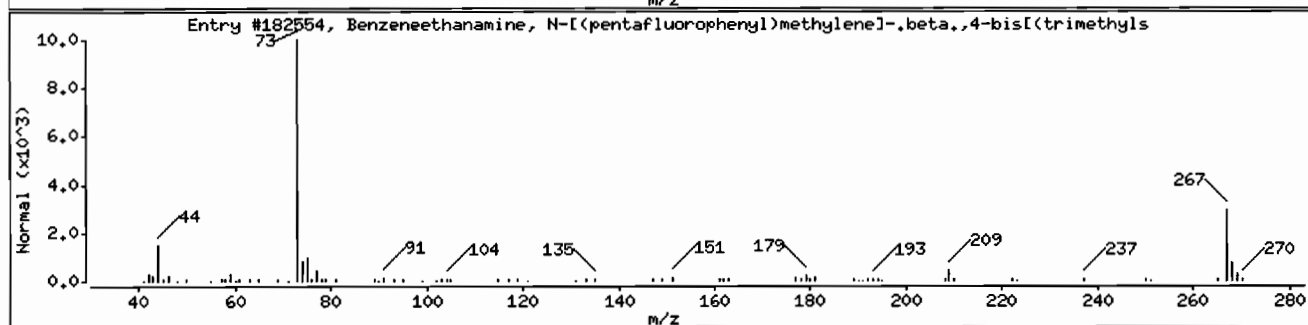
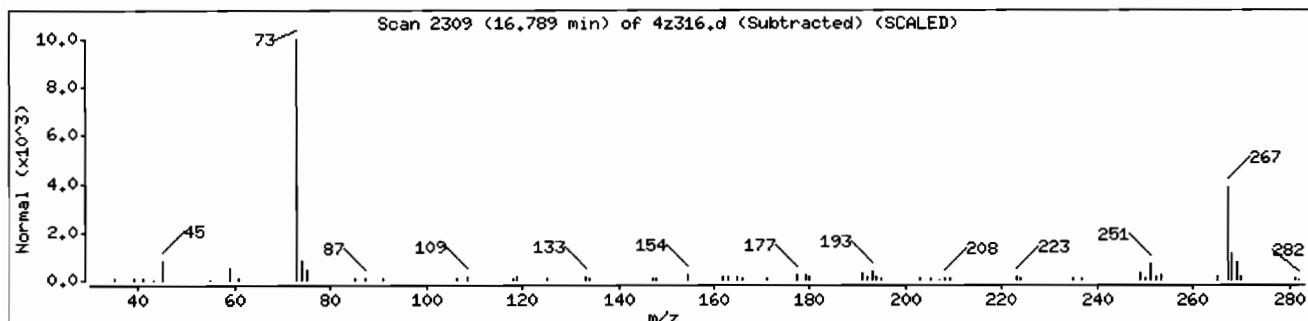
Sample Info: I247245001I957517I1I\VOAFI1I

Operator: ACJ

Column phase: RTX-VOLATILES

Column diameter: 0.25

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Siloxane						
Benzeneethanamine, N-[(pentafluorophenyl)methylene]-,beta.,4-bis[(trimethylsilyl)oxy]-, trimethylsilyl ester	55429-85-1	NIST05.L	182554	59	C ₂₁ H ₂₆ F ₅ N ₂ Si ₃ O ₇	475
Benzoic acid, 2-[(trimethylsilyl)oxy]-, trimethylsilyl ester	3789-85-3	NIST05.L	112905	42	C ₁₃ H ₂₂ O ₃ Si ₂	282
Benzoic acid, 2-[(trimethylsilyl)oxy]-, trimethylsilyl ester	3789-85-3	NIST05.L	112910	42	C ₁₃ H ₂₂ O ₃ Si ₂	282



GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z324.d

Lab Smp Id: 1202053118

Client Smp ID: RE46-10-12664MS

Inj Date : 25-FEB-2010 03:37

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |1202053118|957517|1|VOAF|1|

Misc Info : LANL 5G N/A MS 247245001

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 24

QC Sample: MS

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: 10-1876.sub

Target Version: 3.50

Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	9.98920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable

Local Compound Variable

Compounds	QUANT SIG			RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT REL RT		ON-COLUMN (ug/l)	FINAL (ug/Kg)
* 40 Fluorobenzene	96	10.619	10.614 (1.000)	1406527	50.0000	
* 61 Chlorobenzene-d5	117	13.770	13.771 (1.000)	1137121	50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.180 (1.000)	734850	50.0000	
\$ 138 1,2-Dichloroethane-d4	65	10.259	10.260 (0.966)	347170	48.6831	54.1
\$ 47 Toluene-d8	98	12.252	12.247 (0.890)	1173720	46.3289	51.5
\$ 71 Bromofluorobenzene	95	14.953	14.954 (0.924)	725628	53.9306	59.9
3 Dichlorodifluoromethane	85	4.904	4.904 (0.462)	315249	34.5931	38.4
4 Chloromethane	50	5.292	5.291 (0.498)	627254	44.0519	48.9
5 Vinyl chloride	62	5.514	5.514 (0.519)	632042	50.1025	55.7
6 Bromomethane	94	6.130	6.130 (0.577)	357894	50.8515	56.5
7 Chloroethane	64	6.295	6.302 (0.593)	338382	48.9860	54.4
8 Trichlorofluoromethane	101	6.674	6.669 (0.629)	672910	45.6656	50.7

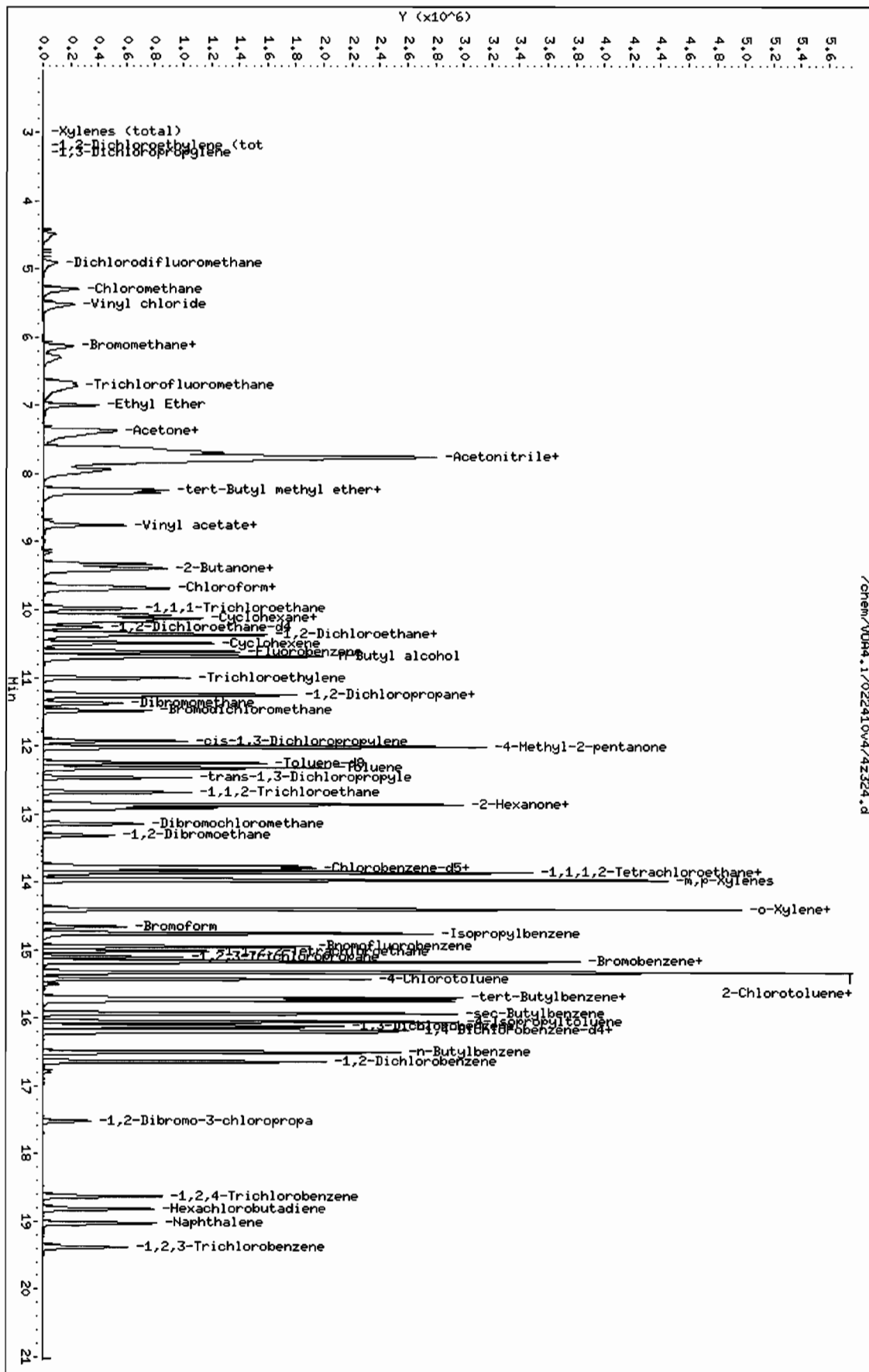
Compounds	QUANT SIG				CONCENTRATIONS		
	MASS	RT	EXP RT	REL RT	ON-COLUMN	FINAL	
					(ug/l)	(ug/Kg)	
=====	=====	==	=====	=====	=====	=====	
10 Acetone	43	7.357	7.352	(0.693)	925129	132.477	147
11 1,1-Dichloroethylene	61	7.388	7.389	(0.696)	737688	42.8019	47.6
87 1,4-Dichlorobenzene	146	16.209	16.204	(1.002)	1040704	37.9904	42.2
13 Iodomethane	142	7.662	7.669	(0.722)	3475071	208.286	231
17 Methylene chloride	84	7.936	7.937	(0.747)	511855	43.2431	48.0
14 Carbon disulfide	76	7.778	7.773	(0.732)	7210977	236.173	262
21 trans-1,2-Dichloroethylene	61	8.284	8.279	(0.780)	552784	43.6172	48.4
22 1,1-Dichloroethane	63	8.759	8.754	(0.825)	711874	44.7890	49.8
30 2-Butanone	43	9.326	9.327	(0.878)	1317973	162.986	181
31 cis-1,2-Dichloroethylene	61	9.387	9.388	(0.884)	612919	46.0214	51.1
85 1,3-Dichlorobenzene	146	16.124	16.119	(0.997)	1028998	38.0229	42.2
25 2,2-Dichloropropane	77	9.418	9.419	(0.887)	346463	46.8179	52.0
32 Chloroform	83	9.692	9.687	(0.913)	725229	43.5682	48.4
90 1,2-Dichlorobenzene	146	16.642	16.643	(1.029)	983036	37.9953	42.2
29 Bromochloromethane	128	9.655	9.656	(0.909)	210718	42.9867	47.8
36 1,1,1-Trichloroethane	97	9.979	9.980	(0.940)	545340	43.2176	48.0
34 1,1-Dichloropropene	75	10.131	10.132	(0.954)	518122	42.2815	47.0
33 Carbon tetrachloride	117	10.174	10.175	(0.958)	520640	44.1304	49.0
37 1,2-Dichloroethane	62	10.338	10.339	(0.974)	609602	47.9866	53.3
38 Benzene	78	10.375	10.370	(0.977)	1538830	42.2125	46.9
39 Trichloroethylene	95	11.003	11.004	(1.036)	394072	40.5470	45.0
41 1,2-Dichloropropane	63	11.240	11.241	(1.059)	413629	44.3915	49.3
45 Bromodichloromethane	83	11.484	11.479	(1.082)	560266	43.5322	48.4
43 Dibromomethane	93	11.375	11.376	(1.071)	263331	43.6843	48.5
49 4-Methyl-2-pentanone	58	12.021	12.016	(0.873)	967088	237.475	264
46 cis-1,3-Dichloropropylene	75	11.929	11.930	(1.123)	625081	41.8145	46.4
50 Toluene	92	12.326	12.321	(0.895)	966902	40.5920	45.1
53 trans-1,3-Dichloropropylene	75	12.466	12.461	(0.905)	616992	43.8323	48.7
54 1,1,2-Trichloroethane	83	12.685	12.680	(0.921)	318270	43.3446	48.2
55 2-Hexanone	43	12.856	12.857	(0.934)	1884757	172.964	192
52 1,3-Dichloropropane	76	12.874	12.875	(0.935)	641125	45.4460	50.5
56 Tetrachloroethylene	164	12.923	12.918	(0.938)	295196	37.0466	41.2
57 Dibromochloromethane	129	13.149	13.144	(0.955)	440595	42.7000	47.4
59 1,2-Dibromoethane	107	13.319	13.314	(0.967)	393062	43.6259	48.5
62 Chlorobenzene	112	13.801	13.802	(1.002)	1085806	40.5579	45.0
60 1,1,1,2-Tetrachloroethane	131	13.850	13.851	(1.006)	427741	41.8641	46.5
58 Ethylbenzene	91	13.862	13.863	(1.007)	1924104	40.7683	45.3
63 m,p-Xylenes	106	13.972	13.973	(1.015)	1493668	79.4550	88.3
64 o-Xylene	106	14.404	14.406	(1.046)	802929	41.3669	46.0
65 Styrene	104	14.404	14.399	(1.046)	1337574	40.7166	45.2
66 Bromoform	173	14.661	14.655	(0.906)	309121	41.9253	46.6
73 1,1,2,2-Tetrachloroethane	83	15.020	15.015	(0.928)	650182	47.7391	53.0
74 1,2,3-Trichloropropane	110	15.106	15.107	(0.934)	170840	47.0593	52.3
75 Bromobenzene	156	15.167	15.168	(0.937)	549303	40.5042	45.0
76 n-Propylbenzene	91	15.185	15.180	(0.939)	2461206	39.6677	44.1
77 2-Chlorotoluene	91	15.331	15.332	(0.948)	1786653	41.4646	46.1
67 Isopropylbenzene	105	14.758	14.759	(0.912)	2021057	39.4269	43.8

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
78 1,3,5-Trimethylbenzene	105	15.331	15.332	(0.948)	1856549	39.5234	43.9
80 4-Chlorotoluene	91	15.435	15.430	(0.954)	1545493	40.1552	44.6
81 tert-Butylbenzene	119	15.703	15.704	(0.971)	1822136	39.2868	43.6
79 1,2,4-Trimethylbenzene	105	15.746	15.741	(0.973)	1865976	38.4645	42.7
83 sec-Butylbenzene	105	15.935	15.930	(0.985)	2323992	37.3259	41.5
84 4-Isopropyltoluene	119	16.050	16.052	(0.992)	1854577	36.0709	40.1
89 n-Butylbenzene	91	16.508	16.503	(1.020)	1698521	34.4838	38.3
92 1,2-Dibromo-3-chloropropane	157	17.532	17.533	(1.084)	108882	42.2260	46.9

Data File: /chem/V004.i/022410v4/4Z324.d
 Date : 25-FEB-2010 03:37
 Client ID: RE46-10-12664MS
 Sample Info: 1202053118195751711V00F11

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25

Column phase: RTX-VOLATILES



GEL Laboratories LLC

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

Data file : /chem/VOA4.i/022410v4/4z325.d

Lab Smp Id: 1202053119

Client Smp ID: RE46-10-12664MSD

Inj Date : 25-FEB-2010 04:04

Operator : ACJ

Inst ID: VOA4.i

Smp Info : |1202053119|957517|1|VOAF|1|

Misc Info : LANL 5G N/A MSD 247245001

Comment :

Method : /chem/VOA4.i/022410v4/VOA4-8260-021910.m

Meth Date : 04-Mar-2010 16:24 amj

Quant Type: ISTD

Cal Date : 20-FEB-2010 04:09

Cal File: 4y518.d

Als bottle: 25

QC Sample: MSD

Dil Factor: 1.00000

Integrator: HP RTE

Compound Sublist: 10-1876.sub

Target Version: 3.50

Processing Host: prdsvr07

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

Name	Value	Description
DF	1.00000	Dilution Factor
M	9.98920	% moisture
Vt	5.00000	Purge Volume (ml)
Ws	5.00000	weight of sample (g)
Uf	1.00000	Unit correction factor
Va	100.00000	Soil Aliquot Volume (uL)

Cpnd Variable

Local Compound Variable

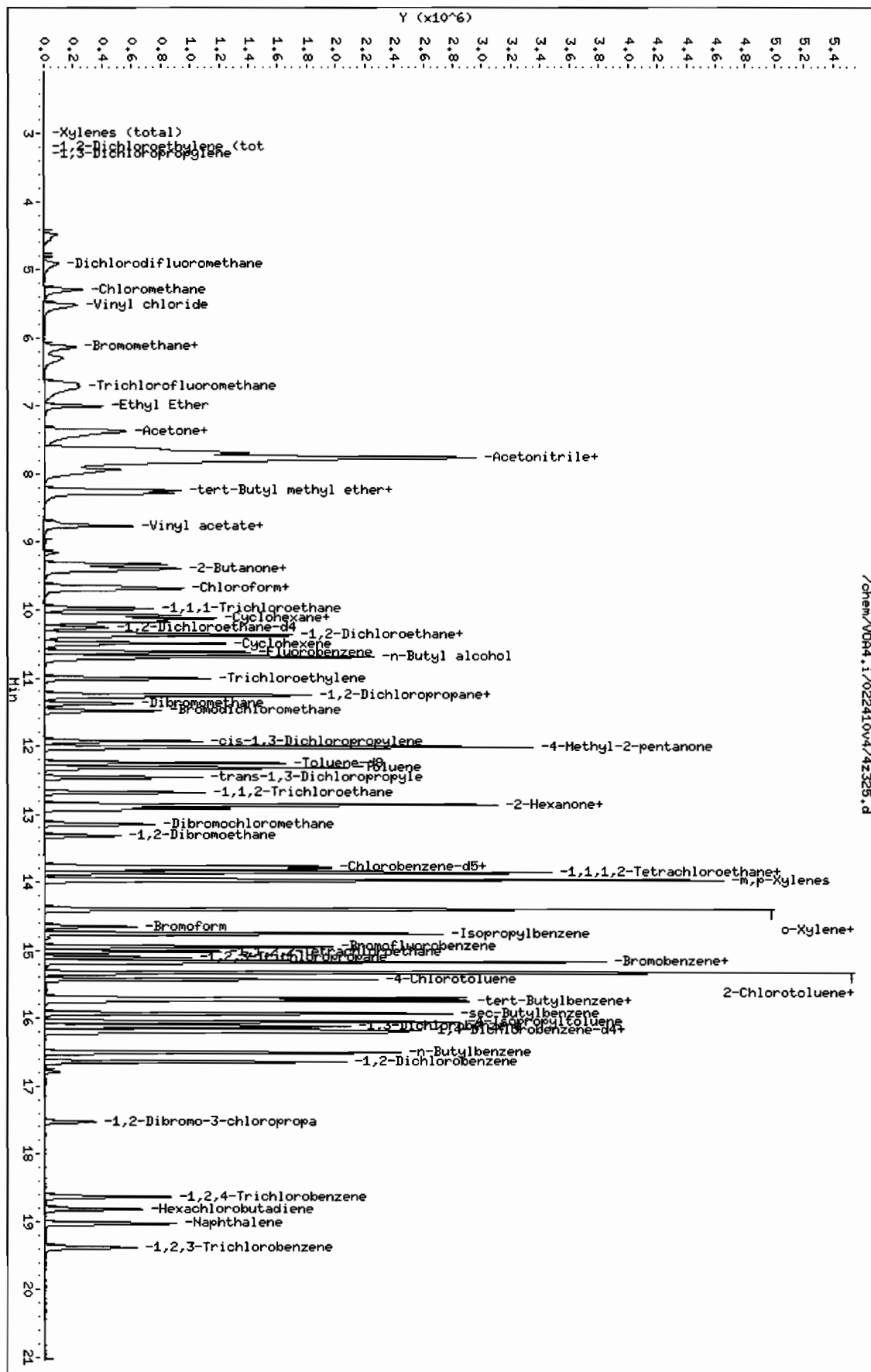
Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE		ON-COLUMN	FINAL
							(ug/l)	(ug/Kg)
* 40 Fluorobenzene	96	10.619	10.614	(1.000)	1458522		50.0000	
* 61 Chlorobenzene-d5	117	13.770	13.771	(1.000)	1161455		50.0000	
* 86 1,4-Dichlorobenzene-d4	152	16.179	16.180	(1.000)	746068		50.0000	
\$ 138 1,2-Dichloroethane-d4	65	10.259	10.260	(0.966)	357814		48.3869	53.8
\$ 47 Toluene-d8	98	12.252	12.247	(0.890)	1221946		47.2220	52.5
\$ 71 Bromofluorobenzene	95	14.953	14.954	(0.924)	740615		54.2168	60.2
3 Dichlorodifluoromethane	85	4.904	4.904	(0.462)	350329		37.0720	41.2
4 Chloromethane	50	5.292	5.291	(0.498)	640293		43.3645	48.2
5 Vinyl chloride	62	5.521	5.514	(0.520)	674489		51.5612	57.3
6 Bromomethane	94	6.130	6.130	(0.577)	373877		51.2287	56.9
7 Chloroethane	64	6.295	6.302	(0.593)	359539		50.1933	55.8
8 Trichlorofluoromethane	101	6.668	6.669	(0.628)	718896		47.0471	52.3

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ug/l)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
10 Acetone	43	7.357	7.352	(0.693)	964331	133.168	148
11 1,1-Dichloroethylene	61	7.394	7.389	(0.696)	780351	43.6632	48.5
87 1,4-Dichlorobenzene	146	16.209	16.204	(1.002)	1032623	37.1286	41.2
13 Iodomethane	142	7.668	7.669	(0.722)	3782959	218.657	243
17 Methylene chloride	84	7.936	7.937	(0.747)	531531	43.3045	48.1
14 Carbon disulfide	76	7.772	7.773	(0.732)	7561365	238.821	265
21 trans-1,2-Dichloroethylene	61	8.284	8.279	(0.780)	586786	44.6496	49.6
22 1,1-Dichloroethane	63	8.759	8.754	(0.825)	751305	45.5848	50.6
30 2-Butanone	43	9.326	9.327	(0.878)	1390925	165.876	184
31 cis-1,2-Dichloroethylene	61	9.387	9.388	(0.884)	653349	47.3083	52.6
85 1,3-Dichlorobenzene	146	16.124	16.119	(0.997)	1012538	36.8521	40.9
25 2,2-Dichloropropane	77	9.418	9.419	(0.887)	368144	47.9742	53.3
32 Chloroform	83	9.692	9.687	(0.913)	765366	44.3403	49.3
90 1,2-Dichlorobenzene	146	16.642	16.643	(1.029)	998687	38.0198	42.2
29 Bromochloromethane	128	9.655	9.656	(0.909)	223793	44.0265	48.9
36 1,1,1-Trichloroethane	97	9.979	9.980	(0.940)	599405	45.8087	50.9
34 1,1-Dichloropropene	75	10.131	10.132	(0.954)	554103	43.6057	48.4
33 Carbon tetrachloride	117	10.174	10.175	(0.958)	561047	45.8601	50.9
37 1,2-Dichloroethane	62	10.344	10.339	(0.974)	634203	48.1435	53.5
38 Benzene	78	10.375	10.370	(0.977)	1631504	43.1592	47.9
39 Trichloroethylene	95	11.003	11.004	(1.036)	421525	41.8255	46.5
41 1,2-Dichloropropane	63	11.240	11.241	(1.059)	437031	45.2310	50.2
45 Bromodichloromethane	83	11.484	11.479	(1.082)	587529	44.0231	48.9
43 Dibromomethane	93	11.375	11.376	(1.071)	276749	44.2736	49.2
49 4-Methyl-2-pentanone	58	12.021	12.016	(0.873)	1008443	242.442	269
46 cis-1,3-Dichloropropylene	75	11.929	11.930	(1.123)	649285	41.8852	46.5
50 Toluene	92	12.326	12.321	(0.895)	1010896	41.5498	46.2
53 trans-1,3-Dichloropropylene	75	12.466	12.461	(0.905)	631243	43.9052	48.8
54 1,1,2-Trichloroethane	83	12.685	12.680	(0.921)	325718	43.4295	48.2
55 2-Hexanone	43	12.856	12.857	(0.934)	1958143	175.934	195
52 1,3-Dichloropropane	76	12.874	12.875	(0.935)	664998	46.1506	51.3
56 Tetrachloroethylene	164	12.923	12.918	(0.938)	302870	37.2133	41.3
57 Dibromochloromethane	129	13.149	13.144	(0.955)	465476	44.1662	49.1
59 1,2-Dibromoethane	107	13.319	13.314	(0.967)	409395	44.4866	49.4
62 Chlorobenzene	112	13.801	13.802	(1.002)	1109698	40.5819	45.1
60 1,1,1,2-Tetrachloroethane	131	13.850	13.851	(1.006)	441128	42.2698	47.0
58 Ethylbenzene	91	13.862	13.863	(1.007)	1950567	40.4631	45.0
63 m,p-Xylenes	106	13.972	13.973	(1.015)	1549989	80.7235	89.7
64 o-Xylene	106	14.405	14.406	(1.046)	818312	41.2761	45.8
65 Styrene	104	14.405	14.399	(1.046)	1350753	40.2563	44.7
66 Bromoform	173	14.661	14.655	(0.906)	330553	44.1580	49.0
73 1,1,2,2-Tetrachloroethane	83	15.020	15.015	(0.928)	668275	48.3297	53.7
74 1,2,3-Trichloropropane	110	15.112	15.107	(0.934)	172474	46.7950	52.0
75 Bromobenzene	156	15.167	15.168	(0.937)	555578	40.3509	44.8
76 n-Propylbenzene	91	15.185	15.180	(0.939)	2423540	38.4733	42.7
77 2-Chlorotoluene	91	15.331	15.332	(0.948)	1773157	40.5327	45.0
67 Isopropylbenzene	105	14.758	14.759	(0.912)	2025832	38.9258	43.2

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL	
						(ug/l)	(ug/Kg)	
=====	=====	==	=====	=====	=====		=====	
78 1,3,5-Trimethylbenzene	105	15.331	15.332	(0.948)	1826202	38.2928	42.5	
80 4-Chlorotoluene	91	15.429	15.430	(0.954)	1519380	38.8831	43.2	
81 tert-Butylbenzene	119	15.703	15.704	(0.971)	1776341	37.7235	41.9	
79 1,2,4-Trimethylbenzene	105	15.746	15.741	(0.973)	1839327	37.3451	41.5	
83 sec-Butylbenzene	105	15.929	15.930	(0.985)	2248858	35.5761	39.5	
84 4-Isopropyltoluene	119	16.051	16.052	(0.992)	1798707	34.4582	38.3	
89 n-Butylbenzene	91	16.502	16.503	(1.020)	1603811	32.0714	35.6	
92 1,2-Dibromo-3-chloropropane	157	17.532	17.533	(1.084)	115786	44.2283	49.1	

Data File: /chem/V004.i/022410v4/4z325.d
 Date: 25-FEB-2010 04:04
 Client ID: RE46-10-12664MSD
 Sample Info: 11202053119195751711V004F11

Instrument: V004.i
 Operator: ACJ
 Column diameter: 0.25



GC/MS Semivolatile Analysis

**Semi-Volatile Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1969**

Method/Analysis Information

Procedure:	Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry
Analytical Method:	SW846 8270C
Prep Method:	SW846 3550B
Analytical Batch Number:	956677
Prep Batch Number:	956676

Sample Analysis

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

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202051280	Method Blank (MB)
1202051281	Laboratory Control Sample (LCS)
1202051282	247551001(RE15-10-8349) Matrix Spike (MS)
1202051283	247551001(RE15-10-8349) Matrix Spike Duplicate (MSD)

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

Preparation/Analytical Method Verification

SOP Reference

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

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

Calibration Information

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

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

Diphenylamine has now superseded N-Nitroso-diphenylamine as a CCC on Quantitation Reports, Initial Calibration Reports, Calibration Check Standard Reports, etc. Previous versions of EPA Method 8270 (prior to 8270C) listed N-Nitroso-diphenylamine as a CCC. However, as stated in EPA Method 8270C, Revision 3, December, 1996, Section 1.4.5, "N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine." Studies of these two compounds at GEL, both independent of each other and together, show that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine will be reported as Diphenylamine on all reports and forms. 2,4-Toluene diisocyanate rapidly hydrolyzes in water (half-life less than 30 minutes). Therefore, recoveries of this compound from aqueous matrices should not be expected. In addition, in solid matrices, 2,4-Toluene diisocyanate often reacts with alcohols and amines to produce urethane and ureas and consequently cannot usually coexist in a solution containing these materials. 2,4-Toluene diisocyanate is reported as an estimated value.

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

Initial Calibration

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

CCV Requirements

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

Quality Control (QC) Information

Method Blank (MB) Statement

The MB analyzed with this SDG met the acceptance criteria.

Surrogate Recoveries

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

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Sample 247551001 (RE15-10-8349) was selected for analysis as the matrix spike and matrix spike duplicate.

Matrix Spike (MS) Recovery Statement

The MS recoveries were within the established acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement

The MSD(1202051283) recovered Di-n-octylphthalate at 145%. The limits are 31%-143%. Since the MS(1202051282) displayed a similarly high (but passing) recovery for Di-n-octylphthalate to the MS, the failure was attributed to matrix interference and the data were reported.

MS/MSD Relative Percent Difference (RPD) Statement

The MS(1202051282)/MSD(1202051283) RPD value for Hexachlorocyclopentadiene was 40%. The limit is 30%. Because Hexachlorocyclopentadiene was individually within the acceptance limits for the MS and MSD, the data were reported.

Internal Standard (ISTD) Acceptance

The internal standard responses were outside of the acceptance criteria for the following samples. The samples were re-analyzed and the failures were not confirmed. The re-analysis data were reported.

Technical Information**Holding Time Specifications**

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

Preparation/Analytical Method Verification

All procedures were performed as stated in the SOP.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-extraction/Re-analysis

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

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

The following DER was generated for this SDG: 802534. It is located in the Miscellaneous Section of the data report.

Manual Integrations

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

Additional Comments

Additional comments were not required for this SDG.

Electronic Package Comment

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

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

System Configuration

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

Instrument ID	Instrument	System Configuration	Column ID	Column Description
MSD3.I	HP Mass Spectrometer	HP7890A/HP5975C	DB-5MS	25m x 0.2mm, 0.33um (5% Phenylmethylpolysiloxane)

Certification Statement

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

Review Validation:

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

Reviewer: Alan Reaching Date: 3-19-10

Sample Data Summary

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

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	345	ug/kg	69.0	345
108-95-2	Phenol	U	345	ug/kg	69.0	345
95-57-8	2-Chlorophenol	U	345	ug/kg	69.0	345
106-46-7	1,4-Dichlorobenzene	U	345	ug/kg	69.0	345
621-64-7	N-Nitrosodipropylamine	U	345	ug/kg	69.0	345
59-50-7	4-Chloro-3-methylphenol	U	345	ug/kg	69.0	345
83-32-9	Acenaphthene	U	34.5	ug/kg	11.4	34.5
121-14-2	2,4-Dinitrotoluene	U	345	ug/kg	34.5	345
100-02-7	4-Nitrophenol	U	345	ug/kg	114	345
87-86-5	Pentachlorophenol	U	345	ug/kg	86.3	345
129-00-0	Pyrene	U	34.5	ug/kg	10.4	34.5
110-86-1	Pyridine	U	345	ug/kg	69.0	345
62-53-3	Aniline	U	345	ug/kg	104	345
111-44-4	bis(2-Chloroethyl) ether	U	345	ug/kg	69.0	345
541-73-1	1,3-Dichlorobenzene	U	345	ug/kg	69.0	345
100-51-6	Benzyl alcohol	U	345	ug/kg	104	345
95-50-1	1,2-Dichlorobenzene	U	345	ug/kg	69.0	345
108-60-1	bis(2-Chloroisopropyl)ether	U	345	ug/kg	69.0	345
95-48-7	o-Cresol	U	345	ug/kg	69.0	345
65794-96-9	m,p-Cresols	U	345	ug/kg	104	345
67-72-1	Hexachloroethane	U	345	ug/kg	69.0	345
98-95-3	Nitrobenzene	U	345	ug/kg	69.0	345
78-59-1	Isophorone	U	345	ug/kg	69.0	345
88-75-5	2-Nitrophenol	U	345	ug/kg	69.0	345
105-67-9	2,4-Dimethylphenol	U	345	ug/kg	121	345
111-91-1	bis(2-Chloroethoxy)methane	U	345	ug/kg	69.0	345
120-83-2	2,4-Dichlorophenol	U	345	ug/kg	69.0	345
65-85-0	Benzoic acid	U	690	ug/kg	173	690
91-20-3	Naphthalene	U	34.5	ug/kg	10.4	34.5
106-47-8	4-Chloroaniline	U	345	ug/kg	69.0	345
87-68-3	Hexachlorobutadiene	U	345	ug/kg	69.0	345
91-57-6	2-Methylnaphthalene	U	34.5	ug/kg	6.90	34.5
77-47-4	Hexachlorocyclopentadiene	U	345	ug/kg	69.0	345
88-06-2	2,4,6-Trichlorophenol	U	345	ug/kg	69.0	345
95-95-4	2,4,5-Trichlorophenol	U	345	ug/kg	69.0	345
91-58-7	2-Chloronaphthalene	U	34.5	ug/kg	11.4	34.5
88-74-4	2-Nitroaniline	U	345	ug/kg	69.0	345
99-09-2	<i>o</i> -Nitroaniline	U	345	ug/kg	69.0	345
	3-Nitroaniline					

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

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
% Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
131-11-3	<i>m</i> -Nitroaniline					
	Dimethylphthalate	U	345	ug/kg	69.0	345
606-20-2	2,6-Dinitrotoluene	U	345	ug/kg	34.5	345
208-96-8	Acenaphthylene	U	34.5	ug/kg	10.4	34.5
51-28-5	2,4-Dinitrophenol	U	690	ug/kg	131	690
132-64-9	Dibenzofuran	U	345	ug/kg	69.0	345
84-66-2	Diethylphthalate	U	345	ug/kg	69.0	345
86-73-7	Fluorene	U	34.5	ug/kg	10.4	34.5
7005-72-3	4-Chlorophenylphenylether	U	345	ug/kg	69.0	345
534-52-1	2-Methyl-4,6-dinitrophenol	U	345	ug/kg	69.0	345
100-01-6	4-Nitroaniline	U	345	ug/kg	104	345
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	345	ug/kg	69.0	345
122-66-7	Azobenzene	U	345	ug/kg	69.0	345
	1,2-Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	345	ug/kg	69.0	345
118-74-1	Hexachlorobenzene	U	345	ug/kg	69.0	345
85-01-8	Phenanthrene	U	34.5	ug/kg	10.4	34.5
120-12-7	Anthracene	U	34.5	ug/kg	6.90	34.5
84-74-2	Di-n-butylphthalate	U	345	ug/kg	69.0	345
206-44-0	Fluoranthene	U	34.5	ug/kg	10.4	34.5
85-68-7	Butylbenzylphthalate	U	345	ug/kg	69.0	345
56-55-3	Benzo(a)anthracene	U	34.5	ug/kg	10.4	34.5
91-94-1	3,3'-Dichlorobenzidine	U	345	ug/kg	104	345
218-01-9	Chrysene	U	34.5	ug/kg	10.4	34.5
117-81-7	bis(2-Ethylhexyl)phthalate	U	345	ug/kg	69.0	345
117-84-0	Di-n-octylphthalate	U	345	ug/kg	69.0	345
205-99-2	Benzo(b)fluoranthene	U	34.5	ug/kg	10.4	34.5
207-08-9	Benzo(k)fluoranthene	U	34.5	ug/kg	10.4	34.5
50-32-8	Benzo(a)pyrene	U	34.5	ug/kg	10.4	34.5
193-39-5	Indeno(1,2,3-cd)pyrene	U	34.5	ug/kg	10.4	34.5
53-70-3	Dibenzo(a,h)anthracene	U	34.5	ug/kg	10.4	34.5
191-24-2	Benzo(ghi)perylene	U	34.5	ug/kg	10.4	34.5
120-82-1	1,2,4-Trichlorobenzene	U	345	ug/kg	69.0	345

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.74	439	ug/kg		JA
	Unknown	5.51	238	ug/kg		J

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

SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
% Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
77-53-2	Cedrol	6.28	253	ug/kg	96	NJ
	Unknown	7.93	210	ug/kg		J
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1800	ug/kg	98	NJ
	Unknown	8.47	187	ug/kg		J
	Unknown	8.75	295	ug/kg		J
301-02-0	9-Octadecenamide, (Z)-	8.97	492	ug/kg	89	NJ
	Unknown	11.36	171	ug/kg		J
	Unknown	12.28	216	ug/kg		J
	Unknown	13.98	808	ug/kg		J

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL.010
Method: SW846 8270C
Inst: MSD3.1
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	356	ug/kg	71.2	356
108-95-2	Phenol	U	356	ug/kg	71.2	356
95-57-8	2-Chlorophenol	U	356	ug/kg	71.2	356
106-46-7	1,4-Dichlorobenzene	U	356	ug/kg	71.2	356
621-64-7	N-Nitrosodipropylamine	U	356	ug/kg	71.2	356
59-50-7	4-Chloro-3-methylphenol	U	356	ug/kg	71.2	356
83-32-9	Acenaphthene	U	35.6	ug/kg	11.7	35.6
121-14-2	2,4-Dinitrotoluene	U	356	ug/kg	35.6	356
100-02-7	4-Nitrophenol	U	356	ug/kg	117	356
87-86-5	Pentachlorophenol	U	356	ug/kg	89.0	356
129-00-0	Pyrene	J	19.8	ug/kg	10.7	35.6
110-86-1	Pyridine	U	356	ug/kg	71.2	356
62-53-3	Aniline	U	356	ug/kg	107	356
111-44-4	bis(2-Chloroethyl) ether	U	356	ug/kg	71.2	356
541-73-1	1,3-Dichlorobenzene	U	356	ug/kg	71.2	356
100-51-6	Benzyl alcohol	U	356	ug/kg	107	356
95-50-1	1,2-Dichlorobenzene	U	356	ug/kg	71.2	356
108-60-1	bis(2-Chloroisopropyl)ether	U	356	ug/kg	71.2	356
95-48-7	o-Cresol	U	356	ug/kg	71.2	356
65794-96-9	m,p-Cresols	U	356	ug/kg	107	356
67-72-1	Hexachloroethane	U	356	ug/kg	71.2	356
98-95-3	Nitrobenzene	U	356	ug/kg	71.2	356
78-59-1	Isophorone	U	356	ug/kg	71.2	356
88-75-5	2-Nitrophenol	U	356	ug/kg	71.2	356
105-67-9	2,4-Dimethylphenol	U	356	ug/kg	125	356
111-91-1	bis(2-Chloroethoxy)methane	U	356	ug/kg	71.2	356
120-83-2	2,4-Dichlorophenol	U	356	ug/kg	71.2	356
65-85-0	Benzoic acid	U	712	ug/kg	178	712
91-20-3	Naphthalene	U	35.6	ug/kg	10.7	35.6
106-47-8	4-Chloroaniline	U	356	ug/kg	71.2	356
87-68-3	Hexachlorobutadiene	U	356	ug/kg	71.2	356
91-57-6	2-Methylnaphthalene	U	35.6	ug/kg	7.12	35.6
77-47-4	Hexachlorocyclopentadiene	U	356	ug/kg	71.2	356
88-06-2	2,4,6-Trichlorophenol	U	356	ug/kg	71.2	356
95-95-4	2,4,5-Trichlorophenol	U	356	ug/kg	71.2	356
91-58-7	2-Chloronaphthalene	U	35.6	ug/kg	11.7	35.6
88-74-4	2-Nitroaniline	U	356	ug/kg	71.2	356
99-09-2	<i>o</i> -Nitroaniline	U	356	ug/kg	71.2	356
	3-Nitroaniline					

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL.010
Method: SW846 8270C
Inst: MSD3.1
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL.01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m</i> -Nitroaniline					
131-11-3	Dimethylphthalate	U	356	ug/kg	71.2	356
606-20-2	2,6-Dinitrotoluene	U	356	ug/kg	35.6	356
208-96-8	Acenaphthylene	U	35.6	ug/kg	10.7	35.6
51-28-5	2,4-Dinitrophenol	U	712	ug/kg	135	712
132-64-9	Dibenzofuran	U	356	ug/kg	71.2	356
84-66-2	Diethylphthalate	U	356	ug/kg	71.2	356
86-73-7	Fluorene	U	35.6	ug/kg	10.7	35.6
7005-72-3	4-Chlorophenylphenylether	U	356	ug/kg	71.2	356
534-52-1	2-Methyl-4,6-dinitrophenol	U	356	ug/kg	71.2	356
100-01-6	4-Nitroaniline	U	356	ug/kg	107	356
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	356	ug/kg	71.2	356
122-66-7	Azobenzene	U	356	ug/kg	71.2	356
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	356	ug/kg	71.2	356
118-74-1	Hexachlorobenzene	U	356	ug/kg	71.2	356
85-01-8	Phenanthrene	U	35.6	ug/kg	10.7	35.6
120-12-7	Anthracene	U	35.6	ug/kg	7.12	35.6
84-74-2	Di-n-butylphthalate	U	356	ug/kg	71.2	356
206-44-0	Fluoranthene	J	23.0	ug/kg	10.7	35.6
85-68-7	Butylbenzylphthalate	U	356	ug/kg	71.2	356
56-55-3	Benzo(a)anthracene	U	35.6	ug/kg	10.7	35.6
91-94-1	3,3'-Dichlorobenzidine	U	356	ug/kg	107	356
218-01-9	Chrysene	U	35.6	ug/kg	10.7	35.6
117-81-7	bis(2-Ethylhexyl)phthalate	U	356	ug/kg	71.2	356
117-84-0	Di-n-octylphthalate	U	356	ug/kg	71.2	356
205-99-2	Benzo(b)fluoranthene	J	22.2	ug/kg	10.7	35.6
207-08-9	Benzo(k)fluoranthene	U	35.6	ug/kg	10.7	35.6
50-32-8	Benzo(a)pyrene	J	11.7	ug/kg	10.7	35.6
193-39-5	Indeno(1,2,3-cd)pyrene	U	35.6	ug/kg	10.7	35.6
53-70-3	Dibenzo(a,h)anthracene	U	35.6	ug/kg	10.7	35.6
191-24-2	Benzo(ghi)perylene	U	35.6	ug/kg	10.7	35.6
120-82-1	1,2,4-Trichlorobenzene	U	356	ug/kg	71.2	356

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.75	719	ug/kg		JA
	Unknown	5.51	195	ug/kg		J

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
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Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
5794-03-6	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-me	5.71	161	ug/kg	83	NJ
77-53-2	Cedrol	6.28	214	ug/kg	93	NJ
17312-55-9	Decane, 3,8-dimethyl-	6.39	217	ug/kg	81	NJ
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1620	ug/kg	98	NJ
	Unknown	8.78	246	ug/kg		J
301-02-0	9-Octadecenamide, (Z)-	8.97	265	ug/kg	91	NJ

QC Summary

Semi-Volatile
Surrogate Recovery Report

Page 1 of 1

SDG Number: 10-1969

Matrix Type: SOLID

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

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1202051280	MB for batch 956676	75	72	71	79	83	101
1202051281	LCS for batch 956676	72	69	72	77	99	101
1202051282	RE15-10-8349MS	71	68	72	78	85	109
1202051283	RE15-10-8349MSD	69	67	70	76	82	104
247551001	RE15-10-8349	64	65	64	72	87	105
247551002	RE15-10-8348	72	72	69	77	92	101

Surrogate

Acceptance Limits

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

* Recovery outside Acceptance Limits

Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 956676

Matrix: SOIL

Lab Sample ID:1202051281

Instrument: MSD3.I

Analysis Date: 03/04/2010 22:25

Dilution: 1

Analyst: JLD1

Prep Batch II 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
62-75-9	LCS N-Methyl-N-nitrosomethylam	1670	0.0	994	60	22-114
108-95-2	LCS Phenol	1670	0.0	1240	74	39-104
95-57-8	LCS 2-Chlorophenol	1670	0.0	1280	77	40-107
106-46-7	LCS 1,4-Dichlorobenzene	1670	0.0	1170	70	33-108
621-64-7	LCS N-Nitrosodipropylamine	1670	0.0	1220	73	34-113
59-50-7	LCS 4-Chloro-3-methylphenol	1670	0.0	1410	85	42-114
83-32-9	LCS Acenaphthene	1670	0.0	1310	79	40-105
121-14-2	LCS 2,4-Dinitrotoluene	1670	0.0	1400	84	49-112
100-02-7	LCS 4-Nitrophenol	1670	0.0	1250	75	24-113
87-86-5	LCS Pentachlorophenol	1670	0.0	1470	88	27-116
129-00-0	LCS Pyrene	1670	0.0	1410	85	42-113
110-86-1	LCS Pyridine	1670	0.0	933	56	8-125
62-53-3	LCS Aniline	1670	0.0	1070	64	18-126
111-44-4	LCS bis(2-Chloroethyl) ether	1670	0.0	1060	64	32-103
541-73-1	LCS 1,3-Dichlorobenzene	1670	0.0	1130	68	32-108
100-51-6	LCS Benzyl alcohol	1670	0.0	995	60	27-108
95-50-1	LCS 1,2-Dichlorobenzene	1670	0.0	1270	76	35-111
108-60-1	LCS bis(2-Chloroisopropyl)ether	1670	0.0	1140	68	28-117
95-48-7	LCS o-Cresol	1670	0.0	1420	85	39-111
65794-96-9	LCS m,p-Cresols	1670	0.0	1400	84	45-121
67-72-1	LCS Hexachloroethane	1670	0.0	1150	69	30-109
98-95-3	LCS Nitrobenzene	1670	0.0	1220	73	33-116

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 956676

Matrix: SOIL

Lab Sample ID: J202051281

Instrument: MSD3.I

Analysis Date: 03/04/2010 22:25

Dilution: 1

Analyst: JLD1

Pren Batch II 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
78-59-1	LCS Isophorone	1670	0.0	1160	70	35-113
88-75-5	LCS 2-Nitrophenol	1670	0.0	1330	80	31-117
105-67-9	LCS 2,4-Dimethylphenol	1670	0.0	1330	80	32-112
111-91-1	LCS bis(2-Chloroethoxy)methane	1670	0.0	1120	67	34-110
120-83-2	LCS 2,4-Dichlorophenol	1670	0.0	1260	76	34-116
65-85-0	LCS Benzoic acid	3330	0.0	3070	92	22-138
91-20-3	LCS Naphthalene	1670	0.0	1130	68	35-103
106-47-8	LCS 4-Chloroaniline	1670	0.0	1020	61	20-118
87-68-3	LCS Hexachlorobutadiene	1670	0.0	1300	78	31-117
91-57-6	LCS 2-Methylnaphthalene	1670	0.0	1200	72	38-115
77-47-4	LCS Hexachlorocyclopentadiene	1670	0.0	1540	93	22-140
88-06-2	LCS 2,4,6-Trichlorophenol	1670	0.0	1390	83	40-110
95-95-4	LCS 2,4,5-Trichlorophenol	1670	0.0	1330	80	43-113
91-58-7	LCS 2-Chloronaphthalene	1670	0.0	1120	67	37-111
88-74-4	LCS 2-Nitroaniline o-Nitroaniline	1670	0.0	1300	78	41-113
99-09-2	LCS 3-Nitroaniline m-Nitroaniline	1670	0.0	1280	77	34-125
131-11-3	LCS Dimethylphthalate	1670	0.0	1400	84	48-122
606-20-2	LCS 2,6-Dinitrotoluene	1670	0.0	1370	82	47-107
208-96-8	LCS Acenaphthylene	1670	0.0	1240	74	44-110
51-28-5	LCS 2,4-Dinitrophenol	1670	0.0	2110	127	18-127
132-64-9	LCS Dibenzofuran	1670	0.0	1380	83	49-115
84-66-2	LCS Diethylphthalate	1670	0.0	1430	86	51-126

Semi-Volatile
Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 956676

Matrix: SOIL

Lab Sample ID: 1202051281

Instrument: MSD3.I

Analysis Date: 03/04/2010 22:25

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
86-73-7	LCS Fluorene	1670	0.0	1190	72	43-109
7005-72-3	LCS 4-Chlorophenylphenylether	1670	0.0	1480	89	45-115
534-52-1	LCS 2-Methyl-4,6-dinitrophenol	1670	0.0	1660	100	32-117
100-01-6	LCS 4-Nitroaniline <i>p-Nitroaniline</i>	1670	0.0	1550	93	33-148
122-39-4	LCS Diphenylamine	1670	0.0	1330	80	46-114
122-66-7	LCS Azobenzene <i>1,2-Diphenylhydrazine</i>	1670	0.0	1270	76	38-123
101-55-3	LCS 4-Bromophenylphenylether	1670	0.0	1270	76	40-119
118-74-1	LCS Hexachlorobenzene	1670	0.0	1330	80	43-111
85-01-8	LCS Phenanthrene	1670	0.0	1210	73	46-107
120-12-7	LCS Anthracene	1670	0.0	1250	75	46-110
84-74-2	LCS Di-n-butylphthalate	1670	0.0	1330	80	52-132
206-44-0	LCS Fluoranthene	1670	0.0	1320	79	51-115
85-68-7	LCS Butylbenzylphthalate	1670	0.0	1670	100	47-137
56-55-3	LCS Benzo(a)anthracene	1670	0.0	1250	75	50-108
91-94-1	LCS 3,3'-Dichlorobenzidine	1670	0.0	1370	82	36-103
218-01-9	LCS Chrysene	1670	0.0	1380	83	48-111
117-81-7	LCS bis(2-Ethylhexyl)phthalate	1670	0.0	1510	90	48-139
117-84-0	LCS Di-n-octylphthalate	1670	0.0	1740	105	42-141
205-99-2	LCS Benzo(b)fluoranthene	1670	0.0	1650	99	49-114
207-08-9	LCS Benzo(k)fluoranthene	1670	0.0	1740	104	50-116
50-32-8	LCS Benzo(a)pyrene	1670	0.0	1560	93	54-114
193-39-5	LCS Indeno(1,2,3-cd)pyrene	1670	0.0	1430	86	53-120

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Laboratory Control Sample

Client ID: LCS for batch 956676

Matrix: SOIL

Lab Sample ID:1202051281

Instrument: MSD3.I

Analysis Date: 03/04/2010 22:25

Dilution: 1

Analyst: JLD1

Prep Batch II 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
53-70-3	LCS Dibenzo(a,h)anthracene	1670	0.0	1480	89	53-121
191-24-2	LCS Benzo(ghi)perylene	1670	0.0	1380	83	50-121
120-82-1	LCS 1,2,4-Trichlorobenzene	1670	0.0	1260	76	32-114

Semi-Volatile
Quality Control Summary
Spike Recovery Report

Page 1 of 8

SDG Number: 10-1969

Sample Type: Matrix Spike

Client ID: RE15-10-8349MS

Matrix: R

Lab Sample ID: 1202051282

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 06:43

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
62-75-9	MS N-Methyl-N-nitrosomethylam	1780	0.00 U	1060	59	27-98
108-95-2	MS Phenol	1780	0.00 U	1280	72	33-94
95-57-8	MS 2-Chlorophenol	1780	0.00 U	1360	77	29-96
106-46-7	MS 1,4-Dichlorobenzene	1780	0.00 U	1280	72	27-96
621-64-7	MS N-Nitrosodipropylamine	1780	0.00 U	1290	72	29-102
59-50-7	MS 4-Chloro-3-methylphenol	1780	0.00 U	1410	79	29-110
83-32-9	MS Acenaphthene	1780	0.00 U	1320	74	17-109
121-14-2	MS 2,4-Dinitrotoluene	1780	0.00 U	1350	76	33-107
100-02-7	MS 4-Nitrophenol	1780	0.00 U	1260	70	15-110
87-86-5	MS Pentachlorophenol	1780	0.00 U	1270	71	23-110
129-00-0	MS Pyrene	1780	19.8 J	1730	96	24-118
110-86-1	MS Pyridine	1780	0.00 U	943	53	25-102
62-53-3	MS Aniline	1780	0.00 U	1190	67	18-109
111-44-4	MS bis(2-Chloroethyl) ether	1780	0.00 U	1130	63	29-96
541-73-1	MS 1,3-Dichlorobenzene	1780	0.00 U	1220	68	26-97
100-51-6	MS Benzyl alcohol	1780	0.00 U	726	41	19-112
95-50-1	MS 1,2-Dichlorobenzene	1780	0.00 U	1370	77	30-97
108-60-1	MS bis(2-Chloroisopropyl)ether	1780	0.00 U	1180	66	28-103
95-48-7	MS o-Cresol	1780	0.00 U	1620	91	32-107
65794-96-9	MS m,p-Cresols	1780	0.00 U	1560	88	33-115
67-72-1	MS Hexachloroethane	1780	0.00 U	1120	63	25-100
98-95-3	MS Nitrobenzene	1780	0.00 U	1320	74	27-106

Semi-Volatile

Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike

Client ID: RE15-10-8349MS

Matrix: R

Lab Sample ID:1202051282

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 06:43

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
78-59-1	MS Isophorone	1780	0.00 U	1230	69	29-104
88-75-5	MS 2-Nitrophenol	1780	0.00 U	1230	69	26-102
105-67-9	MS 2,4-Dimethylphenol	1780	0.00 U	1390	78	22-104
111-91-1	MS bis(2-Chloroethoxy)methane	1780	0.00 U	1200	67	27-101
120-83-2	MS 2,4-Dichlorophenol	1780	0.00 U	1300	73	26-103
65-85-0	MS Benzoic acid	3560	0.00 U	1780	50	13-131
91-20-3	MS Naphthalene	1780	0.00 U	1210	68	23-103
106-47-8	MS 4-Chloroaniline	1780	0.00 U	1030	58	26-103
87-68-3	MS Hexachlorobutadiene	1780	0.00 U	1420	80	28-101
91-57-6	MS 2-Methylnaphthalene	1780	0.00 U	1270	71	27-106
77-47-4	MS Hexachlorocyclopentadiene	1780	0.00 U	706	40	24-117
88-06-2	MS 2,4,6-Trichlorophenol	1780	0.00 U	1380	78	26-105
95-95-4	MS 2,4,5-Trichlorophenol	1780	0.00 U	1450	81	30-110
91-58-7	MS 2-Chloronaphthalene	1780	0.00 U	1220	68	28-102
88-74-4	MS 2-Nitroaniline o-Nitroaniline	1780	0.00 U	1340	75	33-106
99-09-2	MS 3-Nitroaniline m-Nitroaniline	1780	0.00 U	1330	74	33-116
131-11-3	MS Dimethylphthalate	1780	0.00 U	1480	83	38-113
606-20-2	MS 2,6-Dinitrotoluene	1780	0.00 U	1350	76	29-107
208-96-8	MS Acenaphthylene	1780	0.00 U	1290	73	25-108
51-28-5	MS 2,4-Dinitrophenol	1780	0.00 U	797	45	14-102
132-64-9	MS Dibenzofuran	1780	0.00 U	1430	80	35-112
84-66-2	MS Diethylphthalate	1780	0.00 U	1530	86	36-122

Semi-Volatile
Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike

Client ID: RE15-10-8349MS

Matrix: R

Lab Sample ID:1202051282

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 06:43

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
86-73-7	MS Fluorene	1780	0.00 U	1220	69	33-105
7005-72-3	MS 4-Chlorophenylphenylether	1780	0.00 U	1550	87	30-110
534-52-1	MS 2-Methyl-4,6-dinitrophenol	1780	0.00 U	657	37	26-97
100-01-6	MS 4-Nitroaniline <i>p</i> -Nitroaniline	1780	0.00 U	1580	89	28-135
122-39-4	MS Diphenylamine	1780	0.00 U	1490	84	33-109
122-66-7	MS Azobenzene <i>1,2-Diphenylhydrazine</i>	1780	0.00 U	1420	80	31-113
101-55-3	MS 4-Bromophenylphenylether	1780	0.00 U	1420	80	31-109
118-74-1	MS Hexachlorobenzene	1780	0.00 U	1420	80	37-99
85-01-8	MS Phenanthrene	1780	0.00 U	1400	78	29-109
120-12-7	MS Anthracene	1780	0.00 U	1290	72	19-118
84-74-2	MS Di-n-butylphthalate	1780	0.00 U	1450	81	39-123
206-44-0	MS Fluoranthene	1780	23.0 J	1220	67	33-114
85-68-7	MS Butylbenzylphthalate	1780	0.00 U	2040	114	35-131
56-55-3	MS Benzo(a)anthracene	1780	0.00 U	1320	74	30-111
91-94-1	MS 3,3'-Dichlorobenzidine	1780	0.00 U	1690	95	30-124
218-01-9	MS Chrysene	1780	0.00 U	1410	79	32-108
117-81-7	MS bis(2-Ethylhexyl)phthalate	1780	0.00 U	1880	106	37-129
117-84-0	MS Di-n-octylphthalate	1780	0.00 U	2290	129	31-143
205-99-2	MS Benzo(b)fluoranthene	1780	22.2 J	1640	91	29-118
207-08-9	MS Benzo(k)fluoranthene	1780	0.00 U	1830	103	32-118
50-32-8	MS Benzo(a)pyrene	1780	11.7 J	1680	94	33-115
193-39-5	MS Indeno(1,2,3-cd)pyrene	1780	0.00 U	1520	85	29-114

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike

Client ID: RE15-10-8349MS

Matrix: R

Lab Sample ID:1202051282

%Moisture: 6.9

Instrument: MSD3.1

Analysis Date: 03/05/2010 06:43

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits
53-70-3	MS Dibenzo(a,h)anthracene	1780	0.00 U	1620	91	27-119
191-24-2	MS Benzo(ghi)perylene	1780	0.00 U	1400	79	28-112
120-82-1	MS 1,2,4-Trichlorobenzene	1780	0.00 U	1370	77	28-99

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike Duplicate

Client ID: RE15-10-8349MSD

Matrix: R

Lab Sample ID:1202051283

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 07:05

Dilution: 1

Analyst: JLD1

Prep Batch II 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg		Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
62-75-9	MSD N-Methyl-N-nitrosomethylam	1790	0.00	U	1040	58	27-98	2	0-30
108-95-2	MSD Phenol	1790	0.00	U	1300	73	33-94	1	0-30
95-57-8	MSD 2-Chlorophenol	1790	0.00	U	1370	77	29-96	0	0-30
106-46-7	MSD 1,4-Dichlorobenzene	1790	0.00	U	1290	72	27-96	1	0-30
621-64-7	MSD N-Nitrosodipropylamine	1790	0.00	U	1300	73	29-102	1	0-30
59-50-7	MSD 4-Chloro-3-methylphenol	1790	0.00	U	1480	83	29-110	5	0-30
83-32-9	MSD Acenaphthene	1790	0.00	U	1330	74	17-109	0	0-30
121-14-2	MSD 2,4-Dinitrotoluene	1790	0.00	U	1360	76	33-107	0	0-30
100-02-7	MSD 4-Nitrophenol	1790	0.00	U	1270	71	15-110	1	0-30
87-86-5	MSD Pentachlorophenol	1790	0.00	U	1230	69	23-110	3	0-30
129-00-0	MSD Pyrene	1790	19.8	J	1620	90	24-118	7	0-30
110-86-1	MSD Pyridine	1790	0.00	U	961	54	25-102	2	0-30
62-53-3	MSD Aniline	1790	0.00	U	1240	69	18-109	4	0-30
111-44-4	MSD bis(2-Chloroethyl) ether	1790	0.00	U	1120	63	29-96	0	0-30
541-73-1	MSD 1,3-Dichlorobenzene	1790	0.00	U	1230	69	26-97	1	0-30
100-51-6	MSD Benzyl alcohol	1790	0.00	U	636	36	19-112	13	0-30
95-50-1	MSD 1,2-Dichlorobenzene	1790	0.00	U	1380	77	30-97	1	0-30
108-60-1	MSD bis(2-Chloroisopropyl)ether	1790	0.00	U	1220	68	28-103	3	0-30
95-48-7	MSD o-Cresol	1790	0.00	U	1820	102	32-107	12	0-30
65794-96-9	MSD m,p-Cresols	1790	0.00	U	1630	91	33-115	4	0-30
67-72-1	MSD Hexachloroethane	1790	0.00	U	1050	59	25-100	7	0-30
98-95-3	MSD Nitrobenzene	1790	0.00	U	1310	74	27-106	1	0-30

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike Duplicate

Client ID: RE15-10-8349MSD

Matrix: R

Lab Sample ID: 1202051283

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 07:05

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
78-59-1	MSD Isophorone	1790	0.00 U	1240	69	29-104	1	0-30
88-75-5	MSD 2-Nitrophenol	1790	0.00 U	1120	63	26-102	9	0-30
105-67-9	MSD 2,4-Dimethylphenol	1790	0.00 U	1370	77	22-104	1	0-30
111-91-1	MSD bis(2-Chloroethoxy)methane	1790	0.00 U	1180	66	27-101	1	0-30
120-83-2	MSD 2,4-Dichlorophenol	1790	0.00 U	1330	74	26-103	2	0-30
65-85-0	MSD Benzoic acid	3570	0.00 U	1640	46	13-131	8	0-30
91-20-3	MSD Naphthalene	1790	0.00 U	1200	67	23-103	1	0-30
106-47-8	MSD 4-Chloroaniline	1790	0.00 U	1330	75	26-103	25	0-30
87-68-3	MSD Hexachlorobutadiene	1790	0.00 U	1410	79	28-101	1	0-30
91-57-6	MSD 2-Methylnaphthalene	1790	0.00 U	1270	71	27-106	1	0-30
77-47-4	MSD Hexachlorocyclopentadiene	1790	0.00 U	471	26	24-117	40 *	0-30
88-06-2	MSD 2,4,6-Trichlorophenol	1790	0.00 U	1360	76	26-105	1	0-30
95-95-4	MSD 2,4,5-Trichlorophenol	1790	0.00 U	1510	84	30-110	4	0-30
91-58-7	MSD 2-Chloronaphthalene	1790	0.00 U	1200	67	28-102	1	0-30
88-74-4	MSD 2-Nitroaniline <i>o</i> -Nitroaniline	1790	0.00 U	1370	77	33-106	3	0-30
99-09-2	MSD 3-Nitroaniline <i>m</i> -Nitroaniline	1790	0.00 U	1420	80	33-116	7	0-30
131-11-3	MSD Dimethylphthalate	1790	0.00 U	1490	83	38-113	1	0-30
606-20-2	MSD 2,6-Dinitrotoluene	1790	0.00 U	1380	77	29-107	2	0-30
208-96-8	MSD Acenaphthylene	1790	0.00 U	1320	74	25-108	2	0-30
51-28-5	MSD 2,4-Dinitrophenol	1790	0.00 U	700	39	14-102	13	0-30
132-64-9	MSD Dibenzofuran	1790	0.00 U	1430	80	35-112	0	0-30
84-66-2	MSD Diethylphthalate	1790	0.00 U	1570	88	36-122	2	0-30

Semi-Volatile

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Quality Control Summary Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike Duplicate

Client ID: RE15-10-8349MSD

Matrix: R

Lab Sample ID:1202051283

%Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 07:05

Dilution: 1

Analyst: JLD1

Pre Batch ID 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Parmname	Amount Added ug/kg	Sample Conc. ug/kg	U	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
86-73-7	MSD Fluorene	1790	0.00	U	1210	68	33-105	1	0-30
7005-72-3	MSD 4-Chlorophenylphenylether	1790	0.00	U	1570	88	30-110	1	0-30
534-52-1	MSD 2-Methyl-4,6-dinitrophenol	1790	0.00	U	538	30	26-97	20	0-30
100-01-6	MSD 4-Nitroaniline <i>p-Nitroaniline</i>	1790	0.00	U	1580	88	28-135	0	0-30
122-39-4	MSD Diphenylamine	1790	0.00	U	1520	85	33-109	2	0-30
122-66-7	MSD Azobenzene <i>1,2-Diphenylhydrazine</i>	1790	0.00	U	1420	79	31-113	0	0-30
101-55-3	MSD 4-Bromophenylphenylether	1790	0.00	U	1450	81	31-109	2	0-30
118-74-1	MSD Hexachlorobenzene	1790	0.00	U	1440	81	37-99	2	0-30
85-01-8	MSD Phenanthrene	1790	0.00	U	1370	76	29-109	2	0-30
120-12-7	MSD Anthracene	1790	0.00	U	1300	73	19-118	1	0-30
84-74-2	MSD Di-n-butylphthalate	1790	0.00	U	1510	84	39-123	4	0-30
206-44-0	MSD Fluoranthene	1790	23.0	J	1270	70	33-114	4	0-30
85-68-7	MSD Butylbenzylphthalate	1790	0.00	U	2080	117	35-131	2	0-30
56-55-3	MSD Benzo(a)anthracene	1790	0.00	U	1350	76	30-111	2	0-30
91-94-1	MSD 3,3'-Dichlorobenzidine	1790	0.00	U	1820	102	30-124	7	0-30
218-01-9	MSD Chrysene	1790	0.00	U	1410	79	32-108	0	0-30
117-81-7	MSD bis(2-Ethylhexyl)phthalate	1790	0.00	U	1970	110	37-129	5	0-30
117-84-0	MSD Di-n-octylphthalate	1790	0.00	U	2580	145 *	31-143	12	0-30
205-99-2	MSD Benzo(b)fluoranthene	1790	22.2	J	1750	97	29-118	6	0-30
207-08-9	MSD Benzo(k)fluoranthene	1790	0.00	U	1820	102	32-118	1	0-30
50-32-8	MSD Benzo(a)pyrene	1790	11.7	J	1690	94	33-115	0	0-30
193-39-5	MSD Indeno(1,2,3-cd)pyrene	1790	0.00	U	1450	81	29-114	5	0-30

Semi-Volatile

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Quality Control Summary
Spike Recovery Report

SDG Number: 10-1969

Sample Type: Matrix Spike Duplicate

Client ID: RE15-10-8349MSD

Matrix: R

Lab Sample ID: 1202051283

% Moisture: 6.9

Instrument: MSD3.I

Analysis Date: 03/05/2010 07:05

Dilution: 1

Analyst: JLD1

Prep Batch ID: 956676

Inj. Vol: .5 uL

Batch ID: 956677

CAS No	Paramname	Amount Added ug/kg	Sample Conc. ug/kg	Spike Conc. ug/kg	Recovery %	Acceptance Limits	RPD %	Acceptance Limits
53-70-3	MSD Dibenzo(a,h)anthracene	1790	0.00 U	1540	86	27-119	5	0-30
191-24-2	MSD Benzo(ghi)perylene	1790	0.00 U	1320	74	28-112	6	0-30
120-82-1	MSD 1,2,4-Trichlorobenzene	1790	0.00 U	1350	75	28-99	2	0-30

Method Blank Summary

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SDG Number: 10-1969
Client ID: MB for batch 956676
Lab Sample ID: 1202051280
Column: J&W DB-5MS

Client: LANL010
Instrument ID: MSD3.J
Prep Date: 02/23/2010 21:09
Level: LOW

Matrix: SOIL
Data File: s3c0426-1.d
Analyzed: 03/04/10 22:02

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

Client Sample ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
01 LCS for batch 956676	1202051281	s3c0427-1.d	03/04/10	2225
02 RE15-10-8349MS	1202051282	s3c0449.d	03/05/10	0643
03 RE15-10-8349MSD	1202051283	s3c0450.d	03/05/10	0705
04 RE15-10-8349	247551001	s3c0522.d	03/05/10	1717
05 RE15-10-8348	247551002	s3c0523.d	03/05/10	1740

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: MSD3.I

Injection Date/Time: 01-MAR-10 16:17

Column Description: J&W DB-5MS

Lab File ID /chem/MSD3.i/s030110.b/s3c0101.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	46.3
68	Less than 2% of mass 69	1.6
69	Mass 69 Relative Abundance	41.2
70	Less than 2% of mass 69	0.4
127	40 - 60% of mass 198	47.8
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.1
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	75.9
442	Greater than 40% of mass 198	98.6
443	17 - 23% of mass 442	19.6

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
MEGAICAL	WBN100225-08	s3c0103.d	01-MAR-10 16:52
MEGAICAL	WBN100225-07	s3c0104.d	01-MAR-10 17:19
MEGAICAL	WBN100225-06	s3c0105.d	01-MAR-10 17:47
MEGAICAL	WBN100225-05.1	s3c0106.d	01-MAR-10 18:15
MEGAICAL	WBN100225-04	s3c0107.d	01-MAR-10 18:43
MEGAICAL	WBN100225-03	s3c0108.d	01-MAR-10 19:11
MEGAICAL	WBN100225-02	s3c0109.d	01-MAR-10 19:39
MEGAICAL	WBN100225-01	s3c0110.d	01-MAR-10 20:07
MEGAICV	WBN100225-09.1	s3c0112.d	01-MAR-10 20:56
APICAL010	WBN100218-01	s3c0113.d	01-MAR-10 21:24
APICAL020	WBN100218-02	s3c0114.d	01-MAR-10 21:45
APICAL040	WBN100218-03.1	s3c0115.d	01-MAR-10 22:06
APICAL050	WBN100218-04	s3c0116.d	01-MAR-10 22:28
APICAL080	WBN100218-05	s3c0117.d	01-MAR-10 22:49
APICAL100	WBN100218-06	s3c0118.d	01-MAR-10 23:10
APICAL120	WBN100218-07	s3c0119.d	01-MAR-10 23:31

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: MSD3.1

Injection Date/Time: 01-MAR-10 16:17

Column Description: J&W DB-5MS

Lab File ID /chem/MSD3.i/s030110.b/s3c0101.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	46.3
68	Less than 2% of mass 69	1.6
69	Mass 69 Relative Abundance	41.2
70	Less than 2% of mass 69	0.4
127	40 - 60% of mass 198	47.8
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.1
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	75.9
442	Greater than 40% of mass 198	98.6
443	17 - 23% of mass 442	19.6

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
APICV	WBN100218-08.1	s3c0127.d	02-MAR-10 02:19

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: MSD3.I

Injection Date/Time: 04-MAR-10 20:40

Column Description: J&W DB-5MS

Lab File ID /chem/MSD3.i/s030410a.b/s3c0422.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	48.8
68	Less than 2% of mass 69	1.5
69	Mass 69 Relative Abundance	45
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	50.9
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	24.4
365	Greater than 1% of mass 198	3.2
441	Present, but less than mass 443	68.1
442	Greater than 40% of mass 198	93.5
443	17 - 23% of mass 442	22

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
MEGACVS	WBN100225-09.4	s3c0423.d	04-MAR-10 20:52
APCVS	WBN100218-08.3	s3c0424.d	04-MAR-10 21:16
SBLK01	1202051280	s3c0426-1.d	04-MAR-10 22:02
SBLK01LCS	1202051281	s3c0427-1.d	04-MAR-10 22:25
RE15-10-8349MS	1202051282	s3c0449.d	05-MAR-10 06:43
RE15-10-8349MSD	1202051283	s3c0450.d	05-MAR-10 07:05

Instrument Performance Check

DFTPP

Lab Name GEL Laboratories LLC

Client SDG: 10-1969

Instrument ID: MSD3.1

Injection Date/Time: 05-MAR-10 08:48

Column Description: J&W DB-5MS

Lab File ID /chem/MSD3.i/s030510.b/s3c0501.d

m/e	Ion Abundance Criteria	% Relative Abundance
198	Base Peak, 100% Relative Abundance	100
51	30 - 60% of mass 198	51.4
68	Less than 2% of mass 69	1.6
69	Mass 69 Relative Abundance	47.1
70	Less than 2% of mass 69	0.5
127	40 - 60% of mass 198	51.9
197	0 - 1% of mass 198	0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	24.6
365	Greater than 1% of mass 198	3.3
441	Present, but less than mass 443	70.4
442	Greater than 40% of mass 198	98.1
443	17 - 23% of mass 442	21.6

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

Client Sample ID	Lab Sample ID	Lab File ID	Time Analyzed
MEGACVS	WBN100225-09.2	s3c0503.d	05-MAR-10 09:42
APCVS	WBN100218-08.2	s3c0505.d	05-MAR-10 10:33
RE15-10-8349	247551001	s3c0522.d	05-MAR-10 17:17
RE15-10-8348	247551002	s3c0523.d	05-MAR-10 17:40

Internal Standard Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 10-1969

Instrument: MSD3.I

STD Analysis Time: 04-MAR-10 20:52

GC Column: J&W DB-5MS

Data File: s3c0423.d

	1,4-Dichlorobenzene-d4			Naphthalene-d8			Acenaphthene-d10			Phenanthrene-d10			Chrysene-d12			Perylene-d12		
	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #
12 Hour STD	310566		3.72	1248243		4.58	665833		5.83	1064221		6.83	692525		8.46	558482		9.8
Upper Limit	621132		4.22	2496486		5.08	1331666		6.33	2128442		7.33	1385050		8.96	1116964		10.3
Lower Limit	155283		3.22	624122		4.08	332917		5.33	532111		6.33	346263		7.96	279241		9.3
Sample ID																		
BLK01	287052		3.71	1107759		4.58	624331		5.83	989866		6.83	632239		8.45	436182		9.8
BLK01LCS	268241		3.71	1108940		4.58	615803		5.83	1046429		6.83	739603		8.46	558236		9.8
RE15-10-8349MS	308884		3.72	1246448		4.58	650147		5.83	1006118		6.84	509381		8.46	326468		9.81
RE15-10-8349MSD	240024		3.72	995471		4.58	533852		5.83	828277		6.84	477217		8.46	294722		9.81

Area Upper Limit = +100% of internal standard area

Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT

RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

* Value outside of QC Limits

Internal Standard Area and RT Summary

Lab Name : GEL Laboratories LLC

Client SDG: 10-1969

Instrument: MSD3.I

STD Analysis Time: 05-MAR-10 09:42

GC Column: J&W DB-5MS

Data File: s3c0503.d

	1,4-Dichlorobenzene-d4			Naphthalene-d8			Acenaphthene-d10			Phenanthrene-d10			Chrysene-d12			Perylene-d12		
	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #	Area	#	RT #
12 Hour STD	230288		3.7	943721		4.56	514118		5.81	894626		6.82	791776		8.44	694468		9.76
Upper Limit	460576		4.2	1887442		5.06	1028236		6.31	1789252		7.32	1583552		8.94	1388936		10.3
Lower Limit	115144		3.2	471861		4.06	257059		5.31	447313		6.32	395888		7.94	347234		9.26
Sample ID																		
RE15-10-8349	378241		3.7	1491036		4.56	845562		5.81	1443809		6.82	859512		8.43	423786		9.76
RE15-10-8348	299596		3.7	1205998		4.56	680709		5.81	1196602		6.82	798452		8.43	461412		9.76

Area Upper Limit = +100% of internal standard area

Area Lower Limit = - 50% of internal standard area

RT Upper Limit = + 0.50 minutes of internal standard RT

RT Lower Limit = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk

* Value outside of QC Limits

Sample Data

Semi-Volatile
Certificate of Analysis
Sample Summary

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SDG Number: 10-1969
Lab Sample ID: 247551002

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.08 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 3.7
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	345	ug/kg	69.0	345
108-95-2	Phenol	U	345	ug/kg	69.0	345
95-57-8	2-Chlorophenol	U	345	ug/kg	69.0	345
106-46-7	1,4-Dichlorobenzene	U	345	ug/kg	69.0	345
621-64-7	N-Nitrosodipropylamine	U	345	ug/kg	69.0	345
59-50-7	4-Chloro-3-methylphenol	U	345	ug/kg	69.0	345
83-32-9	Acenaphthene	U	34.5	ug/kg	11.4	34.5
121-14-2	2,4-Dinitrotoluene	U	345	ug/kg	34.5	345
100-02-7	4-Nitrophenol	U	345	ug/kg	114	345
87-86-5	Pentachlorophenol	U	345	ug/kg	86.3	345
129-00-0	Pyrene	U	34.5	ug/kg	10.4	34.5
110-86-1	Pyridine	U	345	ug/kg	69.0	345
62-53-3	Aniline	U	345	ug/kg	104	345
111-44-4	bis(2-Chloroethyl) ether	U	345	ug/kg	69.0	345
541-73-1	1,3-Dichlorobenzene	U	345	ug/kg	69.0	345
100-51-6	Benzyl alcohol	U	345	ug/kg	104	345
95-50-1	1,2-Dichlorobenzene	U	345	ug/kg	69.0	345
108-60-1	bis(2-Chloroisopropyl) ether	U	345	ug/kg	69.0	345
95-48-7	o-Cresol	U	345	ug/kg	69.0	345
65794-96-9	m,p-Cresols	U	345	ug/kg	104	345
67-72-1	Hexachloroethane	U	345	ug/kg	69.0	345
98-95-3	Nitrobenzene	U	345	ug/kg	69.0	345
78-59-1	Isophorone	U	345	ug/kg	69.0	345
88-75-5	2-Nitrophenol	U	345	ug/kg	69.0	345
105-67-9	2,4-Dimethylphenol	U	345	ug/kg	121	345
111-91-1	bis(2-Chloroethoxy)methane	U	345	ug/kg	69.0	345
120-83-2	2,4-Dichlorophenol	U	345	ug/kg	69.0	345
65-85-0	Benzoic acid	U	690	ug/kg	173	690
91-20-3	Naphthalene	U	34.5	ug/kg	10.4	34.5
106-47-8	4-Chloroaniline	U	345	ug/kg	69.0	345
87-68-3	Hexachlorobutadiene	U	345	ug/kg	69.0	345
91-57-6	2-Methylnaphthalene	U	34.5	ug/kg	6.90	34.5
77-47-4	Hexachlorocyclopentadiene	U	345	ug/kg	69.0	345
88-06-2	2,4,6-Trichlorophenol	U	345	ug/kg	69.0	345
95-95-4	2,4,5-Trichlorophenol	U	345	ug/kg	69.0	345
91-58-7	2-Chloronaphthalene	U	34.5	ug/kg	11.4	34.5
88-74-4	2-Nitroaniline	U	345	ug/kg	69.0	345
	<i>o</i> -Nitroaniline					
99-09-2	3-Nitroaniline	U	345	ug/kg	69.0	345

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

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 247551002	Date Received: 02/20/2010 08:55	%Moisture: 3.7
	Client: LANL010	Project: LANL01004
Client ID: RE15-10-8348	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/05/2010 17:40	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.08 g	Final Volume: 1 mL
Data File: s3c0523.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m-Nitroaniline</i>					
131-11-3	Dimethylphthalate	U	345	ug/kg	69.0	345
606-20-2	2,6-Dinitrotoluene	U	345	ug/kg	34.5	345
208-96-8	Acenaphthylene	U	34.5	ug/kg	10.4	34.5
51-28-5	2,4-Dinitrophenol	U	690	ug/kg	131	690
132-64-9	Dibenzofuran	U	345	ug/kg	69.0	345
84-66-2	Diethylphthalate	U	345	ug/kg	69.0	345
86-73-7	Fluorene	U	34.5	ug/kg	10.4	34.5
7005-72-3	4-Chlorophenylphenylether	U	345	ug/kg	69.0	345
534-52-1	2-Methyl-4,6-dinitrophenol	U	345	ug/kg	69.0	345
100-01-6	4-Nitroaniline	U	345	ug/kg	104	345
	<i>p-Nitroaniline</i>					
122-39-4	Diphenylamine	U	345	ug/kg	69.0	345
122-66-7	Azobenzene	U	345	ug/kg	69.0	345
	<i>1,2-Diphenylhydrazine</i>					
101-55-3	4-Bromophenylphenylether	U	345	ug/kg	69.0	345
118-74-1	Hexachlorobenzene	U	345	ug/kg	69.0	345
85-01-8	Phenanthrene	U	34.5	ug/kg	10.4	34.5
120-12-7	Anthracene	U	34.5	ug/kg	6.90	34.5
84-74-2	Di-n-butylphthalate	U	345	ug/kg	69.0	345
206-44-0	Fluoranthene	U	34.5	ug/kg	10.4	34.5
85-68-7	Butylbenzylphthalate	U	345	ug/kg	69.0	345
56-55-3	Benzo(a)anthracene	U	34.5	ug/kg	10.4	34.5
91-94-1	3,3'-Dichlorobenzidine	U	345	ug/kg	104	345
218-01-9	Chrysene	U	34.5	ug/kg	10.4	34.5
117-81-7	bis(2-Ethylhexyl)phthalate	U	345	ug/kg	69.0	345
117-84-0	Di-n-octylphthalate	U	345	ug/kg	69.0	345
205-99-2	Benzo(b)fluoranthene	U	34.5	ug/kg	10.4	34.5
207-08-9	Benzo(k)fluoranthene	U	34.5	ug/kg	10.4	34.5
50-32-8	Benzo(a)pyrene	U	34.5	ug/kg	10.4	34.5
193-39-5	Indeno(1,2,3-cd)pyrene	U	34.5	ug/kg	10.4	34.5
53-70-3	Dibenzo(a,h)anthracene	U	34.5	ug/kg	10.4	34.5
191-24-2	Benzo(ghi)perylene	U	34.5	ug/kg	10.4	34.5
120-82-1	1,2,4-Trichlorobenzene	U	345	ug/kg	69.0	345

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.74	439	ug/kg		JA
	Unknown	5.51	238	ug/kg		J

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

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 247551002	Date Received: 02/20/2010 08:55	% Moisture: 3.7
	Client: LANL010	Project: LANL01004
Client ID: RE15-10-8348	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/05/2010 17:40	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.08 g	Final Volume: 1 mL
Data File: s3c0523.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
---------	----------	-----------	--------	-------	---------	---------

Tentatively Identified Compound Summary			Estimated			
CAS No.	Tentatively Identified Compound (TIC)	RT		Units	Fit	Qual
77-53-2	Cedrol	6.28	253	ug/kg	96	NJ
	Unknown	7.93	210	ug/kg		J
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1800	ug/kg	98	NJ
	Unknown	8.47	187	ug/kg		J
	Unknown	8.75	295	ug/kg		J
301-02-0	9-Octadecenamamide, (Z)-	8.97	492	ug/kg	89	NJ
	Unknown	11.36	171	ug/kg		J
	Unknown	12.28	216	ug/kg		J
	Unknown	13.98	808	ug/kg		J

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030510.b/s3c0523.d
Lab Smp Id: 247551002 Client Smp ID: RE15-10-8348
Inj Date : 05-MAR-2010 17:40
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |247551002|956677|1|SVMF|1|LANL
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
Meth Date : 07-Mar-2010 14:06 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.08000	weight of sample
M	3.67360	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.699	3.703	(1.000)	299596	40.0000	
* 29 Naphthalene-d8	136	4.560	4.564	(1.000)	1205998	40.0000	
* 46 Acenaphthene-d10	164	5.811	5.811	(1.000)	680709	40.0000	
* 67 Phenanthrene-d10	188	6.817	6.816	(1.000)	1196602	40.0000	
* 91 Chrysene-d12	240	8.432	8.437	(1.000)	798452	40.0000	
* 98 Perylene-d12	264	9.764	9.763	(1.000)	461412	40.0000	
\$ 3 2-Fluorophenol	112	2.902	2.896	(0.785)	595289	71.9767	2480
\$ 5 Phenol-d5	99	3.426	3.420	(0.926)	757854	71.8365	2480
\$ 20 Nitrobenzene-d5	82	4.062	4.062	(0.891)	356787	34.5267	1190
\$ 39 2-Fluorobiphenyl	172	5.303	5.302	(0.913)	678570	38.7127	1340
\$ 60 2,4,6-Tribromophenol	329	6.357	6.356	(1.094)	195795	92.2341	3180
\$ 81 p-Terphenyl-d14	244	7.742	7.741	(0.918)	685624	50.3122	1740

ION RATIO REPORT

SV REPORT

Data file: s3c0523.d

Report Date: 03/07/2010 15:04

Lab. ID: 247551002

SampleType: SAMPLE

Injection Date: 05-MAR-2010 17:40

Operator: JLD1

Instrument: MSD3.i

Sample Info: |247551002|956677|1|SVMF|1|LANL

Miscellaneous Info: |MSD8270_S|WBN100227-01|

Comment:

Method used: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1969

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	42245	3.43	3.49	80-120	100	(T)
93	1806	3.47	3.49	238-298	4	(Q)

17	N-Nitrosodipropylamine		CAS#: 621-64-7			
70	51844	4.06	3.94	80-120	100	(T)
42	37797	4.06	3.94	58-118	73	(T)

27	Benzoic acid		CAS#: 65-85-0			
105	1602	4.56	4.34	80-120	100	(T)
122	277	4.56	4.34	51-111	17	(QT)
77	4729	4.56	4.34	41-101	295	(QT)

40	2-Chloronaphthalene		CAS#: 91-58-7			
162	20912	5.54	5.41	80-120	100	(T)
164	1094	5.54	5.41	3- 63	5	(T)
127	1611	5.54	5.41	11- 71	8	(QT)

42	o-Nitroaniline		CAS#: 88-74-4			
65	27448	5.54	5.47	80-120	100	(T)
92	34088	5.54	5.47	32- 92	124	(QT)
138	2175	5.54	5.47	67-127	8	(QT)

43	Dimethylphthalate		CAS#: 131-11-3			
163	120571	5.81	5.58	80-120	100	(T)
164	684203	5.81	5.58	0- 40	567	(QT)

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
44	2,6-Dinitrotoluene			CAS#: 606-20-2		
165	87784	5.81	5.63	80-120	100	(T)
63	1733	5.81	5.63	64-124	2	(QT)

50	2,4-Dinitrotoluene			CAS#: 121-14-2		
165	87784	5.81	5.93	80-120	100	(T)
89	1496	5.81	5.92	48-108	2	(QT)
63	1733	5.81	5.92	25- 85	2	(QT)

53	Fluorene			CAS#: 86-73-7		
166	10772	6.36	6.20	80-120	100	(T)
165	10852	6.36	6.20	62-122	101	(T)
167	3424	6.36	6.20	0- 44	32	(T)

55	2-Methyl-4,6-dinitrophenol			CAS#: 534-52-1		
198	607	6.36	6.21	80-120	100	(T)
105	1398	6.36	6.21	16- 76	230	(QT)
51	1312	6.36	6.21	52-112	216	(QT)

61	4-Bromophenylphenylether			CAS#: 101-55-3		
248	12059	6.36	6.51	80-120	100	(T)
141	87481	6.36	6.51	62-122	725	(QT)
250	23792	6.36	6.51	66-126	197	(QT)

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030510.b/s3c0523.d
Lab Smp Id: 247551002 Client Smp ID: RE15-10-8348
Inj Date : 05-MAR-2010 17:40
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |247551002|956677|1|SVMF|1|LANL
Misc Info : |MSD8270 S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
Meth Date : 07-Mar-2010 14:06 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpclp1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.08000	weight of sample
M	3.67360	% moisture

Cpnd Variable Local Compound Variable

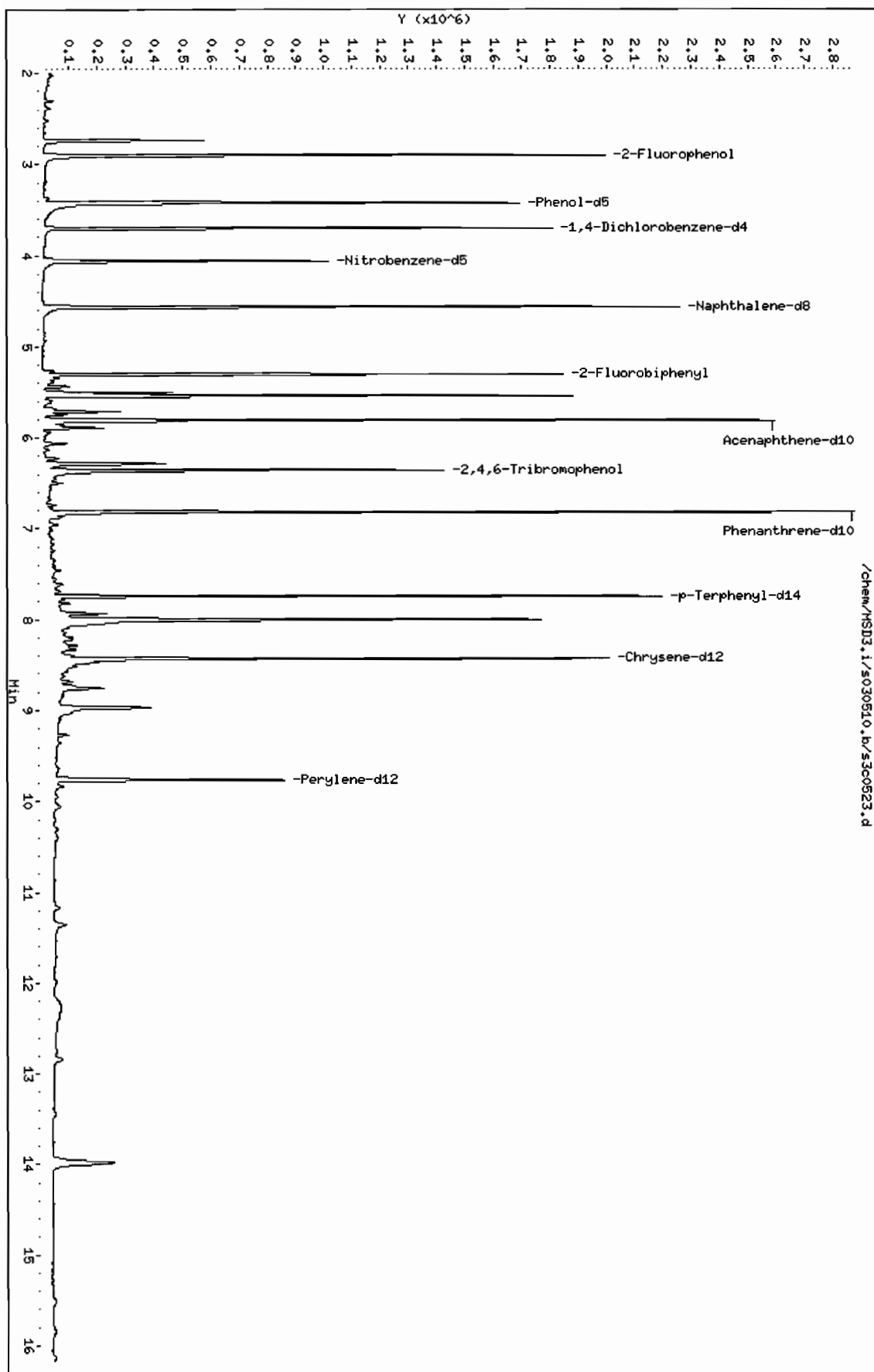
ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.699	2049353	40.000
* 46 Acenaphthene-d10	5.811	3177568	40.000
* 91 Chrysene-d12	8.432	2515805	40.000
* 98 Perylene-d12	9.764	1319813	40.000

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

RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL (ng/ul)	FINAL (ug/Kg)		LIBRARY	LIB ENTRY	
=====	=====	=====	=====	=====	=====	=====	=====
Unknown Aldol Condensate					CAS #:		
2.741	652343	12.7326633	439	0		0	10
Unknown					CAS #:		
5.506	547700	6.89458131	238	0		0	46
Cedrol					CAS #: 77-53-2		
6.282	582553	7.33331575	253	96	NIST05.L	72887	46
Unknown					CAS #:		
7.929	382128	6.07563449	210	0		0	91
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa					CAS #: 511-15-9		
7.999	3272612	52.0328354	1800	98	NIST05.L	116239	91
Unknown					CAS #:		
8.469	341311	5.42666909	187	0		0	91
Unknown					CAS #:		
8.753	537194	8.54110177	295	0		0	91
9-Octadecenamide, (Z)-					CAS #: 301-02-0		
8.967	896493	14.2537697	492	89	NIST05.L	112655	91
Unknown					CAS #:		
11.358	163009	4.94035815	170	0		0	98
Unknown					CAS #:		
12.283	206783	6.26703854	216	0		0	98
Unknown					CAS #:		
13.979	772847	23.4229129	808	0		0	98

Data File: /chem/HSD3.i/s030510.b/s3c0523.d
 Date : 05-MAR-2010 17:40
 Client ID: RE15-10-8348
 Sample Info: 1247551002195667711SWH11LNL
 Volume Injected (uL): 0.5
 Column phase: J&W DB-SHS

Instrument: HSD3.i
 Operator: JLD1
 Column diameter: 0.20



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: 1247551002195667711ISVMFI1ILANL

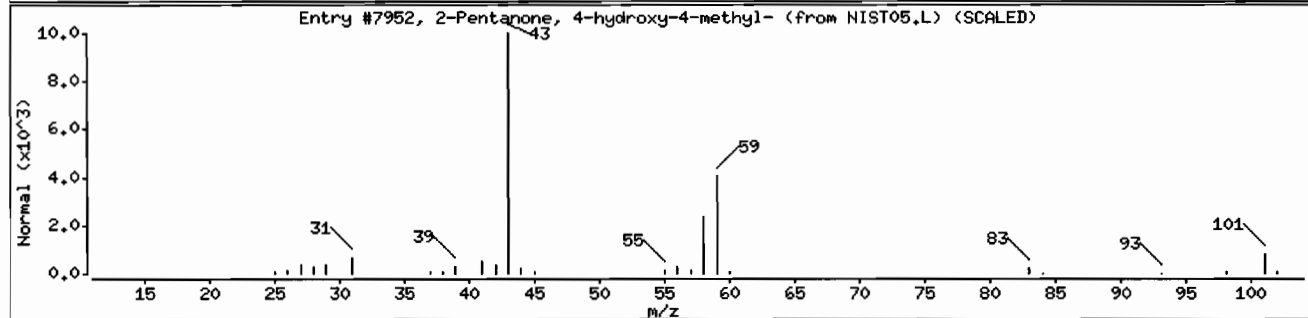
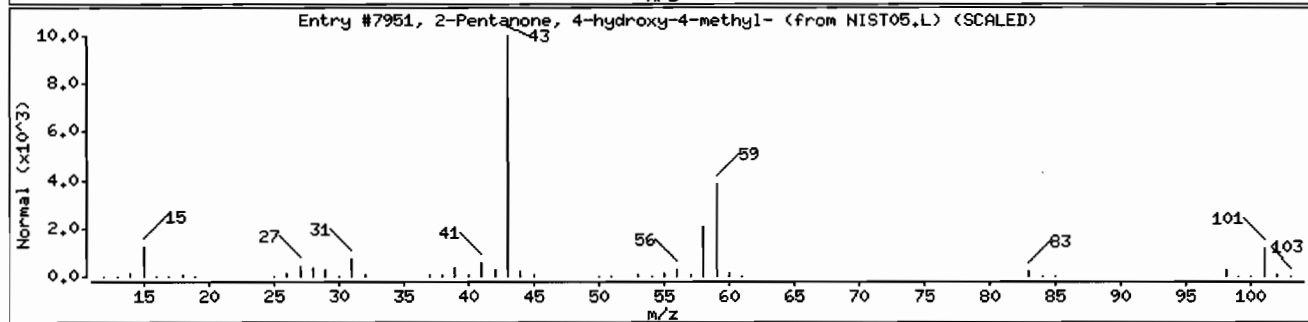
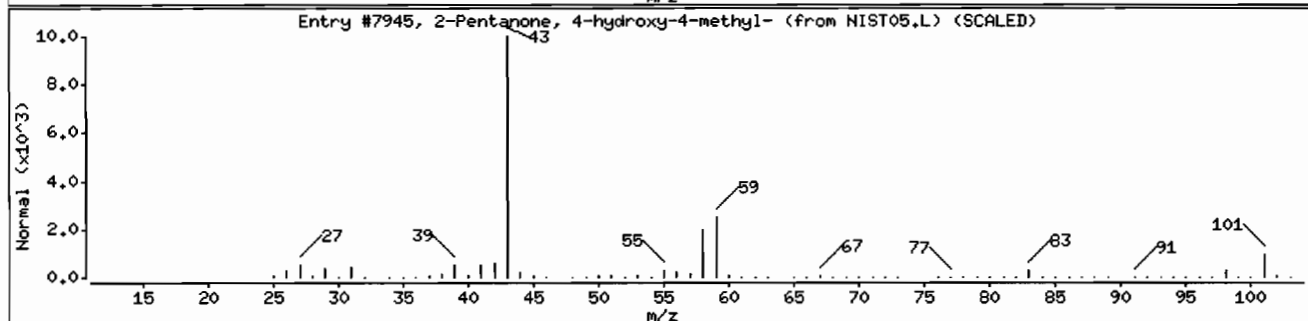
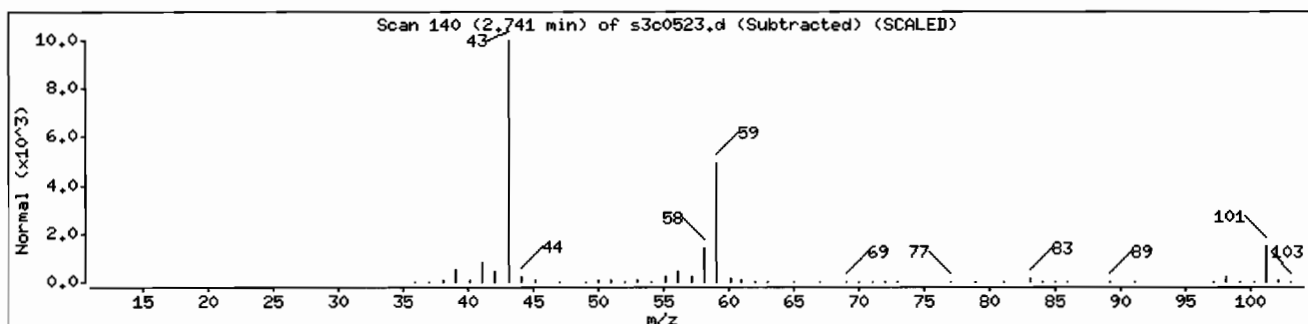
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

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



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: 1247551002195667711SVHF111LANL

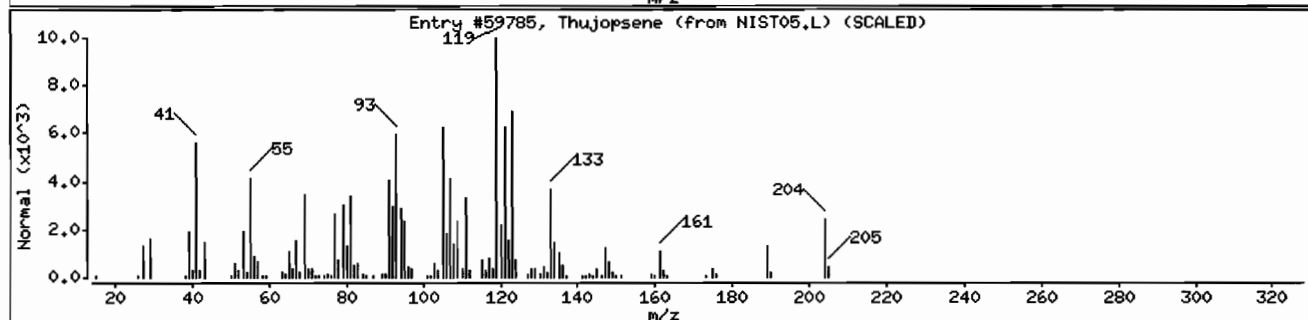
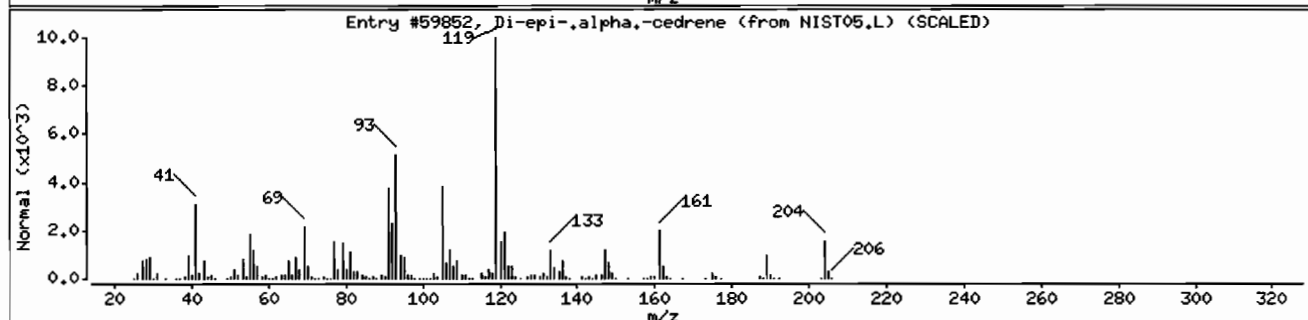
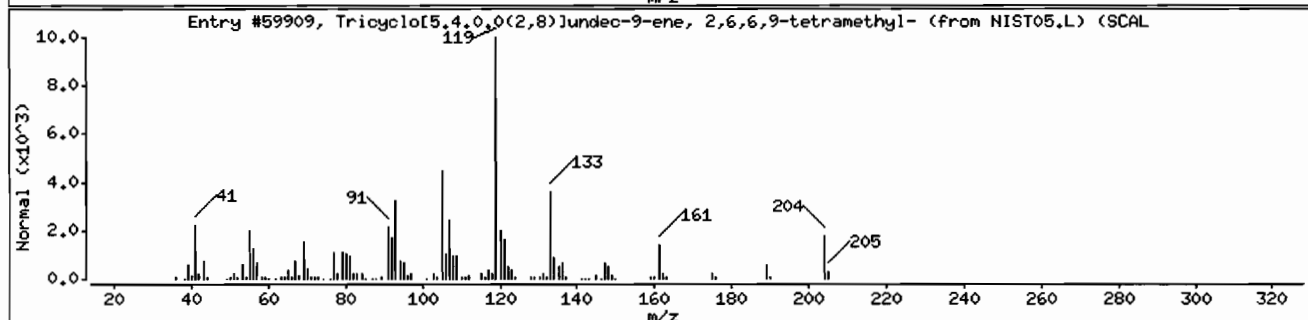
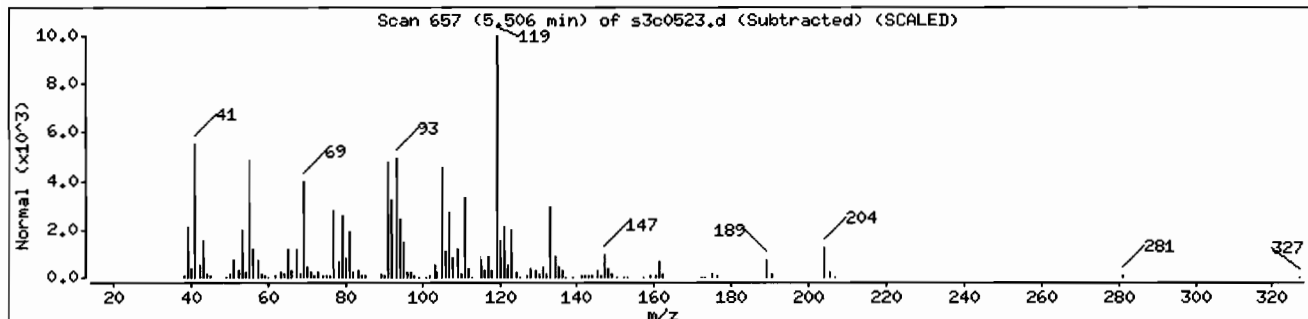
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Tricyclo[5.4.0.0(2,8)]undec-9-ene, 2,6,6	5989-08-2	NIST05.L	59909	78	C15H24	204
Di-epi-.alpha.-cedrene	1000156-13-3	NIST05.L	59852	70	C15H24	204
Thujopsene	470-40-6	NIST05.L	59785	64	C15H24	204



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: 1247551002195667711ISVHF11ILANL

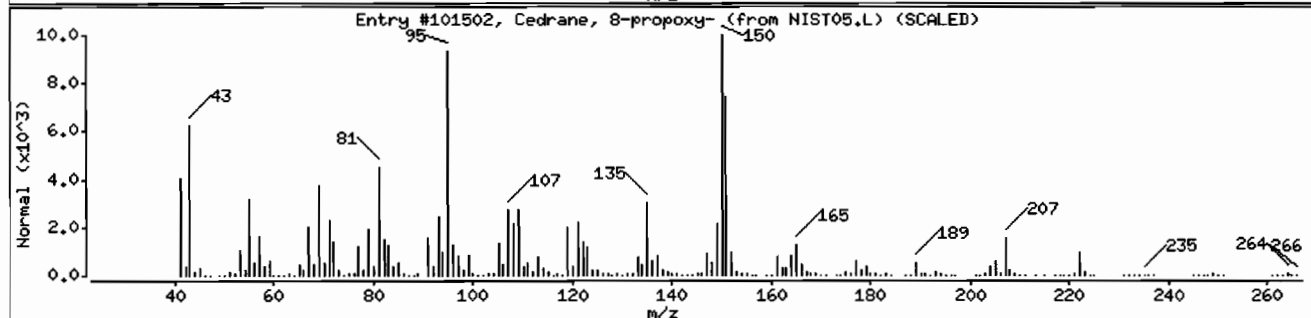
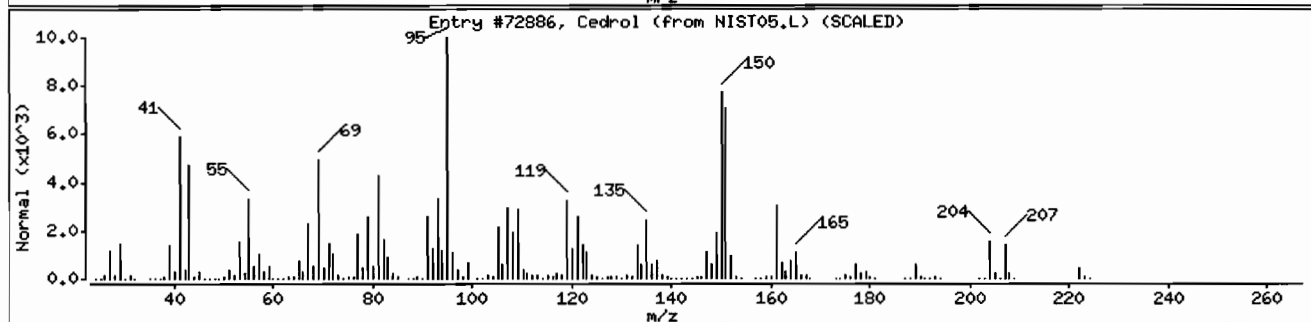
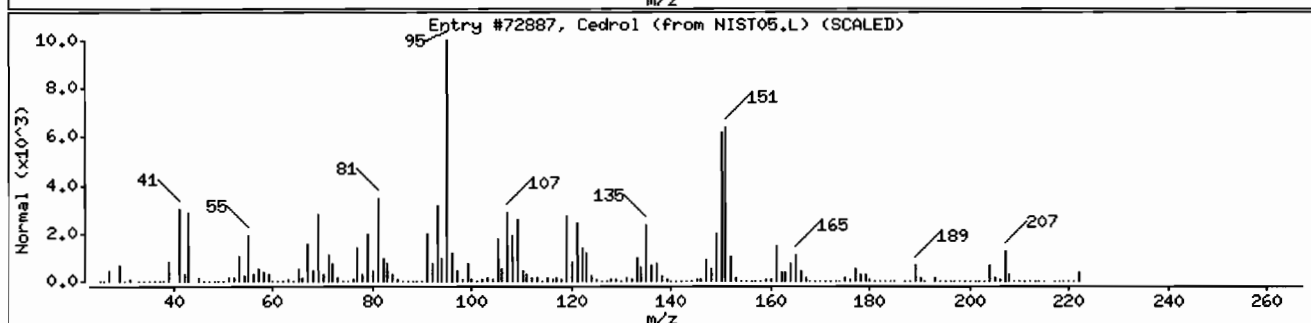
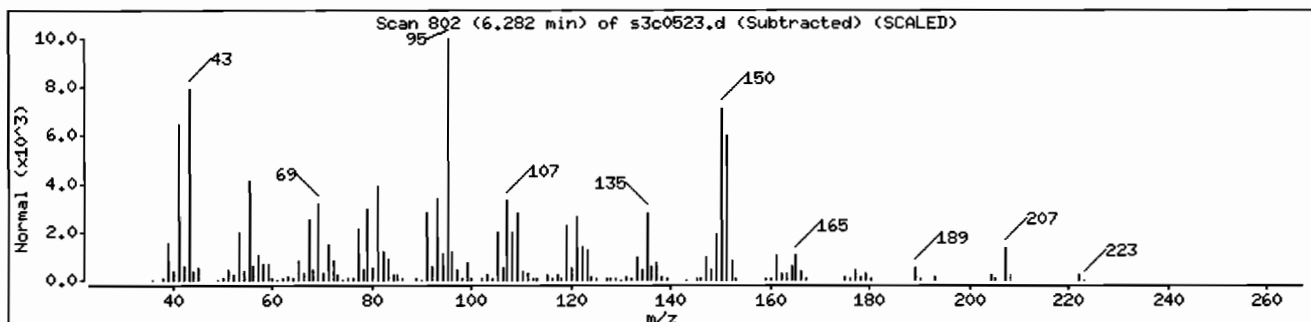
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cedrol	77-53-2	NIST05.L	72887	96	C15H26O	222
Cedrol	77-53-2	NIST05.L	72886	91	C15H26O	222
Cedrane, 8-propoxy-	19870-75-8	NIST05.L	101502	91	C18H32O	264



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: I247551002195667711SVHF11ILANL

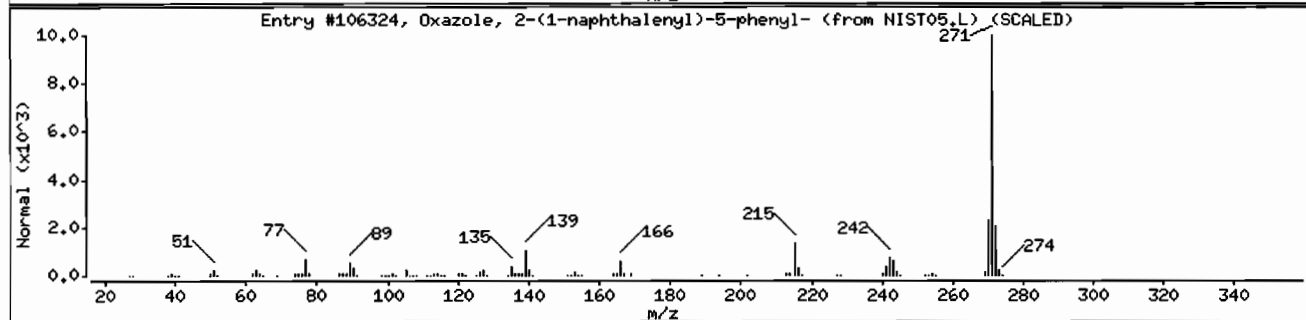
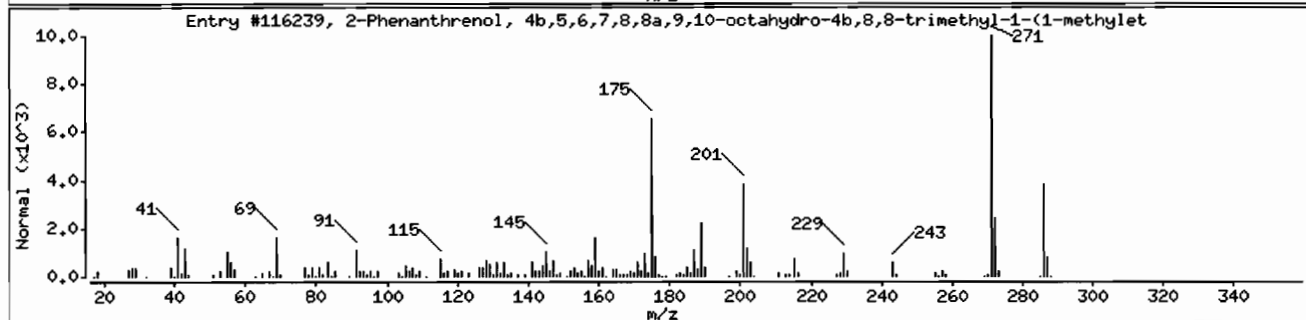
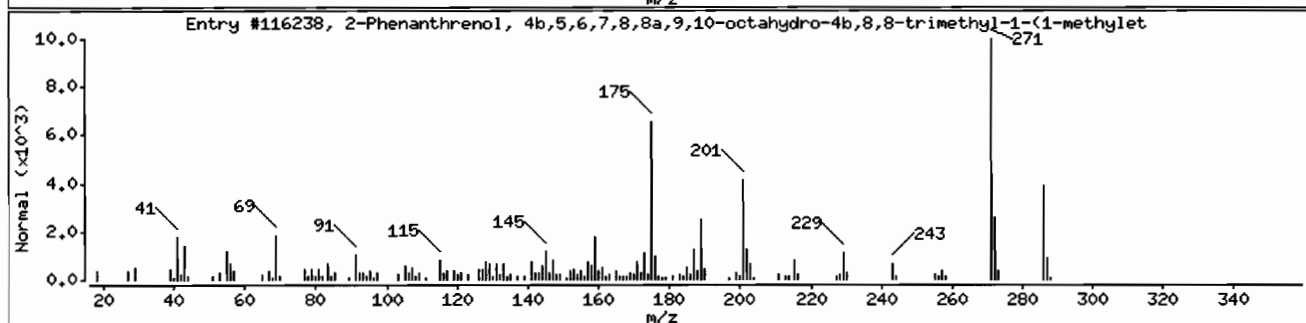
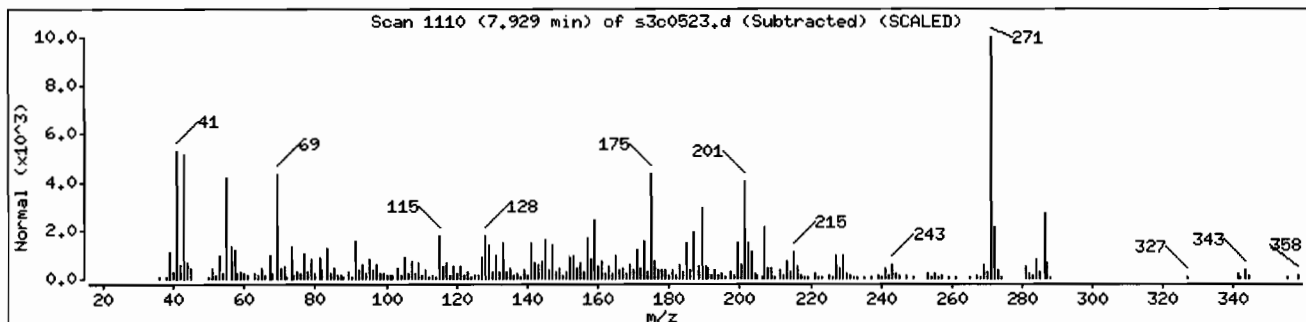
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116238	94	C20H30O	286
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116239	81	C20H30O	286
Oxazole, 2-(1-naphthalenyl)-5-phenyl-	846-63-9	NIST05.L	106324	38	C19H13NO	271



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: 1247551002195667711SVMF11ILANL

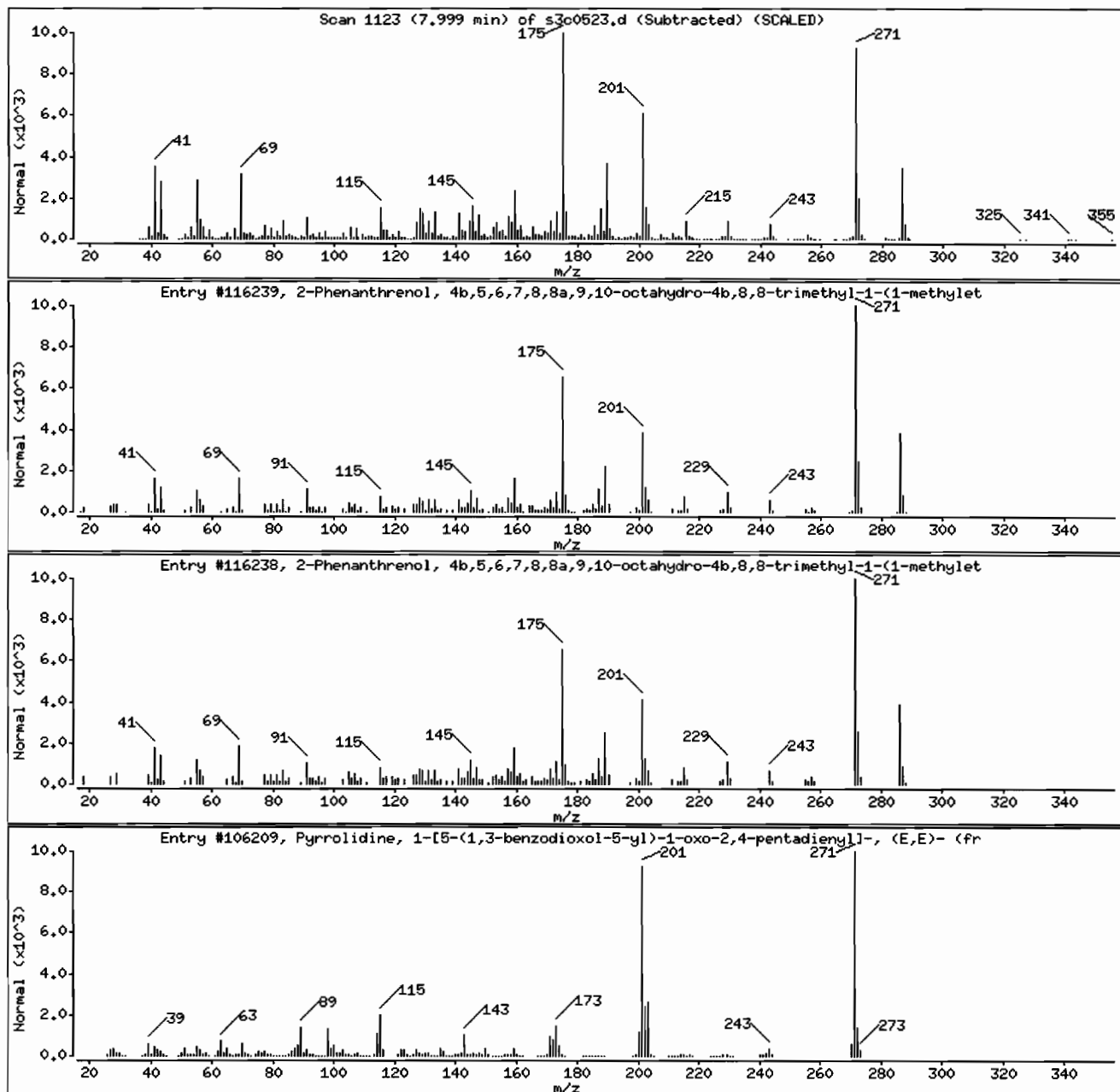
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116239	98	C20H30O	286
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116238	91	C20H30O	286
Pyrrolidine, 1-[5-(1,3-benzodioxol-5-yl)	25924-78-1	NIST05.L	106209	38	C16H17NO3	271



Date: 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: HSD3.i

Sample Info: 1247551002195667711SVHF111LANL

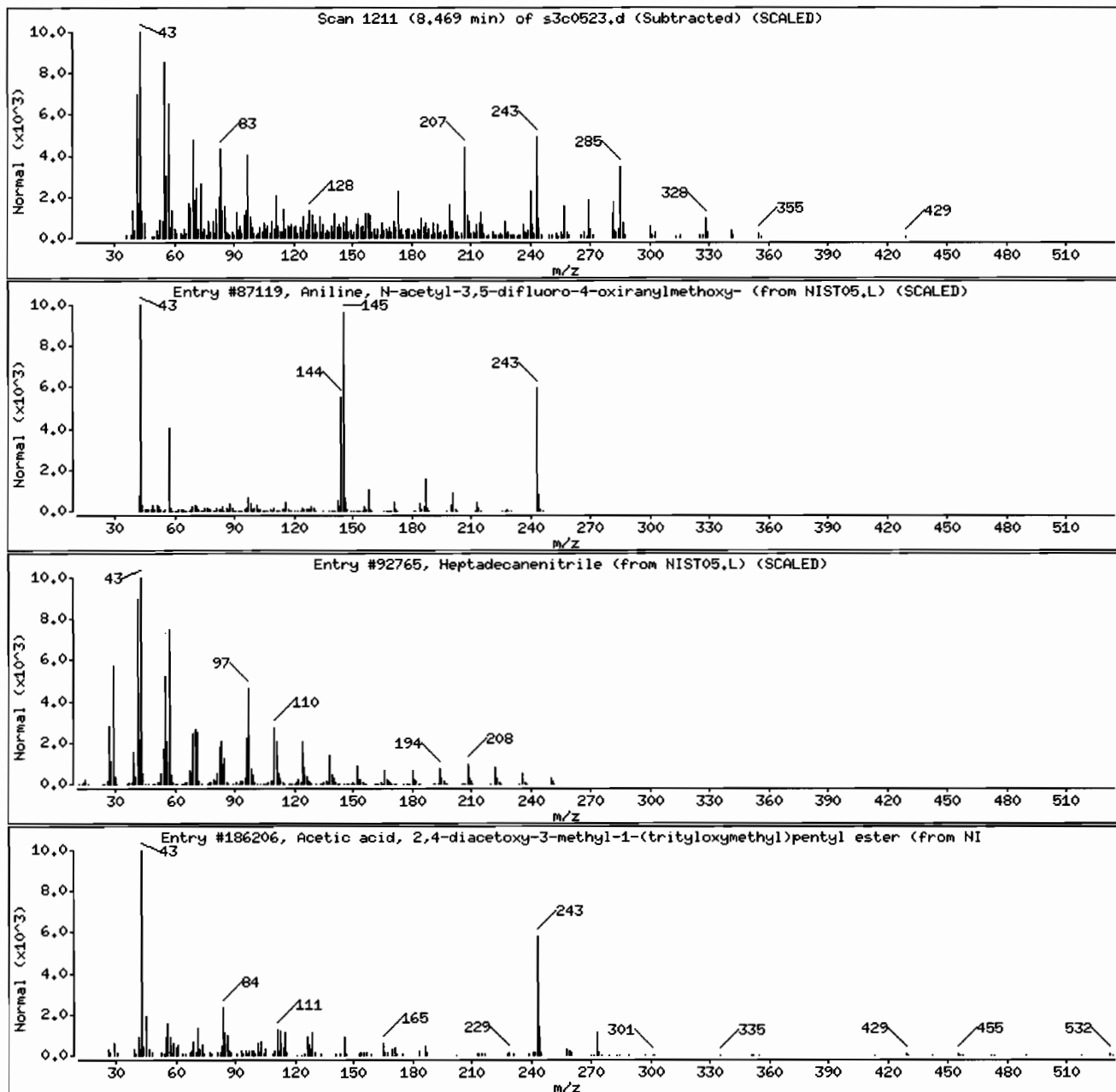
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Aniline, N-acetyl-3,5-difluoro-4-oxirany	1000116-39-4	NIST05.L	87119	25	C11H11F2N03	243
Heptadecanenitrile	5399-02-0	NIST05.L	92765	11	C17H33N	251
Acetic acid, 2,4-diacetoxy-3-methyl-1-(t	1000187-85-5	NIST05.L	186206	11	C32H36O7	532



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: 1247551002195667711SVMF11ILANL

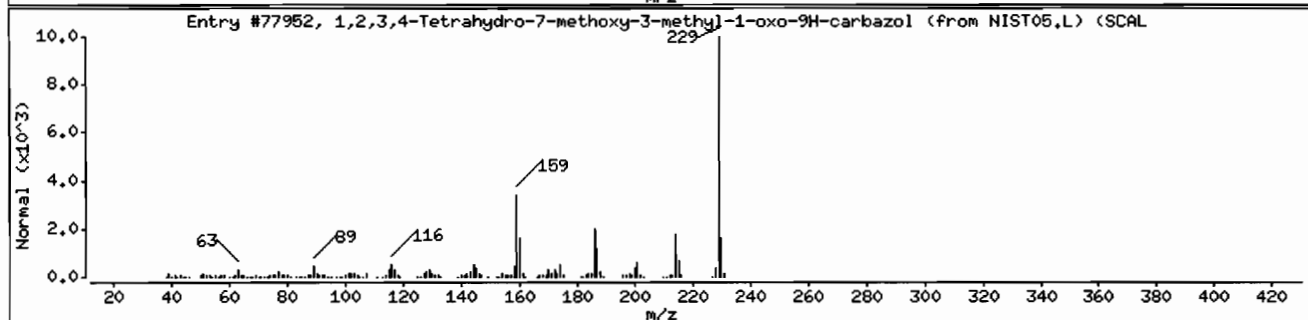
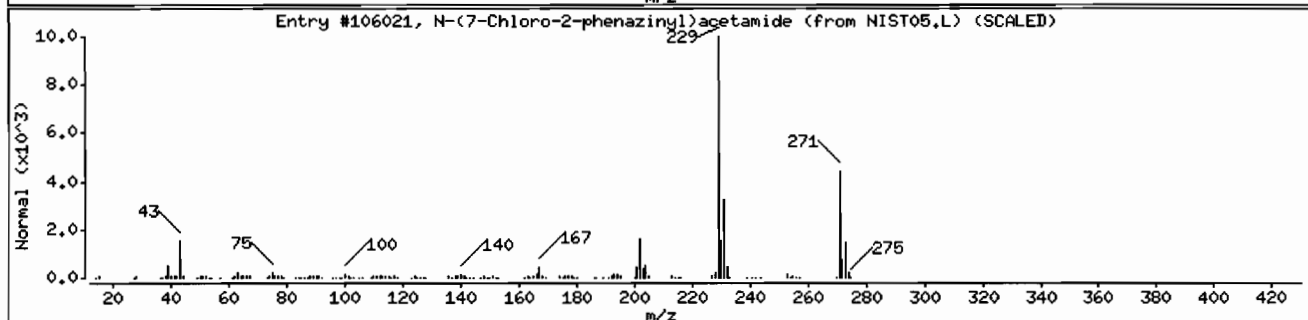
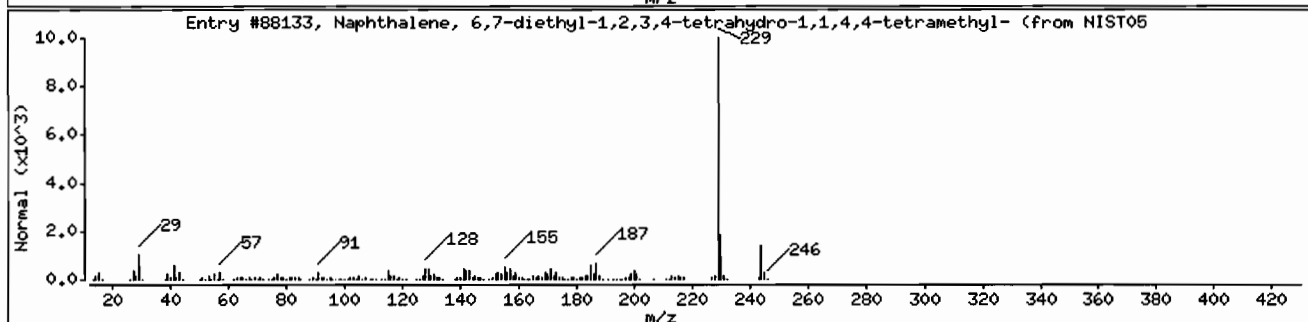
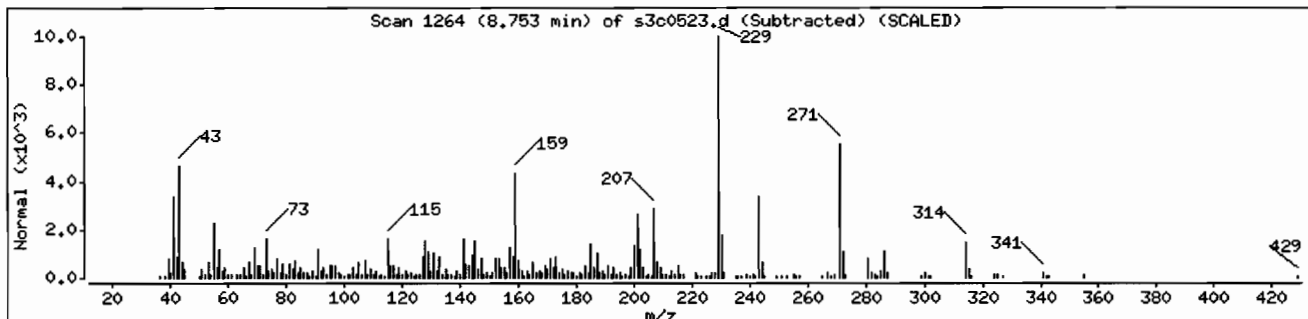
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Naphthalene, 6,7-diethyl-1,2,3,4-tetrahy	55741-10-1	NIST05.L	88133	51	C18H28	244
N-(7-Chloro-2-phenazinyl)acetamide	23677-13-6	NIST05.L	106021	43	C14H10ClN3O	271
1,2,3,4-Tetrahydro-7-methoxy-3-methyl-1-	32550-51-9	NIST05.L	77952	43	C14H15NO2	229



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: I247551002195667711SVHF11ILANL

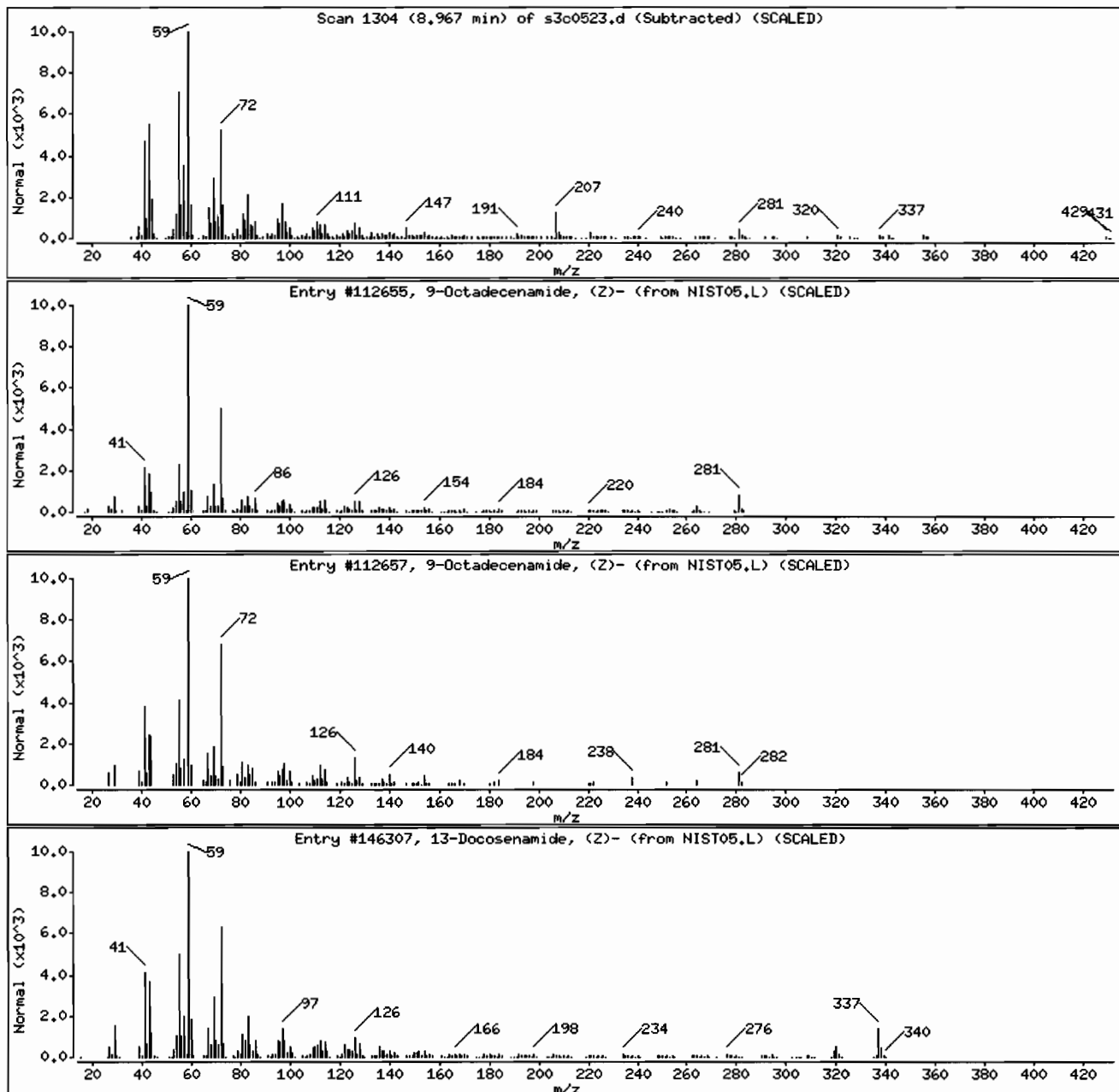
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
9-Octadecenamide, (Z)-	301-02-0	NIST05.L	112655	89	C18H35NO	281
9-Octadecenamide, (Z)-	301-02-0	NIST05.L	112657	86	C18H35NO	281
13-Docosenamide, (Z)-	112-84-5	NIST05.L	146307	76	C22H43NO	337



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: I2475510021956677111SVHF111LANL

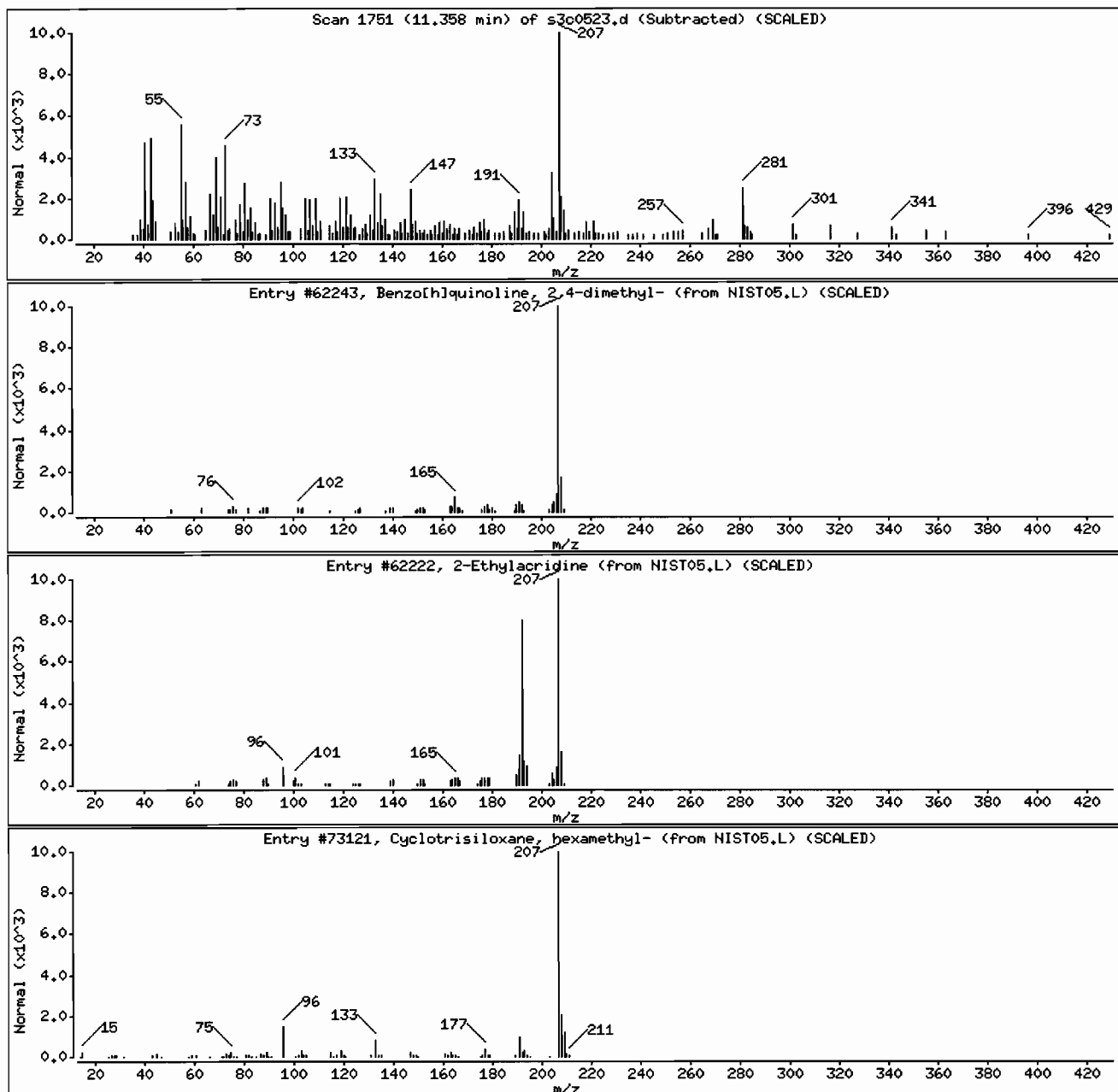
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Benzo[h]quinoline, 2,4-dimethyl-	605-67-4	NIST05.L	62243	38	C15H13N	207
2-Ethylacridine	55751-83-2	NIST05.L	62222	38	C15H13N	207
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	38	C6H18O3Si3	222



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: I247551002195667711SVHF111LANL

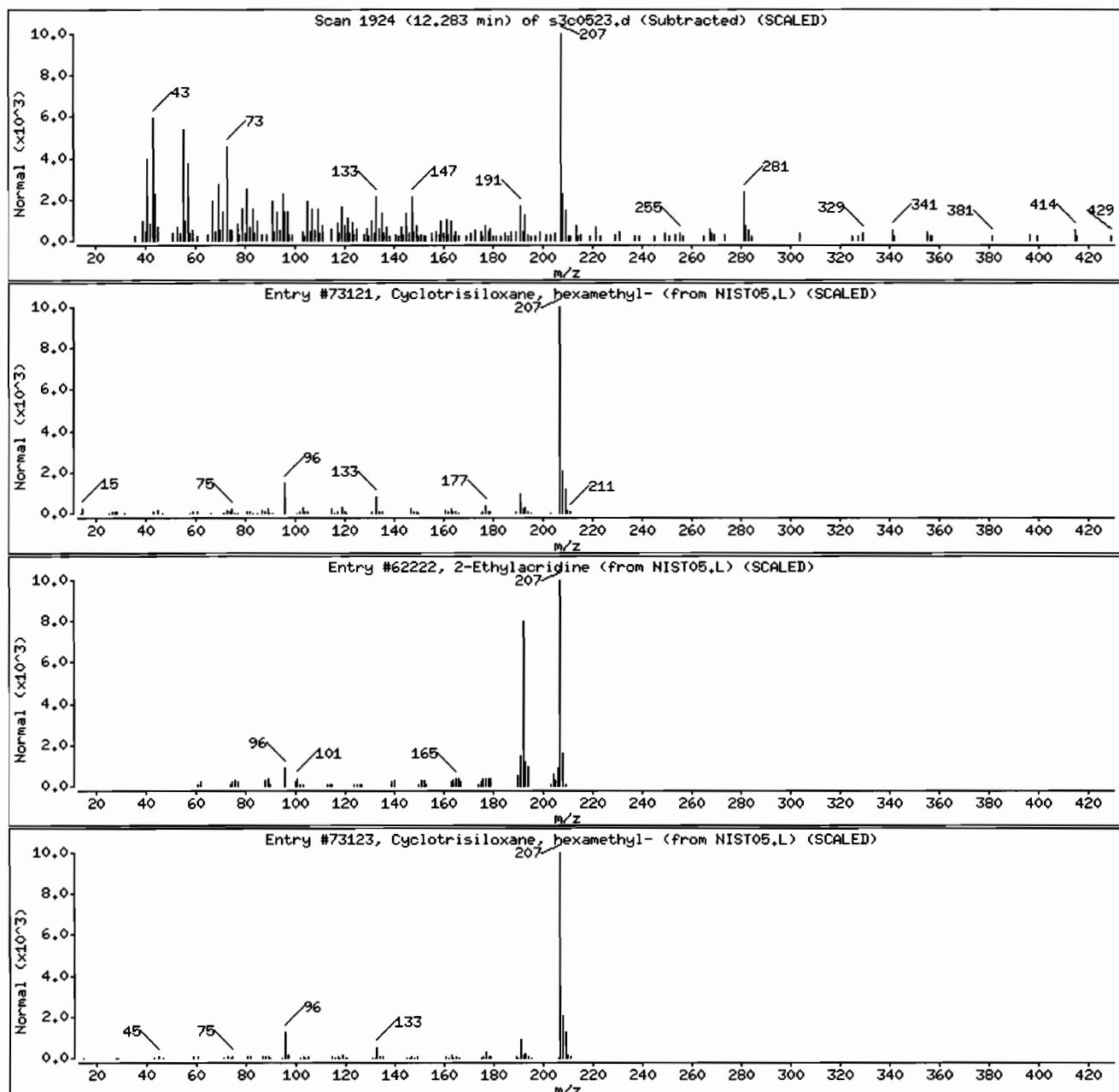
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73121	50	C ₆ H ₁₈ O ₃ Si ₃	222
2-Ethylacridine	55751-83-2	NIST05.L	62222	45	C ₁₅ H ₁₃ N	207
Cyclotrisiloxane, hexamethyl-	541-05-9	NIST05.L	73123	43	C ₆ H ₁₈ O ₃ Si ₃	222



Date : 05-MAR-2010 17:40

Client ID: RE15-10-8348

Instrument: MSD3.i

Sample Info: I247551002195667711ISVHF11ILANL

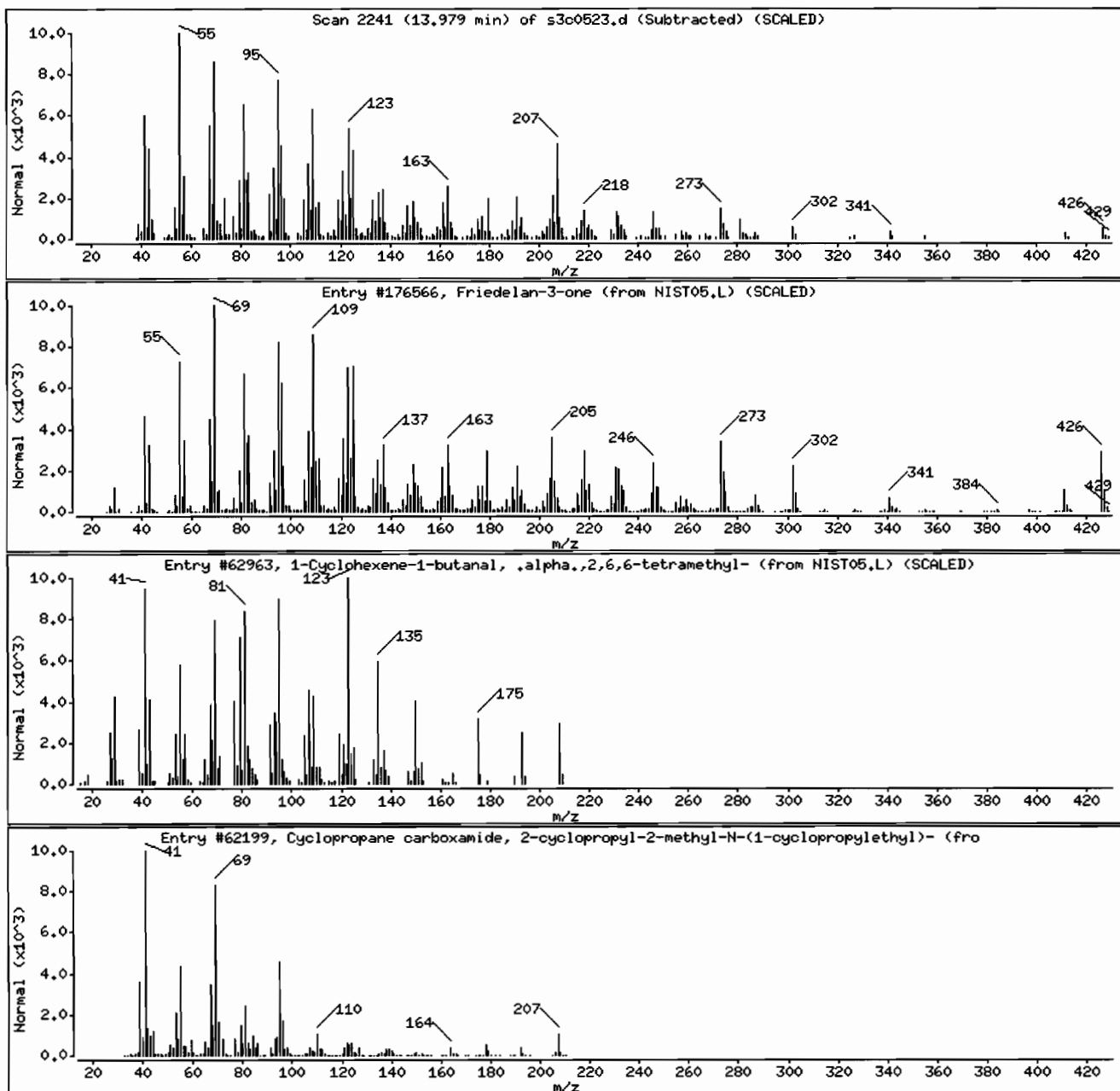
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Friedelan-3-one	559-74-0	NIST05.L	176566	58	C30H50O	426
1-Cyclohexene-1-butanol, .alpha.,2,6,6-t	21632-06-4	NIST05.L	62963	49	C14H24O	208
Cyclopropane carboxamide, 2-cyclopropyl-	331416-19-4	NIST05.L	62199	49	C13H21NO	207



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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8349
Batch ID: 956677
Run Date: 03/05/2010 17:17
Prep Date: 02/23/2010 21:09
Data File: s3c0522.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine	U	356	ug/kg	71.2	356
108-95-2	Phenol	U	356	ug/kg	71.2	356
95-57-8	2-Chlorophenol	U	356	ug/kg	71.2	356
106-46-7	1,4-Dichlorobenzene	U	356	ug/kg	71.2	356
621-64-7	N-Nitrosodipropylamine	U	356	ug/kg	71.2	356
59-50-7	4-Chloro-3-methylphenol	U	356	ug/kg	71.2	356
83-32-9	Acenaphthene	U	35.6	ug/kg	11.7	35.6
121-14-2	2,4-Dinitrotoluene	U	356	ug/kg	35.6	356
100-02-7	4-Nitrophenol	U	356	ug/kg	117	356
87-86-5	Pentachlorophenol	U	356	ug/kg	89.0	356
129-00-0	Pyrene	J	19.8	ug/kg	10.7	35.6
110-86-1	Pyridine	U	356	ug/kg	71.2	356
62-53-3	Aniline	U	356	ug/kg	107	356
111-44-4	bis(2-Chloroethyl) ether	U	356	ug/kg	71.2	356
541-73-1	1,3-Dichlorobenzene	U	356	ug/kg	71.2	356
100-51-6	Benzyl alcohol	U	356	ug/kg	107	356
95-50-1	1,2-Dichlorobenzene	U	356	ug/kg	71.2	356
108-60-1	bis(2-Chloroisopropyl)ether	U	356	ug/kg	71.2	356
95-48-7	o-Cresol	U	356	ug/kg	71.2	356
65794-96-9	m,p-Cresols	U	356	ug/kg	107	356
67-72-1	Hexachloroethane	U	356	ug/kg	71.2	356
98-95-3	Nitrobenzene	U	356	ug/kg	71.2	356
78-59-1	Isophorone	U	356	ug/kg	71.2	356
88-75-5	2-Nitrophenol	U	356	ug/kg	71.2	356
105-67-9	2,4-Dimethylphenol	U	356	ug/kg	125	356
111-91-1	bis(2-Chloroethoxy)methane	U	356	ug/kg	71.2	356
120-83-2	2,4-Dichlorophenol	U	356	ug/kg	71.2	356
65-85-0	Benzoic acid	U	712	ug/kg	178	712
91-20-3	Naphthalene	U	35.6	ug/kg	10.7	35.6
106-47-8	4-Chloroaniline	U	356	ug/kg	71.2	356
87-68-3	Hexachlorobutadiene	U	356	ug/kg	71.2	356
91-57-6	2-Methylnaphthalene	U	35.6	ug/kg	7.12	35.6
77-47-4	Hexachlorocyclopentadiene	U	356	ug/kg	71.2	356
88-06-2	2,4,6-Trichlorophenol	U	356	ug/kg	71.2	356
95-95-4	2,4,5-Trichlorophenol	U	356	ug/kg	71.2	356
91-58-7	2-Chloronaphthalene	U	35.6	ug/kg	11.7	35.6
88-74-4	2-Nitroaniline	U	356	ug/kg	71.2	356
99-09-2	<i>o</i> -Nitroaniline	U	356	ug/kg	71.2	356
	3-Nitroaniline					

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m</i> -Nitroaniline					
131-11-3	Dimethylphthalate	U	356	ug/kg	71.2	356
606-20-2	2,6-Dinitrotoluene	U	356	ug/kg	35.6	356
208-96-8	Acenaphthylene	U	35.6	ug/kg	10.7	35.6
51-28-5	2,4-Dinitrophenol	U	712	ug/kg	135	712
132-64-9	Dibenzofuran	U	356	ug/kg	71.2	356
84-66-2	Diethylphthalate	U	356	ug/kg	71.2	356
86-73-7	Fluorene	U	35.6	ug/kg	10.7	35.6
7005-72-3	4-Chlorophenylphenylether	U	356	ug/kg	71.2	356
534-52-1	2-Methyl-4,6-dinitrophenol	U	356	ug/kg	71.2	356
100-01-6	4-Nitroaniline	U	356	ug/kg	107	356
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine	U	356	ug/kg	71.2	356
122-66-7	Azobenzene	U	356	ug/kg	71.2	356
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether	U	356	ug/kg	71.2	356
118-74-1	Hexachlorobenzene	U	356	ug/kg	71.2	356
85-01-8	Phenanthrene	U	35.6	ug/kg	10.7	35.6
120-12-7	Anthracene	U	35.6	ug/kg	7.12	35.6
84-74-2	Di-n-butylphthalate	U	356	ug/kg	71.2	356
206-44-0	Fluoranthene	J	23.0	ug/kg	10.7	35.6
85-68-7	Butylbenzylphthalate	U	356	ug/kg	71.2	356
56-55-3	Benzo(a)anthracene	U	35.6	ug/kg	10.7	35.6
91-94-1	3,3'-Dichlorobenzidine	U	356	ug/kg	107	356
218-01-9	Chrysene	U	35.6	ug/kg	10.7	35.6
117-81-7	bis(2-Ethylhexyl)phthalate	U	356	ug/kg	71.2	356
117-84-0	Di-n-octylphthalate	U	356	ug/kg	71.2	356
205-99-2	Benzo(b)fluoranthene	J	22.2	ug/kg	10.7	35.6
207-08-9	Benzo(k)fluoranthene	U	35.6	ug/kg	10.7	35.6
50-32-8	Benzo(a)pyrene	J	11.7	ug/kg	10.7	35.6
193-39-5	Indeno(1,2,3-cd)pyrene	U	35.6	ug/kg	10.7	35.6
53-70-3	Dibenzo(a,h)anthracene	U	35.6	ug/kg	10.7	35.6
191-24-2	Benzo(ghi)perylene	U	35.6	ug/kg	10.7	35.6
120-82-1	1,2,4-Trichlorobenzene	U	356	ug/kg	71.2	356

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.75	719	ug/kg		JA
	Unknown	5.51	195	ug/kg		J

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

SDG Number: 10-1969
Lab Sample ID: 247551001

Date Collected: 02/15/2010 12:00
Date Received: 02/20/2010 08:55
Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30.18 g
Column: J&W DB-5MS

Matrix: R
%Moisture: 6.9
Project: LANL01004
SOP Ref: GL-OA-E-009
Dilution: 1
Inj. Vol: .5 uL
Final Volume: 1 mL
Level: LOW

Client ID: RE15-10-8349
Batch ID: 956677
Run Date: 03/05/2010 17:17
Prep Date: 02/23/2010 21:09
Data File: s3c0522.d

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
Tentatively Identified Compound Summary						
CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
5794-03-6	Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-me	5.71	161	ug/kg	83	NJ
77-53-2	Cedrol	6.28	214	ug/kg	93	NJ
17312-55-9	Decane, 3,8-dimethyl-	6.39	217	ug/kg	81	NJ
511-15-9	2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	8	1620	ug/kg	98	NJ
	Unknown	8.78	246	ug/kg		J
301-02-0	9-Octadecenamide, (Z)-	8.97	265	ug/kg	91	NJ

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030510.b/s3c0522.d
 Lab Smp Id: 247551001 Client Smp ID: RE15-10-8349
 Inj Date : 05-MAR-2010 17:17
 Operator : JLD1 Inst ID: MSD3.i
 Smp Info : |247551001|956677|1|SVMF|1|LANL
 Misc Info : |MSD8270_S|WBN100227-01|
 Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
 Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
 Meth Date : 07-Mar-2010 14:06 jen00986 Quant Type: ISTD
 Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
 Als bottle: 21
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: 10-1969.sub
 Target Version: 3.50
 Processing Host: hpclp1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.18000	weight of sample
M	6.91130	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.698	3.703	(1.000)	378241	40.0000	
* 29 Naphthalene-d8	136	4.560	4.564	(1.000)	1491036	40.0000	
* 46 Acenaphthene-d10	164	5.811	5.811	(1.000)	845562	40.0000	
* 67 Phenanthrene-d10	188	6.817	6.816	(1.000)	1443809	40.0000	
* 91 Chrysene-d12	240	8.432	8.437	(1.000)	859512	40.0000	
* 98 Perylene-d12	264	9.758	9.763	(1.000)	423786	40.0000	
\$ 3 2-Fluorophenol	112	2.907	2.896	(0.786)	672207	64.3775	2290
\$ 5 Phenol-d5	99	3.420	3.420	(0.925)	861102	64.6520	2300
\$ 20 Nitrobenzene-d5	82	4.057	4.062	(0.890)	410579	32.1367	1140
\$ 39 2-Fluorobiphenyl	172	5.303	5.302	(0.913)	786872	36.1393	1290
\$ 60 2,4,6-Tribromophenol	329	6.362	6.356	(1.095)	230635	87.4644	3110
\$ 81 p-Terphenyl-d14	244	7.742	7.741	(0.918)	770994	52.5576	1870

Compounds	QUANT SIG	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN	FINAL
	MASS					(ng/ul)	(ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
79 Pyrene	202	7.688	7.688	(0.912)	15038	0.55748	19.8(a)
76 Fluoranthene	202	7.549	7.549	(1.107)	21976	0.64527	23.0(a)
95 Benzo(b)fluoranthene	252	9.341	9.341	(0.957)	6046	0.62505	22.2(a)
97 Benzo(a)pyrene	252	9.700	9.699	(0.994)	2711	0.32884	11.7(a)

QC Flag Legend

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

ION RATIO REPORT

SV REPORT

Data file: s3c0522.d

Report Date: 03/07/2010 15:03

Lab. ID: 247551001

SampleType: SAMPLE

Injection Date: 05-MAR-2010 17:17

Operator: JLD1

Instrument: MSD3.i

Sample Info: |247551001|956677|1|SVMF|1|LANL

Miscellaneous Info: |MSD8270_S|WBN100227-01|

Comment:

Method used: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

Dilution Factor= 1.0

Integrator: HP RTE

Compound Sublist: 10-1969

Sample Matrix: SOIL

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
4	Aniline		CAS#: 62-53-3			
66	47831	3.42	3.49	80-120	100	(T)
93	289	3.38	3.49	238-298	1	(QT)

17	N-Nitrosodipropylamine		CAS#: 621-64-7			
70	60064	4.06	3.94	80-120	100	(T)
42	43228	4.06	3.94	58-118	72	(T)

27	Benzoic acid		CAS#: 65-85-0			
105	1903	4.56	4.34	80-120	100	(T)
122	412	4.56	4.34	51-111	22	(QT)
77	5633	4.56	4.34	41-101	296	(QT)

40	2-Chloronaphthalene		CAS#: 91-58-7			
162	18395	5.54	5.41	80-120	100	(T)
164	1010	5.54	5.41	3- 63	5	(T)
127	2149	5.54	5.41	11- 71	12	(T)

42	o-Nitroaniline		CAS#: 88-74-4			
65	25674	5.54	5.47	80-120	100	(T)
92	30444	5.54	5.47	32- 92	119	(QT)
138	2123	5.54	5.47	67-127	8	(QT)

43	Dimethylphthalate		CAS#: 131-11-3			
163	151995	5.81	5.58	80-120	100	(T)
164	851879	5.81	5.58	0- 40	560	(QT)

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
44	2,6-Dinitrotoluene			CAS#: 606-20-2		
165	109786	5.81	5.63	80-120	100	(T)
63	2064	5.81	5.63	64-124	2	(QT)

50	2,4-Dinitrotoluene			CAS#: 121-14-2		
165	109786	5.81	5.93	80-120	100	(T)
89	1783	5.81	5.92	48-108	2	(QT)
63	2064	5.81	5.92	25- 85	2	(QT)

52	4-Nitrophenol			CAS#: 100-02-7		
139	203	5.85	5.86	80-120	100	()
109	494	5.89	5.86	41-101	243	(Q)
65	2973	5.89	5.86	80-140	1464	(Q)

53	Fluorene			CAS#: 86-73-7		
166	11872	6.36	6.20	80-120	100	(T)
165	11640	6.36	6.20	62-122	98	(T)
167	3932	6.36	6.20	0- 44	33	(T)

55	2-Methyl-4,6-dinitrophenol			CAS#: 534-52-1		
198	700	6.36	6.21	80-120	100	(T)
105	1147	6.36	6.21	16- 76	164	(QT)
51	1258	6.36	6.21	52-112	180	(QT)

61	4-Bromophenylphenylether			CAS#: 101-55-3		
248	14098	6.36	6.51	80-120	100	(T)
141	99224	6.36	6.51	62-122	704	(QT)
250	27628	6.36	6.51	66-126	196	(QT)

69	Anthracene			CAS#: 120-12-7		
178	20446	6.83	6.86	80-120	100	()
179	3770	6.83	6.86	0- 45	18	()
176	3673	6.83	6.86	0- 48	18	()

76	Fluoranthene			CAS#: 206-44-0		
202	21976	7.55	7.55	80-120	100	()
203	3602	7.55	7.55	0- 47	16	()
101	3056	7.55	7.55	0- 43	14	()

79	Pyrene			CAS#: 129-00-0		
202	15038	7.69	7.69	80-120	100	()
200	3499	7.69	7.69	0- 51	23	()
101	2841	7.68	7.69	0- 45	19	()

89	Benzo(a)anthracene			CAS#: 56-55-3		
228	8537	8.43	8.43	80-120	100	()
226	2029	8.43	8.43	0- 57	24	()
229	1275	8.43	8.43	0- 50	15	()

MASS	RESPONSE	RT	EXPECT RT	TARGET RANGE	RATIO	QUAL
=====						
92 Chrysene		CAS#: 218-01-9				
228	8537	8.43	8.45	80-120	100	()
229	1828	8.43	8.45	0- 50	21	()
226	2029	8.43	8.45	0- 60	24	()

95 Benzo(b)fluoranthene		CAS#: 205-99-2				
252	6046	9.34	9.34	80-120	100	()
253	1722	9.34	9.34	0- 52	28	()
125	1217	9.34	9.34	0- 43	20	()

96 Benzo(k)fluoranthene		CAS#: 207-08-9				
252	6046	9.34	9.37	80-120	100	()
253	1729	9.34	9.37	0- 52	29	()
125	1217	9.34	9.37	0- 42	20	()

97 Benzo(a)pyrene		CAS#: 50-32-8				
252	2711	9.70	9.70	80-120	100	()
253	766	9.70	9.70	0- 52	28	()
125	238	9.69	9.70	0- 30	9	()

Q qualifier indicates ion failed ratio requirement

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030510.b/s3c0522.d
Lab Smp Id: 247551001 Client Smp ID: RE15-10-8349
Inj Date : 05-MAR-2010 17:17
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |247551001|956677|1|SVMF|1|LANL
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
Meth Date : 07-Mar-2010 14:06 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpclp1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.18000	weight of sample
M	6.91130	% moisture

Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.698	2559749	40.000
* 46 Acenaphthene-d10	5.811	3934047	40.000
* 67 Phenanthrene-d10	6.817	3669515	40.000
* 91 Chrysene-d12	8.432	2419852	40.000

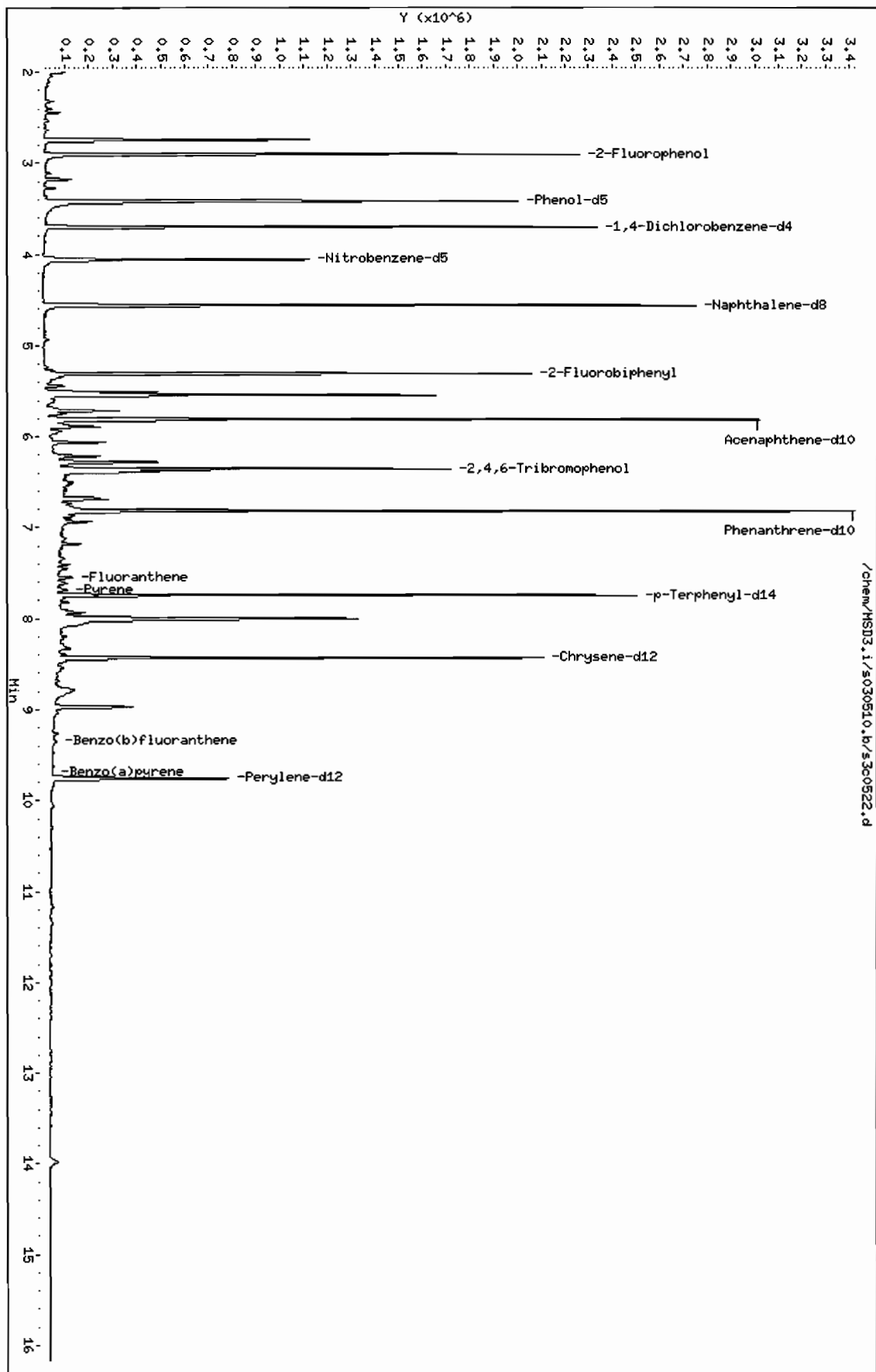
CONCENTRATIONS				QUANT			
RT	AREA	ON-COL (ng/ul)	FINAL (ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
====	====	=====	=====	====	=====	=====	=====

Report Date: 07-Mar-2010 15:10

RT	CONCENTRATIONS			QUAL	QUANT		CPND #
	AREA	ON-COL (ng/ul)	FINAL (ug/Kg)		LIBRARY	LIB ENTRY	
Unknown Aldol Condensate					CAS #:		
2.746	1291986	20.1892514	719	0		0	10
Unknown					CAS #:		
5.506	539926	5.48977434	195	0		0	46
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-me					CAS #: 5794-03-6		
5.709	445272	4.52737152	161	83	NIST05.L	15386	46
Cedrol					CAS #: 77-53-2		
6.282	590747	6.00651077	214	93	NIST05.L	72887	46
Decane, 3,8-dimethyl-					CAS #: 17312-55-9		
6.389	558017	6.08273286	216	81	NIST05.L	36462	67
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa					CAS #: 511-15-9		
7.999	2759652	45.6168520	1620	98	NIST05.L	116239	91
Unknown					CAS #:		
8.785	417902	6.90789227	246	0		0	91
9-Octadecenamide, (Z)-					CAS #: 301-02-0		
8.967	449857	7.43611248	265	91	NIST05.L	112655	91

Data File: /chem/MSD3.i/s030510.b/s3c0522.d
Date : 05-MAR-2010 17:17
Client ID: RE15-10-8349
Sample Info: 124755100195667711SVHF11L1LANL
Volume Injected (uL): 0.5
Column phase: J&W DB-5MS

Instrument: MSD3.i
Operator: JLD1
Column diameter: 0.20



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 1247551001195667711SVHF11ILANL

Volume Injected (uL): 0.5

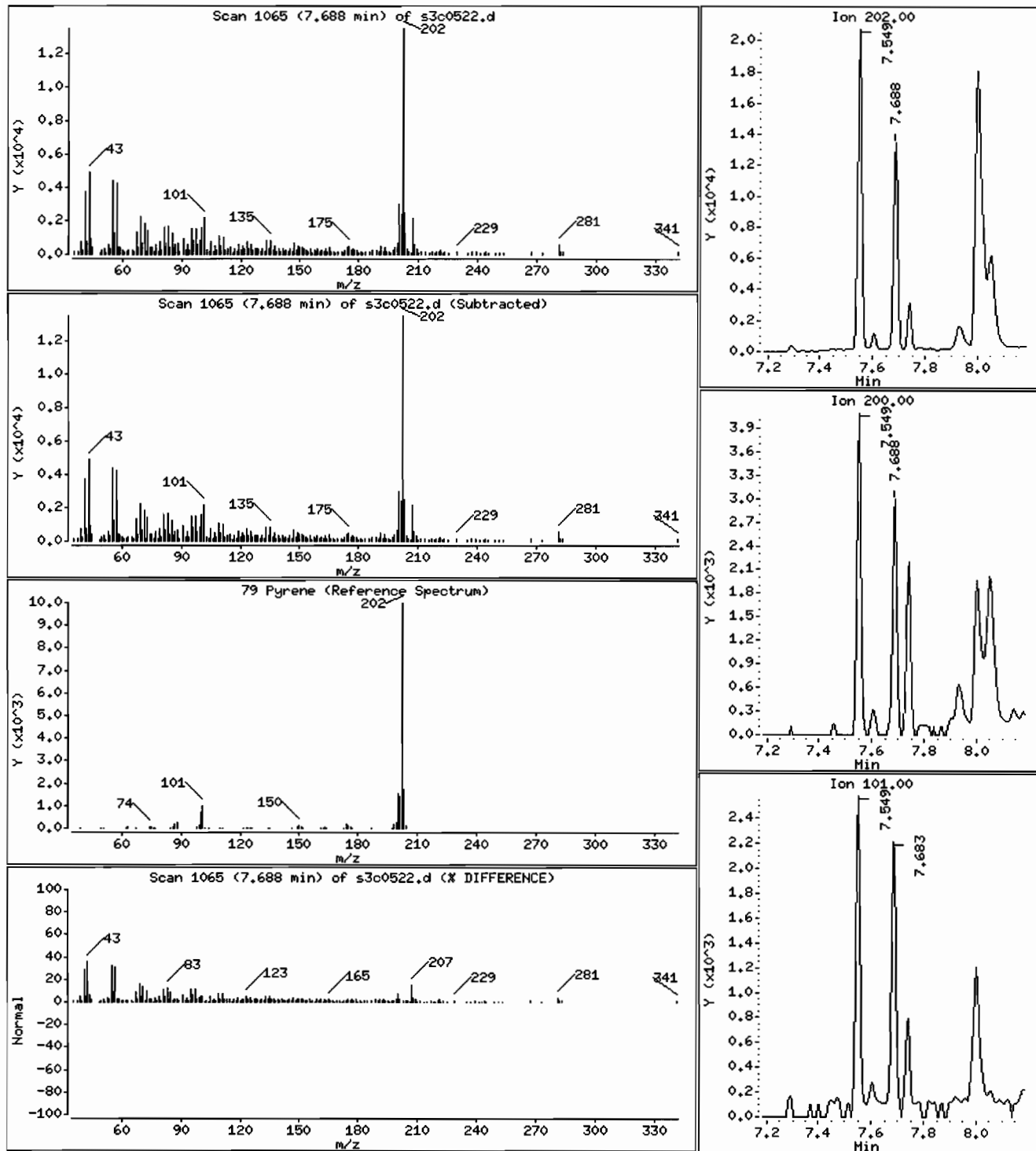
Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

79 Pyrene

Concentration: 19.8 ug/Kg



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 12475510011956677111SVMF111LANL

Volume Injected (uL): 0.5

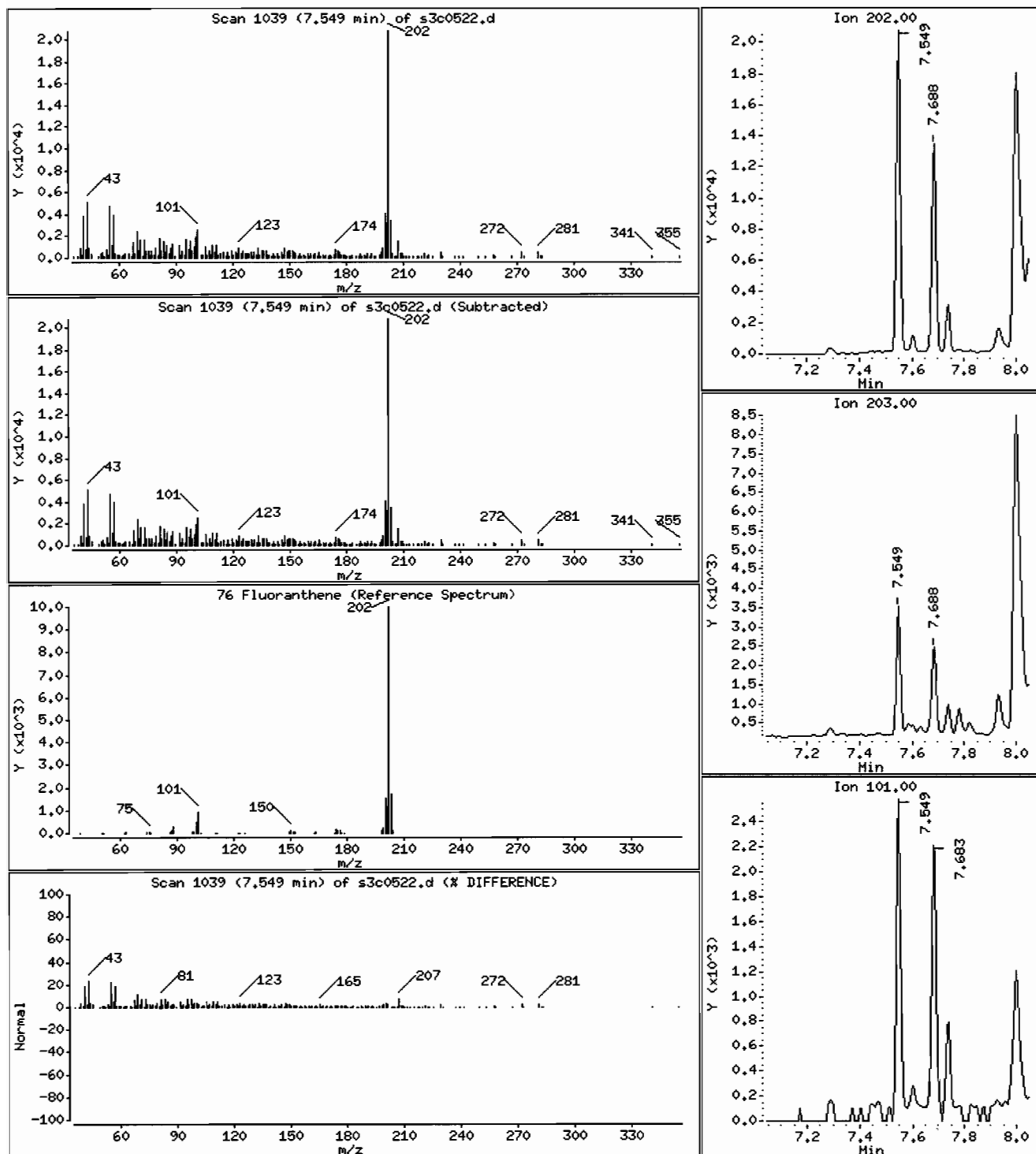
Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

76 Fluoranthene

Concentration: 23.0 ug/Kg



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 1247551001195667711SVHF111LANL

Volume Injected (uL): 0.5

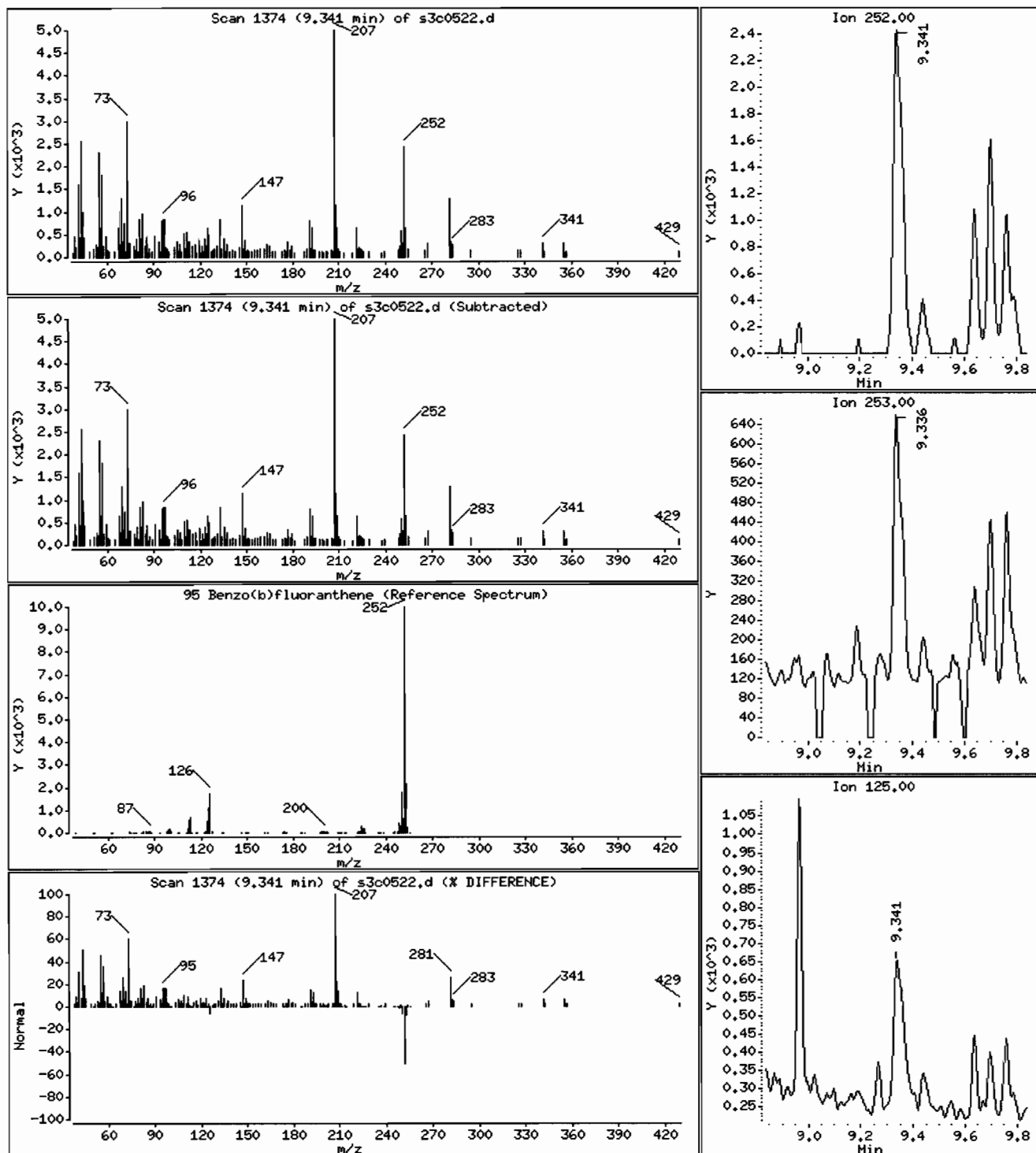
Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

95 Benzo(b)fluoranthene

Concentration: 22.2 ug/Kg



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: HSD3.i

Sample Info: 1247551001195667711ISMVFI11LANL

Volume Injected (uL): 0.5

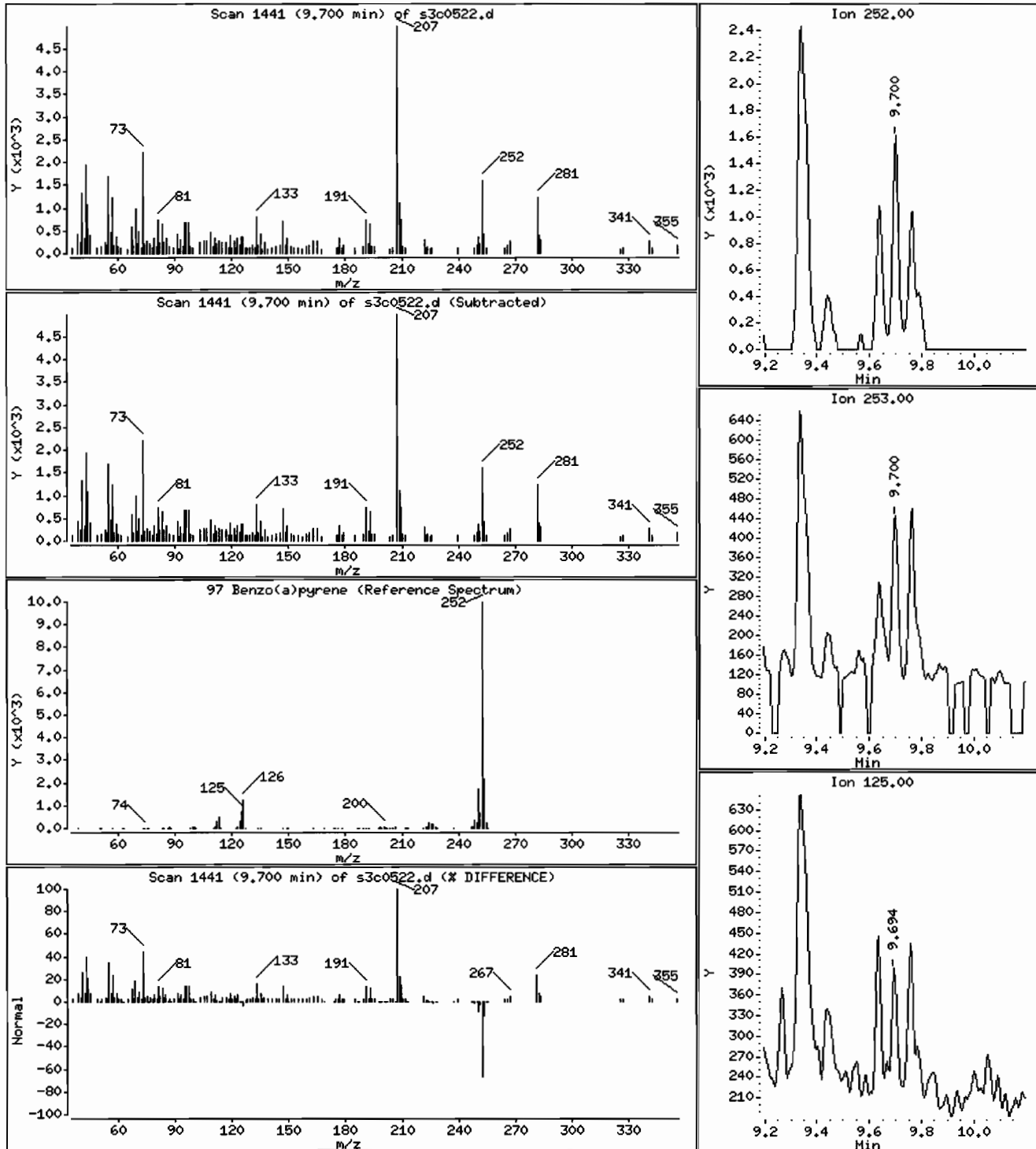
Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

97 Benzo(a)pyrene

Concentration: 11.7 ug/Kg



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: I247551001I95667711ISVHF11ILANL

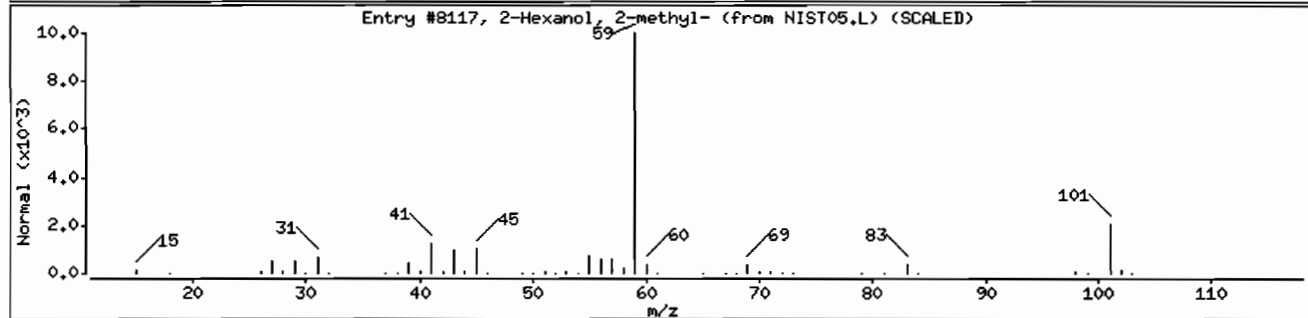
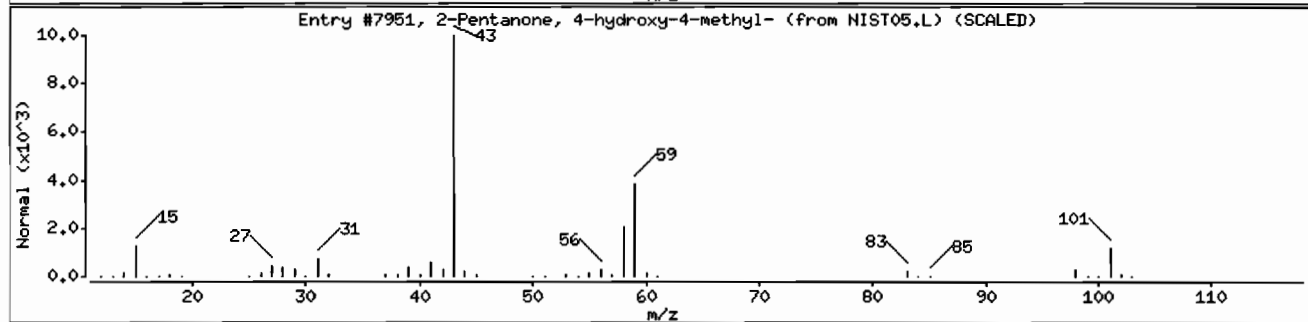
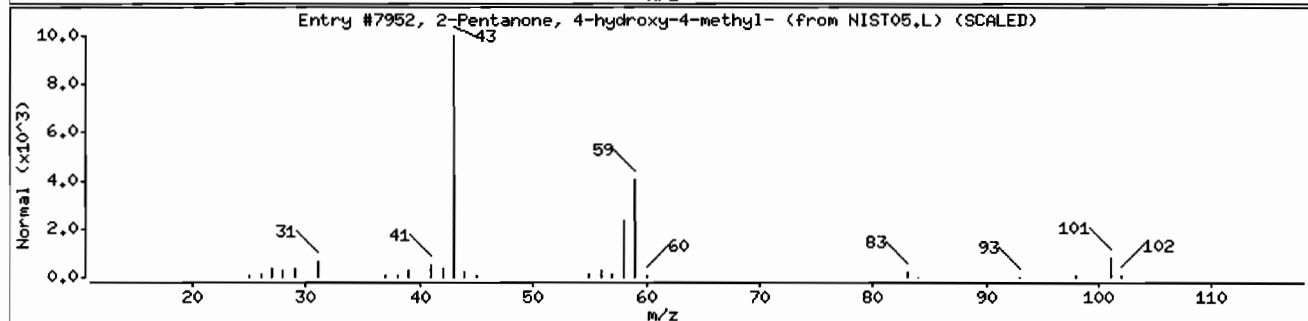
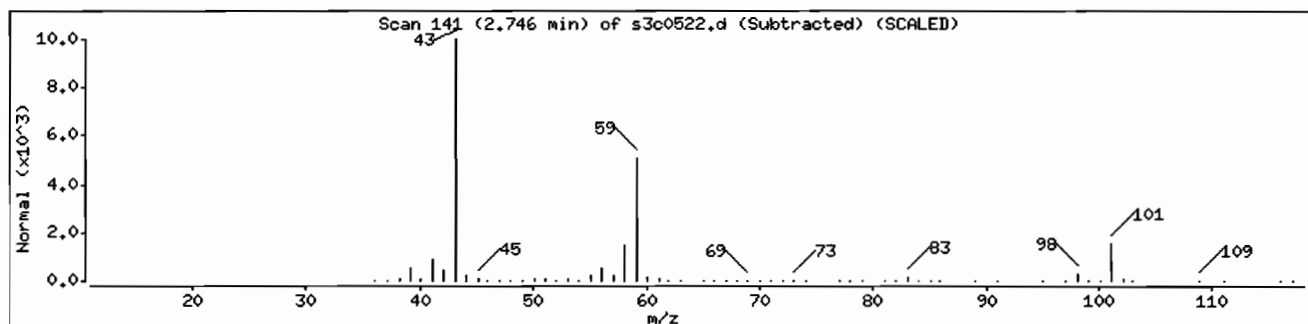
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	45	C6H12O2	116
2-Hexanol, 2-methyl-	625-23-0	NIST05.L	8117	28	C7H16O	116



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 1247551001195667711SVMF11ILANL

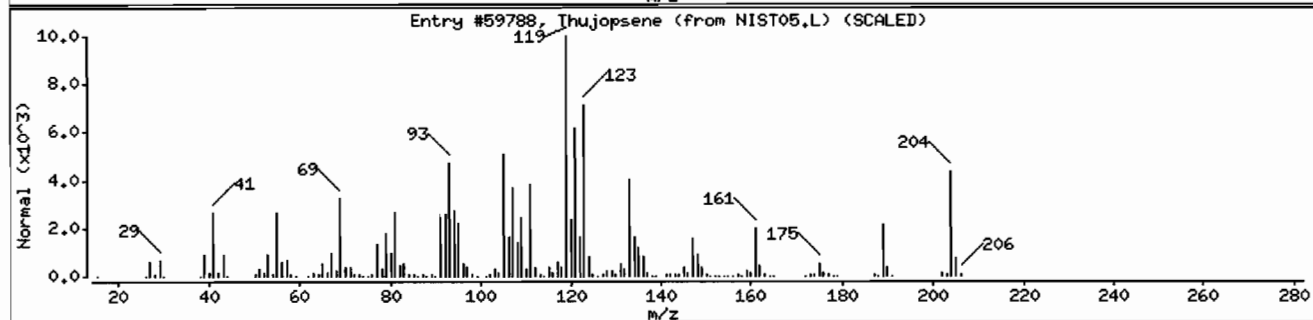
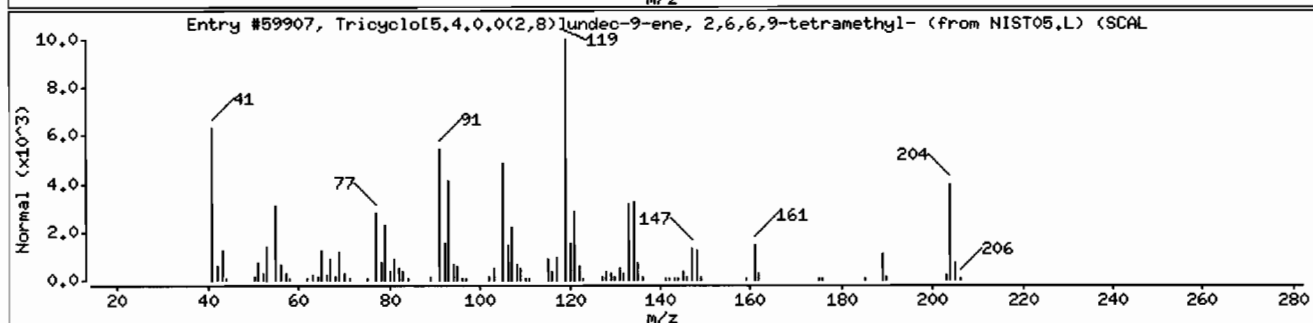
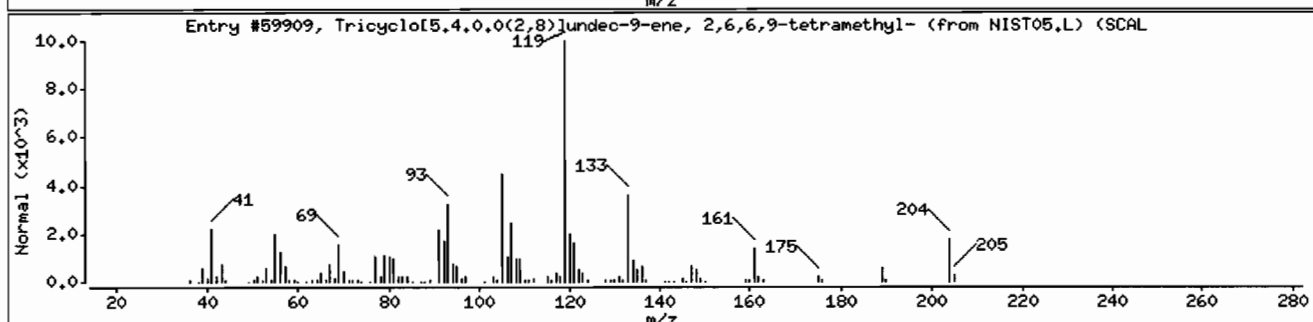
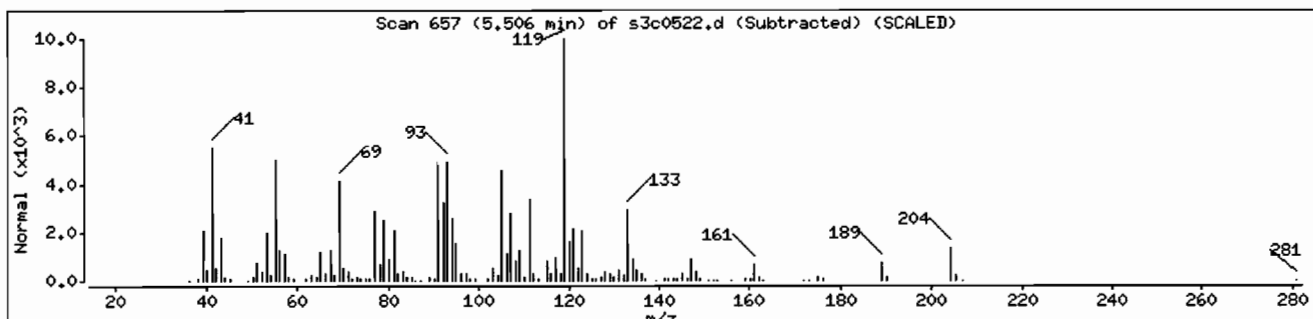
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Tricyclo[5.4.0.0(2,8)]undec-9-ene, 2,6,6	5989-08-2	NIST05.L	59909	78	C15H24	204
Tricyclo[5.4.0.0(2,8)]undec-9-ene, 2,6,6	5989-08-2	NIST05.L	59907	70	C15H24	204
Thujopsene	470-40-6	NIST05.L	59788	60	C15H24	204



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 1247551001195667711SVHF111LANL

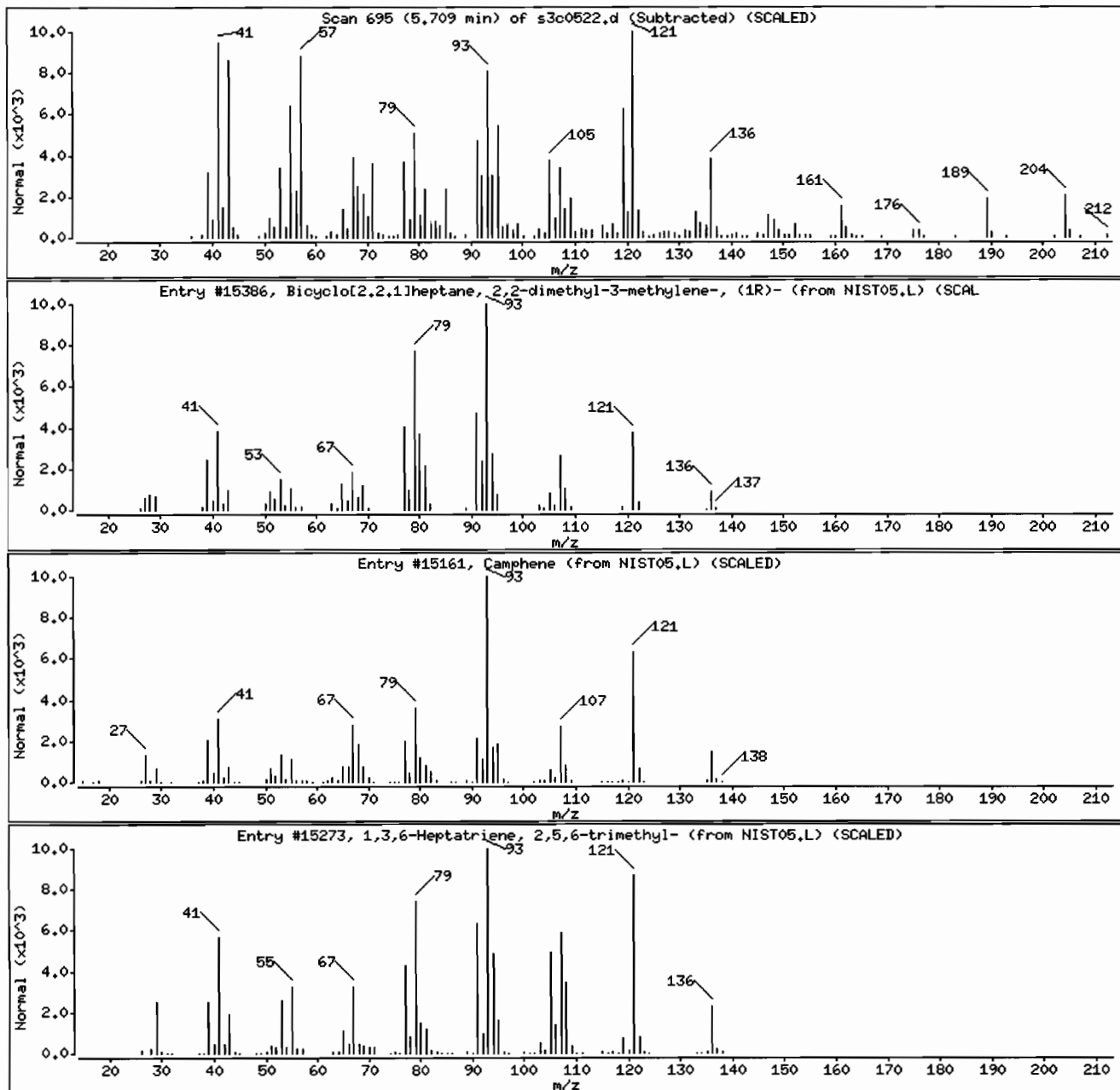
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-me	5794-03-6	NIST05.L	15386	83	C10H16	136
Camphene	79-92-5	NIST05.L	15161	83	C10H16	136
1,3,6-Heptatriene, 2,5,6-trimethyl-	42123-66-0	NIST05.L	15273	78	C10H16	136



Date: 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: HSD3.i

Sample Info: 1247551001195667711ISVHF11ILANL

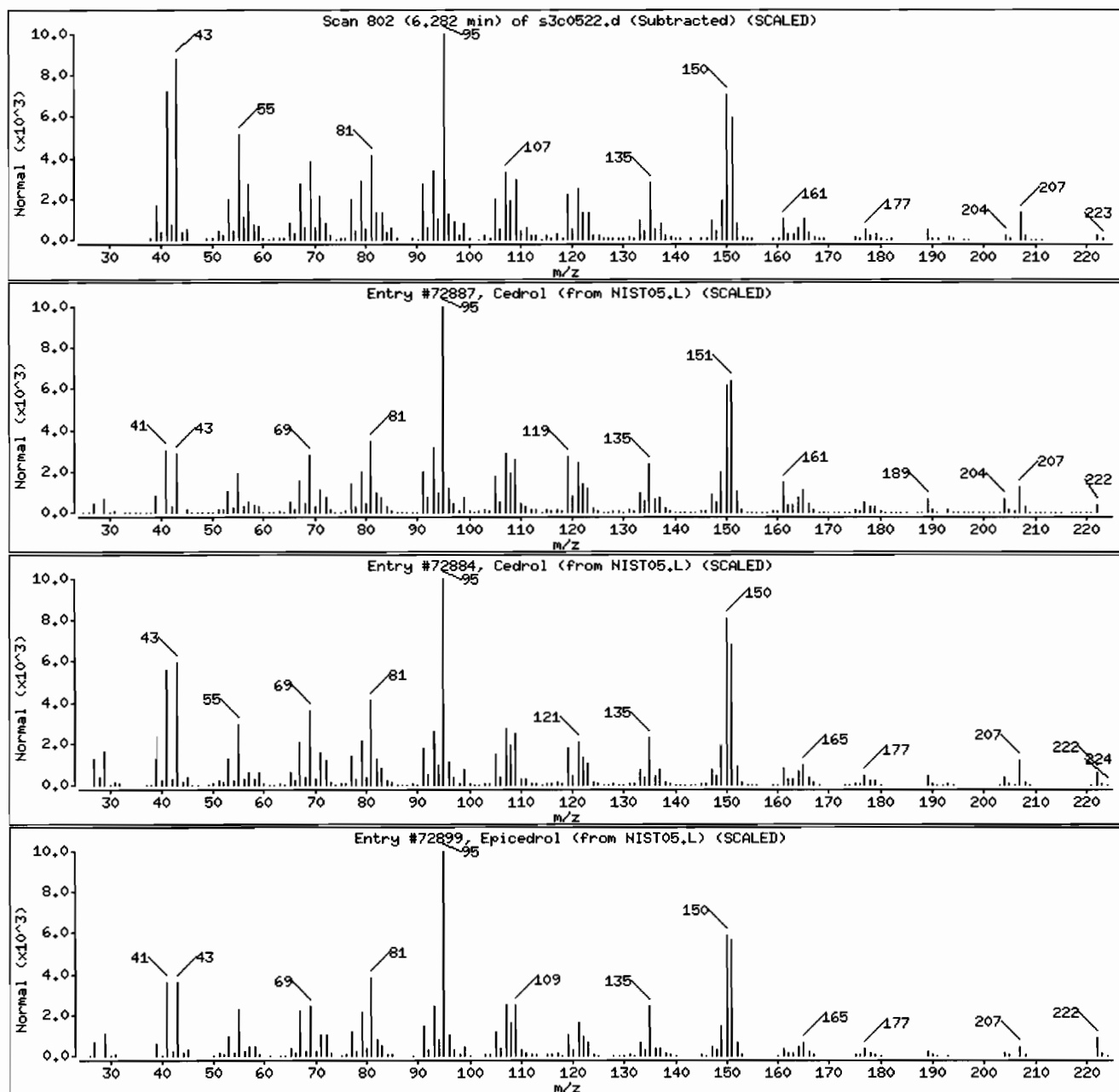
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Cedrol	77-53-2	NIST05.L	72887	93	C15H26O	222
Cedrol	77-53-2	NIST05.L	72884	91	C15H26O	222
Epicedrol	1000156-22-8	NIST05.L	72899	91	C15H26O	222



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 1247551001195667711ISVMF11ILANL

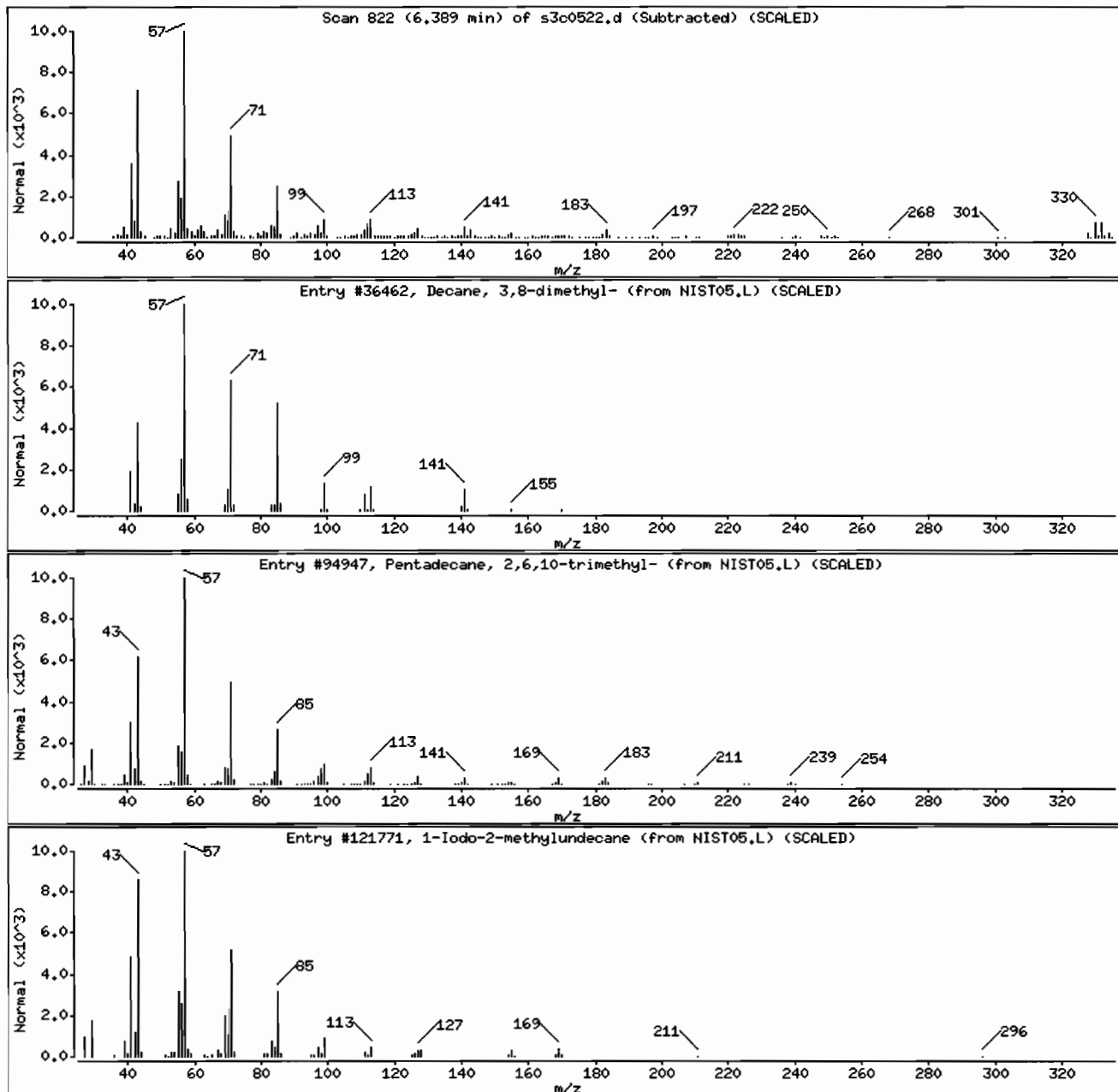
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Decane, 3,8-dimethyl-	17312-55-9	NIST05.L	36462	81	C12H26	170
Pentadecane, 2,6,10-trimethyl-	3892-00-0	NIST05.L	94947	80	C18H38	254
1-Iodo-2-methylundecane	73105-67-6	NIST05.L	121771	72	C12H25I	296



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: I247551001I9566771IISVHF11ILANL

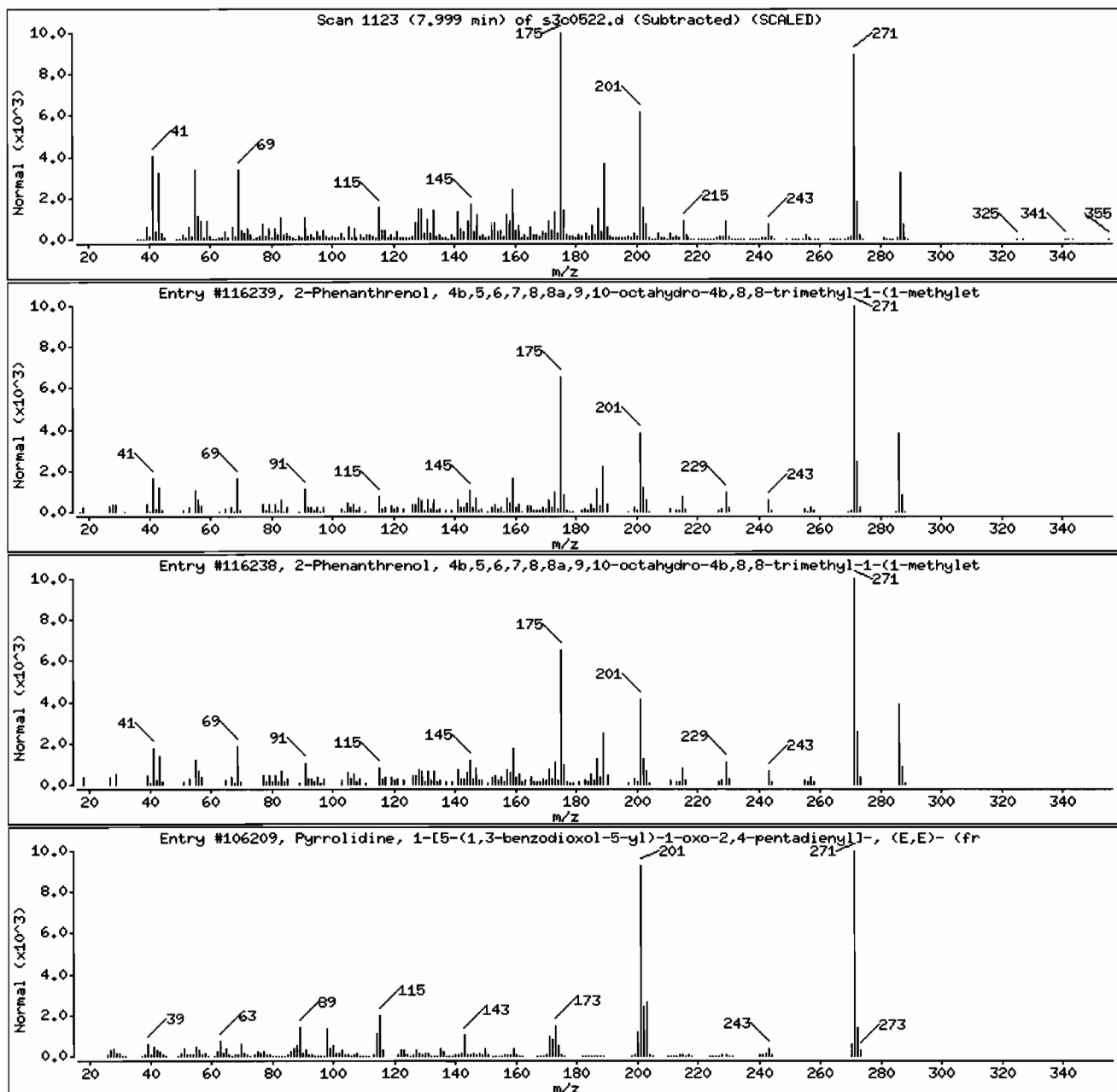
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116239	98	C20H30O	286
2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octa	511-15-9	NIST05.L	116238	64	C20H30O	286
Pyrrolidine, 1-[5-(1,3-benzodioxol-5-yl)	25924-78-1	NIST05.L	106209	43	C16H17NO3	271



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: 124755100195667711SVHF111LANL

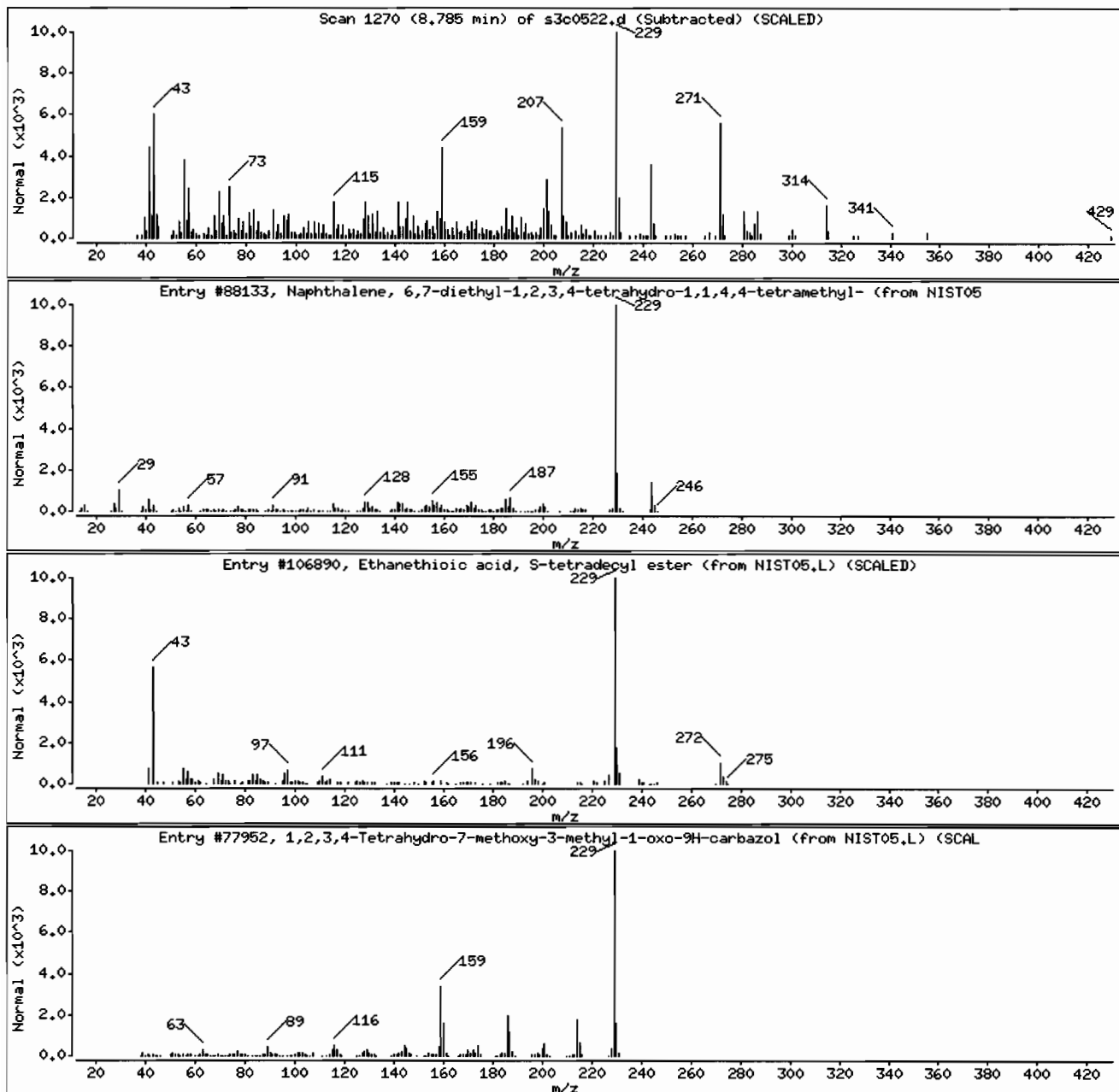
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown						
Naphthalene, 6,7-diethyl-1,2,3,4-tetrahy	55741-10-1	NIST05.L	88133	55	C18H28	244
Ethanethioic acid, S-tetradecyl ester	90031-26-8	NIST05.L	106890	55	C16H32OS	272
1,2,3,4-Tetrahydro-7-methoxy-3-methyl-1-	32550-51-9	NIST05.L	77952	45	C14H15NO2	229



Date : 05-MAR-2010 17:17

Client ID: RE15-10-8349

Instrument: MSD3.i

Sample Info: I247551001195667711SVHF111LANL

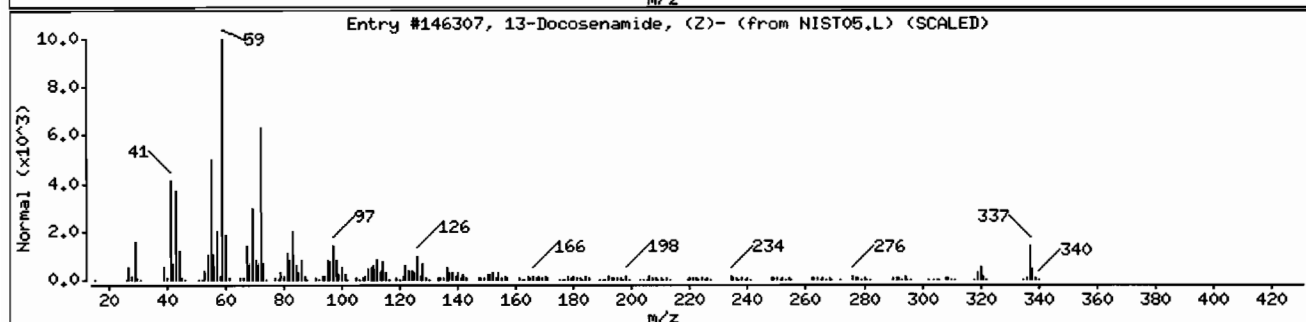
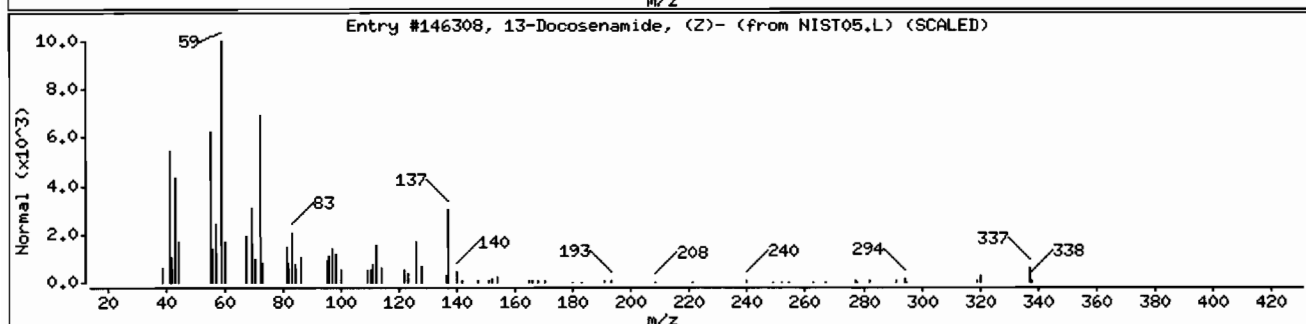
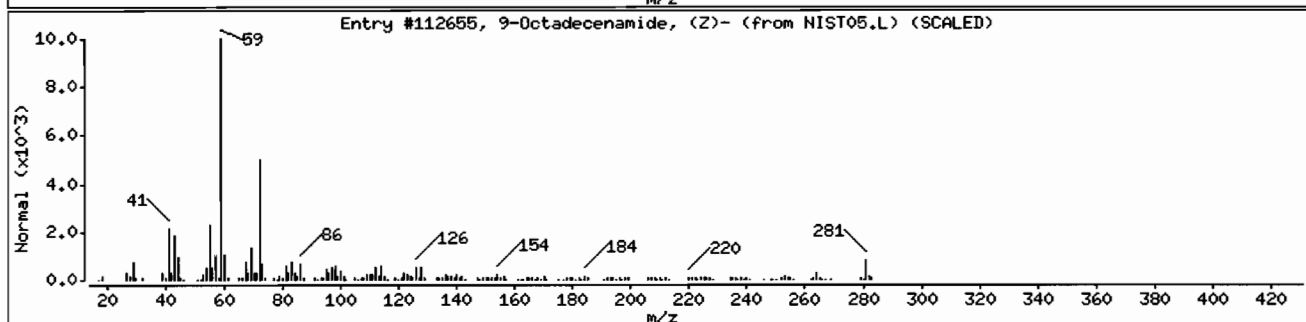
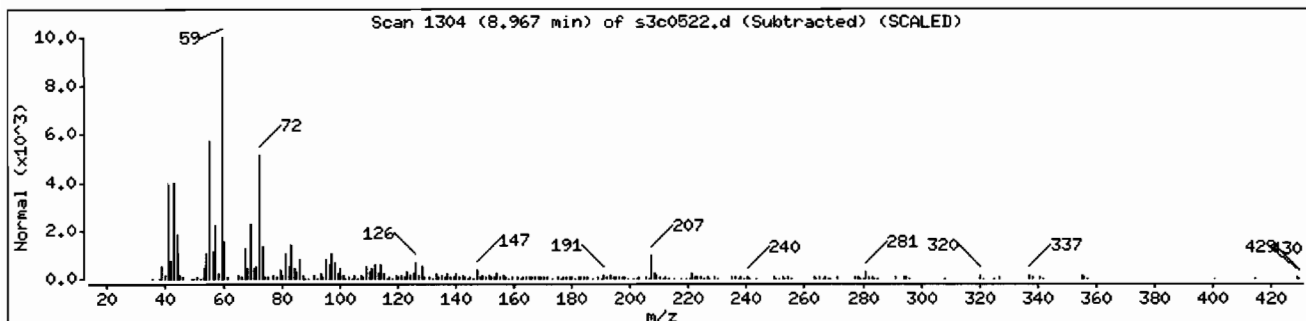
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
9-Octadecenamide, (Z)-	301-02-0	NIST05.L	112655	91	C18H35NO	281
13-Docosenamide, (Z)-	112-84-5	NIST05.L	146308	91	C22H43NO	337
13-Docosenamide, (Z)-	112-84-5	NIST05.L	146307	91	C22H43NO	337



Standard Data

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

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

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

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

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

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

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

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

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

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

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

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

All values are mg/L without the prep factor.

Indicates the calibration verification concentration level used

* Usual calibration levels using SCAN methodology

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

(0210/Full list)

Report Date: 05-Mar-2010 08:38

Calibration History

Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Start Cal Date: 01-MAR-2010 16:52
End Cal Date : 02-MAR-2010 15:20

Initial Calibration

Injection Date	Sublist	Calibration File
Cal Level: 1 , Cal Amount: 1.00000		
01-MAR-2010 16:52	MEGAI	/chem/MSD3.i/s030110.b/s3c0103.d
Cal Level: 2 , Cal Amount: 10.00000		
02-MAR-2010 12:32	BJCO	/chem/MSD3.i/s030210.b/s3c0210.d
02-MAR-2010 10:24	HEX	/chem/MSD3.i/s030210.b/s3c0204.d
01-MAR-2010 23:52	PEST	/chem/MSD3.i/s030110.b/s3c0120.d
01-MAR-2010 21:24	AP12	/chem/MSD3.i/s030110.b/s3c0113.d
01-MAR-2010 17:19	MEGAI	/chem/MSD3.i/s030110.b/s3c0104.d
Cal Level: 3 , Cal Amount: 20.00000		
02-MAR-2010 13:00	BJCO	/chem/MSD3.i/s030210.b/s3c0211.d
02-MAR-2010 10:45	HEX	/chem/MSD3.i/s030210.b/s3c0205.d
02-MAR-2010 00:13	PEST	/chem/MSD3.i/s030110.b/s3c0121.d
01-MAR-2010 21:45	AP12	/chem/MSD3.i/s030110.b/s3c0114.d
01-MAR-2010 17:47	MEGAI	/chem/MSD3.i/s030110.b/s3c0105.d
Cal Level: 4 , Cal Amount: 40.00000		
02-MAR-2010 13:28	BJCO	/chem/MSD3.i/s030210.b/s3c0212.d
02-MAR-2010 11:06	HEX	/chem/MSD3.i/s030210.b/s3c0206.d
02-MAR-2010 00:34	PEST	/chem/MSD3.i/s030110.b/s3c0122.d
01-MAR-2010 22:06	AP12	/chem/MSD3.i/s030110.b/s3c0115.d
01-MAR-2010 18:15	MEGAI	/chem/MSD3.i/s030110.b/s3c0106.d
Cal Level: 5 , Cal Amount: 50.00000		
02-MAR-2010 13:56	BJCO	/chem/MSD3.i/s030210.b/s3c0213.d
02-MAR-2010 11:28	HEX	/chem/MSD3.i/s030210.b/s3c0207.d
02-MAR-2010 00:55	PEST	/chem/MSD3.i/s030110.b/s3c0123.d
01-MAR-2010 22:28	AP12	/chem/MSD3.i/s030110.b/s3c0116.d
01-MAR-2010 18:43	MEGAI	/chem/MSD3.i/s030110.b/s3c0107.d
Cal Level: 6 , Cal Amount: 80.00000		
02-MAR-2010 14:24	BJCO	/chem/MSD3.i/s030210.b/s3c0214.d
02-MAR-2010 11:49	HEX	/chem/MSD3.i/s030210.b/s3c0208.d
02-MAR-2010 01:16	PEST	/chem/MSD3.i/s030110.b/s3c0124.d
01-MAR-2010 22:49	AP12	/chem/MSD3.i/s030110.b/s3c0117.d
01-MAR-2010 19:11	MEGAI	/chem/MSD3.i/s030110.b/s3c0108.d
Cal Level: 7 , Cal Amount: 100.00000		

| 02-MAR-2010 14:51	| BJCO	| /chem/MSD3.i/s030210.b/s3c0215.d
| 02-MAR-2010 12:11	| HEX	| /chem/MSD3.i/s030210.b/s3c0209.d
| 02-MAR-2010 01:37	| PEST	| /chem/MSD3.i/s030110.b/s3c0125.d
| 01-MAR-2010 23:10	| AP12	| /chem/MSD3.i/s030110.b/s3c0118.d
| 01-MAR-2010 19:39	| MEGAI I	| /chem/MSD3.i/s030110.b/s3c0109.d

| Cal Level: 8 , Cal Amount: 120.00000		
| 02-MAR-2010 15:20	| BJCO	| /chem/MSD3.i/s030210.b/s3c0216.d
| 02-MAR-2010 01:58	| PEST	| /chem/MSD3.i/s030110.b/s3c0126.d
| 01-MAR-2010 23:31	| AP12	| /chem/MSD3.i/s030110.b/s3c0119.d
| 01-MAR-2010 20:07	| MEGAI I	| /chem/MSD3.i/s030110.b/s3c0110.d

Continuing Calibration

Ccal Level Mode: GLOBAL LEVEL 4

| Ccal Level: 4 , Ccal Amount: 40.0		
| 04-MAR-2010 21:16	| AP12	| /chem/MSD3.i/s031410a.b/s3c0424.d
| Ccal Level: 4 , Ccal Amount: 40.0		
| 04-MAR-2010 20:52	| MEGAI I	| /chem/MSD3.i/s031410a.b/s3c0423.d

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Calibration File Names:

Level 1: /chem/MSD3.i/s030110.b/s3c0103.d
 Level 2: /chem/MSD3.i/s030210.b/s3c0210.d
 Level 3: /chem/MSD3.i/s030210.b/s3c0211.d
 Level 4: /chem/MSD3.i/s030210.b/s3c0212.d
 Level 5: /chem/MSD3.i/s030210.b/s3c0213.d
 Level 6: /chem/MSD3.i/s030210.b/s3c0214.d
 Level 7: /chem/MSD3.i/s030210.b/s3c0215.d
 Level 8: /chem/MSD3.i/s030210.b/s3c0216.d

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
1 N-Methyl-N-nitrosomethylamine	++++ 0.77166	0.78263 0.74635	0.79388	0.78645	0.77710	0.77672	AVRG		0.77640		1.94714
2 Pyridine	++++ 1.10986	1.08773 1.08904	1.09911	1.11317	1.10444	1.12393	AVRG		1.10390		1.18576
4 Aniline	++++ 0.68963	0.73073 0.65788	0.71567	0.71171	0.69647	0.67891	AVRG		0.69729		3.51982
209 Benzaldehyde	++++ 0.83434	1.12224 0.78200	1.12915	1.01209	1.04389	0.87574	AVRG		0.97135		14.45929
6 Phenol	++++ 1.34804	1.52925 1.26725	1.52304	1.47401	1.42990	1.37444	AVRG		1.42085		6.80848

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
7 bis(2-Chloroethyl) ether	1.45471	1.31098	1.29730	1.24811	1.20853	1.12454	AVRG	1.21927	1.21927	11.45442	
	1.09182	1.01818									
8 2-Chlorophenol	++++	1.20213	1.21244	1.20930	1.17427	1.13615	AVRG	1.16025	1.16025	4.71129	
	1.12036	1.06710									
203 n-Decane	++++	2.23493	2.12079	1.84312	1.66634	1.36228	AVRG	1.67637	1.67637	24.37704	<--
	1.31840	1.18875									
9 1,3-Dichlorobenzene	++++	1.39458	1.36615	1.31568	1.26697	1.17499	AVRG	1.24937	1.24937	9.48375	
	1.14833	1.07889									
11 1,4-Dichlorobenzene	++++	1.42299	1.37345	1.32177	1.24243	1.12517	AVRG	1.23299	1.23299	11.89706	
	1.10584	1.03930									
12 Benzyl alcohol	++++	0.76735	0.79026	0.80326	0.80793	0.82627	AVRG	0.79688	0.79688	2.39802	
	0.80135	0.78175									
13 1,2-Dichlorobenzene	++++	1.30159	1.22552	1.11831	1.06725	0.98061	AVRG	1.08077	1.08077	13.34898	
	0.96496	0.90717									
14 bis(2-Chloroisopropyl)ether	++++	3.20529	3.13518	2.92922	2.79598	2.46247	AVRG	2.80759	2.80759	12.74065	
	2.31743	++++									
15 o-Cresol	++++	0.98142	0.91678	0.85468	0.82863	0.79542	AVRG	0.84018	0.84018	10.24527	
	0.77217	0.73216									

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1		10		20		40		50		80		Curve		b		Coefficients		m2		RSD	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 14	Level 15	Level 16	Level 17	Level 18	Level 19	Level 20	Level 21	Level 22
16 Acetophenone	++++	1.49133	1.48506	1.32899	1.37892	1.16775							AVRG						1.29266			13.39919
17 N-Nitrosodipropylamine	1.07165	0.96551	0.94926	0.94361	0.92201	0.90517							AVRG						0.93061			8.00039
18 m,p-Cresols	++++	1.22348	1.24221	1.25489	1.24772	1.25187							AVRG						1.23836			1.82249
19 Hexachloroethane	++++	0.55773	0.55904	0.54600	0.52546	0.49297							AVRG						0.51526			8.39931
21 Nitrobenzene	++++	0.34974	0.34192	0.33225	0.32810	0.30804							AVRG						0.32047			7.57846
22 Isophorone	++++	0.63329	0.63868	0.62029	0.62416	0.62960							AVRG						0.62733			3.30514
23 2-Nitrophenol	++++	0.13656	0.14468	0.14595	0.14557	0.13289							AVRG						0.13576			7.73714
24 2,4-Dimethylphenol	++++	0.11974	0.27813	0.26204	0.25866	0.24200							AVRG						0.25414			9.75689
25 bis(2-Chloroethoxy)methane	++++	0.21667	0.39705	0.37818	0.36726	0.35328							AVRG						0.36625			9.37056

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
	100	120									
	Level 7	Level 8									
26 2,4-Dichlorophenol	++++ 0.23053	0.23757 0.21733	0.24297	0.24432	0.24228	0.23914	AVRG		0.23631		4.04174
27 Benzoic acid	++++ 484586	++++ 579530	12767	90496	159274	380510	LINR	0.55118	0.23315		0.99458
28 1,2,4-Trichlorobenzene	++++ 0.22582	0.27514 0.21225	0.26559	0.25063	0.24370	0.23046	AVRG		0.24337		9.18677
30 Naphthalene	1.12402 ++++	0.96267 ++++	0.90754	0.83793	0.80217	++++	AVRG		0.92686		13.64536
204 alpha-Terpineol	++++ 0.25495	0.37259 ++++	0.35693	0.32169	0.30581	0.27284	AVRG		0.31413		14.64507
31 4-Chloroaniline	++++ 0.39449	0.44636 0.36263	0.44554	0.43718	0.43194	0.41176	AVRG		0.41856		7.41584
189 Caprolactam	++++ 0.09490	0.09214 0.08395	0.10283	0.10052	0.09810	0.09469	AVRG		0.09530		6.51273
32 Hexachlorobutadiene	++++ 0.12549	0.14865 0.12144	0.14414	0.13641	0.13293	0.12816	AVRG		0.13389		7.39680
33 4-Chloro-3-methylphenol	++++ 0.23733	0.25374 0.22523	0.25385	0.25122	0.25123	0.24855	AVRG		0.24588		4.35921

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	100	120									
	Level 7	Level 8									
34 2-Methylnaphthalene	0.71935 0.47659 ++++	0.62658 ++++	0.59529	0.55434	0.54368	0.50832	AVRG		0.57488		14.10451
35 1-Methylnaphthalene	0.71369 ++++	0.61459 ++++	0.58195	0.53534	0.52449	0.48256	AVRG		0.57544		14.22867
36 Hexachlorocyclopentadiene	++++ 0.16701	0.13263 0.16633	0.16487	0.17673	0.18753	0.18242	AVRG		0.16822		10.66090
208 1,1'-Biphenyl	++++ 1.03242	1.47426 ++++	1.43736	1.24012	1.21999	1.05952	AVRG		1.24395		14.81409
205 2,3-Dichloroaniline	++++ 0.45913	0.61447 0.43043	0.61659	0.56232	0.53255	0.47580	AVRG		0.52733		14.17165
37 2,4,6-Trichlorophenol	++++ 0.25761	0.27425 0.23267	0.32497	0.29631	0.28078	0.27804	AVRG		0.27780		10.42570
38 2,4,5-Trichlorophenol	++++ 0.29730	0.32239 0.29776	0.32691	0.33081	0.32744	0.29818	AVRG		0.31440		5.01599
40 2-Chloronaphthalene	1.26803 ++++	1.11058 ++++	1.09251	0.98263	0.93422	0.85270	AVRG		1.04011		14.21475
42 o-Nitroaniline	++++ 0.37290	0.34070 0.35311	0.37495	0.37763	0.38154	0.38077	AVRG		0.36880		4.24968

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Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1 m2	%RSD or R^2
	100 Level 7	120 Level 8								
41 m-Nitroaniline	++++ 0.27437	0.23017 0.26467	0.27391 0.26467	0.28344 0.26467	0.29018 0.26467	0.28634 0.26467	AVRG	0.27187	7.47778	
43 Dimethylphthalate	++++ 1.01216	1.23452 0.96319	1.20539 0.96319	1.13939 0.96319	1.10226 0.96319	1.05581 0.96319	AVRG	1.10182	9.00927	
44 2,6-Dinitrotoluene	++++ 0.23765	0.26597 0.22014	0.28146 0.22014	0.27278 0.22014	0.26725 0.22014	0.24979 0.22014	AVRG	0.25644	8.44772	
45 Acenaphthylene	1.84642 1.27275	1.69255 ++++	1.63756 ++++	1.52995 ++++	1.46043 ++++	1.34005 ++++	AVRG	1.53996	13.10895	
47 Acenaphthene	16743 ++++	132978 ++++	272427 ++++	504260 ++++	636789 ++++	++++	WLNLR	-0.00920	0.94654	0.99441
48 2,4-Dinitrophenol	108791 ++++	139996 ++++	8207 ++++	28935 ++++	50603 ++++	98368 ++++	WLNLR	0.36316	0.09252	0.99551
49 Dibenzofuran	++++ 1.11115	1.49101 1.04920	1.44970 1.04920	1.33156 1.04920	1.27556 1.04920	1.16127 1.04920	AVRG	1.26706	13.31227	
50 2,4-Dinitrotoluene	++++ 0.32540	0.31833 0.31308	0.34635 0.31308	0.34856 0.31308	0.34849 0.31308	0.34250 0.31308	AVRG	0.33467	4.56546	
51 Diethylphthalate	++++ 0.91384	1.27731 0.86703	1.17796 0.86703	1.08553 0.86703	1.05307 0.86703	0.97323 0.86703	AVRG	1.04971	13.87191	

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	100	120									
	Level 7	Level 8									
52 4-Nitrophenol	++++ 292338	13261 349805	40008	97657	145890	259175	LINR	0.14185	0.21713		0.99879
53 Fluorene	1.42251 ++++	1.27604 ++++	1.20199	1.05521	1.00306	++++	AVRG		1.19176		14.20942
54 4-Chlorophenylphenylether	++++ 0.42323	0.54923 0.41993	0.54677	0.49775	0.47244	0.43815	AVRG		0.47821		11.51179
55 2-Methyl-4,6-dinitrophenol	++++ 192321	6627 233267	22507	63790	102054	180111	LINR	0.16828	0.09744		0.99440
56 p-Nitroaniline	++++ 0.23917	0.18949 0.23563	0.21542	0.24544	0.24590	0.24787	AVRG		0.23128		9.28720
133 Diphenylamine	++++ 0.52242	0.66556 0.48580	0.63553	0.59627	0.57330	0.54109	AVRG		0.57428		11.05579
58 1,2-Diphenylhydrazine	++++ 0.69287	0.91332 0.67344	0.88821	0.82452	0.77878	0.77296	AVRG		0.79201		11.46293
59 Tributylphosphate	++++ 1.00452	1.38506 0.98379	1.36173	1.23186	1.16436	1.03122	AVRG		1.16608		14.35346
61 4-Bromophenylphenylether	++++ 0.16100	0.19858 0.15874	0.19790	0.17965	0.17230	0.16333	AVRG		0.17593		9.56696

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 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
63 Hexachlorobenzene	++++ 0.17657	0.21320 0.17166	0.20518	0.19207	0.18609	0.17971	AVRG		0.18921		8.09088
207 Atrazine	++++ 0.04082	0.05628 ++++	0.05776	0.05207	0.04780	0.04328	AVRG		0.04967		13.87654
65 Pentachlorophenol	++++ 207727	9958 246267	30599	78281	111498	192521	LINR	0.08512	0.10059		0.99529
206 n-Octadecane	++++ 0.41250	0.85815 0.36370	0.78147	0.64201	0.57781	0.45601	AVRG		0.59452		32.14936
68 Phenanthrene	26563 ++++	222684 ++++	438444	786630	1042335	++++					
69 Anthracene	1.23956 0.84565	1.12447 ++++	1.06969	0.98413	0.90089	0.88083	WLINR	-0.00810	1.00987		0.99192
72 Di-n-butylphthalate	++++ 0.89326	1.27681 ++++	1.22583	1.09301	1.05689	0.97108	AVRG		1.00646		14.37250
76 Fluoranthene	1.14971 0.80724	1.07248 0.78950	1.02773	0.90989	0.91477	0.87691	AVRG		1.08615		13.48205
77 Benzidine	++++ 0.41946	0.40474 0.43119	0.42345	0.42715	0.45199	0.42132	AVRG		0.94353		13.58009
							AVRG		0.42562		3.35852

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
	100	120									
	Level 7	Level 8									
79 Pyrene	1.57370	1.41026	1.37492	1.21461	1.13982	1.12621	AVRG		1.25537		14.08106
	1.09153	1.11194									
85 Butylbenzylphthalate	++++	0.57703	0.56140	0.50224	0.48339	0.47097	AVRG		0.49552		11.30034
	0.44494	0.42862									
89 Benzo(a)anthracene	1.16319	1.04967	1.03721	0.95779	0.98625	1.04531	AVRG		1.03421		5.86988
	1.01133	1.02297									
90 3,3'-Dichlorobenzidine	++++	0.23390	0.27432	0.28379	0.28917	0.27139	AVRG		0.27078		6.54109
	0.27205	0.27081									
92 Chrysene	1.13845	1.04052	0.99204	1.01411	0.96296	0.90509	AVRG		0.98413		8.21010
	0.91412	0.90574									
93 bis (2-Ethylhexyl)phthalate	0.73467	0.76050	0.76255	0.74184	0.72840	0.66707	AVRG		0.70967		7.28020
	0.64776	0.63453									
94 Di-n-octylphthalate	++++	1.21235	1.25451	1.26931	1.22386	1.17162	AVRG		1.20936		4.18474
	1.21431	1.11955									
95 Benzo(b)fluoranthene	0.85153	0.90273	0.92708	0.88531	0.87806	0.96642	AVRG		0.91299		5.09194
	0.99098	0.90181									
96 Benzo(k)fluoranthene	1.06212	0.99289	0.98020	1.02434	0.97342	0.79724	AVRG		0.93570		10.91818
	0.82347	0.83189									

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
	100 Level 7	120 Level 8									
97 Benzo(a)pyrene	0.69791	0.74796	0.77352	0.81584	0.82276	0.79683	AVRG		0.77814		5.26691
	0.80142	0.76892									
99 Indeno(1,2,3-cd)pyrene	0.53593	0.63141	0.67122	0.67133	0.78682	0.79308	AVRG		0.68557		12.06162
	0.69280	0.70196									
100 Dibenzo(a,h)anthracene	0.39696	0.47611	0.51904	0.53216	0.62931	0.63584	AVRG		0.53960		14.58601
	0.55950	0.56787									
101 Benzo(ghi)perylene	0.51064	0.54382	0.55174	0.54123	0.65503	0.65670	AVRG		0.57189		9.43439
	0.55768	0.55831									
102 1,4-Dioxane	++++	0.48275	0.48345	0.43440	0.45103	0.39739	AVRG		0.42655		11.99838
	0.39127	0.34554									
103 Methyl methacrylate	++++	0.25629	0.26105	0.23671	0.24289	0.21210	AVRG		0.22811		12.85894
	0.20778	0.17994									
104 Ethyl methacrylate	++++	1.02566	1.03558	0.94702	1.01046	0.87027	AVRG		0.92655		11.56168
	0.84134	0.75551									
105 2-Picoline	++++	1.57564	1.56517	1.42337	1.51737	1.25720	AVRG		1.37463		14.23886
	1.20594	1.07771									
106 N-Nitrosomethylethylamine	++++	0.61060	0.64605	0.61644	0.66466	0.60616	AVRG		0.61874		4.52915
	0.60717	0.58009									

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
	100 Level 7	120 Level 8									
107 Methyl methanesulfonate	++++ 0.56156	0.63267 0.52952	0.64868	0.60129	0.66087	0.55803	AVRG		0.59895		8.44307
108 N-Nitrosodiethylamine	++++ 0.57359	0.65044 0.52841	0.66644	0.61622	0.65425	0.57001	AVRG		0.60848		8.58799
109 Ethyl Methanesulfonate	++++ 0.75604	0.84654 0.72458	0.84891	0.80216	0.86198	0.75371	AVRG		0.79913		6.88470
110 Pentachloroethane	++++ 0.31304	0.35933 0.29260	0.37272	0.34580	0.35558	0.32327	AVRG		0.33748		8.49358
111 N-Nitrosopyrrolidine	++++ 0.53125	0.62429 0.49767	0.66738	0.63435	0.63690	0.54337	AVRG		0.59074		11.03048
113 N-Nitrosomorpholine	++++ 0.79360	1.07660 ++++	1.08965	1.00489	1.13968	0.85773	AVRG		0.99369		13.94715
114 o-Toluidine	++++ 1.60866	2.23028 ++++	2.21868	1.98214	2.07846	1.66443	AVRG		1.96378		13.76238
115 N-Nitrosopiperidine	++++ 0.15320	0.16639 0.14598	0.17165	0.16416	0.16097	0.15408	AVRG		0.15949		5.55471
116 a,a-Dimethylphenethylamine	++++ 1.22149	1.08404 1.12461	1.20744	1.22469	1.33267	1.20608	AVRG		1.20015		6.62173

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R^2
117 Triethylphosphorothioate	++++ 0.10732	0.14310 0.10861	0.13854	0.12618	0.12157	0.10880	AVRG		0.12202		12.09014
118 2,6-Dichlorophenol	++++ 0.21472	0.22113 0.20330	0.23865	0.23610	0.23676	0.21744	AVRG		0.22402		6.01517
119 Hexachloropropene	++++ 0.08660	0.07204 0.08542	0.08289	0.08409	0.09281	0.08765	AVRG		0.08450		7.51884
120 p-Phenylenediamine	++++ 0.22320	0.28583 0.21365	0.31919	0.29258	0.28447	0.24013	AVRG		0.26558		14.99096
121 N-Nitrosodi-n-butylamine	++++ 0.20345	0.28070 0.19264	0.25065	0.23094	0.22472	0.20786	AVRG		0.22728		13.39932
122 Safrrole	++++ 0.18159	0.22763 0.17035	0.22879	0.21293	0.20293	0.18226	AVRG		0.20093		11.66328
123 1,2,4,5-Tetrachlorobenzene	++++ 0.35221	0.46697 0.35803	0.46828	0.40649	0.39985	0.35582	AVRG		0.40109		12.53989
124 Isoafrrole	++++ 0.35553	0.41529 0.34619	0.43193	0.40454	0.38346	0.36429	AVRG		0.38589		8.39822
125 1,4-Naphthoquinone	++++ 0.30509	0.39697 0.28374	0.42598	0.38166	0.35997	0.31446	AVRG		0.35255		14.96686

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
	100	120									
	Level 7	Level 8									
126 m-Dinitrobenzene	++++ 0.19227	0.17458 0.18187	0.19602	0.19855	0.20367	0.20156	AVRG		0.19264		5.56584
127 Pentachlorobenzene	++++ 0.31847	0.40166 0.33061	0.39838	0.35722	0.35786	0.32027	AVRG		0.35492		9.76550
128 1-Naphthylamine	++++ 0.77838	1.07609 0.78537	1.10196	0.98413	0.97105	0.84323	AVRG		0.93432		14.28175
129 2-Naphthylamine	++++ 0.89670	1.23743 0.89454	1.27572	1.15147	1.09659	0.96847	AVRG		1.07442		14.65175
130 2,3,4,6-Tetrachlorophenol	++++ 0.22833	0.23178 0.23456	0.25689	0.25152	0.25386	0.23709	AVRG		0.24201		4.84182
131 5-Nitro-o-toluidine	++++ 0.29310	0.28355 0.29230	0.32447	0.31733	0.30442	0.30536	AVRG		0.30293		4.79281
132 Thionazin	++++ 0.14920	0.19494 0.14847	0.19863	0.18137	0.17170	0.15272	AVRG		0.17101		12.54639
134 Sulfotepp	++++ 0.10732	0.11270 0.10743	0.11325	0.10434	0.09994	0.09583	AVRG		0.10583		6.02664
135 Phorate	++++ ++++	0.55394 ++++	0.54197	0.47427	0.45150	0.38069	AVRG		0.48047		14.72182

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R ²
136 1,3,5-Trinitrobenzene	++++ 0.14709	0.10909 0.13843	0.14255	0.15222	0.15776	0.14662	AVRG		0.14197		11.12134
137 Phenacetin	++++ 0.33495	0.32326 0.32675	0.36070	0.36180	0.35660	0.33636	AVRG		0.34292		4.78339
138 Diallate	++++ 0.26680	0.37499 ++++	0.37119	0.33775	0.31695	0.27925	AVRG		0.32449		14.01321
139 Dimethoate	++++ 0.27100	0.30466 0.27007	0.31471	0.30010	0.29511	0.27029	AVRG		0.28942		6.46090
140 4-Aminobiphenyl	++++ 0.56925	0.72075 0.53880	0.70176	0.65506	0.65565	0.57940	AVRG		0.63153		11.05085
141 Pentachloronitrobenzene	++++ 0.06036	0.07228 0.05612	0.07324	0.06798	0.07028	0.06159	AVRG		0.06598		10.03461
142 Pronamide	++++ 0.22614	0.32276 ++++	0.31463	0.26460	0.27538	0.23240	AVRG		0.27265		14.78874
143 Dinoseb	++++ 257584	8121 316258	28182	82403	132641	240245	LNIR	0.19558	0.13236		0.99543
144 Disulfoton	++++ 680673	108601 762070	221830	358175	436645	565821	LNIR	-0.31325	0.25393		0.99164

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Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R^2
	Level 7	120 Level 8									
145 Methyl parathion	++++ 0.20340	0.21494 0.20046	0.23415	0.22654	0.21924	0.20556	AVRG	0.21490			5.86469
146 4-Nitroquinoline-1-oxide	++++ 0.01564	0.01878 0.01570	0.02499	0.02463	0.02770	0.01733	AVRG	0.02068			24.05256
147 Methapyrilene	++++ 0.43518	0.66202 0.40096	0.69118	0.59337	0.69475	0.46266	AVRG	0.56287			22.60975
148 Isodrin	++++ 0.09500	0.11902 0.09386	0.11822	0.10895	0.12640	0.09240	AVRG	0.10769			13.00554
149 Aramite	++++ 0.04879	0.04941 0.04779	0.05625	0.05342	0.06656	0.04959	AVRG	0.05312			12.48885
150 Kepone	++++ 0.07386	0.07586 0.07532	0.08408	0.07756	0.09671	0.07327	AVRG	0.07952			10.54853
151 p-(Dimethylamino)azobenzene	++++ 0.29488	0.39858 0.27396	0.39437	0.36985	0.35593	0.31136	AVRG	0.34270			14.44302
152 Chlorobenzilate	++++ 0.25144	0.29071 0.27162	0.28877	0.27142	0.26849	0.25460	AVRG	0.27101			5.56105
153 3,3'-Dimethylbenzidine	++++ 0.48708	0.51382 0.48802	0.55102	0.52974	0.54850	0.49717	AVRG	0.51648			5.27185

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154 Famphur	++++ 0.28987	0.32454 0.32077	0.34524 0.33921	0.34268 0.30933	0.33921 0.30933	0.30933 0.30933	AVRG	0.32452	0.32452	6.18871	
155 2-Acetylaminofluorene	++++ 635238	33816 856774	99439	214057	308653	500750	LINR	0.12393	0.34160	0.99953	
157 7,12Dimethylbenz(a)anthracene	++++ 0.43259	0.45282 0.40125	0.48072	0.46653	0.46073	0.43555	AVRG	0.44717	0.44717	5.89765	
158 3-Methylcholanthrene	++++ 0.38014	0.31974 0.36293	0.36727	0.37146	0.38509	0.37505	AVRG	0.36595	0.36595	5.93110	
26 Phthalic anhydride	++++ 327158	14924 405155	50787	124222	152717	266193	LINR	0.16127	0.13589	0.99714	
173 Carbazole	1.02001 0.74713	0.85642 0.71431	0.83195	0.87531	0.85677	0.80892	AVRG	0.83885	0.83885	11.00387	
174 Hexachlorophene	++++ 2679746	399774 ++++	1526773	1518686	++++	2272703	LINR	4.47618	0.07286	0.99355	
179 Dibenzo(a,e)pyrene	++++ 0.22817	0.14426 0.21902	0.16428	0.18045	0.28365	0.27772	AVRG	0.21394	0.21394	25.31476	<-
185 (2,3-Dibromopropyl) phosphate	++++ ++++	++++ ++++	++++	++++	++++	++++	AVRG	0.000e+00	0.000e+00	0.000e+00	<-

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R^2
184 p-Benzoquinone	++++ 0.37398	0.24190 0.30776	0.31360 0.37206	0.37206 0.29654	0.29654 0.32057	0.32057 AVRG	AVRG	0.31806	14.31597		
191 Parathion	++++ 0.06122	0.06161 0.06210	0.06589 0.06626	0.06626 0.06465	0.06465 0.05903	0.05903 AVRG	AVRG	0.06296	4.27120		
192 Methoxychlor	++++ 0.36755	0.33290 0.40760	0.34089	0.36986	0.42092	0.45460	AVRG	0.38490	11.54094		
210 m-Toluidine	++++ 1.81965	1.52562 1.84738	1.74475	1.99672	1.74999	1.66523	AVRG	1.76419	8.38688		
211 p-Toluidine	++++ 1.35048	1.46088 1.18101	1.38682	1.29602	1.51710	1.53865	AVRG	1.39014	9.16330		
212 Cis Diallate	++++ 0.37768	0.38177 0.37220	0.40018	0.38534	0.35084	0.37316	AVRG	0.37731	3.97800		
213 Trans Diallate	++++ 0.31388	0.44117 ++++	0.43669	0.39735	0.37289	0.32853	AVRG	0.38175	14.01321		
214 1,4-Dinitrobenzene	++++ 0.24895	0.20542 0.23578	0.23664	0.24407	0.25193	0.25251	AVRG	0.23933	6.86021		
215 2-Ethoxyethanol	++++ 0.93358	0.93029 0.89529	0.96309	0.97043	0.95078	0.91925	AVRG	0.93753	2.78726		

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00386

Compound	1	10	20	40	50	80	Curve	b	ml	m2	%RSD or R^2
237 Hydroxymethyl phthalimide	Level 1 ++++	Level 2 ++++	Level 3 ++++	Level 4 ++++	Level 5 ++++	Level 6 ++++	LINR	0.000e+00	0.000e+00		0.000e+00 <-
238 Phthalic acid	Level 7 ++++	Level 8 ++++	++++	++++	++++	++++	LINR	0.000e+00	0.000e+00		0.000e+00 <-
239 Thiophenol	++++	++++	++++	++++	++++	++++	LINR	0.000e+00	0.000e+00		0.000e+00 <-
240 bis (Chloromethyl) ether	++++	++++	++++	++++	++++	++++	AVRG		0.000e+00		0.000e+00 <-
241 Octachlorostyrene	++++	++++	++++	++++	++++	++++	AVRG		0.000e+00		0.000e+00 <-
243 Dibenzo (a,h) pyrene	++++	0.24764	0.21244	0.22226	0.28171	0.21132	AVRG		0.24120		12.71000 <-
244 Benzo (j) fluoranthene	++++	0.27182	0.84457	0.81626	0.80577	0.80384	AVRG		0.82091		4.44522 <-
245 Dibenzo (a,j) acridine	++++	0.53100	0.54232	0.53885	0.60325	0.53068	AVRG		0.54624		5.18863 <-
246 Dibenzo (a,h) acridine	++++	0.52549	0.52340	0.52919	0.57971	0.50511	AVRG		0.52461		6.04320 <-

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
 End Cal Date : 02-MAR-2010 15:20
 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	MRSD or R^2
247 Quinoline	++++ Level 7	0.63427 Level 8	0.59770	0.56458	0.55229	0.51902	AVRG		0.55741		10.02456<-
248 2,4-Toluene Diisocyanate	++++	0.06585	0.08968	0.09196	0.08694	0.06790	AVRG		0.08168		14.22308<-
249 Dibenzo(a,i)pyrene	++++	0.16208	0.13286	0.14491	0.18805	0.14270	AVRG		0.15940		14.62771<-
250 1-Nitropyrene	++++	28293 592203	67776	153590	217335	277274	LINR	0.12297	0.20618		0.99717<-
251 5-Methylchrysene	++++	0.60133	0.57357	0.55876	0.55514	0.51071	AVRG		0.55039		6.82746<-
252 Dibenzo(a,l)pyrene	++++	0.30152	0.26697	0.25402	0.31087	0.24834	AVRG		0.27424		9.41102<-
253 7H-Dibenzo(c,g)carbazole	++++	0.36771	0.33708	0.34485	0.41757	0.32785	AVRG		0.35800		8.99751<-
254 1-Hexanol	++++	0.35297	1.16052	1.09551	1.03103	0.88412	AVRG		1.02571		11.33638<-
255 Trichlorophenols	++++	0.88631	0.29832	0.31356	0.30411	0.28811	AVRG		0.29610		7.07025<-
	0.27745	0.26522					AVRG				

GEL Laboratories LLC

INITIAL CALIBRATION DATA

Start Cal Date : 01-MAR-2010 16:52
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 Quant Method : ISTD
 Target Version : 3.50
 Integrator : HP RTE
 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	RSD or R^2
	100	120									
	Level 7	Level 8									
M 226 Tetrachlorophenols	++++	0.23178	0.25689	0.25152	0.25386	0.23709					
	0.22833	0.23456				AVRG		0.24201			4.84182
M 227 Benzo (b,k) fluoranthene	0.95683	0.94781	0.95364	0.95482	0.92574	0.88183					
	0.90722	0.86685				AVRG		0.92434			3.83617
M 228 TPO Sum Semivolatiles	++++	++++	++++	++++	++++	++++					
	++++	++++				AVRG		0.000e+00			0.000e+00
S 3 2-Fluorophenol	++++	1.15047	1.17538	1.15165	1.11963	1.06519					
	1.06101	1.00631				AVRG		1.10423			5.56618
S 5 Phenol-d5	++++	1.48395	1.48838	1.44817	1.41290	1.38199					
	1.36042	1.28386				AVRG		1.40852			5.20233
S 187 2-Chlorophenol-d4	++++	++++	++++	++++	++++	++++					
	++++	++++				AVRG		0.000e+00			0.000e+00
S 188 1,2-Dichlorobenzene-d4	++++	++++	++++	++++	++++	++++					
	++++	++++				AVRG		0.000e+00			0.000e+00
S 20 Nitrobenzene-d5	++++	0.35727	0.35581	0.34820	0.34654	0.33872					
	0.33516	0.31750				AVRG		0.34274			4.01565
S 39 2-Fluorobiphenyl	++++	1.22699	1.18610	1.07317	1.03097	0.93678					
	0.90344	0.85259				AVRG		1.03001			13.79971

GEL Laboratories LLC

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 Target Version : 3.50
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 Method file : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Cal Date : 05-Mar-2010 08:38 jen00986

Compound	1 Level 1	10 Level 2	20 Level 3	40 Level 4	50 Level 5	80 Level 6	Curve	b	Coefficients m1	m2	%RSD or R^2
	100	120									
	Level 7	Level 8									
\$ 60 2,4,6-Tribromophenol	++++	0.10868	0.12467	0.13140	0.13126	0.13077					
	0.12294	0.12345				AVRG		0.12474			6.43117
\$ 81 p-Terphenyl-d14	++++	0.76190	0.74607	0.65946	0.63111	0.66381					
	0.64932	0.66716				AVRG		0.68269			7.37318

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

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 01-MAR-2010 20:56
Lab File ID: s3c0112.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 01:58
Lab Sample ID: WBN100225-09.1 Quant Type: ISTD
Method: /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m

COMPOUND		RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
\$	3 2-Fluorophenol	1.10423	1.07835	1.07835	0.000	-2.34344	60.00000	Averaged
\$	5 Phenol-d5	1.40852	1.33696	1.33696	0.000	-5.08053	60.00000	Averaged
\$	20 Nitrobenzene-d5	0.34274	0.34789	0.34789	0.000	1.50332	60.00000	Averaged
\$	39 2-Fluorobiphenyl	1.03001	1.07403	1.07403	0.000	4.27437	60.00000	Averaged
\$	60 2,4,6-Tribromophenol	0.12474	0.12517	0.12517	0.000	0.34459	60.00000	Averaged
\$	81 p-Terphenyl-d14	0.68269	0.69770	0.69770	0.000	2.19876	60.00000	Averaged
	1 N-Methyl-N-nitrosomethylami	0.77640	0.71775	0.71775	0.000	-7.55424	60.00000	Averaged
	2 Pyridine	1.10390	0.82581	0.82581	0.000	-25.19170	60.00000	Averaged
	4 Aniline	0.69729	0.62649	0.62649	0.000	-10.15330	60.00000	Averaged
	6 Phenol	1.42085	1.39362	1.39362	0.001	-1.91598	20.00000	Averaged|ccc
	7 bis(2-Chloroethyl) ether	1.21927	1.08834	1.08834	0.000	-10.73868	60.00000	Averaged
	8 2-Chlorophenol	1.16025	1.11153	1.11153	0.000	-4.19884	60.00000	Averaged
	203 n-Decane	1.67637	1.63433	1.63433	0.000	-2.50810	60.00000	Averaged
	9 1,3-Dichlorobenzene	1.24937	1.24765	1.24765	0.000	-0.13736	60.00000	Averaged
	11 1,4-Dichlorobenzene	1.23299	1.23039	1.23039	0.001	-0.21105	20.00000	Averaged|ccc
	13 1,2-Dichlorobenzene	1.08077	1.01369	1.01369	0.000	-6.20665	60.00000	Averaged
	14 bis(2-Chloroisopropyl)ether	2.80759	2.67004	2.67004	0.000	-4.89941	60.00000	Averaged
	12 Benzyl alcohol	0.79688	0.76868	0.76868	0.000	-3.53857	60.00000	Averaged
	15 o-Cresol	0.84018	0.77356	0.77356	0.000	-7.92988	60.00000	Averaged
	18 m,p-Cresols	1.23836	1.21184	1.21184	0.000	-2.14113	60.00000	Averaged
	17 N-Nitrosodipropylamine	0.93061	0.88688	0.88688	0.050	-4.69947	60.00000	Averaged|spcc
	19 Hexachloroethane	0.51526	0.49995	0.49995	0.000	-2.97185	60.00000	Averaged
	21 Nitrobenzene	0.32047	0.31754	0.31754	0.000	-0.91566	60.00000	Averaged
	22 Isophorone	0.62733	0.57357	0.57357	0.000	-8.57023	60.00000	Averaged
	23 2-Nitrophenol	0.13576	0.14898	0.14898	0.001	9.73533	20.00000	Averaged|ccc
	24 2,4-Dimethylphenol	0.25414	0.26092	0.26092	0.000	2.67111	60.00000	Averaged
	25 bis(2-Chloroethoxy)methane	0.36625	0.33353	0.33353	0.000	-8.93531	60.00000	Averaged
	26 2,4-Dichlorophenol	0.23631	0.23933	0.23933	0.001	1.27783	20.00000	Averaged|ccc
	27 Benzoic acid	43.42839	40.00000	0.12462	0.000	8.57096	60.00000	Linear
	28 1,2,4-Trichlorobenzene	0.24337	0.23428	0.23428	0.000	-3.73429	60.00000	Averaged
	30 Naphthalene	0.92686	0.76873	0.76873	0.000	-17.06122	60.00000	Averaged
	204 alpha-Terpineol	0.31413	0.28376	0.28376	0.000	-9.66966	60.00000	Averaged
	31 4-Chloroaniline	0.41856	0.40025	0.40025	0.000	-4.37400	60.00000	Averaged
	32 Hexachlorobutadiene	0.13389	0.12907	0.12907	0.001	-3.59688	20.00000	Averaged|ccc
	33 4-Chloro-3-methylphenol	0.24588	0.24664	0.24664	0.001	0.30945	20.00000	Averaged|ccc
	34 2-Methylnaphthalene	0.57488	0.53798	0.53798	0.000	-6.41777	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 01-MAR-2010 20:56
Lab File ID: s3c0112.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 01:58
Lab Sample ID: WBN100225-09.1 Quant Type: ISTD
Method: /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m

COMPOUND	RRE / AMOUNT	RF40	CCAL RRE40	MIN RRE	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35 1-Methylnaphthalene	0.57544	0.50426	0.50426	0.000	-12.36969	60.00000	Averaged
36 Hexachlorocyclopentadiene	0.16822	0.13503	0.13503	0.050	-19.72838	60.00000	Averaged|spcc
205 2,3-Dichloroaniline	0.52733	0.54042	0.54042	0.000	2.48278	60.00000	Averaged
37 2,4,6-Trichlorophenol	0.27780	0.29364	0.29364	0.001	5.69929	20.00000	Averaged|ccc
38 2,4,5-Trichlorophenol	0.31440	0.33277	0.33277	0.000	5.84213	60.00000	Averaged
40 2-Chloronaphthalene	1.04011	0.96244	0.96244	0.000	-7.46732	60.00000	Averaged
42 o-Nitroaniline	0.36880	0.37248	0.37248	0.000	0.99892	60.00000	Averaged
41 m-Nitroaniline	0.27187	0.27104	0.27104	0.000	-0.30501	60.00000	Averaged
43 Dimethylphthalate	1.10182	1.08739	1.08739	0.000	-1.30954	60.00000	Averaged
44 2,6-Dinitrotoluene	0.25644	0.26289	0.26289	0.000	2.51754	60.00000	Averaged
50 2,4-Dinitrotoluene	0.33467	0.33420	0.33420	0.000	-0.14138	60.00000	Averaged
45 Acenaphthylene	1.53996	1.47752	1.47752	0.000	-4.05487	60.00000	Averaged
47 Acenaphthene	35.55508	40.00000	0.85007	0.001	-11.11230	20.00000	Wt Linear|ccc
48 2,4-Dinitrophenol	42.13241	40.00000	0.06385	0.050	5.33101	60.00000	Linear|spcc
49 Dibenzofuran	1.26706	1.29964	1.29964	0.000	2.57147	60.00000	Averaged
51 Diethylphthalate	1.04971	1.04449	1.04449	0.000	-0.49755	60.00000	Averaged
52 4-Nitrophenol	39.54129	40.00000	0.18384	0.050	-1.14677	60.00000	Linear|spcc
53 Fluorene	1.19176	0.99771	0.99771	0.000	-16.28259	60.00000	Averaged
54 4-Chlorophenylphenylether	0.47821	0.47004	0.47004	0.000	-1.70927	60.00000	Averaged
55 2-Methyl-4,6-dinitrophenol	49.20533	40.00000	0.10347	0.000	23.01333	60.00000	Linear
56 p-Nitroaniline	0.23128	0.24841	0.24841	0.000	7.40769	60.00000	Averaged
133 Diphenylamine	0.57428	0.58798	0.58798	0.001	2.38555	20.00000	Averaged|ccc
58 1,2-Diphenylhydrazine	0.79201	0.80253	0.80253	0.000	1.32824	60.00000	Averaged
61 4-Bromophenylphenylether	0.17593	0.16499	0.16499	0.000	-6.21838	60.00000	Averaged
63 Hexachlorobenzene	0.18921	0.17831	0.17831	0.000	-5.76217	60.00000	Averaged
65 Pentachlorophenol	39.05294	40.00000	0.08964	0.001	-2.36766	20.00000	Linear|ccc
206 n-Octadecane	0.58452	0.63724	0.63724	0.000	9.01954	60.00000	Averaged
68 Phenanthrene	34.75748	40.00000	0.88569	0.000	-13.10631	60.00000	Wt Linear
69 Anthracene	1.00646	0.93147	0.93147	0.000	-7.45109	60.00000	Averaged
72 Di-n-butylphthalate	1.08615	1.04966	1.04966	0.000	-3.35882	60.00000	Averaged
76 Fluoranthene	0.94353	0.88033	0.88033	0.001	-6.69804	20.00000	Averaged|ccc
79 Pyrene	1.25537	1.09496	1.09496	0.000	-12.77832	60.00000	Averaged
85 Butylbenzylphthalate	0.49552	0.55334	0.55334	0.000	11.66996	60.00000	Averaged
89 Benzo(a)anthracene	1.03421	0.89781	0.89781	0.000	-13.18895	60.00000	Averaged
92 Chrysene	0.98413	0.96085	0.96085	0.000	-2.36538	60.00000	Averaged
93 bis(2-Ethylhexyl)phthalate	0.70967	0.73112	0.73112	0.000	3.02368	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 01-MAR-2010 20:56
Lab File ID: s3c0112.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 01:58
Lab Sample ID: WBN100225-09.1 Quant Type: ISTD
Method: /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Di-n-octylphthalate	1.20936	1.26509	1.26509	0.001	4.60833	20.00000	Averaged|ccc
95 Benzo(b)fluoranthene	0.91299	0.92799	0.92799	0.000	1.64314	60.00000	Averaged|
96 Benzo(k)fluoranthene	0.93570	0.87333	0.87333	0.000	-6.66513	60.00000	Averaged|
97 Benzo(a)pyrene	0.77814	0.77191	0.77191	0.001	-0.80094	20.00000	Averaged|ccc
99 Indeno(1,2,3-cd)pyrene	0.68557	0.65230	0.65230	0.000	-4.85246	60.00000	Averaged|
100 Dibenzo(a,h)anthracene	0.53960	0.51465	0.51465	0.000	-4.62301	60.00000	Averaged|
101 Benzo(ghi)perylene	0.57189	0.52431	0.52431	0.000	-8.32032	60.00000	Averaged|
126 m-Dinitrobenzene	0.19264	0.20023	0.20023	0.000	3.93755	60.00000	Averaged|
130 2,3,4,6-Tetrachlorophenol	0.24201	0.22585	0.22585	0.000	-6.67725	60.00000	Averaged|
143 Dinoseb	40.09992	40.00000	0.10679	0.000	0.24981	60.00000	Linear|
173 Carbazole	0.83885	0.87679	0.87679	0.000	4.52287	60.00000	Averaged|
184 p-Benzoquinone	0.31806	0.18974	0.18974	0.000	-40.34367	60.00000	Averaged|
192 Methoxychlor	0.38490	0.36848	0.36848	0.000	-4.26636	60.00000	Averaged|
211 p-Toluidine	1.39014	1.06174	1.06174	0.000	-23.62322	60.00000	Averaged|
210 m-Toluidine	1.76419	1.80361	1.80361	0.000	2.23457	60.00000	Averaged|
26 Phthalic anhydride	50.15089	40.00000	0.14846	0.000	25.37723	60.00000	Linear|
179 Dibenzo(a,e)pyrene	0.21394	0.14792	0.14792	0.000	-30.85583	60.00000	Averaged|
214 1,4-Dinitrobenzene	0.23933	0.24591	0.24591	0.000	2.74915	60.00000	Averaged|
215 2-Ethoxyethanol	0.93753	0.94761	0.94761	0.000	1.07512	60.00000	Averaged|
216 Methylenebis(2-chloroanilin	40.39014	40.00000	0.13604	0.000	0.97535	60.00000	Linear|
M 225 Trichlorophenols	0.29610	0.31320	0.31320	0.000	5.77512	60.00000	Averaged|
M 226 Tetrachlorophenols	0.24201	0.22585	0.22585	0.000	-6.67725	60.00000	Averaged|
M 227 Benzo(b,k)fluoranthene	0.92434	0.90066	0.90066	0.000	-2.56202	60.00000	Averaged

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Data file : /chem/MSD3.i/s030110.b/s3c0112.d
Lab Smp Id: WBN100225-09.1 Client Smp ID: MEGAICV
Inj Date : 01-MAR-2010 20:56
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |WBN100225-09.1|40PPM|1|SVMF|1|MEGAICV
Misc Info : |MSD8270|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m
Meth Date : 08-Mar-2010 15:47 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 01:58 Cal File: s3c0126.d
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEGAI1.sub
Target Version: 3.50
Processing Host: hpc1p1

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.874	3.874	(1.000)	277036	40.0000	
* 29 Naphthalene-d8	136	4.741	4.741	(1.000)	1098770	40.0000	
* 46 Acenaphthene-d10	164	5.998	5.998	(1.000)	573689	40.0000	
* 67 Phenanthrene-d10	188	6.987	6.987	(1.000)	872941	40.0000	
* 91 Chrysene-d12	240	8.661	8.661	(1.000)	705848	40.0000	
* 98 Perylene-d12	264	10.127	10.127	(1.000)	653140	40.0000	
\$ 3 2-Fluorophenol	112	3.067	3.067	(0.792)	298743	40.0000	39.1
\$ 5 Phenol-d5	99	3.591	3.591	(0.927)	370387	40.0000	38.0
\$ 20 Nitrobenzene-d5	82	4.244	4.244	(0.895)	382256	40.0000	40.6
\$ 39 2-Fluorobiphenyl	172	5.484	5.484	(0.914)	616160	40.0000	41.7
\$ 60 2,4,6-Tribromophenol	329	6.533	6.533	(1.089)	71809	40.0000	40.1
\$ 81 p-Terphenyl-d14	244	7.907	7.907	(0.913)	492471	40.0000	40.9
1 N-Methyl-N-nitrosomethylamine	74	2.393	2.393	(0.618)	198842	40.0000	37.0
2 Pyridine	79	2.425	2.425	(0.626)	228778	40.0000	29.9
4 Aniline	66	3.661	3.661	(0.945)	173560	40.0000	35.9
6 Phenol	94	3.596	3.596	(0.928)	386084	40.0000	39.2 (Q)
7 bis(2-Chloroethyl) ether	63	3.677	3.677	(0.949)	301509	40.0000	35.7
8 2-Chlorophenol	128	3.741	3.741	(0.965)	307935	40.0000	38.3
203 n-Decane	43	3.719	3.719	(0.960)	452768	40.0000	39.0
9 1,3-Dichlorobenzene	146	3.842	3.842	(0.992)	345645	40.0000	39.9
11 1,4-Dichlorobenzene	146	3.890	3.890	(1.004)	340863	40.0000	39.9
13 1,2-Dichlorobenzene	146	3.992	3.992	(1.030)	280830	40.0000	37.5
14 bis(2-Chloroisopropyl)ether	45	4.019	4.019	(1.037)	739697	40.0000	38.0
12 Benzyl alcohol	108	3.944	3.944	(1.018)	212953	40.0000	38.6
15 o-Cresol	107	3.992	3.992	(1.030)	214303	40.0000	36.8
18 m,p-Cresols	107	4.094	4.094	(1.057)	335724	40.0000	39.1

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
17 N-Nitrosodipropylamine	70	4.115	4.115	(1.062)	245697	40.0000	38.1
19 Hexachloroethane	117	4.217	4.217	(1.088)	138504	40.0000	38.8
21 Nitrobenzene	77	4.254	4.254	(0.897)	348899	40.0000	39.6
22 Isophorone	82	4.409	4.409	(0.930)	630221	40.0000	36.6
23 2-Nitrophenol	139	4.468	4.468	(0.942)	163696	40.0000	43.9
24 2,4-Dimethylphenol	122	4.457	4.457	(0.940)	286695	40.0000	41.1
25 bis(2-Chloroethoxy)methane	93	4.527	4.527	(0.955)	366471	40.0000	36.4
26 2,4-Dichlorophenol	162	4.629	4.629	(0.976)	262966	40.0000	40.5
27 Benzoic acid	105	4.522	4.522	(0.954)	136934	40.0000	43.4
28 1,2,4-Trichlorobenzene	180	4.693	4.693	(0.990)	257422	40.0000	38.5
30 Naphthalene	128	4.757	4.757	(1.003)	844657	40.0000	33.2 (Q)
204 alpha-Terpineol	59	4.736	4.736	(0.999)	311786	40.0000	36.1
31 4-Chloroaniline	127	4.773	4.773	(1.007)	439782	40.0000	38.2
32 Hexachlorobutadiene	225	4.821	4.821	(1.017)	141822	40.0000	38.6
33 4-Chloro-3-methylphenol	107	5.083	5.083	(1.072)	270999	40.0000	40.1
34 2-Methylnaphthalene	142	5.238	5.238	(1.105)	591120	40.0000	37.4
35 1-Methylnaphthalene	142	5.313	5.313	(1.121)	554061	40.0000	35.0
36 Hexachlorocyclopentadiene	237	5.340	5.340	(0.890)	77465	40.0000	32.1
205 2,3-Dichloroaniline	161	5.436	5.436	(0.906)	310033	40.0000	41.0
37 2,4,6-Trichlorophenol	196	5.426	5.426	(0.905)	168456	40.0000	42.3
38 2,4,5-Trichlorophenol	196	5.452	5.452	(0.909)	190904	40.0000	42.3
40 2-Chloronaphthalene	162	5.591	5.591	(0.932)	552142	40.0000	37.0
42 o-Nitroaniline	65	5.650	5.650	(0.942)	213690	40.0000	40.4
41 m-Nitroaniline	138	5.950	5.950	(0.992)	155492	40.0000	39.9
43 Dimethylphthalate	163	5.763	5.763	(0.961)	623823	40.0000	39.5
44 2,6-Dinitrotoluene	165	5.821	5.821	(0.971)	150818	40.0000	41.0
50 2,4-Dinitrotoluene	165	6.105	6.105	(1.018)	191727	40.0000	39.9
45 Acenaphthylene	152	5.902	5.902	(0.984)	847635	40.0000	38.4
47 Acenaphthene	154	6.019	6.019	(1.004)	487675	40.0000	35.6
48 2,4-Dinitrophenol	184	6.019	6.019	(1.004)	36631	40.0000	42.1
49 Dibenzofuran	168	6.137	6.137	(1.023)	745592	40.0000	41.0
51 Diethylphthalate	149	6.249	6.249	(1.042)	599211	40.0000	39.8
52 4-Nitrophenol	139	6.030	6.030	(1.005)	105468	40.0000	39.5
53 Fluorene	166	6.372	6.372	(1.062)	572376	40.0000	33.5
54 4-Chlorophenylphenylether	204	6.351	6.351	(1.059)	269657	40.0000	39.3
55 2-Methyl-4,6-dinitrophenol	198	6.388	6.388	(0.914)	90323	40.0000	49.2
56 p-Nitroaniline	138	6.378	6.378	(1.063)	142509	40.0000	43.0
133 Diphenylamine	169	6.431	6.431	(0.920)	513273	40.0000	41.0
58 1,2-Diphenylhydrazine	77	6.458	6.458	(0.924)	700564	40.0000	40.5
61 4-Bromophenylphenylether	248	6.677	6.677	(0.956)	144025	40.0000	37.5
63 Hexachlorobenzene	284	6.736	6.736	(0.964)	155652	40.0000	37.7
65 Pentachlorophenol	266	6.854	6.854	(0.981)	78254	40.0000	39.0
206 n-Octadecane	57	6.838	6.838	(0.979)	556275	40.0000	43.6
68 Phenanthrene	178	7.003	7.003	(1.002)	773159	40.0000	34.8
69 Anthracene	178	7.035	7.035	(1.007)	813116	40.0000	37.0
72 Di-n-butylphthalate	149	7.282	7.282	(1.042)	916295	40.0000	38.6
76 Fluoranthene	202	7.720	7.720	(1.105)	768476	40.0000	37.3

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
79 Pyrene	202	7.859	7.859	(0.907)	772873	40.0000	34.9
85 Butylbenzylphthalate	149	8.175	8.175	(0.944)	390575	40.0000	44.7
89 Benzo(a)anthracene	228	8.645	8.645	(0.998)	633718	40.0000	34.7
92 Chrysene	228	8.683	8.683	(1.002)	678215	40.0000	39.0
93 bis(2-Ethylhexyl)phthalate	149	8.533	8.533	(0.985)	516062	40.0000	41.2
94 Di-n-octylphthalate	149	9.068	9.068	(0.895)	826280	40.0000	41.8
95 Benzo(b)fluoranthene	252	9.656	9.656	(0.954)	606108	40.0000	40.6
96 Benzo(k)fluoranthene	252	9.688	9.688	(0.957)	570408	40.0000	37.3
97 Benzo(a)pyrene	252	10.052	10.052	(0.993)	504166	40.0000	39.7
99 Indeno(1,2,3-cd)pyrene	276	11.764	11.764	(1.162)	426045	40.0000	38.0
100 Dibenzo(a,h)anthracene	278	11.774	11.774	(1.163)	336140	40.0000	38.2
101 Benzo(ghi)perylene	276	12.277	12.277	(1.212)	342448	40.0000	36.7 (Q)
126 m-Dinitrobenzene	168	5.805	5.805	(0.968)	114870	40.0000	41.6
130 2,3,4,6-Tetrachlorophenol	232	6.206	6.206	(1.035)	129566	40.0000	37.3
143 Dinoseb	211	6.945	6.945	(0.994)	93224	40.0000	40.1
173 Carbazole	167	7.121	7.121	(1.019)	765388	40.0000	41.8
184 p-Benzoquinone	54	3.372	3.372	(0.870)	52565	40.0000	23.9
192 Methoxychlor	227	8.517	8.517	(0.983)	260092	40.0000	38.3
211 p-Toluidine	106	4.158	4.158	(1.073)	294141	40.0000	30.6
210 m-Toluidine	106	4.174	4.174	(1.077)	499666	40.0000	40.9
26 Phthalic anhydride	104	5.281	5.281	(1.114)	163118	40.0000	50.2
179 Dibenzo(a,e)pyrene	302	16.182	16.182	(1.598)	96615	40.0000	27.6
214 1,4-Dinitrobenzene	75	5.746	5.746	(0.958)	141075	40.0000	41.1
215 2-Ethoxyethanol	59	2.238	2.238	(0.578)	262522	40.0000	40.4
216 Methylenebis(2-chloroaniline)	231	8.581	8.581	(0.991)	96021	40.0000	40.4 (Q)
M 225 Trichlorophenols	196				359360	80.0000	84.6
M 226 Tetrachlorophenols	232				129566	40.0000	37.3
M 227 Benzo(b,k)fluoranthene	252				1176516	80.0000	78.0

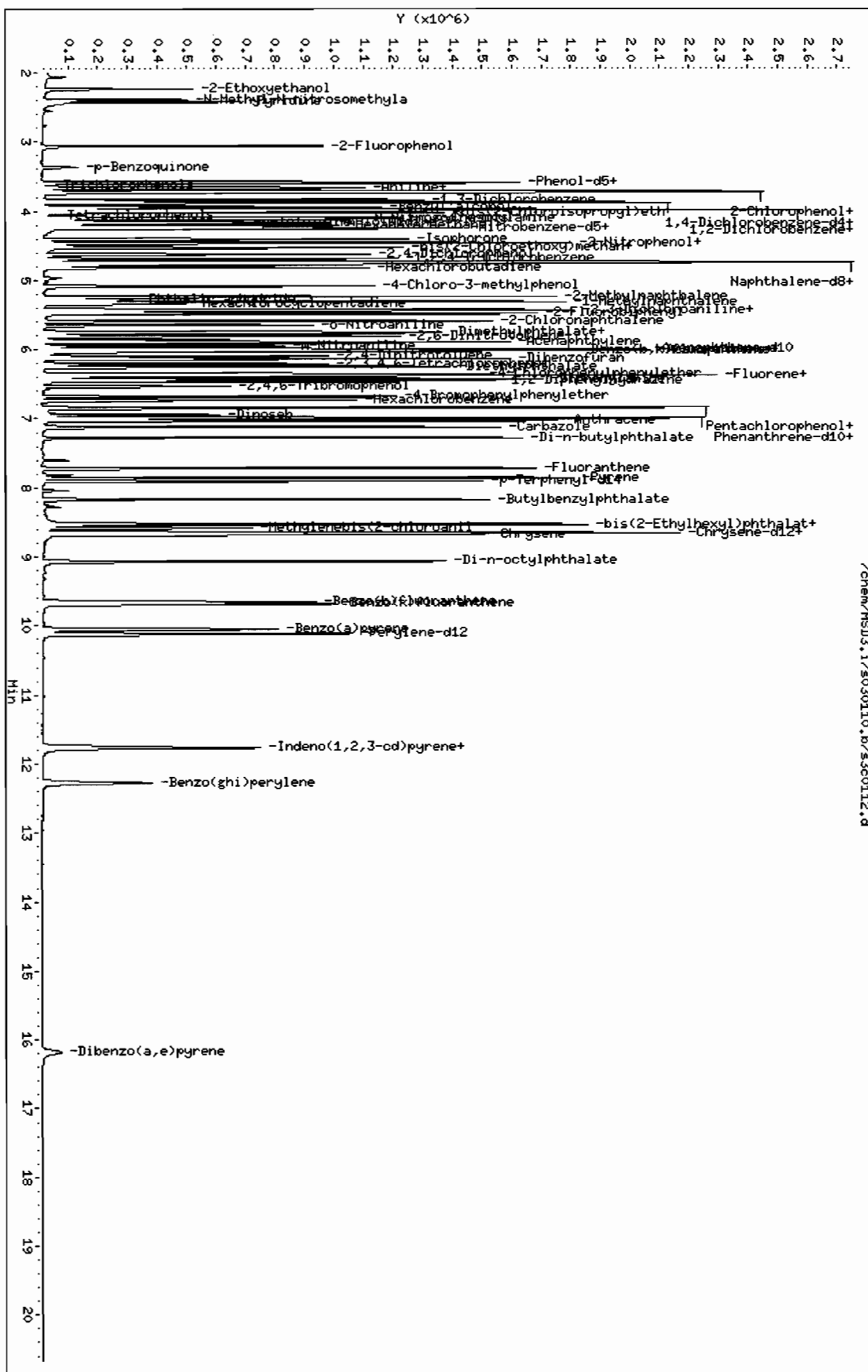
QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/HSD3.i/s030110.b/s3c0112.d
 Date : 01-MAR-2010 20:56
 Client ID: MEGAICV
 Sample Info: IWBNI00225-09.1140PPH11.SVHF11.MEGAICV
 Column phase: J&W DB-5MS

/chem/HSD3.i/s030110.b/s3c0112.d

Instrument: HSD3.i
 Operator: JLD1
 Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 02-MAR-2010 02:19
Lab File ID: s3c0127.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 01:58
Lab Sample ID: WBN100218-08.1 Quant Type: ISTD
Method: /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.97135	0.84024	0.84024	0.000	-13.49797	60.00000	Averaged
16 Acetophenone	1.29266	1.27259	1.27259	0.000	-1.55260	60.00000	Averaged
189 Caprolactam	0.09530	0.10569	0.10569	0.000	10.89962	60.00000	Averaged
208 1,1'-Biphenyl	1.24395	1.26087	1.26087	0.000	1.36059	60.00000	Averaged
207 Atrazine	0.04967	0.05613	0.05613	0.000	13.00112	60.00000	Averaged
77 Benzidine	0.42562	0.50424	0.50424	0.000	18.47357	60.00000	Averaged
90 3,3'-Dichlorobenzidine	0.27078	0.31409	0.31409	0.000	15.99598	60.00000	Averaged
102 1,4-Dioxane	0.42655	0.51025	0.51025	0.000	19.62447	60.00000	Averaged
103 Methyl methacrylate	0.22811	0.27838	0.27838	0.000	22.04027	60.00000	Averaged
104 Ethyl methacrylate	0.92655	1.09847	1.09847	0.000	18.55476	60.00000	Averaged
105 2-Picoline	1.37463	1.40209	1.40209	0.000	1.99794	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.61874	0.65637	0.65637	0.000	6.08191	60.00000	Averaged
107 Methyl methanesulfonate	0.59895	0.64637	0.64637	0.000	7.91785	60.00000	Averaged
108 N-Nitrosodiethylamine	0.60848	0.63271	0.63271	0.000	3.98273	60.00000	Averaged
109 Ethyl Methanesulfonate	0.79913	0.94696	0.94696	0.000	18.49829	60.00000	Averaged
110 Pentachloroethane	0.33748	0.46848	0.46848	0.000	38.81774	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.59074	0.63102	0.63102	0.000	6.81848	60.00000	Averaged
113 N-Nitrosomorpholine	0.99369	1.05705	1.05705	0.000	6.37646	60.00000	Averaged
114 o-Toluidine	1.96378	2.01442	2.01442	0.000	2.57900	60.00000	Averaged
115 N-Nitrosopiperidine	0.15949	0.16730	0.16730	0.000	4.89852	60.00000	Averaged
116 a,a-Dimethylphenethylamine	1.20015	1.22258	1.22258	0.000	1.86930	60.00000	Averaged
118 2,6-Dichlorophenol	0.22402	0.24389	0.24389	0.000	8.86983	60.00000	Averaged
119 Hexachloropropene	0.08450	0.14073	0.14073	0.000	66.54012	60.00000	Averaged
120 p-Phenylenediamine	0.26558	0.30890	0.30890	0.000	16.31234	60.00000	Averaged
121 N-Nitrosodi-n-butylamine	0.22728	0.23829	0.23829	0.000	4.84378	60.00000	Averaged
122 Safrole	0.20093	0.24284	0.24284	0.000	20.86015	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.40109	0.42968	0.42968	0.000	7.12647	60.00000	Averaged
124 Isosafrole	0.38589	0.51591	0.51591	0.000	33.69493	60.00000	Averaged
125 1,4-Naphthoquinone	0.35255	0.37068	0.37068	0.000	5.14081	60.00000	Averaged
127 Pentachlorobenzene	0.35492	0.36173	0.36173	0.000	1.91887	60.00000	Averaged
128 1-Naphthylamine	0.93432	1.04621	1.04621	0.000	11.97628	60.00000	Averaged
129 2-Naphthylamine	1.07442	1.22178	1.22178	0.000	13.71517	60.00000	Averaged
131 5-Nitro-o-toluidine	0.30293	0.33853	0.33853	0.000	11.75183	60.00000	Averaged
136 1,3,5-Trinitrobenzene	0.14197	0.16897	0.16897	0.000	19.02402	60.00000	Averaged
137 Phenacetin	0.34292	0.37577	0.37577	0.000	9.57841	60.00000	Averaged
138 Diallate	0.32449	0.31117	0.31117	0.000	-4.10383	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 02-MAR-2010 02:19
Lab File ID: s3c0127.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 01:58
Lab Sample ID: WBN100218-08.1 Quant Type: ISTD
Method: /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m

COMPOUND	RRF / AMOUNT	RF40	CCAL	MIN	MAX	CURVE TYPE
			RRF40	RRF	%D / %DRIFT	
140 4-Aminobiphenyl	0.63153	0.70624	0.70624	0.000	11.83044	Averaged
141 Pentachloronitrobenzene	0.06598	0.07088	0.07088	0.000	7.43436	Averaged
142 Pronamide	0.27265	0.27824	0.27824	0.000	2.04872	Averaged
146 4-Nitroquinoline-1-oxide	0.02068	0.02449	0.02449	0.000	18.40921	Averaged
147 Methapyrilene	0.56287	0.64331	0.64331	0.000	14.29051	Averaged
148 Isodrin	0.10769	0.09978	0.09978	0.000	-7.34633	Averaged
149 Aramite	0.05312	0.05466	0.05466	0.000	2.90499	Averaged
150 Kepone	0.07952	0.07256	0.07256	0.000	-8.76055	Averaged
151 p-(Dimethylamino)azobenzene	0.34270	0.36839	0.36839	0.000	7.49386	Averaged
152 Chlorobenzilate	0.27101	0.26379	0.26379	0.000	-2.66338	Averaged
153 3,3'-Dimethylbenzidine	0.51648	0.58280	0.58280	0.000	12.84210	Averaged
155 2-Acetylaminofluorene	44.47964	40.00000	0.33752	0.000	11.19911	Linear
157 7,12Dimethylbenz(a)anthrace	0.44717	0.45637	0.45637	0.000	2.05728	Averaged
158 3-Methylcholanthrene	0.36595	0.41274	0.41274	0.000	12.78484	Averaged
212 Cis Diallate	0.37731	0.47453	0.47453	0.000	25.76665	Averaged
213 Trans Diallate	0.38175	0.36609	0.36609	0.000	-4.10383	Averaged

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Data file : /chem/MSD3.i/s030110.b/s3c0127.d
Lab Smp Id: WBN100218-08.1 Client Smp ID: APICV
Inj Date : 02-MAR-2010 02:19
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |WBN100218-08.1|40PPM|1|SVMF|1|APICV
Misc Info : |MSD8270|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030110.b/MSD3-8270R-AQA-030110.m
Meth Date : 02-Mar-2010 11:01 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 00:34 Cal File: s3c0122.d
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: AP12.sub
Target Version: 3.50
Processing Host: hpc1p1

Compounds	QUANT SIG				AMOUNTS		
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	=====	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.875	3.875	(1.000)	313628	40.0000	
* 29 Naphthalene-d8	136	4.741	4.741	(1.000)	1202089	40.0000	
* 46 Acenaphthene-d10	164	5.993	5.993	(1.000)	623902	40.0000	
* 67 Phenanthrene-d10	188	6.988	6.988	(1.000)	931591	40.0000	
* 91 Chrysene-d12	240	8.657	8.657	(1.000)	791581	40.0000	
* 98 Perylene-d12	264	10.122	10.122	(1.000)	606902	40.0000	
209 Benzaldehyde	77	3.602	3.602	(0.930)	263522	40.0000	34.6
16 Acetophenone	105	4.126	4.126	(1.065)	399119	40.0000	39.4
189 Caprolactam	113	5.025	5.025	(1.060)	127050	40.0000	44.4
208 1,1'-Biphenyl	154	5.565	5.565	(0.929)	786660	40.0000	40.5
207 Atrazine	173	6.758	6.758	(0.967)	52288	40.0000	45.2
77 Benzidine	184	7.769	7.769	(0.897)	399148	40.0000	47.4
90 3,3'-Dichlorobenzidine	252	8.587	8.587	(0.992)	248627	40.0000	46.4
102 1,4-Dioxane	88	2.249	2.249	(0.580)	160030	40.0000	47.8
103 Methyl methacrylate	100	2.238	2.238	(0.578)	87309	40.0000	48.8
104 Ethyl methacrylate	69	2.591	2.591	(0.669)	344510	40.0000	47.4
105 2-Picoline	93	2.784	2.784	(0.718)	439736	40.0000	40.8
106 N-Nitrosomethylethylamine	88	2.827	2.827	(0.729)	205856	40.0000	42.4
107 Methyl methanesulfonate	80	2.982	2.982	(0.769)	202720	40.0000	43.2
108 N-Nitrosodiethylamine	102	3.212	3.212	(0.829)	198437	40.0000	41.6
109 Ethyl Methanesulfonate	79	3.367	3.367	(0.869)	296992	40.0000	47.4
110 Pentachloroethane	167	3.698	3.698	(0.954)	146928	40.0000	55.5
111 N-Nitrosopyrrolidine	100	4.121	4.121	(1.063)	197907	40.0000	42.7 (Q)
113 N-Nitrosomorpholine	56	4.142	4.142	(1.069)	331522	40.0000	42.6
114 o-Toluidine	106	4.153	4.153	(1.072)	631779	40.0000	41.0
115 N-Nitrosopiperidine	114	4.356	4.356	(0.919)	201112	40.0000	42.0

Compounds	QUANT SIG						AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE		CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====		=====	=====
116 a,a-Dimethylphenethylamine	58	4.597	4.597	(0.970)	1469650		40.0000	40.7
118 2,6-Dichlorophenol	162	4.784	4.784	(1.009)	293172		40.0000	43.5
119 Hexachloropropene	213	4.811	4.811	(1.015)	169167		40.0000	66.6
120 p-Phenylenediamine	108	5.025	5.025	(1.060)	371326		40.0000	46.5
121 N-Nitrosodi-n-butylamine	84	4.987	4.987	(1.052)	286445		40.0000	41.9 (Q)
122 Safrole	162	5.153	5.153	(1.087)	291916		40.0000	48.3
123 1,2,4,5-Tetrachlorobenzene	216	5.357	5.357	(0.894)	268077		40.0000	42.8
124 Isosafrole	162	5.528	5.528	(0.922)	321880		40.0000	53.5
125 1,4-Naphthoquinone	158	5.715	5.715	(0.954)	231265		40.0000	42.0
127 Pentachlorobenzene	250	6.105	6.105	(1.019)	225687		40.0000	40.8
128 1-Naphthylamine	143	6.191	6.191	(1.033)	652734		40.0000	44.8
129 2-Naphthylamine	143	6.244	6.244	(1.042)	762268		40.0000	45.5
131 5-Nitro-o-toluidine	152	6.367	6.367	(1.062)	211212		40.0000	44.7
136 1,3,5-Trinitrobenzene	75	6.587	6.587	(0.943)	157414		40.0000	47.6
137 Phenacetin	108	6.619	6.619	(0.947)	350060		40.0000	43.8 (Q)
138 Diallyl	86	6.603	6.603	(0.945)	289886		40.0000	38.4
140 4-Aminobiphenyl	169	6.849	6.849	(0.980)	657925		40.0000	44.7
141 Pentachloronitrobenzene	237	6.859	6.859	(0.982)	66033		40.0000	43.0 (Q)
142 Pronamide	173	6.854	6.854	(0.981)	259203		40.0000	40.8
146 4-Nitroquinoline-1-oxide	101	7.464	7.464	(1.068)	22813		40.0000	47.4
147 Methapyrilene	58	7.475	7.475	(1.070)	599303		40.0000	45.7
148 Isodrin	193	7.630	7.630	(1.092)	92956		40.0000	37.1
149 Aramite	185	7.865	7.865	(1.126)	50920		40.0000	41.2
150 Kepone	272	8.282	8.282	(1.185)	67592		40.0000	36.5
151 p-(Dimethylamino)azobenzene	120	7.988	7.988	(0.923)	291607		40.0000	43.0
152 Chlorobenzilate	251	7.999	7.999	(0.924)	208810		40.0000	38.9
153 3,3'-Dimethylbenzidine	212	8.197	8.197	(0.947)	461337		40.0000	45.1
155 2-Acetylaminofluorene	181	8.379	8.379	(0.968)	267174		40.0000	44.5
157 7,12Dimethylbenz(a)anthracene	256	9.625	9.625	(0.951)	276972		40.0000	40.8
158 3-Methylcholanthrene	268	10.481	10.481	(1.035)	250493		40.0000	45.1 (Q)
212 Cis Diallyl	86	6.667	6.667	(0.954)	66310		6.00000	7.5
213 Trans Diallyl	86	6.603	6.603	(0.945)	289886		34.0000	32.6

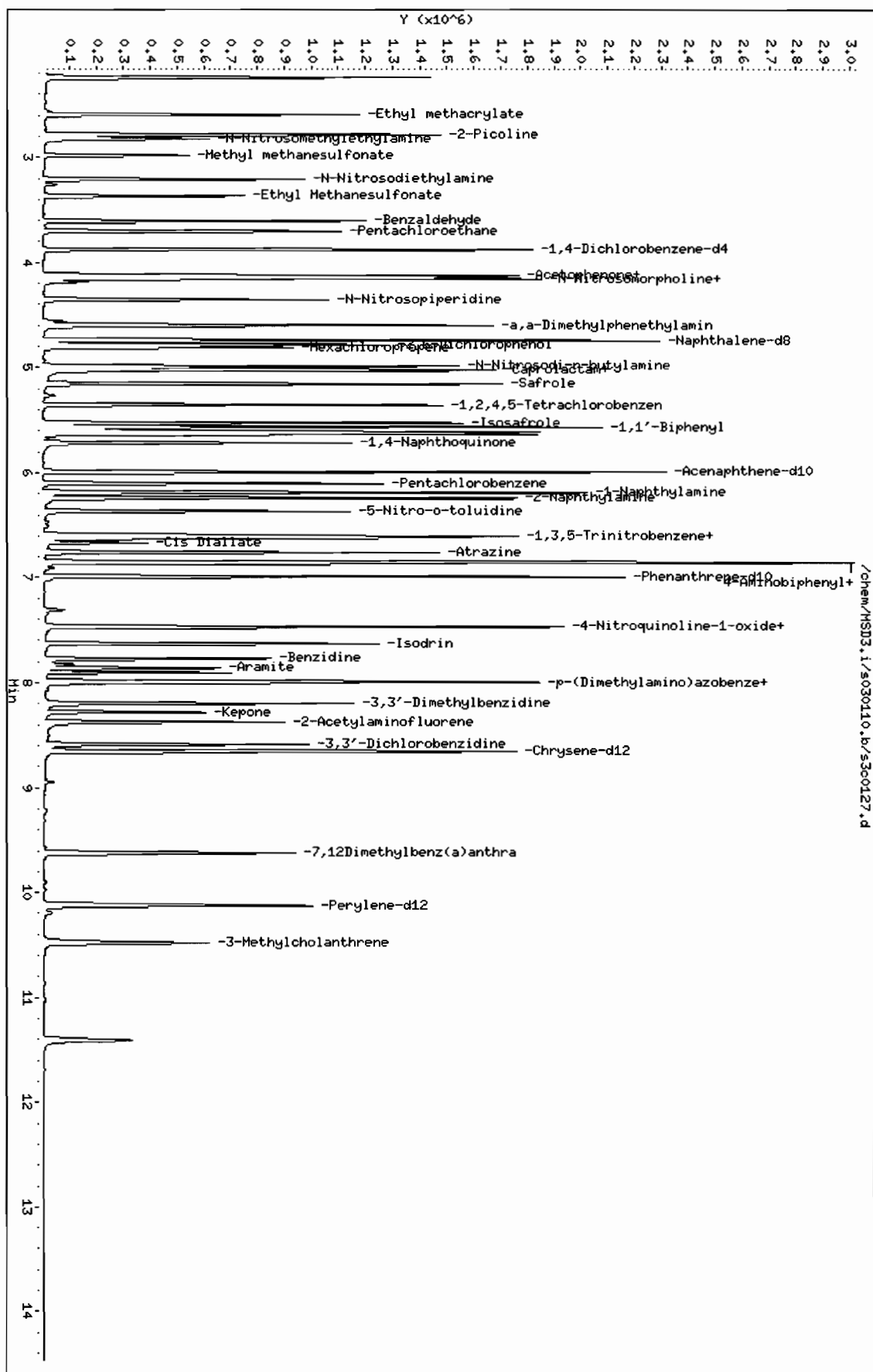
QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/MSD3.i/s030110.b/s3c0127.d
 Date : 02-MAR-2010 02:19
 Client ID: APICV
 Sample Info: IWBND00218-08.1140PH11SVHF11APICV

Instrument: MSD3.i
 Operator: JLD1
 Column diameter: 0.20

Column phase: J&W DB-5MS



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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 04-MAR-2010 20:52
Lab File ID: s3c0423.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.4 Quant Type: ISTD
Method: /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
3 2-Fluorophenol	1.10423	1.05180	1.05180	0.000	-4.74862	60.00000	Averaged
5 Phenol-d5	1.40852	1.30253	1.30253	0.000	-7.52530	60.00000	Averaged
20 Nitrobenzene-d5	0.34274	0.33418	0.33418	0.000	-2.49874	60.00000	Averaged
39 2-Fluorobiphenyl	1.03001	1.03930	1.03930	0.000	0.90208	60.00000	Averaged
60 2,4,6-Tribromophenol	0.12474	0.12995	0.12995	0.000	4.17485	60.00000	Averaged
81 p-Terphenyl-d14	0.68269	0.76085	0.76085	0.000	11.44862	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.77640	0.64798	0.64798	0.000	-16.54056	60.00000	Averaged
2 Pyridine	1.10390	0.71856	0.71856	0.000	-34.90731	60.00000	Averaged
4 Aniline	0.69729	0.56517	0.56517	0.000	-18.94659	60.00000	Averaged
6 Phenol	1.42085	1.37478	1.37478	0.001	-3.24244	20.00000	Averaged|ccc
7 bis(2-Chloroethyl) ether	1.21927	0.97190	0.97190	0.000	-20.28829	60.00000	Averaged
8 2-Chlorophenol	1.16025	1.13064	1.13064	0.000	-2.55196	60.00000	Averaged
203 n-Decane	1.67637	1.37621	1.37621	0.000	-17.90577	60.00000	Averaged
9 1,3-Dichlorobenzene	1.24937	1.20057	1.20057	0.000	-3.90601	60.00000	Averaged
11 1,4-Dichlorobenzene	1.23299	1.18777	1.18777	0.001	-3.66813	20.00000	Averaged|ccc
13 1,2-Dichlorobenzene	1.08077	1.06122	1.06122	0.000	-1.80960	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	2.80759	2.36224	2.36224	0.000	-15.86267	60.00000	Averaged
12 Benzyl alcohol	0.79688	0.73617	0.73617	0.000	-7.61841	60.00000	Averaged
15 o-Cresol	0.84018	0.84873	0.84873	0.000	1.01792	60.00000	Averaged
18 m,p-Cresols	1.23836	1.18318	1.18318	0.000	-4.45555	60.00000	Averaged
17 N-Nitrosodipropylamine	0.93061	0.85179	0.85179	0.050	-8.46984	60.00000	Averaged|spcc
19 Hexachloroethane	0.51526	0.48909	0.48909	0.000	-5.07924	60.00000	Averaged
21 Nitrobenzene	0.32047	0.30761	0.30761	0.000	-4.01148	60.00000	Averaged
22 Isophorone	0.62733	0.53810	0.53810	0.000	-14.22355	60.00000	Averaged
23 2-Nitrophenol	0.13576	0.14390	0.14390	0.001	5.99025	20.00000	Averaged|ccc
24 2,4-Dimethylphenol	0.25414	0.25558	0.25558	0.000	0.56974	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.36625	0.30084	0.30084	0.000	-17.85914	60.00000	Averaged
26 2,4-Dichlorophenol	0.23631	0.22660	0.22660	0.001	-4.10951	20.00000	Averaged|ccc
27 Benzoic acid	48.56631	40.00000	0.15457	0.000	21.41579	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.24337	0.24381	0.24381	0.000	0.18005	60.00000	Averaged
30 Naphthalene	0.92686	0.78586	0.78586	0.000	-15.21269	60.00000	Averaged
204 alpha-Terpineol	0.31413	0.23978	0.23978	0.000	-23.66915	60.00000	Averaged
31 4-Chloroaniline	0.41856	0.39067	0.39067	0.000	-6.66230	60.00000	Averaged
32 Hexachlorobutadiene	0.13389	0.14010	0.14010	0.001	4.63941	20.00000	Averaged|ccc
33 4-Chloro-3-methylphenol	0.24588	0.24805	0.24805	0.001	0.88394	20.00000	Averaged|ccc
34 2-Methylnaphthalene	0.57488	0.51500	0.51500	0.000	-10.41561	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 04-MAR-2010 20:52
Lab File ID: s3c0423.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.4 Quant Type: ISTD
Method: /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35 1-Methylnaphthalene	0.57544	0.48603	0.48603	0.000	-15.53761	60.00000	Averaged
36 Hexachlorocyclopentadiene	0.16822	0.18190	0.18190	0.050	8.13573	60.00000	Averaged|spcc
205 2,3-Dichloroaniline	0.52733	0.50405	0.50405	0.000	-4.41429	60.00000	Averaged
37 2,4,6-Trichlorophenol	0.27780	0.27190	0.27190	0.001	-2.12672	20.00000	Averaged|ccc
38 2,4,5-Trichlorophenol	0.31440	0.33980	0.33980	0.000	8.07854	60.00000	Averaged
40 2-Chloronaphthalene	1.04011	0.90709	0.90709	0.000	-12.78892	60.00000	Averaged
42 o-Nitroaniline	0.36880	0.31866	0.31866	0.000	-13.59559	60.00000	Averaged
41 m-Nitroaniline	0.27187	0.23626	0.23626	0.000	-13.09683	60.00000	Averaged
43 Dimethylphthalate	1.10182	1.02962	1.02962	0.000	-6.55285	60.00000	Averaged
44 2,6-Dinitrotoluene	0.25644	0.24786	0.24786	0.000	-3.34440	60.00000	Averaged
50 2,4-Dinitrotoluene	0.33467	0.31233	0.31233	0.000	-6.67736	60.00000	Averaged
45 Acenaphthylene	1.53996	1.39124	1.39124	0.000	-9.65744	60.00000	Averaged
47 Acenaphthene	37.17525	40.00000	0.88841	0.001	-7.06188	20.00000	Wt Linear|ccc
48 2,4-Dinitrophenol	58.31151	40.00000	0.10127	0.050	45.77877	60.00000	Linear|spcc
49 Dibenzofuran	1.26706	1.21746	1.21746	0.000	-3.91503	60.00000	Averaged
51 Diethylphthalate	1.04971	0.97908	0.97908	0.000	-6.72881	60.00000	Averaged
52 4-Nitrophenol	39.29065	40.00000	0.18248	0.050	-1.77339	60.00000	Linear|spcc
53 Fluorene	1.19176	0.96343	0.96343	0.000	-19.15892	60.00000	Averaged
54 4-Chlorophenylphenylether	0.47821	0.47322	0.47322	0.000	-1.04359	60.00000	Averaged
55 2-Methyl-4,6-dinitrophenol	60.73442	40.00000	0.13156	0.000	51.83606	60.00000	Linear
56 p-Nitroaniline	0.23128	0.20262	0.20262	0.000	-12.38911	60.00000	Averaged
133 Diphenylamine	0.57428	0.52425	0.52425	0.001	-8.71216	20.00000	Averaged|ccc
58 1,2-Diphenylhydrazine	0.79201	0.68119	0.68119	0.000	-13.99209	60.00000	Averaged
61 4-Bromophenylphenylether	0.17593	0.15591	0.15591	0.000	-11.38056	60.00000	Averaged
63 Hexachlorobenzene	0.18921	0.17741	0.17741	0.000	-6.23777	60.00000	Averaged
65 Pentachlorophenol	42.11134	40.00000	0.09734	0.001	5.27836	20.00000	Linear|ccc
206 n-Octadecane	0.58452	0.45910	0.45910	0.000	-21.45627	60.00000	Averaged
68 Phenanthrene	33.02172	40.00000	0.84187	0.000	-17.44571	60.00000	Wt Linear
69 Anthracene	1.00646	0.86472	0.86472	0.000	-14.08300	60.00000	Averaged
72 Di-n-butylphthalate	1.08615	0.89830	0.89830	0.000	-17.29487	60.00000	Averaged
76 Fluoranthene	0.94353	0.77811	0.77811	0.001	-17.53213	20.00000	Averaged|ccc
79 Pyrene	1.25537	1.20384	1.20384	0.000	-4.10485	60.00000	Averaged
85 Butylbenzylphthalate	0.49552	0.48757	0.48757	0.000	-1.60352	60.00000	Averaged
89 Benzo(a)anthracene	1.03421	0.87041	0.87041	0.000	-15.83863	60.00000	Averaged
92 Chrysene	0.98413	0.84134	0.84134	0.000	-14.50967	60.00000	Averaged
93 bis(2-Ethylhexyl)phthalate	0.70967	0.63050	0.63050	0.000	-11.15471	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 04-MAR-2010 20:52
Lab File ID: s3c0423.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.4 Quant Type: ISTD
Method: /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Di-n-octylphthalate	1.20936	1.11200	1.11200	0.001	-8.05019	20.00000	Averaged|ccc
95 Benzo(b)fluoranthene	0.91299	0.98722	0.98722	0.000	8.13020	60.00000	Averaged|
96 Benzo(k)fluoranthene	0.93570	0.94383	0.94383	0.000	0.86933	60.00000	Averaged|
97 Benzo(a)pyrene	0.77814	0.79414	0.79414	0.001	2.05574	20.00000	Averaged|ccc
99 Indeno(1,2,3-cd)pyrene	0.68557	0.68912	0.68912	0.000	0.51757	60.00000	Averaged|
100 Dibenzo(a,h)anthracene	0.53960	0.55840	0.55840	0.000	3.48400	60.00000	Averaged|
101 Benzo(ghi)perylene	0.57189	0.57139	0.57139	0.000	-0.08776	60.00000	Averaged|
126 m-Dinitrobenzene	0.19264	0.18538	0.18538	0.000	-3.76892	60.00000	Averaged|
130 2,3,4,6-Tetrachlorophenol	0.24201	0.23931	0.23931	0.000	-1.11577	60.00000	Averaged|
143 Dinoseb	48.66749	40.00000	0.13514	0.000	21.66872	60.00000	Linear|
173 Carbazole	0.83885	0.72412	0.72412	0.000	-13.67702	60.00000	Averaged|
184 p-Benzoquinone	0.31806	0.06690	0.06690	0.000	-78.96686	60.00000	Averaged|<-
192 Methoxychlor	0.38490	0.47601	0.47601	0.000	23.67058	60.00000	Averaged|
211 p-Toluidine	1.39014	1.06985	1.06985	0.000	-23.04004	60.00000	Averaged|
210 m-Toluidine	1.76419	1.47152	1.47152	0.000	-16.58940	60.00000	Averaged|
26 Phthalic anhydride	36.86621	40.00000	0.10333	0.000	-7.83447	60.00000	Linear|
179 Dibenzo(a,e)pyrene	0.21394	0.22329	0.22329	0.000	4.37475	60.00000	Averaged|
214 1,4-Dinitrobenzene	0.23933	0.22771	0.22771	0.000	-4.85472	60.00000	Averaged|
215 2-Ethoxyethanol	0.93753	0.78080	0.78080	0.000	-16.71732	60.00000	Averaged|
216 Methylenebis(2-chloroanilin	40.53937	40.00000	0.13668	0.000	1.34843	60.00000	Linear|
M 225 Trichlorophenols	0.29610	0.30585	0.30585	0.000	3.29122	60.00000	Averaged|
M 226 Tetrachlorophenols	0.24201	0.23931	0.23931	0.000	-1.11577	60.00000	Averaged|
M 227 Benzo(b,k)fluoranthene	0.92434	0.96552	0.96552	0.000	4.45517	60.00000	Averaged

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Data file : /chem/MSD3.i/s030410a.b/s3c0423.d
Lab Smp Id: WBN100225-09.4 Client Smp ID: MEGACVS
Inj Date : 04-MAR-2010 20:52
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |WBN100225-09.4|40PPM|1|SVMF|1|MEGACVS
Misc Info : |MSD8270|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEGAI1.sub
Target Version: 3.50
Processing Host: hpc1p1

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS	
						CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.719	3.719	(1.000)	310566	40.0000	
* 29 Naphthalene-d8	136	4.580	4.580	(1.000)	1248243	40.0000	
* 46 Acenaphthene-d10	164	5.832	5.832	(1.000)	665833	40.0000	
* 67 Phenanthrene-d10	188	6.832	6.832	(1.000)	1064221	40.0000	
* 91 Chrysene-d12	240	8.458	8.458	(1.000)	692525	40.0000	
* 98 Perylene-d12	264	9.801	9.801	(1.000)	558482	40.0000	
\$ 3 2-Fluorophenol	112	2.912	2.912	(0.783)	326652	40.0000	38.1
\$ 5 Phenol-d5	99	3.436	3.436	(0.924)	404521	40.0000	37.0
\$ 20 Nitrobenzene-d5	82	4.083	4.083	(0.891)	417135	40.0000	39.0
\$ 39 2-Fluorobiphenyl	172	5.324	5.324	(0.913)	691998	40.0000	40.4
\$ 60 2,4,6-Tribromophenol	329	6.372	6.372	(1.093)	86524	40.0000	41.7
\$ 81 p-Terphenyl-d14	244	7.757	7.757	(0.917)	526907	40.0000	44.6
1 N-Methyl-N-nitrosomethylamine	74	2.227	2.227	(0.599)	201240	40.0000	33.4
2 Pyridine	79	2.259	2.259	(0.607)	223159	40.0000	26.0
4 Aniline	66	3.505	3.505	(0.942)	175524	40.0000	32.4
6 Phenol	94	3.446	3.446	(0.927)	426959	40.0000	38.7(Q)
7 bis(2-Chloroethyl) ether	63	3.527	3.527	(0.948)	301840	40.0000	31.9
8 2-Chlorophenol	128	3.586	3.586	(0.964)	351139	40.0000	39.0
203 n-Decane	43	3.570	3.570	(0.960)	427403	40.0000	32.8
9 1,3-Dichlorobenzene	146	3.687	3.687	(0.991)	372856	40.0000	38.4
11 1,4-Dichlorobenzene	146	3.730	3.730	(1.003)	368880	40.0000	38.5
13 1,2-Dichlorobenzene	146	3.832	3.832	(1.030)	329578	40.0000	39.3
14 bis(2-Chloroisopropyl) ether	45	3.864	3.864	(1.039)	733630	40.0000	33.6
12 Benzyl alcohol	108	3.789	3.789	(1.019)	228630	40.0000	37.0
15 o-Cresol	107	3.837	3.837	(1.032)	263588	40.0000	40.4
18 m,p-Cresols	107	3.939	3.939	(1.059)	367456	40.0000	38.2

Compounds	QUANT SIG			AMOUNTS		
	MASS	RT	EXP RT REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====
17 N-Nitrosodipropylamine	70	3.960	3.960 (1.065)	264537	40.0000	36.6
19 Hexachloroethane	117	4.056	4.056 (1.091)	151895	40.0000	38.0
21 Nitrobenzene	77	4.094	4.094 (0.894)	383978	40.0000	38.4
22 Isophorone	82	4.249	4.249 (0.928)	671685	40.0000	34.3
23 2-Nitrophenol	139	4.308	4.308 (0.940)	179618	40.0000	42.4
24 2,4-Dimethylphenol	122	4.302	4.302 (0.939)	319030	40.0000	40.2
25 bis(2-Chloroethoxy)methane	93	4.372	4.372 (0.954)	375527	40.0000	32.8
26 2,4-Dichlorophenol	162	4.468	4.468 (0.975)	282848	40.0000	38.4
27 Benzoic acid	105	4.366	4.366 (0.953)	192944	40.0000	48.6
28 1,2,4-Trichlorobenzene	180	4.532	4.532 (0.989)	304332	40.0000	40.1
30 Naphthalene	128	4.596	4.596 (1.004)	980948	40.0000	33.9 (Q)
204 alpha-Terpineol	59	4.575	4.575 (0.999)	299306	40.0000	30.5
31 4-Chloroaniline	127	4.612	4.612 (1.007)	487653	40.0000	37.3
32 Hexachlorobutadiene	225	4.661	4.661 (1.018)	174880	40.0000	41.8
33 4-Chloro-3-methylphenol	107	4.928	4.928 (1.076)	309628	40.0000	40.4
34 2-Methylnaphthalene	142	5.078	5.078 (1.109)	642846	40.0000	35.8
35 1-Methylnaphthalene	142	5.147	5.147 (1.124)	606679	40.0000	33.8
36 Hexachlorocyclopentadiene	237	5.174	5.174 (0.887)	121116	40.0000	43.2
205 2,3-Dichloroaniline	161	5.270	5.270 (0.904)	335613	40.0000	38.2
37 2,4,6-Trichlorophenol	196	5.265	5.265 (0.903)	181037	40.0000	39.1
38 2,4,5-Trichlorophenol	196	5.292	5.292 (0.907)	226248	40.0000	43.2
40 2-Chloronaphthalene	162	5.425	5.425 (0.930)	603971	40.0000	34.9
42 o-Nitroaniline	65	5.490	5.490 (0.941)	212174	40.0000	34.6
41 m-Nitroaniline	138	5.784	5.784 (0.992)	157311	40.0000	34.8
43 Dimethylphthalate	163	5.602	5.602 (0.961)	685553	40.0000	37.4
44 2,6-Dinitrotoluene	165	5.655	5.655 (0.970)	165033	40.0000	38.7
50 2,4-Dinitrotoluene	165	5.944	5.944 (1.019)	207957	40.0000	37.3
45 Acenaphthylene	152	5.730	5.730 (0.983)	926333	40.0000	36.1
47 Acenaphthene	154	5.853	5.853 (1.004)	591531	40.0000	37.2
48 2,4-Dinitrophenol	184	5.853	5.853 (1.004)	67431	40.0000	58.3
49 Dibenzofuran	168	5.971	5.971 (1.024)	810623	40.0000	38.4
51 Diethylphthalate	149	6.094	6.094 (1.045)	651902	40.0000	37.3
52 4-Nitrophenol	139	5.875	5.875 (1.007)	121502	40.0000	39.3
53 Fluorene	166	6.212	6.212 (1.065)	641485	40.0000	32.3
54 4-Chlorophenylphenylether	204	6.190	6.190 (1.061)	315088	40.0000	39.6
55 2-Methyl-4,6-dinitrophenol	198	6.233	6.233 (0.912)	140004	40.0000	60.7
56 p-Nitroaniline	138	6.217	6.217 (1.066)	134913	40.0000	35.0
133 Diphenylamine	169	6.271	6.271 (0.918)	557917	40.0000	36.5
58 1,2-Diphenylhydrazine	77	6.303	6.303 (0.922)	724941	40.0000	34.4
61 4-Bromophenylphenylether	248	6.527	6.527 (0.955)	165919	40.0000	35.4
63 Hexachlorobenzene	284	6.575	6.575 (0.962)	188801	40.0000	37.5
65 Pentachlorophenol	266	6.698	6.698 (0.980)	103586	40.0000	42.1
206 n-Octadecane	57	6.693	6.693 (0.980)	488589	40.0000	31.4
68 Phenanthrene	178	6.848	6.848 (1.002)	895938	40.0000	33.0
69 Anthracene	178	6.880	6.880 (1.007)	920253	40.0000	34.4
72 Di-n-butylphthalate	149	7.137	7.137 (1.045)	955988	40.0000	33.1
76 Fluoranthene	202	7.565	7.565 (1.107)	828078	40.0000	33.0

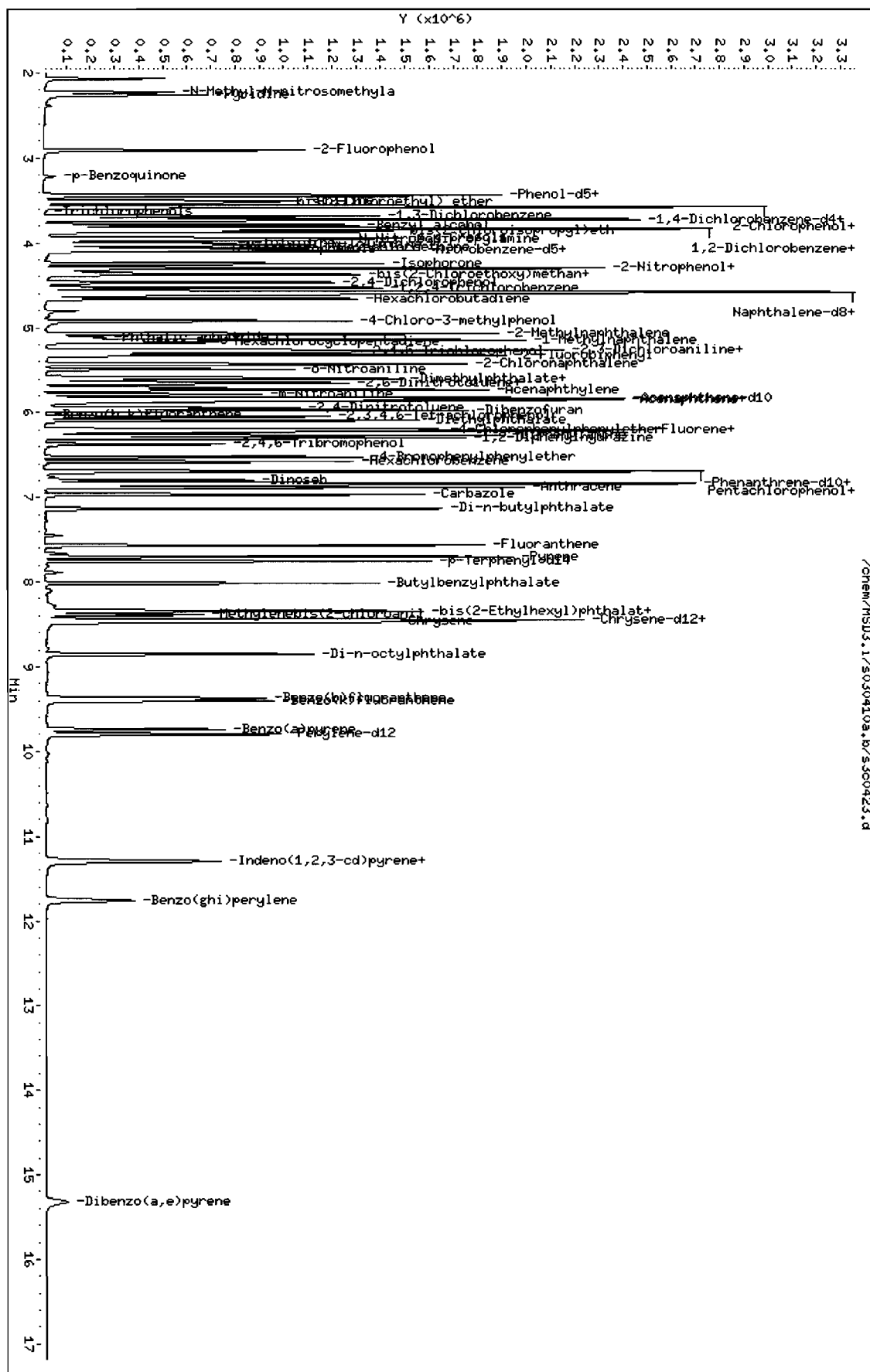
Compounds	QUANT SIG			REL RT	RESPONSE	AMOUNTS	
	MASS	RT	EXP RT			CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
79 Pyrene	202	7.704	7.704	(0.911)	833690	40.0000	38.4
85 Butylbenzylphthalate	149	8.014	8.014	(0.948)	337654	40.0000	39.4
89 Benzo(a)anthracene	228	8.447	8.447	(0.999)	602779	40.0000	33.7
92 Chrysene	228	8.480	8.480	(1.003)	582646	40.0000	34.2
93 bis(2-Ethylhexyl)phthalate	149	8.351	8.351	(0.987)	436640	40.0000	35.5
94 Di-n-octylphthalate	149	8.849	8.849	(0.903)	621033	40.0000	36.8
95 Benzo(b)fluoranthene	252	9.373	9.373	(0.956)	551343	40.0000	43.2
96 Benzo(k)fluoranthene	252	9.400	9.400	(0.959)	527113	40.0000	40.3
97 Benzo(a)pyrene	252	9.736	9.736	(0.993)	443513	40.0000	40.8
99 Indeno(1,2,3-cd)pyrene	276	11.293	11.293	(1.152)	384860	40.0000	40.2
100 Dibenzo(a,h)anthracene	278	11.304	11.304	(1.153)	311855	40.0000	41.4
101 Benzo(ghi)perylene	276	11.758	11.758	(1.200)	319112	40.0000	40.0(Q)
126 m-Dinitrobenzene	168	5.639	5.639	(0.967)	123435	40.0000	38.5
130 2,3,4,6-Tetrachlorophenol	232	6.046	6.046	(1.037)	159338	40.0000	39.6
143 Dinoseb	211	6.795	6.795	(0.995)	143823	40.0000	48.7
173 Carbazole	167	6.971	6.971	(1.020)	770626	40.0000	34.5
184 p-Benzoquinone	54	3.216	3.216	(0.865)	20776	40.0000	8.4
192 Methoxychlor	227	8.335	8.335	(0.985)	329650	40.0000	49.5
211 p-Toluidine	106	3.997	3.997	(1.075)	332259	40.0000	30.8
210 m-Toluidine	106	4.019	4.019	(1.081)	457005	40.0000	33.4
26 Phthalic anhydride	104	5.115	5.115	(1.117)	128975	40.0000	36.9
179 Dibenzo(a,e)pyrene	302	15.320	15.320	(1.563)	124706	40.0000	41.7
214 1,4-Dinitrobenzene	75	5.586	5.586	(0.958)	151617	40.0000	38.0
215 2-Ethoxyethanol	59	2.072	2.072	(0.557)	242490	40.0000	33.3
216 Methylenebis(2-chloroaniline)	231	8.394	8.394	(0.992)	94656	40.0000	40.5(Q)
M 225 Trichlorophenols	196				407285	80.0000	82.6
M 226 Tetrachlorophenols	232				159338	40.0000	39.6
M 227 Benzo(b,k)fluoranthene	252				1078456	80.0000	83.6

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/HSD3.i/5030410a.b/s300423.d
 Date : 04-MAR-2010 20:52
 Client ID: HEGACVS
 Sample Info: IABN100225-09.4140PH11SVHF11HEGACVS
 Column phase: J&M DB-5MS

Instrument: HSD3.i
 Operator: JLD1
 Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 04-MAR-2010 21:16
Lab File ID: s3c0424.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100218-08.3 Quant Type: ISTD
Method: /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.97135	0.78432	0.78432	0.000	-19.25465	60.00000	Averaged
16 Acetophenone	1.29266	1.26627	1.26627	0.000	-2.04140	60.00000	Averaged
189 Caprolactam	0.09530	0.09985	0.09985	0.000	4.77369	60.00000	Averaged
208 1,1'-Biphenyl	1.24395	1.29432	1.29432	0.000	4.04949	60.00000	Averaged
207 Atrazine	0.04967	0.04871	0.04871	0.000	-1.92860	60.00000	Averaged
77 Benzidine	0.42562	0.52278	0.52278	0.000	22.82940	60.00000	Averaged
90 3,3'-Dichlorobenzidine	0.27078	0.30021	0.30021	0.000	10.86895	60.00000	Averaged
102 1,4-Dioxane	0.42655	0.40920	0.40920	0.000	-4.06696	60.00000	Averaged
103 Methyl methacrylate	0.22811	0.24354	0.24354	0.000	6.76579	60.00000	Averaged
104 Ethyl methacrylate	0.92655	0.95776	0.95776	0.000	3.36862	60.00000	Averaged
105 2-Picoline	1.37463	1.25852	1.25852	0.000	-8.44666	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.61874	0.54310	0.54310	0.000	-12.22505	60.00000	Averaged
107 Methyl methanesulfonate	0.59895	0.61120	0.61120	0.000	2.04511	60.00000	Averaged
108 N-Nitrosodiethylamine	0.60848	0.57375	0.57375	0.000	-5.70787	60.00000	Averaged
109 Ethyl Methanesulfonate	0.79913	0.86880	0.86880	0.000	8.71862	60.00000	Averaged
110 Pentachloroethane	0.33748	0.43430	0.43430	0.000	28.68883	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.59074	0.58761	0.58761	0.000	-0.53045	60.00000	Averaged
113 N-Nitrosomorpholine	0.99369	0.98410	0.98410	0.000	-0.96516	60.00000	Averaged
114 o-Toluidine	1.96378	1.90773	1.90773	0.000	-2.85380	60.00000	Averaged
115 N-Nitrosopiperidine	0.15949	0.15531	0.15531	0.000	-2.61880	60.00000	Averaged
116 a,a-Dimethylphenethylamine	1.20015	1.02493	1.02493	0.000	-14.59973	60.00000	Averaged
118 2,6-Dichlorophenol	0.22402	0.23422	0.23422	0.000	4.55456	60.00000	Averaged
119 Hexachloropropene	0.08450	0.16824	0.16824	0.000	99	60.00000	Averaged|<-
120 p-Phenylenediamine	0.26558	0.30321	0.30321	0.000	14.17112	60.00000	Averaged
121 N-Nitrosodi-n-butylamine	0.22728	0.22968	0.22968	0.000	1.05397	60.00000	Averaged
122 Safrrole	0.20093	0.23305	0.23305	0.000	15.98791	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.40109	0.44619	0.44619	0.000	11.24216	60.00000	Averaged
124 Isosafrole	0.38589	0.45900	0.45900	0.000	18.94528	60.00000	Averaged
125 1,4-Naphthoquinone	0.35255	0.34016	0.34016	0.000	-3.51369	60.00000	Averaged
127 Pentachlorobenzene	0.35492	0.37796	0.37796	0.000	6.49091	60.00000	Averaged
128 1-Naphthylamine	0.93432	0.98702	0.98702	0.000	5.64112	60.00000	Averaged
129 2-Naphthylamine	1.07442	1.11226	1.11226	0.000	3.52191	60.00000	Averaged
131 5-Nitro-o-toluidine	0.30293	0.28838	0.28838	0.000	-4.80536	60.00000	Averaged
136 1,3,5-Trinitrobenzene	0.14197	0.17876	0.17876	0.000	25.91833	60.00000	Averaged
137 Phenacetin	0.34292	0.30277	0.30277	0.000	-11.70870	60.00000	Averaged
138 Diallate	0.32449	0.25921	0.25921	0.000	-20.11755	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 04-MAR-2010 21:16
Lab File ID: s3c0424.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100218-08.3 Quant Type: ISTD
Method: /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
140 4-Aminobiphenyl	0.63153	0.62128	0.62128	0.000	-1.62247	60.00000	Averaged
141 Pentachloronitrobenzene	0.06598	0.07459	0.07459	0.000	13.04883	60.00000	Averaged
142 Pronamide	0.27265	0.28040	0.28040	0.000	2.84117	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.02068	0.02432	0.02432	0.000	17.57523	60.00000	Averaged
147 Methapyrilene	0.56287	0.53446	0.53446	0.000	-5.04727	60.00000	Averaged
148 Isodrin	0.10769	0.08291	0.08291	0.000	-23.01286	60.00000	Averaged
149 Aramite	0.05312	0.03672	0.03672	0.000	-30.87298	60.00000	Averaged
150 Kepone	0.07952	0.06324	0.06324	0.000	-20.47655	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.34270	0.39453	0.39453	0.000	15.12167	60.00000	Averaged
152 Chlorobenzilate	0.27101	0.32080	0.32080	0.000	18.37315	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.51648	0.56748	0.56748	0.000	9.87438	60.00000	Averaged
155 2-Acetylaminofluorene	42.38242	40.00000	0.31961	0.000	5.95604	60.00000	Linear
157 7,12Dimethylbenz(a)anthracene	0.44717	0.47598	0.47598	0.000	6.44339	60.00000	Averaged
158 3-Methylcholanthrene	0.36595	0.41282	0.41282	0.000	12.80660	60.00000	Averaged
212 Cis Diallate	0.37731	0.34855	0.34855	0.000	-7.62226	60.00000	Averaged
213 Trans Diallate	0.38175	0.30495	0.30495	0.000	-20.11755	60.00000	Averaged

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030410a.b/s3c0424.d
 Lab Smp Id: WBN100218-08.3 Client Smp ID: APCVS
 Inj Date : 04-MAR-2010 21:16
 Operator : JLD1 Inst ID: MSD3.i
 Smp Info : |WBN100218-08.3|40PPM|1|SVMF|1|APCVS
 Misc Info : |MSD8270|WBN100227-01|
 Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
 Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
 Meth Date : 05-Mar-2010 09:00 jen00986 Quant Type: ISTD
 Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
 Als bottle: 3 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: AP12.sub
 Target Version: 3.50
 Processing Host: hpc1p1

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.720	3.720	(1.000)	240152	40.0000	
* 29 Naphthalene-d8	136	4.581	4.581	(1.000)	916409	40.0000	
* 46 Acenaphthene-d10	164	5.827	5.827	(1.000)	527352	40.0000	
* 67 Phenanthrene-d10	188	6.833	6.833	(1.000)	868820	40.0000	
* 91 Chrysene-d12	240	8.453	8.453	(1.000)	538836	40.0000	
* 98 Perylene-d12	264	9.796	9.796	(1.000)	447236	40.0000	
209 Benzaldehyde	77	3.447	3.447	(0.927)	188356	40.0000	32.3
16 Acetophenone	105	3.971	3.971	(1.068)	304097	40.0000	39.2
189 Caprolactam	113	4.859	4.859	(1.061)	91506	40.0000	41.9
208 1,1'-Biphenyl	154	5.399	5.399	(0.927)	682562	40.0000	41.6
207 Atrazine	173	6.608	6.608	(0.967)	42322	40.0000	39.2
77 Benzidine	184	7.619	7.619	(0.901)	281693	40.0000	49.1
90 3,3'-Dichlorobenzidine	252	8.394	8.394	(0.993)	161762	40.0000	44.3
102 1,4-Dioxane	88	2.067	2.067	(0.556)	98270	40.0000	38.4
103 Methyl methacrylate	100	2.062	2.062	(0.554)	58487	40.0000	42.7
104 Ethyl methacrylate	69	2.431	2.431	(0.653)	230008	40.0000	41.3
105 2-Picoline	93	2.623	2.623	(0.705)	302236	40.0000	36.6
106 N-Nitrosomethylethylamine	88	2.671	2.671	(0.718)	130426	40.0000	35.1
107 Methyl methanesulfonate	80	2.827	2.827	(0.760)	146780	40.0000	40.8
108 N-Nitrosodiethylamine	102	3.057	3.057	(0.822)	137787	40.0000	37.7
109 Ethyl Methanesulfonate	79	3.217	3.217	(0.865)	208645	40.0000	43.5
110 Pentachloroethane	167	3.543	3.543	(0.953)	104297	40.0000	51.5
111 N-Nitrosopyrrolidine	100	3.960	3.960	(1.065)	141116	40.0000	39.8(Q)
113 N-Nitrosomorpholine	56	3.982	3.982	(1.070)	236334	40.0000	39.6
114 o-Toluidine	106	3.998	3.998	(1.075)	458146	40.0000	38.8
115 N-Nitrosopiperidine	114	4.196	4.196	(0.916)	142330	40.0000	39.0

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	====	==	=====	=====	=====	=====	=====
116 a,a-Dimethylphenethylamine	58	4.436	4.436	(0.968)	939253	40.0000	34.2
118 2,6-Dichlorophenol	162	4.624	4.624	(1.009)	214640	40.0000	41.8
119 Hexachloropropene	213	4.650	4.650	(1.015)	154179	40.0000	79.6
120 p-Phenylenediamine	108	4.864	4.864	(1.062)	277868	40.0000	45.7
121 N-Nitrosodi-n-butylamine	84	4.827	4.827	(1.054)	210477	40.0000	40.4 (Q)
122 Safrole	162	4.993	4.993	(1.090)	213570	40.0000	46.4
123 1,2,4,5-Tetrachlorobenzene	216	5.191	5.191	(0.891)	235297	40.0000	44.5
124 Isosafrole	162	5.362	5.362	(0.920)	242053	40.0000	47.6
125 1,4-Naphthoquinone	158	5.549	5.549	(0.952)	179386	40.0000	38.6
127 Pentachlorobenzene	250	5.939	5.939	(1.019)	199319	40.0000	42.6
128 1-Naphthylamine	143	6.025	6.025	(1.034)	520508	40.0000	42.2
129 2-Naphthylamine	143	6.079	6.079	(1.043)	586551	40.0000	41.4
131 5-Nitro-o-toluidine	152	6.207	6.207	(1.065)	152076	40.0000	38.1
136 1,3,5-Trinitrobenzene	75	6.432	6.432	(0.941)	155311	40.0000	50.4
137 Phenacetin	108	6.464	6.464	(0.946)	263051	40.0000	35.3 (Q)
138 Diallylate	86	6.448	6.448	(0.944)	225207	40.0000	32.0
140 4-Aminobiphenyl	169	6.694	6.694	(0.980)	539780	40.0000	39.4
141 Pentachloronitrobenzene	237	6.704	6.704	(0.981)	64802	40.0000	45.2 (Q)
142 Pronamide	173	6.704	6.704	(0.981)	243615	40.0000	41.1
146 4-Nitroquinoline-1-oxide	101	7.309	7.309	(1.070)	21126	40.0000	47.0
147 Methapyrilene	58	7.325	7.325	(1.072)	464353	40.0000	38.0
148 Isodrin	193	7.474	7.474	(1.094)	72034	40.0000	30.8
149 Aramite	185	7.715	7.715	(1.129)	31901	40.0000	27.6
150 Kepone	272	8.100	8.100	(1.186)	54943	40.0000	31.8
151 p-(Dimethylamino)azobenzene	120	7.833	7.833	(0.927)	212585	40.0000	46.0
152 Chlorobenzilate	251	7.844	7.844	(0.928)	172858	40.0000	47.3
153 3,3'-Dimethylbenzidine	212	8.031	8.031	(0.950)	305777	40.0000	43.9
155 2-Acetylaminofluorene	181	8.197	8.197	(0.970)	172217	40.0000	42.4
157 7,12Dimethylbenz(a)anthracene	256	9.341	9.341	(0.954)	212877	40.0000	42.6
158 3-Methylcholanthrene	268	10.122	10.122	(1.033)	184628	40.0000	45.1 (Q)
212 Cis Diallylate	86	6.512	6.512	(0.953)	45424	6.00000	5.5
213 Trans Diallylate	86	6.448	6.448	(0.944)	225207	34.0000	27.2

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/MSD3.1/s030410a.b/s30424.d

Date : 04-MAR-2010 21:16

Client ID: APCVS

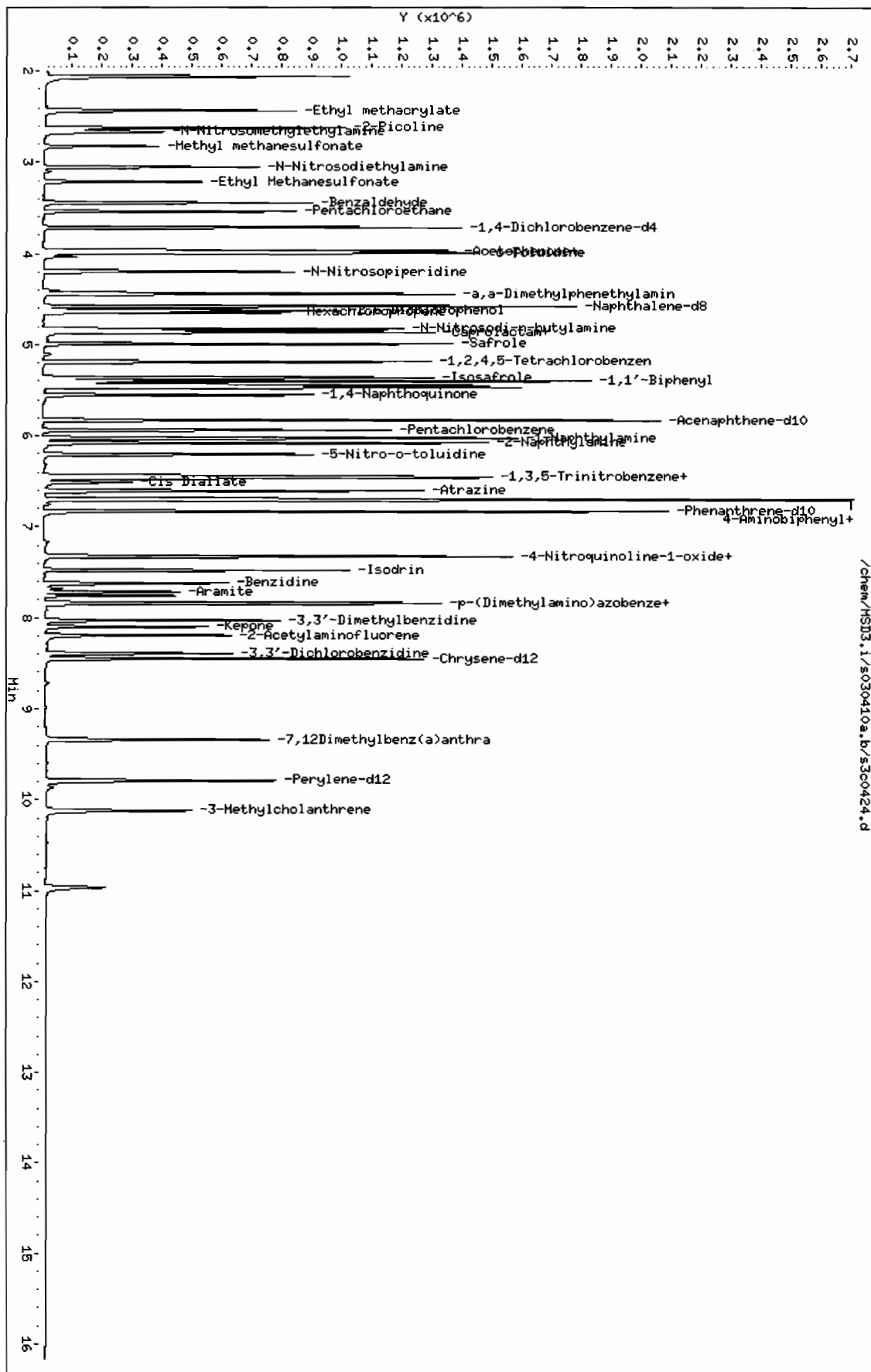
Sample Info: 1MBN100218-08.3140PPH11SVHF11APCVS

Column phase: J&W DB-5MS

Instrument: MSD3.1

Operator: JLD1

Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 05-MAR-2010 09:42
Lab File ID: s3c0503.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.2 Quant Type: ISTD
Method: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
3 2-Fluorophenol	1.10423	1.13127	1.13127	0.000	2.44906	60.00000	Averaged
5 Phenol-d5	1.40852	1.39371	1.39371	0.000	-1.05164	60.00000	Averaged
20 Nitrobenzene-d5	0.34274	0.35952	0.35952	0.000	4.89630	60.00000	Averaged
39 2-Fluorobiphenyl	1.03001	1.10009	1.10009	0.000	6.80430	60.00000	Averaged
60 2,4,6-Tribromophenol	0.12474	0.14842	0.14842	0.000	18.98370	60.00000	Averaged
81 p-Terphenyl-d14	0.68269	0.71176	0.71176	0.000	4.25800	60.00000	Averaged
1 N-Methyl-N-nitrosomethylami	0.77640	0.69344	0.69344	0.000	-10.68560	60.00000	Averaged
2 Pyridine	1.10390	0.79530	0.79530	0.000	-27.95560	60.00000	Averaged
4 Aniline	0.69729	0.60246	0.60246	0.000	-13.59956	60.00000	Averaged
6 Phenol	1.42085	1.47509	1.47509	0.001	3.81748	20.00000	Averaged|ccc
7 bis(2-Chloroethyl) ether	1.21927	1.05795	1.05795	0.000	-13.23111	60.00000	Averaged
8 2-Chlorophenol	1.16025	1.22430	1.22430	0.000	5.52039	60.00000	Averaged
203 n-Decane	1.67637	1.68449	1.68449	0.000	0.48416	60.00000	Averaged
9 1,3-Dichlorobenzene	1.24937	1.31008	1.31008	0.000	4.85937	60.00000	Averaged
11 1,4-Dichlorobenzene	1.23299	1.29983	1.29983	0.001	5.42083	20.00000	Averaged|ccc
13 1,2-Dichlorobenzene	1.08077	1.17467	1.17467	0.000	8.68799	60.00000	Averaged
14 bis(2-Chloroisopropyl)ether	2.80759	2.66260	2.66260	0.000	-5.16451	60.00000	Averaged
12 Benzyl alcohol	0.79688	0.80537	0.80537	0.000	1.06462	60.00000	Averaged
15 o-Cresol	0.84018	0.92901	0.92901	0.000	10.57204	60.00000	Averaged
18 m,p-Cresols	1.23836	1.28847	1.28847	0.000	4.04699	60.00000	Averaged
17 N-Nitrosodipropylamine	0.93061	0.91597	0.91597	0.050	-1.57325	60.00000	Averaged|spcc
19 Hexachloroethane	0.51526	0.54382	0.54382	0.000	5.54302	60.00000	Averaged
21 Nitrobenzene	0.32047	0.33184	0.33184	0.000	3.54931	60.00000	Averaged
22 Isophorone	0.62733	0.58702	0.58702	0.000	-6.42600	60.00000	Averaged
23 2-Nitrophenol	0.13576	0.15429	0.15429	0.001	13.64904	20.00000	Averaged|ccc
24 2,4-Dimethylphenol	0.25414	0.27333	0.27333	0.000	7.55241	60.00000	Averaged
25 bis(2-Chloroethoxy)methane	0.36625	0.32711	0.32711	0.000	-10.68647	60.00000	Averaged
26 2,4-Dichlorophenol	0.23631	0.24114	0.24114	0.001	2.04619	20.00000	Averaged|ccc
27 Benzoic acid	43.52582	40.00000	0.12519	0.000	8.81455	60.00000	Linear
28 1,2,4-Trichlorobenzene	0.24337	0.25708	0.25708	0.000	5.63170	60.00000	Averaged
30 Naphthalene	0.92686	0.85096	0.85096	0.000	-8.18931	60.00000	Averaged
204 alpha-Terpineol	0.31413	0.27759	0.27759	0.000	-11.63469	60.00000	Averaged
31 4-Chloroaniline	0.41856	0.40524	0.40524	0.000	-3.18102	60.00000	Averaged
32 Hexachlorobutadiene	0.13389	0.15150	0.15150	0.001	13.15027	20.00000	Averaged|ccc
33 4-Chloro-3-methylphenol	0.24588	0.27579	0.27579	0.001	12.16562	20.00000	Averaged|ccc
34 2-Methylnaphthalene	0.57488	0.55627	0.55627	0.000	-3.23731	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 05-MAR-2010 09:42
Lab File ID: s3c0503.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.2 Quant Type: ISTD
Method: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
35 1-Methylnaphthalene	0.57544	0.52903	0.52903	0.000	-8.06506	60.00000	Averaged
36 Hexachlorocyclopentadiene	0.16822	0.14818	0.14818	0.050	-11.90966	60.00000	Averaged|spcc
205 2,3-Dichloroaniline	0.52733	0.53531	0.53531	0.000	1.51467	60.00000	Averaged
37 2,4,6-Trichlorophenol	0.27780	0.30121	0.30121	0.001	8.42518	20.00000	Averaged|ccc
38 2,4,5-Trichlorophenol	0.31440	0.34003	0.34003	0.000	8.15420	60.00000	Averaged
40 2-Chloronaphthalene	1.04011	0.96333	0.96333	0.000	-7.38175	60.00000	Averaged
42 o-Nitroaniline	0.36880	0.36150	0.36150	0.000	-1.98028	60.00000	Averaged
41 m-Nitroaniline	0.27187	0.22949	0.22949	0.000	-15.58625	60.00000	Averaged
43 Dimethylphthalate	1.10182	1.13154	1.13154	0.000	2.69739	60.00000	Averaged
44 2,6-Dinitrotoluene	0.25644	0.26681	0.26681	0.000	4.04571	60.00000	Averaged
50 2,4-Dinitrotoluene	0.33467	0.35439	0.35439	0.000	5.89230	60.00000	Averaged
45 Acenaphthylene	1.53996	1.53278	1.53278	0.000	-0.46596	60.00000	Averaged
47 Acenaphthene	41.74860	40.00000	0.99663	0.001	4.37149	20.00000	Wt Linear|ccc
48 2,4-Dinitrophenol	62.92468	40.00000	0.11194	0.050	57.31169	60.00000	Linear|spcc
49 Dibenzofuran	1.26706	1.35264	1.35264	0.000	6.75389	60.00000	Averaged
51 Diethylphthalate	1.04971	1.11508	1.11508	0.000	6.22746	60.00000	Averaged
52 4-Nitrophenol	45.61006	40.00000	0.21678	0.050	14.02516	60.00000	Linear|spcc
53 Fluorene	1.19176	1.10959	1.10959	0.000	-6.89477	60.00000	Averaged
54 4-Chlorophenylphenylether	0.47821	0.52916	0.52916	0.000	10.65343	60.00000	Averaged
55 2-Methyl-4,6-dinitrophenol	60.63904	40.00000	0.13132	0.000	51.59761	60.00000	Linear
56 p-Nitroaniline	0.23128	0.20219	0.20219	0.000	-12.57840	60.00000	Averaged
133 Diphenylamine	0.57428	0.52471	0.52471	0.001	-8.63235	20.00000	Averaged|ccc
58 1,2-Diphenylhydrazine	0.79201	0.71984	0.71984	0.000	-9.11243	60.00000	Averaged
61 4-Bromophenylphenylether	0.17593	0.16225	0.16225	0.000	-7.77234	60.00000	Averaged
63 Hexachlorobenzene	0.18921	0.18575	0.18575	0.000	-1.82744	60.00000	Averaged
65 Pentachlorophenol	44.66613	40.00000	0.10376	0.001	11.66533	20.00000	Linear|ccc
206 n-Octadecane	0.58452	0.55910	0.55910	0.000	-4.34972	60.00000	Averaged
68 Phenanthrene	36.40407	40.00000	0.92727	0.000	-8.98981	60.00000	Wt Linear
69 Anthracene	1.00646	0.93504	0.93504	0.000	-7.09635	60.00000	Averaged
72 Di-n-butylphthalate	1.08615	1.07166	1.07166	0.000	-1.33348	60.00000	Averaged
76 Fluoranthene	0.94353	0.95293	0.95293	0.001	0.99603	20.00000	Averaged|ccc
79 Pyrene	1.25537	1.09562	1.09562	0.000	-12.72534	60.00000	Averaged
85 Butylbenzylphthalate	0.49552	0.55193	0.55193	0.000	11.38538	60.00000	Averaged
89 Benzo(a)anthracene	1.03421	1.00877	1.00877	0.000	-2.46009	60.00000	Averaged
92 Chrysene	0.98413	0.89646	0.89646	0.000	-8.90854	60.00000	Averaged
93 bis(2-Ethylhexyl)phthalate	0.70967	0.76082	0.76082	0.000	7.20791	60.00000	Averaged

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CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 05-MAR-2010 09:42
Lab File ID: s3c0503.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100225-09.2 Quant Type: ISTD
Method: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
94 Di-n-octylphthalate	1.20936	1.44730	1.44730	0.001	19.67542	20.00000	Averaged|ccc
95 Benzo(b)fluoranthene	0.91299	0.97851	0.97851	0.000	7.17652	60.00000	Averaged|
96 Benzo(k)fluoranthene	0.93570	1.09113	1.09113	0.000	16.61098	60.00000	Averaged|
97 Benzo(a)pyrene	0.77814	0.87925	0.87925	0.001	12.99273	20.00000	Averaged|ccc
99 Indeno(1,2,3-cd)pyrene	0.68557	0.77891	0.77891	0.000	13.61519	60.00000	Averaged|
100 Dibenzo(a,h)anthracene	0.53960	0.62014	0.62014	0.000	14.92593	60.00000	Averaged|
101 Benzo(ghi)perylene	0.57189	0.63563	0.63563	0.000	11.14437	60.00000	Averaged|
126 m-Dinitrobenzene	0.19264	0.20386	0.20386	0.000	5.82051	60.00000	Averaged|
130 2,3,4,6-Tetrachlorophenol	0.24201	0.26736	0.26736	0.000	10.47832	60.00000	Averaged|
143 Dinoseb	50.86304	40.00000	0.14241	0.000	27.15761	60.00000	Linear|
173 Carbazole	0.83885	0.69340	0.69340	0.000	-17.33925	60.00000	Averaged|
184 p-Benzoquinone	0.31806	0.03974	0.03974	0.000	-87.50487	60.00000	Averaged|<-
192 Methoxychlor	0.38490	0.59339	0.59339	0.000	54.16615	60.00000	Averaged|
211 p-Toluidine	1.39014	0.92765	0.92765	0.000	-33.26912	60.00000	Averaged|
210 m-Toluidine	1.76419	1.65275	1.65275	0.000	-6.31675	60.00000	Averaged|
26 Phthalic anhydride	46.51915	40.00000	0.13612	0.000	16.29787	60.00000	Linear|
179 Dibenzo(a,e)pyrene	0.21394	0.25430	0.25430	0.000	18.86951	60.00000	Averaged|
214 1,4-Dinitrobenzene	0.23933	0.25411	0.25411	0.000	6.17641	60.00000	Averaged|
215 2-Ethoxyethanol	0.93753	0.86269	0.86269	0.000	-7.98230	60.00000	Averaged|
216 Methylenebis(2-chloroanilin	34.84574	40.00000	0.11203	0.000	-12.88564	60.00000	Linear|
M 225 Trichlorophenols	0.29610	0.32062	0.32062	0.000	8.28132	60.00000	Averaged|
M 226 Tetrachlorophenols	0.24201	0.26736	0.26736	0.000	10.47832	60.00000	Averaged|
M 227 Benzo(b,k)fluoranthene	0.92434	1.03482	1.03482	0.000	11.95170	60.00000	Averaged

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Data file : /chem/MSD3.i/s030510.b/s3c0503.d
Lab Smp Id: WBN100225-09.2 Client Smp ID: MEGACVS
Inj Date : 05-MAR-2010 09:42
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |WBN100225-09.2|40PPM|1|SVMF|1|MEGACVS
Misc Info : |MSD8270|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
Meth Date : 07-Mar-2010 14:06 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MEGAI1.sub
Target Version: 3.50
Processing Host: hpclp1

Compounds	QUANT SIG						AMOUNTS	
		MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
*****	=====	=====	==	=====	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4		152	3.703	3.703	(1.000)	230288	40.0000	
* 29 Naphthalene-d8		136	4.564	4.564	(1.000)	943721	40.0000	
* 46 Acenaphthene-d10		164	5.811	5.811	(1.000)	514118	40.0000	
* 67 Phenanthrene-d10		188	6.816	6.816	(1.000)	894626	40.0000	
* 91 Chrysene-d12		240	8.437	8.437	(1.000)	791776	40.0000	
* 98 Perylene-d12		264	9.763	9.763	(1.000)	694468	40.0000	
\$ 3 2-Fluorophenol		112	2.896	2.896	(0.782)	260519	40.0000	41.0
\$ 5 Phenol-d5		99	3.420	3.420	(0.923)	320955	40.0000	39.6
\$ 20 Nitrobenzene-d5		82	4.062	4.062	(0.890)	339290	40.0000	42.0
\$ 39 2-Fluorobiphenyl		172	5.302	5.302	(0.913)	565576	40.0000	42.7
\$ 60 2,4,6-Tribromophenol		329	6.356	6.356	(1.094)	76306	40.0000	47.6
\$ 81 p-Terphenyl-d14		244	7.741	7.741	(0.918)	563554	40.0000	41.7
1 N-Methyl-N-nitrosomethylamine		74	2.211	2.211	(0.597)	159690	40.0000	35.7
2 Pyridine		79	2.243	2.243	(0.606)	183147	40.0000	28.8
4 Aniline		66	3.489	3.489	(0.942)	138739	40.0000	34.6
6 Phenol		94	3.430	3.430	(0.926)	339695	40.0000	41.5 (Q)
7 bis(2-Chloroethyl) ether		63	3.505	3.505	(0.947)	243633	40.0000	34.7
8 2-Chlorophenol		128	3.564	3.564	(0.962)	281942	40.0000	42.2
203 n-Decane		43	3.553	3.553	(0.960)	387918	40.0000	40.2
9 1,3-Dichlorobenzene		146	3.666	3.666	(0.990)	301696	40.0000	41.9
11 1,4-Dichlorobenzene		146	3.714	3.714	(1.003)	299336	40.0000	42.2
13 1,2-Dichlorobenzene		146	3.816	3.816	(1.030)	270513	40.0000	43.5
14 bis(2-Chloroisopropyl) ether		45	3.848	3.848	(1.039)	613164	40.0000	37.9
12 Benzyl alcohol		108	3.773	3.773	(1.019)	185466	40.0000	40.4
15 o-Cresol		107	3.821	3.821	(1.032)	213939	40.0000	44.2
18 m,p-Cresols		107	3.923	3.923	(1.059)	296720	40.0000	41.6

Compounds	QUANT SIG			AMOUNTS		
	MASS	RT	EXP RT	REL RT	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====
17 N-Nitrosodipropylamine	70	3.944	3.944	(1.065)	210937	40.0000 39.4
19 Hexachloroethane	117	4.040	4.040	(1.091)	125236	40.0000 42.2
21 Nitrobenzene	77	4.078	4.078	(0.893)	313169	40.0000 41.4
22 Isophorone	82	4.227	4.227	(0.926)	553984	40.0000 37.4
23 2-Nitrophenol	139	4.292	4.292	(0.940)	145611	40.0000 45.4
24 2,4-Dimethylphenol	122	4.286	4.286	(0.939)	257946	40.0000 43.0
25 bis(2-Chloroethoxy)methane	93	4.356	4.356	(0.954)	308705	40.0000 35.7
26 2,4-Dichlorophenol	162	4.447	4.447	(0.974)	227572	40.0000 40.8
27 Benzoic acid	105	4.340	4.340	(0.951)	118147	40.0000 43.5
28 1,2,4-Trichlorobenzene	180	4.511	4.511	(0.988)	242608	40.0000 42.2
30 Naphthalene	128	4.575	4.575	(1.002)	803069	40.0000 36.7 (Q)
204 alpha-Terpineol	59	4.554	4.554	(0.998)	261964	40.0000 35.3
31 4-Chloroaniline	127	4.596	4.596	(1.007)	382436	40.0000 38.7
32 Hexachlorobutadiene	225	4.639	4.639	(1.016)	142970	40.0000 45.3
33 4-Chloro-3-methylphenol	107	4.912	4.912	(1.076)	260269	40.0000 44.9
34 2-Methylnaphthalene	142	5.056	5.056	(1.108)	524961	40.0000 38.7
35 1-Methylnaphthalene	142	5.131	5.131	(1.124)	499253	40.0000 36.8
36 Hexachlorocyclopentadiene	237	5.158	5.158	(0.888)	76183	40.0000 35.2
205 2,3-Dichloroaniline	161	5.254	5.254	(0.904)	275215	40.0000 40.6
37 2,4,6-Trichlorophenol	196	5.244	5.244	(0.902)	154857	40.0000 43.4
38 2,4,5-Trichlorophenol	196	5.276	5.276	(0.908)	174818	40.0000 43.3
40 2-Chloronaphthalene	162	5.409	5.409	(0.931)	495266	40.0000 37.0
42 o-Nitroaniline	65	5.468	5.468	(0.941)	185852	40.0000 39.2
41 m-Nitroaniline	138	5.768	5.768	(0.993)	117987	40.0000 33.8
43 Dimethylphthalate	163	5.581	5.581	(0.960)	581744	40.0000 41.1
44 2,6-Dinitrotoluene	165	5.634	5.634	(0.970)	137172	40.0000 41.6
50 2,4-Dinitrotoluene	165	5.928	5.928	(1.020)	182200	40.0000 42.4
45 Acenaphthylene	152	5.714	5.714	(0.983)	788032	40.0000 39.8
47 Acenaphthene	154	5.832	5.832	(1.004)	512385	40.0000 41.7
48 2,4-Dinitrophenol	184	5.837	5.837	(1.005)	57552	40.0000 62.9
49 Dibenzofuran	168	5.955	5.955	(1.025)	695416	40.0000 42.7
51 Diethylphthalate	149	6.073	6.073	(1.045)	573283	40.0000 42.5
52 4-Nitrophenol	139	5.859	5.859	(1.008)	111453	40.0000 45.6
53 Fluorene	166	6.196	6.196	(1.066)	570461	40.0000 37.2
54 4-Chlorophenylphenylether	204	6.174	6.174	(1.063)	272051	40.0000 44.3
55 2-Methyl-4,6-dinitrophenol	198	6.212	6.212	(0.911)	117485	40.0000 60.6
56 p-Nitroaniline	138	6.196	6.196	(1.066)	103947	40.0000 35.0
133 Diphenylamine	169	6.255	6.255	(0.918)	469417	40.0000 36.5
58 1,2-Diphenylhydrazine	77	6.287	6.287	(0.922)	643989	40.0000 36.4
61 4-Bromophenylphenylether	248	6.506	6.506	(0.954)	145157	40.0000 36.9
63 Hexachlorobenzene	284	6.559	6.559	(0.962)	166179	40.0000 39.3
65 Pentachlorophenol	266	6.682	6.682	(0.980)	92826	40.0000 44.7
206 n-Octadecane	57	6.672	6.672	(0.979)	500182	40.0000 38.3
68 Phenanthrene	178	6.832	6.832	(1.002)	829556	40.0000 36.4
69 Anthracene	178	6.864	6.864	(1.007)	836509	40.0000 37.2
72 Di-n-butylphthalate	149	7.116	7.116	(1.044)	958737	40.0000 39.5
76 Fluoranthene	202	7.549	7.549	(1.107)	852512	40.0000 40.4

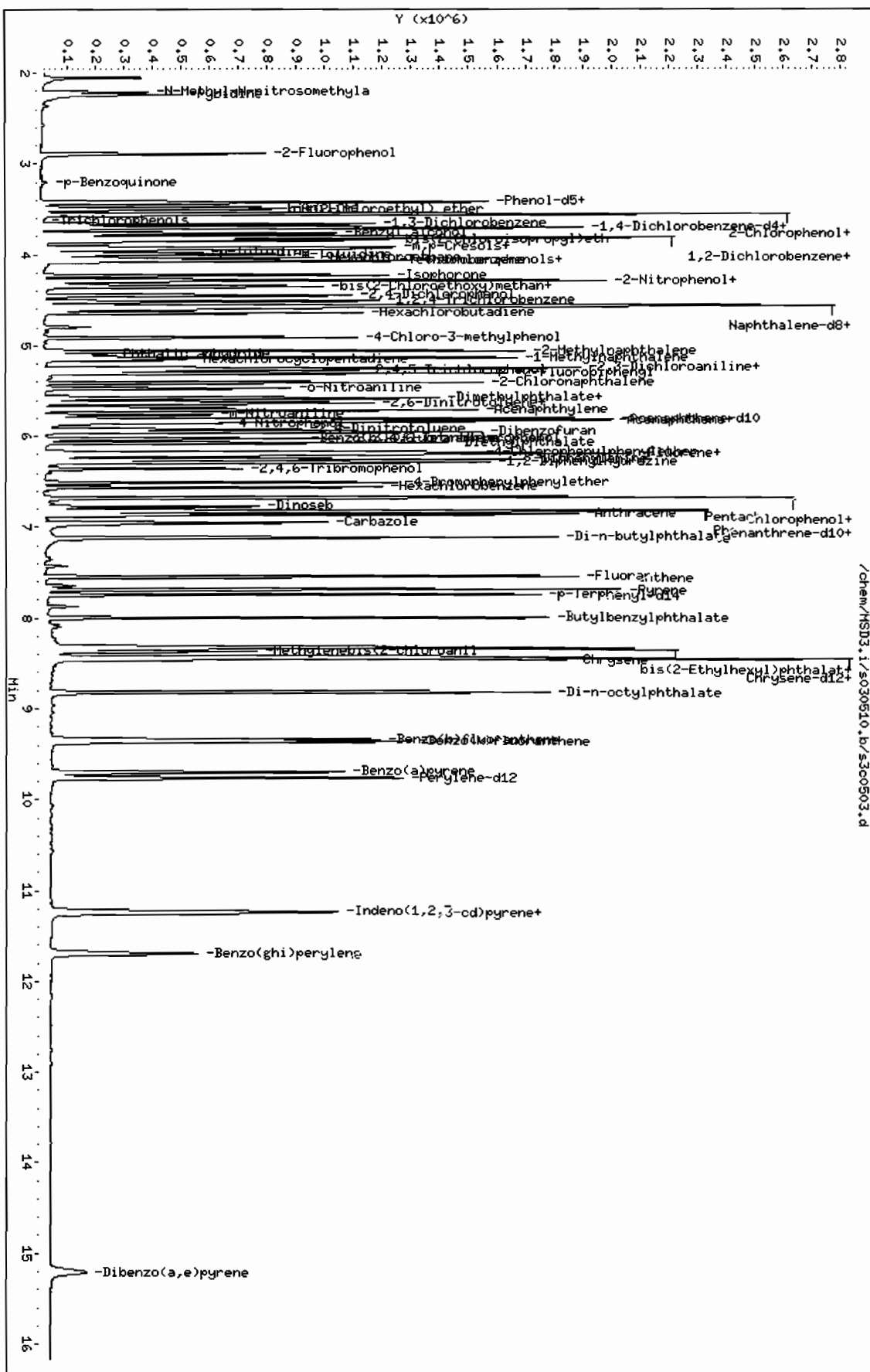
Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
79 Pyrene	202	7.688	7.688	(0.911)	867487	40.0000	34.9
85 Butylbenzylphthalate	149	7.993	7.993	(0.947)	437006	40.0000	44.6
89 Benzo(a)anthracene	228	8.426	8.426	(0.999)	798720	40.0000	39.0(H)
92 Chrysene	228	8.453	8.453	(1.002)	709794	40.0000	36.4
93 bis(2-Ethylhexyl)phthalate	149	8.330	8.330	(0.987)	602397	40.0000	42.9
94 Di-n-octylphthalate	149	8.822	8.822	(0.904)	1005106	40.0000	47.9
95 Benzo(b)fluoranthene	252	9.341	9.341	(0.957)	679544	40.0000	42.9(H)
96 Benzo(k)fluoranthene	252	9.367	9.367	(0.959)	757752	40.0000	46.6
97 Benzo(a)pyrene	252	9.699	9.699	(0.993)	610608	40.0000	45.2(H)
99 Indeno(1,2,3-cd)pyrene	276	11.239	11.239	(1.151)	540929	40.0000	45.4
100 Dibenzo(a,h)anthracene	278	11.245	11.245	(1.152)	430666	40.0000	46.0
101 Benzo(ghi)perylene	276	11.694	11.694	(1.198)	441423	40.0000	44.4(Q)
126 m-Dinitrobenzene	168	5.623	5.623	(0.968)	104807	40.0000	42.3
130 2,3,4,6-Tetrachlorophenol	232	6.030	6.030	(1.038)	137457	40.0000	44.2
143 Dinoseb	211	6.779	6.779	(0.994)	127403	40.0000	50.9
173 Carbazole	167	6.955	6.955	(1.020)	620335	40.0000	33.1
184 p-Benzoquinone	54	3.200	3.200	(0.864)	9152	40.0000	5.0
192 Methoxychlor	227	8.314	8.314	(0.985)	469832	40.0000	61.7(H)
211 p-Toluidine	106	3.981	3.981	(1.075)	213627	40.0000	26.7
210 m-Toluidine	106	4.003	4.003	(1.081)	380609	40.0000	37.5
26 Phthalic anhydride	104	5.099	5.099	(1.117)	128457	40.0000	46.5
179 Dibenzo(a,e)pyrene	302	15.208	15.208	(1.558)	176606	40.0000	47.5
214 1,4-Dinitrobenzene	75	5.565	5.565	(0.958)	130643	40.0000	42.5
215 2-Ethoxyethanol	59	2.056	2.056	(0.555)	198668	40.0000	36.8
216 Methylenebis(2-chloroaniline)	231	8.367	8.367	(0.992)	88705	40.0000	34.8(Q)
M 225 Trichlorophenols	196				329675	80.0000	86.6
M 226 Tetrachlorophenols	232				137457	40.0000	44.2
M 227 Benzo(b,k)fluoranthene	252				1437296	80.0000	89.6

QC Flag Legend

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

Data File: /chem/MSD3.1/s030510.b/s300503.d
 Date : 05-MAR-2010 09:42
 Client ID: HEGACVS
 Sample Info: ILMN100225-09.2140PH111SWH111MEGACVS
 Column phase: J&W DB-SMS

Instrument: MSD3.1
 Operator: JLD1
 Column diameter: 0.20



GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 05-MAR-2010 10:33
Lab File ID: s3c0505.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100218-08.2 Quant Type: ISTD
Method: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
209 Benzaldehyde	0.97135	0.76044	0.76044	0.000	-21.71329	60.00000	Averaged
16 Acetophenone	1.29266	1.21632	1.21632	0.000	-5.90558	60.00000	Averaged
189 Caprolactam	0.09530	0.09890	0.09890	0.000	3.77356	60.00000	Averaged
208 1,1'-Biphenyl	1.24395	1.23804	1.23804	0.000	-0.47450	60.00000	Averaged
207 Atrazine	0.04967	0.04560	0.04560	0.000	-8.20392	60.00000	Averaged
77 Benzidine	0.42562	0.43809	0.43809	0.000	2.93137	60.00000	Averaged
90 3,3'-Dichlorobenzidine	0.27078	0.30814	0.30814	0.000	13.79886	60.00000	Averaged
102 1,4-Dioxane	0.42655	0.43925	0.43925	0.000	2.97759	60.00000	Averaged
103 Methyl methacrylate	0.22811	0.25263	0.25263	0.000	10.74906	60.00000	Averaged
104 Ethyl methacrylate	0.92655	0.98893	0.98893	0.000	6.73291	60.00000	Averaged
105 2-Picoline	1.37463	1.22170	1.22170	0.000	-11.12521	60.00000	Averaged
106 N-Nitrosomethylethylamine	0.61874	0.52682	0.52682	0.000	-14.85621	60.00000	Averaged
107 Methyl methanesulfonate	0.59895	0.59657	0.59657	0.000	-0.39754	60.00000	Averaged
108 N-Nitrosodiethylamine	0.60848	0.54125	0.54125	0.000	-11.04905	60.00000	Averaged
109 Ethyl Methanesulfonate	0.79913	0.81297	0.81297	0.000	1.73212	60.00000	Averaged
110 Pentachloroethane	0.33748	0.43566	0.43566	0.000	29.09205	60.00000	Averaged
111 N-Nitrosopyrrolidine	0.59074	0.57546	0.57546	0.000	-2.58810	60.00000	Averaged
113 N-Nitrosomorpholine	0.99369	0.96156	0.96156	0.000	-3.23326	60.00000	Averaged
114 o-Toluidine	1.96378	1.83377	1.83377	0.000	-6.62017	60.00000	Averaged
115 N-Nitrosopiperidine	0.15949	0.15144	0.15144	0.000	-5.04603	60.00000	Averaged
116 a,a-Dimethylphenethylamine	1.20015	0.97691	0.97691	0.000	-18.60039	60.00000	Averaged
118 2,6-Dichlorophenol	0.22402	0.22698	0.22698	0.000	1.32328	60.00000	Averaged
119 Hexachloropropene	0.08450	0.15916	0.15916	0.000	88.35112	60.00000	Averaged
120 p-Phenylenediamine	0.26558	0.28825	0.28825	0.000	8.53675	60.00000	Averaged
121 N-Nitrosodi-n-butylamine	0.22728	0.23403	0.23403	0.000	2.96810	60.00000	Averaged
122 Safrole	0.20093	0.22467	0.22467	0.000	11.81627	60.00000	Averaged
123 1,2,4,5-Tetrachlorobenzene	0.40109	0.42585	0.42585	0.000	6.17144	60.00000	Averaged
124 Isosafrole	0.38589	0.44645	0.44645	0.000	15.69388	60.00000	Averaged
125 1,4-Naphthoquinone	0.35255	0.34797	0.34797	0.000	-1.29808	60.00000	Averaged
127 Pentachlorobenzene	0.35492	0.35728	0.35728	0.000	0.66439	60.00000	Averaged
128 1-Naphthylamine	0.93432	0.98082	0.98082	0.000	4.97743	60.00000	Averaged
129 2-Naphthylamine	1.07442	1.09212	1.09212	0.000	1.64788	60.00000	Averaged
131 5-Nitro-o-toluidine	0.30293	0.29730	0.29730	0.000	-1.85978	60.00000	Averaged
136 1,3,5-Trinitrobenzene	0.14197	0.17952	0.17952	0.000	26.45463	60.00000	Averaged
137 Phenacetin	0.34292	0.31747	0.31747	0.000	-7.42073	60.00000	Averaged
138 Diallate	0.32449	0.24813	0.24813	0.000	-23.53236	60.00000	Averaged

GEL Laboratories LLC

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: MSD3.i Injection Date: 05-MAR-2010 10:33
Lab File ID: s3c0505.d Init. Cal. Date(s): 01-MAR-2010 02-MAR-2010
Analysis Type: Init. Cal. Times: 16:52 15:20
Lab Sample ID: WBN100218-08.2 Quant Type: ISTD
Method: /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m

COMPOUND	RRF / AMOUNT	RF40	CCAL RRF40	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
140 4-Aminobiphenyl	0.63153	0.62884	0.62884	0.000	-0.42594	60.00000	Averaged
141 Pentachloronitrobenzene	0.06598	0.07246	0.07246	0.000	9.82580	60.00000	Averaged
142 Pronamide	0.27265	0.27478	0.27478	0.000	0.78200	60.00000	Averaged
146 4-Nitroquinoline-1-oxide	0.02068	0.02111	0.02111	0.000	2.09108	60.00000	Averaged
147 Methapyrilene	0.56287	0.55896	0.55896	0.000	-0.69466	60.00000	Averaged
148 Isodrin	0.10769	0.09025	0.09025	0.000	-16.19481	60.00000	Averaged
149 Aramite	0.05312	0.04853	0.04853	0.000	-8.64224	60.00000	Averaged
150 Kepone	0.07952	0.07200	0.07200	0.000	-9.45875	60.00000	Averaged
151 p-(Dimethylamino)azobenzene	0.34270	0.34920	0.34920	0.000	1.89506	60.00000	Averaged
152 Chlorobenzilate	0.27101	0.28852	0.28852	0.000	6.46228	60.00000	Averaged
153 3,3'-Dimethylbenzidine	0.51648	0.54929	0.54929	0.000	6.35294	60.00000	Averaged
155 2-Acetylaminofluorene	45.48478	40.00000	0.34610	0.000	13.71194	60.00000	Linear
157 7,12Dimethylbenz(a)anthracene	0.44717	0.45455	0.45455	0.000	1.65093	60.00000	Averaged
158 3-Methylcholanthrene	0.36595	0.42543	0.42543	0.000	16.25324	60.00000	Averaged
212 Cis Diallate	0.37731	0.33985	0.33985	0.000	-9.92778	60.00000	Averaged
213 Trans Diallate	0.38175	0.29192	0.29192	0.000	-23.53236	60.00000	Averaged

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030510.b/s3c0505.d
 Lab Smp Id: WBN100218-08.2 Client Smp ID: APCVS
 Inj Date : 05-MAR-2010 10:33
 Operator : JLD1 Inst ID: MSD3.i
 Smp Info : |WBN100218-08.2|40PPM|1|SVMF|1|APCVS
 Misc Info : |MSD8270|WBN100227-01|
 Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
 Method : /chem/MSD3.i/s030510.b/MSD3-8270R-AQA-030210.m
 Meth Date : 05-Mar-2010 15:35 jen00986 Quant Type: ISTD
 Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
 Als bottle: 4 Continuing Calibration Sample
 Dil Factor: 1.00000
 Integrator: HP RTE Compound Sublist: AP12.sub
 Target Version: 3.50
 Processing Host: hpc1p1

Compounds	QUANT SIG			RESPONSE	AMOUNTS	
	MASS	RT	EXP RT REL RT		CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	152	3.698	3.698 (1.000)	294358	40.0000	
* 29 Naphthalene-d8	136	4.559	4.559 (1.000)	1093907	40.0000	
* 46 Acenaphthene-d10	164	5.806	5.806 (1.000)	629284	40.0000	
* 67 Phenanthrene-d10	188	6.817	6.817 (1.000)	1090205	40.0000	
* 91 Chrysene-d12	240	8.432	8.432 (1.000)	903713	40.0000	
* 98 Perylene-d12	264	9.758	9.758 (1.000)	724109	40.0000	
209 Benzaldehyde	77	3.431	3.431 (0.928)	223841	40.0000	31.3
16 Acetophenone	105	3.955	3.955 (1.069)	358033	40.0000	37.6
189 Caprolactam	113	4.843	4.843 (1.062)	108187	40.0000	41.5
208 1,1'-Biphenyl	154	5.383	5.383 (0.927)	779081	40.0000	39.8
207 Atrazine	173	6.592	6.592 (0.967)	49708	40.0000	36.7
77 Benzidine	184	7.603	7.603 (0.902)	395909	40.0000	41.2
90 3,3'-Dichlorobenzidine	252	8.373	8.373 (0.993)	278470	40.0000	45.5
102 1,4-Dioxane	88	2.072	2.072 (0.560)	129296	40.0000	41.2
103 Methyl methacrylate	100	2.062	2.062 (0.557)	74363	40.0000	44.3
104 Ethyl methacrylate	69	2.425	2.425 (0.656)	291100	40.0000	42.7
105 2-Picoline	93	2.613	2.613 (0.706)	359617	40.0000	35.5
106 N-Nitrosomethylethylamine	88	2.655	2.655 (0.718)	155073	40.0000	34.0
107 Methyl methanesulfonate	80	2.810	2.810 (0.760)	175604	40.0000	39.8
108 N-Nitrosodiethylamine	102	3.040	3.040 (0.822)	159321	40.0000	35.6
109 Ethyl Methanesulfonate	79	3.196	3.196 (0.864)	239305	40.0000	40.7
110 Pentachloroethane	167	3.527	3.527 (0.954)	128239	40.0000	51.6
111 N-Nitrosopyrrolidine	100	3.944	3.944 (1.067)	169390	40.0000	39.0 (Q)
113 N-Nitrosomorpholine	56	3.966	3.966 (1.072)	283044	40.0000	38.7
114 o-Toluidine	106	3.976	3.976 (1.075)	539785	40.0000	37.4
115 N-Nitrosopiperidine	114	4.180	4.180 (0.917)	165663	40.0000	38.0

Compounds	QUANT SIG					AMOUNTS	
	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ng/ul)	ON-COL (ng/ul)
=====	=====	==	=====	=====	=====	=====	=====
116 a,a-Dimethylphenethylamine	58	4.426	4.426	(0.971)	1068653	40.0000	32.6
118 2,6-Dichlorophenol	162	4.602	4.602	(1.009)	248295	40.0000	40.5
119 Hexachloropropene	213	4.629	4.629	(1.015)	174104	40.0000	75.3
120 p-Phenylenediamine	108	4.843	4.843	(1.062)	315319	40.0000	43.4
121 N-Nitrosodi-n-butylamine	84	4.811	4.811	(1.055)	256003	40.0000	41.2 (QH)
122 Safrole	162	4.977	4.977	(1.091)	245767	40.0000	44.7
123 1,2,4,5-Tetrachlorobenzene	216	5.169	5.169	(0.890)	267979	40.0000	42.5
124 Isosafrole	162	5.346	5.346	(0.921)	280944	40.0000	46.3
125 1,4-Naphthoquinone	158	5.533	5.533	(0.953)	218975	40.0000	39.5
127 Pentachlorobenzene	250	5.918	5.918	(1.019)	224832	40.0000	40.3
128 1-Naphthylamine	143	6.009	6.009	(1.035)	617215	40.0000	42.0
129 2-Naphthylamine	143	6.062	6.062	(1.044)	687255	40.0000	40.6
131 5-Nitro-o-toluidine	152	6.191	6.191	(1.066)	187086	40.0000	39.2
136 1,3,5-Trinitrobenzene	75	6.421	6.421	(0.942)	195716	40.0000	50.6
137 Phenacetin	108	6.447	6.447	(0.946)	346110	40.0000	37.0 (Q)
138 Diallate	86	6.431	6.431	(0.944)	270512	40.0000	30.6
140 4-Aminobiphenyl	169	6.678	6.678	(0.980)	685560	40.0000	39.8
141 Pentachloronitrobenzene	237	6.688	6.688	(0.981)	78996	40.0000	43.9 (Q)
142 Pronamide	173	6.688	6.688	(0.981)	299570	40.0000	40.3
146 4-Nitroquinoline-1-oxide	101	7.293	7.293	(1.070)	23018	40.0000	40.8
147 Methapyrilene	58	7.309	7.309	(1.072)	609385	40.0000	39.7
148 Isodrin	193	7.458	7.458	(1.094)	98394	40.0000	33.5
149 Aramite	185	7.699	7.699	(1.129)	52903	40.0000	36.5
150 Kepone	272	8.084	8.084	(1.186)	78495	40.0000	36.2
151 p-(Dimethylamino)azobenzene	120	7.817	7.817	(0.927)	315575	40.0000	40.8
152 Chlorobenzilate	251	7.827	7.827	(0.928)	260739	40.0000	42.6
153 3,3'-Dimethylbenzidine	212	8.015	8.015	(0.951)	496400	40.0000	42.5
155 2-Acetylaminofluorene	181	8.175	8.175	(0.970)	312778	40.0000	45.5
157 7,12Dimethylbenz(a)anthracene	256	9.309	9.309	(0.954)	329146	40.0000	40.7
158 3-Methylcholanthrene	268	10.085	10.085	(1.033)	308060	40.0000	46.5 (Q)
212 Cis Diallate	86	6.496	6.496	(0.953)	55576	6.00000	5.4
213 Trans Diallate	86	6.431	6.431	(0.944)	270512	34.0000	26.0

QC Flag Legend

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

Data File: /chem/MSD3.i/s030510.b/s300505.d

Date : 05-MAR-2010 10:33

Client ID: APCVS

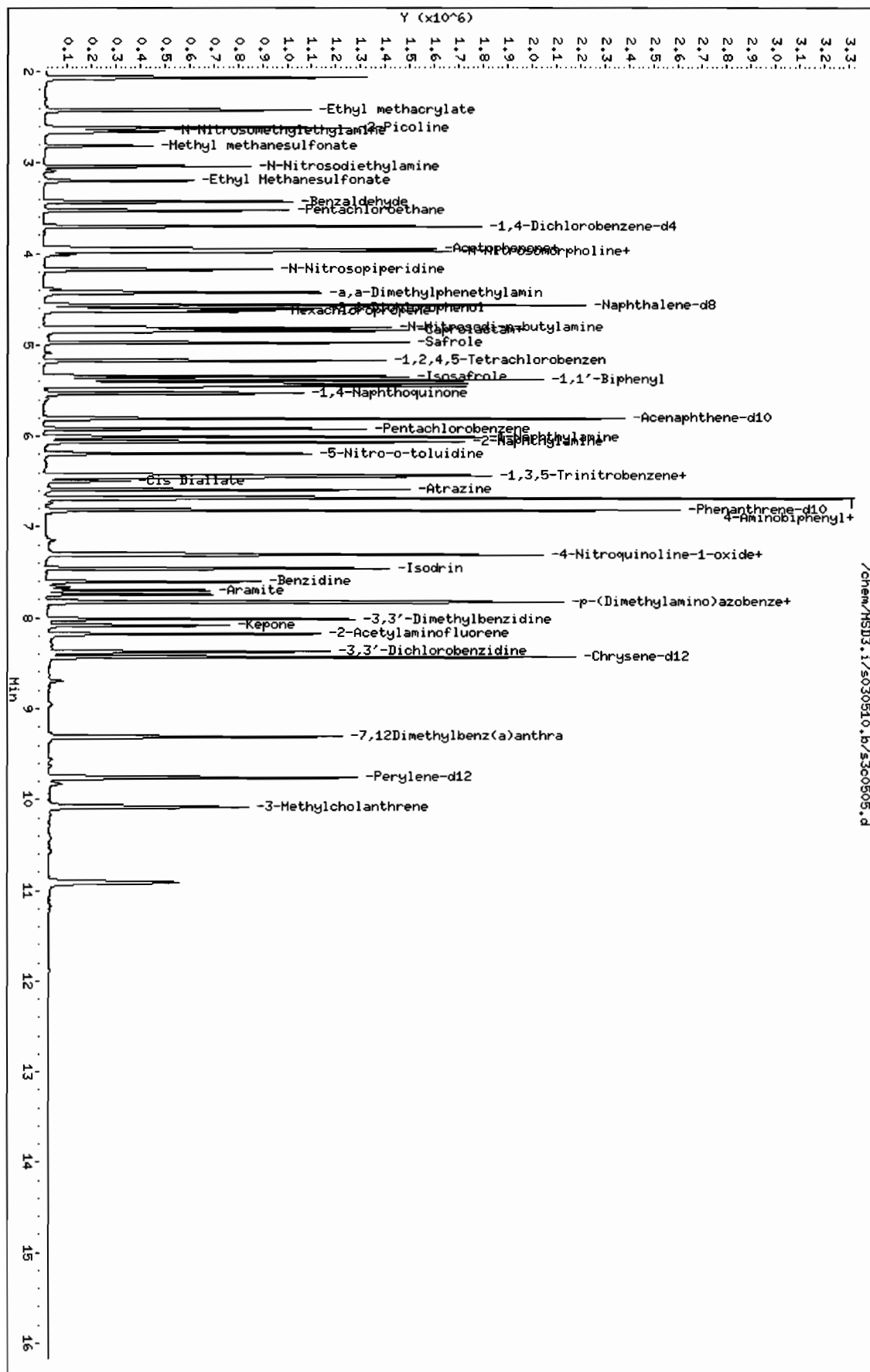
Sample Info: IWBH00218-08.2140PM11.SWFI.1.APCVS

Column phase: J&W DB-5MS

Instrument: MSD3.i

Operator: JLDL

Column diameter: 0.20



QC Data

Data File: /chem/HSD3.i/s030110.b/s3c0101.d

Page 1

Date : 01-MAR-2010 16:17

Client ID: DFTPP

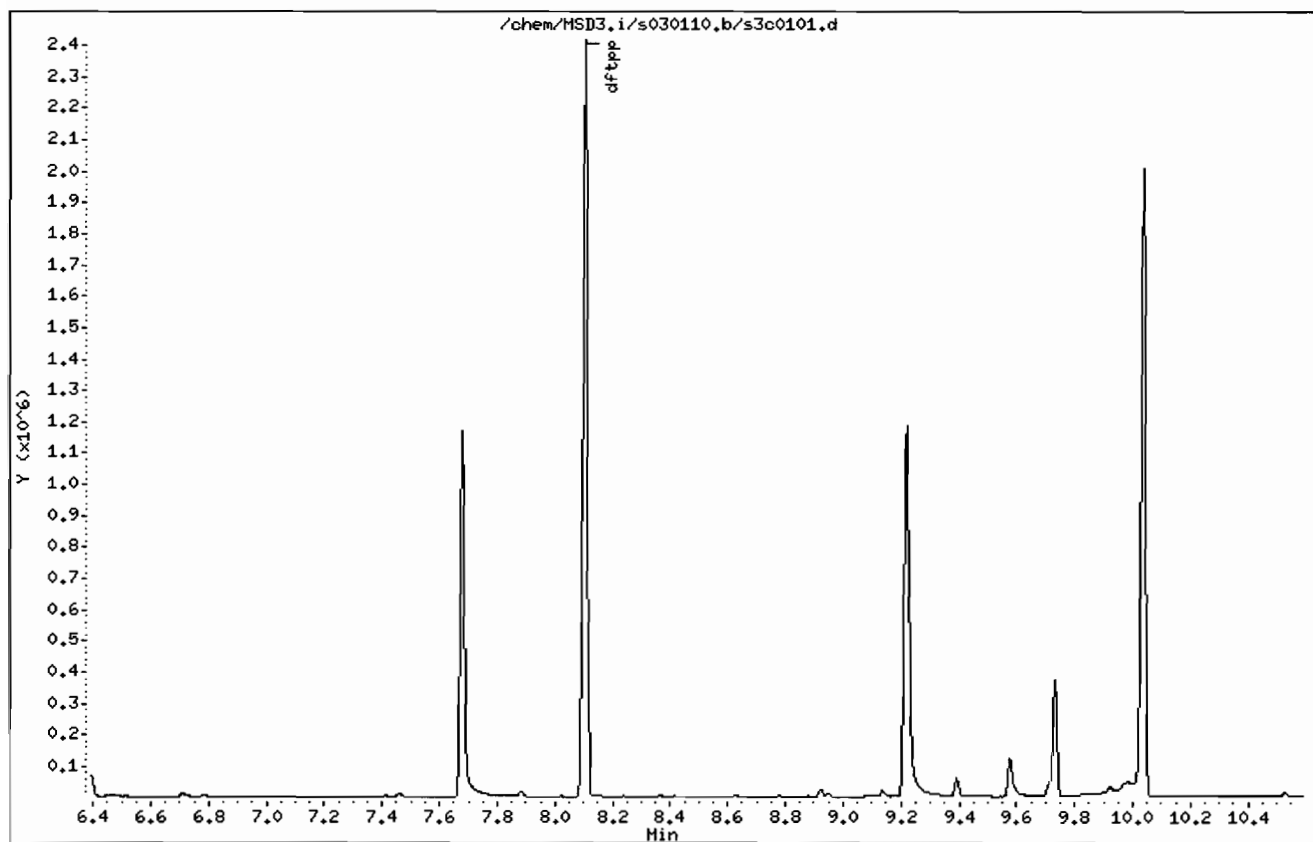
Instrument: HSD3.i

Sample Info: IWBNI00207-01IDFTPP11SVMI1IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20



Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: MSD3.i

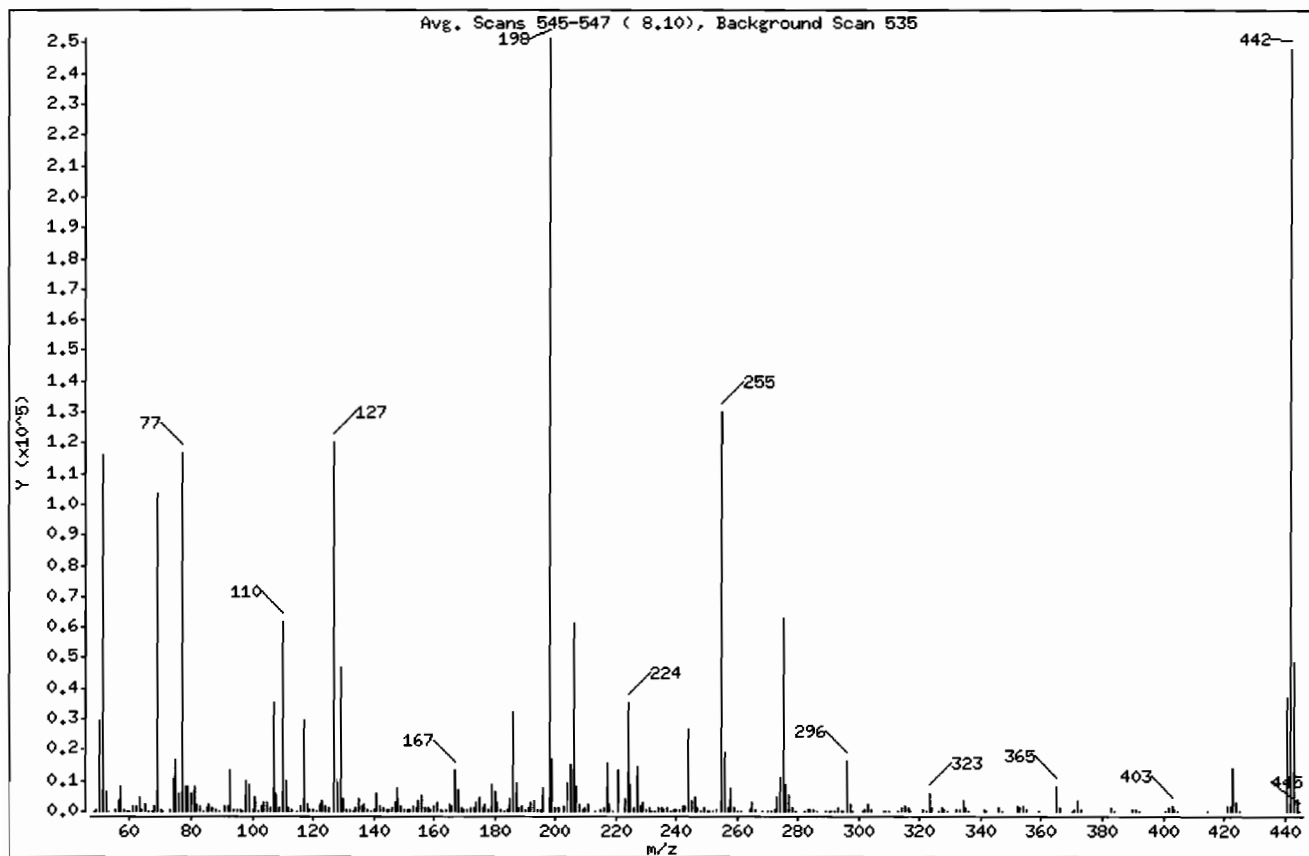
Sample Info: IWBNI00207-01IDFTPP1ISVH11IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	46.26
68	Less than 2.00% of mass 69	0.67 (1.62)
69	Mass 69 relative abundance	41.25
70	Less than 2.00% of mass 69	0.18 (0.43)
127	40.00 - 60.00% of mass 198	47.80
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.67
275	10.00 - 30.00% of mass 198	25.15
365	Greater than 1.00% of mass 198	3.27
441	Present, but less than mass 443	14.68
442	Greater than 40.00% of mass 198	98.59
443	17.00 - 23.00% of mass 442	19.34 (19.62)

Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01IDFTPP1ISVMI1IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0101.d

Spectrum: Avg. Scans 545-547 (8.10), Background Scan 535

Location of Maximum: 198.00

Number of points: 292

m/z	Y	m/z	Y	m/z	Y	m/z	Y
48.00	68	127.00	120176	203.00	1642	290.00	150
49.00	658	128.00	9014	204.00	9156	291.00	121
50.00	29544	129.00	46648	205.00	14776	292.00	234
51.00	116312	130.00	3891	206.00	61144	293.00	1132
52.00	6176	131.00	842	207.00	8056	294.00	286
53.00	143	132.00	383	208.00	2023	295.00	99
55.00	341	133.00	262	209.00	665	296.00	16036
56.00	3336	134.00	1283	210.00	1047	297.00	2481
57.00	7970	135.00	4034	211.00	2406	298.00	156
58.00	366	136.00	1508	213.00	171	301.00	259
59.00	113	137.00	2315	215.00	586	302.00	308
60.00	8	138.00	425	216.00	1314	303.00	2079
61.00	1488	139.00	248	217.00	15787	304.00	485
62.00	1618	140.00	565	218.00	2115	308.00	245
63.00	4557	141.00	6012	219.00	199	309.00	161
64.00	612	142.00	1946	221.00	13367	310.00	239
65.00	2237	143.00	1320	223.00	3876	313.00	164
66.00	141	144.00	360	224.00	35024	314.00	883
67.00	53	145.00	298	225.00	8922	315.00	1967
68.00	1680	146.00	1070	226.00	1079	316.00	1096
69.00	103712	147.00	3150	227.00	14187	317.00	232
70.00	450	148.00	7398	228.00	2007	321.00	569
71.00	8	149.00	1524	229.00	3118	322.00	266
73.00	752	150.00	448	230.00	483	323.00	5531
74.00	10543	151.00	809	231.00	1266	324.00	1049
75.00	16504	152.00	533	232.00	259	326.00	80
76.00	5713	153.00	1947	233.00	227	327.00	964
77.00	116984	154.00	1439	234.00	914	328.00	527
78.00	7992	155.00	3317	235.00	1047	329.00	70
79.00	7813	156.00	4947	236.00	644	332.00	385
80.00	5839	157.00	963	237.00	1144	333.00	540
81.00	8209	158.00	1015	238.00	153	334.00	3593
82.00	2077	159.00	768	239.00	516	335.00	880
83.00	1874	160.00	1917	240.00	384	336.00	139
84.00	131	161.00	2747	241.00	719	341.00	722

Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBH100207-01:DFTPP11SVH11:DFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0101.d

Spectrum: Avg. Scans 545-547 (8.10), Background Scan 535

Location of Maximum: 198.00

Number of points: 292

m/z	Y	m/z	Y	m/z	Y	m/z	Y
48.00	68	127.00	120176	203.00	1642	290.00	150
49.00	658	128.00	9014	204.00	9156	291.00	121
50.00	29544	129.00	46648	205.00	14776	292.00	234
51.00	116312	130.00	3891	206.00	61144	293.00	1132
52.00	6176	131.00	842	207.00	8056	294.00	286
53.00	143	132.00	383	208.00	2023	295.00	99
55.00	341	133.00	262	209.00	665	296.00	16036
56.00	3336	134.00	1283	210.00	1047	297.00	2481
57.00	7970	135.00	4034	211.00	2406	298.00	156
58.00	366	136.00	1508	213.00	171	301.00	259
59.00	113	137.00	2315	215.00	586	302.00	308
60.00	8	138.00	425	216.00	1314	303.00	2079
61.00	1488	139.00	248	217.00	15787	304.00	485
62.00	1618	140.00	565	218.00	2115	308.00	245
63.00	4557	141.00	6012	219.00	199	309.00	161
64.00	612	142.00	1946	221.00	13367	310.00	239
65.00	2237	143.00	1320	223.00	3876	313.00	164
66.00	141	144.00	360	224.00	35024	314.00	883
67.00	53	145.00	298	225.00	8922	315.00	1967
68.00	1680	146.00	1070	226.00	1079	316.00	1096
69.00	103712	147.00	3150	227.00	14187	317.00	232
70.00	450	148.00	7398	228.00	2007	321.00	569
71.00	8	149.00	1524	229.00	3118	322.00	266
73.00	752	150.00	448	230.00	483	323.00	5531
74.00	10543	151.00	809	231.00	1266	324.00	1049
75.00	16504	152.00	533	232.00	259	326.00	80
76.00	5713	153.00	1947	233.00	227	327.00	964
77.00	116984	154.00	1439	234.00	914	328.00	527
78.00	7992	155.00	3317	235.00	1047	329.00	70
79.00	7813	156.00	4947	236.00	644	332.00	385
80.00	5839	157.00	963	237.00	1144	333.00	540
81.00	8209	158.00	1015	238.00	153	334.00	3593
82.00	2077	159.00	768	239.00	516	335.00	880
83.00	1874	160.00	1917	240.00	384	336.00	139
84.00	131	161.00	2747	241.00	719	341.00	722

Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01IDFTPP11SVMI11DFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0101.d

Spectrum: Avg. Scans 545-547 (8.10), Background Scan 535

Location of Maximum: 198.00

Number of points: 292

m/z	Y	m/z	Y	m/z	Y	m/z	Y

| 48.00	68	| 127.00	120176	| 203.00	1642	| 290.00	150
| 49.00	658	| 128.00	9014	| 204.00	9156	| 291.00	121
| 50.00	29544	| 129.00	46648	| 205.00	14776	| 292.00	234
| 51.00	116312	| 130.00	3891	| 206.00	61144	| 293.00	1132
| 52.00	6176	| 131.00	842	| 207.00	8056	| 294.00	286

| 53.00	143	| 132.00	383	| 208.00	2023	| 295.00	99
| 55.00	341	| 133.00	262	| 209.00	665	| 296.00	16036
| 56.00	3336	| 134.00	1283	| 210.00	1047	| 297.00	2481
| 57.00	7970	| 135.00	4034	| 211.00	2406	| 298.00	156
| 58.00	366	| 136.00	1508	| 213.00	171	| 301.00	259

| 59.00	113	| 137.00	2315	| 215.00	586	| 302.00	308
| 60.00	8	| 138.00	425	| 216.00	1314	| 303.00	2079
| 61.00	1488	| 139.00	248	| 217.00	15787	| 304.00	485
| 62.00	1618	| 140.00	565	| 218.00	2115	| 308.00	245
| 63.00	4557	| 141.00	6012	| 219.00	199	| 309.00	161

| 64.00	612	| 142.00	1946	| 221.00	13367	| 310.00	239
| 65.00	2237	| 143.00	1320	| 223.00	3876	| 313.00	164
| 66.00	141	| 144.00	360	| 224.00	35024	| 314.00	883
| 67.00	53	| 145.00	298	| 225.00	8922	| 315.00	1967
| 68.00	1680	| 146.00	1070	| 226.00	1079	| 316.00	1096

| 69.00	103712	| 147.00	3150	| 227.00	14187	| 317.00	232
| 70.00	450	| 148.00	7398	| 228.00	2007	| 321.00	569
| 71.00	8	| 149.00	1524	| 229.00	3118	| 322.00	266
| 73.00	752	| 150.00	448	| 230.00	483	| 323.00	5531
| 74.00	10543	| 151.00	809	| 231.00	1266	| 324.00	1049

| 75.00	16504	| 152.00	533	| 232.00	259	| 326.00	80
| 76.00	5713	| 153.00	1947	| 233.00	227	| 327.00	964
| 77.00	116984	| 154.00	1439	| 234.00	914	| 328.00	527
| 78.00	7992	| 155.00	3317	| 235.00	1047	| 329.00	70
| 79.00	7813	| 156.00	4947	| 236.00	644	| 332.00	385

| 80.00	5839	| 157.00	963	| 237.00	1144	| 333.00	540
| 81.00	8209	| 158.00	1015	| 238.00	153	| 334.00	3593
| 82.00	2077	| 159.00	768	| 239.00	516	| 335.00	880
| 83.00	1874	| 160.00	1917	| 240.00	384	| 336.00	139
| 84.00	131	| 161.00	2747	| 241.00	719	| 341.00	722

Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01IDFTPP11ISVH11IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0101.d

Spectrum: Avg. Scans 545-547 (8.10), Background Scan 535

Location of Maximum: 198.00

Number of points: 292

m/z	Y	m/z	Y	m/z	Y	m/z	Y
48.00	68	127.00	120176	203.00	1642	290.00	150
49.00	658	128.00	9014	204.00	9156	291.00	121
50.00	29544	129.00	46648	205.00	14776	292.00	234
51.00	116312	130.00	3891	206.00	61144	293.00	1132
52.00	6176	131.00	842	207.00	8056	294.00	286
53.00	143	132.00	383	208.00	2023	295.00	99
55.00	341	133.00	262	209.00	665	296.00	16036
56.00	3336	134.00	1283	210.00	1047	297.00	2481
57.00	7970	135.00	4034	211.00	2406	298.00	156
58.00	366	136.00	1508	213.00	171	301.00	259
59.00	113	137.00	2315	215.00	586	302.00	308
60.00	8	138.00	425	216.00	1314	303.00	2079
61.00	1488	139.00	248	217.00	15787	304.00	485
62.00	1618	140.00	565	218.00	2115	308.00	245
63.00	4557	141.00	6012	219.00	199	309.00	161
64.00	612	142.00	1946	221.00	13367	310.00	239
65.00	2237	143.00	1320	223.00	3876	313.00	164
66.00	141	144.00	360	224.00	35024	314.00	883
67.00	53	145.00	298	225.00	8922	315.00	1967
68.00	1680	146.00	1070	226.00	1079	316.00	1096
69.00	103712	147.00	3150	227.00	14187	317.00	232
70.00	450	148.00	7398	228.00	2007	321.00	569
71.00	8	149.00	1524	229.00	3118	322.00	266
73.00	752	150.00	448	230.00	483	323.00	5531
74.00	10543	151.00	809	231.00	1266	324.00	1049
75.00	16504	152.00	533	232.00	259	326.00	80
76.00	5713	153.00	1947	233.00	227	327.00	964
77.00	116984	154.00	1439	234.00	914	328.00	527
78.00	7992	155.00	3317	235.00	1047	329.00	70
79.00	7813	156.00	4947	236.00	644	332.00	385
80.00	5839	157.00	963	237.00	1144	333.00	540
81.00	8209	158.00	1015	238.00	153	334.00	3593
82.00	2077	159.00	768	239.00	516	335.00	880
83.00	1874	160.00	1917	240.00	384	336.00	139
84.00	131	161.00	2747	241.00	719	341.00	722

Date : 01-MAR-2010 16:17

Client ID: DFTPP

Instrument: HSD3.i

Sample Info: IWBH100207-01IDFTPP11SVH11IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0101.d

Spectrum: Avg. Scans 545-547 (8.10), Background Scan 535

Location of Maximum: 198.00

Number of points: 292

m/z	Y	m/z	Y	m/z	Y	m/z	Y

48.00	68	127.00	120176	203.00	1642	290.00	150
49.00	658	128.00	9014	204.00	9156	291.00	121
50.00	29544	129.00	46648	205.00	14776	292.00	234
51.00	116312	130.00	3891	206.00	61144	293.00	1132
52.00	6176	131.00	842	207.00	8056	294.00	286

53.00	143	132.00	383	208.00	2023	295.00	99
55.00	341	133.00	262	209.00	665	296.00	16036
56.00	3336	134.00	1283	210.00	1047	297.00	2481
57.00	7970	135.00	4034	211.00	2406	298.00	156
58.00	366	136.00	1508	213.00	171	301.00	259

59.00	113	137.00	2315	215.00	586	302.00	308
60.00	8	138.00	425	216.00	1314	303.00	2079
61.00	1488	139.00	248	217.00	15787	304.00	485
62.00	1618	140.00	565	218.00	2115	308.00	245
63.00	4557	141.00	6012	219.00	199	309.00	161

64.00	612	142.00	1946	221.00	13367	310.00	239
65.00	2237	143.00	1320	223.00	3876	313.00	164
66.00	141	144.00	360	224.00	35024	314.00	883
67.00	53	145.00	298	225.00	8922	315.00	1967
68.00	1680	146.00	1070	226.00	1079	316.00	1096

69.00	103712	147.00	3150	227.00	14187	317.00	232
70.00	450	148.00	7398	228.00	2007	321.00	569
71.00	8	149.00	1524	229.00	3118	322.00	266
73.00	752	150.00	448	230.00	483	323.00	5531
74.00	10543	151.00	809	231.00	1266	324.00	1049

75.00	16504	152.00	533	232.00	259	326.00	80
76.00	5713	153.00	1947	233.00	227	327.00	964
77.00	116984	154.00	1439	234.00	914	328.00	527
78.00	7992	155.00	3317	235.00	1047	329.00	70
79.00	7813	156.00	4947	236.00	644	332.00	385

80.00	5839	157.00	963	237.00	1144	333.00	540
81.00	8209	158.00	1015	238.00	153	334.00	3593
82.00	2077	159.00	768	239.00	516	335.00	880
83.00	1874	160.00	1917	240.00	384	336.00	139
84.00	131	161.00	2747	241.00	719	341.00	722

Data File: /chem/MSD3.i/s030410a,b/s3c0422.d

Page 1

Date : 04-MAR-2010 20:40

Client ID: DFTPP

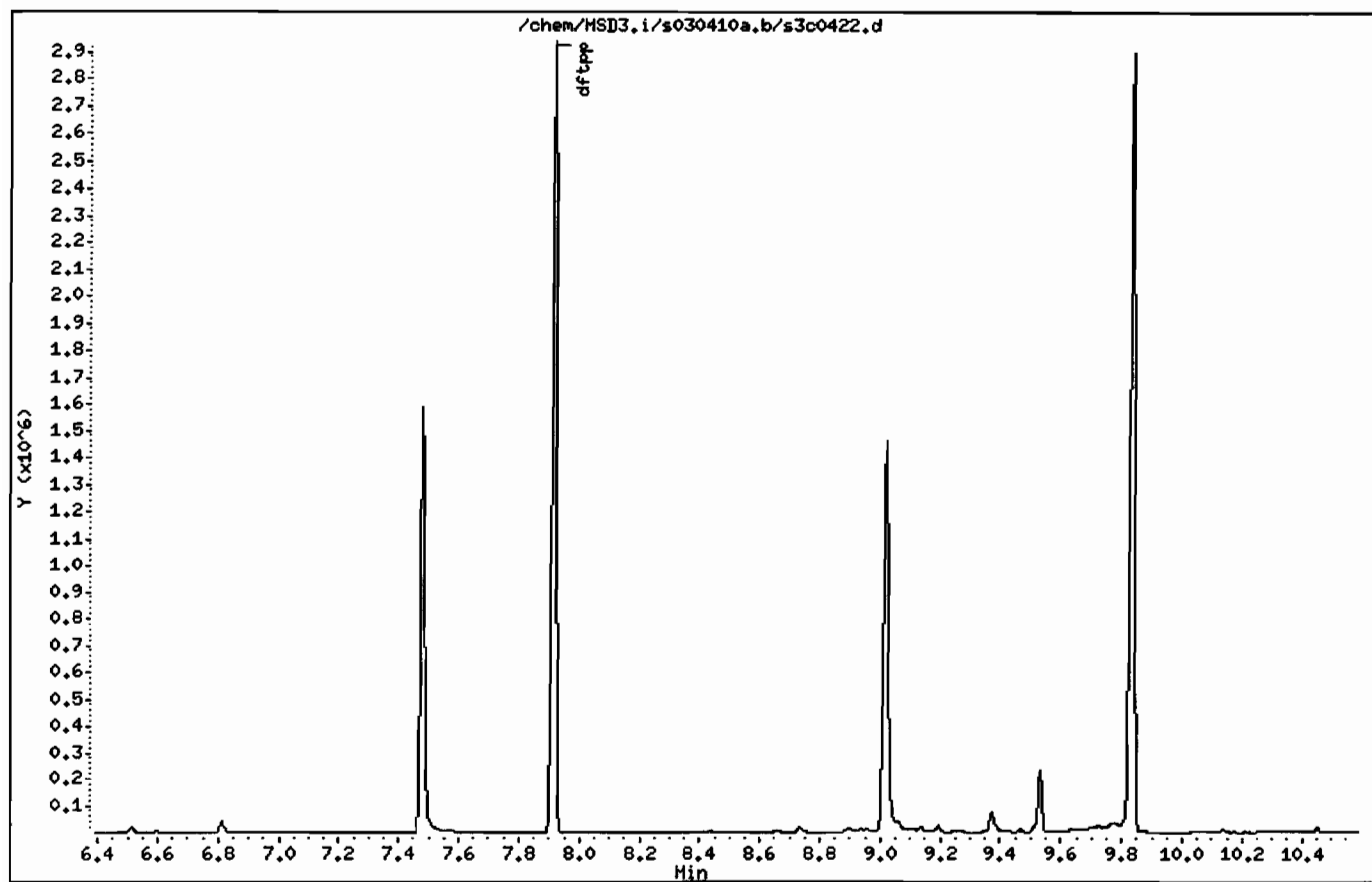
Instrument: MSD3.i

Sample Info: IWBNI00207-01|DFTPP|1|SVH|1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20



Data File: /chem/MSD3.i/s030410a,b/s3c0422.d

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Date : 04-MAR-2010 20:40

Client ID: DFTPP

Instrument: MSD3.i

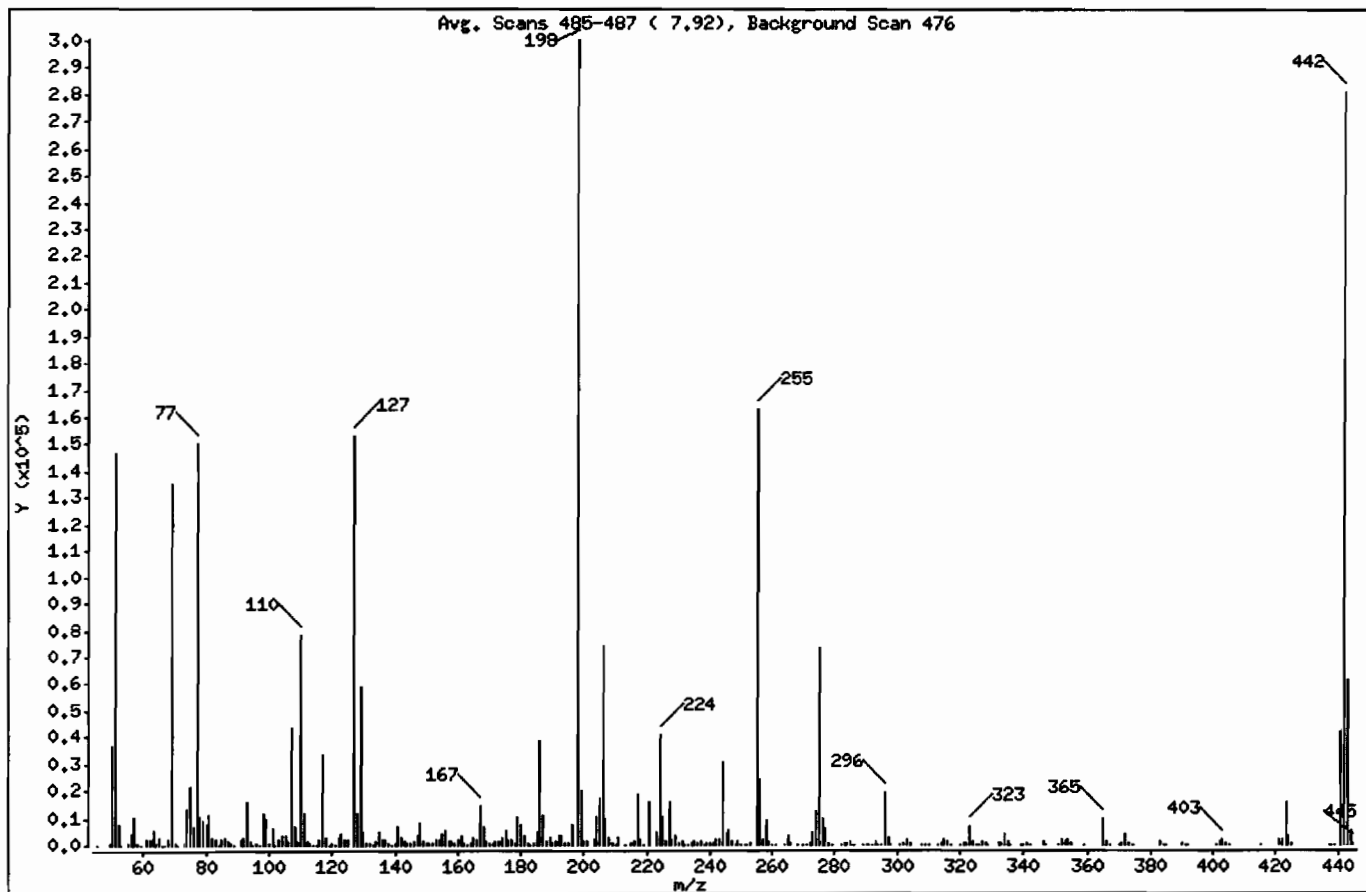
Sample Info: IWBH100207-01|DFTPP|1|SVH|1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	48.81
68	Less than 2.00% of mass 69	0.69 (1.54)
69	Mass 69 relative abundance	44.95
70	Less than 2.00% of mass 69	0.20 (0.45)
127	40.00 - 60.00% of mass 198	50.90
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.71
275	10.00 - 30.00% of mass 198	24.44
365	Greater than 1.00% of mass 198	3.21
441	Present, but less than mass 443	13.98
442	Greater than 40.00% of mass 198	93.47
443	17.00 - 23.00% of mass 442	20.52 (21.95)

Data File: /chem/MSD3.i/s030410a,b/s3c0422.d

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Date : 04-MAR-2010 20:40

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01|DFTPP|1|SVH|1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0422.d

Spectrum: Avg. Scans 485-487 (7.92), Background Scan 476

Location of Maximum: 198.00

Number of points: 303

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	71	129.00	58648	207.00	9454	296.00	19392
49.00	786	130.00	5027	208.00	2442	297.00	2673
50.00	36472	131.00	987	209.00	697	298.00	168
51.00	146688	132.00	483	210.00	310	301.00	252
52.00	7565	133.00	202	211.00	2978	302.00	367
53.00	279	134.00	1502	213.00	222	303.00	2322
55.00	729	135.00	4792	215.00	738	304.00	647
56.00	4472	136.00	1924	216.00	1567	308.00	293
57.00	10081	137.00	2320	217.00	19024	309.00	188
58.00	439	138.00	489	218.00	2365	310.00	290
59.00	113	139.00	322	219.00	279	313.00	205
61.00	1873	140.00	711	221.00	15981	314.00	934
62.00	2062	141.00	6918	223.00	4572	315.00	2287
63.00	5465	142.00	2540	224.00	40784	316.00	1256
64.00	706	143.00	1561	225.00	10540	317.00	237
65.00	2705	144.00	394	226.00	1088	320.00	37
66.00	177	145.00	400	227.00	16226	321.00	691
67.00	135	146.00	1189	228.00	2385	322.00	411
68.00	2075	147.00	3733	229.00	3579	323.00	6947
69.00	135104	148.00	8195	230.00	488	324.00	1239
70.00	609	149.00	1707	231.00	1613	325.00	116
71.00	34	150.00	459	232.00	225	326.00	165
73.00	901	151.00	909	233.00	295	327.00	1293
74.00	13208	152.00	475	234.00	981	328.00	661
75.00	21264	153.00	2317	235.00	1299	329.00	123
76.00	7156	154.00	1762	236.00	853	332.00	520
77.00	150016	155.00	4043	237.00	1479	333.00	654
78.00	10684	156.00	5795	238.00	207	334.00	4404
79.00	9252	157.00	1211	239.00	638	335.00	1046
80.00	7423	158.00	1237	240.00	479	336.00	145
81.00	10748	159.00	1008	241.00	978	339.00	77
82.00	2606	160.00	2094	242.00	2160	340.00	73
83.00	2355	161.00	3260	243.00	2237	341.00	758
84.00	165	162.00	943	244.00	30672	342.00	218
85.00	2389	163.00	250	245.00	4263	346.00	1451

Date : 04-MAR-2010 20:40

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01|DFTPP1|SVH1|DFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0422.d

Spectrum: Avg. Scans 485-487 (7.92), Background Scan 476

Location of Maximum: 198.00

Number of points: 303

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	2868	164.00	392	246.00	5725	347.00	263
87.00	1300	165.00	2624	247.00	1284	351.00	141
88.00	551	166.00	2263	248.00	255	352.00	2353
89.00	272	167.00	14682	249.00	1129	353.00	1602
91.00	2280	168.00	7199	250.00	199	354.00	2194
92.00	2570	169.00	1113	251.00	264	355.00	371
93.00	15930	170.00	438	252.00	327	359.00	128
94.00	1221	171.00	561	253.00	673	365.00	9658
95.00	296	172.00	1230	255.00	162432	366.00	1424
96.00	764	173.00	1645	256.00	23984	367.00	118
97.00	264	174.00	2751	257.00	1839	370.00	217
98.00	11807	175.00	5600	258.00	9060	371.00	550
99.00	9701	176.00	1778	259.00	1503	372.00	3837
100.00	932	177.00	2399	260.00	282	373.00	920
101.00	5912	178.00	861	261.00	257	374.00	75
102.00	343	179.00	10622	264.00	303	383.00	1084
103.00	1747	180.00	7530	265.00	3623	384.00	315
104.00	3582	181.00	3317	266.00	627	385.00	37
105.00	3351	182.00	591	268.00	67	390.00	470
106.00	1067	183.00	282	270.00	187	391.00	337
107.00	43696	184.00	791	271.00	340	392.00	271
108.00	6790	185.00	5007	272.00	461	401.00	225
109.00	1205	186.00	38952	273.00	4945	402.00	1497
110.00	78568	187.00	10913	274.00	12671	403.00	2240
111.00	12006	188.00	1196	275.00	73456	404.00	798
112.00	1480	189.00	2438	276.00	9602	405.00	85
113.00	461	190.00	469	277.00	6027	415.00	82
114.00	67	191.00	1080	278.00	987	421.00	2075
115.00	181	192.00	3307	279.00	237	422.00	2062
116.00	2317	193.00	3636	282.00	148	423.00	15810
117.00	33136	194.00	808	283.00	681	424.00	3581
118.00	2433	195.00	485	284.00	427	425.00	368
119.00	298	196.00	7808	285.00	1134	437.00	36
120.00	530	198.00	300608	286.00	219	438.00	39
121.00	175	199.00	20168	289.00	234	439.00	159

Data File: /chem/HSD3,i/s030410a,b/s3c0422.d

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Date : 04-MAR-2010 20:40

Client ID: DFTPP

Instrument: HSD3,i

Sample Info: |WBN100207-01|DFTPP|1|SVH|1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0,20

Data File: s3c0422.d

Spectrum: Avg. Scans 485-487 (7.92), Background Scan 476

Location of Maximum: 198.00

Number of points: 303

m/z	Y	m/z	Y	m/z	Y	m/z	Y
| 122.00	2705	| 200.00	1569	| 290.00	208	| 441.00	42016
| 123.00	4492	| 201.00	1277	| 291.00	135	| 442.00	280960
| 124.00	1911	| 203.00	2077	| 292.00	264	| 443.00	61680
| 125.00	1854	| 204.00	10272	| 293.00	1430	| 444.00	5584
| 127.00	153024	| 205.00	17416	| 294.00	301	| 445.00	376
| 128.00	11680	| 206.00	74248	| 295.00	165	|	|

Data File: /chem/MSD3.i/s030510,b/s3c0501.d

Page 1

Date : 05-MAR-2010 08:48

Client ID: DFTPP

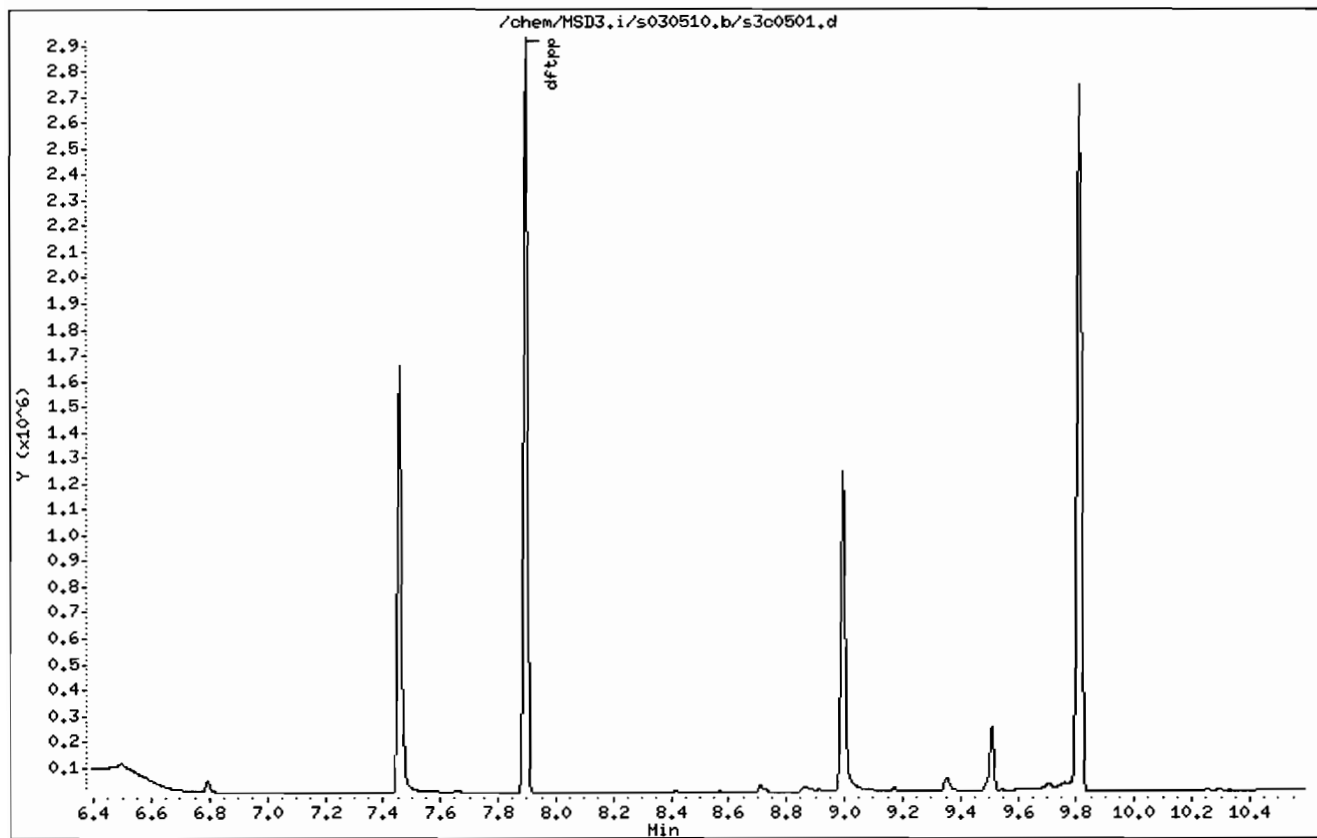
Instrument: MSD3.i

Sample Info: INBN100207-01|DFTPP11|SVM11|DFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20



Date : 05-MAR-2010 08:48

Client ID: DFTPP

Instrument: MSD3.i

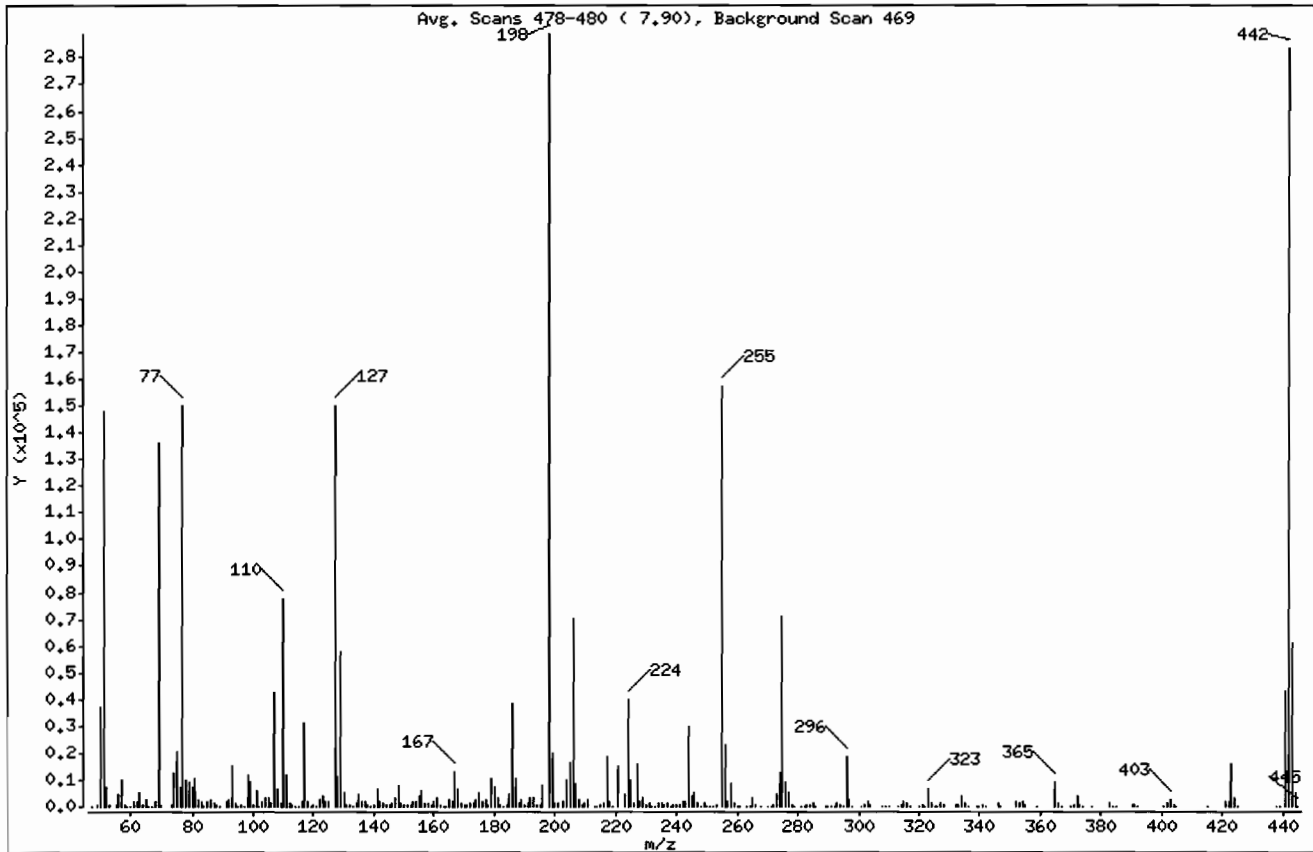
Sample Info: IWBNI00207-01|DFTPP|1|SVMI1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	30.00 - 60.00% of mass 198	51.38
68	Less than 2.00% of mass 69	0.74 (1.58)
69	Mass 69 relative abundance	47.07
70	Less than 2.00% of mass 69	0.24 (0.50)
127	40.00 - 60.00% of mass 198	51.94
197	Less than 1.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.83
275	10.00 - 30.00% of mass 198	24.61
365	Greater than 1.00% of mass 198	3.30
441	Present, but less than mass 443	14.87
442	Greater than 40.00% of mass 198	98.05
443	17.00 - 23.00% of mass 442	21.13 (21.55)

Date : 05-MAR-2010 08:48

Client ID: DFTPP

Instrument: MSD3.i

Sample Info: IWBNI00207-01IDFTPP11SVH11IDFTPP1

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0501.d

Spectrum: Avg. Scans 478-480 (7.90), Background Scan 469

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
47.00	122	130.00	5039	209.00	778	296.00	18728
49.00	845	131.00	945	210.00	1150	297.00	2543
50.00	37280	132.00	516	211.00	2854	298.00	179
51.00	148416	133.00	225	213.00	224	301.00	258
52.00	7546	134.00	1569	214.00	71	302.00	381
53.00	342	135.00	4611	215.00	759	303.00	2297
55.00	533	136.00	1860	216.00	1475	304.00	678
56.00	4389	137.00	2223	217.00	18480	308.00	262
57.00	10131	138.00	451	218.00	2296	309.00	166
58.00	439	139.00	294	219.00	195	310.00	251
59.00	134	140.00	617	221.00	15290	313.00	157
60.00	40	141.00	6965	223.00	4351	314.00	845
61.00	1808	142.00	2292	224.00	39632	315.00	2100
62.00	1996	143.00	1566	225.00	10041	316.00	1262
63.00	5533	144.00	418	226.00	1019	317.00	238
64.00	784	145.00	408	227.00	15652	320.00	33
65.00	2840	146.00	1249	228.00	2268	321.00	698
66.00	242	147.00	3586	229.00	3427	322.00	323
67.00	125	148.00	7825	230.00	498	323.00	6651
68.00	2144	149.00	1649	231.00	1381	324.00	1198
69.00	136000	150.00	512	232.00	233	325.00	142
70.00	683	151.00	941	233.00	301	326.00	98
73.00	937	152.00	624	234.00	1034	327.00	1323
74.00	12786	153.00	2169	235.00	1218	328.00	567
75.00	20912	154.00	1677	236.00	825	332.00	487
76.00	7207	155.00	3930	237.00	1219	333.00	707
77.00	150208	156.00	6221	238.00	162	334.00	4026
78.00	10281	157.00	1232	239.00	632	335.00	1047
79.00	9106	158.00	1195	240.00	528	336.00	124
80.00	7183	159.00	979	241.00	949	339.00	68
81.00	10511	160.00	2249	242.00	2159	340.00	67
82.00	2506	161.00	3100	243.00	2082	341.00	741
83.00	2314	162.00	890	244.00	29696	342.00	182
84.00	217	163.00	256	245.00	4040	346.00	1441
85.00	2234	164.00	326	246.00	5523	347.00	255

Date : 05-MAR-2010 08:48

Client ID: DFTPP

Instrument: HSD3.i

Sample Info: IWBH100207-01|DFTPP|1|SVH1|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0501.d

Spectrum: Avg. Scans 478-480 (7.90), Background Scan 469

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	2955	165.00	2566	247.00	1062	352.00	2029
87.00	1333	166.00	2096	248.00	318	353.00	1488
88.00	429	167.00	13544	249.00	1052	354.00	2219
89.00	272	168.00	6909	250.00	192	355.00	457
91.00	2291	169.00	1110	251.00	305	359.00	136
92.00	2607	170.00	476	252.00	309	365.00	9529
93.00	15310	171.00	550	253.00	661	366.00	1385
94.00	1122	172.00	1078	255.00	157120	367.00	116
95.00	164	173.00	1483	256.00	23264	370.00	177
96.00	842	174.00	2705	257.00	1787	371.00	472
97.00	195	175.00	5427	258.00	8750	372.00	4017
98.00	11783	176.00	1744	259.00	1414	373.00	921
99.00	9523	177.00	2498	260.00	252	374.00	36
100.00	855	178.00	851	261.00	247	377.00	33
101.00	5744	179.00	10647	263.00	78	383.00	1019
102.00	320	180.00	7040	264.00	306	384.00	284
103.00	1818	181.00	3413	265.00	3436	385.00	34
104.00	3431	182.00	576	266.00	571	390.00	529
105.00	3339	183.00	295	268.00	120	391.00	352
106.00	1028	184.00	846	270.00	201	392.00	267
107.00	42560	185.00	4732	271.00	323	401.00	210
108.00	6830	186.00	38288	272.00	419	402.00	1577
109.00	1236	187.00	10773	273.00	4850	403.00	2330
110.00	77984	188.00	1159	274.00	12394	404.00	724
111.00	11775	189.00	2339	275.00	71104	405.00	119
112.00	1441	190.00	335	276.00	9446	415.00	119
113.00	407	191.00	1168	277.00	5342	421.00	2037
114.00	73	192.00	3198	278.00	896	422.00	2034
115.00	215	193.00	3630	279.00	193	423.00	16254
116.00	2284	194.00	862	281.00	128	424.00	3273
117.00	31472	195.00	521	282.00	152	425.00	309
118.00	2290	196.00	7957	283.00	635	438.00	67
119.00	306	198.00	288896	284.00	471	439.00	55
120.00	493	199.00	19728	285.00	1055	441.00	42960
121.00	183	200.00	1519	286.00	224	442.00	283264

Date : 05-MAR-2010 08:48

Client ID: DFTPP

Instrument: HSD3.i

Sample Info: INBN100207-01|DFTPP|1|SVH11|DFTPP|

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Data File: s3c0501.d

Spectrum: Avg. Scans 478-480 (7.90), Background Scan 469

Location of Maximum: 198.00

Number of points: 304

m/z	Y	m/z	Y	m/z	Y	m/z	Y
| 122.00	2761	| 201.00	1262	| 289.00	274	| 443.00	61048
| 123.00	4167	| 203.00	1794	| 290.00	201	| 444.00	5524
| 124.00	1881	| 204.00	9800	| 291.00	173	| 445.00	286
| 125.00	1802	| 205.00	16920	| 292.00	223	|	|
| 127.00	150016	| 206.00	70392	| 293.00	1397	|	|
| 128.00	11266	| 207.00	8950	| 294.00	338	|	|
| 129.00	57888	| 208.00	2354	| 295.00	152	|	|

Semi-Volatile
Certificate of Analysis
Sample Summary

Page 1 of 2

SDG Number: 10-1969

Matrix: SOIL

Lab Sample ID: 1202051280

Client Sample: QC for batch 956676

Client: LANL010

Project: QC

Client ID: MB for batch 956676

Method: SW846 8270C

SOP Ref: GL-OA-E-009

Batch ID: 956677

Inst: MSD3.I

Dilution: 1

Run Date: 03/04/2010 22:02

Analyst: JLD1

Inj. Vol: .5 uL

Prep Date: 02/23/2010 21:09

Aliquot: 30 g

Final Volume: 1 mL

Data File: s3c0426-1.d

Column: J&W DB-5MS

Level: LOW

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

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

SDG Number: 10-1969
Lab Sample ID: 1202051280

Matrix: SOIL

Client Sample: QC for batch 956676
Client ID: MB for batch 956676

Client: LANL010
Method: SW846 8270C

Project: QC
SOP Ref: GL-OA-E-009

Batch ID: 956677
Run Date: 03/04/2010 22:02

Inst: MSD3.I
Analyst: JLD1

Dilution: 1

Prep Date: 02/23/2010 21:09

Aliquot: 30 g

Inj. Vol: .5 uL
Final Volume: 1 mL

Data File: s3c0426-1.d

Column: J&W DB-5MS

Level: LOW

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

Tentatively Identified Compound Summary

CAS No.	Tentatively Identified Compound (TIC)	RT	Estimated	Units	Fit	Qual
	Unknown Aldol Condensate	2.76	694	ug/kg		JA

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030410a.b/s3c0426-2.d
Lab Smp Id: 1202051280 Client Smp ID: SBLK01
Inj Date : 04-MAR-2010 22:02
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |1202051280|956677|1|SVMF|1|SBLK01
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpc1pl

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ng/ul)	(ug/Kg)
* 10 1,4-Dichlorobenzene-d4		152	3.715	3.719	(1.000)	287052	40.0000	
* 29 Naphthalene-d8		136	4.576	4.580	(1.000)	1107759	40.0000	
* 46 Acenaphthene-d10		164	5.827	5.832	(1.000)	624331	40.0000	
* 67 Phenanthrene-d10		188	6.833	6.832	(1.000)	989866	40.0000	
* 91 Chrysene-d12		240	8.453	8.458	(1.000)	632239	40.0000	
* 98 Perylene-d12		264	9.796	9.801	(1.000)	436182	40.0000	
\$ 3 2-Fluorophenol		112	2.918	2.912	(0.785)	595222	75.1135	2500
\$ 5 Phenol-d5		99	3.436	3.436	(0.925)	729978	72.2179	2410
\$ 20 Nitrobenzene-d5		82	4.073	4.083	(0.890)	339172	35.7328	1190
\$ 39 2-Fluorobiphenyl		172	5.319	5.324	(0.913)	636288	39.5785	1320
\$ 60 2,4,6-Tribromophenol		329	6.373	6.372	(1.094)	161836	83.1212	2770
\$ 81 p-Terphenyl-d14		244	7.753	7.757	(0.917)	545970	50.5969	1690

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030410a.b/s3c0426-2.d
Lab Smp Id: 1202051280 Client Smp ID: SBLK01
Inj Date : 04-MAR-2010 22:02
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |1202051280|956677|1|SVMF|1|SBLK01
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

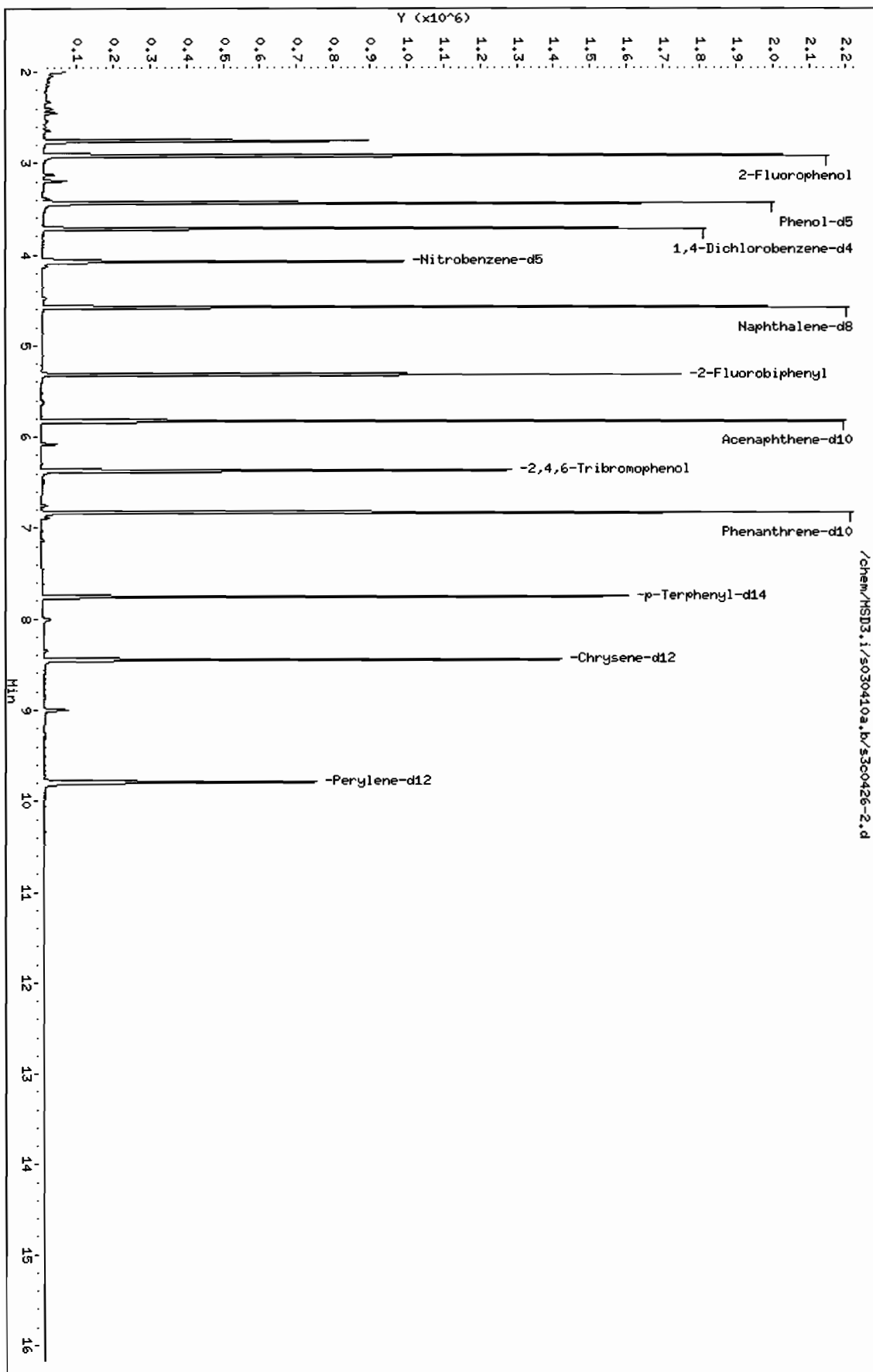
Cpnd Variable Local Compound Variable

ISTD	RT	AREA	AMOUNT
=====	=====	=====	=====
* 10 1,4-Dichlorobenzene-d4	3.715	1942799	40.000

CONCENTRATIONS					QUANT		
RT	AREA	ON-COL (ng/ul)	FINAL (ug/Kg)	QUAL	LIBRARY	LIB ENTRY	CPND #
=====	=====	=====	=====	=====	=====	=====	=====
Unknown Aldol Condensate					CAS #:		
2.757	1011406	20.8236806	694	0		0	10

Data File: /chem/MSD3.i/s030410a.b/s3c0426-2.d
Date: 04-MAR-2010 22:02
Client ID: SBLK01
Sample Info: 11202051280195667711SWHF11SBLK01
Volume Injected (uL): 0.5
Column phase: 38M DB-SMS

Instrument: MSD3.i
Operator: JLD1
Column diameter: 0.20



Date : 04-MAR-2010 22:02

Client ID: SBLK01

Instrument: HSD3.i

Sample Info: I1202051280195667711SVMF11|SBLK01

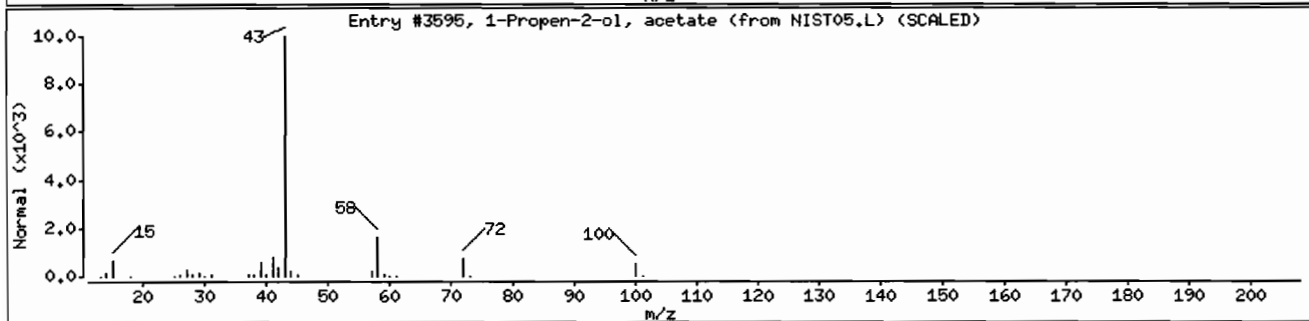
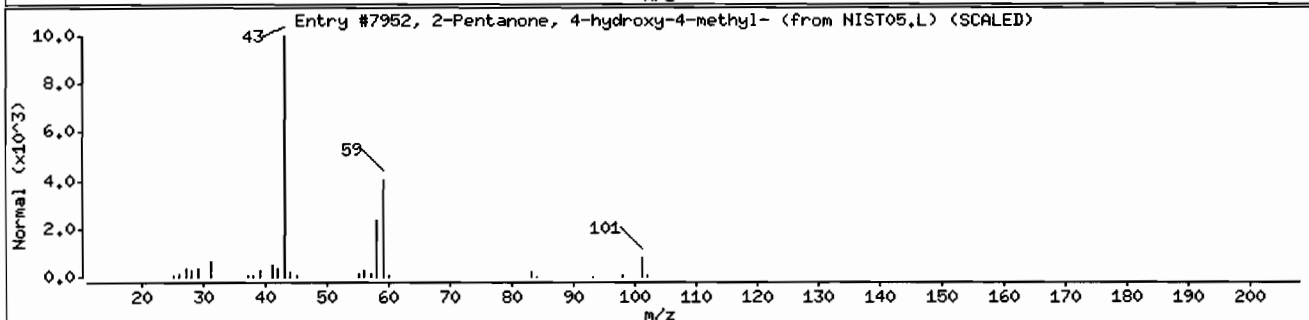
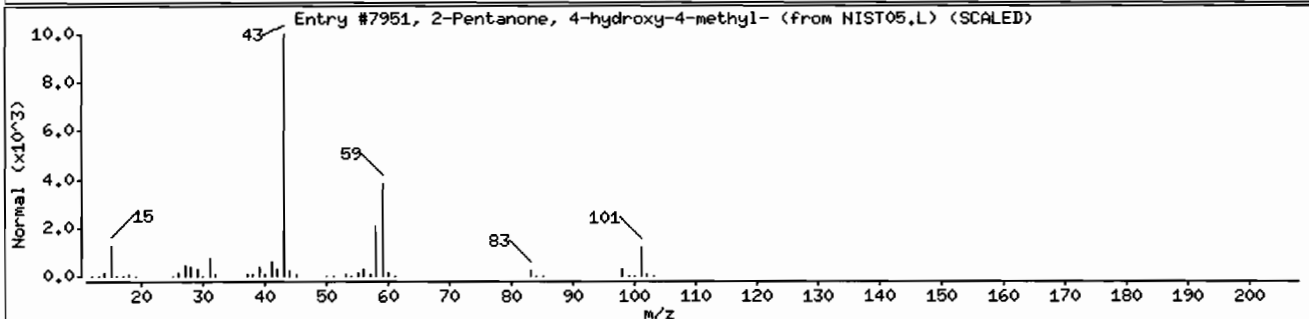
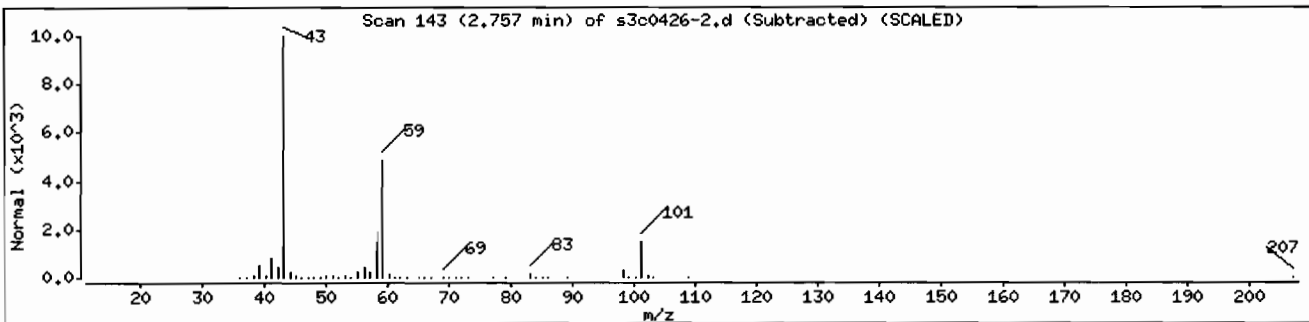
Volume Injected (uL): 0.5

Operator: JLD1

Column phase: J&W DB-5MS

Column diameter: 0.20

Library Search Compound Match	CAS Number	Library	Entry	Quality	Formula	Weight
Unknown Aldol Condensate						
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7951	59	C6H12O2	116
2-Pentanone, 4-hydroxy-4-methyl-	123-42-2	NIST05.L	7952	50	C6H12O2	116
1-Propen-2-ol, acetate	108-22-5	NIST05.L	3595	10	C5H8O2	100



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

SDG Number: 10-1969

Lab Sample ID: 1202051281

Client Sample: QC for batch 956676

Client ID: LCS for batch 956676

Batch ID: 956677

Run Date: 03/04/2010 22:25

Prep Date: 02/23/2010 21:09

Data File: s3c0427-1.d

Client: LANL010
Method: SW846 8270C
Inst: MSD3.I
Analyst: JLD1
Aliquot: 30 g
Column: J&W DB-5MS

Matrix: SOIL

Project: QC

SOP Ref: GL-OA-E-009

Dilution: 1

Inj. Vol: .5 uL

Final Volume: 1 mL

Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		994	ug/kg	66.7	333
108-95-2	Phenol		1240	ug/kg	66.7	333
95-57-8	2-Chlorophenol		1280	ug/kg	66.7	333
106-46-7	1,4-Dichlorobenzene		1170	ug/kg	66.7	333
621-64-7	N-Nitrosodipropylamine		1220	ug/kg	66.7	333
59-50-7	4-Chloro-3-methylphenol		1410	ug/kg	66.7	333
83-32-9	Acenaphthene		1310	ug/kg	11.0	33.3
121-14-2	2,4-Dinitrotoluene		1400	ug/kg	33.3	333
100-02-7	4-Nitrophenol		1250	ug/kg	110	333
87-86-5	Pentachlorophenol		1470	ug/kg	83.3	333
129-00-0	Pyrene		1410	ug/kg	10.0	33.3
110-86-1	Pyridine		933	ug/kg	66.7	333
62-53-3	Aniline		1070	ug/kg	100	333
111-44-4	bis(2-Chloroethyl) ether		1060	ug/kg	66.7	333
541-73-1	1,3-Dichlorobenzene		1130	ug/kg	66.7	333
100-51-6	Benzyl alcohol		995	ug/kg	100	333
95-50-1	1,2-Dichlorobenzene		1270	ug/kg	66.7	333
108-60-1	bis(2-Chloroisopropyl)ether		1140	ug/kg	66.7	333
95-48-7	o-Cresol		1420	ug/kg	66.7	333
65794-96-9	m,p-Cresols		1400	ug/kg	100	333
67-72-1	Hexachloroethane		1150	ug/kg	66.7	333
98-95-3	Nitrobenzene		1220	ug/kg	66.7	333
78-59-1	Isophorone		1160	ug/kg	66.7	333
88-75-5	2-Nitrophenol		1330	ug/kg	66.7	333
105-67-9	2,4-Dimethylphenol		1330	ug/kg	117	333
111-91-1	bis(2-Chloroethoxy)methane		1120	ug/kg	66.7	333
120-83-2	2,4-Dichlorophenol		1260	ug/kg	66.7	333
65-85-0	Benzoic acid		3070	ug/kg	167	667
91-20-3	Naphthalene		1130	ug/kg	10.0	33.3
106-47-8	4-Chloroaniline		1020	ug/kg	66.7	333
87-68-3	Hexachlorobutadiene		1300	ug/kg	66.7	333
91-57-6	2-Methylnaphthalene		1200	ug/kg	6.67	33.3
77-47-4	Hexachlorocyclopentadiene		1540	ug/kg	66.7	333
88-06-2	2,4,6-Trichlorophenol		1390	ug/kg	66.7	333
95-95-4	2,4,5-Trichlorophenol		1330	ug/kg	66.7	333
91-58-7	2-Chloronaphthalene		1120	ug/kg	11.0	33.3
88-74-4	2-Nitroaniline		1300	ug/kg	66.7	333
	<i>o</i> -Nitroaniline					
99-09-2	3-Nitroaniline		1280	ug/kg	66.7	333

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

SDG Number: 10-1969		Matrix: SOIL
Lab Sample ID: 1202051281		
Client Sample: QC for batch 956676	Client: LANL010	Project: QC
Client ID: LCS for batch 956676	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/04/2010 22:25	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30 g	Final Volume: 1 mL
Data File: s3c0427-1.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m</i> -Nitroaniline					
131-11-3	Dimethylphthalate		1400	ug/kg	66.7	333
606-20-2	2,6-Dinitrotoluene		1370	ug/kg	33.3	333
208-96-8	Acenaphthylene		1240	ug/kg	10.0	33.3
51-28-5	2,4-Dinitrophenol		2110	ug/kg	127	667
132-64-9	Dibenzofuran		1380	ug/kg	66.7	333
84-66-2	Diethylphthalate		1430	ug/kg	66.7	333
86-73-7	Fluorene		1190	ug/kg	10.0	33.3
7005-72-3	4-Chlorophenylphenylether		1480	ug/kg	66.7	333
534-52-1	2-Methyl-4,6-dinitrophenol		1660	ug/kg	66.7	333
100-01-6	4-Nitroaniline		1550	ug/kg	100	333
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine		1330	ug/kg	66.7	333
122-66-7	Azobenzene		1270	ug/kg	66.7	333
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether		1270	ug/kg	66.7	333
118-74-1	Hexachlorobenzene		1330	ug/kg	66.7	333
85-01-8	Phenanthrene		1210	ug/kg	10.0	33.3
120-12-7	Anthracene		1250	ug/kg	6.67	33.3
84-74-2	Di-n-butylphthalate		1330	ug/kg	66.7	333
206-44-0	Fluoranthene		1320	ug/kg	10.0	33.3
85-68-7	Butylbenzylphthalate		1670	ug/kg	66.7	333
56-55-3	Benzo(a)anthracene		1250	ug/kg	10.0	33.3
91-94-1	3,3'-Dichlorobenzidine		1370	ug/kg	100	333
218-01-9	Chrysene		1380	ug/kg	10.0	33.3
117-81-7	bis(2-Ethylhexyl)phthalate		1510	ug/kg	66.7	333
117-84-0	Di-n-octylphthalate		1740	ug/kg	66.7	333
205-99-2	Benzo(b)fluoranthene		1650	ug/kg	10.0	33.3
207-08-9	Benzo(k)fluoranthene		1740	ug/kg	10.0	33.3
50-32-8	Benzo(a)pyrene		1560	ug/kg	10.0	33.3
193-39-5	Indeno(1,2,3-cd)pyrene		1430	ug/kg	10.0	33.3
53-70-3	Dibenzo(a,h)anthracene		1480	ug/kg	10.0	33.3
191-24-2	Benzo(ghi)perylene		1380	ug/kg	10.0	33.3
120-82-1	1,2,4-Trichlorobenzene		1260	ug/kg	66.7	333

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030410a.b/s3c0427-2.d
Lab Smp Id: 1202051281 Client Smp ID: SBLK01LCS
Inj Date : 04-MAR-2010 22:25
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |1202051281|956677|1|SVMF|1|SBLK01LCS
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 6 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpclpl

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.00000	weight of sample
M	0.00000	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT		ON-COLUMN	FINAL
						(ng/ul)	(ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.715	3.719	(1.000)	268241	40.0000	
* 29 Naphthalene-d8	136	4.581	4.580	(1.000)	1108940	40.0000	
* 46 Acenaphthene-d10	164	5.827	5.832	(1.000)	615803	40.0000	
* 67 Phenanthrene-d10	188	6.833	6.832	(1.000)	1046429	40.0000	
* 91 Chrysene-d12	240	8.459	8.458	(1.000)	739603	40.0000	
* 98 Perylene-d12	264	9.796	9.801	(1.000)	558236	40.0000	
\$ 3 2-Fluorophenol	112	2.918	2.912	(0.785)	535449	72.3091	2410
\$ 5 Phenol-d5	99	3.442	3.436	(0.927)	656159	69.4672	2320
\$ 20 Nitrobenzene-d5	82	4.078	4.083	(0.890)	342784	36.0749	1200
\$ 39 2-Fluorobiphenyl	172	5.324	5.324	(0.914)	613289	38.6762	1290
\$ 60 2,4,6-Tribromophenol	329	6.378	6.372	(1.095)	190503	99.2000	3310
\$ 81 p-Terphenyl-d14	244	7.758	7.757	(0.917)	635859	50.3731	1680

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
6 Phenol	94	3.447	3.446	(0.928)	353036	37.0516	1240 (Q)
8 2-Chlorophenol	128	3.581	3.586	(0.964)	299807	38.5323	1280
11 1,4-Dichlorobenzene	146	3.731	3.730	(1.004)	290823	35.1724	1170
17 N-Nitrosodipropylamine	70	3.961	3.960	(1.066)	228149	36.5582	1220 (Q)
28 1,2,4-Trichlorobenzene	180	4.528	4.532	(0.988)	255229	37.8281	1260
33 4-Chloro-3-methylphenol	107	4.934	4.928	(1.077)	288755	42.3606	1410
47 Acenaphthene	154	5.854	5.853	(1.005)	579011	39.3662	1310
50 2,4-Dinitrotoluene	165	5.945	5.944	(1.020)	216417	42.0038	1400
52 4-Nitrophenol	139	5.881	5.875	(1.009)	106629	37.5725	1250
65 Pentachlorophenol	266	6.699	6.698	(0.980)	107315	44.1865	1470
79 Pyrene	202	7.705	7.704	(0.911)	983988	42.3915	1410
2 Pyridine	79	2.281	2.259	(0.614)	207168	27.9853	933
4 Aniline	66	3.506	3.505	(0.944)	149706	32.0157	1070 (Q)
7 bis(2-Chloroethyl) ether	63	3.522	3.527	(0.948)	260030	31.8022	1060
9 1,3-Dichlorobenzene	146	3.682	3.687	(0.991)	284911	34.0058	1130
12 Benzyl alcohol	108	3.789	3.789	(1.020)	159468	29.8411	995
13 1,2-Dichlorobenzene	146	3.827	3.832	(1.030)	277079	38.2299	1270
14 bis(2-Chloroisopropyl) ether	45	3.859	3.864	(1.039)	644728	34.2434	1140
15 o-Cresol	107	3.843	3.837	(1.035)	240715	42.7233	1420
18 m,p-Cresols	107	3.939	3.939	(1.060)	347871	41.8897	1400
19 Hexachloroethane	117	4.057	4.056	(1.092)	119326	34.5336	1150
21 Nitrobenzene	77	4.094	4.094	(0.894)	324918	36.5711	1220
22 Isophorone	82	4.244	4.249	(0.926)	606943	34.8981	1160
23 2-Nitrophenol	139	4.303	4.308	(0.939)	149779	39.7940	1330
24 2,4-Dimethylphenol	122	4.303	4.302	(0.939)	281243	39.9180	1330
25 bis(2-Chloroethoxy)methane	93	4.367	4.372	(0.953)	341928	33.6747	1120
26 2,4-Dichlorophenol	162	4.469	4.468	(0.975)	248562	37.9410	1260
27 Benzoic acid	105	4.383	4.366	(0.957)	453328	92.1815	3070
30 Naphthalene	128	4.592	4.596	(1.002)	868417	33.7959	1130 (Q)
31 4-Chloroaniline	127	4.613	4.612	(1.007)	354113	30.5168	1020
32 Hexachlorobutadiene	225	4.656	4.661	(1.016)	144405	38.9035	1300
34 2-Methylnaphthalene	142	5.073	5.078	(1.107)	575909	36.1352	1200
36 Hexachlorocyclopentadiene	237	5.175	5.174	(0.888)	119897	46.2977	1540
37 2,4,6-Trichlorophenol	196	5.266	5.265	(0.904)	178010	41.6222	1390
38 2,4,5-Trichlorophenol	196	5.298	5.292	(0.909)	193602	39.9989	1330
40 2-Chloronaphthalene	162	5.426	5.425	(0.931)	540337	33.7446	1120
42 o-Nitroaniline	65	5.490	5.490	(0.942)	220944	38.9143	1300
41 m-Nitroaniline	138	5.784	5.784	(0.993)	160330	38.3067	1280
43 Dimethylphthalate	163	5.597	5.602	(0.961)	713576	42.0677	1400
44 2,6-Dinitrotoluene	165	5.656	5.655	(0.971)	162471	41.1543	1370
45 Acenaphthylene	152	5.731	5.730	(0.983)	881186	37.1686	1240
48 2,4-Dinitrophenol	184	5.854	5.853	(1.005)	69597	63.3895	2110 (Q)
49 Dibenzofuran	168	5.972	5.971	(1.025)	808506	41.4480	1380
51 Diethylphthalate	149	6.095	6.094	(1.046)	693487	42.9128	1430
53 Fluorene	166	6.212	6.212	(1.066)	656426	35.7779	1190
54 4-Chlorophenylphenylether	204	6.191	6.190	(1.062)	326469	44.3443	1480
55 2-Methyl-4,6-dinitrophenol	198	6.234	6.233	(0.912)	110126	49.9319	1660

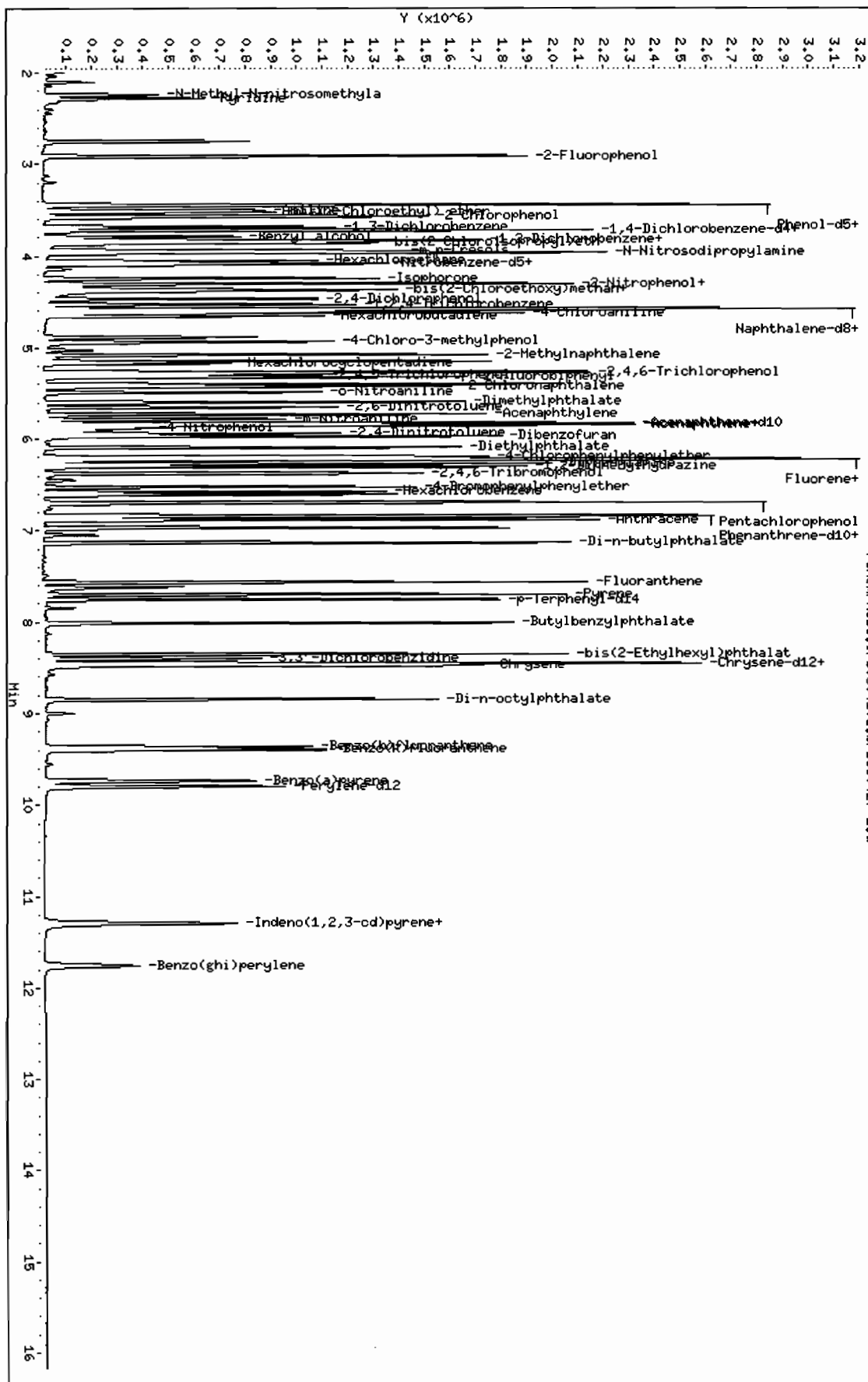
Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN	FINAL	
=====	=====	==	=====	=====	=====	(ng/ul)	(ug/Kg)	=====
56 p-Nitroaniline	138	6.218	6.217	(1.067)	165538	46.4928	1550	
133 Diphenylamine	169	6.277	6.271	(0.919)	597410	39.7647	1320	
58 1,2-Diphenylhydrazine	77	6.303	6.303	(0.922)	788700	38.0653	1270	
61 4-Bromophenylphenylether	248	6.523	6.527	(0.955)	175993	38.2393	1270	
63 Hexachlorobenzene	284	6.576	6.575	(0.962)	197391	39.8780	1330	
68 Phenanthrene	178	6.849	6.848	(1.002)	966683	36.2665	1210	
69 Anthracene	178	6.881	6.880	(1.007)	990592	37.6226	1250	
72 Di-n-butylphthalate	149	7.132	7.137	(1.044)	1137348	40.0272	1330	
76 Fluoranthene	202	7.566	7.565	(1.107)	978981	39.6616	1320	
85 Butylbenzylphthalate	149	8.009	8.014	(0.947)	458730	50.0682	1670	
89 Benzo(a)anthracene	228	8.448	8.447	(0.999)	716552	37.4713	1250	
90 3,3'-Dichlorobenzidine	252	8.395	8.394	(0.992)	206089	41.1629	1370	
92 Chrysene	228	8.475	8.480	(1.002)	753009	41.3818	1380	
93 bis(2-Ethylhexyl)phthalate	149	8.352	8.351	(0.987)	592595	45.1612	1500	
94 Di-n-octylphthalate	149	8.844	8.849	(0.903)	883372	52.3397	1740	
95 Benzo(b)fluoranthene	252	9.368	9.373	(0.956)	631363	49.5514	1650	
96 Benzo(k)fluoranthene	252	9.400	9.400	(0.960)	681120	52.1591	1740	
97 Benzo(a)pyrene	252	9.737	9.736	(0.994)	506933	46.6802	1560	
99 Indeno(1,2,3-cd)pyrene	276	11.294	11.293	(1.153)	409443	42.7941	1430	
100 Dibenzo(a,h)anthracene	278	11.299	11.304	(1.153)	333345	44.2655	1480	
101 Benzo(ghi)perylene	276	11.759	11.758	(1.200)	330230	41.3755	1380	
1 N-Methyl-N-nitrosomethylamine	74	2.244	2.227	(0.604)	155241	29.8165	994	

QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: /chem/MSD3.i/s030410a.b/s300427-2.d
 Date : 04-MAR-2010 22:25
 Client ID: SBLK01LCS
 Sample Info: 11202051281195667711SVHF11SBLK01LCS
 Volume Injected (uL): 0.5
 Column phase: Jm DB-SHS

Instrument: MSD3.i
 Operator: JLD1
 Column diameter: 0.20



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

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 1202051282	Date Received: 02/20/2010 08:55	%Moisture: 6.9
Client Sample: QC for batch 956676	Client: LANL010	Project: QC
Client ID: RE15-10-8349MS	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/05/2010 06:43	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.16 g	Final Volume: 1 mL
Data File: s3c0449.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		1060	ug/kg	71.2	356
108-95-2	Phenol		1280	ug/kg	71.2	356
95-57-8	2-Chlorophenol		1360	ug/kg	71.2	356
106-46-7	1,4-Dichlorobenzene		1280	ug/kg	71.2	356
621-64-7	N-Nitrosodipropylamine		1290	ug/kg	71.2	356
59-50-7	4-Chloro-3-methylphenol		1410	ug/kg	71.2	356
83-32-9	Acenaphthene		1320	ug/kg	11.8	35.6
121-14-2	2,4-Dinitrotoluene		1350	ug/kg	35.6	356
100-02-7	4-Nitrophenol		1260	ug/kg	118	356
87-86-5	Pentachlorophenol		1270	ug/kg	89.0	356
129-00-0	Pyrene		1730	ug/kg	10.7	35.6
110-86-1	Pyridine		943	ug/kg	71.2	356
62-53-3	Aniline		1190	ug/kg	107	356
111-44-4	bis(2-Chloroethyl) ether		1130	ug/kg	71.2	356
541-73-1	1,3-Dichlorobenzene		1220	ug/kg	71.2	356
100-51-6	Benzyl alcohol		726	ug/kg	107	356
95-50-1	1,2-Dichlorobenzene		1370	ug/kg	71.2	356
108-60-1	bis(2-Chloroisopropyl)ether		1180	ug/kg	71.2	356
95-48-7	o-Cresol		1620	ug/kg	71.2	356
65794-96-9	m,p-Cresols		1560	ug/kg	107	356
67-72-1	Hexachloroethane		1120	ug/kg	71.2	356
98-95-3	Nitrobenzene		1320	ug/kg	71.2	356
78-59-1	Isophorone		1230	ug/kg	71.2	356
88-75-5	2-Nitrophenol		1230	ug/kg	71.2	356
105-67-9	2,4-Dimethylphenol		1390	ug/kg	125	356
111-91-1	bis(2-Chloroethoxy)methane		1200	ug/kg	71.2	356
120-83-2	2,4-Dichlorophenol		1300	ug/kg	71.2	356
65-85-0	Benzoic acid		1780	ug/kg	178	712
91-20-3	Naphthalene		1210	ug/kg	10.7	35.6
106-47-8	4-Chloroaniline		1030	ug/kg	71.2	356
87-68-3	Hexachlorobutadiene		1420	ug/kg	71.2	356
91-57-6	2-Methylnaphthalene		1270	ug/kg	7.12	35.6
77-47-4	Hexachlorocyclopentadiene		706	ug/kg	71.2	356
88-06-2	2,4,6-Trichlorophenol		1380	ug/kg	71.2	356
95-95-4	2,4,5-Trichlorophenol		1450	ug/kg	71.2	356
91-58-7	2-Chloronaphthalene		1220	ug/kg	11.8	35.6
88-74-4	2-Nitroaniline		1340	ug/kg	71.2	356
	<i>o</i> -Nitroaniline					
99-09-2	3-Nitroaniline		1330	ug/kg	71.2	356

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 1202051282	Date Received: 02/20/2010 08:55	%Moisture: 6.9
Client Sample: QC for batch 956676	Client: LANL010	Project: QC
Client ID: RE15-10-8349MS	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.1	Dilution: 1
Run Date: 03/05/2010 06:43	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.16 g	Final Volume: 1 mL
Data File: s3c0449.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
<i>m-Nitroaniline</i>						
131-11-3	Dimethylphthalate		1480	ug/kg	71.2	356
606-20-2	2,6-Dinitrotoluene		1350	ug/kg	35.6	356
208-96-8	Acenaphthylene		1290	ug/kg	10.7	35.6
51-28-5	2,4-Dinitrophenol		797	ug/kg	135	712
132-64-9	Dibenzofuran		1430	ug/kg	71.2	356
84-66-2	Diethylphthalate		1530	ug/kg	71.2	356
86-73-7	Fluorene		1220	ug/kg	10.7	35.6
7005-72-3	4-Chlorophenylphenylether		1550	ug/kg	71.2	356
534-52-1	2-Methyl-4,6-dinitrophenol		657	ug/kg	71.2	356
100-01-6	4-Nitroaniline		1580	ug/kg	107	356
<i>p-Nitroaniline</i>						
122-39-4	Diphenylamine		1490	ug/kg	71.2	356
122-66-7	Azobenzene		1420	ug/kg	71.2	356
<i>1,2-Diphenylhydrazine</i>						
101-55-3	4-Bromophenylphenylether		1420	ug/kg	71.2	356
118-74-1	Hexachlorobenzene		1420	ug/kg	71.2	356
85-01-8	Phenanthrene		1400	ug/kg	10.7	35.6
120-12-7	Anthracene		1290	ug/kg	7.12	35.6
84-74-2	Di-n-butylphthalate		1450	ug/kg	71.2	356
206-44-0	Fluoranthene		1220	ug/kg	10.7	35.6
85-68-7	Butylbenzylphthalate		2040	ug/kg	71.2	356
56-55-3	Benzo(a)anthracene		1320	ug/kg	10.7	35.6
91-94-1	3,3'-Dichlorobenzidine		1690	ug/kg	107	356
218-01-9	Chrysene		1410	ug/kg	10.7	35.6
117-81-7	bis(2-Ethylhexyl)phthalate		1880	ug/kg	71.2	356
117-84-0	Di-n-octylphthalate		2290	ug/kg	71.2	356
205-99-2	Benzo(b)fluoranthene		1640	ug/kg	10.7	35.6
207-08-9	Benzo(k)fluoranthene		1830	ug/kg	10.7	35.6
50-32-8	Benzo(a)pyrene		1680	ug/kg	10.7	35.6
193-39-5	Indeno(1,2,3-cd)pyrene		1520	ug/kg	10.7	35.6
53-70-3	Dibenzo(a,h)anthracene		1620	ug/kg	10.7	35.6
191-24-2	Benzo(ghi)perylene		1400	ug/kg	10.7	35.6
120-82-1	1,2,4-Trichlorobenzene		1370	ug/kg	71.2	356

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Data file : /chem/MSD3.i/s030410a.b/s3c0449.d
Lab Smp Id: 1202051282 Client Smp ID: RE15-10-8349MS
Inj Date : 05-MAR-2010 06:43
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |1202051282|956677|1|SVMF|1|MS
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 28 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpc1p1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.16000	weight of sample
M	6.91130	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG			CONCENTRATIONS		
	MASS	RT	EXP RT REL RT	RESPONSE	ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.720	3.719 (1.000)	308884	40.0000	
* 29 Naphthalene-d8	136	4.581	4.580 (1.000)	1246448	40.0000	
* 46 Acenaphthene-d10	164	5.833	5.832 (1.000)	650147	40.0000	
* 67 Phenanthrene-d10	188	6.838	6.832 (1.000)	1006118	40.0000	
* 91 Chrysene-d12	240	8.459	8.458 (1.000)	509381	40.0000	
* 98 Perylene-d12	264	9.807	9.801 (1.000)	326468	40.0000	
\$ 3 2-Fluorophenol	112	2.918	2.912 (0.784)	607636	71.2604	2540
\$ 5 Phenol-d5	99	3.447	3.436 (0.927)	738671	67.9128	2420
\$ 20 Nitrobenzene-d5	82	4.084	4.083 (0.891)	382976	35.8583	1280
\$ 39 2-Fluorobiphenyl	172	5.325	5.324 (0.913)	653866	39.0569	1390
\$ 60 2,4,6-Tribromophenol	329	6.378	6.372 (1.094)	172656	85.1573	3030
\$ 81 p-Terphenyl-d14	244	7.758	7.757 (0.917)	473479	54.4621	1940

Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT		ON-COLUMN (ng/ul)	FINAL (ug/Kg)
=====	=====	==	=====	=====	=====	=====	=====
6 Phenol	94	3.453	3.446	(0.928)	395628	36.0582	1280 (Q)
8 2-Chlorophenol	128	3.586	3.586	(0.964)	343299	38.3164	1360
11 1,4-Dichlorobenzene	146	3.731	3.730	(1.003)	341365	35.8527	1280
17 N-Nitrosodipropylamine	70	3.961	3.960	(1.065)	259945	36.1724	1290 (Q)
28 1,2,4-Trichlorobenzene	180	4.533	4.532	(0.989)	292006	38.5044	1370
33 4-Chloro-3-methylphenol	107	4.945	4.928	(1.079)	304359	39.7240	1410
47 Acenaphthene	154	5.854	5.853	(1.004)	577183	37.1484	1320
50 2,4-Dinitrotoluene	165	5.950	5.944	(1.020)	206238	37.9137	1350
52 4-Nitrophenol	139	5.897	5.875	(1.011)	104372	35.2479	1260 (H)
65 Pentachlorophenol	266	6.710	6.698	(0.981)	81310	35.5422	1260
79 Pyrene	202	7.705	7.704	(0.911)	776178	48.5519	1730
2 Pyridine	79	2.281	2.259	(0.613)	225697	26.4766	943
4 Aniline	66	3.506	3.505	(0.942)	179374	33.3129	1190
7 bis(2-Chloroethyl) ether	63	3.522	3.527	(0.947)	297415	31.5883	1120
9 1,3-Dichlorobenzene	146	3.688	3.687	(0.991)	329916	34.1961	1220
12 Benzyl alcohol	108	3.800	3.789	(1.022)	125391	20.3769	726
13 1,2-Dichlorobenzene	146	3.832	3.832	(1.030)	320665	38.4221	1370
14 bis(2-Chloroisopropyl) ether	45	3.864	3.864	(1.039)	716994	33.0709	1180
15 o-Cresol	107	3.848	3.837	(1.034)	295376	45.5267	1620
18 m,p-Cresols	107	3.945	3.939	(1.060)	420162	43.9375	1560
19 Hexachloroethane	117	4.057	4.056	(1.091)	125618	31.5710	1120
21 Nitrobenzene	77	4.094	4.094	(0.894)	371283	37.1795	1320
22 Isophorone	82	4.249	4.249	(0.928)	675146	34.5370	1230
23 2-Nitrophenol	139	4.308	4.308	(0.940)	145763	34.4547	1230
24 2,4-Dimethylphenol	122	4.308	4.302	(0.940)	308453	38.9502	1390
25 bis(2-Chloroethoxy) methane	93	4.372	4.372	(0.954)	384029	33.6486	1200
26 2,4-Dichlorophenol	162	4.469	4.468	(0.975)	269304	36.5721	1300
27 Benzoic acid	105	4.372	4.366	(0.954)	203517	50.0598	1780
30 Naphthalene	128	4.597	4.596	(1.004)	984658	34.0922	1210
31 4-Chloroaniline	127	4.618	4.612	(1.008)	378185	28.9958	1030
32 Hexachlorobutadiene	225	4.661	4.661	(1.018)	166076	39.8059	1420
34 2-Methylnaphthalene	142	5.078	5.078	(1.109)	637382	35.5803	1270
36 Hexachlorocyclopentadiene	237	5.175	5.174	(0.887)	54172	19.8133	706
37 2,4,6-Trichlorophenol	196	5.271	5.265	(0.904)	175038	38.7653	1380
38 2,4,5-Trichlorophenol	196	5.303	5.292	(0.909)	208059	40.7151	1450
40 2-Chloronaphthalene	162	5.431	5.425	(0.931)	576896	34.1245	1220
42 o-Nitroaniline	65	5.496	5.490	(0.942)	224781	37.4988	1340
41 m-Nitroaniline	138	5.790	5.784	(0.993)	164482	37.2228	1320
43 Dimethylphthalate	163	5.597	5.602	(0.960)	742149	41.4410	1480
44 2,6-Dinitrotoluene	165	5.656	5.655	(0.970)	158488	38.0247	1350
45 Acenaphthylene	152	5.731	5.730	(0.983)	908000	36.2765	1290
48 2,4-Dinitrophenol	184	5.865	5.853	(1.006)	11784	22.3626	796 (Q)
49 Dibenzofuran	168	5.977	5.971	(1.025)	825817	40.0991	1430
51 Diethylphthalate	149	6.095	6.094	(1.045)	735084	43.0840	1530
53 Fluorene	166	6.212	6.212	(1.065)	665566	34.3598	1220
54 4-Chlorophenylphenylether	204	6.196	6.190	(1.062)	337779	43.4569	1550
55 2-Methyl-4,6-dinitrophenol	198	6.239	6.233	(0.912)	28679	18.4323	656 (Q)

Compounds	QUANT SIG	MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
							ON-COLUMN	FINAL
							(ng/ul)	(ug/Kg)
=====	=====	=====	=====	=====	=====	=====	=====	=====
56 p-Nitroaniline		138	6.223	6.217	(1.067)	166774	44.3656	1580
133 Diphenylamine		169	6.277	6.271	(0.918)	603404	41.7729	1490
58 1,2-Diphenylhydrazine		77	6.303	6.303	(0.922)	796112	39.9625	1420
61 4-Bromophenylphenylether		248	6.528	6.527	(0.955)	176281	39.8365	1420
63 Hexachlorobenzene		284	6.581	6.575	(0.962)	189382	39.7929	1420
68 Phenanthrene		178	6.854	6.848	(1.002)	1003802	39.1938	1400
69 Anthracene		178	6.886	6.880	(1.007)	915038	36.1455	1290
72 Di-n-butylphthalate		149	7.138	7.137	(1.044)	1112563	40.7237	1450
76 Fluoranthene		202	7.566	7.565	(1.106)	812595	34.2397	1220
85 Butylbenzylphthalate		149	8.015	8.014	(0.948)	360986	57.2072	2040
89 Benzo(a)anthracene		228	8.453	8.447	(0.999)	487553	37.0194	1320
90 3,3'-Dichlorobenzidine		252	8.400	8.394	(0.993)	163974	47.5535	1690
92 Chrysene		228	8.480	8.480	(1.003)	495391	39.5287	1410
93 bis(2-Ethylhexyl)phthalate		149	8.352	8.351	(0.987)	477570	52.8446	1880
94 Di-n-octylphthalate		149	8.849	8.849	(0.902)	634490	64.2820	2290
95 Benzo(b)fluoranthene		252	9.379	9.373	(0.956)	344137	46.1833	1640
96 Benzo(k)fluoranthene		252	9.406	9.400	(0.959)	392557	51.4028	1830
97 Benzo(a)pyrene		252	9.748	9.736	(0.994)	299821	47.2087	1680
99 Indeno(1,2,3-cd)pyrene		276	11.310	11.293	(1.153)	238656	42.6521	1520
100 Dibenzo(a,h)anthracene		278	11.315	11.304	(1.154)	199894	45.3888	1620
101 Benzo(ghi)perylene		276	11.775	11.758	(1.201)	183280	39.2662	1400
1 N-Methyl-N-nitrosomethylamine		74	2.249	2.227	(0.605)	178195	29.7218	1060

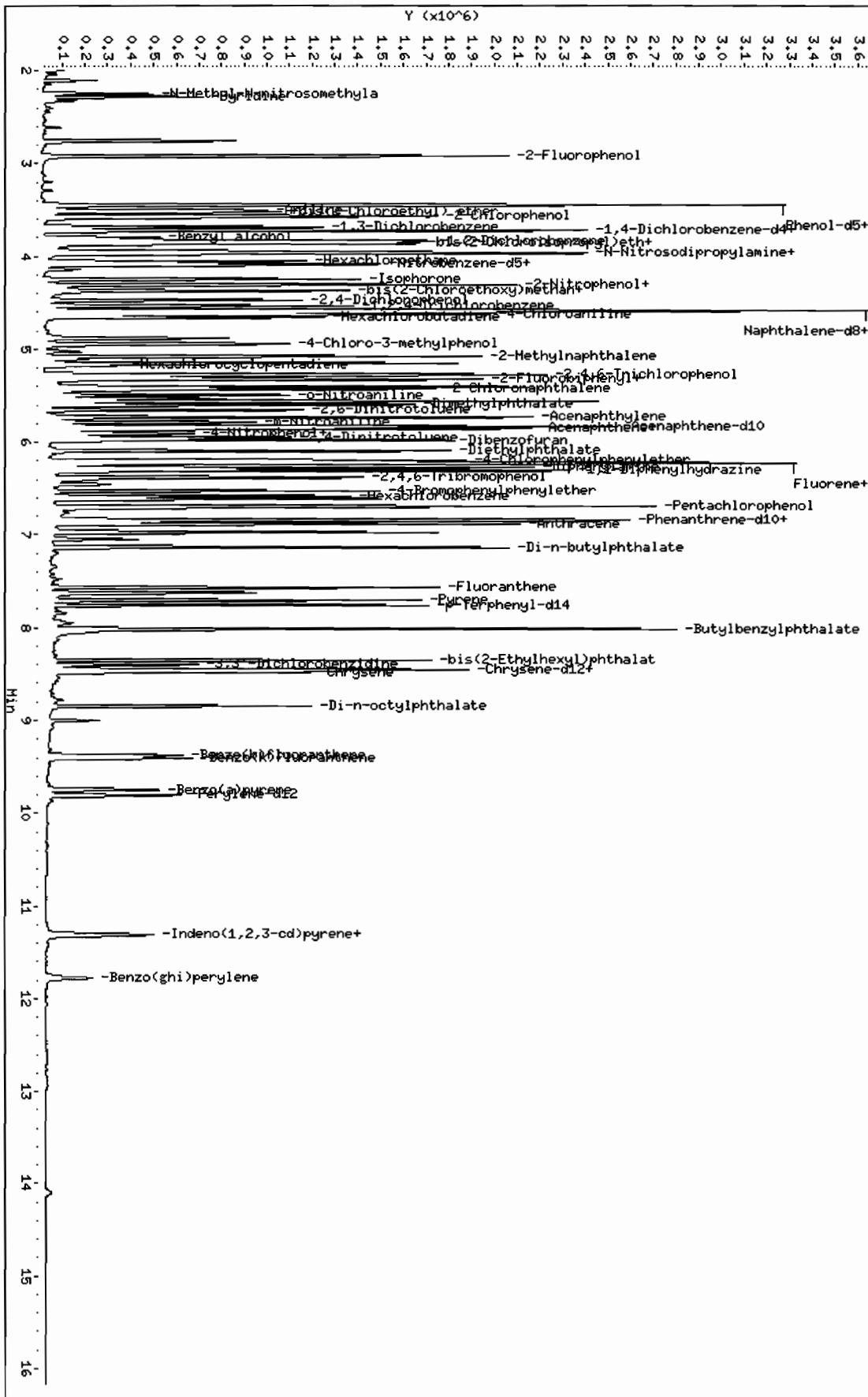
QC Flag Legend

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

Data File: /chem/MSD3.1/s030410a.b/s300449.d
 Date: 05-MAR-2010 06:43
 Client ID: RE15-10-8349HS
 Sample Info: 11202051282195667711SVHF11HS
 Volume Injected (uL): 0.5
 Column phase: J&W DB-5MS

/chem/MSD3.1/s030410a.b/s300449.d

Instrument: MSD3.1
 Operator: JLD1
 Column diameter: 0.20



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

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 1202051283	Date Received: 02/20/2010 08:55	%Moisture: 6.9
Client Sample: QC for batch 956676	Client: LANL010	Project: QC
Client ID: RE15-10-8349MSD	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.1	Dilution: 1
Run Date: 03/05/2010 07:05	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.05 g	Final Volume: 1 mL
Data File: s3c0450.d	Column: J&W DB-SMS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
62-75-9	N-Methyl-N-nitrosomethylamine		1040	ug/kg	71.5	357
108-95-2	Phenol		1300	ug/kg	71.5	357
95-57-8	2-Chlorophenol		1370	ug/kg	71.5	357
106-46-7	1,4-Dichlorobenzene		1290	ug/kg	71.5	357
621-64-7	N-Nitrosodipropylamine		1300	ug/kg	71.5	357
59-50-7	4-Chloro-3-methylphenol		1480	ug/kg	71.5	357
83-32-9	Acenaphthene		1330	ug/kg	11.8	35.7
121-14-2	2,4-Dinitrotoluene		1360	ug/kg	35.7	357
100-02-7	4-Nitrophenol		1270	ug/kg	118	357
87-86-5	Pentachlorophenol		1230	ug/kg	89.4	357
129-00-0	Pyrene		1620	ug/kg	10.7	35.7
110-86-1	Pyridine		961	ug/kg	71.5	357
62-53-3	Aniline		1240	ug/kg	107	357
111-44-4	bis(2-Chloroethyl) ether		1120	ug/kg	71.5	357
541-73-1	1,3-Dichlorobenzene		1230	ug/kg	71.5	357
100-51-6	Benzyl alcohol		636	ug/kg	107	357
95-50-1	1,2-Dichlorobenzene		1380	ug/kg	71.5	357
108-60-1	bis(2-Chloroisopropyl)ether		1220	ug/kg	71.5	357
95-48-7	o-Cresol		1820	ug/kg	71.5	357
65794-96-9	m,p-Cresols		1630	ug/kg	107	357
67-72-1	Hexachloroethane		1050	ug/kg	71.5	357
98-95-3	Nitrobenzene		1310	ug/kg	71.5	357
78-59-1	Isophorone		1240	ug/kg	71.5	357
88-75-5	2-Nitrophenol		1120	ug/kg	71.5	357
105-67-9	2,4-Dimethylphenol		1370	ug/kg	125	357
111-91-1	bis(2-Chloroethoxy)methane		1180	ug/kg	71.5	357
120-83-2	2,4-Dichlorophenol		1330	ug/kg	71.5	357
65-85-0	Benzoic acid		1640	ug/kg	179	715
91-20-3	Naphthalene		1200	ug/kg	10.7	35.7
106-47-8	4-Chloroaniline		1330	ug/kg	71.5	357
87-68-3	Hexachlorobutadiene		1410	ug/kg	71.5	357
91-57-6	2-Methylnaphthalene		1270	ug/kg	7.15	35.7
77-47-4	Hexachlorocyclopentadiene		471	ug/kg	71.5	357
88-06-2	2,4,6-Trichlorophenol		1360	ug/kg	71.5	357
95-95-4	2,4,5-Trichlorophenol		1510	ug/kg	71.5	357
91-58-7	2-Chloronaphthalene		1200	ug/kg	11.8	35.7
88-74-4	2-Nitroaniline		1370	ug/kg	71.5	357
99-09-2	o-Nitroaniline					
	3-Nitroaniline		1420	ug/kg	71.5	357

Semi-Volatile
Certificate of Analysis
Sample Summary

SDG Number: 10-1969	Date Collected: 02/15/2010 12:00	Matrix: R
Lab Sample ID: 1202051283	Date Received: 02/20/2010 08:55	%Moisture: 6.9
Client Sample: QC for batch 956676	Client: LANL010	Project: QC
Client ID: RE15-10-8349MSD	Method: SW846 8270C	SOP Ref: GL-OA-E-009
Batch ID: 956677	Inst: MSD3.I	Dilution: 1
Run Date: 03/05/2010 07:05	Analyst: JLD1	Inj. Vol: .5 uL
Prep Date: 02/23/2010 21:09	Aliquot: 30.05 g	Final Volume: 1 mL
Data File: s3c0450.d	Column: J&W DB-5MS	Level: LOW

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
	<i>m</i> -Nitroaniline					
131-11-3	Dimethylphthalate		1490	ug/kg	71.5	357
606-20-2	2,6-Dinitrotoluene		1380	ug/kg	35.7	357
208-96-8	Acenaphthylene		1320	ug/kg	10.7	35.7
51-28-5	2,4-Dinitrophenol	J	700	ug/kg	136	715
132-64-9	Dibenzofuran		1430	ug/kg	71.5	357
84-66-2	Diethylphthalate		1570	ug/kg	71.5	357
86-73-7	Fluorene		1210	ug/kg	10.7	35.7
7005-72-3	4-Chlorophenylphenylether		1570	ug/kg	71.5	357
534-52-1	2-Methyl-4,6-dinitrophenol		538	ug/kg	71.5	357
100-01-6	4-Nitroaniline		1580	ug/kg	107	357
	<i>p</i> -Nitroaniline					
122-39-4	Diphenylamine		1520	ug/kg	71.5	357
122-66-7	Azobenzene		1420	ug/kg	71.5	357
	<i>1,2</i> -Diphenylhydrazine					
101-55-3	4-Bromophenylphenylether		1450	ug/kg	71.5	357
118-74-1	Hexachlorobenzene		1440	ug/kg	71.5	357
85-01-8	Phenanthrene		1370	ug/kg	10.7	35.7
120-12-7	Anthracene		1300	ug/kg	7.15	35.7
84-74-2	Di-n-butylphthalate		1510	ug/kg	71.5	357
206-44-0	Fluoranthene		1270	ug/kg	10.7	35.7
85-68-7	Butylbenzylphthalate		2080	ug/kg	71.5	357
56-55-3	Benzo(a)anthracene		1350	ug/kg	10.7	35.7
91-94-1	3,3'-Dichlorobenzidine		1820	ug/kg	107	357
218-01-9	Chrysene		1410	ug/kg	10.7	35.7
117-81-7	bis(2-Ethylhexyl)phthalate		1970	ug/kg	71.5	357
117-84-0	Di-n-octylphthalate		2580	ug/kg	71.5	357
205-99-2	Benzo(b)fluoranthene		1750	ug/kg	10.7	35.7
207-08-9	Benzo(k)fluoranthene		1820	ug/kg	10.7	35.7
50-32-8	Benzo(a)pyrene		1690	ug/kg	10.7	35.7
193-39-5	Indeno(1,2,3-cd)pyrene		1450	ug/kg	10.7	35.7
53-70-3	Dibenzo(a,h)anthracene		1540	ug/kg	10.7	35.7
191-24-2	Benzo(ghi)perylene		1320	ug/kg	10.7	35.7
120-82-1	1,2,4-Trichlorobenzene		1350	ug/kg	71.5	357

GEL Laboratories LLC

Data file : /chem/MSD3.i/s030410a.b/s3c0450.d
Lab Smp Id: 1202051283 Client Smp ID: RE15-10-8349MSD
Inj Date : 05-MAR-2010 07:05
Operator : JLD1 Inst ID: MSD3.i
Smp Info : |1202051283|956677|1|SVMF|1|MSD
Misc Info : |MSD8270_S|WBN100227-01|
Comment : Column: J&W DB-5MS, 25 m x 0.20 mm x 0.33 micron film
Method : /chem/MSD3.i/s030410a.b/MSD3-8270R-AQA-030210.m
Meth Date : 05-Mar-2010 09:07 jen00986 Quant Type: ISTD
Cal Date : 02-MAR-2010 15:20 Cal File: s3c0216.d
Als bottle: 29 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 10-1969.sub
Target Version: 3.50
Processing Host: hpclp1

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

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	500.00000	ng unit correction factor
Vt	1.00000	volume of final ext
Vi	0.50000	volume injected
Ws	30.05000	weight of sample
M	6.91130	% moisture

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS	
						ON-COLUMN (ng/ul)	FINAL (ug/Kg)
* 10 1,4-Dichlorobenzene-d4	152	3.720	3.719	(1.000)	240024	40.0000	
* 29 Naphthalene-d8	136	4.581	4.580	(1.000)	995471	40.0000	
* 46 Acenaphthene-d10	164	5.833	5.832	(1.000)	533852	40.0000	
* 67 Phenanthrene-d10	188	6.838	6.832	(1.000)	828277	40.0000	
* 91 Chrysene-d12	240	8.459	8.458	(1.000)	477217	40.0000	
* 98 Perylene-d12	264	9.807	9.801	(1.000)	294722	40.0000	
\$ 3 2-Fluorophenol	112	2.918	2.912	(0.784)	455691	68.7726	2460
\$ 5 Phenol-d5	99	3.442	3.436	(0.925)	569523	67.3833	2410
\$ 20 Nitrobenzene-d5	82	4.084	4.083	(0.891)	298699	35.0185	1250
\$ 39 2-Fluorobiphenyl	172	5.325	5.324	(0.913)	524693	38.1685	1360
\$ 60 2,4,6-Tribromophenol	329	6.378	6.372	(1.094)	136876	82.2163	2940
\$ 81 p-Terphenyl-d14	244	7.758	7.757	(0.917)	425251	52.2114	1870

Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT	REL RT		ON-COLUMN	FINAL
=====	=====	==	=====	=====	=====	(ng/ul)	(ug/Kg)
6 Phenol	94	3.453	3.446	(0.928)	310116	36.3733	1300 (Q)
8 2-Chlorophenol	128	3.586	3.586	(0.964)	266657	38.3007	1370
11 1,4-Dichlorobenzene	146	3.731	3.730	(1.003)	266308	35.9939	1290
17 N-Nitrosodipropylamine	70	3.961	3.960	(1.065)	203102	36.3707	1300 (Q)
28 1,2,4-Trichlorobenzene	180	4.533	4.532	(0.989)	228380	37.7070	1350
33 4-Chloro-3-methylphenol	107	4.945	4.928	(1.079)	253996	41.5087	1480
47 Acenaphthene	154	5.854	5.853	(1.004)	473184	37.0886	1320
50 2,4-Dinitrotoluene	165	5.950	5.944	(1.020)	169317	37.9069	1360
52 4-Nitrophenol	139	5.897	5.875	(1.011)	86339	35.4676	1270 (H)
65 Pentachlorophenol	266	6.710	6.698	(0.981)	64666	34.4515	1230
79 Pyrene	202	7.705	7.704	(0.911)	678624	45.3107	1620
2 Pyridine	79	2.276	2.259	(0.612)	178160	26.8960	961
4 Aniline	66	3.506	3.505	(0.942)	144911	34.6334	1240
7 bis(2-Chloroethyl) ether	63	3.522	3.527	(0.947)	230187	31.4619	1120
9 1,3-Dichlorobenzene	146	3.688	3.687	(0.991)	256983	34.2783	1220
12 Benzyl alcohol	108	3.800	3.789	(1.022)	85051	17.7865	636
13 1,2-Dichlorobenzene	146	3.832	3.832	(1.030)	250611	38.6429	1380
14 bis(2-Chloroisopropyl) ether	45	3.864	3.864	(1.039)	574001	34.0709	1220
15 o-Cresol	107	3.848	3.837	(1.034)	256548	50.8863	1820
18 m,p-Cresols	107	3.945	3.939	(1.060)	338949	45.6135	1630
19 Hexachloroethane	117	4.057	4.056	(1.091)	90984	29.4267	1050
21 Nitrobenzene	77	4.094	4.094	(0.894)	293252	36.7692	1310
22 Isophorone	82	4.249	4.249	(0.928)	540583	34.6254	1240
23 2-Nitrophenol	139	4.308	4.308	(0.940)	106173	31.4239	1120
24 2,4-Dimethylphenol	122	4.308	4.302	(0.940)	242449	38.3342	1370
25 bis(2-Chloroethoxy) methane	93	4.372	4.372	(0.954)	301447	33.0719	1180
26 2,4-Dichlorophenol	162	4.469	4.468	(0.975)	218213	37.1051	1330
27 Benzoic acid	105	4.362	4.366	(0.952)	138150	45.8566	1640
30 Naphthalene	128	4.597	4.596	(1.004)	776800	33.6763	1200 (Q)
31 4-Chloroaniline	127	4.619	4.612	(1.008)	388279	37.2753	1330
32 Hexachlorobutadiene	225	4.661	4.661	(1.018)	131356	39.4217	1410
34 2-Methylnaphthalene	142	5.079	5.078	(1.109)	509787	35.6324	1270
36 Hexachlorocyclopentadiene	237	5.175	5.174	(0.887)	29559	13.1662	471
37 2,4,6-Trichlorophenol	196	5.271	5.265	(0.904)	141446	38.1498	1360
38 2,4,5-Trichlorophenol	196	5.303	5.292	(0.909)	177203	42.2309	1510
40 2-Chloronaphthalene	162	5.432	5.425	(0.931)	467119	33.6502	1200
42 o-Nitroaniline	65	5.490	5.490	(0.941)	188631	38.3232	1370
41 m-Nitroaniline	138	5.790	5.784	(0.993)	144319	39.7745	1420
43 Dimethylphthalate	163	5.597	5.602	(0.960)	613182	41.6983	1490
44 2,6-Dinitrotoluene	165	5.656	5.655	(0.970)	132030	38.5774	1380
45 Acenaphthylene	152	5.731	5.730	(0.983)	757261	36.8447	1320
48 2,4-Dinitrophenol	184	5.870	5.853	(1.006)	6252	19.5895	700 (aq)
49 Dibenzofuran	168	5.972	5.971	(1.024)	675644	39.9539	1430
51 Diethylphthalate	149	6.095	6.094	(1.045)	615489	43.9329	1570
53 Fluorene	166	6.212	6.212	(1.065)	540491	33.9812	1210
54 4-Chlorophenylphenylether	204	6.196	6.190	(1.062)	280057	43.8796	1570
55 2-Methyl-4,6-dinitrophenol	198	6.234	6.233	(0.912)	16757	15.0361	538 (Q)

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	REL RT	RESPONSE	ON-COLUMN FINAL (ng/ul) (ug/Kg)
=====	=====	=====	=====	=====	=====	=====	=====
56 p-Nitroaniline	138	6.218	6.217	(1.066)	136361	44.1773	1580
133 Diphenylamine	169	6.277	6.271	(0.918)	505184	42.4824	1520
58 1,2-Diphenylhydrazine	77	6.303	6.303	(0.922)	650998	39.6946	1420
61 4-Bromophenylphenylether	248	6.528	6.527	(0.955)	147281	40.4293	1440
63 Hexachlorobenzene	284	6.581	6.575	(0.962)	157743	40.2615	1440
68 Phenanthrene	178	6.854	6.848	(1.002)	805533	38.1974	1360
69 Anthracene	178	6.886	6.880	(1.007)	756204	36.2850	1300
72 Di-n-butylphthalate	149	7.138	7.137	(1.044)	947582	42.1321	1510
76 Fluoranthene	202	7.566	7.565	(1.106)	696531	35.6509	1270
85 Butylbenzylphthalate	149	8.015	8.014	(0.948)	344589	58.2893	2080
89 Benzo(a)anthracene	228	8.448	8.447	(0.999)	466386	37.7989	1350
90 3,3'-Dichlorobenzidine	252	8.400	8.394	(0.993)	164284	50.8545	1820
92 Chrysene	228	8.480	8.480	(1.003)	464688	39.5779	1410
93 bis(2-Ethylhexyl)phthalate	149	8.352	8.351	(0.987)	466578	55.1080	1970
94 Di-n-octylphthalate	149	8.849	8.849	(0.902)	644077	72.2821	2580 (R)
95 Benzo(b)fluoranthene	252	9.379	9.373	(0.956)	329734	49.0169	1750
96 Benzo(k)fluoranthene	252	9.406	9.400	(0.959)	351172	50.9368	1820
97 Benzo(a)pyrene	252	9.743	9.736	(0.993)	271000	47.2669	1690
99 Indeno(1,2,3-cd)pyrene	276	11.304	11.293	(1.153)	204780	40.5400	1450
100 Dibenzo(a,h)anthracene	278	11.310	11.304	(1.153)	171752	43.1995	1540
101 Benzo(ghi)perylene	276	11.775	11.758	(1.201)	155594	36.9254	1320
1 N-Methyl-N-nitrosomethylamine	74	2.238	2.227	(0.602)	135512	29.0869	1040

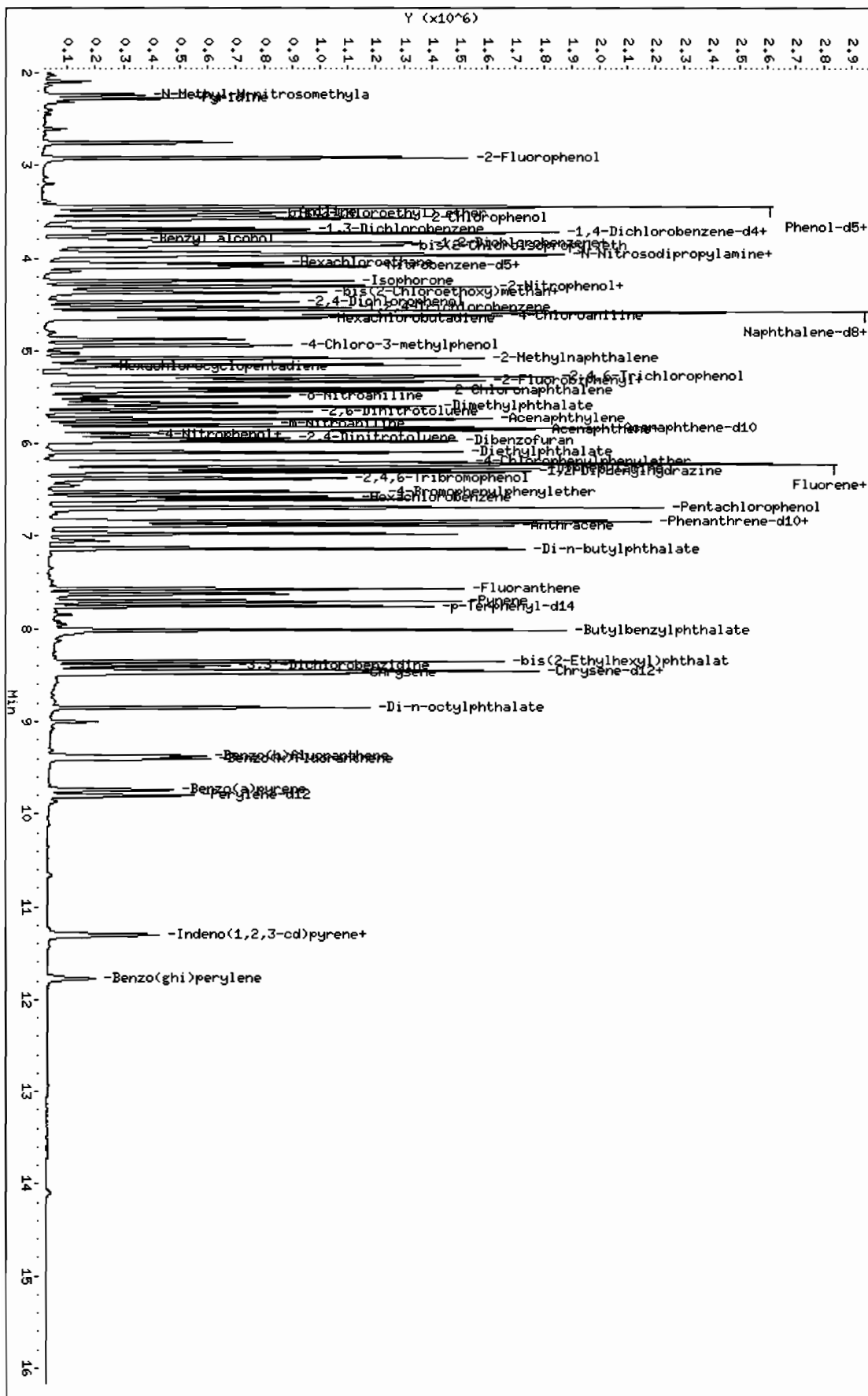
QC Flag Legend

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

Data File: /chem/MSD3.1/s030410a.b/s300450.d
 Date: 05-MAR-2010 07:05
 Client ID: REL5-10-8349MSD
 Sample Info: 1120205128319667711SVNF11MSD
 Volume Injected (uL): 0.5
 Column phase: J&W DB-SMS

/chem/MSD3.1/s030410a.b/s300450.d

Instrument: MSD3.1
 Operator: JLD1
 Column diameter: 0.20



Miscellaneous Data

Prep Logbook

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

Batch ID: 956676 Verified by: Lab SOP: GL-OA-E-010 REV# 18
Analyst: Alberto Velasco Instrument: Semi-Volatiles Manual
Method: SW846 3550B

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)	Serial Number	Spike Amt	Units	Comments:
1202051280 MB	23-FEB-2010 21:09:00	30	1	0.03333	UE100217-14	1	mL	Verified By: AAW
1202051281 LCS	23-FEB-2010 21:09:00	30	1	0.03333	UE100217-22	1	mL	Final Solvent: CH2Cl2
247245001	23-FEB-2010 21:09:00	30.18	1	0.03313	UE100217-14	1	mL	
247245002	23-FEB-2010 21:09:00	30.05	1	0.03328	UE100217-22	1	mL	
247245003	23-FEB-2010 21:09:00	30.09	1	0.03323	UE100217-14	1	mL	
247245004	23-FEB-2010 21:09:00	30.01	1	0.03332	UE100217-22	1	mL	
247245006	23-FEB-2010 21:09:00	30.09	1	0.03323	UE100217-14	1	mL	
247255001	23-FEB-2010 21:09:00	30.15	1	0.03317	UE100217-22	1	mL	
247255002	23-FEB-2010 21:09:00	30.01	1	0.03332	UE091002-10	1	mL	
247255003	23-FEB-2010 21:09:00	30.02	1	0.03331	1270181-D	150	mL	
247255004	23-FEB-2010 21:09:00	30.18	1	0.03313	1273823-B1	150	mL	
247255005	23-FEB-2010 21:09:00	30.16	1	0.03316	1269268	30	g	
247551001	23-FEB-2010 21:09:00	30.18	1	0.03313				
1202051282 MS (247551001)	23-FEB-2010 21:09:00	30.16	1	0.03316				
1202051283 MSD (247551001)	23-FEB-2010 21:09:00	30.05	1	0.03328				
247551002	23-FEB-2010 21:09:00	30.08	1	0.03324				
247562002	23-FEB-2010 21:09:00	30.1	1	0.03322				
247562003	23-FEB-2010 21:09:00	30.15	1	0.03317				
247562004	23-FEB-2010 21:09:00	30.16	1	0.03316				
247562005	23-FEB-2010 21:09:00	30.19	1	0.03312				
247562006	23-FEB-2010 21:09:00	30.09	1	0.03323				
247562007	23-FEB-2010 21:09:00	30.07	1	0.03326				
247562008	23-FEB-2010 21:09:00	30.17	1	0.03315				
247562009	23-FEB-2010 21:09:00	30.15	1	0.03317				

DATE: 03/01/2010 METHOD: See raw data OPERATOR: JLD1 REVIEWED BY: _____

DATE: _____

HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT: 1262945-D

Multiplier Voltage: 1071 Emv Extr. Injection Volume: 0.5, 1.0 ul

DFTPP Solution ID: WBN100207-01 Internal Std ID: WBN100227-01

CALIBRATION & QC INFORMATION:

Initial Calibration Dates: See Calibration History and Standard Logbook.

Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 23 Sequence Number: /chem/MSD3.i/s030110.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
Is3c0101-D.d	WBN100207-01	JLD1	01-MAR-2010 16:17	150NG	Is030110	1.0	DFTPP	USE; 8270D MEGA/AP/PEST
Is3c0101.d	WBN100207-01	JLD1	01-MAR-2010 16:17	150NG	Is030110	1.0	DFTPP	USE; 8270C MEGA/AP/PEST
Is3c0102.d	INSTBLK	JLD1	01-MAR-2010 16:30	1	Is030110	1.0		IB
Is3c0103.d	WBN100225-08	JLD1	01-MAR-2010 16:52	101PPM	Is030110	1.0	MEGAICAL	USE; LEV 1
Is3c0104.d	WBN100225-07	JLD1	01-MAR-2010 17:19	110PPM	Is030110	1.0	MEGAICAL	USE; LEV 2
Is3c0105.d	WBN100225-06	JLD1	01-MAR-2010 17:47	120PPM	Is030110	1.0	MEGAICAL	USE; LEV 3
Is3c0106.d	WBN100225-05.1	JLD1	01-MAR-2010 18:15	140PPM	Is030110	1.0	MEGAICAL	USE; LEV 4
Is3c0107.d	WBN100225-04	JLD1	01-MAR-2010 18:43	150PPM	Is030110	1.0	MEGAICAL	USE; LEV 5
Is3c0108.d	WBN100225-03	JLD1	01-MAR-2010 19:11	180PPM	Is030110	1.0	MEGAICAL	USE; LEV 6
Is3c0109.d	WBN100225-02	JLD1	01-MAR-2010 19:39	1100PPM	Is030110	1.0	MEGAICAL	USE; LEV 7
Is3c0110.d	WBN100225-01	JLD1	01-MAR-2010 20:07	1120PPM	Is030110	1.0	MEGAICAL	USE; LEV 8
Is3c0111.d	INSTBLK	JLD1	01-MAR-2010 20:35	1	Is030110	1.0		IB
Is3c0112-BOE.WBN100225-09.1		JLD1	01-MAR-2010 20:56	140PPM	Is030110	1.0	MEGAICV	USE; 8270BOE
Is3c0112-D.d	WBN100225-09.1	JLD1	01-MAR-2010 20:56	140PPM	Is030110	1.0	MEGAICV	USE; 8270D
Is3c0112.d	WBN100225-09.1	JLD1	01-MAR-2010 20:56	140PPM	Is030110	1.0	MEGAICV	USE; 8270C
Is3c0113.d	WBN100218-01	JLD1	01-MAR-2010 21:24	110PPM	Is030110	1.0	APICAL	USE; LEV 2
Is3c0114.d	WBN100218-02	JLD1	01-MAR-2010 21:45	120PPM	Is030110	1.0	APICAL	USE; LEV 3
Is3c0115.d	WBN100218-03.1	JLD1	01-MAR-2010 22:06	140PPM	Is030110	1.0	APICAL	USE; LEV 4
Is3c0116.d	WBN100218-04	JLD1	01-MAR-2010 22:28	150PPM	Is030110	1.0	APICAL	USE; LEV 5

|s3c0117.d	|WBN100218-05	|JLD1	|01-MAR-2010 22:49	|80PPM	|s030110	|	1.0|APICAL	|USE; LEV 6	|
|s3c0118.d	|WBN100218-06	|JLD1	|01-MAR-2010 23:10	|100PPM	|s030110	|	1.0|APICAL	|USE; LEV 7	|
|s3c0119.d	|WBN100218-07	|JLD1	|01-MAR-2010 23:31	|120PPM	|s030110	|	1.0|APICAL	|USE; LEV 8	|
|s3c0120.d	|WBN100205-25	|JLD1	|01-MAR-2010 23:52	|10PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 2	|
|s3c0121.d	|WBN100205-24	|JLD1	|02-MAR-2010 00:13	|20PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 3	|
|s3c0122.d	|WBN100205-23.1	|JLD1	|02-MAR-2010 00:34	|40PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 4	|
|s3c0123.d	|WBN100205-22	|JLD1	|02-MAR-2010 00:55	|50PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 5	|
|s3c0124.d	|WBN100205-21	|JLD1	|02-MAR-2010 01:16	|80PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 6	|
|s3c0125.d	|WBN100205-20	|JLD1	|02-MAR-2010 01:37	|100PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 7	|
|s3c0126.d	|WBN100205-19	|JLD1	|02-MAR-2010 01:58	|120PPM	|s030110	|	1.0|PESTICAL	|USE; LEV 8	|
|s3c0127-D.d	|WBN100218-08.1	|JLD1	|02-MAR-2010 02:19	|40PPM	|s030110	|	1.0|APICV	|USE; 8270D	|
|s3c0127.d	|WBN100218-08.1	|JLD1	|02-MAR-2010 02:19	|40PPM	|s030110	|	1.0|APICV	|USE; 8270C	|
|s3c0128-D.d	|WBN100205-26.1	|JLD1	|02-MAR-2010 02:40	|40PPM	|s030110	|	1.0|PESTICV	|USE; 8270D	|
|s3c0128.d	|WBN100205-26.1	|JLD1	|02-MAR-2010 02:40	|40PPM	|s030110	|	1.0|PESTICV	|USE; 8270C	|
|s3c0129.d	|WBN100207-01	|JLD1	|02-MAR-2010 03:03	|50NG	|s030110	|	1.0|DETTP	|DUSE; TUNE FAILS	|

GEL ORGANIC RUN LOG

INSTRUMENT ID: MSD3

DATE: 03/04/2010 METHOD: See raw data OPERATOR: JLD1 REVIEWED BY: _____
 HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT: 1262945-D
 Multiplier Voltage: 1106 Emv Extr. Injection Volume: 0.5, 1.0 ul
 DFTPP Solution ID: WBN100207-01 Internal Std ID: WBN100227-01
 CALIBRATION & QC INFORMATION:
 Initial Calibration Dates: See Calibration History and Standard Logbook.
 Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 23 Sequence Number: /chem/MSD3.i/s030410a.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
1s3c0422.d	WBN100207-01	JLD1	04-MAR-2010 20:40	150ng	1s030410	1.0	DFTPP	USE (310566)
1s3c0423.d	WBN100225-09.4	JLD1	04-MAR-2010 20:52	140PPM	1s030410	1.0	MEGACVS	USE (310566)
1s3c0424.d	WBN100218-08.3	JLD1	04-MAR-2010 21:16	140PPM	1s031410a	1.0	APCVS	USE
1s3c0425.d	WBN100205-26.3	JLD1	04-MAR-2010 21:39	140PPM	1s031410a	1.0	PESTCVS	USE
1s3c0426-1.d	1202051280	JLD1	04-MAR-2010 22:02	956677	110-1879	1.0	SBLK01	USE
1s3c0426-2.d	1202051280	JLD1	04-MAR-2010 22:02	956677	110-1969	1.0	SBLK01	USE
1s3c0426-3.d	1202051280	JLD1	04-MAR-2010 22:02	956677	110-1950	1.0	SBLK01	USE
1s3c0426.d	1202051280	JLD1	04-MAR-2010 22:02	956677	110-1876	1.0	SBLK01	USE
1s3c0427-1.d	1202051281	JLD1	04-MAR-2010 22:25	956677	110-1879	1.0	SBLK01LCS	USE
1s3c0427-2.d	1202051281	JLD1	04-MAR-2010 22:25	956677	110-1969	1.0	SBLK01LCS	USE
1s3c0427-3.d	1202051281	JLD1	04-MAR-2010 22:25	956677	110-1950	1.0	SBLK01LCS	USE
1s3c0427.d	1202051281	JLD1	04-MAR-2010 22:25	956677	110-1876	1.0	SBLK01LCS	USE
1s3c0428.d	1246965001	JLD1	04-MAR-2010 22:47	953293	110-1806	1.0	LANL	USE; RR OF S3C0322; ISTD PASS
1s3c0429.d	1246965004	JLD1	04-MAR-2010 23:10	953293	110-1806	1.0	LANL	USE; RR OF S3C0323; ISTD PASS
1s3c0430.d	1247035001	JLD1	04-MAR-2010 23:33	953293	110-1825	1.0	LANL	USE; RR OF S3C0325; ISTD PASS
1s3c0431.d	1202043539	JLD1	04-MAR-2010 23:56	953293	110-1825	1.0	IMS	USE; RR OF S3C0326; ISTD PASS
1s3c0432.d	1247035004	JLD1	05-MAR-2010 00:19	953293	110-1825	1.0	LANL	USE; RR OF S3C0328; ISTD PASS
1s3c0433.d	1247035010	JLD1	05-MAR-2010 00:42	953293	110-1825	1.0	LANL	USE; RR OF S3C0329; ISTD PASS
1s3c0434.d	1247035014	JLD1	05-MAR-2010 01:04	953293	110-1825	1.0	LANL	USE; RR OF S3C0330; ISTD PASS

|s3c0435.d	|247041005	|JLD1	|05-MAR-2010 01:27	|953293	|10-1816	|1.0|LANL	|USE; RR OF S3C0331; ISTD PASS	|
|s3c0436.d	|247041007	|JLD1	|05-MAR-2010 01:49	|953293	|10-1816	|1.0|LANL	|USE; RR OF S3C0332; ISTD PASS	|
|s3c0437.d	|247041013	|JLD1	|05-MAR-2010 02:12	|953293	|10-1816	|1.0|LANL	|USE; RR OF S3C0334; ISTD PASS	|
|s3c0438.d	|247245001	|JLD1	|05-MAR-2010 02:35	|956677	|10-1876	|1.0|LANL	|USE	|
|s3c0439.d	|247245002	|JLD1	|05-MAR-2010 02:58	|956677	|10-1876	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0517	|
|s3c0440.d	|247245003	|JLD1	|05-MAR-2010 03:20	|956677	|10-1876	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0518	|
|s3c0441.d	|247245004	|JLD1	|05-MAR-2010 03:43	|956677	|10-1876	|10.0|LANL	|USE; EXTRACT THICK/BLACK	|
|s3c0442.d	|247245006	|JLD1	|05-MAR-2010 04:05	|956677	|10-1876	|10.0|LANL	|USE; EXTRACT THICK/BLACK	|
|s3c0443.d	|247255001	|JLD1	|05-MAR-2010 04:28	|956677	|10-1879	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0519	|
|s3c0444.d	|247255002	|JLD1	|05-MAR-2010 04:50	|956677	|10-1879	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0520	|
|s3c0445.d	|247255003	|JLD1	|05-MAR-2010 05:13	|956677	|10-1879	|1.0|LANL	|USE	|
|s3c0446.d	|247255004	|JLD1	|05-MAR-2010 05:35	|956677	|10-1879	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0521	|
|s3c0447.d	|247255005	|JLD1	|05-MAR-2010 05:58	|956677	|10-1879	|1.0|LANL	|USE	|
|s3c0448.d	|247551001	|JLD1	|05-MAR-2010 06:20	|956677	|10-1969	|1.0|LANL	|DUSE; ISTD LOW; SEE S3C0522	|
|s3c0449.d	|1202051282	|JLD1	|05-MAR-2010 06:43	|956677	|10-1969	|1.0|MS	|USE	|
|s3c0450.d	|1202051283	|JLD1	|05-MAR-2010 07:05	|956677	|10-1969	|1.0|MSD	|USE	|
|s3c0451.d	|246965010	|JLD1	|05-MAR-2010 07:28	|953293	|10-1806	|1.0|LANL	|DUSE; RR OF S3C0324; ISTD LOW	|

GEL ORGANIC RUN LOG

INSTRUMENT ID: MSD3

DATE: 03/05/2010 METHOD: See raw data OPERATOR: JLD1 REVIEWED BY: _____
DATE: _____
HARDWARE CONFIGURATION & METHOD SUMMARY: No. 1 on pg. 1 SOLVENT LOT: 1262945-D
Multiplier Voltage: 1106 Emv Extr. Injection Volume: 0.5, 1.0 ul
DFTPP Solution ID: WBN100207-01 Internal Std ID: WBN100227-01
CALIBRATION & QC INFORMATION:
Initial Calibration Dates: See Calibration History and Standard Logbook.
Initial Calibration Std ID's: See Calibration History and Standard Logbook.

SOP: GL-OA-E-009 Rev. 23 Sequence Number: /chem/MSD3.i/s030510.b

Data File	GEL Lab Sample ID	Analyst	Injection Date/Time	Batch	SDG	Dilution	Client	Comments
Is3c0501.d	WBN100207-01	JLD1	05-MAR-2010 08:48	15ONG	Is030510	1.0	DFTPP	IUSE
Is3c0502.d	WBN100225-09.2	JLD1	05-MAR-2010 09:18	140PPM	Is030510	1.0	MEGACVS	IUSE
Is3c0503.d	WBN100225-09.2	JLD1	05-MAR-2010 09:42	140PPM	Is030510	1.0	MEGACVS	IUSE (230288)
Is3c0504.d	WBN100301-05.4	JLD1	05-MAR-2010 10:06	140PPM	Is030510	1.0	BJOCVS	IUSE; NOT NEEDED
Is3c0505.d	WBN100218-08.2	JLD1	05-MAR-2010 10:33	140PPM	Is030510	1.0	APCVS	IUSE
Is3c0506.d	WBN100205-26.2	JLD1	05-MAR-2010 10:56	140PPM	Is030510	1.0	PESTCVS	IUSE
Is3c0507.d	WBN100301-05.2	JLD1	05-MAR-2010 11:18	140PPM	Is030510	1.0	BJOCVS	IUSE; NOT NEEDED
Is3c0508.d	1202051396	JLD1	05-MAR-2010 11:53	1956751	1247013	1.0	SLK01	IUSE
Is3c0509.d	1202051397	JLD1	05-MAR-2010 12:16	1956751	1247013	1.0	SLK01LCS	IUSE
Is3c0510.d	1247013005	JLD1	05-MAR-2010 12:39	1956751	1247013	100.0	BJCO	IUSE
Is3c0511.d	1202051398	JLD1	05-MAR-2010 13:03	1956751	1247013	100.0	IMS	IUSE
Is3c0512.d	1202051399	JLD1	05-MAR-2010 13:26	1956751	1247013	100.0	MSD	IUSE
Is3c0513.d	1247013006	JLD1	05-MAR-2010 13:49	1956751	1247013	100.0	BJCO	IUSE
Is3c0514.d	1247013018	JLD1	05-MAR-2010 14:12	1956751	1247013	1.0	BJCO	IUSE
Is3c0515.d	1247013019	JLD1	05-MAR-2010 14:36	1956751	1247013	1.0	BJCO	IUSE
Is3c0516.d	1247013015	JLD1	05-MAR-2010 14:59	1956751	1247013	4.0	BJCO	IUSE
Is3c0517.d	1247245002	JLD1	05-MAR-2010 15:22	1956677	110-1876	1.0	LANL	IUSE; RR OF S3C0439
Is3c0518.d	1247245003	JLD1	05-MAR-2010 15:45	1956677	110-1876	1.0	LANL	IUSE; RR OF S3C0440
Is3c0519.d	1247255001	JLD1	05-MAR-2010 16:08	1956677	110-1879	1.0	LANL	IUSE; RR OF S3C0443

1s3c0520.d	1247255002	JL01	05-MAR-2010 16:31	956677	110-1879	1.0	LANL	USE; RR OF S3C0444
1s3c0521.d	1247255004	JL01	05-MAR-2010 16:54	956677	110-1879	1.0	LANL	USE; RR OF S3C0446
1s3c0522.d	1247551001	JL01	05-MAR-2010 17:17	956677	110-1969	1.0	LANL	USE; RR OF S3C0448
1s3c0523.d	1247551002	JL01	05-MAR-2010 17:40	956677	110-1969	1.0	LANL	USE
1s3c0524.d	1247562002	JL01	05-MAR-2010 18:03	956677	110-1950	1.0	LANL	USE
1s3c0525.d	1247562003	JL01	05-MAR-2010 18:26	956677	110-1950	1.0	LANL	USE; ISTD LOW; S3C1130 CONFIRMS
1s3c0526.d	1247562004	JL01	05-MAR-2010 18:49	956677	110-1950	1.0	LANL	USE
1s3c0527.d	1247562005	JL01	05-MAR-2010 19:12	956677	110-1950	1.0	LANL	USE
1s3c0528.d	1247562006	JL01	05-MAR-2010 19:35	956677	110-1950	1.0	LANL	USE
1s3c0529.d	1247562007	JL01	05-MAR-2010 19:58	956677	110-1950	1.0	LANL	USE
1s3c0530.d	1247562008	JL01	05-MAR-2010 20:21	956677	110-1950	1.0	LANL	USE
1s3c0531.d	1247562009	JL01	05-MAR-2010 20:44	956677	110-1950	1.0	LANL	USE
1s3c0532.d	WBN100207-01	JL01	05-MAR-2010 23:11	50NG	s030510	1.0	DFTP	DUSE
1s3c0533.d	WBN100225-09.2	JL01	05-MAR-2010 23:23	40PPM	s030510	1.0	MEGACVS	DUSE

DATA EXCEPTION REPORT

Mo.Day Yr. 10-MAR-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: SEM/VOA GC/MS	Test / Method: SW846 8270C	Matrix Type: Solid	Client Code: LANL
Batch ID: 956677	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 247245(10-1876),247255(10-1879),247551(10-1969),247562(10-1950)

Application Issues:

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for MSD/PSD

**Specification and Requirements
Exception Description:**

DER Disposition:

1. The MSD(1202051283) recovered Di-n-octylphthalate at 145%. The limits are 31%-143%.

2. The MS(1202051282)/MSD(1202051283) RPD value for Hexachlorocyclopentadiene was 40%. The limit is 30%.

1. Since the MS(1202051282) displayed a similarly high (but passing) recovery for Di-n-octylphthalate to the MS, the failure was attributed to matrix interference and the data were reported.

2. Because Hexachlorocyclopentadiene was individually within the acceptance limits for the MS and MSD, the data were reported.

Originator's Name:

Jennifer Dunagan Jones11-MAR-10

Data Validator/Group Leader:

Barbara Bailey

11-MAR-10

LC/MS/MS PERCHLORATE ANALYSIS

**Perchlorate by LC/MSMS
Los Alamos National Laboratory (LANL)
SDG 10-1969**

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: 957938

Prep Batch Number: 957937

Sample Analysis

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202054216	Interference Check Sample (ICS)
1202054212	Method Blank (MB)
1202054213	Laboratory Control Sample (LCS)
1202054214	247566002(RE15-10-8253) Matrix Spike (MS)
1202054215	247566002(RE15-10-8253) 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.

10-1969-PERLCMS

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CCV Requirements

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

CCB Requirements

All continuing calibration blanks (CCB) bracketing the analyses associated with this batch were within acceptance criteria.

CCV Requirements

All continuing calibration checks (CCV) requirements were met by all bracketing CCV standards.

Low Level Standard (CRI) Requirements

All low level calibration verification (CRI) requirements were met by all bracketing CRI standards.

Quality Control (QC) Information**Method Blank (MB) Statement**

The MB(s) analyzed with this SDG met the acceptance criteria.

Interference Check Sample (ICS)

The interference check sample (ICS) met all recovery acceptance criteria.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries met the acceptance limits.

QC Sample Designation

Client sample 247566002 (RE15-10-8253) from SDG 10-1957 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.

10-1969-PERLCMS

Page 2 of 4

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

Samples 247551001 (RE15-10-8349) and 247551002 (RE15-10-8348) required re-analysis due to bracketing CCVs that failed. The re-analysis passed acceptance criteria and is reported.

Miscellaneous Information

Data Exception (DER) Documentation

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integrations

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

Method Comments

The samples in this SDG were not originally analyzed using EPA Method 314.0.

Additional Comments

The Perchlorate Isotope Ratio on the Form I may differ slightly from the ratio on the corresponding raw data due to rounding rules and/or significant figures or due to software limitations when there are manual integrations, dilutions or other factors. The ratio value of the Form I is the correct value.

The retention time marker, Perchlorate-O (18), is added to all samples, instrument blanks, and standards prior to injection. It is used to verify the retention time of Perchlorate and Perchlorate-101 and to insure an accurate injection occurred. Due to various anions affecting the recovery of Perchlorate-O (18) and not Perchlorate and Perchlorate-101, the calibration curves of Perchlorate and Perchlorate-101 are not internally corrected for using Perchlorate-O (18). They are external calibrations.

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: Robert M. Mauer Date: 03/16/10

10-1969-PERLCMS

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SAMPLE DATA SUMMARY

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 957937

Extraction Type: Solid Prep

Client Sample No.

RE15-10-8349

Date Received: 20-FEB-10

GEL Job No (SDG): 10-1969

GEL Sample ID: 247551001

Date Filtered: 05-MAR-10

Injection Volume (uL): 20

%Solids: 93.1

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.562	ug/kg	J	1	11-MAR-10 20:58	per0311012a
	Perchlorate Isotope Ratio			3.15			1	11-MAR-10 20:58	per0311012a
14797-73-0	Perchlorate-101	.537	2.15	0.537	ug/kg	U	1	11-MAR-10 20:58	per0311012a
	Perchlorate-O(18)			5.18	ug/kg		1	11-MAR-10 20:58	per0311012a

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

*Concentration =

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

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 957937

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE15-10-8348

Date Received: 20-FEB-10

GEL Job No (SDG): 10-1969

GEL Sample ID: 247551002

Date Filtered: 05-MAR-10

Injection Volume (uL): 20

%Solids: 96.3

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.519	2.08	0.599	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate Isotope Ratio			3.11			1	11-MAR-10 21:07	per0311013a
14797-73-0	Perchlorate-101	.519	2.08	0.553	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate-O(18)			5.05	ug/kg		1	11-MAR-10 21:07	per0311013a

[^] 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): 10-1969

Extract Batch Code: 957937 Date Filtered: 05-MAR-10

Matrix: SOIL Sample ID: 1202054213

Analyte^	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.39	ug/kg	119		70 - 130
Perchlorate Isotope Ratio		3.05				-
Perchlorate-101	2.00	2.43	ug/kg	121		70 - 130
Perchlorate-O(18)		5.31	ug/kg			-

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

Perchlorate Interference Check Sample

Lab Name: General Engineering Laboratories

Lab Code: GEL

GEL Job No. (SDG):

10-1969

Extract Batch Code: 957937

Date Filtered:

05-MAR-10

Matrix:

SOIL

Sample ID:

1202054216

Analyte [^]	True	Found	Units	%Rec	Q	Control Limits
Perchlorate	2.00	2.39	ug/kg	119		70 - 130
Perchlorate Isotope Ratio		3.06				
Perchlorate-101	2.00	2.42	ug/kg	121		70 - 130
Perchlorate-O(18)		5.39	ug/kg			

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

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

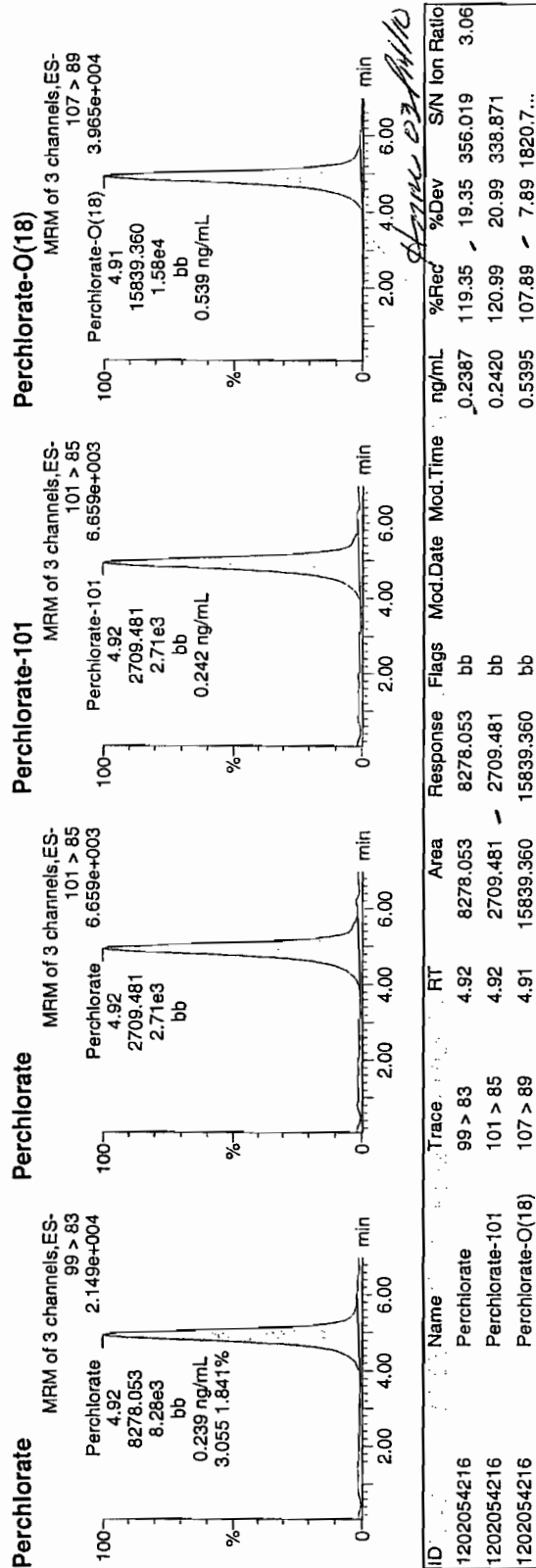
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310057a
Date: 10-Mar-2010
Time: 23:16:34
ID: 1202054216
Vial: 2:1,C

03-11-10

1500-1957933 | 3000 | 15 | 11



Perchlorate Spike/Spike Duplicate Summary

Lab Name: General Engineering Laboratories

Lab Code: GEL

Extract Batch Code: 957937

GEL MS/PS ID: 1202054214

GEL MSD/PSD ID: 1202054215

GEL Job No (SDG): 10-1969

Date Extracted: 05-MAR-10

Client ID: RE15-10-8253

QC Type: MS

Compound^	Spike Added	Sample Conc	Units	MS Conc	MS Rec	#	MSD Conc	MSD Rec	#	RPD	#	RPD Limit	Recovery Limit
Perchlorate	2.05	2.12	ug/kg	4.22	102		4.08	95.6		3.39		30	75 - 125
Perchlorate Isotope Ratio	0	0.00		2.9			3.11			0			-
Perchlorate-101	2.05	1.99	ug/kg	4.17	106		3.77	86.6		10.2		30	75 - 125
Perchlorate-O(18)	0	5.19	ug/kg	5.18			5.05			2.5			-

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

Comments:

Perchlorate Initial Calibration Blank

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id	GEL Sample ID
Perchlorate	0.00	0	NA	10-MAR-10	per0310001a	IPB001
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310001a	IPB001
Perchlorate	0.00	0	NA	10-MAR-10	per0310002a	IPB001
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310002a	IPB001
Perchlorate	0.00	0	NA	11-MAR-10	per0311001a	IPB001
Perchlorate-101	0.00	0	NA	11-MAR-10	per0311001a	IPB001
Perchlorate	0.00	0	NA	11-MAR-10	per0311002a	IPB001
Perchlorate-101	0.00	0	NA	11-MAR-10	per0311002a	IPB001

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

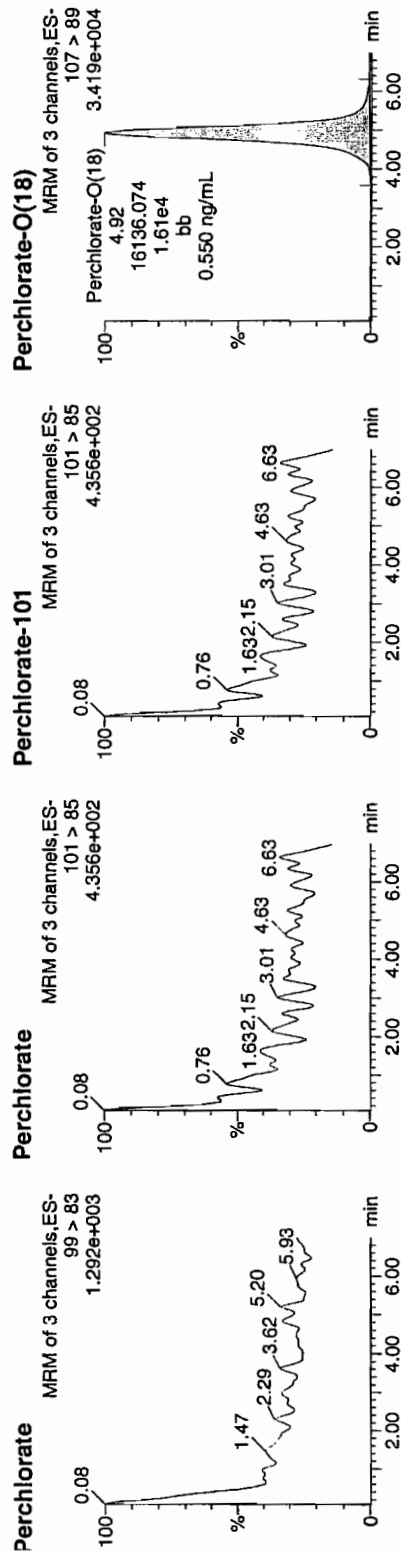
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Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

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Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031010a.cdb 11 Mar 2010 08:38:19

Name: per0310001a
Date: 10-Mar-2010
Time: 13:53:52
ID: IPB001
Vial: 1:1,A

03-10-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB001	Perchlorate	99 > 83											0.00
PB001	Perchlorate-101	101 > 85											
PB001	Perchlorate-O(18)	107 > 89	4.92	16136.074	16136.074	bb			0.5496	109.91	~	9.91	1305.9...

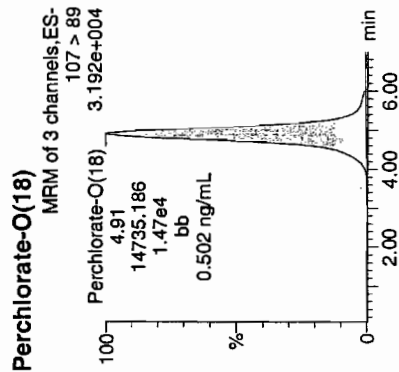
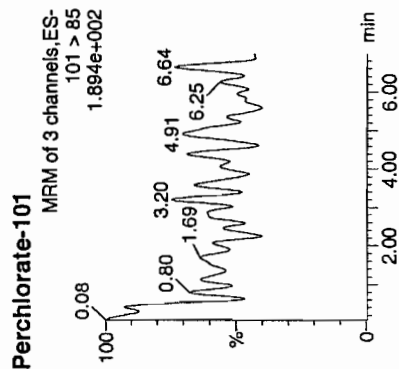
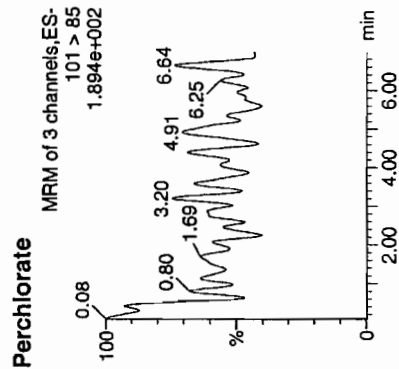
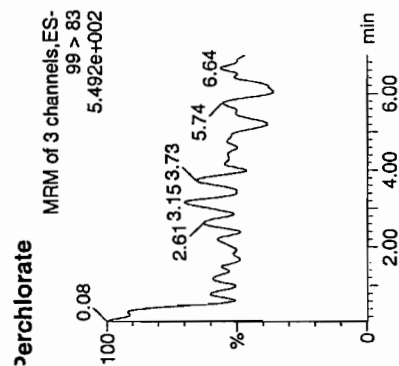
μm
3/16/10

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

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 Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310002a
 Date: 10-Mar-2010
 Time: 14:03:54
 D: IPB001
 Jial: 1:1,A
 Page 363 of

03.11.10
~~03.11.10~~
03



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB001	Perchlorate	99 > 83											0.00
PB001	Perchlorate-101	101 > 85											
PB001	Perchlorate-O(18)	107 > 89	4.91	14735.186	14735.186	bb			0.5019	100.37	0.37	1920.8...	

3/11/20
next

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

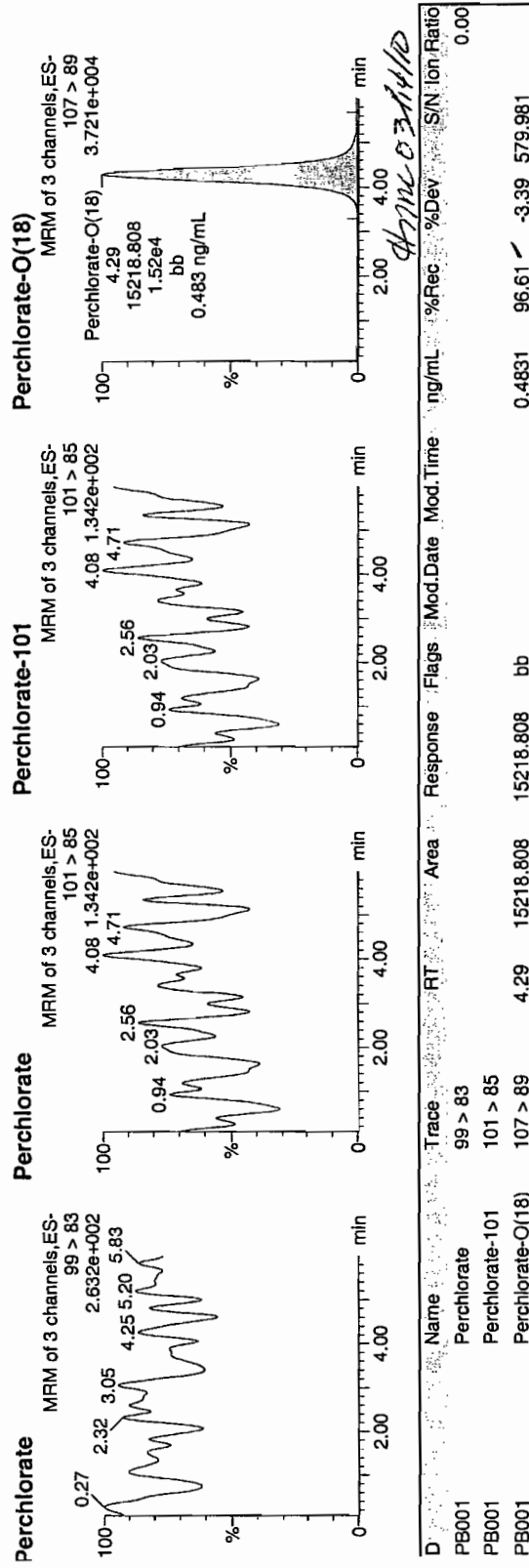
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Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per031110a.mdb 12 Mar 2010 09:21:58
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031110a.cdb 12 Mar 2010 09:22:30

Name: per0311001a
Date: 11-Mar-2010
Time: 19:18:55
ID: IPB001
Vial: 1:1,A

03-12-10



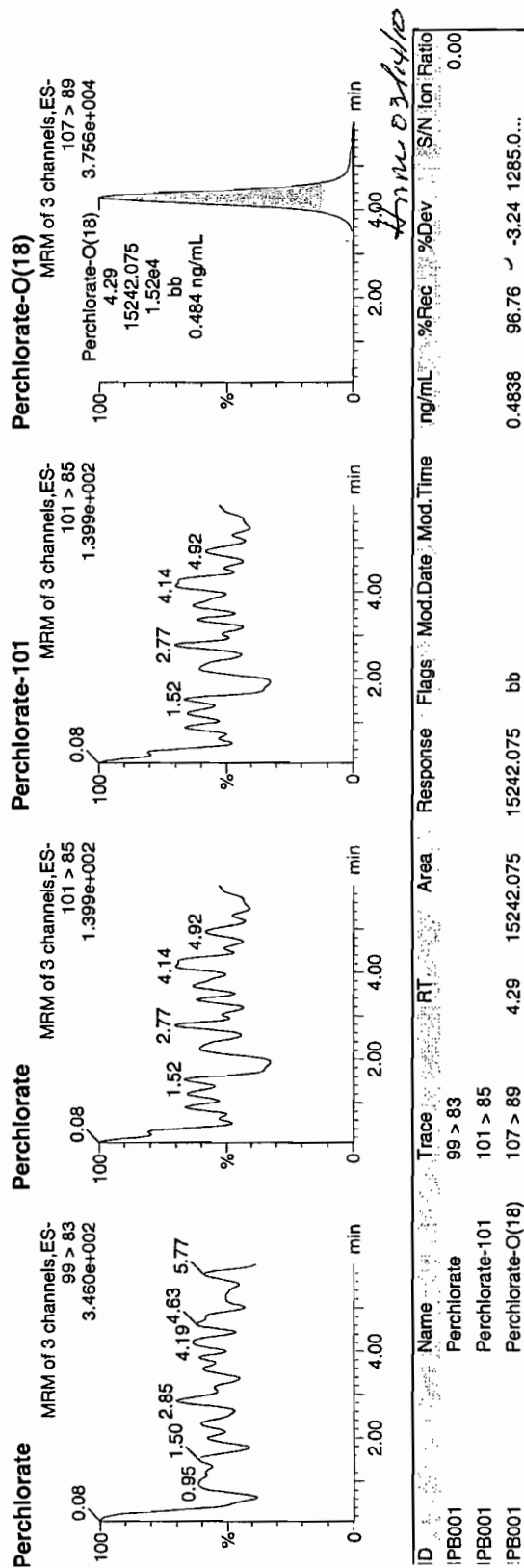
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311002a
Date: 11-Mar-2010
Time: 19:27:57
ID: IPB001
Vial: 1:1,A

03-12-10



Perchlorate Continuing Calibration Blank

GEL Job No.(SDG): 10-1969

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	10-MAR-10	per0310008a	IPB002
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310008a	IPB002
Perchlorate	0.00	0	NA	10-MAR-10	per0310010a	IPB003
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310010a	IPB003
Perchlorate	0.00	0	NA	10-MAR-10	per0310021a	IPB004
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310021a	IPB004
Perchlorate	0.00	0	NA	10-MAR-10	per0310034a	IPB005
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310034a	IPB005
Perchlorate	0.00	0	NA	10-MAR-10	per0310047a	IPB006
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310047a	IPB006
Perchlorate	0.00	0	NA	10-MAR-10	per0310054a	IPB007
Perchlorate-101	0.00	0	NA	10-MAR-10	per0310054a	IPB007
Perchlorate	0.00	0	NA	10-MAR-10	per0310060a	IPB008

Perchlorate Continuing Calibration Blank

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

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	10-MAR-10	per0310060a	IPB008
Perchlorate	0.00	0	NA	11-MAR-10	per0311008a	IPB002
Perchlorate-101	0.00	0	NA	11-MAR-10	per0311008a	IPB002
Perchlorate	0.00	0	NA	11-MAR-10	per0311010a	IPB003
Perchlorate-101	0.00	0	NA	11-MAR-10	per0311010a	IPB003
Perchlorate	0.00	0	NA	11-MAR-10	per0311023a	IPB004
Perchlorate-101	0.00	0	NA	11-MAR-10	per0311023a	IPB004

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

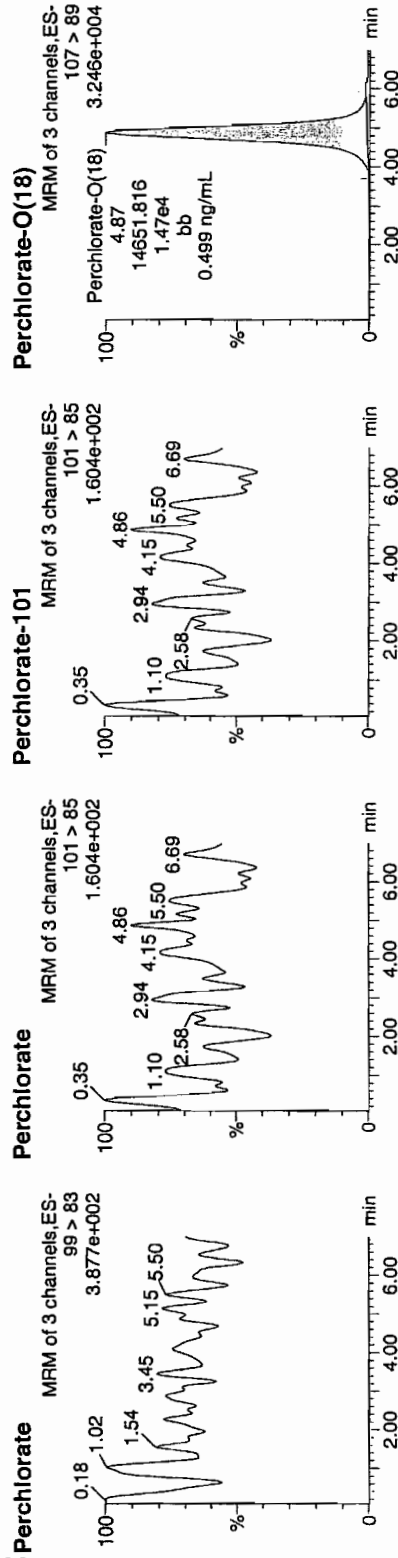
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310008a
Date: 10-Mar-2010
Time: 15:04:00
ID: IPB002
Vial: 1:1,A

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03-11-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
IPB002	Perchlorate	99 > 83											0.00
IPB002	Perchlorate-101	101 > 85											
IPB002	Perchlorate-O(18)	107 > 89	4.87	14651.816	14651.816	bb			0.4990	99.80	-0.20	1746.0...	

14651
3/11/10

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Sample Name: per0310010a

Date: 10-Mar-2010

Time: 15:24:05

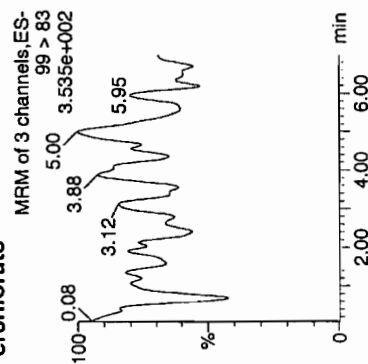
ID: IPB003

File: 1:1,A

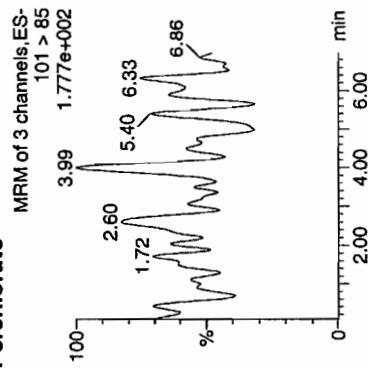
Page 369 of 1389

03-11-10

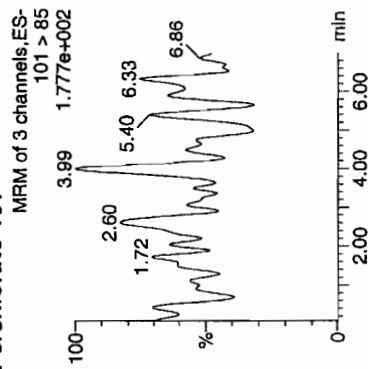
Perchlorate



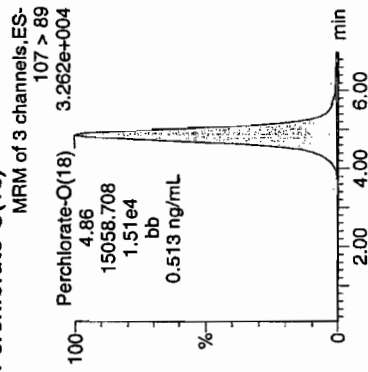
Perchlorate



Perchlorate-101



Perchlorate-O(18)



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB003	Perchlorate	99 > 83											0.00
PB003	Perchlorate-101	101 > 85											
PB003	Perchlorate-O(18)	107 > 89	4.86	15058.708	15058.708	bb			0.5129	102.57	2.57	129.755	

1000
3/11/10

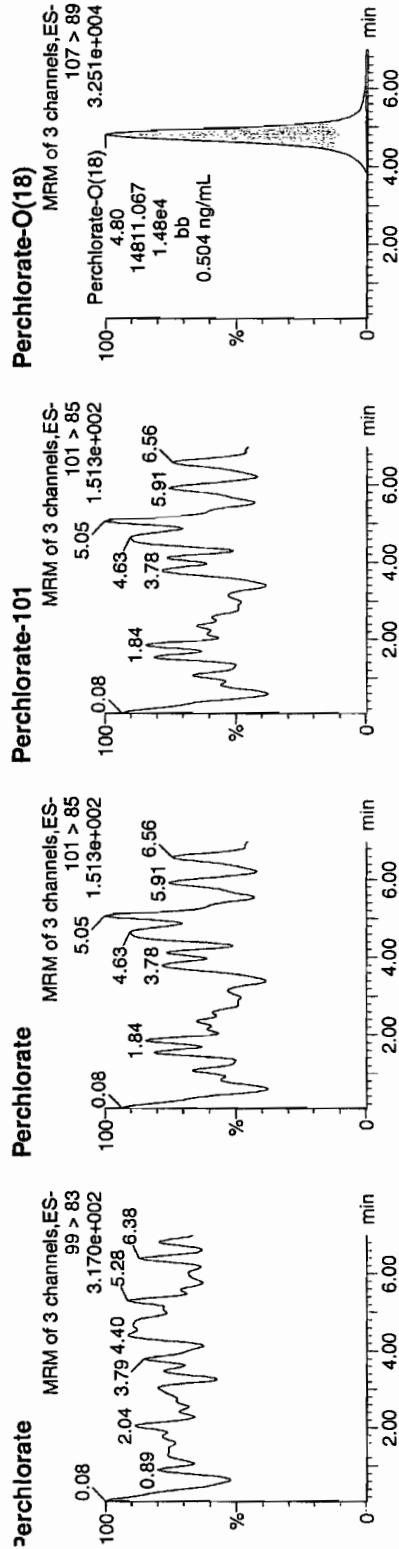
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310021a
Date: 10-Mar-2010
Time: 17:14:33
D: IPB004
Vial: 1:1,A

03-11-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB004	Perchlorate	99 > 83											0.00
PB004	Perchlorate-101	101 > 85											
PB004	Perchlorate-O(18)	107 > 89	4.80	14811.067	14811.067	bb			0.5044	100.89	0.89	174.597	

14811
311/15

EEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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

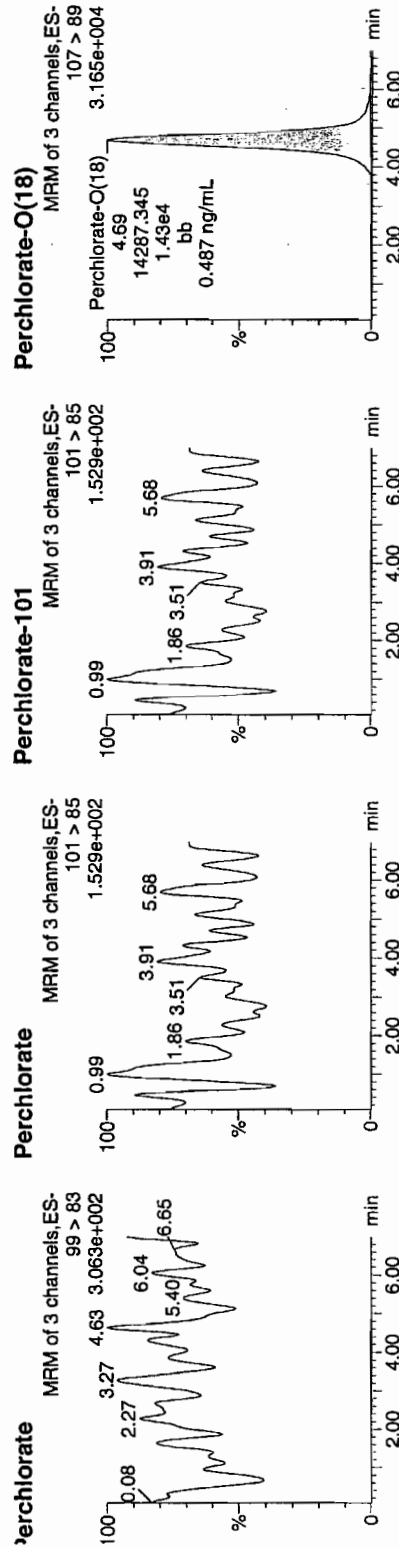
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

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Sample Name: per0310047a
Date: 10-Mar-2010
Time: 21:35:54
D: IPB006
File: 1:1.A

03-11-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB006	Perchlorate	99 > 83											
PB006	Perchlorate-101	101 > 85											
PB006	Perchlorate-O(18)	107 > 89	4.69	14287.345	14287.345	bb			0.4866	97.32	-2.68	2391.5...	0.00

14287
31110

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

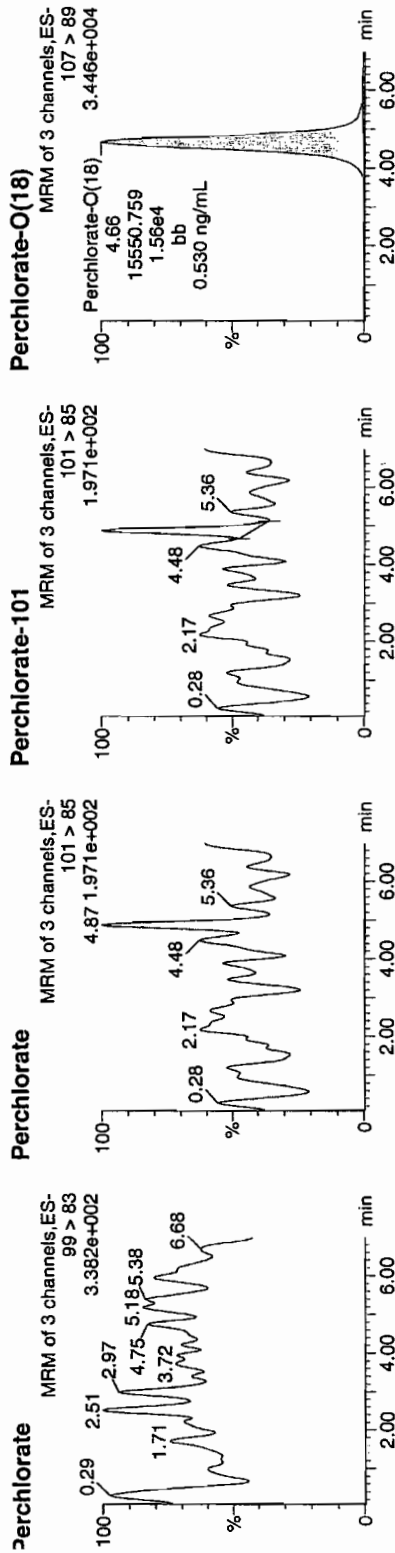
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310054a
Date: 10-Mar-2010
Time: 22:46:18
ID: IPB007
Vial: 1:1,A

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03-11-10



D.	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB007	Perchlorate	99 > 83	4.87	23.111	23.111	bb			0.0021			6.387	0.00
PB007	Perchlorate-101	101 > 85	4.66	15550.759	15550.759	bb			0.5296	105.93	✓	5.93	1771.5...
PB007	Perchlorate-O(18)	107 > 89											

WAT
3/11/10

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
 Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Sample Name: per0310060a

Date: 10-Mar-2010

Time: 23:46:54

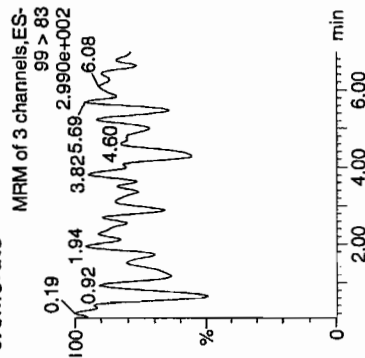
ID: IPB008

File: 1:1,A

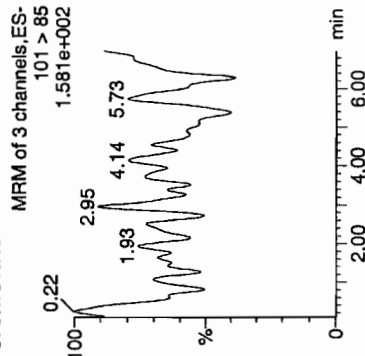
Page 374 of 1389

0.22
0.22-1.10

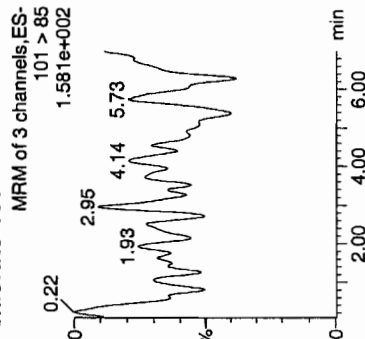
Perchlorate



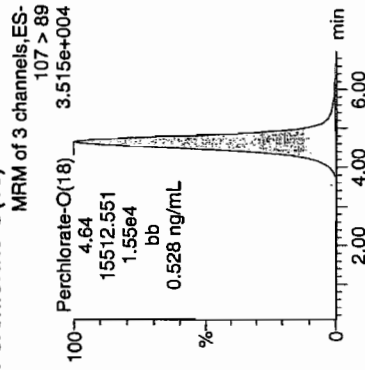
Perchlorate



Perchlorate-101



Perchlorate-Q(18)



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
PB008	Perchlorate	99 > 83											
PB008	Perchlorate-101	101 > 85											
PB008	Perchlorate-Q(18)	107 > 89	4.64	15512.551	15512.551	bb			0.5283	105.67	5.67	911.325	0.00

15512.551
3/11/10

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

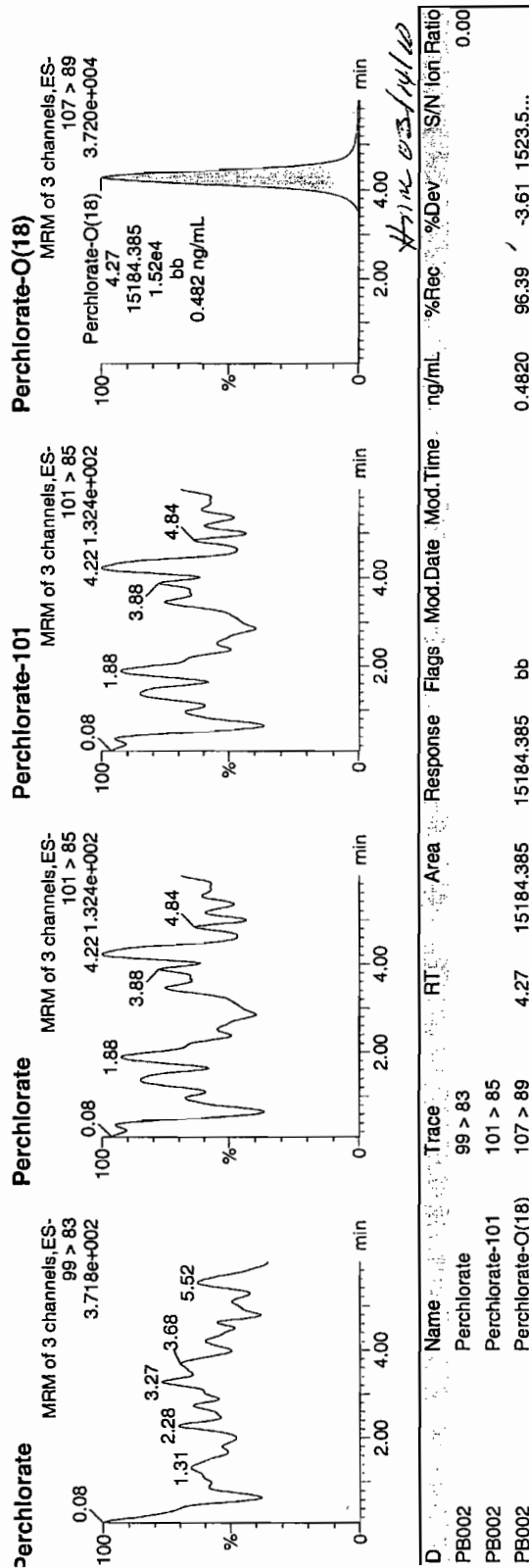
Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

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Name: per0311008a
Date: 11-Mar-2010
Time: 20:22:05
D: IPB002
Vial: 1:1,A

03-12-10



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

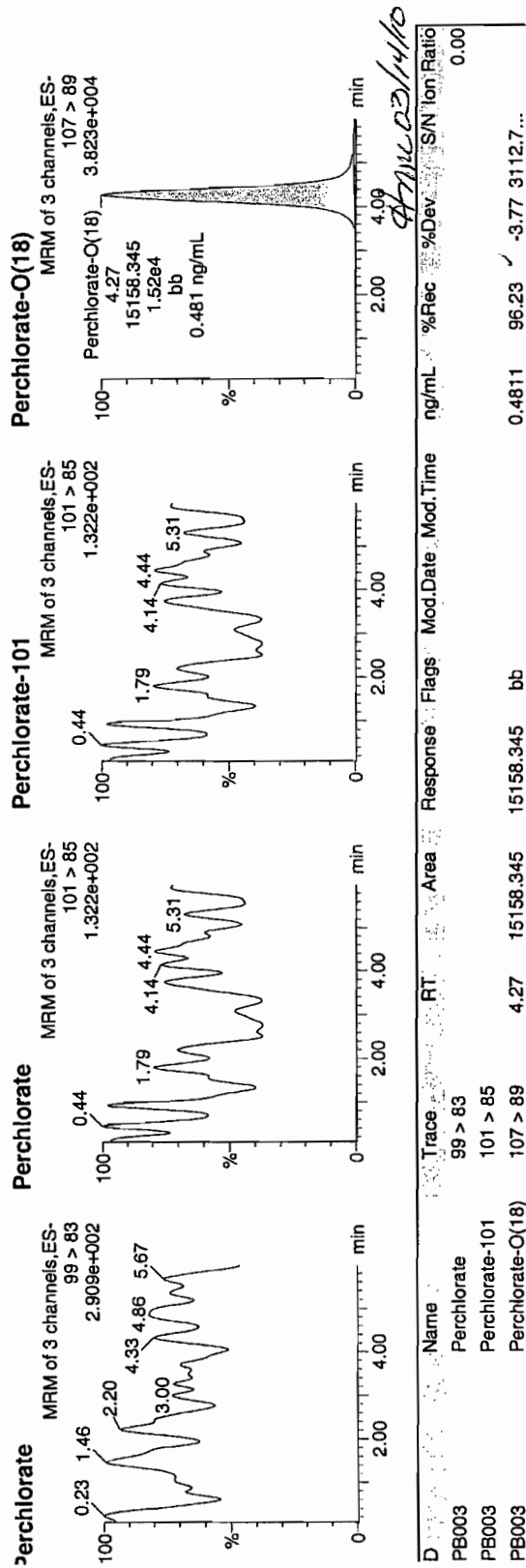
Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

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Name: per03111010a
Date: 11-Mar-2010
Time: 20:40:09
D: IPB003
Vial: 1:1,A

03-12-10



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

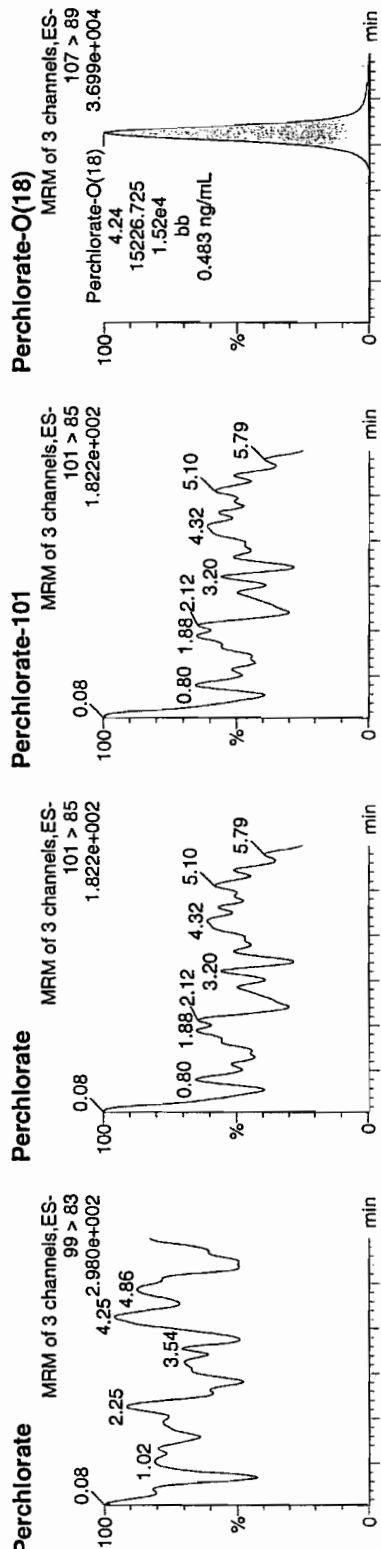
Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311023a
Date: 11-Mar-2010
Time: 22:37:39
ID: IPB004
Vial: 1:1,A

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03-12-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion.Ratio
IPB004	Perchlorate	99 > 83											
IPB004	Perchlorate-101	101 > 85											
IPB004	Perchlorate-O(18)	107 > 89	4.24	15226.725	15226.725	bb			0.4833	96.66	-3.34	3269.2...	0.00

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

QUATRO ULTIMA: nairb_01_08_08.cal

Calibration Report - MS1 Static

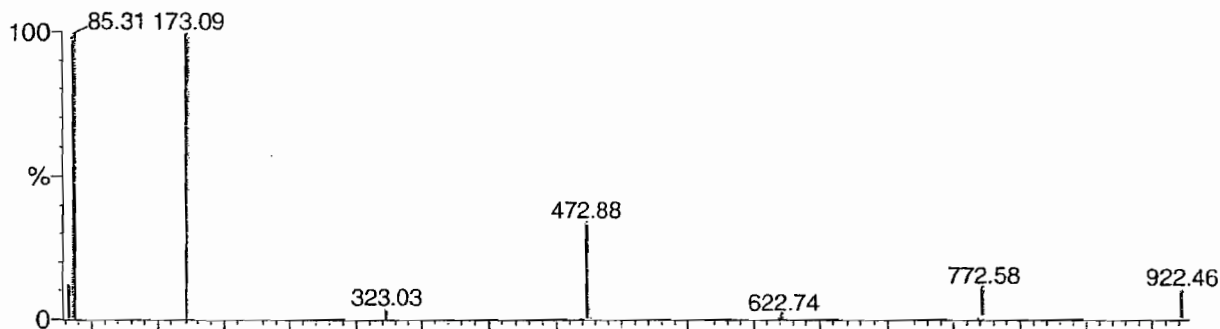
Page 1 of 1

Printed: Tue Jan 08 12:19:12 2008

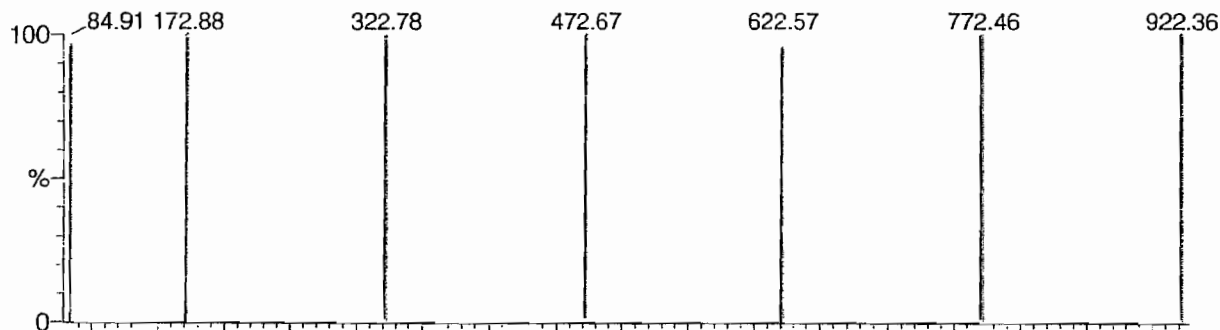
POINTS HIGHLIGHTED BY CURV 01-07-08

Data file: STATMS1 - Uncalibrated

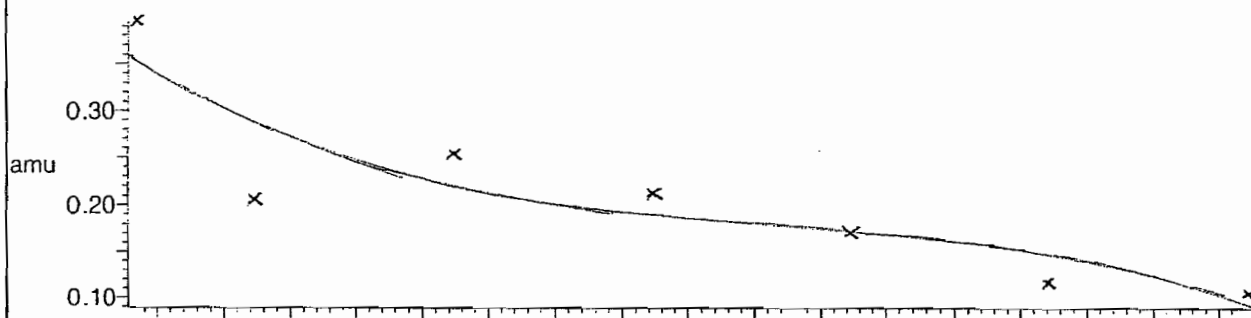
7 matches of 7 tested references



Reference file: Nairb

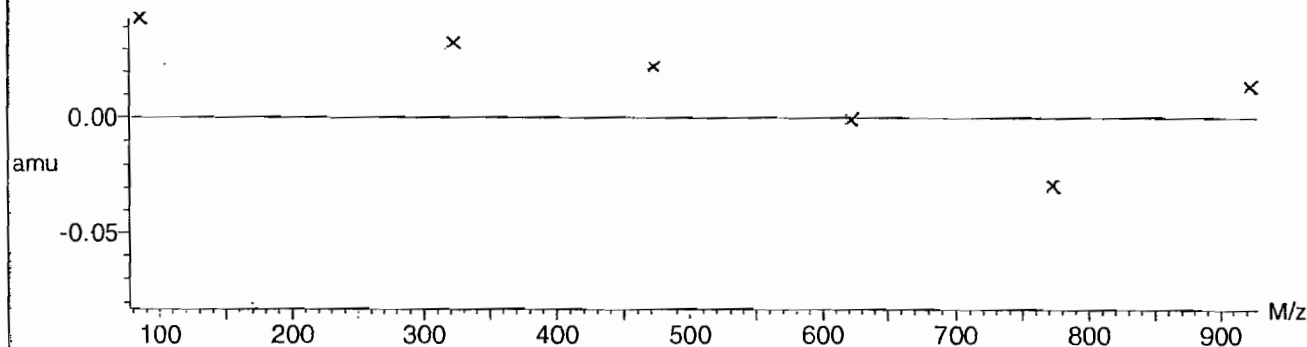


Mass difference (Raw - Ref mass)



Residuals

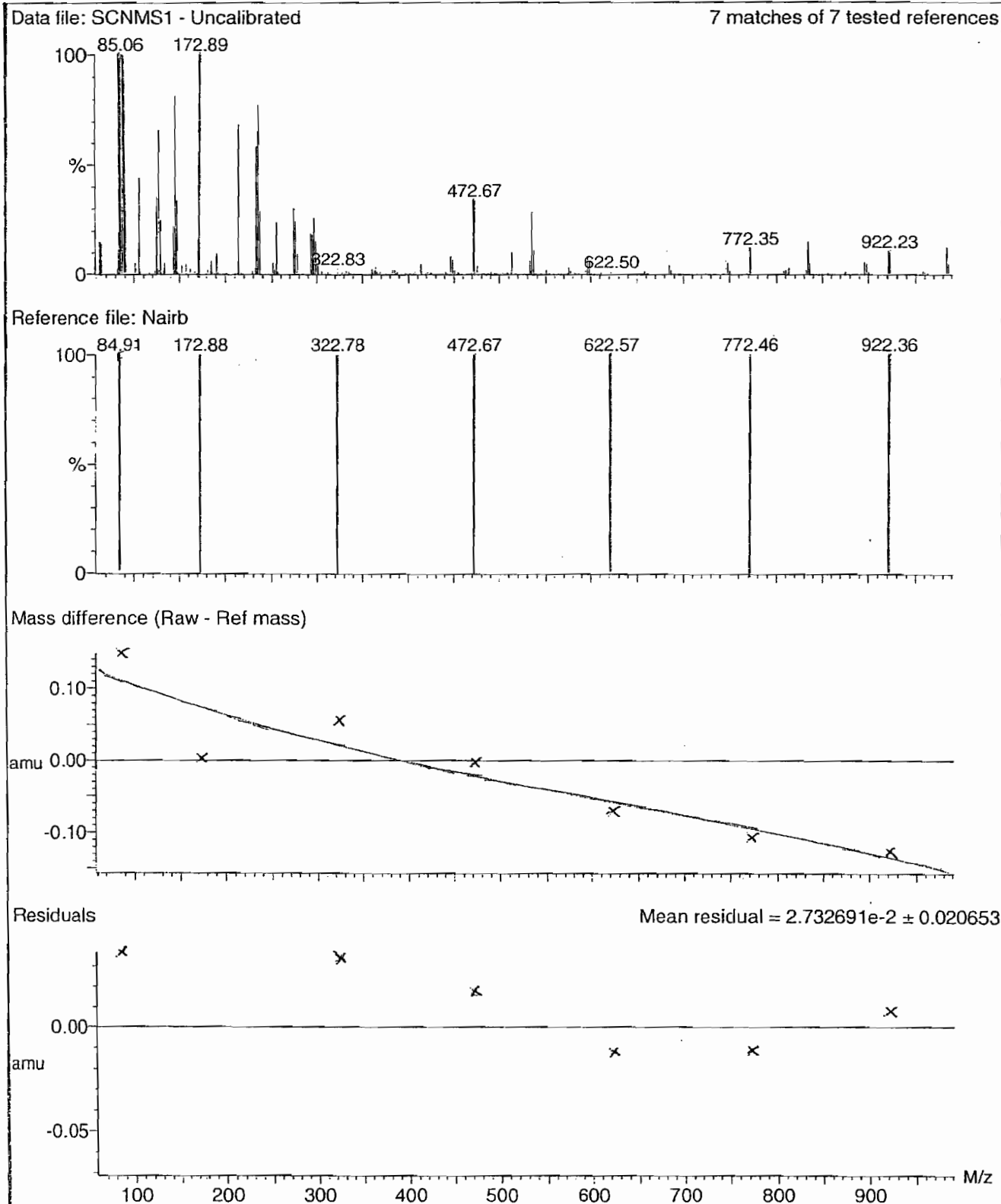
Mean residual = $3.212012 \times 10^{-2} \pm 0.024108$



Calibration Report - MS1 Scanning

Page 1 of 1

Printed: Tue Jan 08 12:20:09 2008



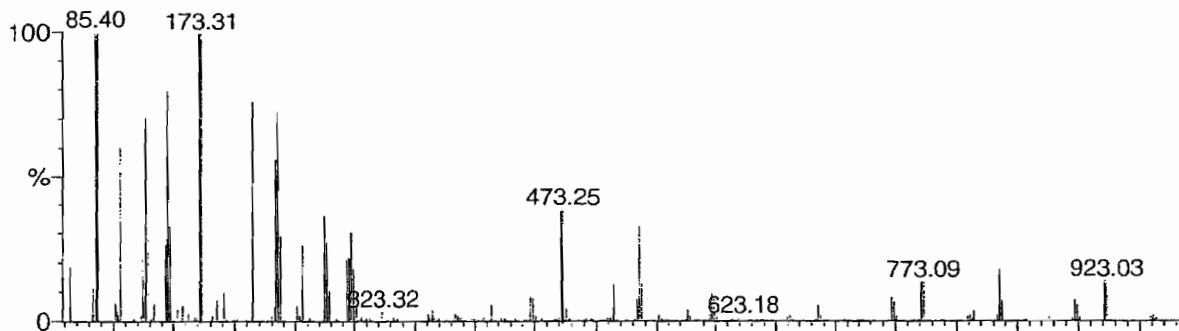
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

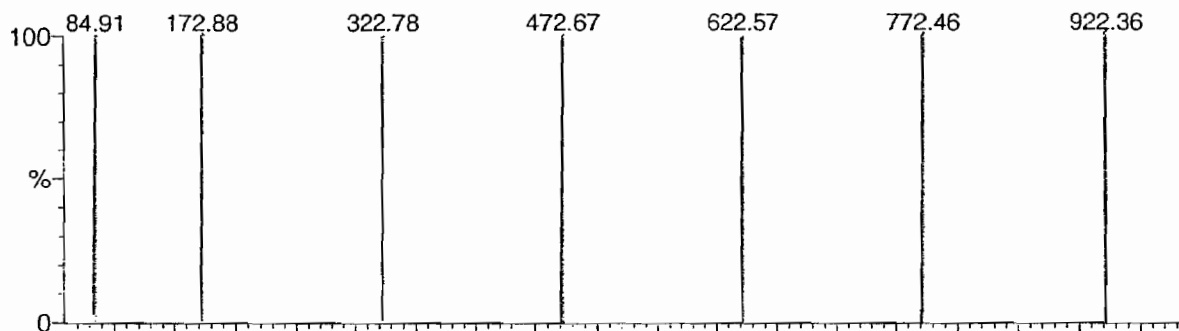
Printed: Tue Jan 08 12:21:04 2008

Data file: FASTMS1 - Uncalibrated

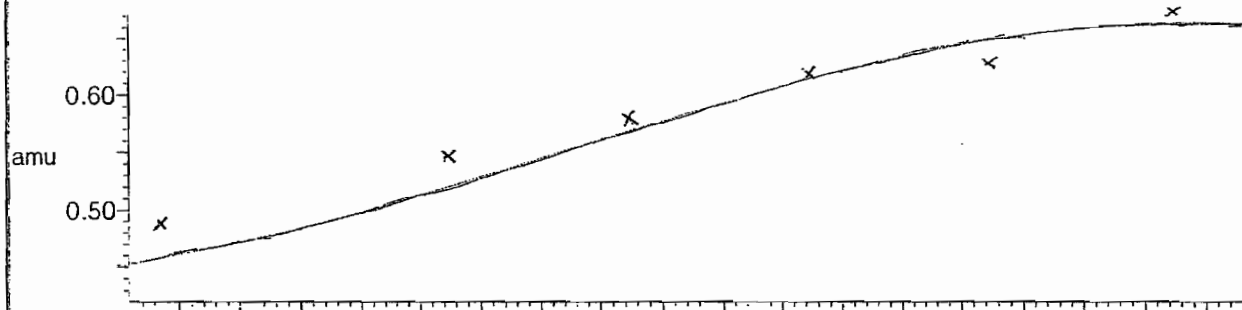
7 matches of 7 tested references



Reference file: Nairb

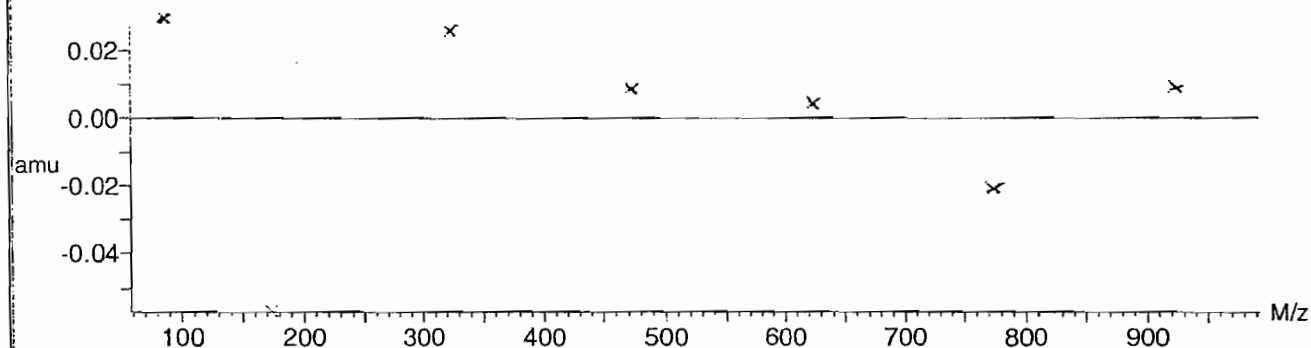


Mass difference (Raw - Ref mass)



Residuals

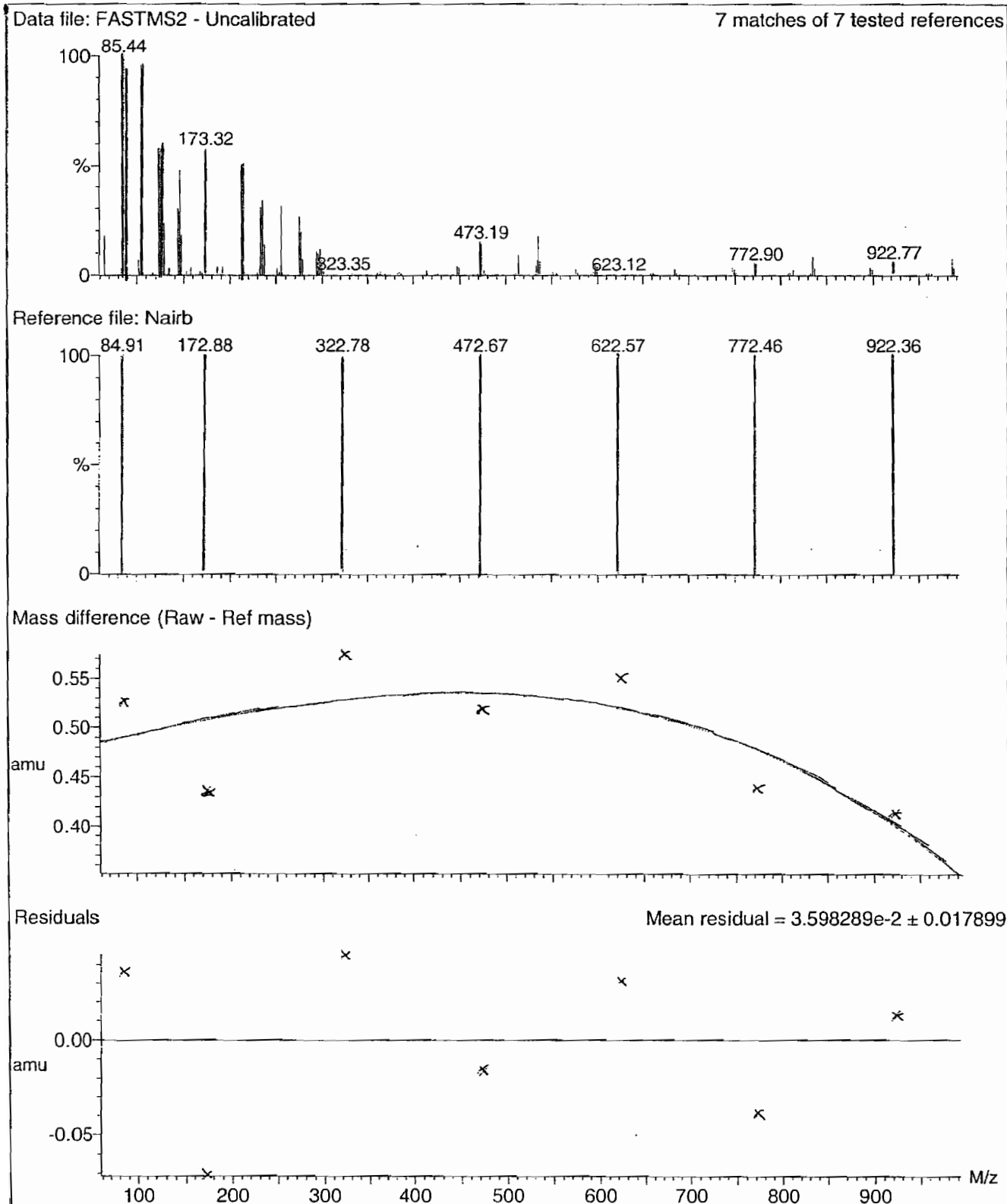
Mean residual = $2.224580 \times 10^{-2} \pm 0.016544$



Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

Printed: Tue Jan 08 12:23:51 2008



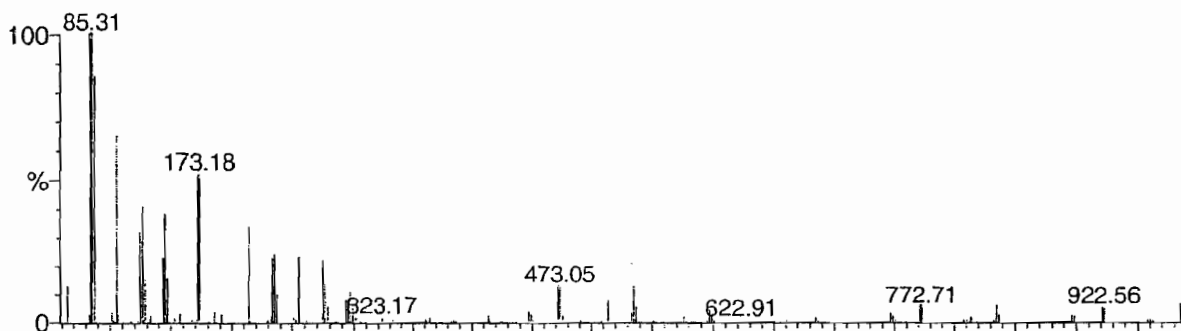
Calibration Report - MS2 Scanning

Page 1 of 1

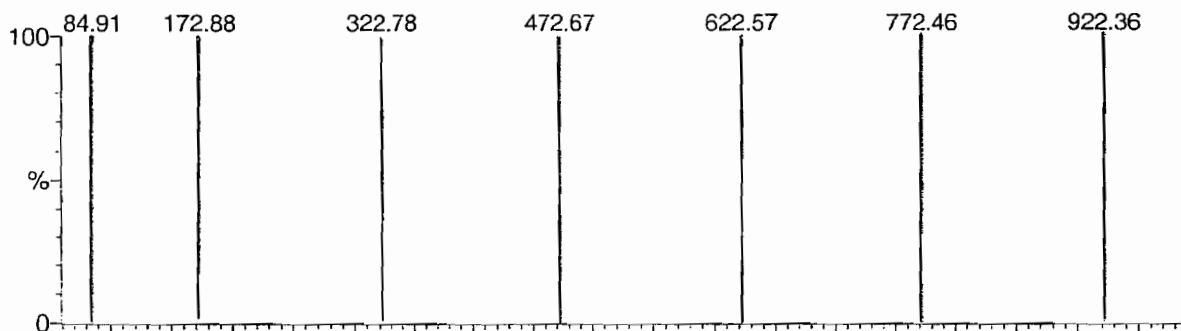
Printed: Tue Jan 08 12:22:56 2008

Data file: SCNMS2 - Uncalibrated

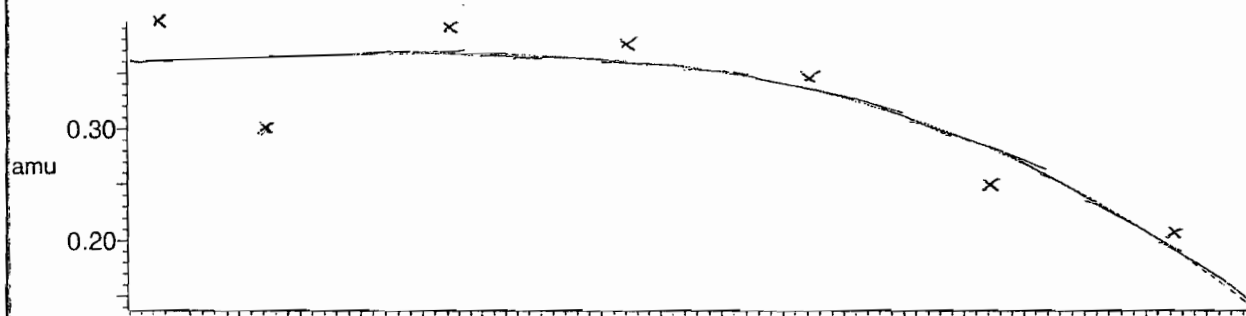
7 matches of 7 tested references



Reference file: Nairb

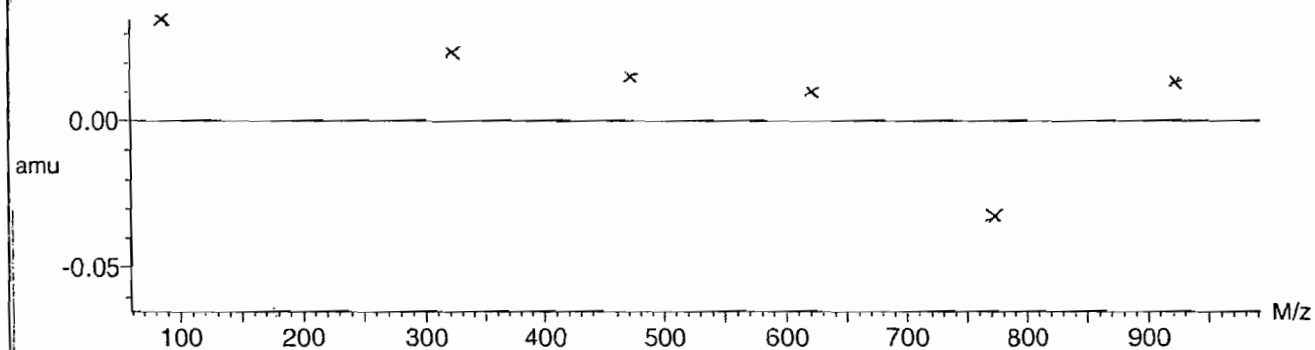


Mass difference (Raw - Ref mass)



Residuals

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



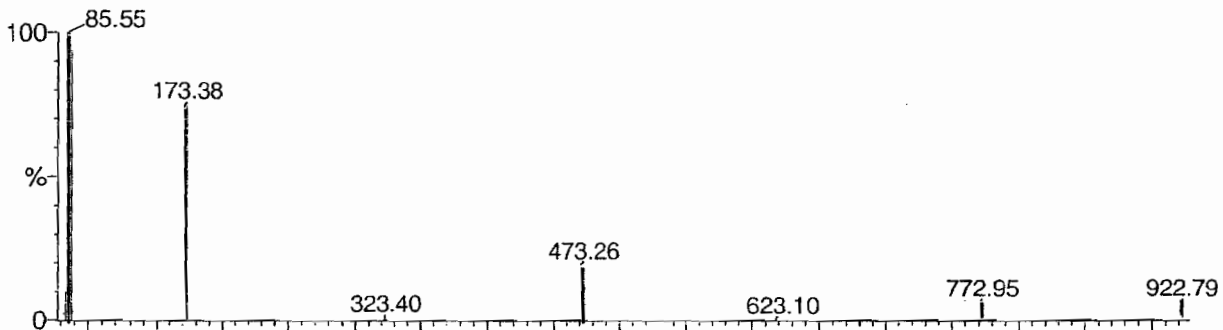
Calibration Report - MS2 Static

Page 1 of 1

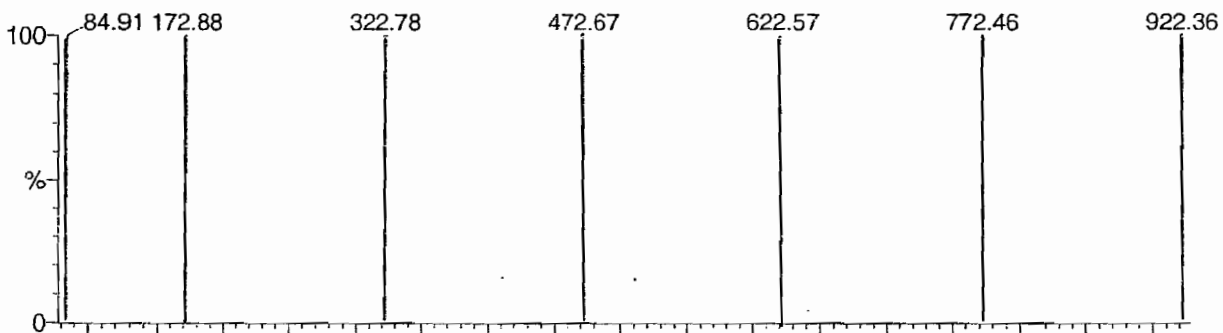
Printed: Tue Jan 08 12:21:59 2008

Data file: STATMS2 - Uncalibrated

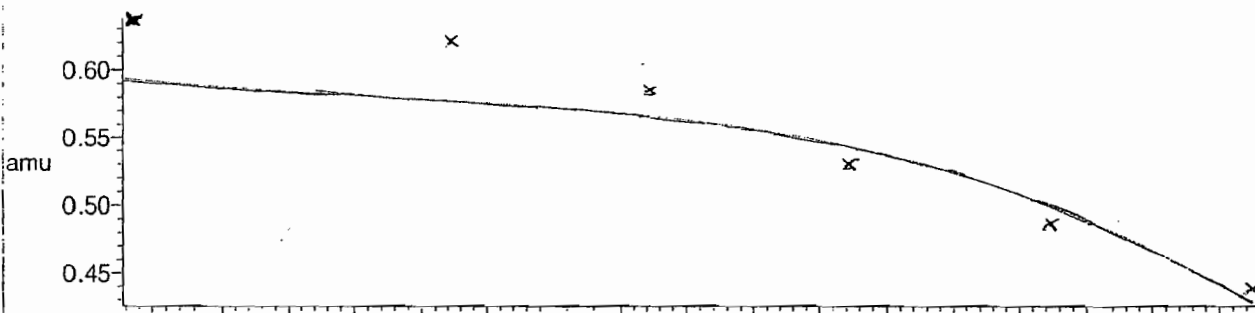
7 matches of 7 tested references



Reference file: Nairb

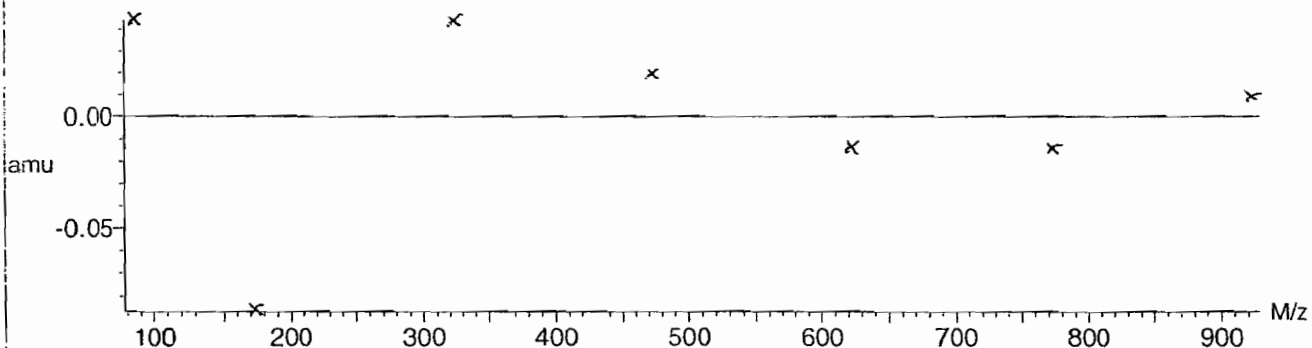


Mass difference (Raw - Ref mass)



Residuals

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



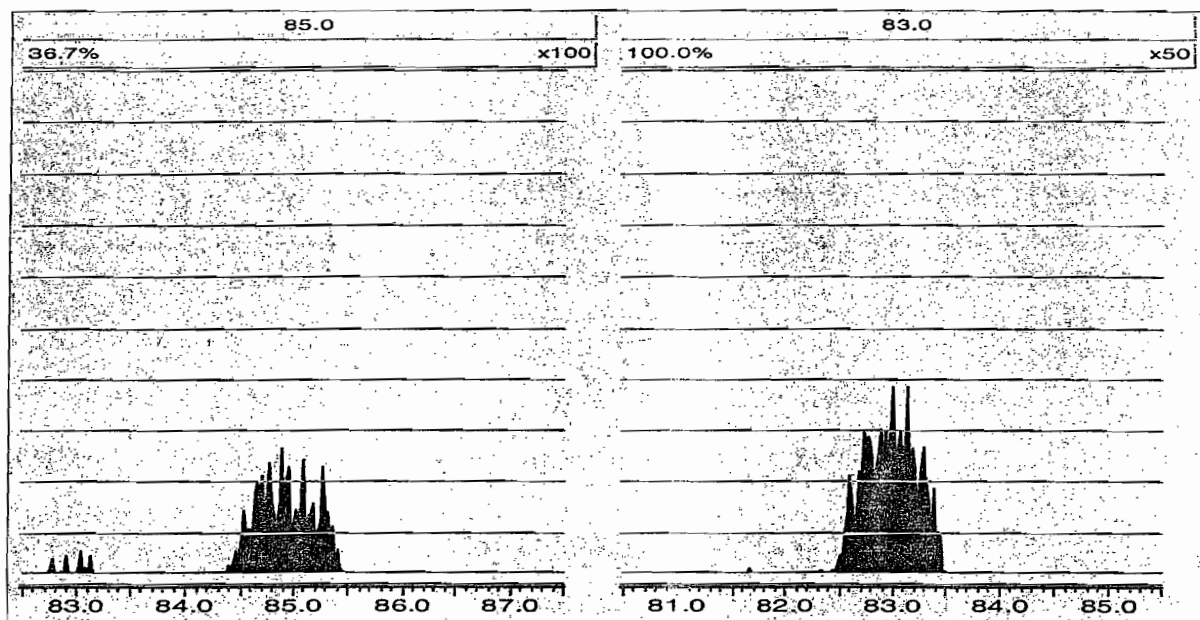
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

File: C:\MassLynx\Perchlorate.PROVACQUDB\Perchlorate.IPR

Printed: Wednesday, March 10, 2010 13:51:21 Eastern Standard Time



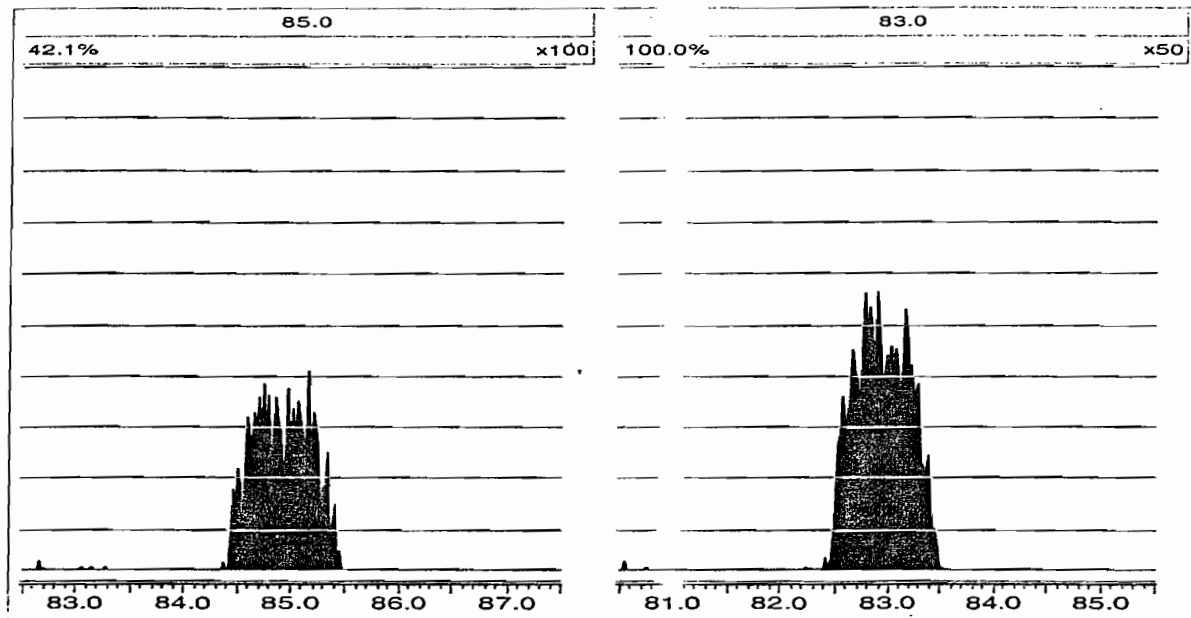
Tune Parameters

MassLynx 4.0 SP4

Page 1 of 1

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

Printed: Thursday, March 11, 2010 11:07:17 Eastern Standard Time



Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

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	per0310006a	10-MAR-10	14525.1				
Lower Area Limit			7262.55				
Upper Area Limit			29050.2				
1202054212	per0310055a	10-MAR-10 22:56	15534.8	4.65	4.72505	1.016	
1202054213	per0310056a	10-MAR-10 23:06	15583.6	4.65	4.66297	1.003	
1202054216	per0310057a	10-MAR-10 23:16	15839.4	4.91	4.92385	1.003	

Perchlorate RT And Area Summary

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

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	per0311006a	11-MAR-10	15049.9				
Lower Area Limit			7524.95				
Upper Area Limit			30099.8				
247551001	per0311012a	11-MAR-10 20:58	15191.3	4.25	4.26535	1.004	
247551002	per0311013a	11-MAR-10 21:07	15339.8	4.24	4.25305	1.003	

SAMPLE DATA

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 957937

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE15-10-8349

Date Received: 20-FEB-10

GEL Job No (SDG): 10-1969

GEL Sample ID: 247551001

Date Filtered: 05-MAR-10

Injection Volume (uL): 20

%Solids: 93.1

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.537	2.15	0.562	ug/kg	J	1	11-MAR-10 20:58	per0311012a
	Perchlorate Isotope Ratio			3.15			1	11-MAR-10 20:58	per0311012a
14797-73-0	Perchlorate-101	.537	2.15	0.537	ug/kg	U	1	11-MAR-10 20:58	per0311012a
	Perchlorate-O(18)			5.18	ug/kg		1	11-MAR-10 20:58	per0311012a

[^] 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 $\frac{1}{\% \text{Solids}}$

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

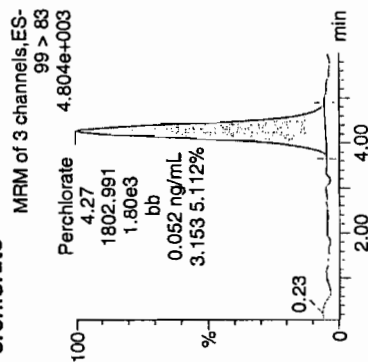
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Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

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Date: 11-Mar-2010
Time: 20:58:13
D: 247551001
/ial: 1:3,A

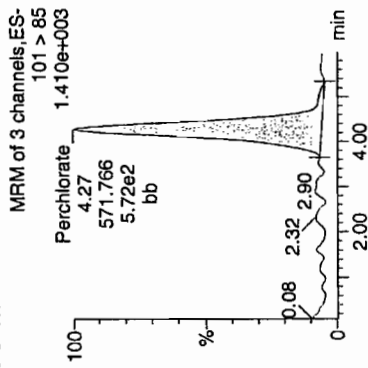
03-12-10

12-12-10

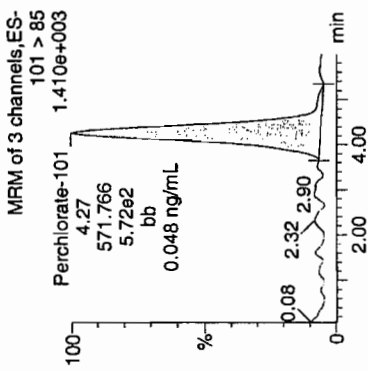
Perchlorate



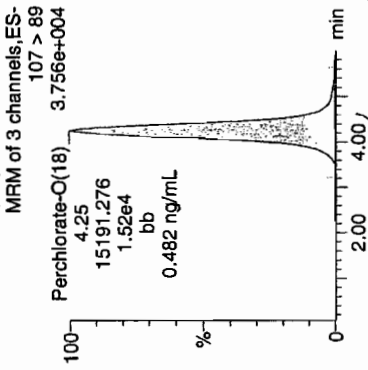
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	SN	Ion Ratio
247551001	Perchlorate	99 > 83	4.27	1802.991	1802.991	bb			0.0523			297.290	3.15
247551001	Perchlorate-101	101 > 85	4.27	571.766	571.766	bb			0.0475			103.788	
247551001	Perchlorate-O(18)	107 > 89	4.25	15191.276	15191.276	bb			0.4822	96.44	-3.56	2155.7...	

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Lab Code: GEL

Instrument: LCMSMS

Method: SW846 6850 Modified

Matrix: SOIL

Extraction Batch ID: 957937

Extraction Type: Solid Prep

Sample Volume/Weight: 2.00 g

Concentrated Extract Volume: 20.0

Client Sample No.

RE15-10-8348

Date Received: 20-FEB-10

GEL Job No (SDG): 10-1969

GEL Sample ID: 247551002

Date Filtered: 05-MAR-10

Injection Volume (uL): 20

%Solids: 96.3

CAS No.	Analyte [^]	MDL	RL	Conc*	Units	Q	Dilution Factor	Date Analyzed	GEL File ID
14797-73-0	Perchlorate	.519	2.08	0.599	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate Isotope Ratio			3.11			1	11-MAR-10 21:07	per0311013a
14797-73-0	Perchlorate-101	.519	2.08	0.553	ug/kg	J	1	11-MAR-10 21:07	per0311013a
	Perchlorate-O(18)			5.05	ug/kg		1	11-MAR-10 21:07	per0311013a

[^] 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 %Solids
Aliquot

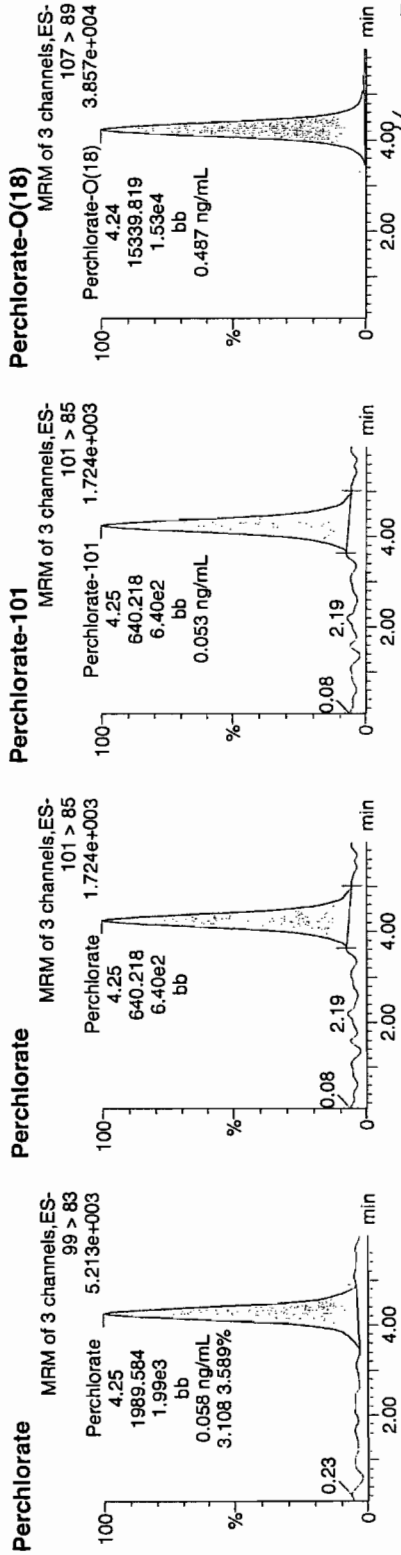
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311013a
Date: 11-Mar-2010
Time: 21:07:16
ID: 247551002
Vial: 1:3,B

03-12-10
LAW | 957938 | 5020 | 1 | 100



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
247551002	Perchlorate	99 > 83	4.25	1989.584	1989.584	bb			0.0577			138.550	3.11
247551002	Perchlorate-101	101 > 85	4.25	640.218	640.218	bb			0.0532			66.722	
247551002	Perchlorate-O(18)	107 > 89	4.24	15339.819	15339.819	bb			0.4869	97.38	-2.62	1216.2...	

STANDARDS DATA

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1969

Lab Code: GEL

Instrument ID: LCMSMS

Date Analyzed: 10-MAR-10

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

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

Parmname Perchlorate

Coefficient of Determination:

Calibration Curve: 34679.54

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 10-MAR-10

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

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

Paramname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 11196.78

Response Type: External Standard

Curve Type: RF

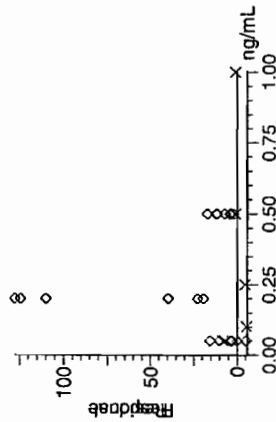
Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

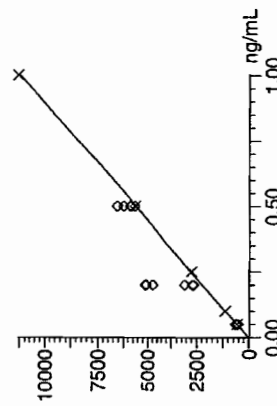
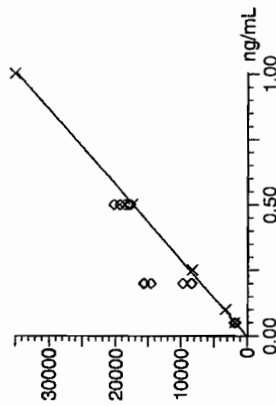
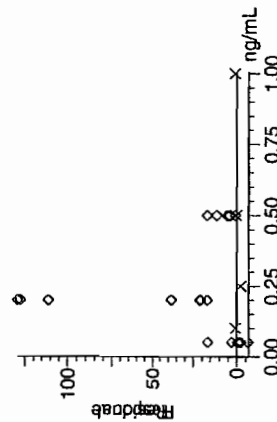
Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per031010a.mdb 11 Mar 2010 08:37:49
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031010a.cdb 11 Mar 2010 08:38:19

Compound name: Perchlorate ✓
Response Factor: 34679.5
RF SD: 1906.75, % Relative SD: 5.49821 ✓
Response type: External Std, Area
Curve type: RF ✓



Compound name: Perchlorate-101 ✓
Response Factor: 11196.8
RF SD: 140.669, % Relative SD: 1.25633 ✓
Response type: External Std, Area
Curve type: RF ✓



03-11-10

μg/l
3/11/10

iEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Quantify Calibration Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time

Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

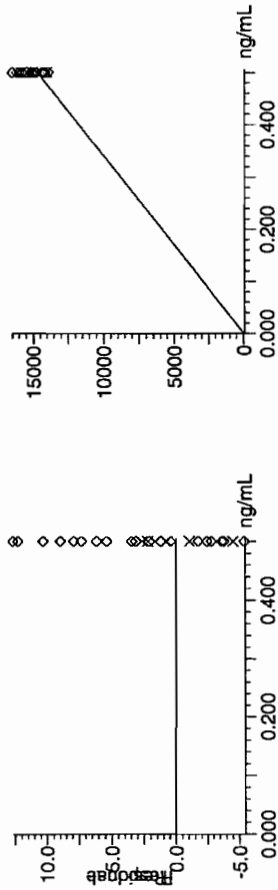
Compound name: Perchlorate-O(18)

Response Factor: 29361.6

RF SD: 852.097, % Relative SD: 2.90208

Response type: External Std, Area

Curve type: RF



Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories GEL Job No.(SDG): 10-1969

Lab Code: GEL

Instrument ID: LCMSMS Date Analyzed: 11-MAR-10

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

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

Parmname Perchlorate

Coefficient of Determination:

Calibration Curve: 34492.02

Response Type: External Standard

Curve Type: RF

Perchlorate Initial Calibration

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1969

Lab Code: GEL

Instrument ID: LCMSMS

Date Analyzed: 11-MAR-10

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

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

Parmname Perchlorate-101

Coefficient of Determination:

Calibration Curve: 12027.46

Response Type: External Standard

Curve Type: RF

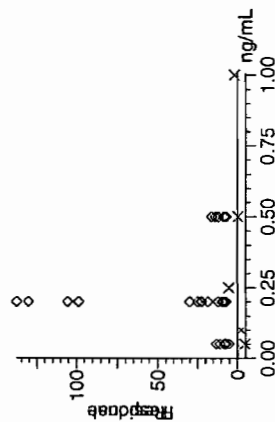
Quantify Calibration Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

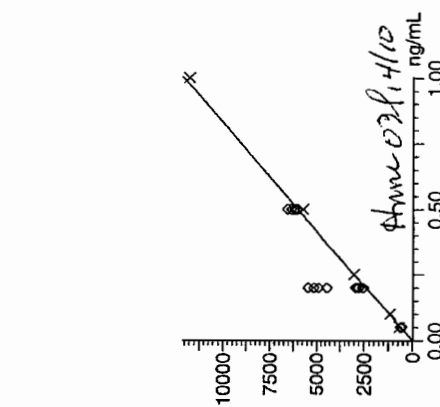
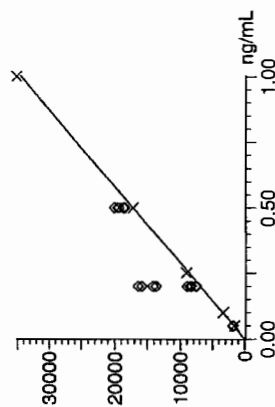
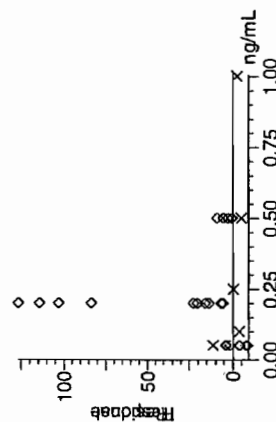
Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Method: C:\MassLynx\Perchlorate.PRO\MethDB\per031110a.mdb 12 Mar 2010 09:21:58
Calibration: C:\MassLynx\Perchlorate.PRO\CurveDB\per031110a.cdb 12 Mar 2010 09:22:30

Compound name: Perchlorate
Response Factor: 34492
RF SD: 1352.16, % Relative SD: 3.92021
Response type: External Std, Area
Curve type: RF



Compound name: Perchlorate-101
Response Factor: 12027.5
RF SD: 803.4, % Relative SD: 6.67972
Response type: External Std, Area
Curve type: RF



03-12-10

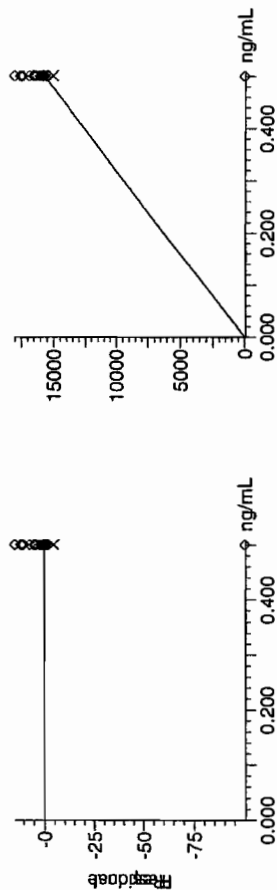
03-12-10

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Compound name: Perchlorate-O(18)
Response Factor: 31505.6
RRF SD: 855.098, % Relative SD: 2.71411
Response type: External Std, Area
Curve type: RF



Perchlorate Initial Calibration Verification

GEL Job No.(SDG): 10-1969

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.54	107.18	10-MAR-10 15:14	per0310009a
Perchlorate Isotope Ratio		3.18		10-MAR-10 15:14	per0310009a
Perchlorate-101	.5	.52	104.39	10-MAR-10 15:14	per0310009a
Perchlorate	.5	.53	106.95	11-MAR-10 20:31	per0311009a
Perchlorate Isotope Ratio		3.04		11-MAR-10 20:31	per0311009a
Perchlorate-101	.5	.51	101.05	11-MAR-10 20:31	per0311009a

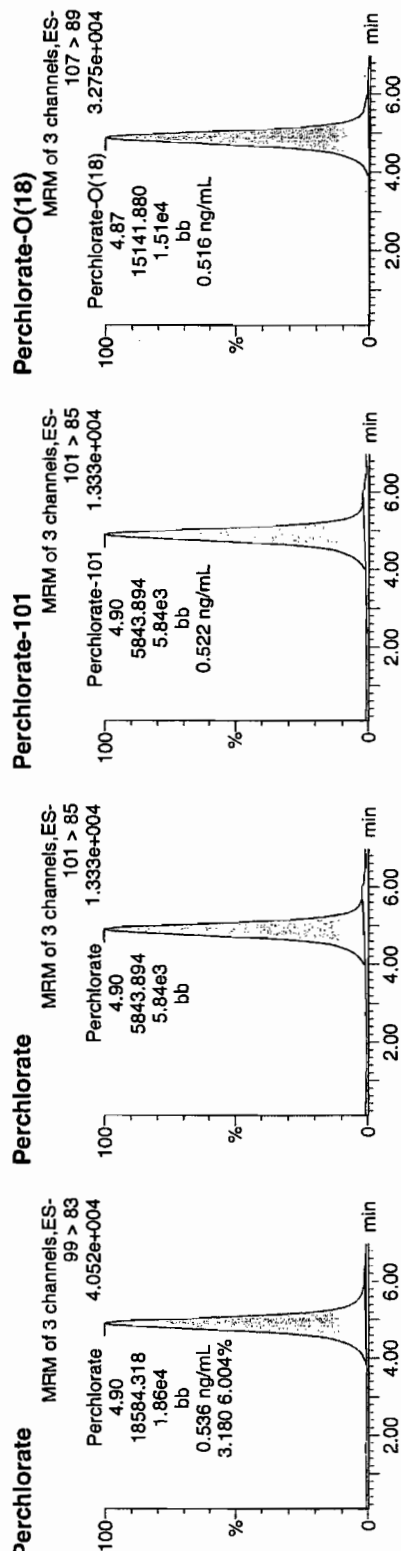
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310009a
Date: 10-Mar-2010
Time: 15:14:03
D: WCL100309-06ICV
Vial: 1:2,A

Pure
0.5359
03-11-10



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
VCL100309-06ICV	Perchlorate	99 > 83	4.90	18584.318	18584.318	bb			0.5359	107.18	7.18	689.310	3.18
VCL100309-06ICV	Perchlorate-101	101 > 85	4.90	5843.894	5843.894	bb			0.5219	104.39	4.39	333.824	
VCL100309-06ICV	Perchlorate-O(18)	107 > 89	4.87	15141.880	15141.880	bb			0.5157	103.14	3.14	1692.8...	

$$\frac{18584.318}{34679.5} = 0.5359$$

not
3/11/10

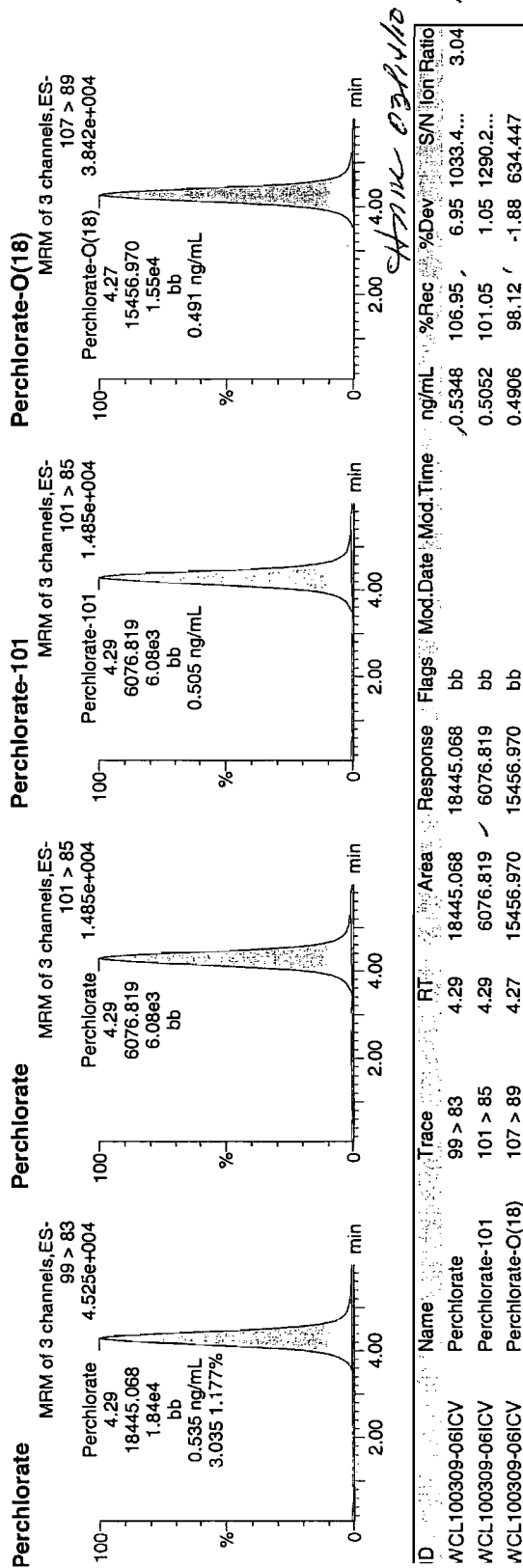
Quantify Sample Report MassLynx 4.0 SP4
 The GEL Group, LLC Analyst: Charliers W. Wilson
 Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
 Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

per

Name: per03111009a
 Date: 11-Mar-2010
 Time: 20:31:06
 ID: WCL100309-06ICV
 Vial: 1:2,A

03-12-10



Handwritten signature

Perchlorate Continuing Calibration Verification

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

GEL Job No.(SDG): 10-1969

Lab Name: General Engineering LaboratoriesLab Code: GELReporting Units: µg/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.5	.51	101.89	10-MAR-10 17:04	per0310020a
Perchlorate Isotope Ratio		3.13		10-MAR-10 17:04	per0310020a
Perchlorate-101	.5	.5	100.93	10-MAR-10 17:04	per0310020a
Perchlorate	.5	.52	104.36	10-MAR-10 19:15	per0310033a
Perchlorate Isotope Ratio		3.1		10-MAR-10 19:15	per0310033a
Perchlorate-101	.5	.52	104.12	10-MAR-10 19:15	per0310033a
Perchlorate	.5	.52	103.39	10-MAR-10 21:25	per0310046a
Perchlorate Isotope Ratio		3.03		10-MAR-10 21:25	per0310046a
Perchlorate-101	.5	.53	105.8	10-MAR-10 21:25	per0310046a
Perchlorate	.5	.56	111.38	10-MAR-10 23:36	per0310059a
Perchlorate Isotope Ratio		3.1		10-MAR-10 23:36	per0310059a
Perchlorate-101	.5	.56	111.31	10-MAR-10 23:36	per0310059a
Perchlorate	.5	.54	108.85	11-MAR-10 22:28	per0311022a

Perchlorate Continuing Calibration Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1969

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate Isotope Ratio		3.12		11-MAR-10 22:28	per0311022a
Perchlorate-101	.5	.5	100.09	11-MAR-10 22:28	per0311022a

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Acquired: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Sample Name: per0310020a

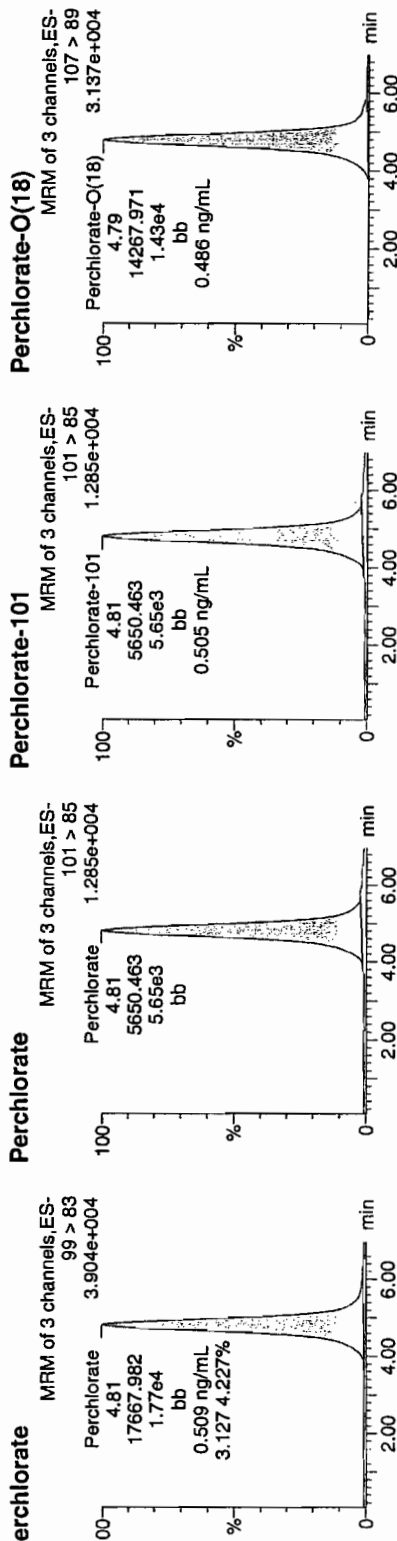
Sample Date: 10-Mar-2010

Sample Time: 17:04:30

Sample ID: WCL100309-06CCV

Sample Label: 1:2,A

Perchlorate
03-11-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
Perchlorate	99 > 83	4.81	17667.982	17667.982	bb			0.5095	101.89	1.89	422.122	3.13
Perchlorate-101	101 > 85	4.81	5650.463	5650.463	bb			0.5047	100.93	0.93	761.586	
Perchlorate-O(18)	107 > 89	4.79	14267.971	14267.971	bb			0.4859	97.19	-2.81	1356.9...	

Perchlorate
3/11/10

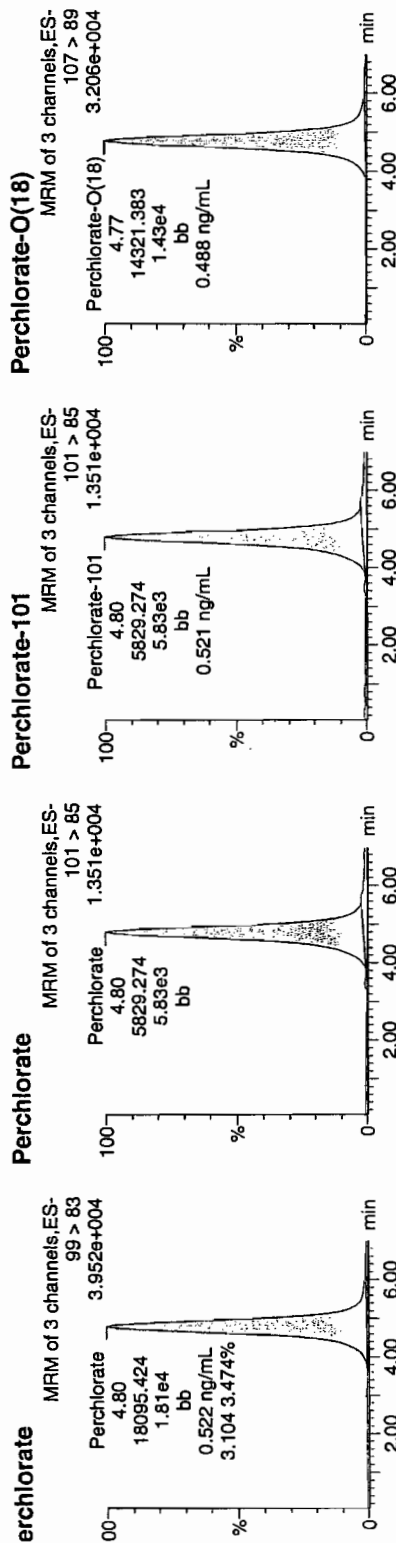
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Sample Name: per0310033a
Date: 10-Mar-2010
Time: 19:15:08
File: WCL100309-06CCV
Label: 1:2,A

Pass
03-11-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
/CL100309-06CCV	Perchlorate	99 > 83	4.80	18095.424	18095.424	bb		0.5218	104.36	4.36	1131.6...	3.10
/CL100309-06CCV	Perchlorate-101	101 > 85	4.80	5829.274	5829.274	bb		0.5206	104.12	4.12	638.172	
/CL100309-06CCV	Perchlorate-O(18)	107 > 89	4.77	14321.383	14321.383	bb		0.4878	97.55	-2.45	2014.6...	

1477
3/11/10

uantify Sample Report MassLynx 4.0 SP4
he GEL Group, LLC Analyst: Charlers W. Wilson

ataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

ast Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
rinted: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

ame: per0310046a

ate: 10-Mar-2010

ime: 21:25:51

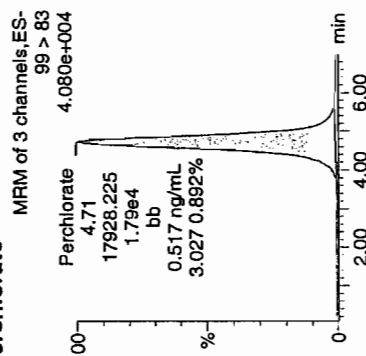
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ial: 1:2,A

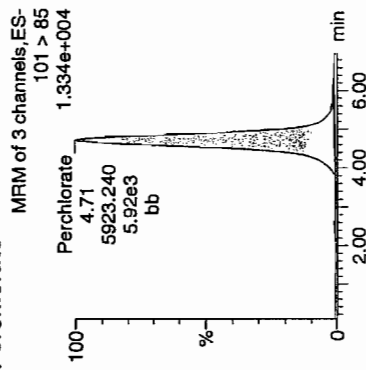
Page 410 of 1389

Run
03-11-10

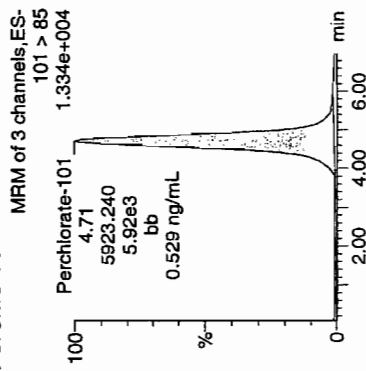
Perchlorate



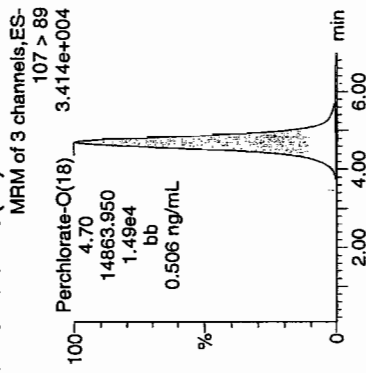
Perchlorate



Perchlorate-101



Perchlorate-O(18)



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
'CL100309-06CCV	Perchlorate	4.71	17928.225	17928.225	bb			0.5170	103.39	3.39	1294.8...	3.03
'CL100309-06CCV	Perchlorate-101	4.71	5923.240	5923.240	bb			0.5290	105.80	5.80	1058.0...	
'CL100309-06CCV	Perchlorate-O(18)	4.70	14863.950	14863.950	bb			0.5062	101.25	1.25	782.460	

Run
3/11/10

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

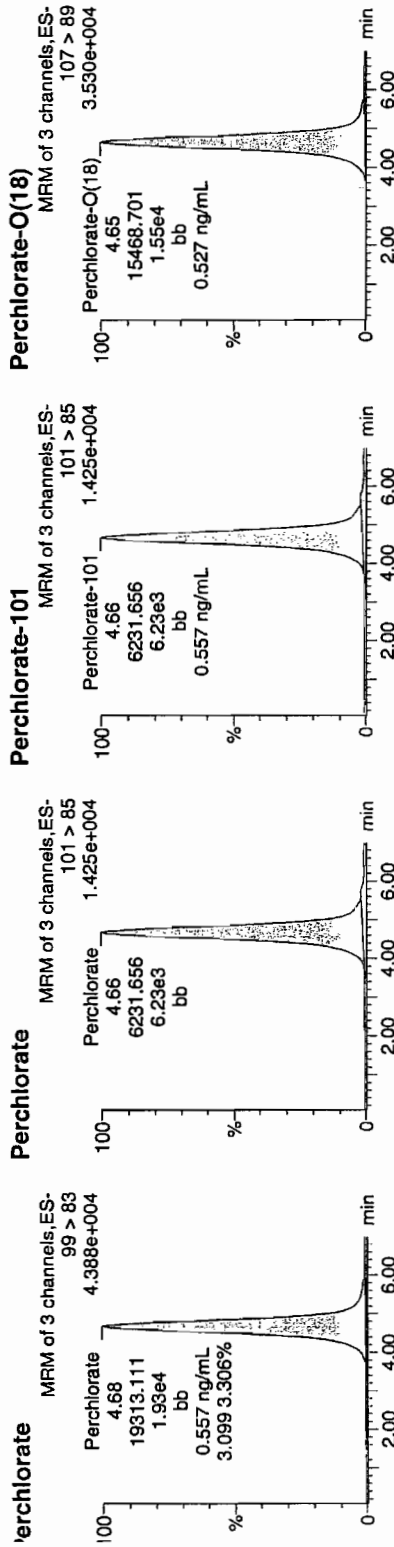
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Page 411 of 1389

Sample Name: per0310059a
Date: 10-Mar-2010
Time: 23:36:37
Job: WCL100309-06CCV
Label: 1:2,A

Runs
03-11-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
VCL100309-06CCV	Perchlorate	99 > 83	4.68	19313.111				0.5569	111.38	11.38	538.677	3.10
VCL100309-06CCV	Perchlorate-101	101 > 85	4.66	6231.656	bb			0.5566	111.31	11.31	577.688	
VCL100309-06CCV	Perchlorate-O(18)	107 > 89	4.65	15468.701	bb			0.5268	105.37	5.37	2265.1...	

MA
5/11/10

iEL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

Quantify Sample Report MassLynx 4.0 SP4

The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
 Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311022a

Date: 11-Mar-2010

Time: 22:28:36

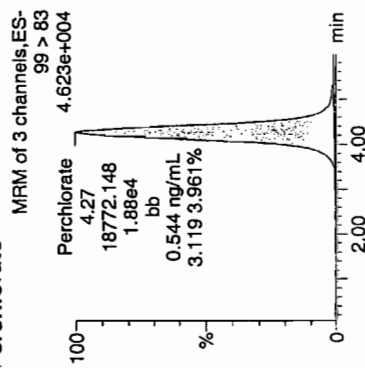
ID: WCL100309-06CCV

Vial: 1:2,A

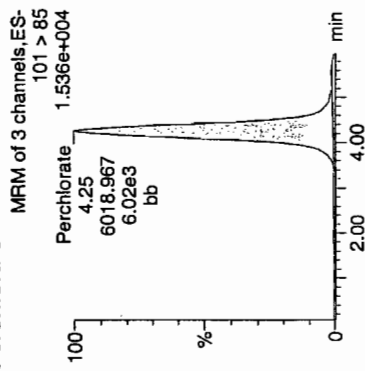
Page 412 of 1389

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 aw
 03-12-10*

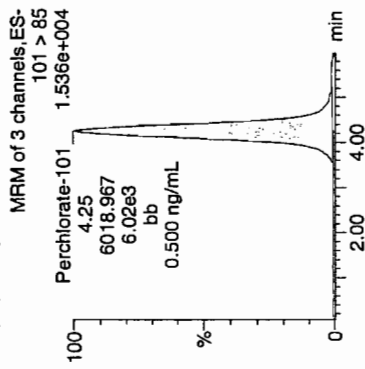
Perchlorate



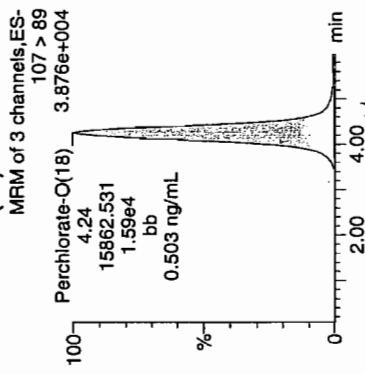
Perchlorate



Perchlorate-101



Perchlorate-O(18)



4/22/10 03:14/10

ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-06CCV	Perchlorate	99 > 83	4.27	18772.148	18772.148	bb			0.5442	108.85	8.85	1139.3...	3.12
WCL100309-06CCV	Perchlorate-101	101 > 85	4.25	6018.967	6018.967	bb			0.5004	100.09	0.09	935.407	
WCL100309-06CCV	Perchlorate-O(18)	107 > 89	4.24	15862.531	15862.531	bb			0.5035	100.70	0.70	2333.3...	

Perchlorate MDL Verification

GEL Job No.(SDG): 10-1969

Lab Name: General Engineering Laboratories

Lab Code: GEL

Reporting Units: ug/kg

Analyte	True	Found	%Rec	Date Analyzed	GEL File Id
Perchlorate	.05	.05	102.81	10-MAR-10 15:34	per0310011a
Perchlorate Isotope Ratio		3.4		10-MAR-10 15:34	per0310011a
Perchlorate-101	.05	.05	93.56	10-MAR-10 15:34	per0310011a
Perchlorate	.05	.05	94.85	10-MAR-10 17:24	per0310022a
Perchlorate Isotope Ratio		3		10-MAR-10 17:24	per0310022a
Perchlorate-101	.05	.05	97.97	10-MAR-10 17:24	per0310022a
Perchlorate	.05	.05	103.79	10-MAR-10 19:35	per0310035a
Perchlorate Isotope Ratio		3.22		10-MAR-10 19:35	per0310035a
Perchlorate-101	.05	.05	99.84	10-MAR-10 19:35	per0310035a
Perchlorate	.05	.05	100.16	10-MAR-10 21:45	per0310048a
Perchlorate Isotope Ratio		3.19		10-MAR-10 21:45	per0310048a

Perchlorate MDL Verification

Lab Name: General Engineering Laboratories

GEL Job No.(SDG): 10-1969

Lab Code: GEL

Reporting Units: ug/kg

Perchlorate-101	.05	.05	97.4	10-MAR-10 21:45	per0310048a
Perchlorate	.05	.05	104.19	10-MAR-10 23:56	per0310061a
Perchlorate Isotope Ratio		3.13		10-MAR-10 23:56	per0310061a
Perchlorate-101	.05	.05	102.96	10-MAR-10 23:56	per0310061a
Perchlorate	.05	.05	107.08	11-MAR-10 20:49	per0311011a
Perchlorate Isotope Ratio		3.37		11-MAR-10 20:49	per0311011a
Perchlorate-101	.05	.05	91.21	11-MAR-10 20:49	per0311011a
Perchlorate	.05	.05	107.51	11-MAR-10 22:46	per0311024a
Perchlorate Isotope Ratio		3.33		11-MAR-10 22:46	per0311024a
Perchlorate-101	.05	.05	92.57	11-MAR-10 22:46	per0311024a

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

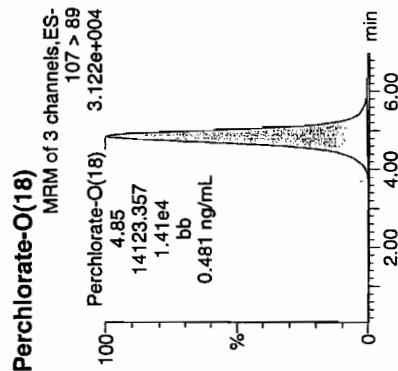
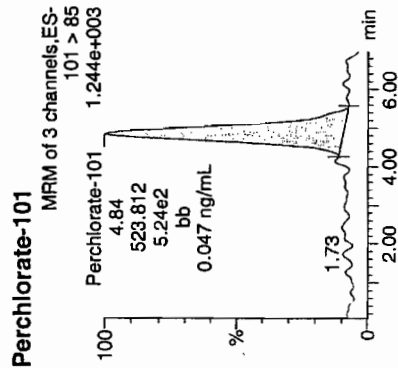
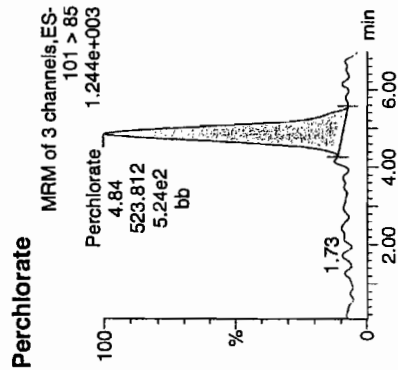
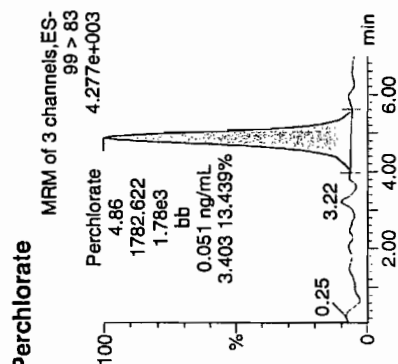
Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310011a
Date: 10-Mar-2010
Time: 15:34:08
D: WCL100309-07CRI
Vial: 1:2,B

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*Per
and
03-11-10*



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	4.86	1782.622	bb			0.0514	102.81	2.81	129.008	3.40
WCL100309-07CRI	Perchlorate-101	101 > 85	4.84	✓ 523.812	bb			0.0468	93.56	-6.44	84.183	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	4.85	14123.357	bb			0.4810	96.20	-3.80	706.497	

$$\frac{1782.622}{523.812} = 3.4032$$

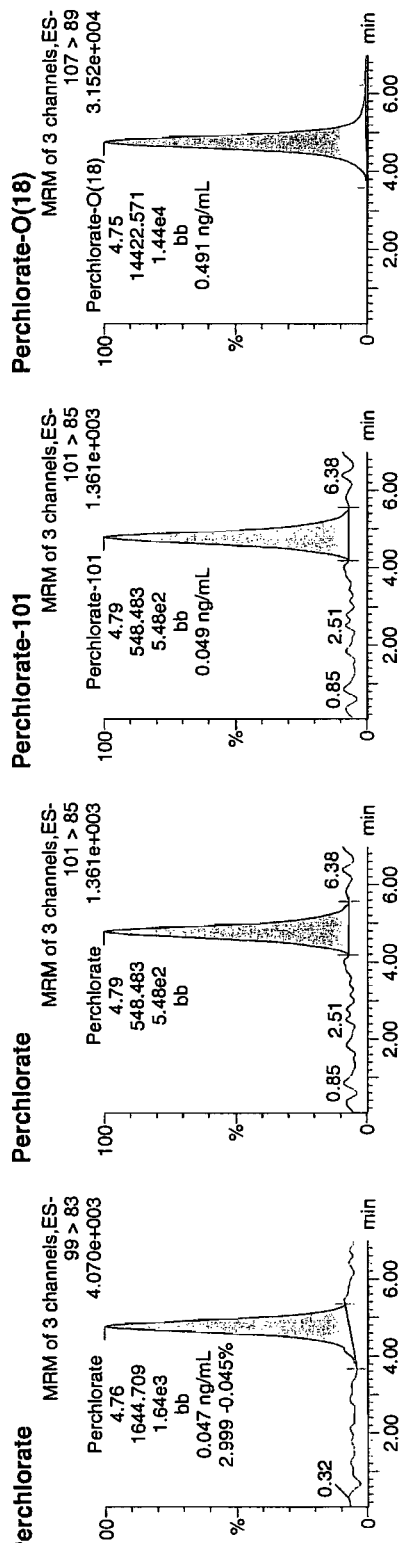
*WCL
3/11/10*

dataset: C:\MassLynx\Perchlorate.PRO\per031010a.dld

Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time

Page 416 of 1389

ame: per0310022a
ate: 10-Mar-2010
ime: 17:24:36
O: WCL100309-07C
ial: 1:2,B



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
✓	Perchlorate	99 > 83	4.76	1644.709	1644.709	bb			0.0474	94.85	-5.15	189.536	3.00
✓	Perchlorate-101	101 > 85	4.79	548.483	548.483	bb			0.0490	97.97	-2.03	109.562	
✓	Perchlorate-O(18)	107 > 89	4.75	14422.571	14422.571	bb			0.4912	98.24	-1.76	736.742	

WAT
3/11/10

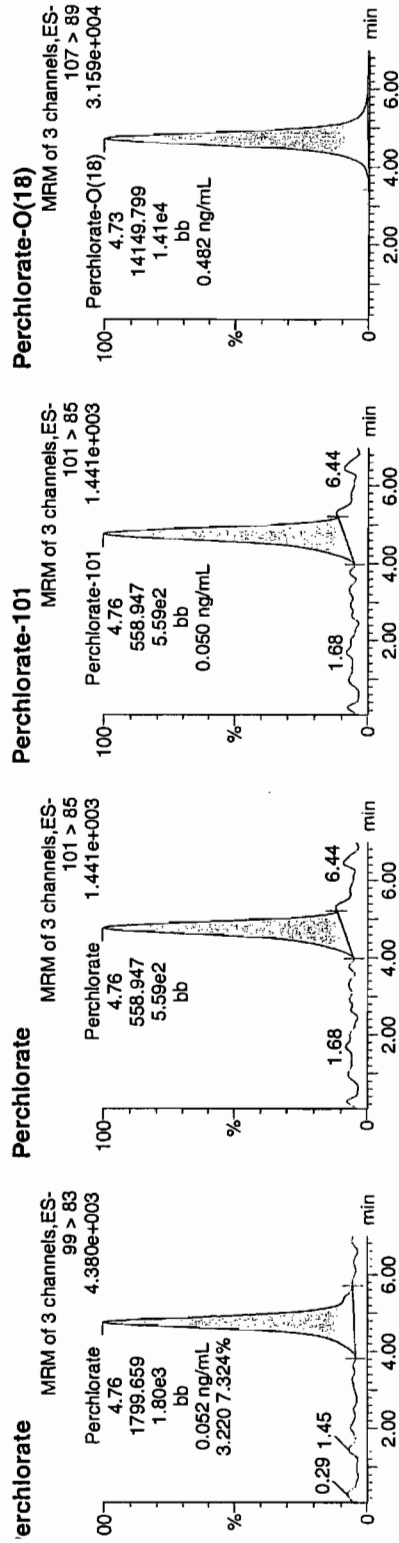
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charles W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

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Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Sample Name: per0310035a
Date: 10-Mar-2010
Time: 19:35:13
Job: WCL100309-07CRI
Label: 1:2,B

Pure
WCL
03-11-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion.Ratio
/CL100309-07CRI	Perchlorate	99 > 83	4.76	1799.659	bb			0.0519	103.79	3.79	107.289	3.22
/CL100309-07CRI	Perchlorate-101	101 > 85	4.76	558.947	bb			0.0499	99.84	-0.16	43.456	
/CL100309-07CRI	Perchlorate-O(18)	107 > 89	4.73	14149.799	bb			0.4819	96.38	-3.62	1136.1...	

147
3/11/10

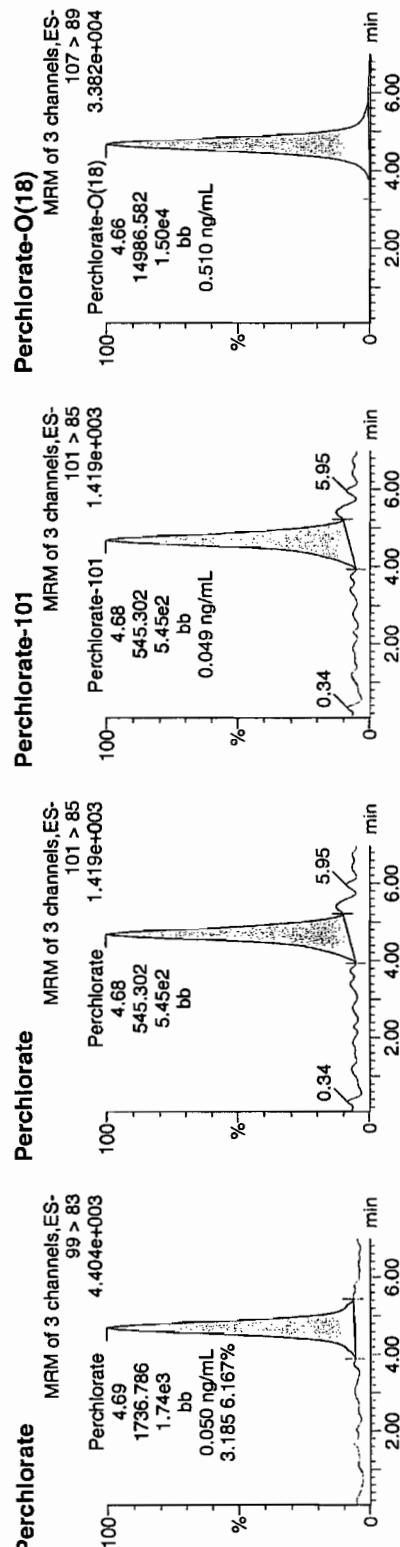
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

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Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

File Name: per0310048a
Date: 10-Mar-2010
Time: 21:45:57
D: WCL100309-07CRI
Vial: 1:2,B

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D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	4.69	1736.786	1736.786	bb			0.0501	100.16	0.16	101.283	3.18
WCL100309-07CRI	Perchlorate-101	101 > 85	4.68	545.302	545.302	bb			0.0487	97.40	-2.60	86.571	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	4.66	14986.582	14986.582	bb			0.5104	102.08	2.08	2094.4...	

not
3/11/10

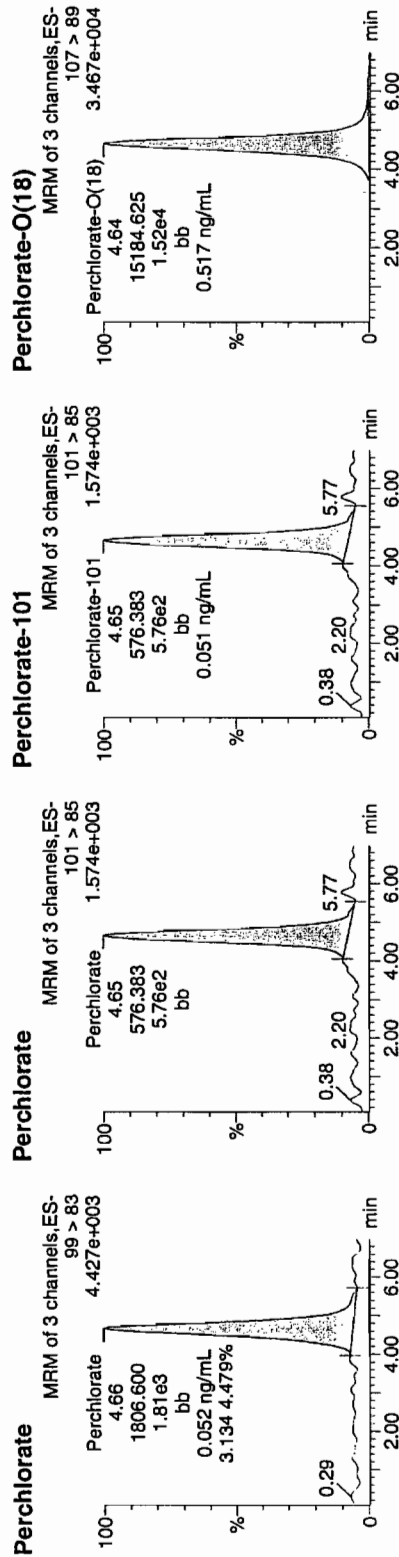
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

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Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310061a
Date: 10-Mar-2010
Time: 23:56:56
ID: WCL100309-07CRI
Vial: 1:2,B

pure
03-11-10



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	4.66	1806.600	1806.600	bb			0.0521	104.19	4.19	90.298	3.13
WCL100309-07CRI	Perchlorate-101	101 > 85	4.65	576.383	576.383	bb			0.0515	102.96	2.96	42.979	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	4.64	15184.625	15184.625	bb			0.5172	103.43	3.43	1532.2...	

100%
3/4/10

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

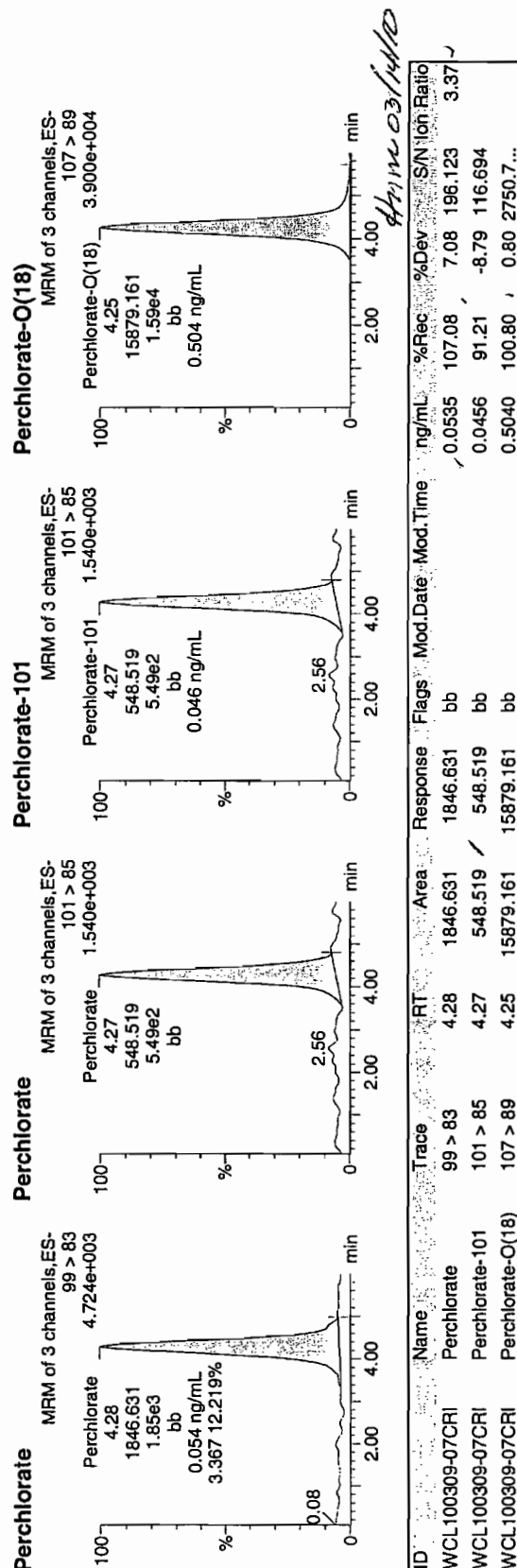
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Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311011a
Date: 11-Mar-2010
Time: 20:49:11
ID: WCL100309-07CRI
Vial: 1:2,B

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Pass
WCL
03-12-10



3EL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

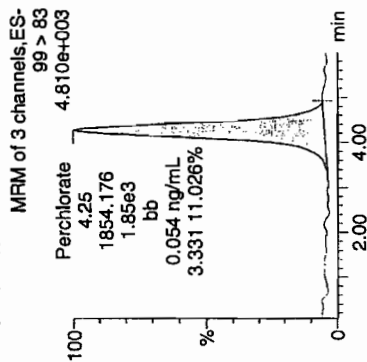
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Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Name: per0311024a
Date: 11-Mar-2010
Time: 22:46:41
ID: WCL100309-07CRI
Vial: 1:2,B

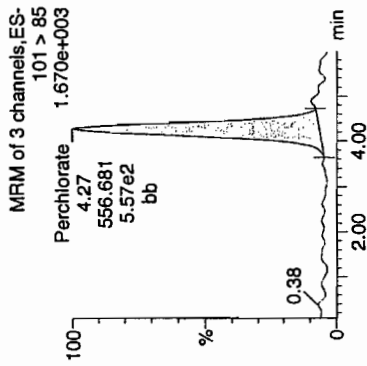
Page 421 of 1389

Per
and
03-12-10

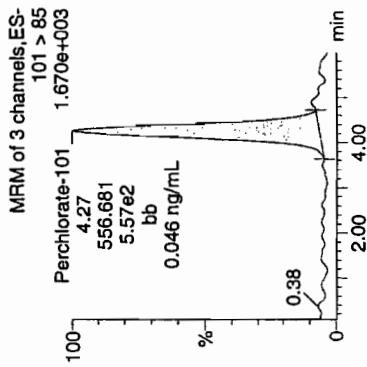
Perchlorate



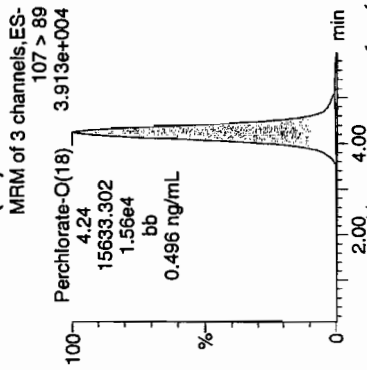
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
WCL100309-07CRI	Perchlorate	99 > 83	4.25	1854.176	1854.176	bb			0.0538	107.51	7.51	103.638	3.33
WCL100309-07CRI	Perchlorate-101	101 > 85	4.27	556.681	556.681	bb			0.0463	92.57	-7.43	103.667	
WCL100309-07CRI	Perchlorate-O(18)	107 > 89	4.24	15633.302	15633.302	bb			0.4962	99.24	-0.76	1071.4...	

QUALITY CONTROL

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC
Lab Code: GEL
Instrument: LCMSMS
Method: EPA 6850 Modified
Matrix: SOIL
Extraction Batch ID: 957937
Extraction Type: Solid Prep
Sample Volume/Weight: 2.00 g
Concentrated Extract Volume: 20.0
Client Sample No. MB
Date Received: 05-MAR-10
GEL Job No (SDG): 10-1969
GEL Sample ID: 1202054212
Date Filtered: 05-MAR-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	10-MAR-10 22:56	per0310055a
	Perchlorate Isotope Ratio						1	10-MAR-10 22:56	per0310055a
14797-73-0	Perchlorate-101	.5	2	0.500	ug/kg	U	1	10-MAR-10 22:56	per0310055a
	Perchlorate-O(18)			5.29	ug/kg		1	10-MAR-10 22:56	per0310055a

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

*Concentration =
 Instrument Value X Concentrated Extract Volume X 1
 Aliquot %Solids

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

Dataset: C:\MassLynx\Perchlorate.PRO\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310055a

Date: 10-Mar-2010

Time: 22:56:20

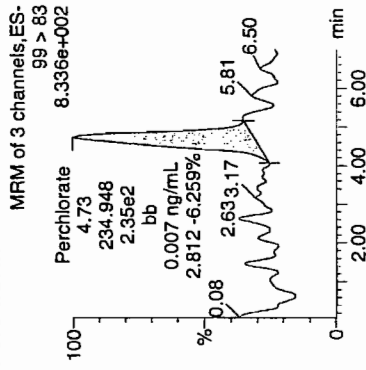
ID: 1202054212

Vial: 2:1,A

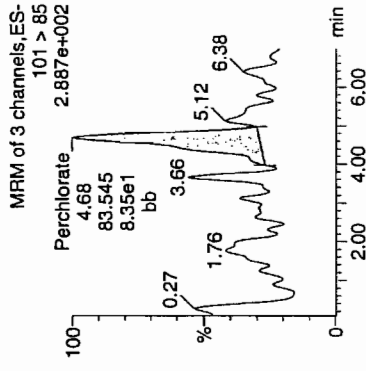
WWS
03-11-10

LAUW | 957433 | 2000 | MB | 11

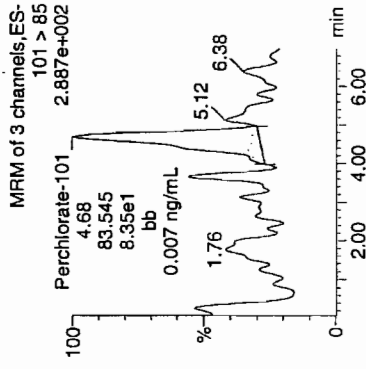
Perchlorate



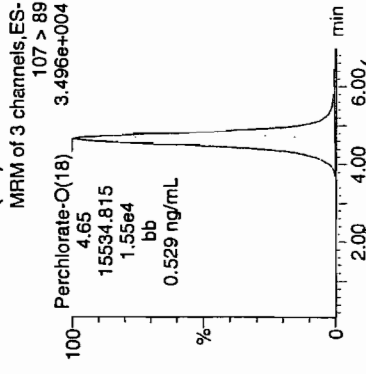
Perchlorate



Perchlorate-101



Perchlorate-O(18)



ID	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202054212	Perchlorate	99 > 83	4.73	234.948	234.948	bb			0.0068			23.662	2.81
1202054212	Perchlorate-101	101 > 85	4.68	83.545	83.545	bb			0.0075			10.720	
1202054212	Perchlorate-O(18)	107 > 89	4.65	15534.815	15534.815	bb			0.5291	105.82	5.82	1371.7...	

Perchlorate Analysis Data Sheet

Lab Name: GEL Laboratories LLC
 Lab Code: GEL
 Instrument: LCMSMS
 Method: EPA 6850 Modified
 Matrix: SOIL
 Extraction Batch ID: 957937
 Extraction Type: Solid Prep
 Sample Volume/Weight: 2.00 g
 Concentrated Extract Volume: 20.0
 Client Sample No. LCS
 Date Received: 05-MAR-10
 GEL Job No (SDG): 10-1969
 GEL Sample ID: 1202054213
 Date Filtered: 05-MAR-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	2.39	ug/kg		1	10-MAR-10 23:06	per0310056a
	Perchlorate Isotope Ratio			3.05			1	10-MAR-10 23:06	per0310056a
14797-73-0	Perchlorate-101	.5	2	2.43	ug/kg		1	10-MAR-10 23:06	per0310056a
	Perchlorate-O(18)			5.31	ug/kg		1	10-MAR-10 23:06	per0310056a

[^] 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\per031010a.qld

Last Altered: Thursday, March 11, 2010 8:38:20 AM Eastern Standard Time
 Printed: Thursday, March 11, 2010 8:51:51 AM Eastern Standard Time

Name: per0310056a

Date: 10-Mar-2010

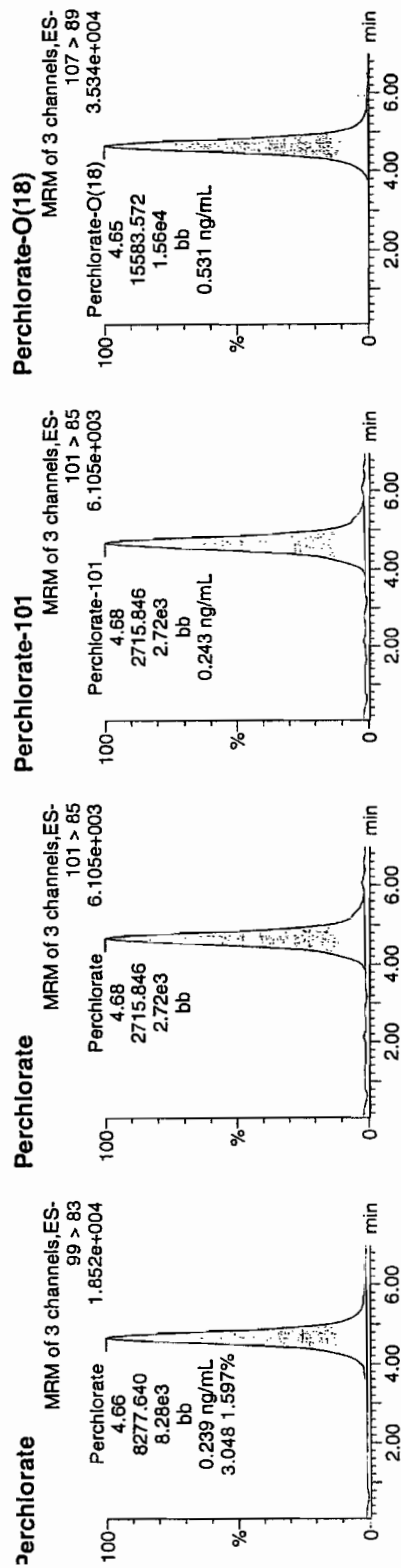
Time: 23:06:33

D: 1202054213

Vial: 2:1,B

33-11-10

1202054213 | 9579238 | 30000 | 12511



D	Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
1202054213	Perchlorate	99 > 83	4.66	8277.640	8277.640	bb			0.2387	119.34	19.34	1178.1...	3.05
1202054213	Perchlorate-101	101 > 85	4.68	2715.846	2715.846	bb			0.2426	121.28	21.28	376.408	
1202054213	Perchlorate-O(18)	107 > 89	4.65	15583.572	15583.572	bb			0.5307	106.15	6.15	3288.3...	

8277.640
 34679.5
 = 0.2387
 34679.5

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: 957937 Verified by: Lab SOP: GL-OA-E-067 REV# 6
 Analyst: Kaylie Westmoreland Instrument: MicroMass Quatro Ultima
 Method: SW846 6850 Modified

Sample ID	Run Date	Aliquot (g)	Prepped Aliquot (mL)	Prepped Factor (mL/g)	Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
1202054212 NIB	05-MAR-2010 15:29:00	2	20	10	ICS	1202054216	10 ug/L ICV/CCV Second Source	UCL100226-01.1	4	mL	Desulging Cartridges used: 100224-1-Ba & 100217-1-H
1202054213 ICS	05-MAR-2010 15:29:00	2	20	10	ICS	1202054213	10 ug/L ICV/CCV Second Source	UCL100226-01.1	4	mL	
247550001	05-MAR-2010 15:29:00	2	20	10	MS	1202054214	10 ug/L ICV/CCV Second Source	UCL100226-01.1	4	mL	
247551001	05-MAR-2010 15:29:00	2	20	10	MSD	1202054215	10 ug/L ICV/CCV Second Source	UCL100226-01.1	4	mL	
247551002	05-MAR-2010 15:29:00	2	20	10							
247552002	05-MAR-2010 15:29:00	2	20	10							
247566001	05-MAR-2010 15:29:00	2	20	10							
247566002	05-MAR-2010 15:29:00	2	20	10							
1202054214 MS (247566002)	05-MAR-2010 15:29:00	2	20	10							
1202054215 MSD (247566002)	05-MAR-2010 15:29:00	2	20	10							
247566003	05-MAR-2010 15:29:00	2	20	10							
247566004	05-MAR-2010 15:29:00	2	20	10							
247566005	05-MAR-2010 15:29:00	2	20	10							
247566006	05-MAR-2010 15:29:00	2	20	10							
247566007	05-MAR-2010 15:29:00	2	20	10							
247566008	05-MAR-2010 15:29:00	2	20	10							
247566009	05-MAR-2010 15:29:00	2	20	10							
247566010	05-MAR-2010 15:29:00	2	20	10							
1202054216 ICS	05-MAR-2010 15:29:00	2	20	10							

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 03/10/10

Extr. Injection Volume: 20uL

Sequence Number: per031010a

Initial Calibration Date: 03/10/10

Method: EPA 6850-Modified

Int. Std.: UCL100126-01

Mobile Phase Lot#: 1278668, 1271949

Standard-Samp Reagent Lot#: 1271949

Reviewed BY: *Amc*

Date: *03/10/10*

SOP: GL-OA-E-067 Rev.6

Alt Check Std. ID: WCL100309-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0310001a	IPB001	CWW	3/10/2010 13:53			1		USE	B
per0310002a	IPB001	CWW	3/10/2010 14:03			1		USE	B
per0310003a	WCLICAL-01	CWW	3/10/2010 14:13			1		USE	I
per0310004a	WCLICAL-02	CWW	3/10/2010 14:23			1		USE	I
per0310005a	WCLICAL-03	CWW	3/10/2010 14:33			1		USE	I
per0310006a	WCLICAL-04	CWW	3/10/2010 14:44			1		USE	I
per0310007a	WCLICAL-05	CWW	3/10/2010 14:54			1		USE	I
per0310008a	IPB002	CWW	3/10/2010 15:04			1		USE	B
per0310009a	WCLICV	CWW	3/10/2010 15:14			1		USE	C
per0310010a	IPB003	CWW	3/10/2010 15:24			1		USE	B
per0310011a	WCLCRI	CWW	3/10/2010 15:34			1		USE	C
per0310012a	247338004	CWW	3/10/2010 15:44	955718	10-1909	1	LANL	USE	S
per0310013a	247338005	CWW	3/10/2010 15:54	955718	10-1909	1	LANL	USE	S
per0310014a	247338006	CWW	3/10/2010 16:04	955718	10-1909	1	LANL	USE	S
per0310015a	247338007	CWW	3/10/2010 16:14	955718	10-1909	1	LANL	USE	S
per0310016a	247338008	CWW	3/10/2010 16:24	955718	10-1909	1	LANL	USE	S
per0310017a	247338009	CWW	3/10/2010 16:34	955718	10-1909	1	LANL	USE	S
per0310018a	247338010	CWW	3/10/2010 16:44	955718	10-1909	1	LANL	USE	S
per0310019a	247338011	CWW	3/10/2010 16:54	955718	10-1909	1	LANL	USE	S
per0310020a	WCLCCV	CWW	3/10/2010 17:04			1		USE	C
per0310021a	IPB004	CWW	3/10/2010 17:14			1		USE	B
per0310022a	WCLCRI	CWW	3/10/2010 17:24			1		USE	C
per0310023a	1202054207	CWW	3/10/2010 17:34	957935	VARIOUS	1	LANL	DUSE-RE	S
per0310024a	1202054208	CWW	3/10/2010 17:44	957935	VARIOUS	1	LANL	DUSE-RE	S
per0310025a	1202054211	CWW	3/10/2010 17:54	957935	VARIOUS	1	LANL	DUSE-RE	S
per0310026a	247544001	CWW	3/10/2010 18:04	957935	10-1963	1	LANL	DUSE-RE	S
per0310027a	247544002	CWW	3/10/2010 18:14	957935	10-1963	1	LANL	DUSE-RE	S
per0310028a	247544003	CWW	3/10/2010 18:24	957935	10-1963	1	LANL	DUSE-RE	S
per0310029a	247544004	CWW	3/10/2010 18:34	957935	10-1963	1	LANL	DUSE-RE	S

per0310030a	247546001	CWW	3/10/2010 18:44	957935	10-1965	1	LANL	DUSE-RE	S
per0310031a	247546002	CWW	3/10/2010 18:55	957935	10-1965	1	LANL	DUSE-RE	S
per0310032a	247546003	CWW	3/10/2010 19:05	957935	10-1965	1	LANL	DUSE-RE	S
per0310033a	WCLCCV	CWW	3/10/2010 19:15			1		USE	C
per0310034a	IPB005	CWW	3/10/2010 19:25			1		USE	B
per0310035a	WCLCRI	CWW	3/10/2010 19:35			1		USE	C
per0310036a	247558001	CWW	3/10/2010 19:45	957935	10-1954	1	LANL	DUSE-RE	S
per0310037a	247558002	CWW	3/10/2010 19:55	957935	10-1954	1	LANL	DUSE-RE	S
per0310038a	247558003	CWW	3/10/2010 20:05	957935	10-1954	1	LANL	DUSE-RE	S
per0310039a	247558004	CWW	3/10/2010 20:15	957935	10-1954	1	LANL	DUSE-RE	S
per0310040a	247558005	CWW	3/10/2010 20:25	957935	10-1954	1	LANL	DUSE-RE	S
per0310041a	247561001	CWW	3/10/2010 20:35	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310042a	1202054209	CWW	3/10/2010 20:45	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310043a	1202054210	CWW	3/10/2010 20:55	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310044a	247561002	CWW	3/10/2010 21:05	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310045a	247561003	CWW	3/10/2010 21:15	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310046a	WCLCCV	CWW	3/10/2010 21:25			1		USE	C
per0310047a	IPB006	CWW	3/10/2010 21:35			1		USE	B
per0310048a	WCLCRI	CWW	3/10/2010 21:45			1		USE	C
per0310049a	247561004	CWW	3/10/2010 21:55	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310050a	247561005	CWW	3/10/2010 22:06	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310051a	247561006	CWW	3/10/2010 22:16	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310052a	247561007	CWW	3/10/2010 22:26	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310053a	247561008	CWW	3/10/2010 22:36	957935	10-1951-1	1	LANL	DUSE-RE	S
per0310054a	IPB007	CWW	3/10/2010 22:46			1		USE	B
per0310055a	1202054212	CWW	3/10/2010 22:56	957938	VARIOUS	1	LANL	USE	S
per0310056a	1202054213	CWW	3/10/2010 23:06	957938	VARIOUS	1	LANL	USE	S
per0310057a	1202054216	CWW	3/10/2010 23:16	957938	VARIOUS	1	LANL	USE	S
per0310058a	247550001	CWW	3/10/2010 23:26	957938	10-1967	1	LANL	USE	S
per0310059a	WCLCCV	CWW	3/10/2010 23:36			1		USE	C
per0310060a	IPB008	CWW	3/10/2010 23:46			1		USE	B
per0310061a	WCLCRI	CWW	3/10/2010 23:56			1		USE	C
per0310062a	247551001	CWW	3/11/2010 0:07	957938	10-1969	1	LANL	DUSE-RA	S
per0310063a	247551002	CWW	3/11/2010 0:17	957938	10-1969	1	LANL	DUSE-RA	S
per0310064a	247552002	CWW	3/11/2010 0:27	957938	10-1970	1	LANL	DUSE-RA	S
per0310065a	247566001	CWW	3/11/2010 0:37	957938	10-1957	1	LANL	DUSE-RA	S
per0310066a	247566002	CWW	3/11/2010 0:47	957938	10-1957	1	LANL	DUSE-RA	S

per0310067a	1202054214	CWW	3/11/2010 0:57	957938	10-1957	1	LANL	DUSE-RA	S
per0310068a	1202054215	CWW	3/11/2010 1:07	957938	10-1957	1	LANL	DUSE-RA	S
per0310069a	247566003	CWW	3/11/2010 1:17	957938	10-1957	1	LANL	DUSE-RA	S
per0310070a	247566004	CWW	3/11/2010 1:27	957938	10-1957	1	LANL	DUSE-RA	S
per0310071a	247566005	CWW	3/11/2010 1:37	957938	10-1957	1	LANL	DUSE-RA	S
per0310072a	WCLCCV	CWW	3/11/2010 1:47			1		DUSE	C
per0310073a	IPB009	CWW	3/11/2010 1:57			1		DUSE	B
per0310074a	WCLCRI	CWW	3/11/2010 2:07			1		DUSE	C
per0310075a	247566006	CWW	3/11/2010 2:17	957938	10-1957	1	LANL	DUSE-RA	S
per0310076a	247566007	CWW	3/11/2010 2:28	957938	10-1957	1	LANL	DUSE-RA	S
per0310077a	247566008	CWW	3/11/2010 2:38	957938	10-1957	1	LANL	DUSE-RA	S
per0310078a	247566009	CWW	3/11/2010 2:48	957938	10-1957	1	LANL	DUSE-RA	S
per0310079a	247566010	CWW	3/11/2010 2:58	957938	10-1957	1	LANL	DUSE-RA	S
per0310080a	WCLCCV	CWW	3/11/2010 3:08			1		DUSE	C
per0310081a	IPB010	CWW	3/11/2010 3:18			1		DUSE	B
per0310082a	WCLCRI	CWW	3/11/2010 3:28			1		DUSE	C

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS#2

Date: 03/11/10

Extr. Injection Volume: 20uL

Sequence Number: per031110a

Initial Calibration Date: 03/11/10

Method: EPA 6850-Modified

Int. Std.: UCL100126-01

Mobile Phase Lot#: 1278668, 1271949

Standard-Samp Reagent Lot#: 1271949

Reviewed BY: *[Signature]*

Date: 03/11/10

SOP: GL-OA-E-067 Rev.6

Alt Check Std. ID: WCL100309-06

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
per0311001a	IPB001	CWW	3/11/2010 19:18			1		USE	B
per0311002a	IPB001	CWW	3/11/2010 19:27			1		USE	B
per0311003a	WCLICAL-01	CWW	3/11/2010 19:36			1		USE	I
per0311004a	WCLICAL-02	CWW	3/11/2010 19:46			1		USE	I
per0311005a	WCLICAL-03	CWW	3/11/2010 19:55			1		USE	I
per0311006a	WCLICAL-04	CWW	3/11/2010 20:04			1		USE	I
per0311007a	WCLICAL-05	CWW	3/11/2010 20:13			1		USE	I
per0311008a	IPB002	CWW	3/11/2010 20:22			1		USE	B
per0311009a	WCLICV	CWW	3/11/2010 20:31			1		USE	C
per0311010a	IPB003	CWW	3/11/2010 20:40			1		USE	B
per0311011a	WCLCRI	CWW	3/11/2010 20:49			1		USE	C
per0311012a	247551001	CWW	3/11/2010 20:58	957938	10-1969	1	LANL	USE	S
per0311013a	247551002	CWW	3/11/2010 21:07	957938	10-1969	1	LANL	USE	S
per0311014a	247552002	CWW	3/11/2010 21:16	957938	10-1970	1	LANL	USE	S
per0311015a	247566001	CWW	3/11/2010 21:25	957938	10-1957	1	LANL	USE	S
per0311016a	247566002	CWW	3/11/2010 21:34	957938	10-1957	1	LANL	USE	S
per0311017a	1202054214	CWW	3/11/2010 21:43	957938	10-1957	1	LANL	USE	S
per0311018a	1202054215	CWW	3/11/2010 21:52	957938	10-1957	1	LANL	USE	S
per0311019a	247566003	CWW	3/11/2010 22:01	957938	10-1957	1	LANL	USE	S
per0311020a	247566004	CWW	3/11/2010 22:10	957938	10-1957	1	LANL	USE	S
per0311021a	247566005	CWW	3/11/2010 22:19	957938	10-1957	1	LANL	USE	S
per0311022a	WCLCCV	CWW	3/11/2010 22:28			1		USE	C
per0311023a	IPB004	CWW	3/11/2010 22:37			1		USE	B
per0311024a	WCLCRI	CWW	3/11/2010 22:46			1		USE	C
per0311025a	247566006	CWW	3/11/2010 22:55	957938	10-1957	1	LANL	USE	S
per0311026a	247566007	CWW	3/11/2010 23:04	957938	10-1957	1	LANL	USE	S
per0311027a	247566008	CWW	3/11/2010 23:13	957938	10-1957	1	LANL	USE	S
per0311028a	247566009	CWW	3/11/2010 23:22	957938	10-1957	1	LANL	USE	S
per0311029a	247566010	CWW	3/11/2010 23:31	957938	10-1957	1	LANL	USE	S

per0311030a	IPB005	CWW	3/11/2010 23:40			1		USE	B
per0311031a	1202068285	CWW	3/11/2010 23:49			1	LANL	USE	S
per0311032a	1202068286	CWW	3/11/2010 23:59		VARIOUS	1	LANL	USE	S
per0311033a	1202068291	CWW	3/12/2010 0:08		VARIOUS	1	LANL	USE	S
per0311034a	248778001	CWW	3/12/2010 0:17		10-2281-1	1	LANL	USE	S
per0311035a	WCLCCV	CWW	3/12/2010 0:26			1		USE	C
per0311036a	IPB006	CWW	3/12/2010 0:35			1		USE	B
per0311037a	WCLCRI	CWW	3/12/2010 0:44			1		USE	C
per0311038a	248783001	CWW	3/12/2010 0:53		10-2284	1	LANL	USE	S
per0311039a	1202068289	CWW	3/12/2010 1:02		10-2284	1	LANL	USE	S
per0311040a	1202068290	CWW	3/12/2010 1:11		10-2284	1	LANL	USE	S
per0311041a	248792001	CWW	3/12/2010 1:20		10-2287	1	LANL	USE	S
per0311042a	248799001	CWW	3/12/2010 1:29		10-2289-1	1	LANL	USE	S
per0311043a	248861001	CWW	3/12/2010 1:38		10-2313-1	1	LANL	USE	S
per0311044a	248861002	CWW	3/12/2010 1:47		10-2313-1	1	LANL	USE	S
per0311045a	248953001	CWW	3/12/2010 1:56		10-2322	1	LANL	USE	S
per0311046a	1202068287	CWW	3/12/2010 2:05		10-2322	1	LANL	USE	S
per0311047a	1202068288	CWW	3/12/2010 2:14		10-2322	1	LANL	USE	S
per0311048a	WCLCCV	CWW	3/12/2010 2:23			1		USE	C
per0311049a	IPB007	CWW	3/12/2010 2:32			1		USE	B
per0311050a	WCLCRI	CWW	3/12/2010 2:41			1		USE	C
per0311051a	1202068504	CWW	3/12/2010 2:51		VARIOUS	1	LANL	USE	S
per0311052a	1202068505	CWW	3/12/2010 3:00		VARIOUS	1	LANL	USE	S
per0311053a	1202068508	CWW	3/12/2010 3:09		VARIOUS	1	LANL	USE	S
per0311054a	247544001	CWW	3/12/2010 3:18		10-1963	1	LANL	USE	S
per0311055a	247544002	CWW	3/12/2010 3:27		10-1963	1	LANL	USE	S
per0311056a	247544003	CWW	3/12/2010 3:36		10-1963	1	LANL	USE	S
per0311057a	247544004	CWW	3/12/2010 3:45		10-1963	1	LANL	USE	S
per0311058a	247546001	CWW	3/12/2010 3:54		10-1965	1	LANL	USE	S
per0311059a	247546002	CWW	3/12/2010 4:03		10-1965	1	LANL	USE	S
per0311060a	247546003	CWW	3/12/2010 4:12		10-1965	1	LANL	USE	S
per0311061a	WCLCCV	CWW	3/12/2010 4:21			1		USE	C
per0311062a	IPB008	CWW	3/12/2010 4:30			1		USE	B
per0311063a	WCLCRI	CWW	3/12/2010 4:39			1		USE	C
per0311064a	247558001	CWW	3/12/2010 4:48		10-1954	1	LANL	USE	S
per0311065a	247558002	CWW	3/12/2010 4:58		10-1954	1	LANL	USE	S
per0311066a	247558003	CWW	3/12/2010 5:07		10-1954	1	LANL	USE	S

per0311067a	247558004	CWW	3/12/2010 5:16	964182	10-1954	1	LANL	USE	S
per0311068a	247558005	CWW	3/12/2010 5:25	964182	10-1954	1	LANL	USE	S
per0311069a	247561001	CWW	3/12/2010 5:34	964182	10-1951-1	1	LANL	USE	S
per0311070a	1202068506	CWW	3/12/2010 5:43	964182	10-1951-1	1	LANL	USE	S
per0311071a	1202068507	CWW	3/12/2010 5:52	964182	10-1951-1	1	LANL	USE	S
per0311072a	247561002	CWW	3/12/2010 6:01	964182	10-1951-1	1	LANL	USE	S
per0311073a	247561003	CWW	3/12/2010 6:10	964182	10-1951-1	1	LANL	USE	S
per0311074a	WCLCCV	CWW	3/12/2010 6:19	964182	10-1951-1	1		USE	C
per0311075a	IPB009	CWW	3/12/2010 6:28			1		USE	B
per0311076a	WCLCRI	CWW	3/12/2010 6:37			1		USE	C
per0311077a	247561004	CWW	3/12/2010 6:46	964182	10-1951-1	1	LANL	DUSE-RA	S
per0311078a	247561005	CWW	3/12/2010 6:56	964182	10-1951-1	1	LANL	DUSE-RA	S
per0311079a	247561006	CWW	3/12/2010 7:05	964182	10-1951-1	1	LANL	DUSE-RA	S
per0311080a	247561007	CWW	3/12/2010 7:17	964182	10-1951-1	1	LANL	DUSE-RA	S
per0311081a	247561008	CWW	3/12/2010 7:26	964182	10-1951-1	1	LANL	DUSE-RA	S
per0311082a	IPB010	CWW	3/12/2010 7:35			1		DUSE	B
per0311083a	1283765 Suppr.	CWW	3/12/2010 7:45	Screen		1	GEL	DUSE	B
per0311084a	ICL100311-01.1 Sf	CWW	3/12/2010 7:54	Screen		1	GEL	DUSE	B
per0311085a	WCLCCV	CWW	3/12/2010 8:03			1		DUSE	C
per0311086a	IPB011	CWW	3/12/2010 8:12			1		DUSE	B
per0311087a	WCLCRI	CWW	3/12/2010 8:21			1		DUSE	C

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

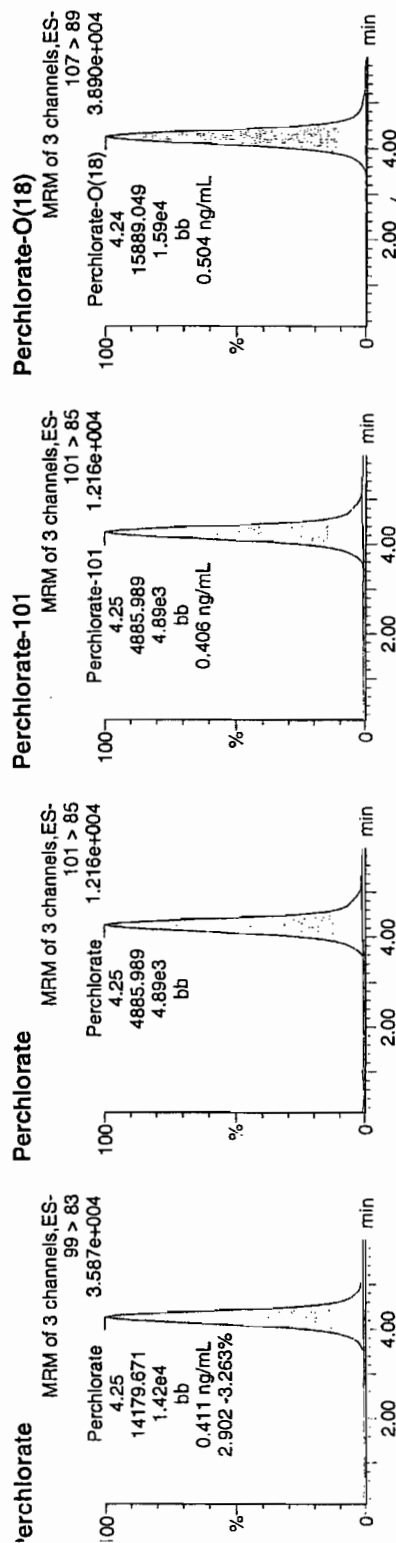
Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Sample Name: per03111017a
Date: 11-Mar-2010
Time: 21:43:25
ID: 1202054214
File: 1:3.F

33-12-10

16700 | 957932 | 3070 | 15 | 11



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202054214	Perchlorate	99 > 83	4.25	14179.671	bb			0.411	205.55	105.55	970.345	2.90
202054214	Perchlorate-101	101 > 85	4.25	4885.989	bb			0.4062	203.12	103.12	517.683	
202054214	Perchlorate-O(18)	107 > 89	4.24	15889.049	bb			0.5043	100.86	0.86	2025.8...	

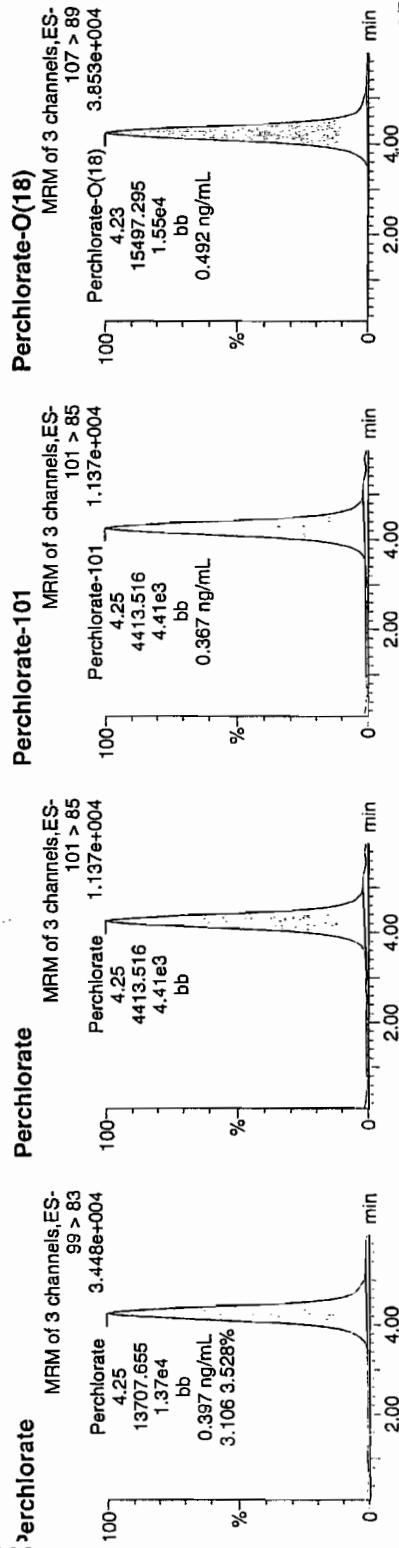
Quantify Sample Report MassLynx 4.0 SP4
The GEL Group, LLC Analyst: Charlers W. Wilson

Dataset: C:\MassLynx\Perchlorate.PRO\per031110a.qld

Last Altered: Friday, March 12, 2010 9:22:32 AM Eastern Standard Time
Printed: Friday, March 12, 2010 9:41:12 AM Eastern Standard Time

Filename: per0311018a
Date: 11-Mar-2010
Time: 21:52:26
D: 1202054215
/al: 1:4,A

LANC 957438 | SOWO | MED | 11
03-12-10



Name	Trace	RT	Area	Response	Flags	Mod.Date	Mod.Time	ng/mL	%Rec	%Dev	S/N	Ion Ratio
202054215	Perchlorate	99 > 83	4.25	13707.655	bb			0.3974	198.71	98.71	1510.8...	3.11
202054215	Perchlorate-101	101 > 85	4.25	4413.516	bb			0.3670	183.48	83.48	347.844	
202054215	Perchlorate-O(18)	107 > 89	4.23	15497.295	bb			0.4919	98.38	-1.62	820.530	

EL SOP GL-OA-E-067, Method 6850-Modified / MM = Manual Modification

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 10-1969**

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: 956053

Prep Batch Number: 956051

Sample Analysis

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

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202049932	Method Blank (MB)
1202049933	Laboratory Control Sample (LCS)
1202049934	247556001(RE16-10-1514) Matrix Spike (MS)
1202049935	247556001(RE16-10-1514) Matrix Spike Duplicate (MSD)

Preparation/Analytical Method Verification

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-056 REV# 12.

Primary Analyte Analysis

Calibration Information

Initial Calibration

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

Calibration Verification Standard Requirements

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

Calibration Blank Requirements

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

10-1969-EXPLCMS

CRI Requirements

All low level calibration verification (CRI) requirements for this analysis were met by all bracketing CRI standards and may be based off the grand mean average percent recovery of all target analytes.

Quality Control (QC) Information

Method Blank (MB) Statement

The MB(s) analyzed with this SDG for this analysis met the acceptance criteria.

Surrogate Recoveries

All the surrogate recoveries were within the established acceptance criteria in this SDG in this analytical batch for this analysis.

Laboratory Control Sample (LCS) Recovery

The LCS spike recoveries were within the established acceptance limits.

QC Sample Designation

Client sample 247556001 (RE16-10-1514) from SDG 10-1953 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 MS/MSD RPD for Tetryl was 33.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported. Please see data exception report 808778.

Internal Standard (ISTD) Acceptance

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

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 recovered TATB at 170%. The recovery limits are 28-162%. While the LCS exhibited a high bias in the, both the MS and MSD met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported. Please see data exception report 808778.

QC Sample Designation

Client sample 247556001 (RE16-10-1514) from SDG 10-1953 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 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 808778 was generated for this SDG.

The LCS recovered TATB at 170%. The recovery limits are 28-162%. While the LCS exhibited a high bias in the, both the MS and MSD met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported.

The MS/MSD RPD for Tetryl was 33.2%. The acceptance limits are 0-30%. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported.

Manual Integrations

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

Flagging Convention

The samples were not originally analyzed using SW-846 Method 8330.

Additional Comments

Due to software limitations, all initial calibration blanks must be designated as XIB001 in order for the forms to be correct.

Due to software limitations in the secondary analyte analysis, false positives and analytes detected below the MDL cannot be deleted from the raw data.

Due to software limitations, file extensions such as DL, RE, etc. may not appear on the generated forms and/or raw data.

System Configuration

The laboratory utilizes a Waters LC 2795 liquid chromatography instrument for primary analyte analysis. It is coupled with either a Micromass Quattro Micro Mass Spectrometer/ Mass Spectrometer, or a Micromass Quattro Ultima Mass Spectrometer/ Mass Spectrometer. Each being designated as LCMSMS #1, and LCMSMS #2, respectively. It is fitted with an APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for the primary analyte analysis. The laboratory also utilizes an Agilent 1100 liquid chromatography instrument for either primary or secondary analyte analysis. It is coupled with a Applied Biosystems 4000 Mass Spectrometer/ Mass Spectrometer, designated as either LCMSMS #3 or LCMSMS #4. It is fitted with a APCI (Atmospheric Pressure chemical Ionization) probe that is operated in the negative ionization mode for both the primary and secondary analyte analysis.

Chromatographic Columns

The detection of the primary analyte nitroaromatic and nitramines is accomplished through analysis on the following reversed phase column:

Phenomenex: Ultracarb 5u ODS (20), 250 x 4.60 mm ID.

The detection of the secondary analytes is accomplished through analysis on the following reversed phase column:

YMC: J'sphere ODS-H80, 150 x 4.6mm I.D.

Certification Statement

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

Review Validation:

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

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

Reviewer: *Heather M. Mauer* Date: *02/28/10*

SAMPLE DATA SUMMARY

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319066a

Date Analyzed: 21-MAR-10 00:51

Units: ug/kg

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

*Concentration =

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160018.wiff

Date Analyzed: 16-MAR-10 12:44

Units: ug/kg

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

*Concentration =

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319067a

Date Analyzed: 21-MAR-10 01:21

Units: ug/kg

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

*Concentration =

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160019.wiff

Date Analyzed: 16-MAR-10 13:00

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): 10-1969

Lab Code: GEL

HPLC Column: Phenomenex Ultracarb 5u ODS(20)

Lab Sample ID	Client Sample ID	DNT	QC Limits	Flg
247551001	RE15-10-8349	94.4	70 - 144	
247551001	RE15-10-8349	101	70 - 144	
247551002	RE15-10-8348	91.4	70 - 144	
247551002	RE15-10-8348	101	70 - 144	
1202049932	MB for batch 956051	92	70 - 144	
1202049932	MB for batch 956051	85.8	70 - 144	
1202049933	LCS for batch 956051	96	70 - 144	
1202049933	LCS for batch 956051	93	70 - 144	

DNT = 3,4-Dinitrotoluene

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1969

Extract Batch Code: 956051

Date Extracted: 25-FEB-10

GEL LCS ID: 1202049933

GEL LCSDUP ID:

Analysis Date/Time: 20-MAR-10 23:23

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-Amino-4,6-dinitrotoluene	5000	4910	98.3					90 – 130
4-Amino-2,6-dinitrotoluene	5000	5070	101					84 – 130
HMX	5000	4910	98.2					58 – 138
Nitrobenzene	5000	5050	101					71 – 122
2,6-Dinitrotoluene	5000	5210	104					89 – 120
2,4-Dinitrotoluene	5000	5390	108					87 – 137
2,4,6-Trinitrotoluene	5000	4730	94.5					73 – 149
1,3,5-Trinitrobenzene	5000	4860	97.1					69 – 126
PETN	5000	5840	117					64 – 137
RDX	5000	5530	111					81 – 137
Tetryl	5000	2740	54.9					51 – 112
m-Dinitrobenzene	5000	5140	103					83 – 122
m-Nitrotoluene	5000	4770	95.5					73 – 118
o-Nitrotoluene	5000	4490	89.9					72 – 119
p-Nitrotoluene	5000	4770	95.4					67 – 131

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

* Values outside of QC limits

3B
High Explosives LCS/LCS Duplicate Summary

Lab Name: GEL Laboratories LLC

Client ID: LCS

Lab Code: GEL

GEL Job No (SDG) 10-1969

Extract Batch Code: 956051

Date Extracted: 25-FEB-10

GEL LCS ID: 1202049933

GEL LCSDUP ID:

Analysis Date/Time: 16-MAR-10 11:57

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	4460	89.2					52 - 114
2,6-Diamino-4-nitrotoluene	5000	4830	96.6					64 - 122
TATB	5000	8490	170 *					28 - 162
3,5-Dinitroaniline	5000	4960	99.2					70 - 127
tris(o-cresyl) phosphate	5000	5140	103					84 - 119

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

* Values outside of QC limits

3
High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE16-10-1514

Lab Code: GEL

GEL Job No (SDG) 10-1969

Extract Batch Code: 956051

Date Extracted: 25-FEB-10

GEL Spike ID: 1202049934

GEL SpikeDup ID: 1202049935

Analysis Date/Time: 21-MAR-10 02:49

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
o-Nitrotoluene	5000	0	4470	89.4	4740	94.8	5.85	30	69 – 123
2-Amino-4,6-dinitrotoluene	5000	0	4560	91.3	4570	91.3	.048	30	85 – 137
HMX	5000	8.64	5070	101	5050	101	.508	30	51 – 144
PETN	5000	0	5470	109	5910	118	7.77	30	60 – 140
m-Nitrotoluene	5000	0	5010	100	4650	93	7.53	30	70 – 120
m-Dinitrobenzene	5000	0	5010	100	4850	97.1	3.24	30	85 – 118
Tetryl	5000	0	2680	53.5	1910	38.3	33.2 *	30	36 – 124
RDX	5000	7.69	6020	120	5610	112	7.13	30	59 – 152
Nitrobenzene	5000	0	5030	101	4740	94.8	5.88	30	70 – 122
4-Amino-2,6-dinitrotoluene	5000	0	4630	92.6	4790	95.9	3.42	30	72 – 143
2,6-Dinitrotoluene	5000	0	5210	104	5010	100	3.93	30	90 – 118
1,3,5-Trinitrobenzene	5000	0	4750	94.9	4320	86.5	9.34	30	50 – 140
2,4,6-Trinitrotoluene	5000	0	4320	86.4	4350	87.1	.769	30	76 – 144
2,4-Dinitrotoluene	5000	0	5130	103	5080	102	1.08	30	86 – 135
p-Nitrotoluene	5000	0	5030	101	4880	97.7	2.99	30	65 – 133

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

3
High Explosives MS/MSD Summary

Lab Name: GEL Laboratories LLC

Client ID: RE16-10-1514

Lab Code: GEL

GEL Job No (SDG) 10-1969

Extract Batch Code: 956051

Date Extracted:25-FEB-10

GEL Spike ID: 1202049934

GEL SpikeDup ID:1202049935

Analysis Date/Time: 16-MAR-10 13:47

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	4330	86.6	4110	82.2	5.21	26	34 - 135
2,6-Diamino-4-nitrotoluene	5000	0	4400	88	4320	86.4	1.84	30	55 - 130
3,5-Dinitroaniline	5000	0	4690	93.8	4820	96.4	2.73	30	73 - 129
TATB	5000	0	5180	104	4300	86	18.6	30	29 - 155
tris(o-cresyl) phosphate	5000	0	4880	97.6	4900	98	.409	30	72 - 127

#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): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 19-MAR-10 16:54

GEL Data File: EXP0319001a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	423.048
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	475.815
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0

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Calibration: Untitled, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP03190001a

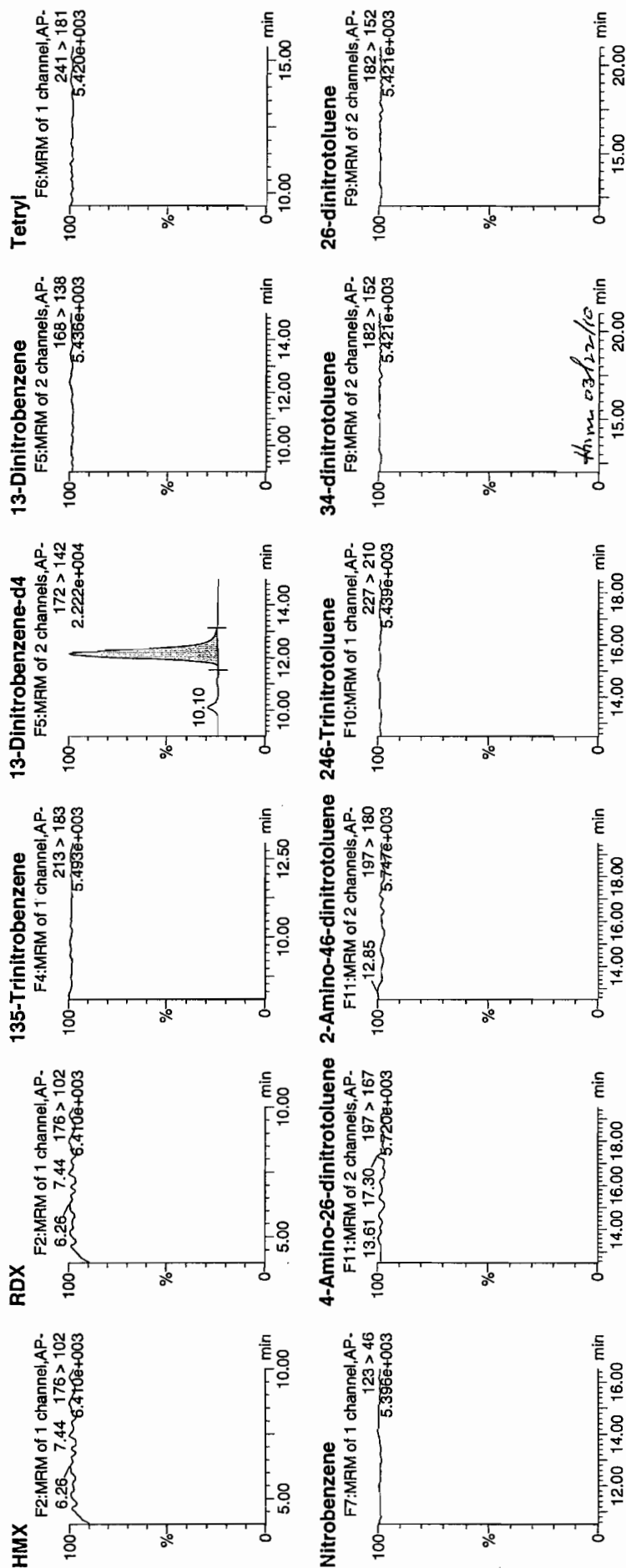
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Time: 16:54:21

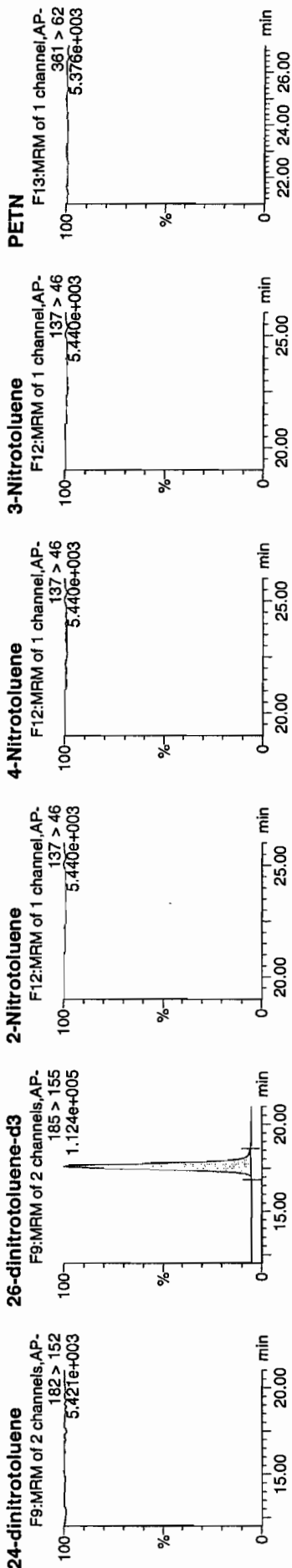
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Vial: 1:1,A

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



ID	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	ng/ml	%Rec	%Dev	S/N
XIBLK01	HMX	176 > 102		6944.893										
XIBLK01	RDX	176 > 102		6944.893										
XIBLK01	135-Trinitrobenzene	213 > 183		6944.893										
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.14	6944.893		6944.893	6944.893	bb			423.0481	84.6	-15.4	1619.9
XIBLK01	13-Dinitrobenzene	168 > 138		6944.893										
XIBLK01	Tetryl	241 > 181		6944.893										
XIBLK01	Nitrobenzene	123 > 46		6944.893										
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167		44313.852										
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180		44313.852										
XIBLK01	246-Trinitrotoluene	227 > 210		44313.852										
XIBLK01	34-dinitrotoluene	182 > 152		44313.852										
XIBLK01	26-dinitrotoluene	182 > 152		44313.852										
XIBLK01	24-dinitrotoluene	182 > 152		44313.852										
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.60	44313.852		44313.852	44313.852	bb			475.8152	95.2	-4.8	2362.3
XIBLK01	2-Nitrotoluene	137 > 46		44313.852										
XIBLK01	4-Nitrotoluene	137 > 46		44313.852										
XIBLK01	3-Nitrotoluene	137 > 46		44313.852										
XIBLK01	PETN	361 > 62		44313.852										

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 19-MAR-10 17:23

GEL Data File: EXP0319002a

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	530.201
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	529.637
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

Printed: Sat Mar 20 11:06:08 2010, Page 3 of 73

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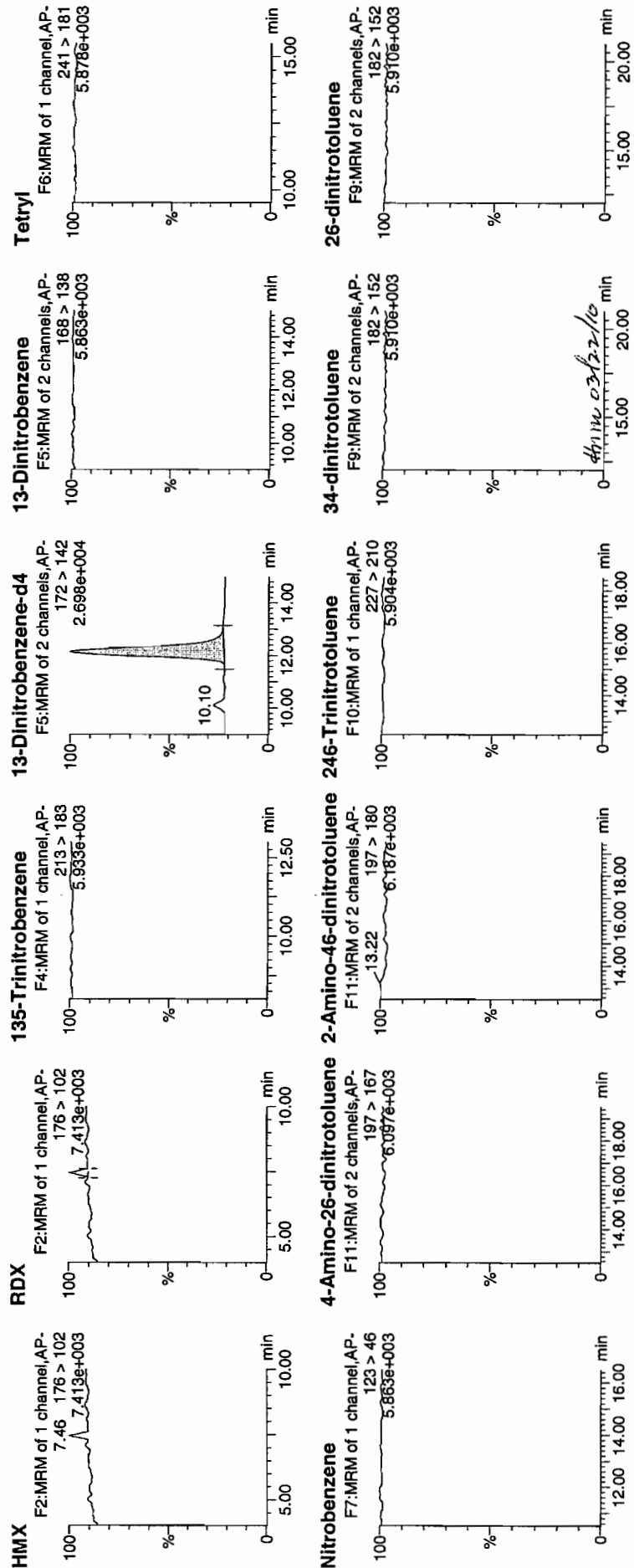
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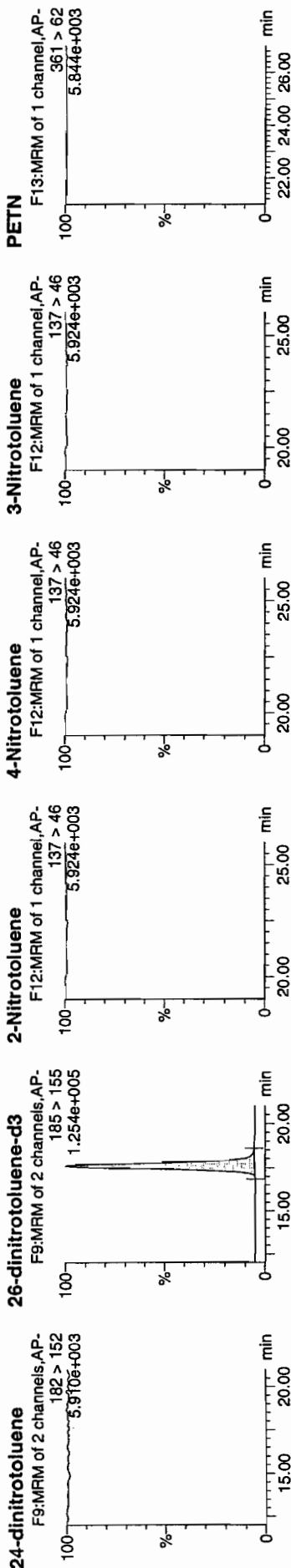
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XIBLK01	HMX	176 > 102		8703.944										
XIBLK01	RDX	176 > 102		8703.944										
XIBLK01	135-Trinitrobenzene	213 > 183		8703.944										
XIBLK01	13-Dinitrobenzene-d4	172 > 142	12.14	8703.944										
XIBLK01	13-Dinitrobenzene	168 > 138		8703.944										
XIBLK01	Tetryl	241 > 181		8703.944										
XIBLK01	Nitrobenzene	123 > 46		8703.944										
XIBLK01	4-Amino-26-dinitrotoluene	197 > 167		49326.441										
XIBLK01	2-Amino-46-dinitrotoluene	197 > 180		49326.441										
XIBLK01	246-Trinitrotoluene	227 > 210		49326.441										
XIBLK01	34-dinitrotoluene	182 > 152		49326.441										
XIBLK01	26-dinitrotoluene	182 > 152		49326.441										
XIBLK01	24-dinitrotoluene	182 > 152		49326.441										
XIBLK01	26-dinitrotoluene-d3	185 > 155	17.60	49326.441										
XIBLK01	2-Nitrotoluene	137 > 46		49326.441										
XIBLK01	4-Nitrotoluene	137 > 46		49326.441										
XIBLK01	3-Nitrotoluene	137 > 46		49326.441										
XIBLK01	PETN	361 > 62		49326.441										
						8703.944	8703.944	bb	MM- 20-Mar-10	10:50:39	530.2006	106.0	6.0	583.3
						49326.441	49326.441	bb			529.6373	105.9	5.9	5366.9

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-MAR-10 08:17

GEL Data File: EXS03160001.wiff

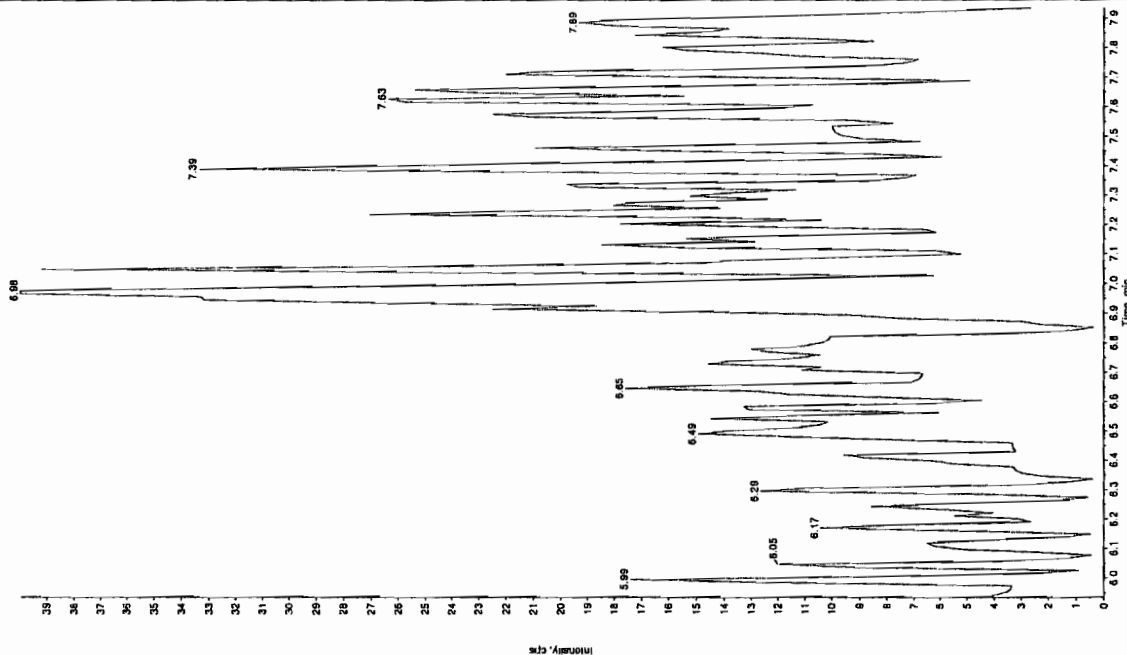
Instrument ID: LCMSMS

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

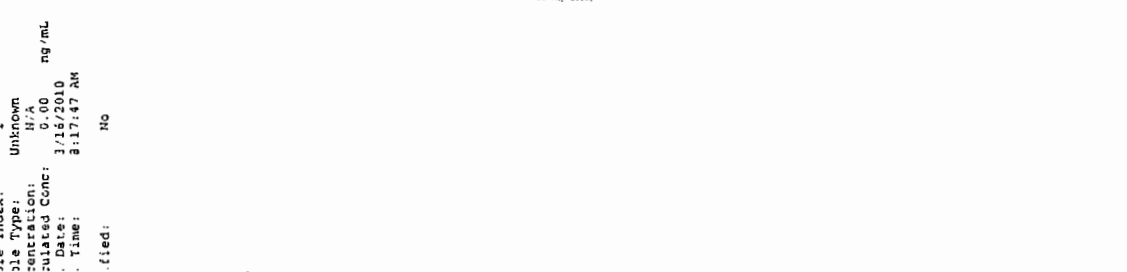
Sample Name: "XBLK01" Sample ID: "TILER" File: "EXS03160001.wif"
 Peak Name: "TATB" Mass(es): 257.2204.9 amu
 Comment: "LCMSEXP_B" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8:17:47 AM
 Modified: No



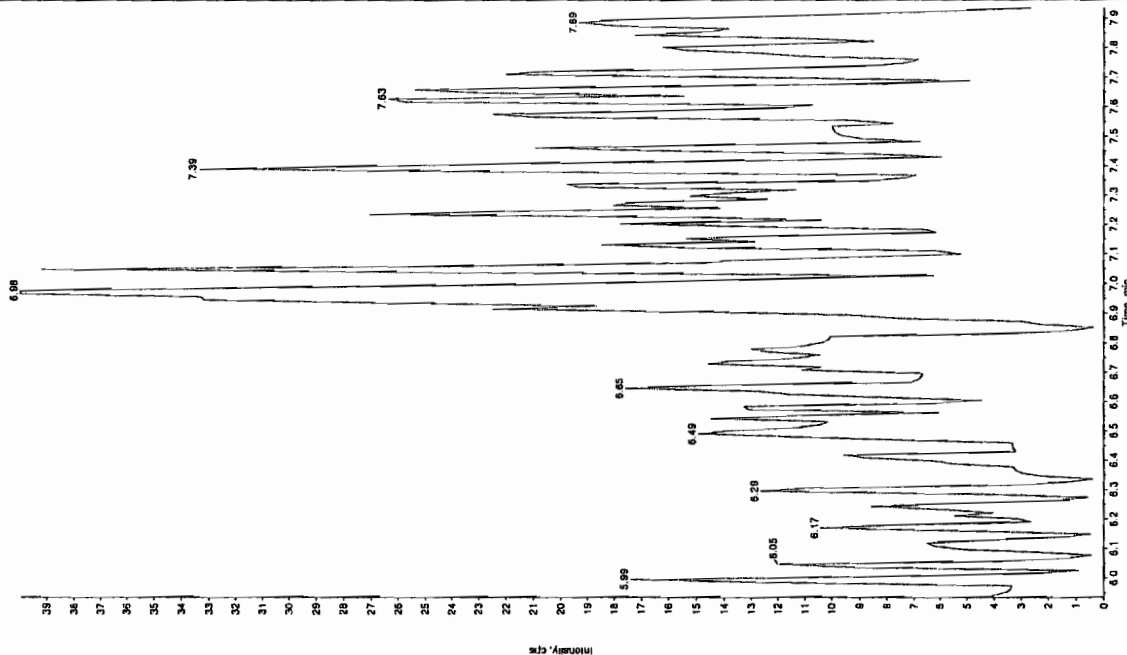
Sample Name: "XBLK01" Sample ID: "TILER" File: "EXS03160001.wif"
 Peak Name: "TATB" Mass(es): 257.2204.9 amu
 Comment: "LCMSEXP_B" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8:17:47 AM
 Modified: No



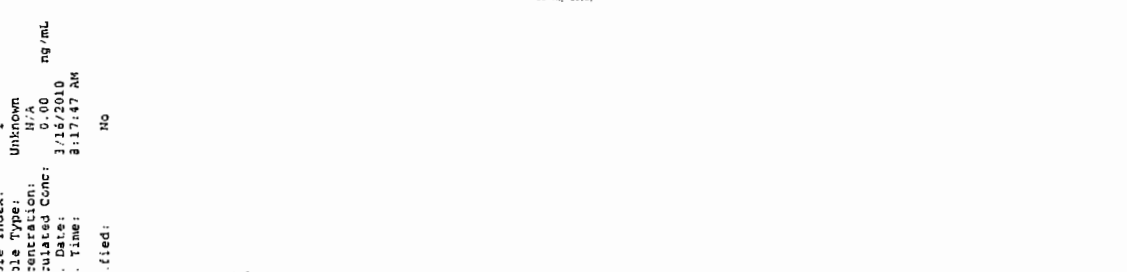
Sample Name: "XBLK01" Sample ID: "TILER" File: "EXS03160001.wif"
 Peak Name: "TATB" Mass(es): 257.2204.9 amu
 Comment: "LCMSEXP_B" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8:17:47 AM
 Modified: No



Sample Name: "XBLK01" Sample ID: "TILER" File: "EXS03160001.wif"
 Peak Name: "TATB" Mass(es): 257.2204.9 amu
 Comment: "LCMSEXP_B" Annotation: "1"

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8:17:47 AM
 Modified: No

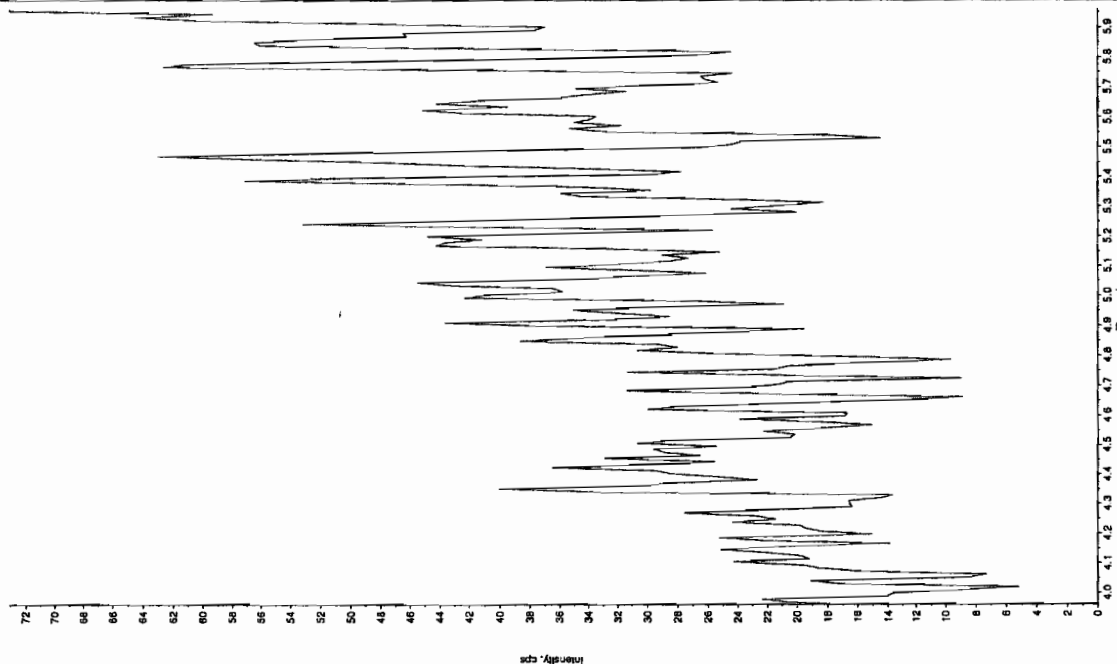


RCR 3/18/10

Hum 3/18/10

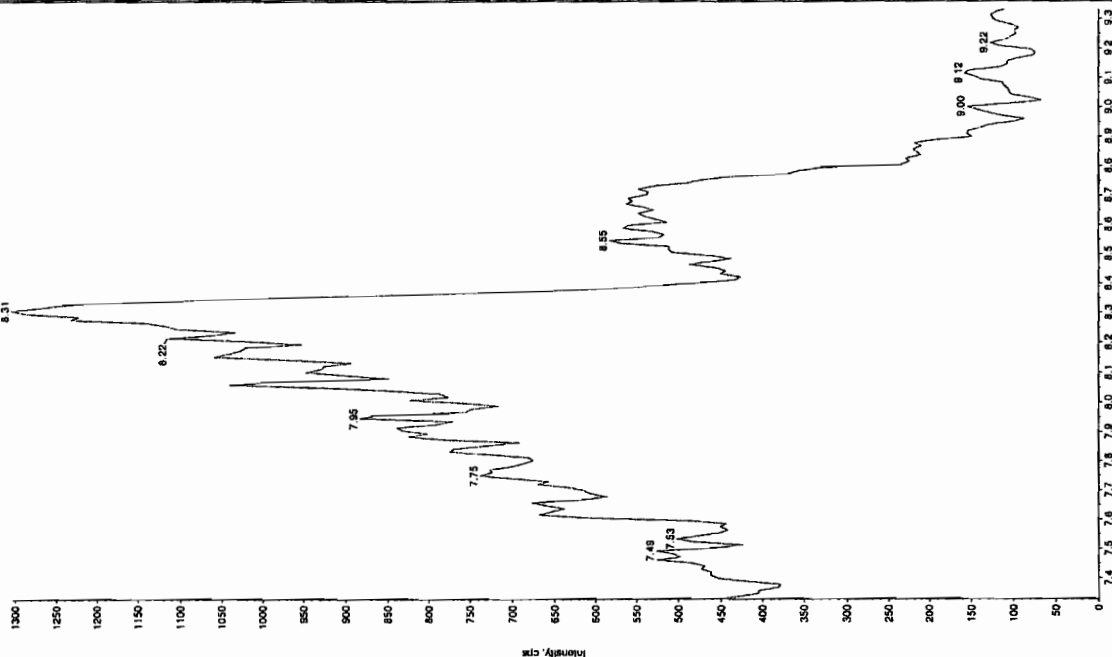
Sample Name: "XIBLK01" Sample ID: "JILR" File: "EXSG3160001.wif"
 Peak Name: "26-Diamino-4-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8/17/17 AM
 Acq. Time: 8:17:47 AM
 Modified: No



Sample Name: "XIBLK01" Sample ID: "JILR" File: "EXSG3160001.wif"
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.1151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 8/17/17 AM
 Acq. Time: 8:17:47 AM
 Modified: No



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

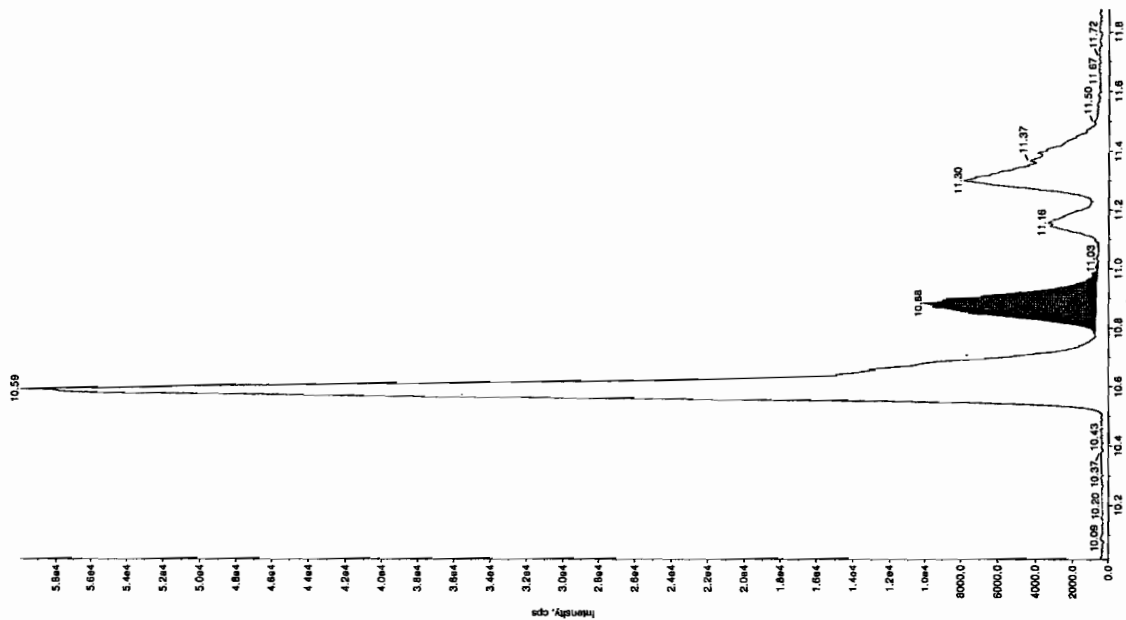
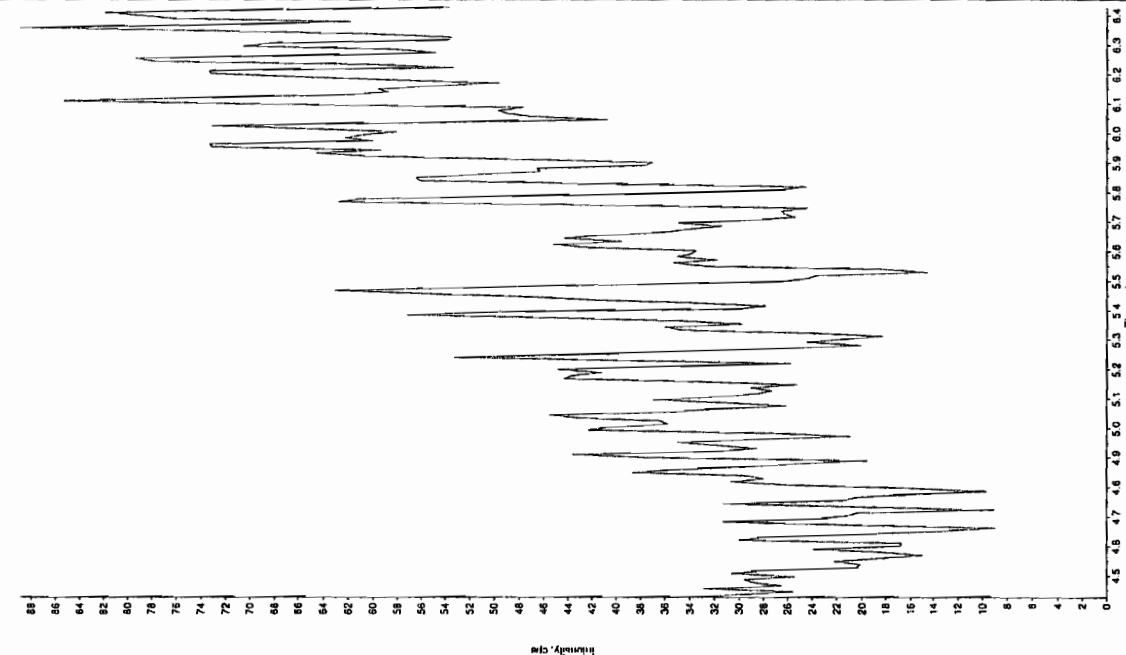
Sample Name: "XBLK01" Sample ID: "TILER" File: "EXS03160001.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 8:17:47 AM

Modified: No

Proc. Algorithm: Intelliguance - IOA
 Min. Peak Height: 5000.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3.00 points
 RT Window: 30.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 10.9 min
 Area: 4.77e+004 counts
 Height: 9390.677 cps
 Start Time: 10.8 min
 End Time: 11.0 min



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

Explosives Initial Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK01

Analysis Date: 16-MAR-10 08:33

GEL Data File: EXS03160002.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

Run 3/18/10

Sample Name: "XIBLX01" Sample ID: "TILER" File: "EXS03160002.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP_B" Annotation: "

Sample Index: 1

Sample Type: Unknown

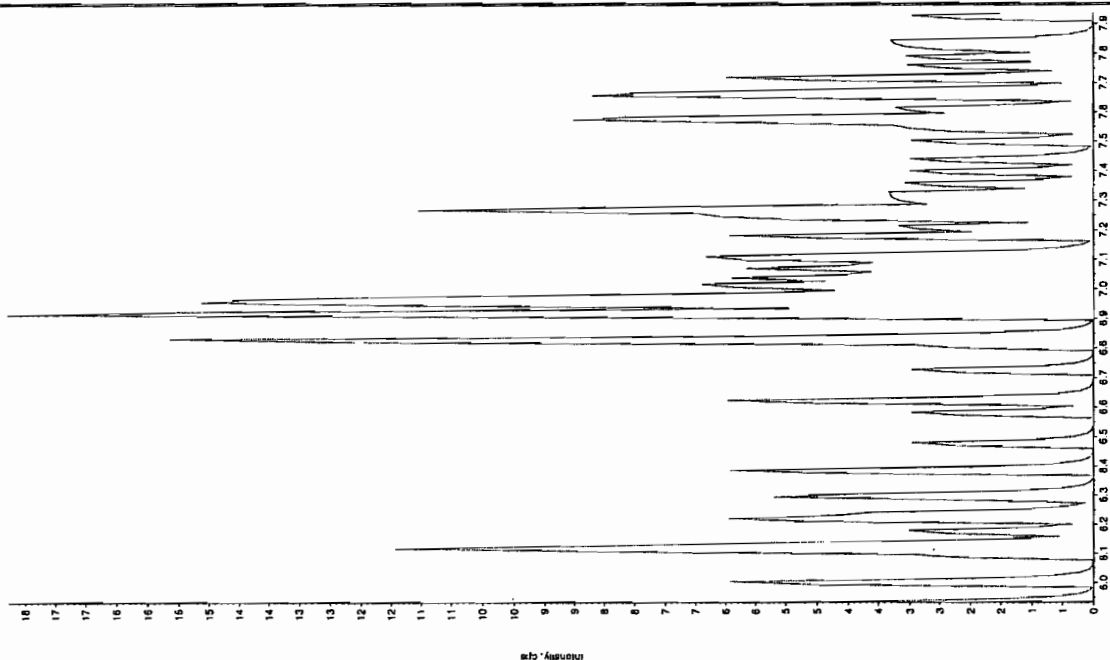
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 8:33:34 AM

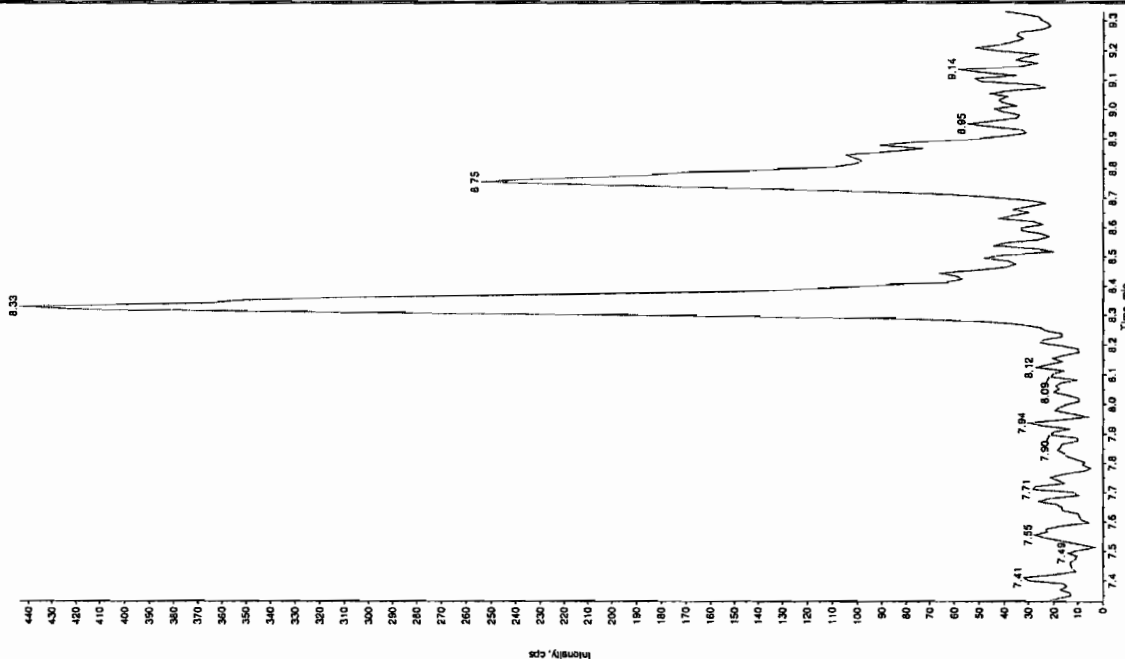
Modified: No



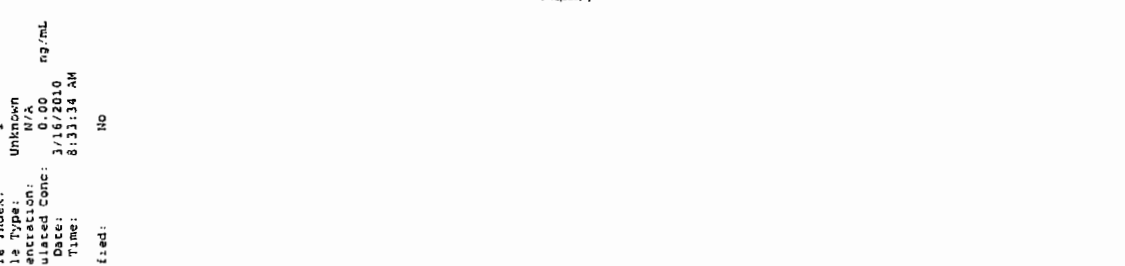
Run 03/18/10

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

Sample Name: "XBLK01" Sample ID: "JILLER" File: "EXS03160002.wif"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 8:33:34 AM
 Modified: No



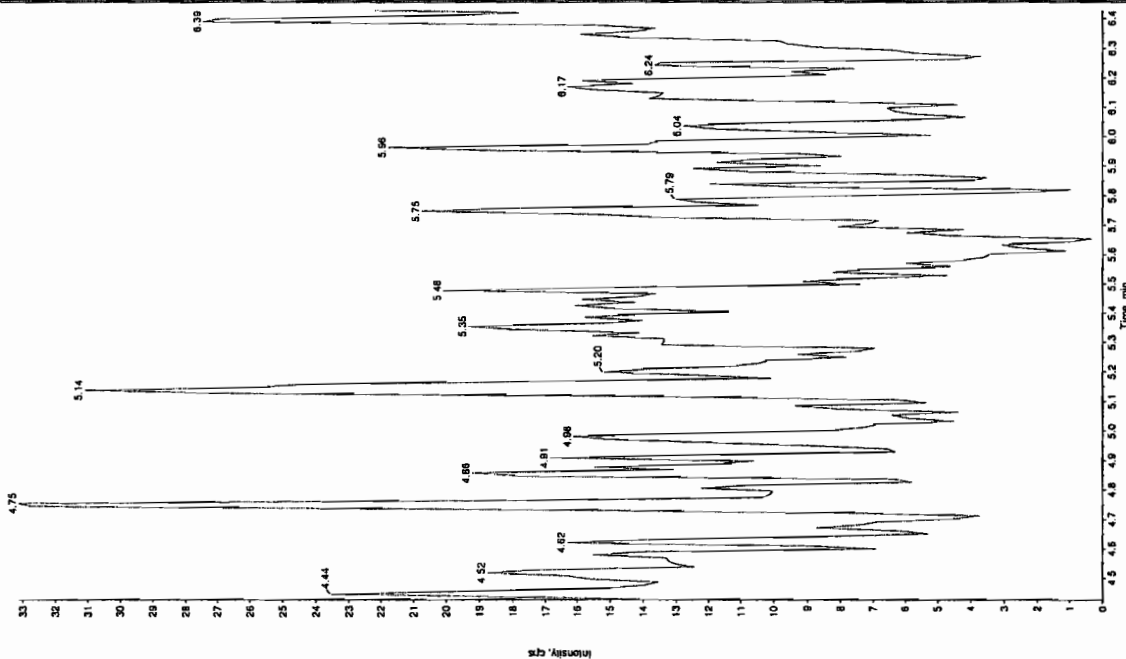
Sample Name: "XBLK01" Sample ID: "JILLER" File: "EXS03160002.wif"
 Peak Name: "34-Dinitrotoluene" Mass(es): "182.1715.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 8:33:34 AM
 Modified: No



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

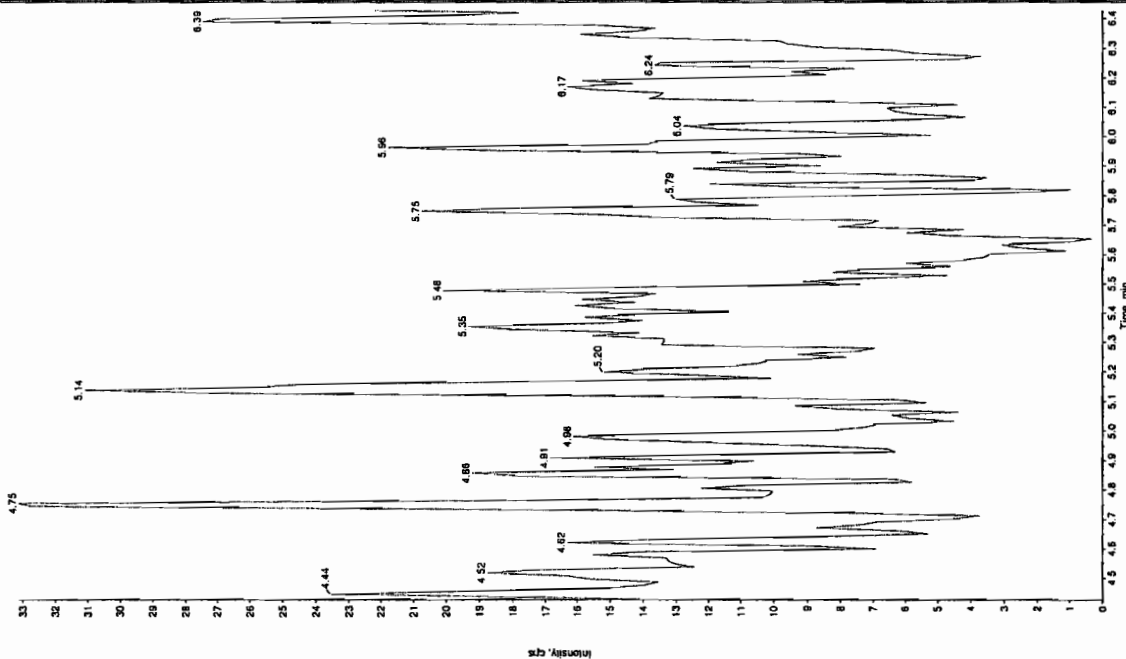
Sample Name: "XIBLK01" Sample ID: "111ER" File: "EXS03160002.wif"
 Peak Name: "1,1,1-trichloro-2,2,2-trifluoroethane" Mass(es): "359.1/91.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 8:33:34 AM
 Modified: No



Sample Name: "XIBLK01" Sample ID: "111ER" File: "EXS03160002.wif"
 Peak Name: "2,4-Dinitro-6-nitrotoluene" Mass(es): "166.0/46.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 8:33:34 AM
 Modified: No



, SOP GL-OA-E-056, Method 8321A-Modified LCM SMS#4

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 19-MAR-10 20:50

GEL Data File: EXP0319009a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	542.302
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	453.96

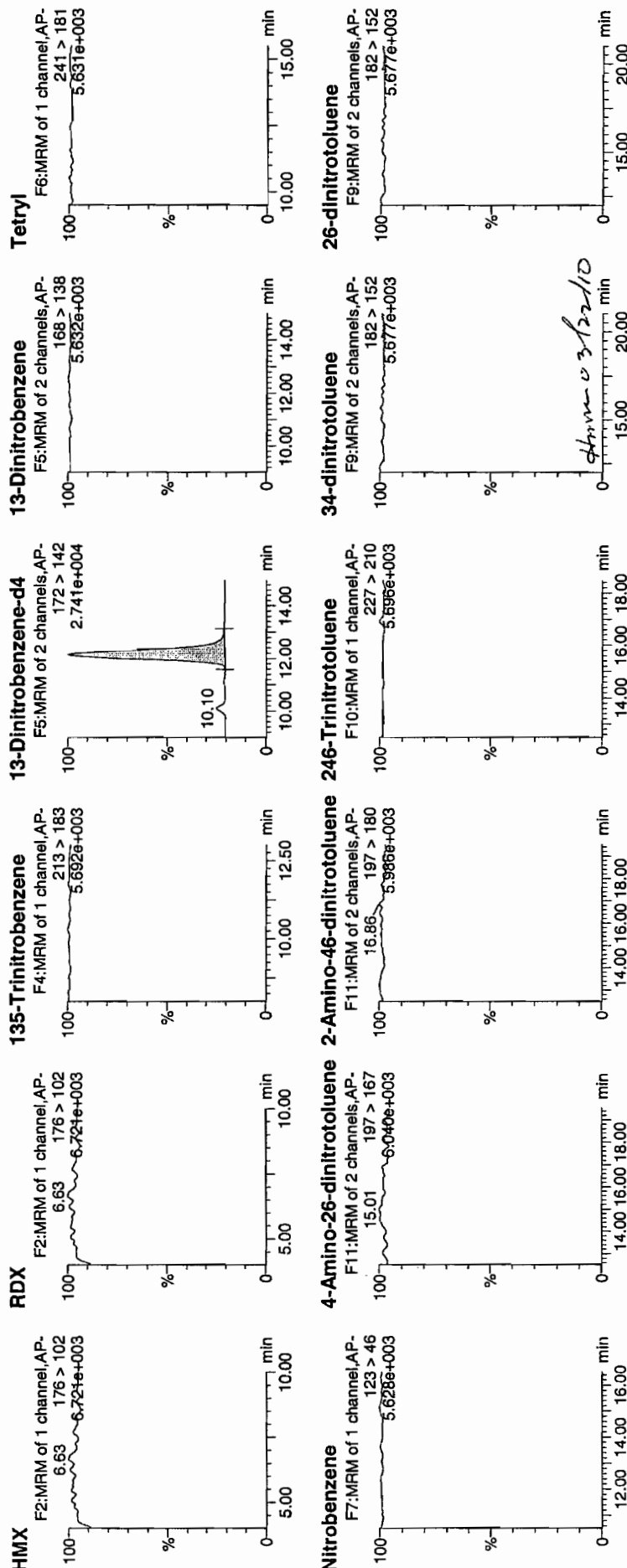
Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319009a

Date: 19-Mar-2010

Time: 20:50:09

ID: XIBLK02

Vial: 1:1,A

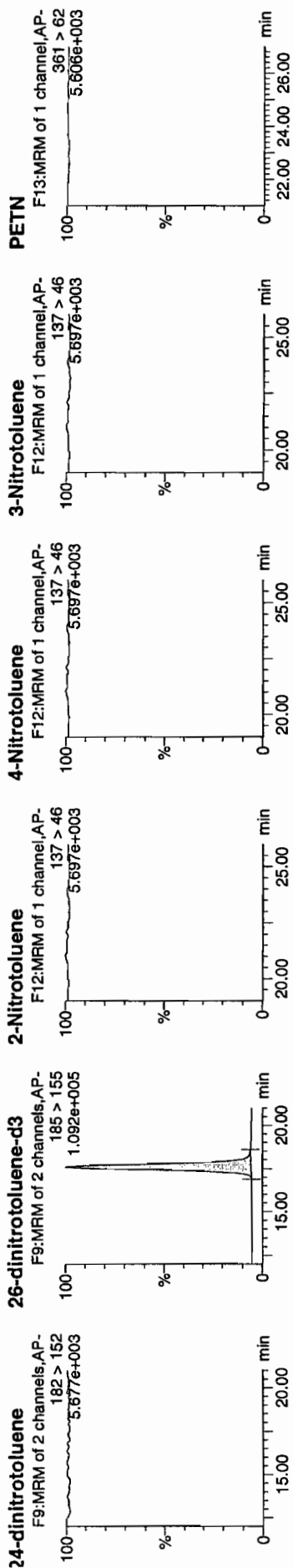


Quantify Sample Report

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



ID	Name	Trace	RT	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	% Rec	% Dev	S/N
XIBLK02	HMX	176 > 102		8902.596									
XIBLK02	RDX	176 > 102		8902.596									
XIBLK02	135-Trinitrobenzene	213 > 183		8902.596									
XIBLK02	13-Dinitrobenzene-d4	172 > 142	12.14	8902.596				bb			542.3015	108.5	701.2
XIBLK02	13-Dinitrobenzene	168 > 138											
XIBLK02	Tetryl	241 > 181											
XIBLK02	Nitrobenzene	123 > 46		8902.596									
XIBLK02	4-Amino-26-dinitrotoluene	197 > 167		8902.596									
XIBLK02	2-Amino-46-dinitrotoluene	197 > 180		42278.402									
XIBLK02	246-Trinitrotoluene	227 > 210		42278.402									
XIBLK02	34-dinitrotoluene	182 > 152		42278.402									
XIBLK02	26-dinitrotoluene	182 > 152		42278.402									
XIBLK02	24-dinitrotoluene	182 > 152		42278.402									
XIBLK02	26-dinitrotoluene-d3	185 > 155	17.60	42278.402				bb			453.9598	90.8	-9.2 3635.3
XIBLK02	2-Nitrotoluene	137 > 46		42278.402									
XIBLK02	4-Nitrotoluene	137 > 46		42278.402									
XIBLK02	3-Nitrotoluene	137 > 46		42278.402									
XIBLK02	PETN	361 > 62		42278.402									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 19-MAR-10 21:49

GEL Data File: EXP0319011a

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	436.341
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	460.101
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

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319011a

Date: 19-Mar-2010

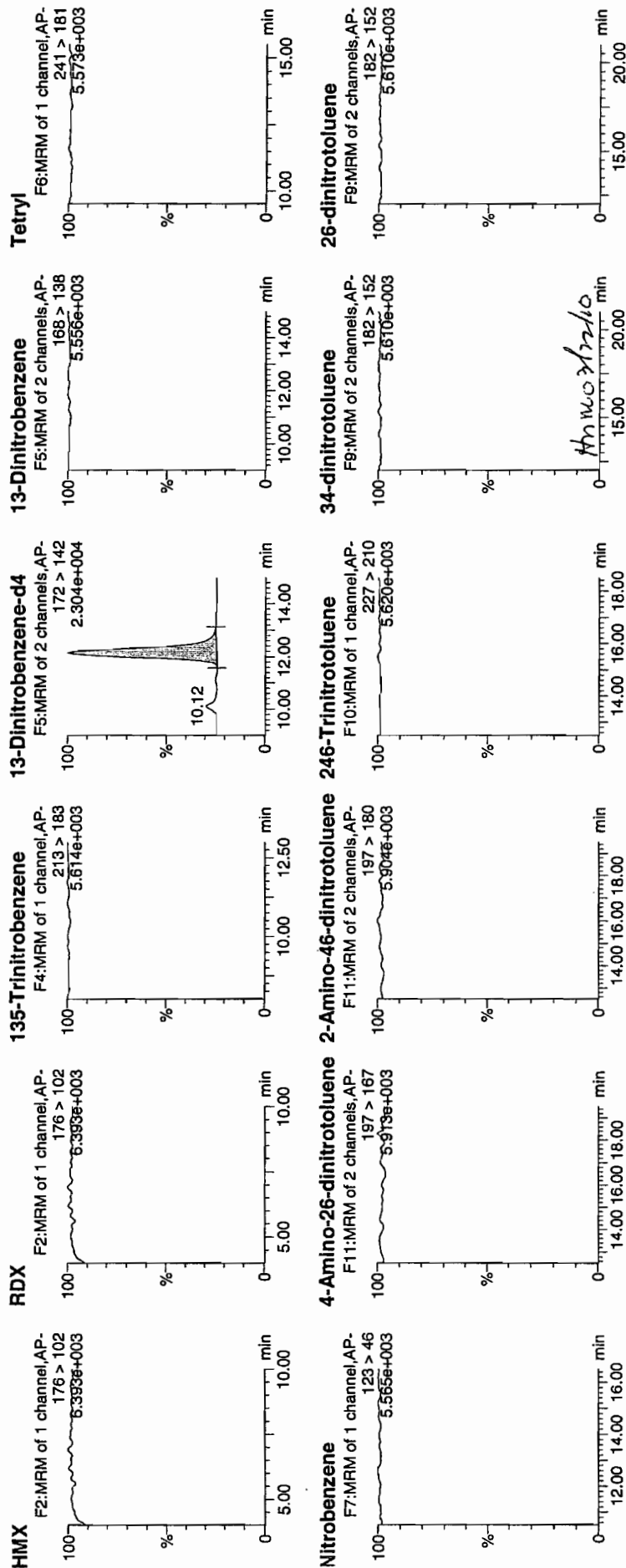
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ID: XIBLK03

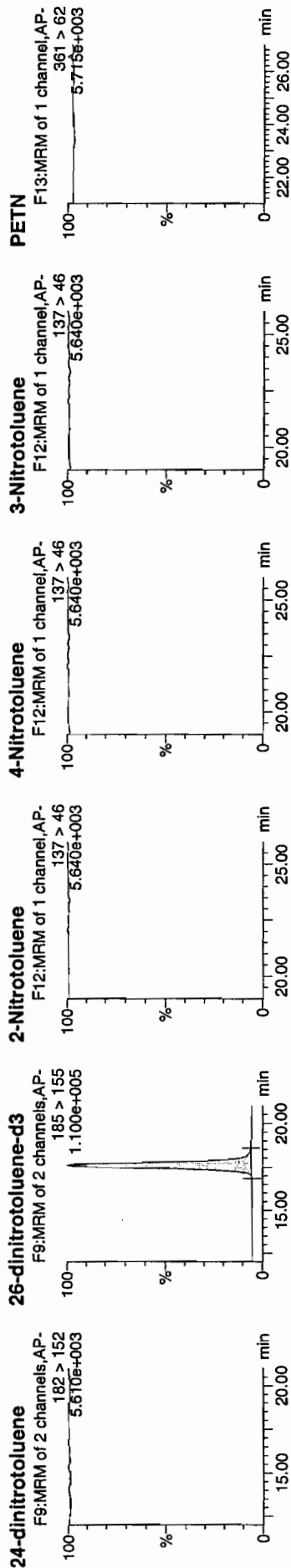
Vial: 1:1,A

3/19/10
MMP

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Dataset: C:\MASSL\YNN\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



ID	Name	Trace	RT	Area	S Area	Abs. Resp	Response	Flags	Mod Date	Mod Time	Conc (ng/ml)	%Rec	%Dev	S/N
XIBLK03	HMX	176 > 102			7163.110									
XIBLK03	RDX	176 > 102			7163.110									
XIBLK03	135-Trinitrobenzene	213 > 183			7163.110									
XIBLK03	13-Dinitrobenzene-d4	172 > 142	12.14	7163.110		7163.110		bb			436.3407	87.3	-12.7	365.1
XIBLK03	13-Dinitrobenzene	168 > 138			7163.110									
XIBLK03	Tetryl	241 > 181			7163.110									
XIBLK03	Nitrobenzene	123 > 46			42850.355									
XIBLK03	4-Amino-26-dinitrotoluene	197 > 167			42850.355									
XIBLK03	2-Amino-46-dinitrotoluene	197 > 180			42850.355									
XIBLK03	246-Trinitrotoluene	227 > 210			42850.355									
XIBLK03	34-dinitrotoluene	182 > 152			42850.355									
XIBLK03	26-dinitrotoluene	182 > 152			42850.355									
XIBLK03	24-dinitrotoluene	182 > 152			42850.355									
XIBLK03	26-dinitrotoluene-d3	185 > 155	17.60	42850.355		42850.355		bb			460.1011	92.0	-8.0	3587.8
XIBLK03	2-Nitrotoluene	137 > 46			42850.355									
XIBLK03	4-Nitrotoluene	137 > 46			42850.355									
XIBLK03	3-Nitrotoluene	137 > 46			42850.355									
XIBLK03	PETN	361 > 62			42850.355									

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 20-MAR-10 03:43

GEL Data File: EXP0319023a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
2,6-Dinitrotoluene-d3	500	447.464
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	405.596
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319023a

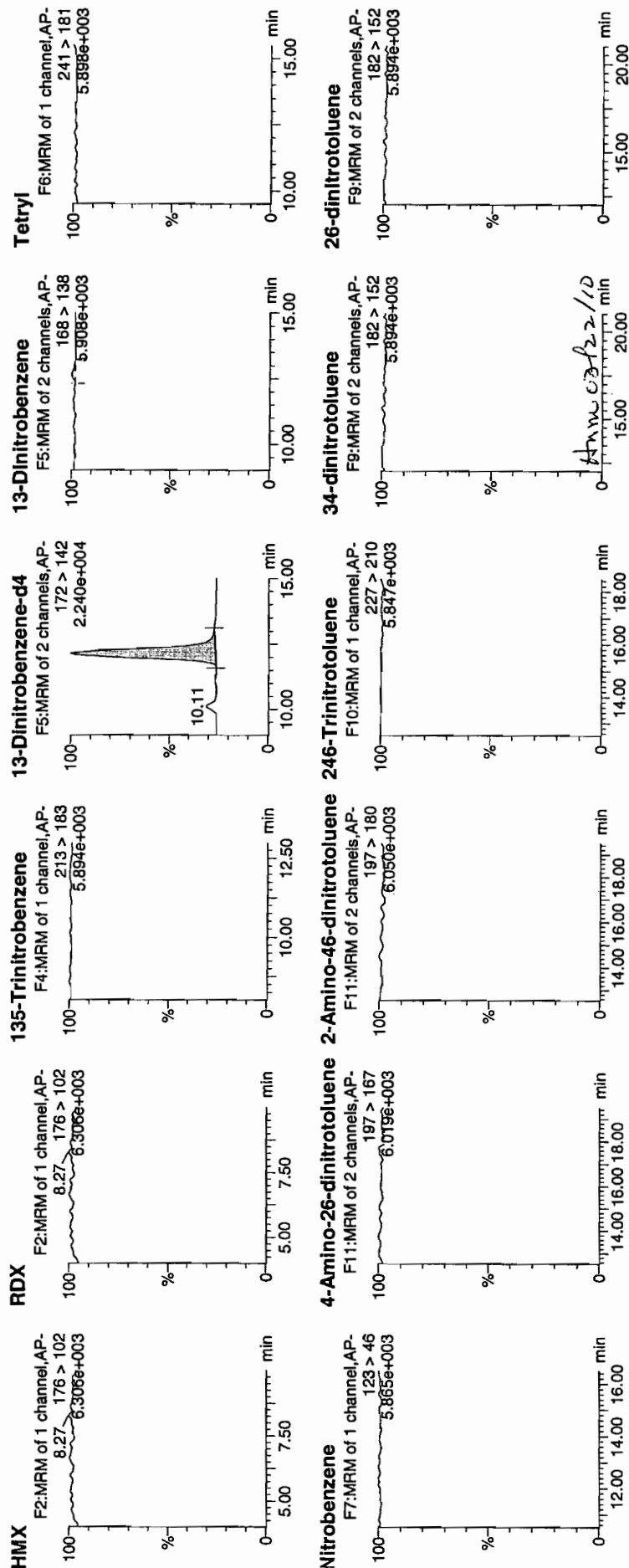
Date: 20-Mar-2010

Time: 03:43:01

ID: XIBLK04

Vial: 1:1,A

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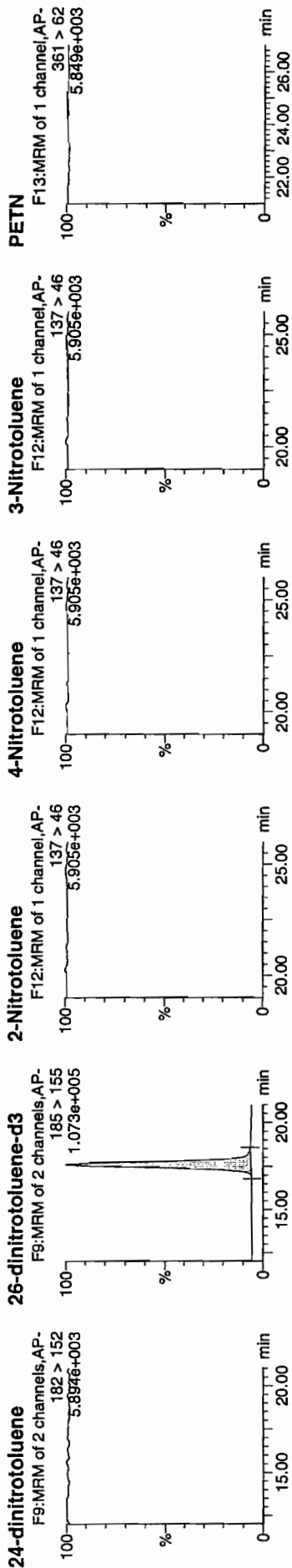


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Sat Mar 20 11:06:08 2010, Page 46 of 73

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



ID	Name	Trace	RT	Area	IS Area	Abs. Resp	Response	Flags	Mod Date	Mod Time	Conc/mL	%Rec	%Dev	S/N
XIBLK04	HMX	176 > 102		6658.400										
XIBLK04	RDX	176 > 102		6658.400										
XIBLK04	135-Trinitrobenzene	213 > 183		6658.400										
XIBLK04	13-Dinitrobenzene-d4	172 > 142	12.13	6658.400										
XIBLK04	13-Dinitrobenzene	168 > 138		6658.400										
XIBLK04	Tetryl	241 > 181		6658.400										
XIBLK04	Nitrobenzene	123 > 46		6658.400										
XIBLK04	4-Amino-26-dinitrotoluene	197 > 167		41673.398										
XIBLK04	2-Amino-46-dinitrotoluene	197 > 180		41673.398										
XIBLK04	246-Trinitrotoluene	227 > 210		41673.398										
XIBLK04	34-dinitrotoluene	182 > 152		41673.398										
XIBLK04	26-dinitrotoluene	182 > 152		41673.398										
XIBLK04	24-dinitrotoluene	182 > 152		41673.398										
XIBLK04	26-dinitrotoluene-d3	185 > 155	17.59	41673.398										
XIBLK04	2-Nitrotoluene	137 > 46		41673.398										
XIBLK04	4-Nitrotoluene	137 > 46		41673.398										
XIBLK04	3-Nitrotoluene	137 > 46		41673.398										
XIBLK04	PETN	361 > 62		41673.398										
						6658.400	6658.400	bb	MM- 20-Mar-10	10:50:56		405.5963	81.1	-18.9
						41673.398	41673.398	bb				447.4636	89.5	-10.5
														3483.0

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK05

Analysis Date: 20-MAR-10 05:41

GEL Data File: EXP0319027a

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	480.062
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	507.169
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

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319027a

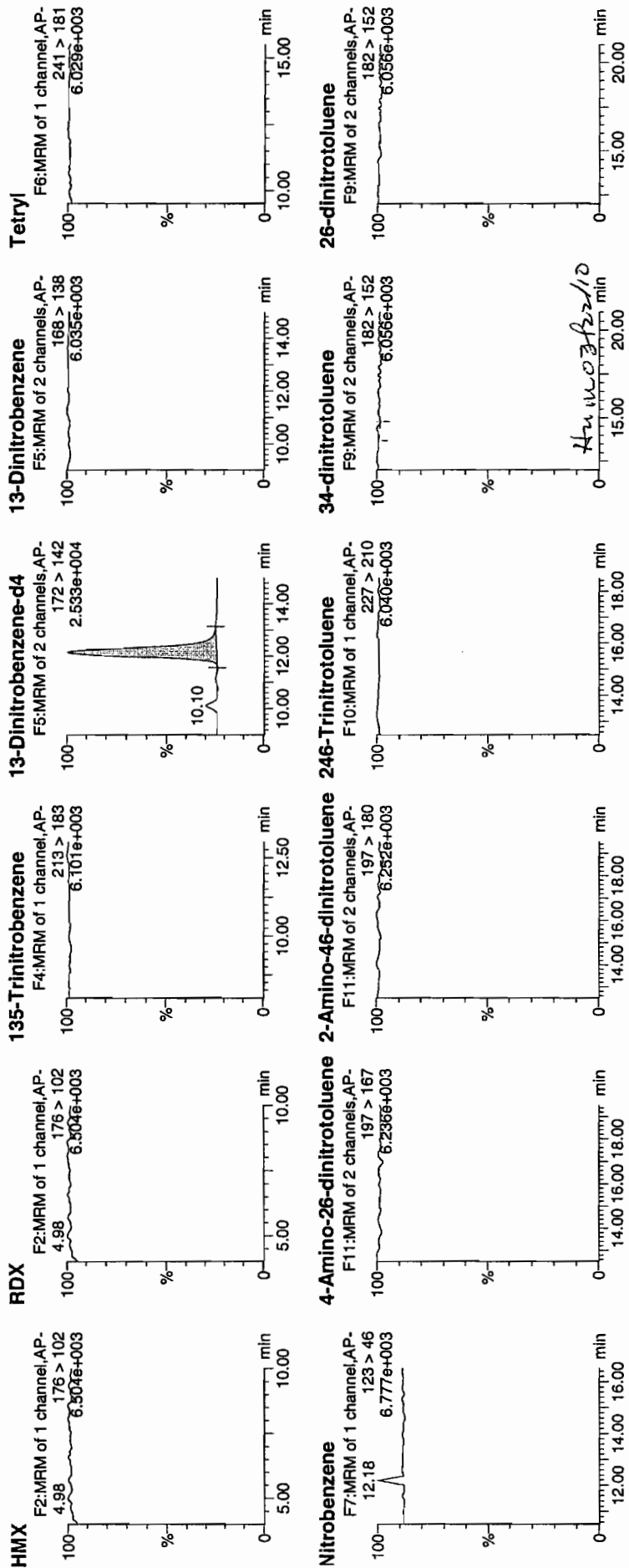
Date: 20-Mar-2010

Time: 05:41:00

ID: XIBLK05

Vial: 1:1,A

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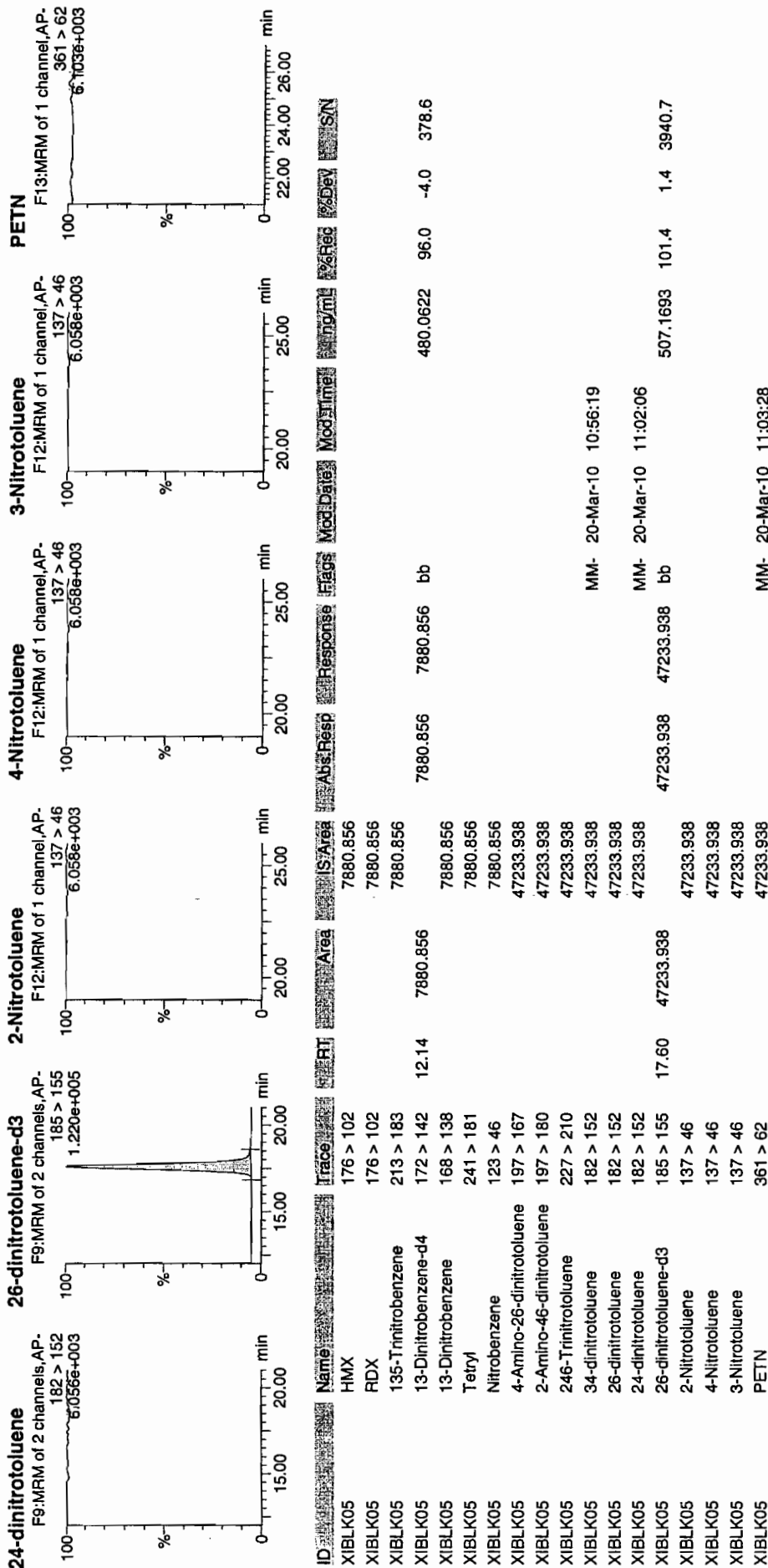


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK06

Analysis Date: 20-MAR-10 09:36

GEL Data File: EXP0319035a

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	459.279
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	492.299
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\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319035a

Date: 20-Mar-2010

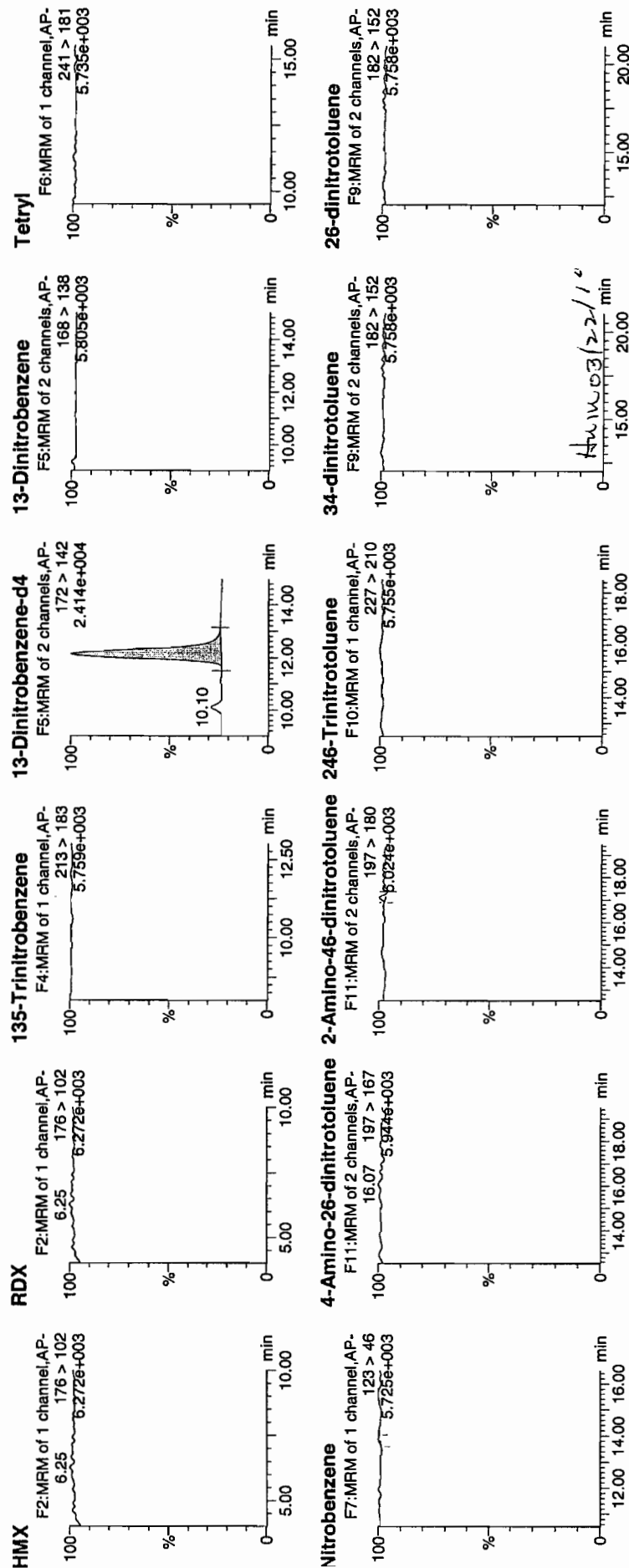
Time: 09:36:57

ID: XIBLK06

Vial: 1:1,A

WAT
3/20/10

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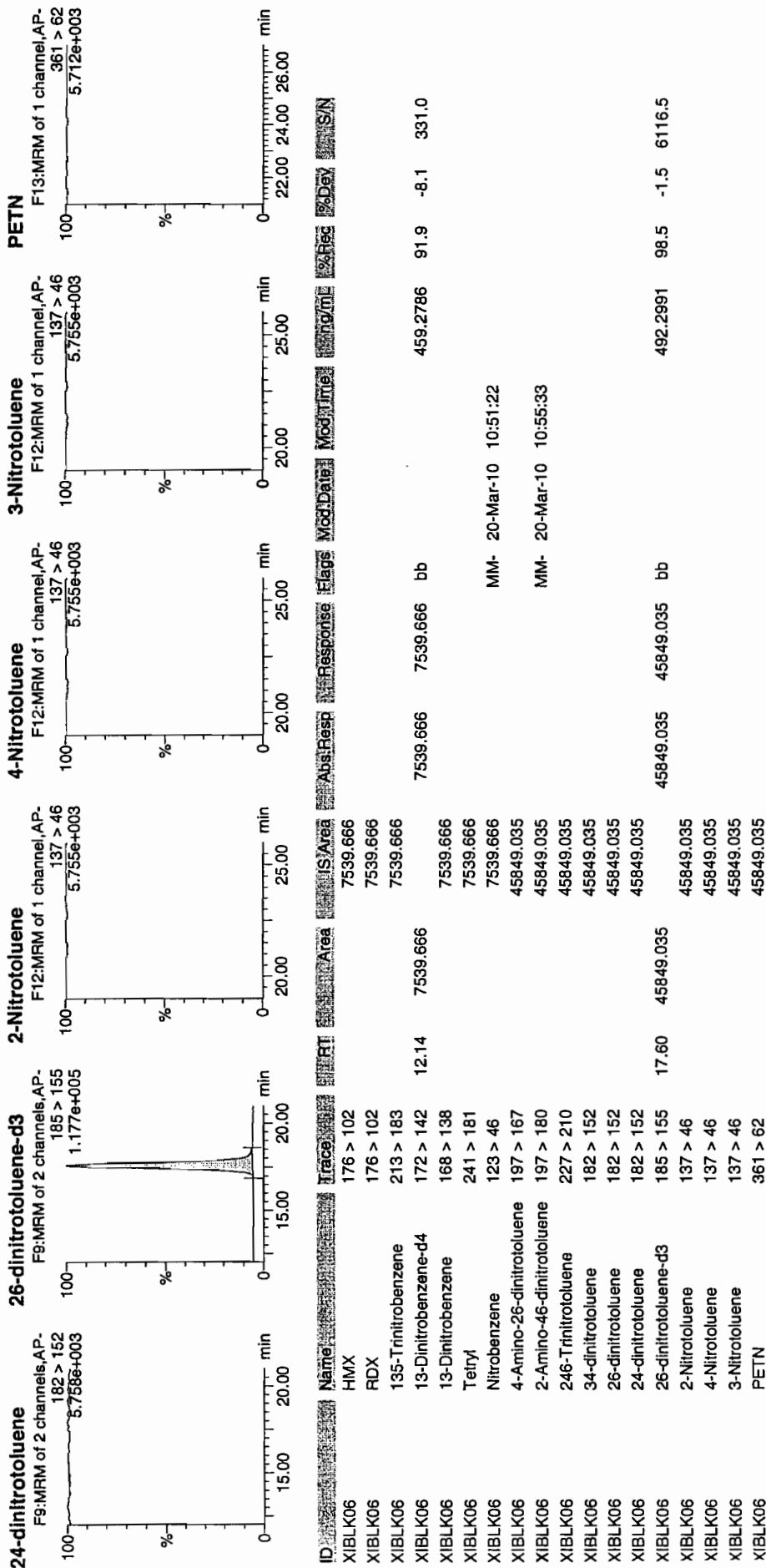


Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp\PRO031910expA.qld, Time: Sat Mar 20 11:05:24 2010



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK07

Analysis Date: 20-MAR-10 16:00

GEL Data File: EXP0319048a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	438.895
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	473.981
2-Amino-4,6-dinitrotoluene	0	0
4-Amino-2,6-dinitrotoluene	0	0
HMX	0	0
Nitrobenzene	0	0
PETN	0	0
RDX	0	0
Tetryl	0	0
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

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Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319048a

Date: 20-Mar-2010

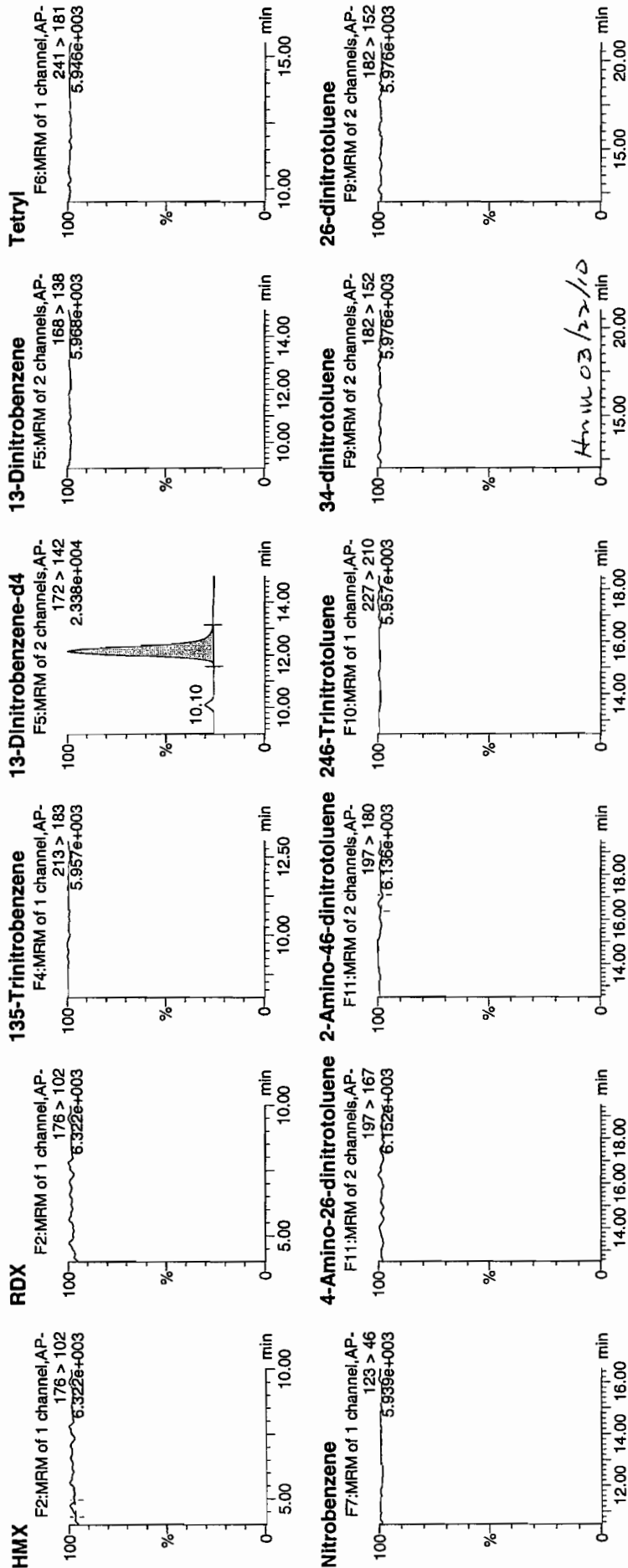
Time: 16:00:37

ID: XIBLK07

Vial: 1:1,A

WAT
3/21/10

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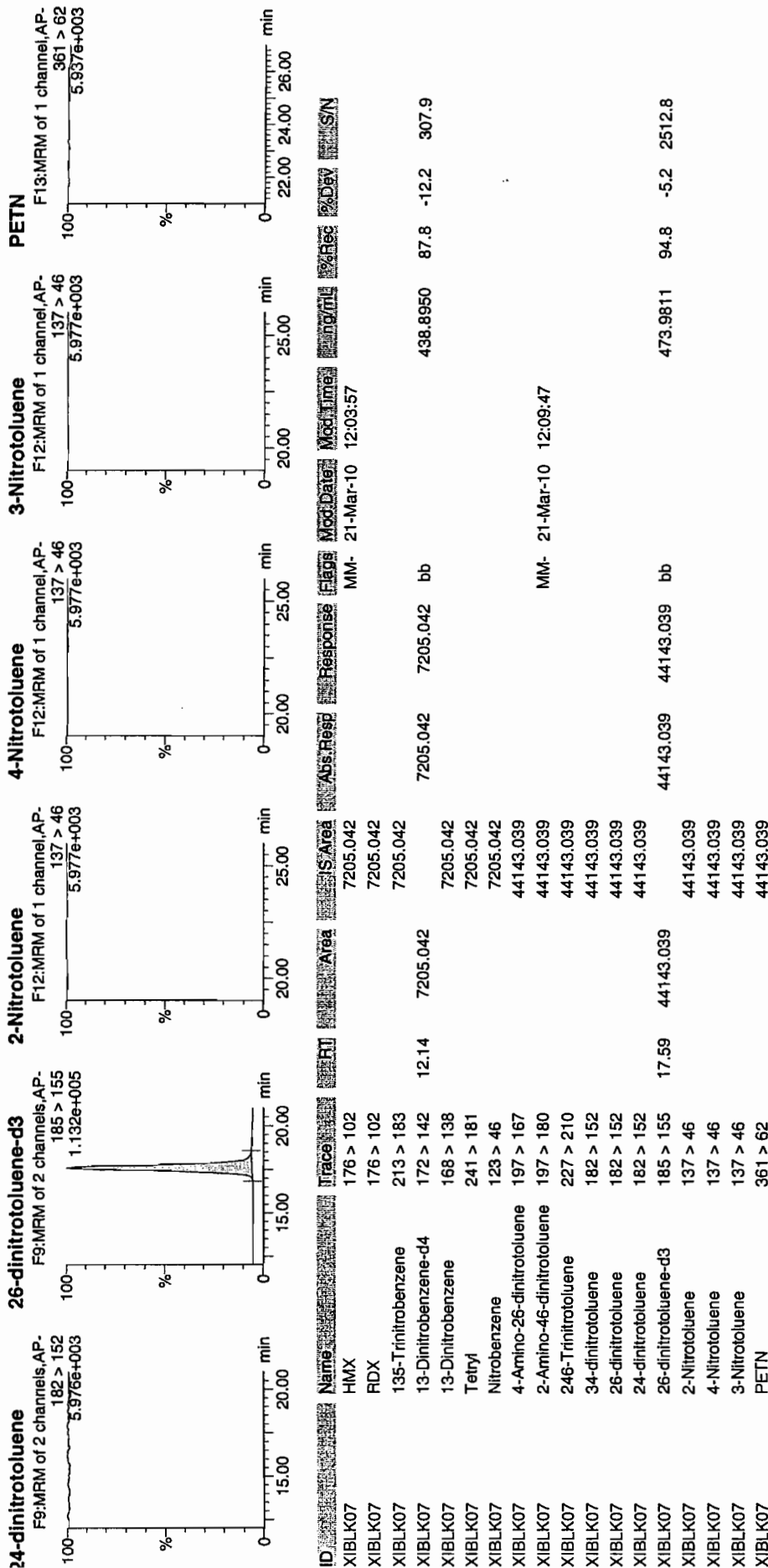


Quantify Sample Report

3EL Laboratories, LLC / Analyst : Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK08

Analysis Date: 20-MAR-10 21:54

GEL Data File: EXP0319060a

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	422.313
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	449.72
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

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319060a

Date: 20-Mar-2010

Time: 21:54:35

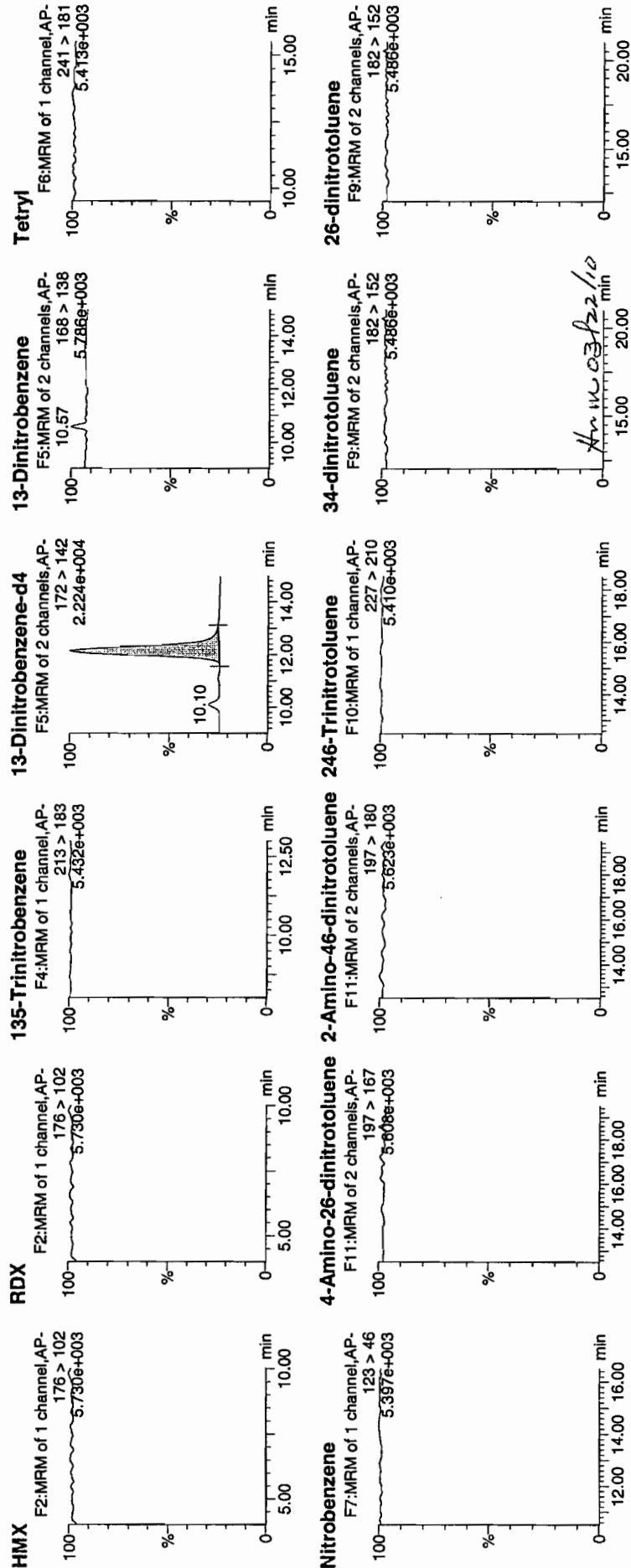
ID: XIBLK08

Vial: 1:1,A

Copy

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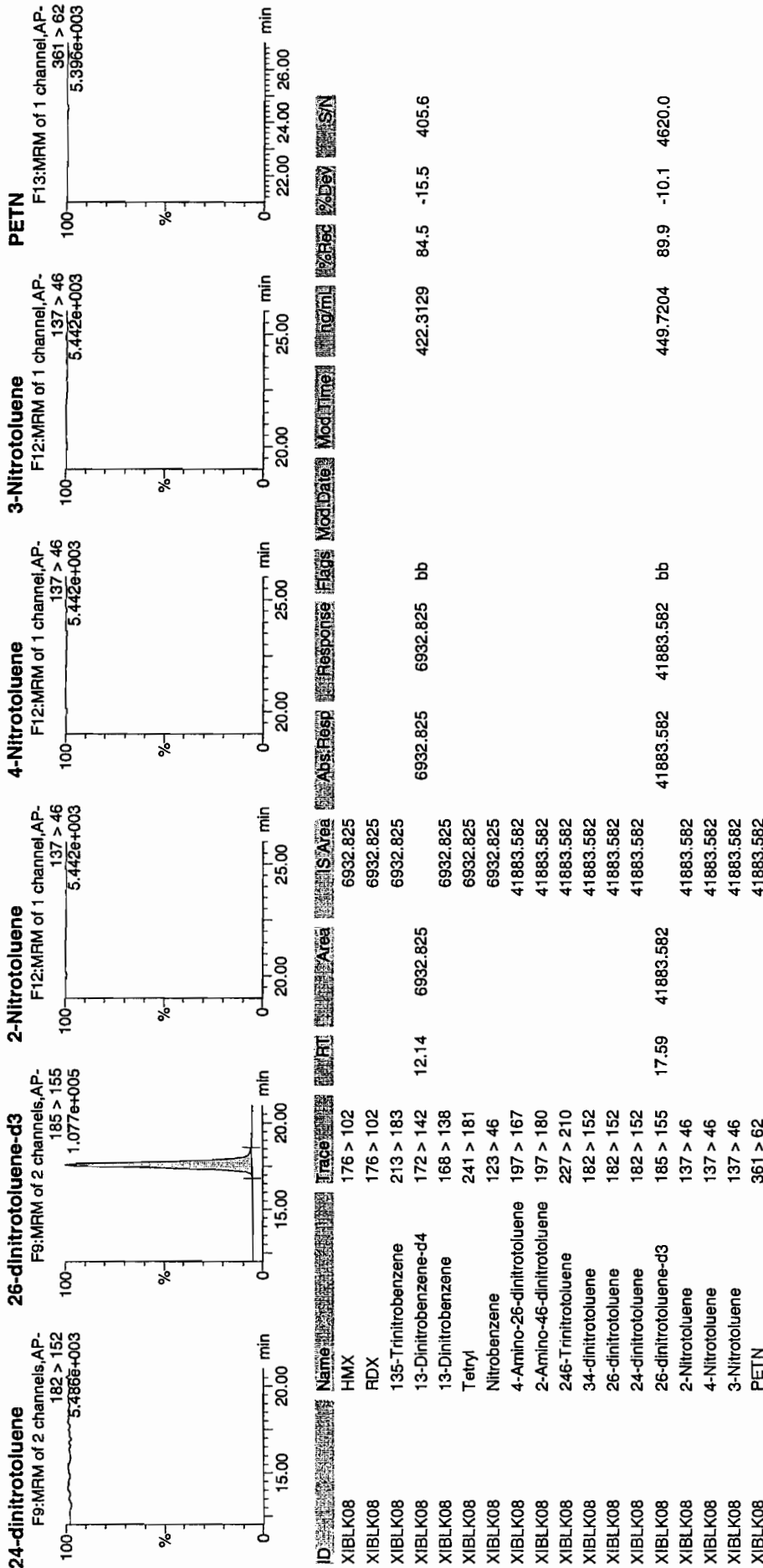
GEL SOP GL-OA-E-056, Method 8321A-Modified / MM = Manual Modification

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK09

Analysis Date: 21-MAR-10 04:18

GEL Data File: EXP0319073a

Instrument ID: LCMSMS

Column: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found (ug/L)
m-Dinitrobenzene	0	0
m-Nitrotoluene	0	0
o-Nitrotoluene	0	0
p-Nitrotoluene	0	0
3,4-Dinitrotoluene	0	0
1,3,5-Trinitrobenzene	0	0
1,3-Dinitrobenzene-d4	500	355.114
2,4,6-Trinitrotoluene	0	0
2,4-Dinitrotoluene	0	0
2,6-Dinitrotoluene	0	0
2,6-Dinitrotoluene-d3	500	397.53
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

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319073a

Date: 21-Mar-2010

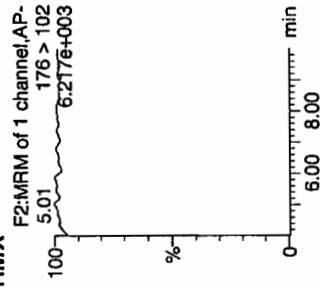
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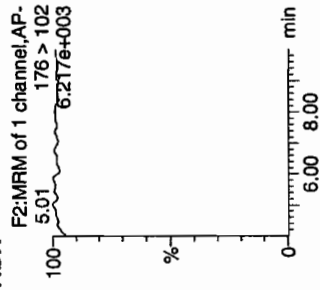
Vial: 1:1,A

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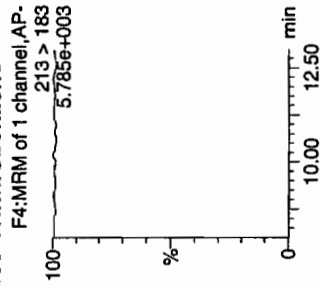
HMX



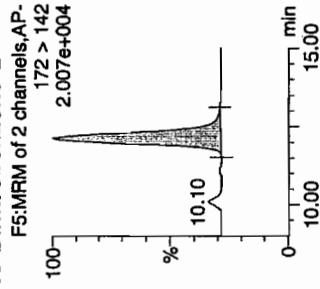
RDX



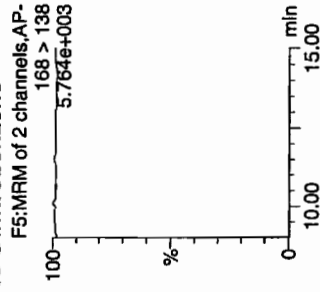
135-Trinitrobenzene



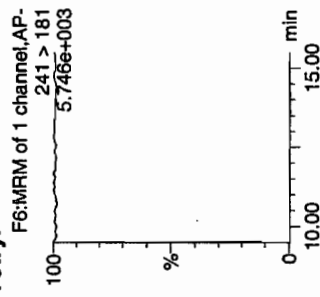
13-Dinitrobenzene-d4



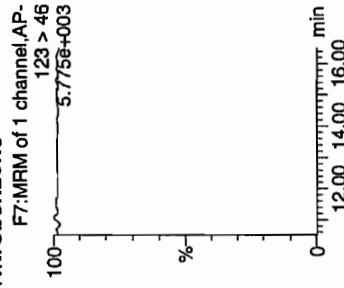
13-Dinitrobenzene



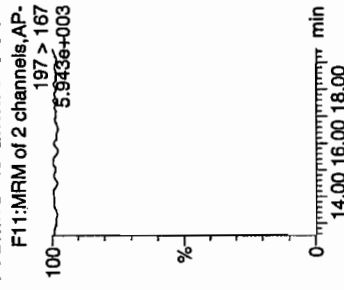
Tetryl



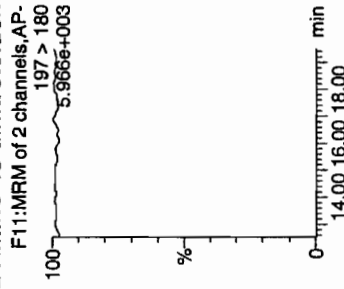
Nitrobenzene



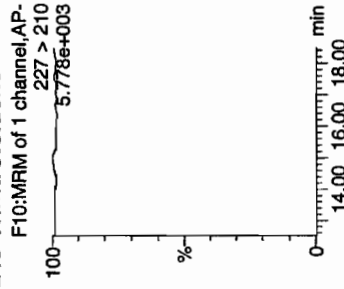
4-Amino-26-dinitrotoluene



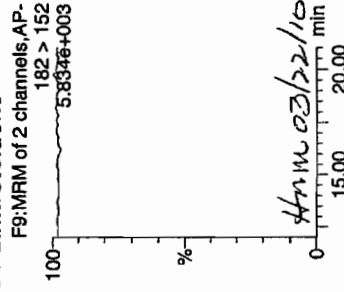
2-Amino-46-dinitrotoluene



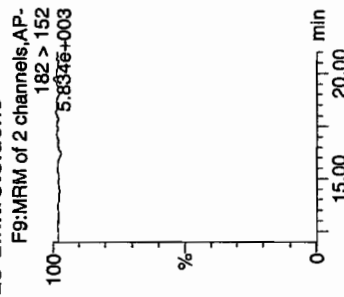
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene

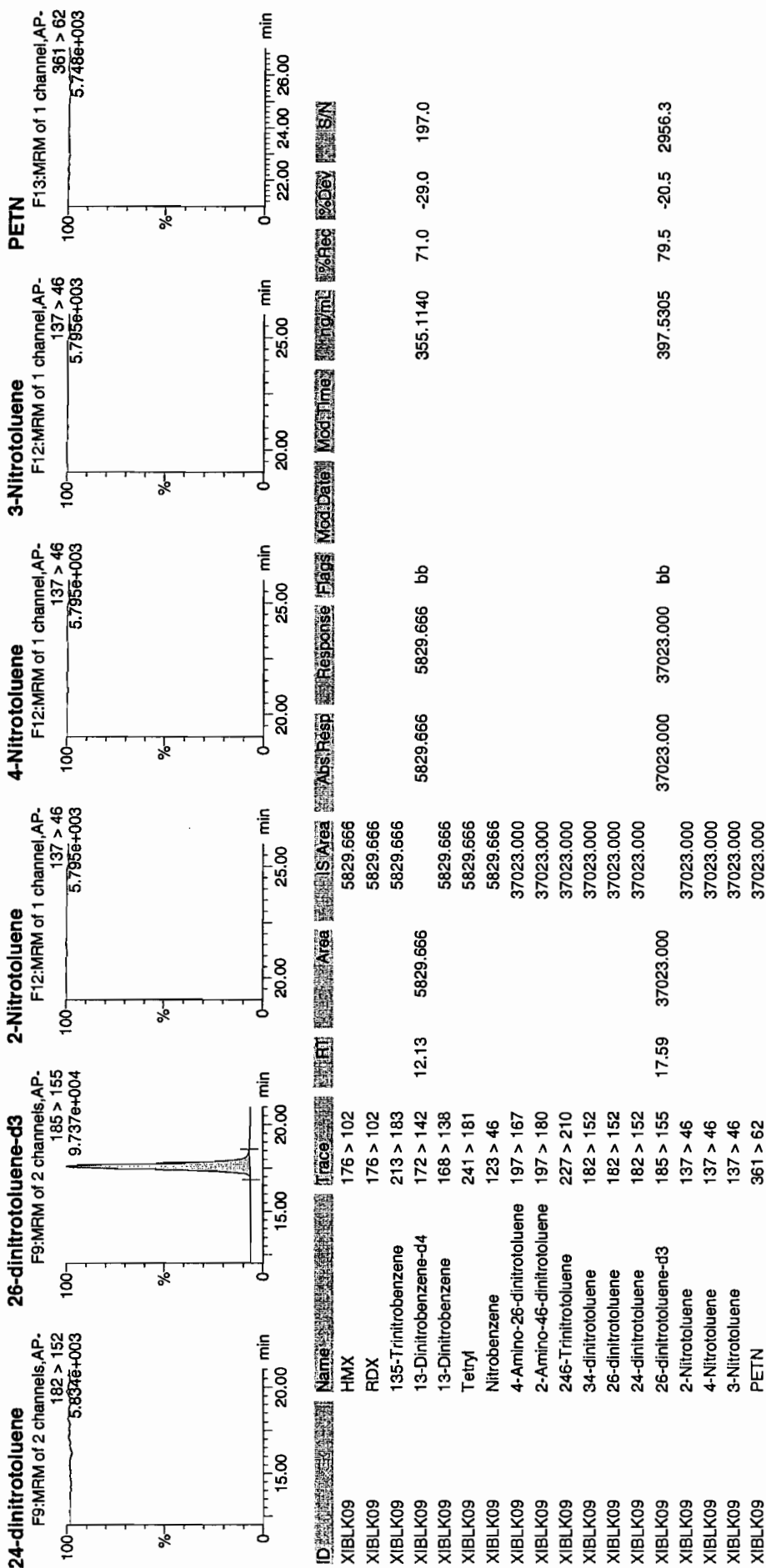


Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK02

Analysis Date: 16-MAR-10 10:39

GEL Data File: EXS03160010.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	3.31
TATB	0	0
3,5-Dinitroaniline	0	0
2,4-Diamino-6-nitrotoluene	0	0
2,6-Diamino-4-nitrotoluene	0	0

for 31810

Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EX303160010.wiff"

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

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

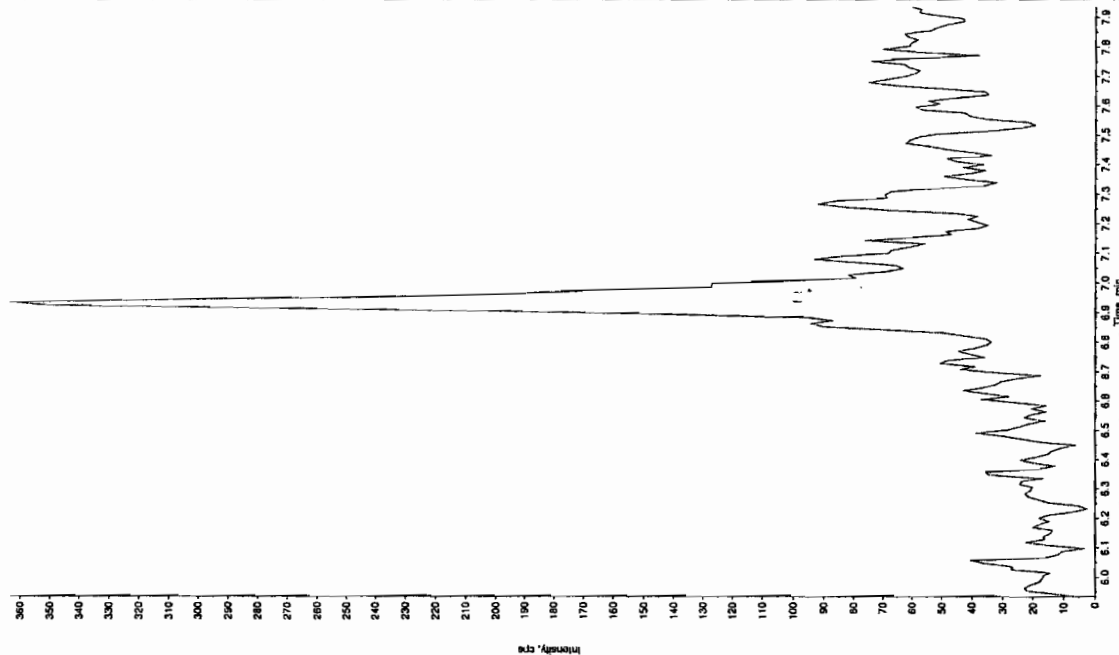
Concentration: 0.00 ng/mL

Calculated Conc: 3/16/2010

Acq. Date: 10:33:10 AM

Time: 10:33:10 AM

Modified: No



Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EX303160010.wiff"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1

Sample Type: Unknown

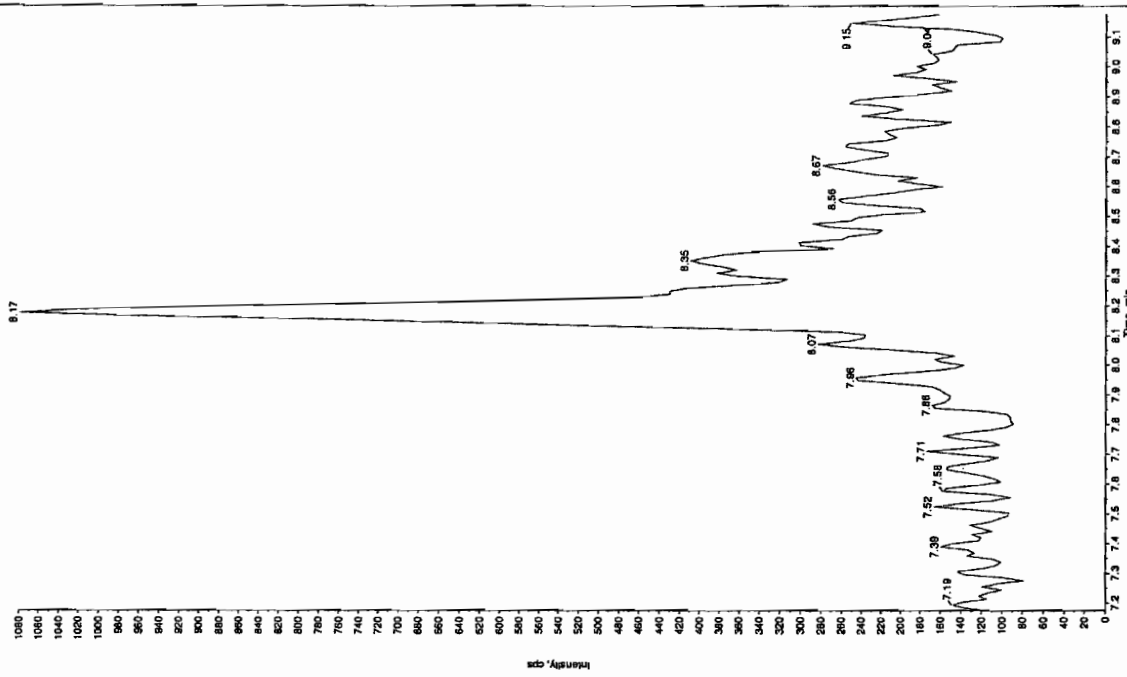
Concentration: 0.00 ng/mL

Calculated Conc: 3/16/2010

Acq. Date: 10:39:10 AM

Time: 10:39:10 AM

Modified: No

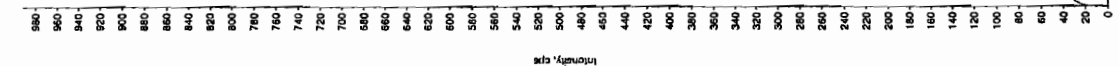


for 31810

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

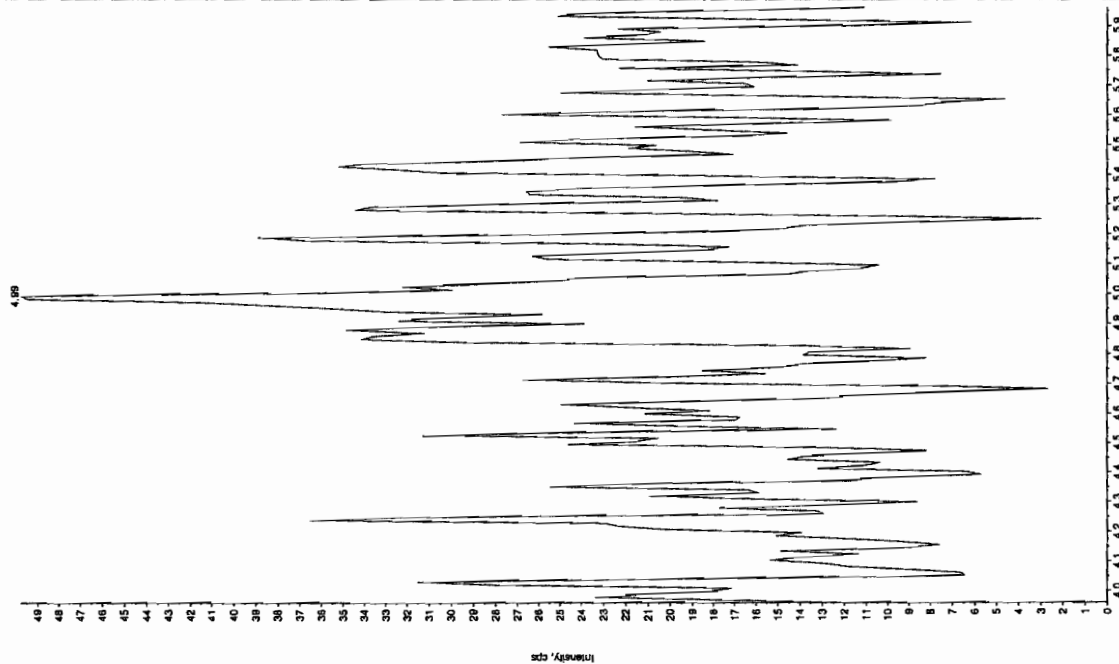
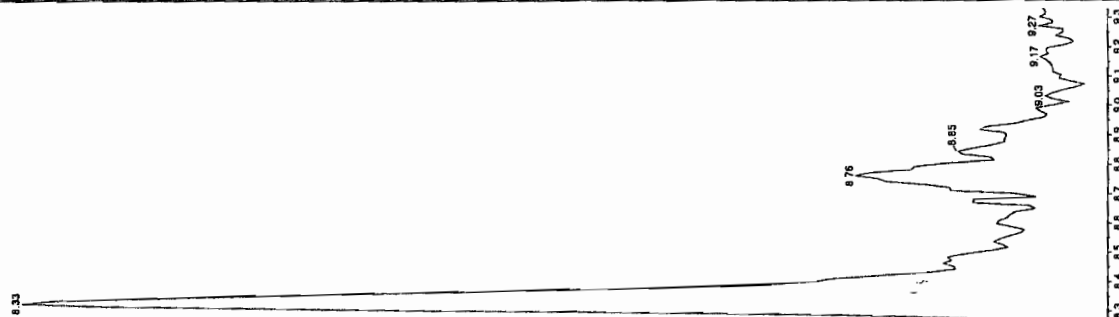
Sample Name: "XIBUK02" Sample ID: "111LER" File: "EXS03160010.will"
 Peak Name: "24-Dinitrofluorene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 10/31/2010
 Acq. Time: 10:39:10 AM
 Modified: No



Sample Name: "XIBUK02" Sample ID: "111LER" File: "EXS03160010.will"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "186.0/45.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

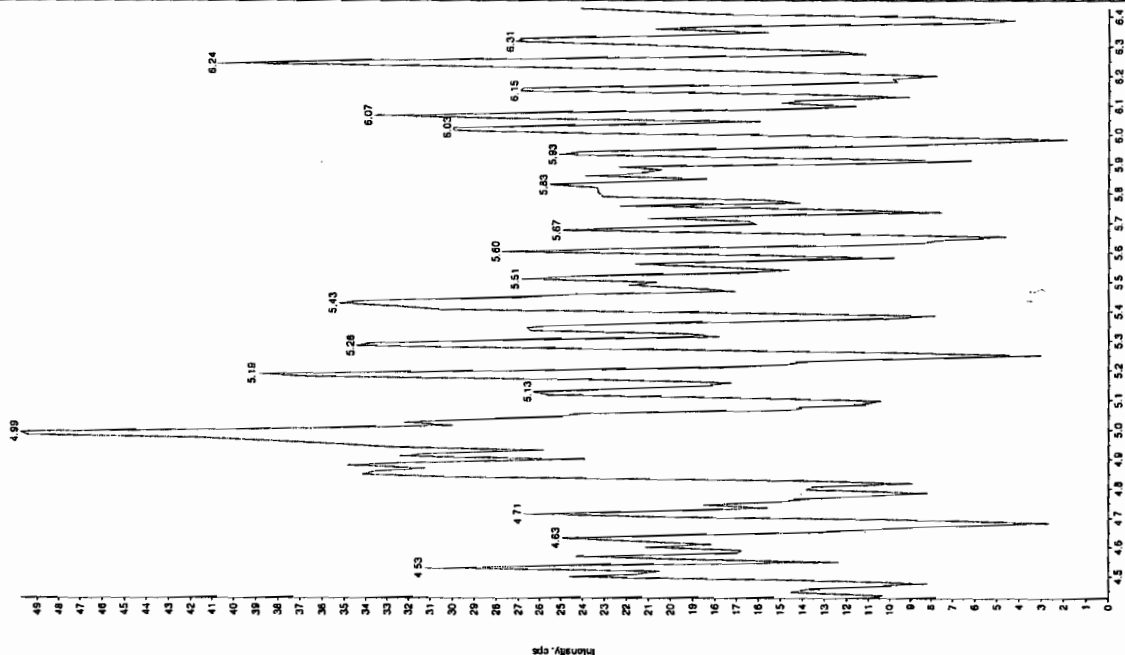
Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 10/31/2010
 Acq. Time: 10:39:10 AM
 Modified: No



Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EX503160010.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 3.16/2010 ng/mL
 Date: 3/16/2010
 Time: 10:39:10 AM
 Acq. Time: 10:39:10 AM
 Modified: No

Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 8000.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.9 min
 Area: 1.10e+005 counts
 Height: 26001.421 cps
 Start Time: 10.6 min
 End Time: 11.1 min



Sample Name: "XIBLK02" Sample ID: "JILLER" File: "EX503160010.wif"
 Peak Name: "Tris(o-cresyl) phosphate" Mass(es): "369.191.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 3.16/2010 ng/mL
 Date: 3/16/2010
 Time: 10:39:10 AM
 Acq. Time: 10:39:10 AM
 Modified: No

Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 8000.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.9 min
 Area: 1.10e+005 counts
 Height: 26001.421 cps
 Start Time: 10.6 min
 End Time: 11.1 min



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

4A

Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK03

Analysis Date: 16-MAR-10 11:10

GEL Data File: EXS03160012.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

Law 3/18/10

Sample Name: "XBLX03" Sample ID: "111ER" File: "EXS03160012.will"

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

Comment: "LCMSEXP_B" Annotation: "1"

Sample Index: 1

Sample Type: Unknown

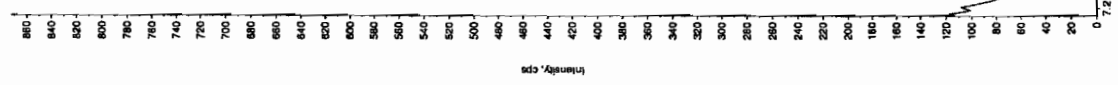
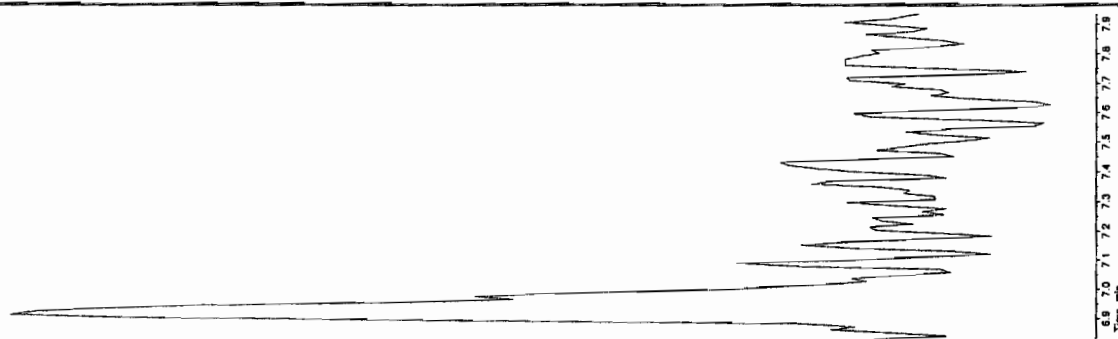
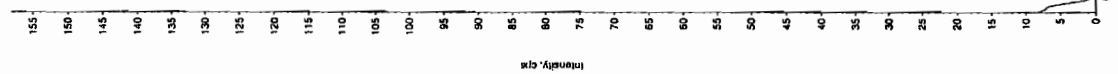
Concentration: 0.00 ng/mL

Calculated Conc: 3/16/2010

Acq. Date: 11:10:32 AM

Acq. Time: 11:10:32 AM

Modified: No

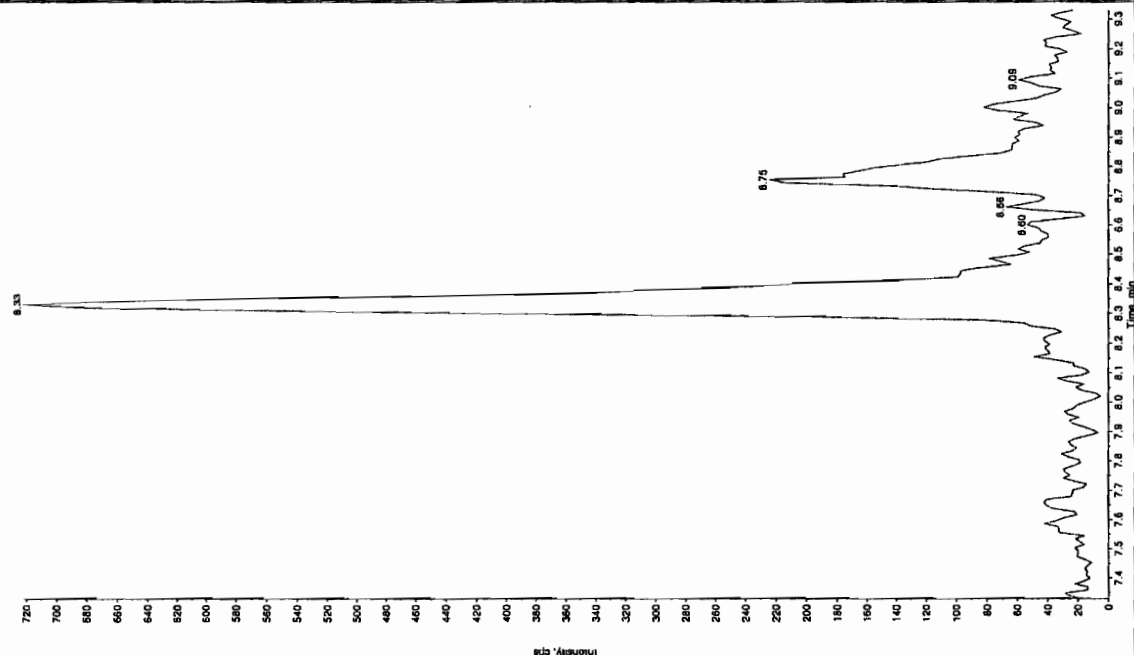


Law 03/18/10

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

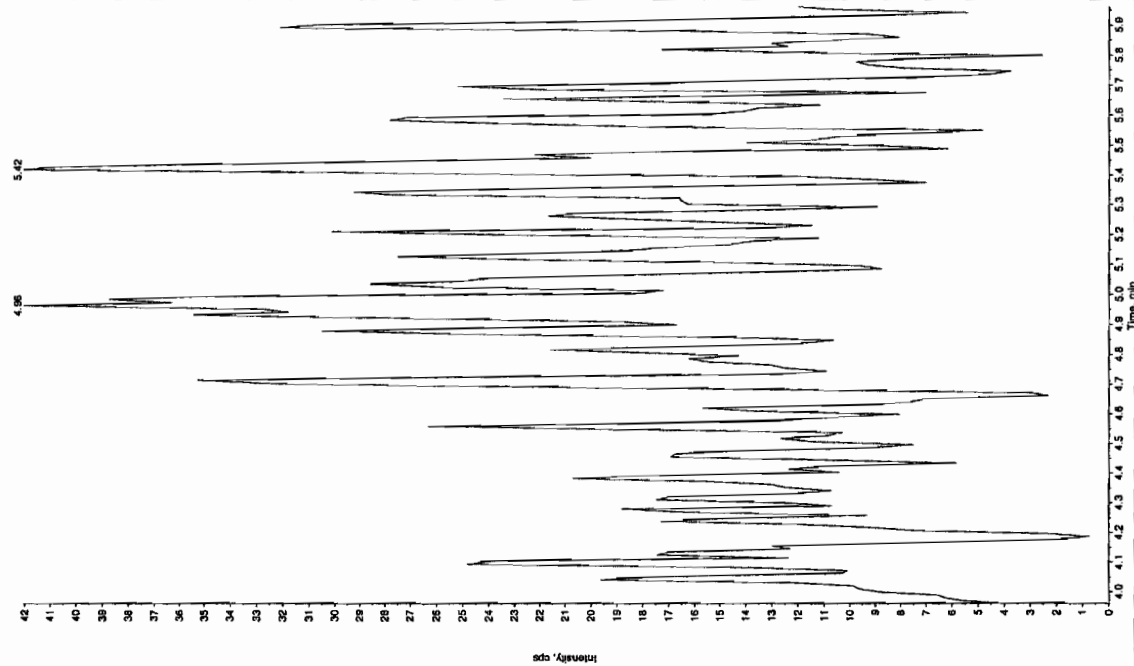
Sample Name: "XBLK03" Sample ID: "JILER" File: "EXS03160012.wif"
 Peak Name: "34-Chlorobenzene" Mass(es): "182.1751.9 amu"
 Comment: "LCMSEXP_B_1 Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 11:10:32 AM
 Modified: No

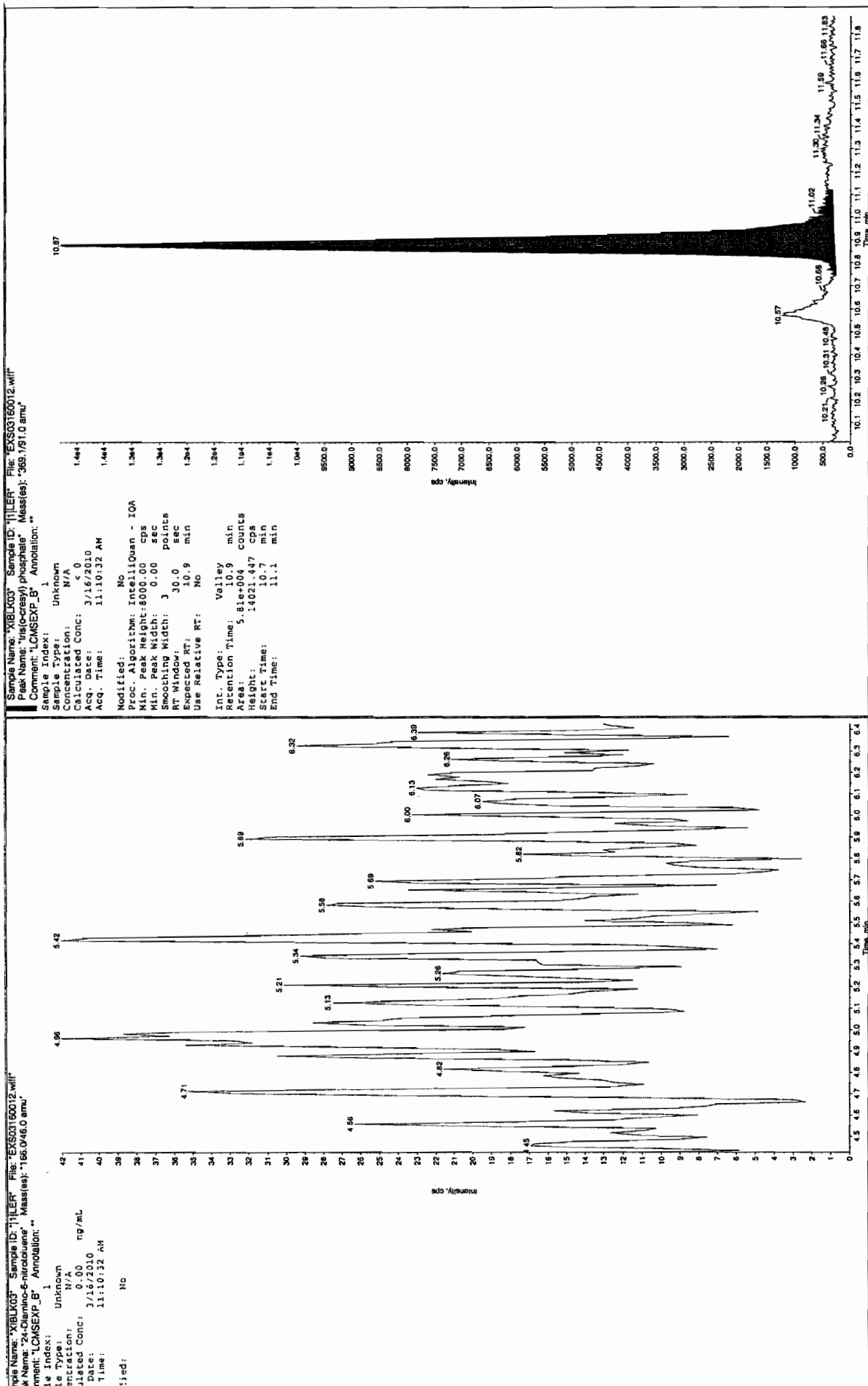


Sample Name: "XBLK03" Sample ID: "JILER" File: "EXS03160012.wif"
 Peak Name: "26-Diamino-4-nitrobenzene" Mass(es): "166.0465.0 amu"
 Comment: "LCMSEXP_B_1 Annotation: "

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 11:10:32 AM
 Modified: No



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



4A
Explosives Continuing Calibration Blank

Lab Name: GEL Laboratories LLC

GEL Job No(SDG): 10-1969

Lab Code: GEL

Lab Sample ID: XIBLK04

Analysis Date: 16-MAR-10 14:34

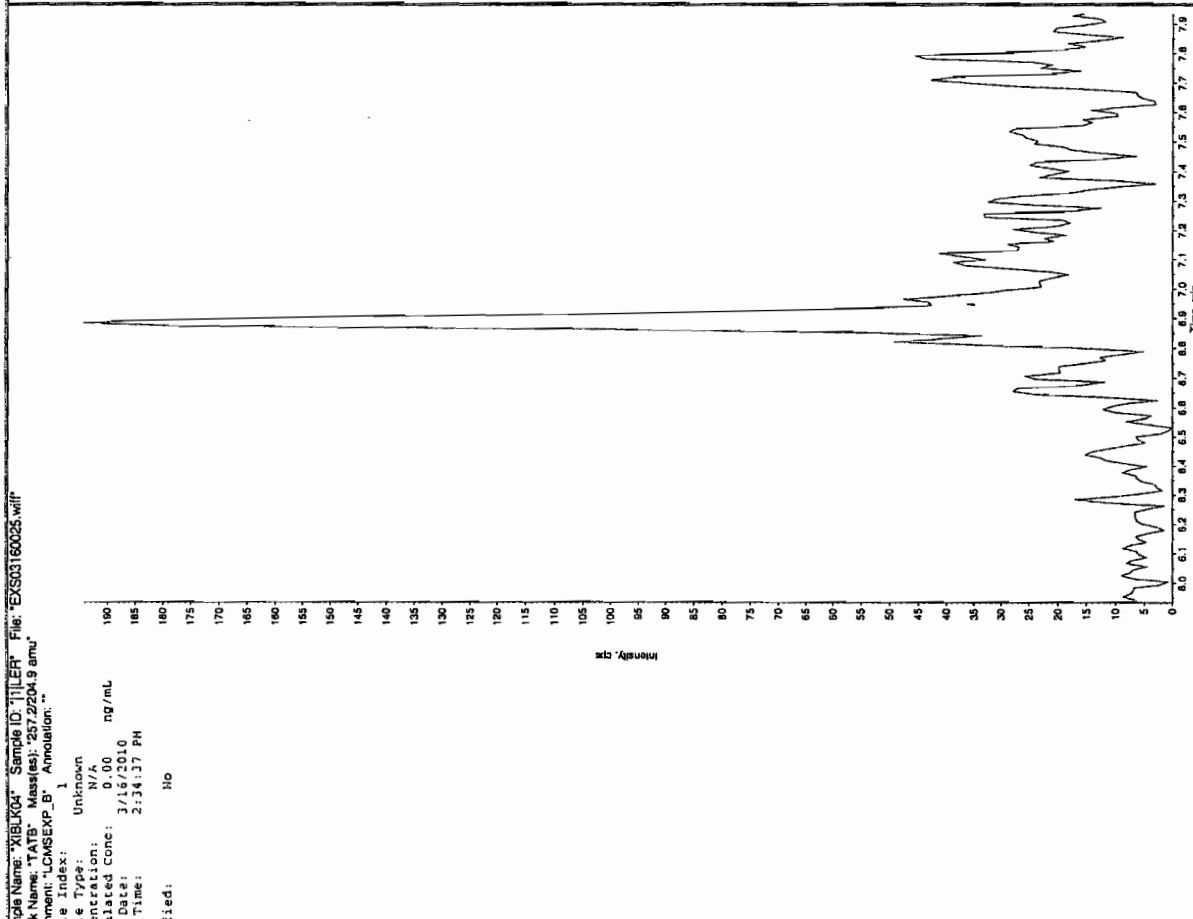
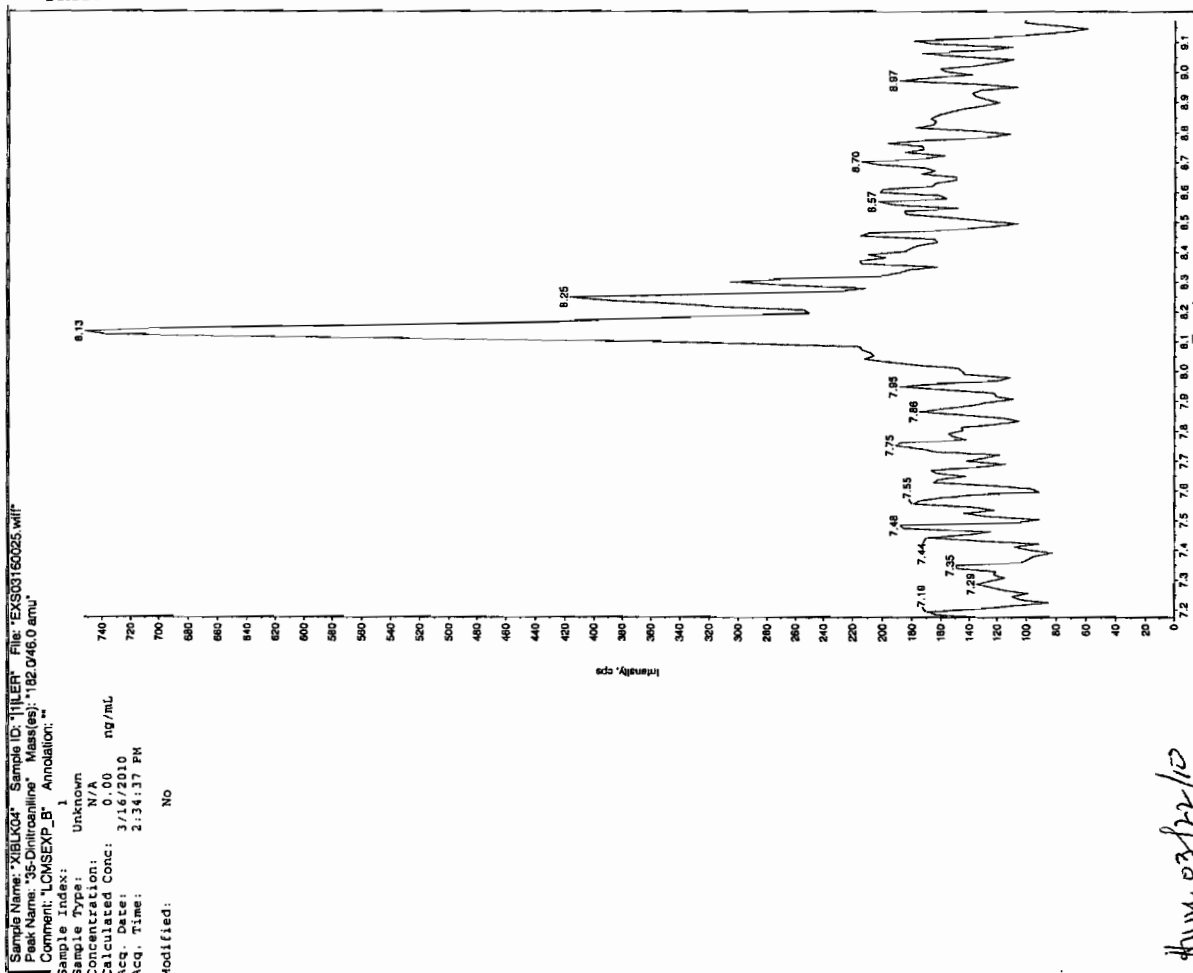
GEL Data File: EXS03160025.wiff

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

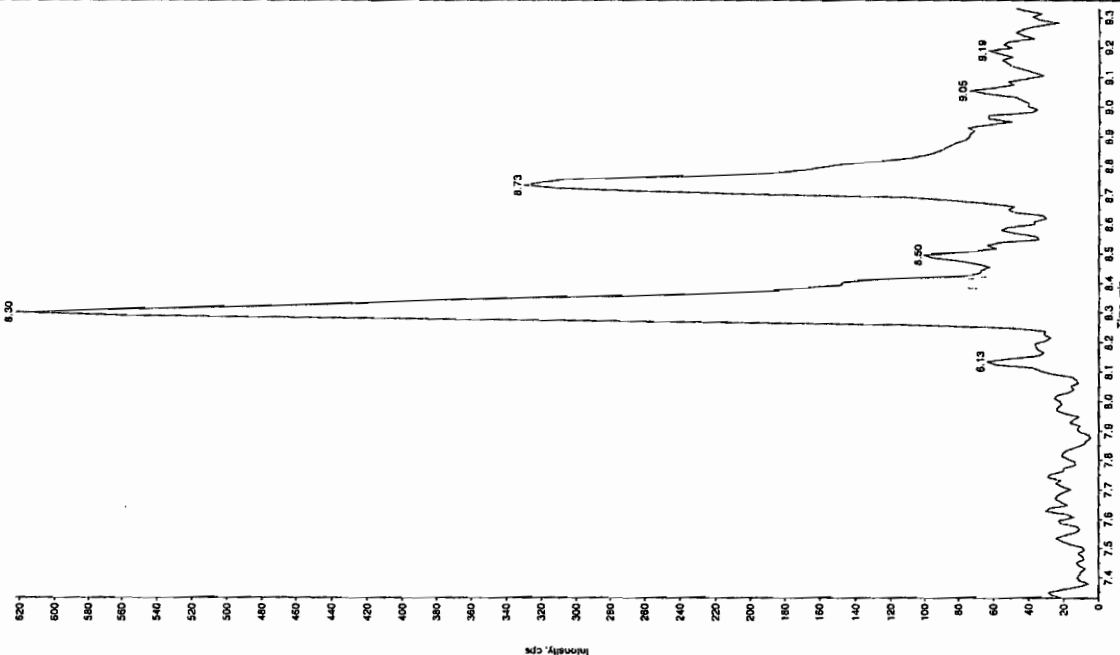
Jan 31/01/10



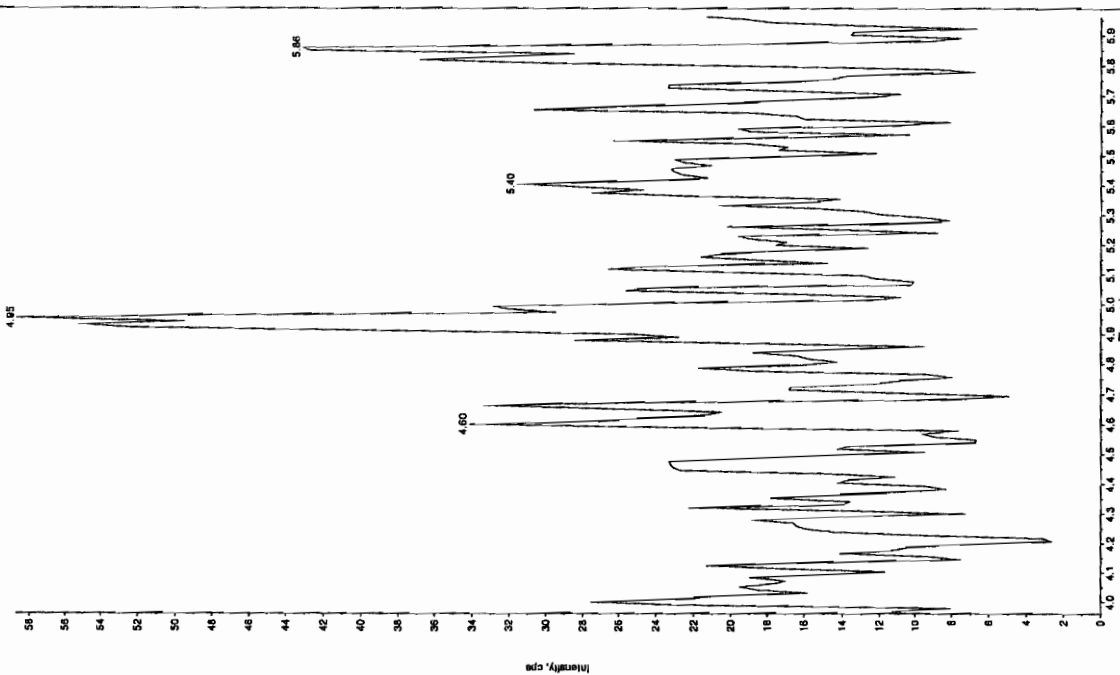
Jan 03/22/10

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

Sample Name: "XIBLX04" Sample ID: "111ER" File: "EXS03160025.wif"
 Peak Name: "34-Dinitrofluorene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMSEXP_B" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A ng/mL
 Calculated Conc: 0.00
 Date: 3/16/2010
 Acq. Date: 2/16/2010
 Acq. Time: 2:34:37 PM
 Modified: No



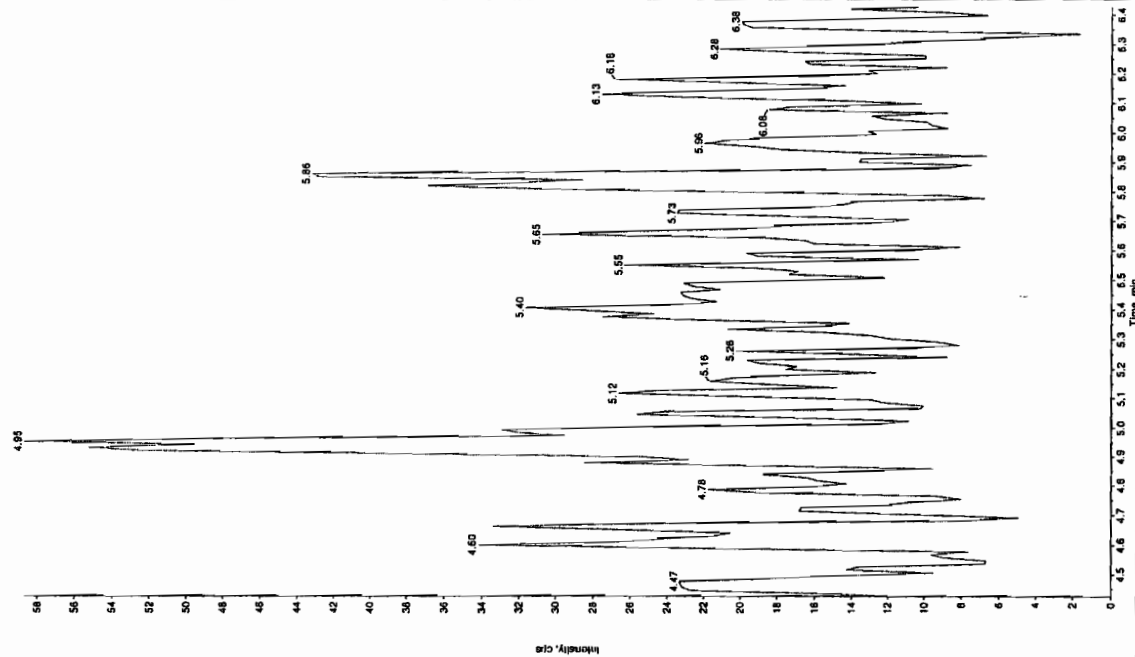
Sample Name: "XIBLX04" Sample ID: "111ER" File: "EXS03160025.wif"
 Peak Name: "26-Diamino-4-nitrofluorene" Mass(es): "186.0/160.0 amu"
 Comment: "LCMSEXP_B" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A ng/mL
 Calculated Conc: 0.00
 Date: 3/16/2010
 Acq. Date: 2/16/2010
 Acq. Time: 2:34:37 PM
 Modified: No



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

Sample Name: "XBLX04" Sample ID: "JILR" File: "EXS03160025.wif"
 Peak Name: "24-Dinitro-6-nitrofluorene" Mass(es): "166.046.0 amu"
 Concent: "LCMSXP_B" Annotation: "1"

Sample Type: "Unknown"
 Concentration: "0.00 ng/mL"
 Date: "3/16/2010"
 Time: "2:34:37 PM"
 Filed: "No"



Sample Name: "XBLX04" Sample ID: "JILR" File: "EXS03160025.wif"
 Peak Name: "Diethyl phosphite" Mass(es): "369.191.0 amu"
 Concent: "LCMSXP_B" Annotation: "1"

Sample Type: "Unknown"
 Concentration: "No Intercept"
 Date: "3/16/2010"
 Time: "2:34:37 PM"
 Modified: "No"
 Proc. Algorithm: "IntelliQuan - IQA"
 Min. Peak Height: "8000.00 cps"
 Min. Peak Width: "0.00 sec"
 Smoothing Width: "3 points"
 RT Window: "30.0 sec"
 Expected RT: "10.9 min"
 Use Relative RT: "No"
 Int. Type: "Valley"
 Retention Time: "10.9 min"
 Area: "4.30e+004 counts"
 Height: "1082.743 cps"
 Start Time: "10.8 min"
 End Time: "11.0 min"



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

Nairb.ref

;Positive ion monoisotopic and average masses from solution
;of NaI/Rbi (2.0/0.05ug/ul) in 50/20 2-propanol/H₂O.
;Most useful general purpose calibrant for all low
;MW applications, including MS/MS work.
;At high resolution, readily covers from m/z 50-2000.
;At reduced resolution, can be used to over m/z 3000.
;NOT RECOMMENDED FOR PROTEIN WORK. USE MYO, MYOTRP or TRP.
Updated 20 April '95

22.9898	100
84.9118	100
172.8840	100
322.7782	100
472.6725	100
622.5667	100
772.4610	100
922.3552	100
1072.2494	100
; 1222.1437	100
; 1372.0379	100
; 1521.9321	100
; 1671.8264	100
; 1821.7206	100
; 1971.6149	100
; 2121.5091	100
; 2271.4033	100
; 2421.2976	100
; 2571.1918	100
; 2721.0861	100
; 2870.9803	100
; 3020.8745	100
; 3170.7688	100
; 3320.6630	100
; 3470.5572	100
; 3620.4515	100
; 3770.3457	100
; 3920.2400	100

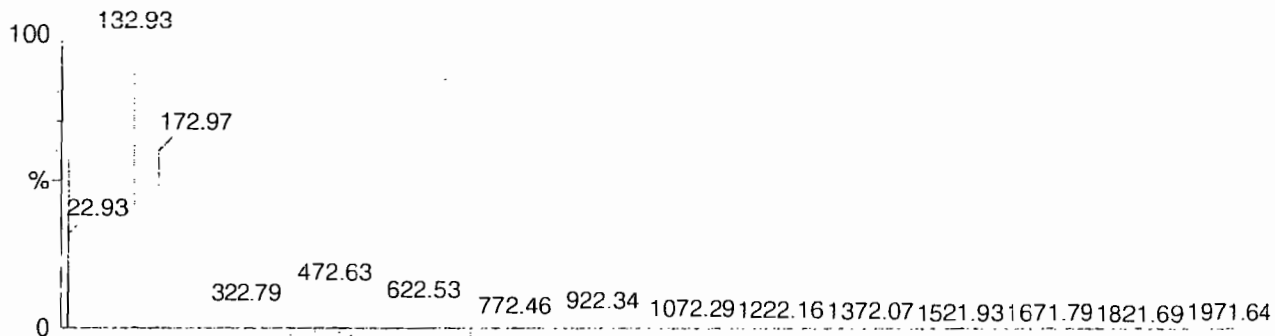
Calibration Report - MS1 Static

Page 1 of 1

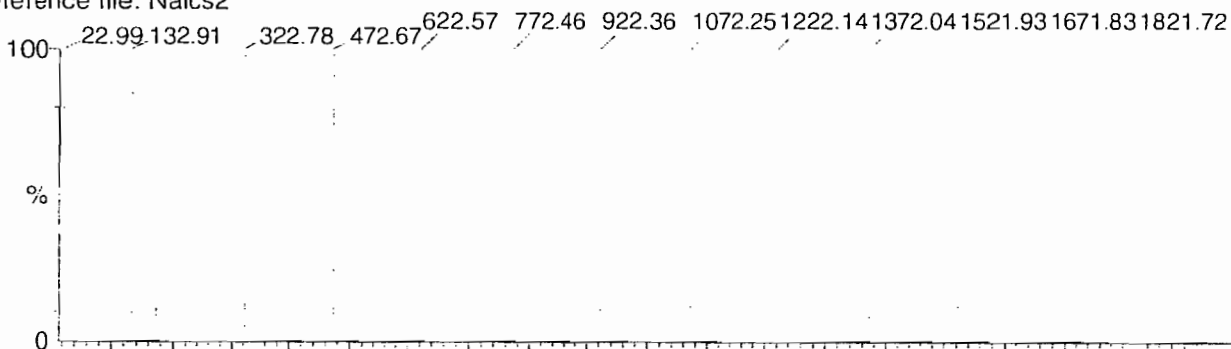
Printed: Fri Aug 25 10:50:01 2006

Data file: STATMS1 - Calibrated

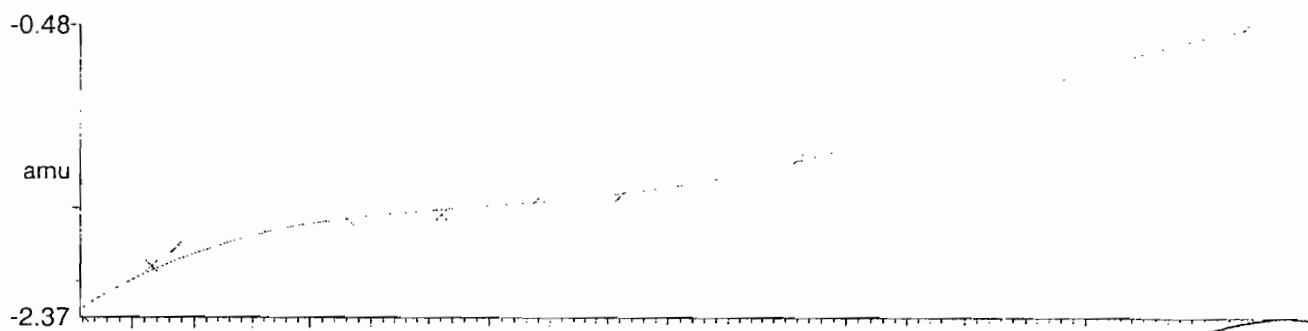
15 matches of 15 tested references



Reference file: Naics2

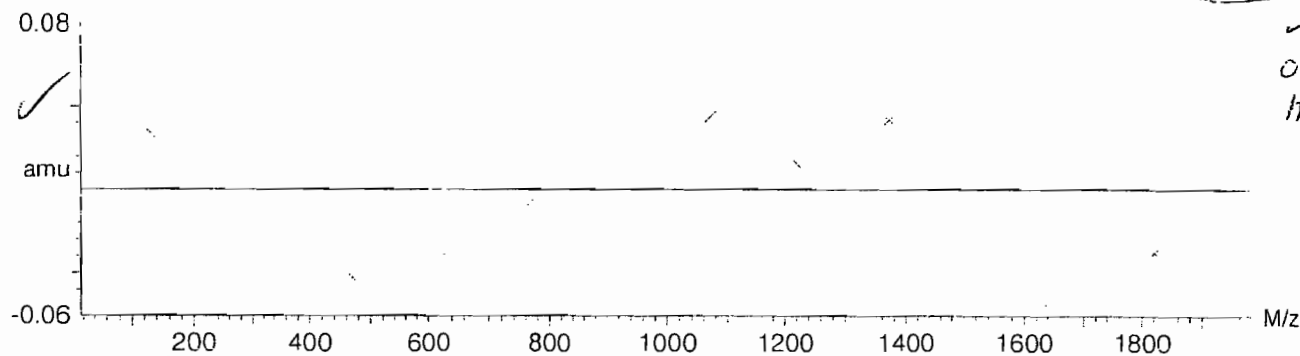


Mass difference (Raw - Ref mass)



Residuals

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



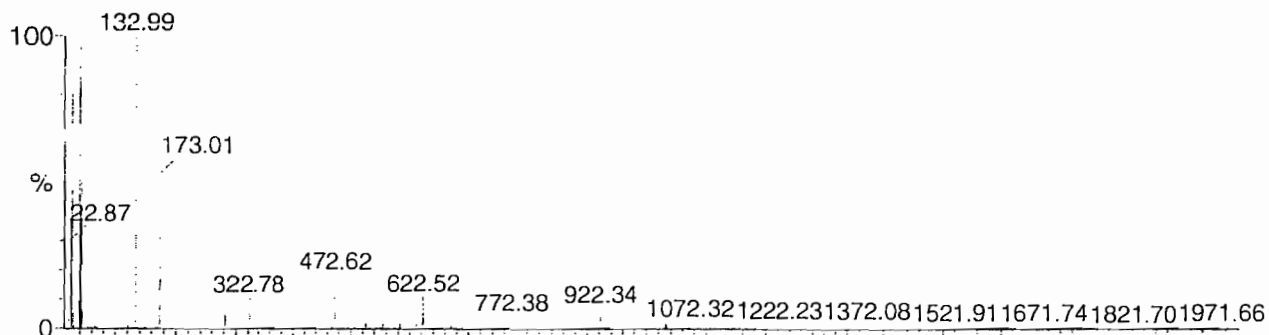
Calibration Report - MS1 Scanning

Page 1 of 1

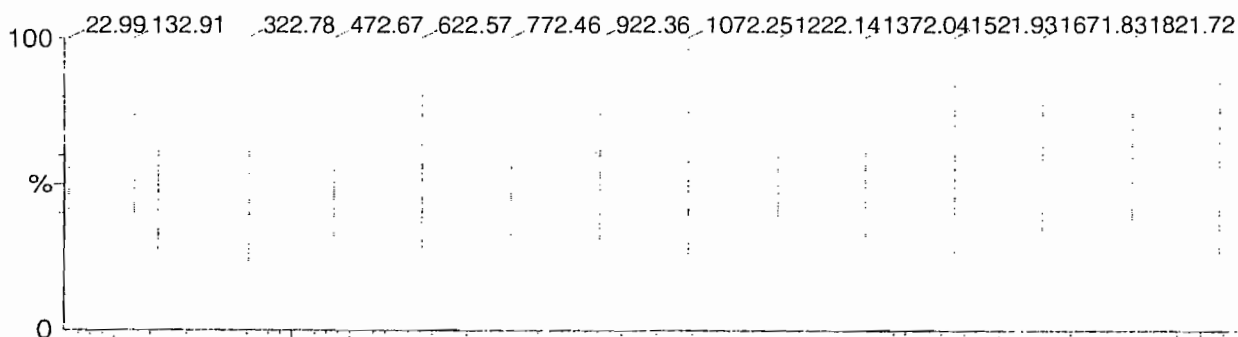
Printed: Fri Aug 25 10:51:06 2006

Data file: SCNMS1 - Calibrated

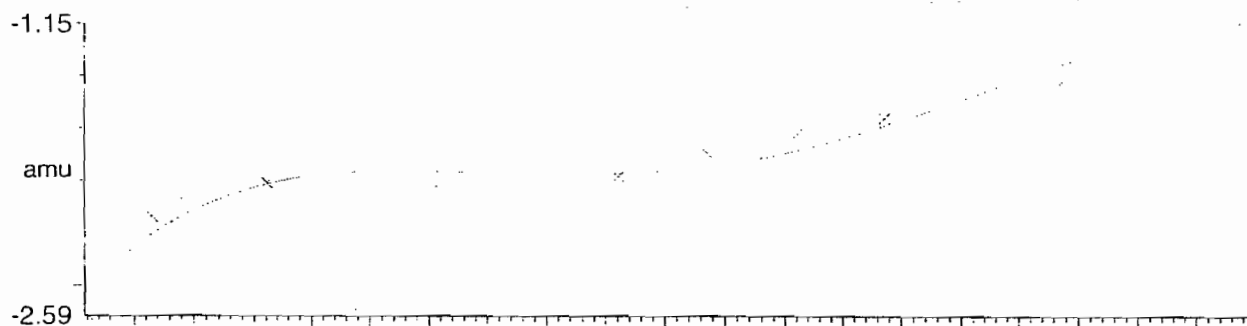
15 matches of 15 tested references



Reference file: Naics2

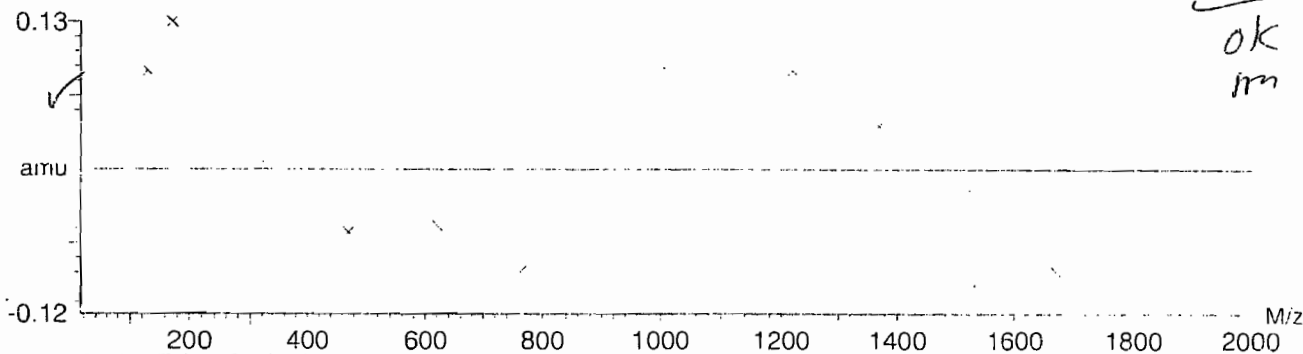


Mass difference (Raw - Ref mass)



Residuals

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



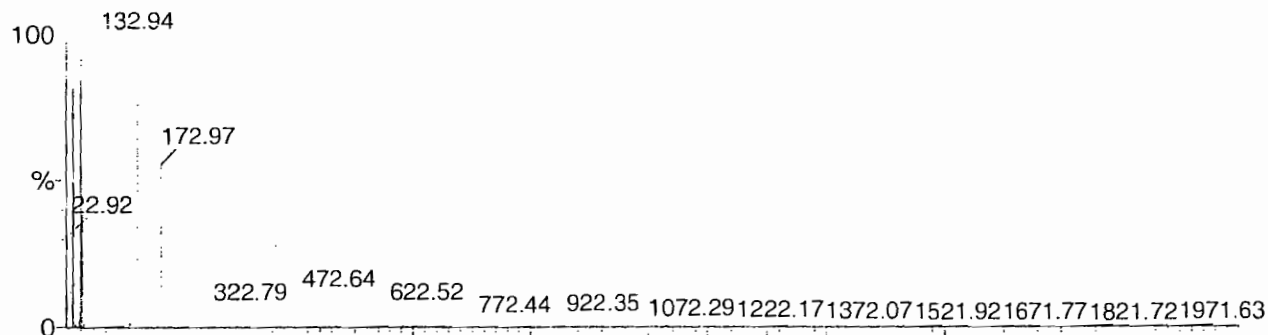
Calibration Report - MS1 Scan Speed Compensation

Page 1 of 1

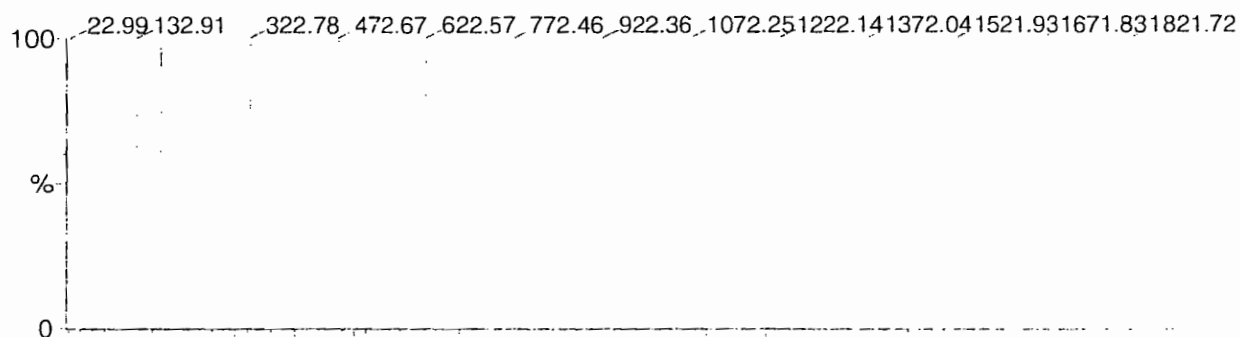
Printed: Fri Aug 25 10:52:01 2006

Data file: FASTMS1 - Calibrated

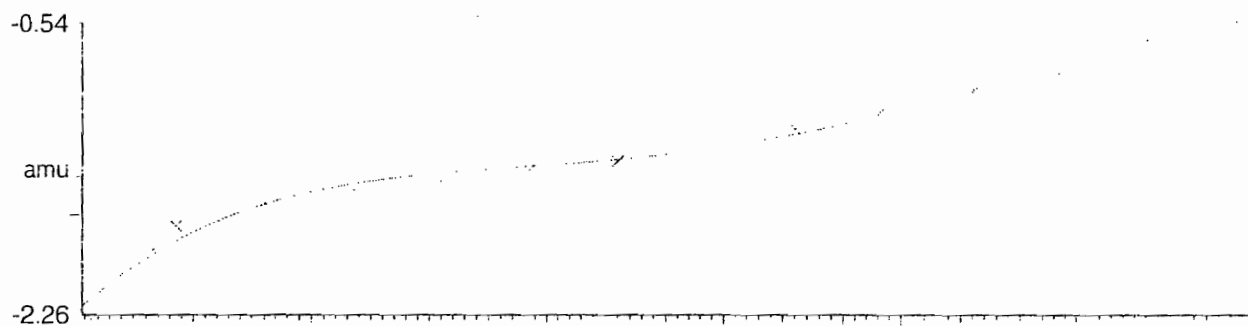
15 matches of 15 tested references



Reference file: Naics2

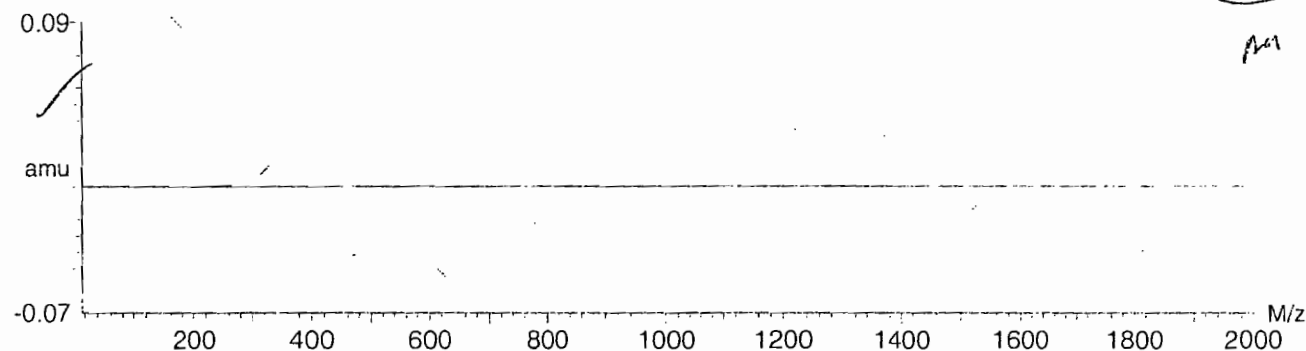


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $3.486639e-9 \pm 0.040487$



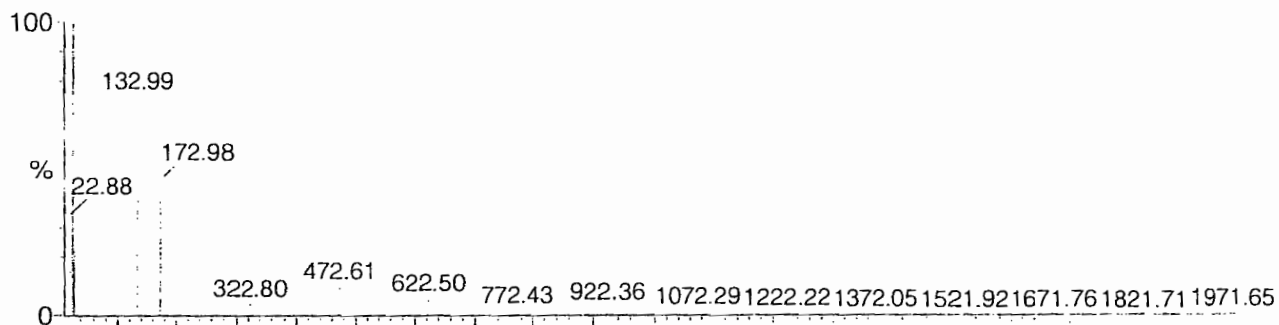
Calibration Report - MS2 Static

Page 1 of 1

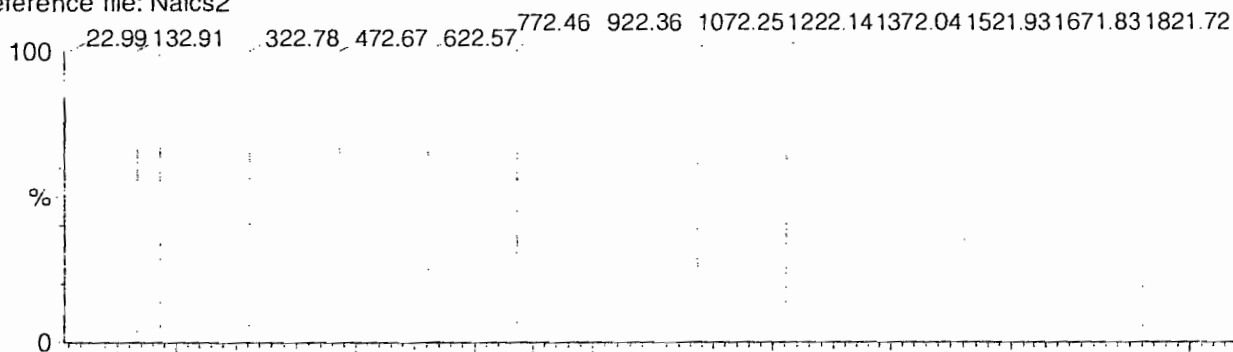
Printed: Fri Aug 25 10:52:54 2006

Data file: STATMS2 - Calibrated

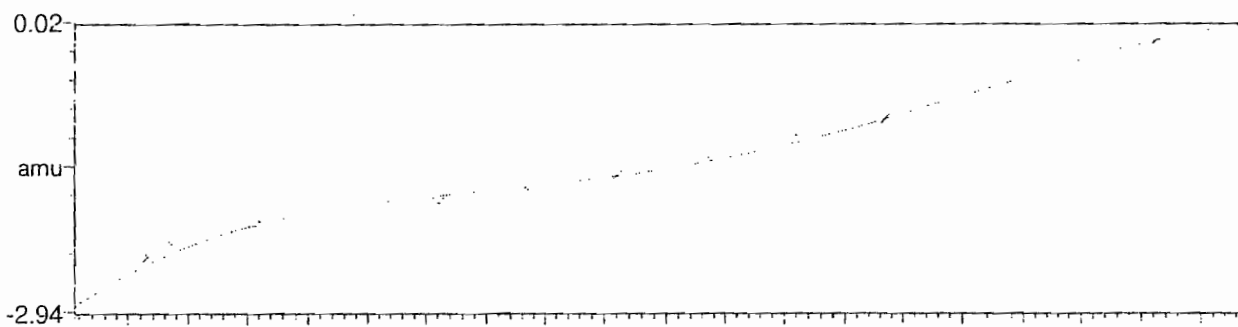
15 matches of 15 tested references



Reference file: Naics2

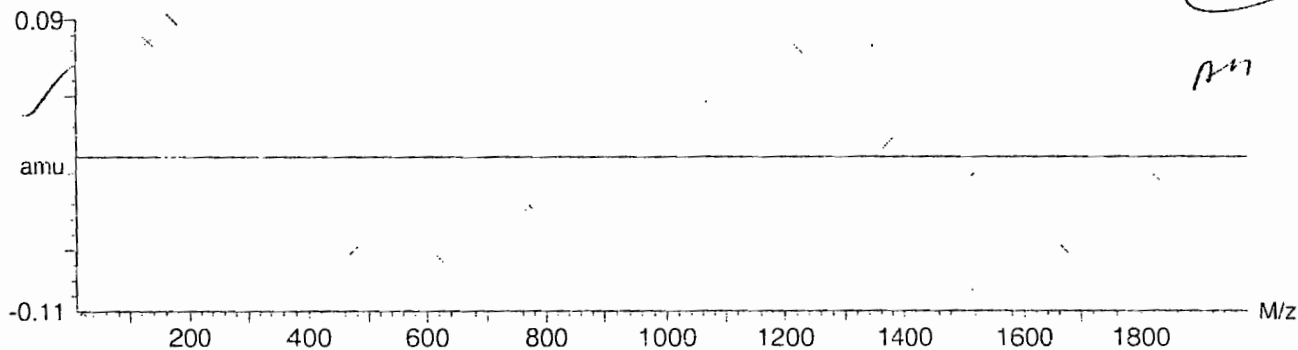


Mass difference (Raw - Ref mass)



Residuals

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



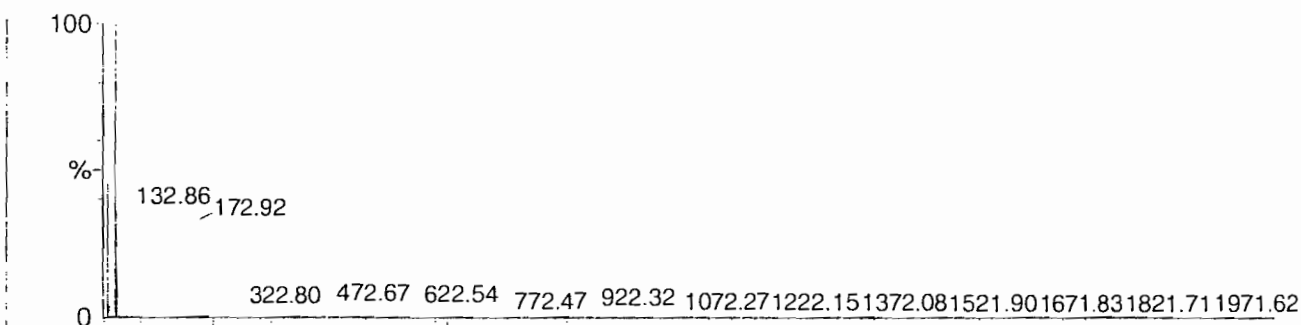
Calibration Report - MS2 Scanning

Page 1 of 1

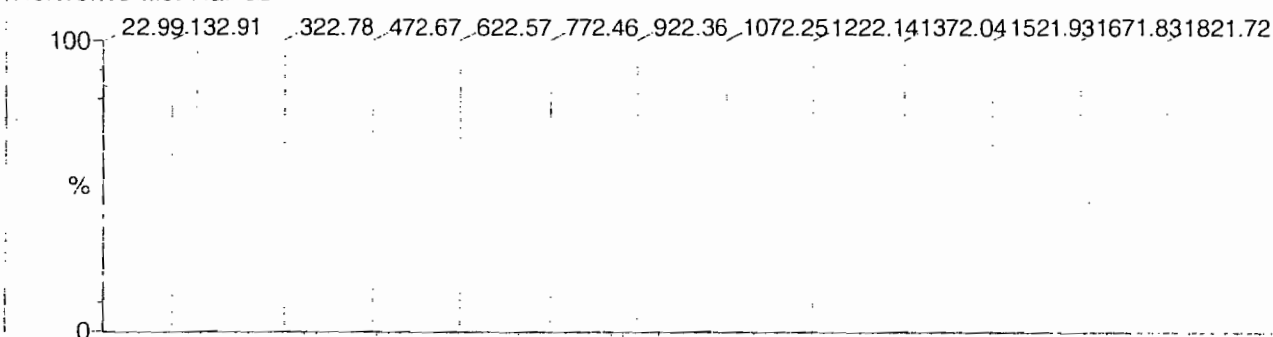
Printed: Fri Aug 25 10:54:00 2006

Data file: SCNMS2 - Calibrated

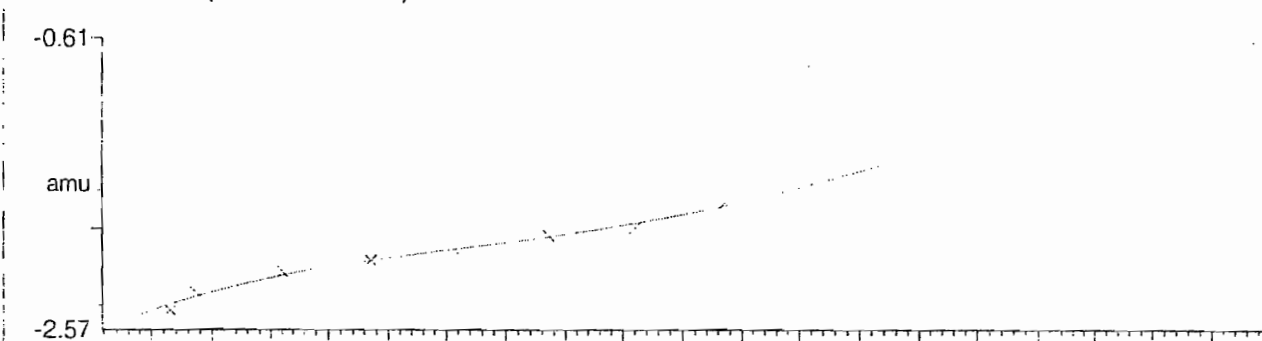
14 matches of 15 tested references



Reference file: Naics2

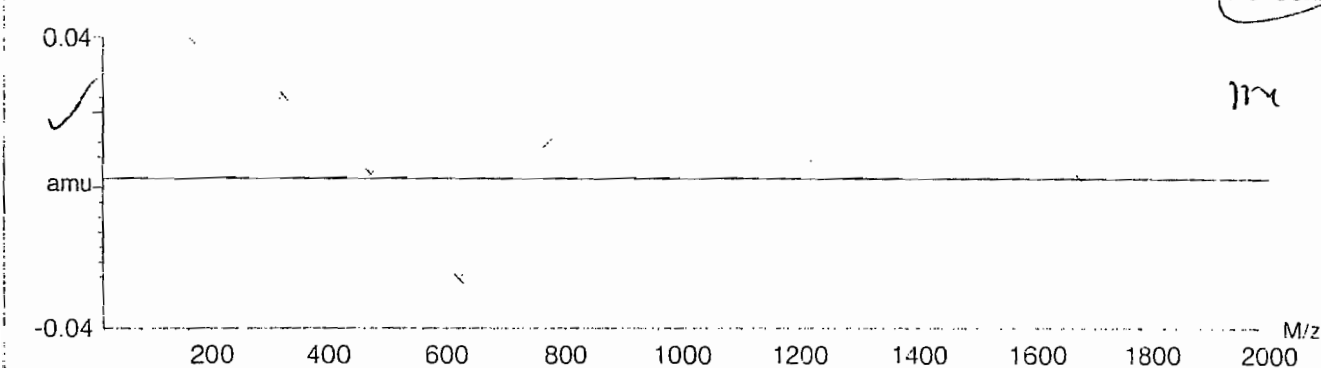


Mass difference (Raw - Ref mass)



Residuals

Mean residual = $-2.623502 \times 10^{-9} \pm 0.025622$



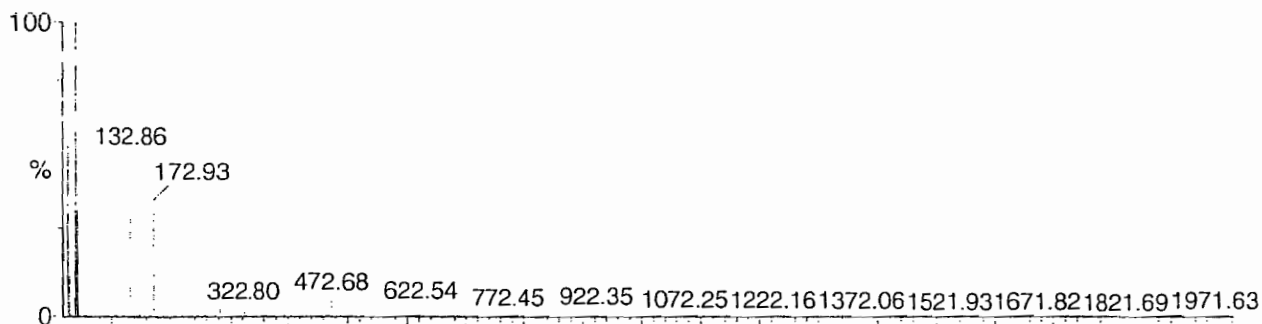
Calibration Report - MS2 Scan Speed Compensation

Page 1 of 1

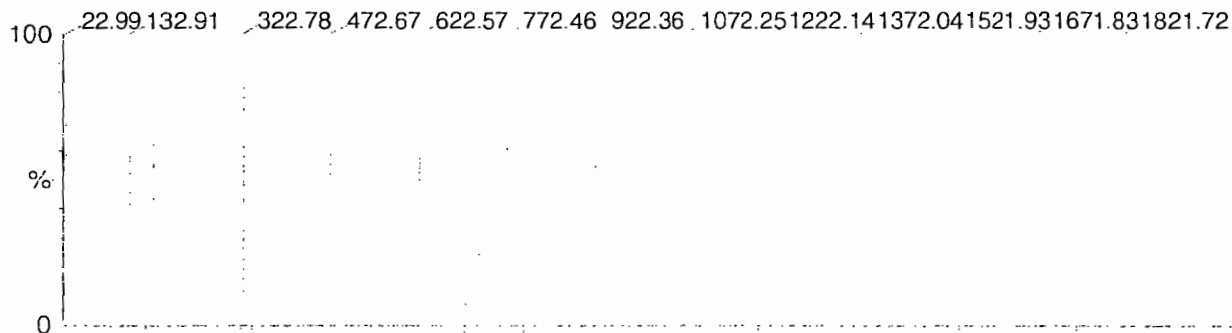
Printed: Fri Aug 25 10:54:54 2006

Data file: FASTMS2 - Calibrated

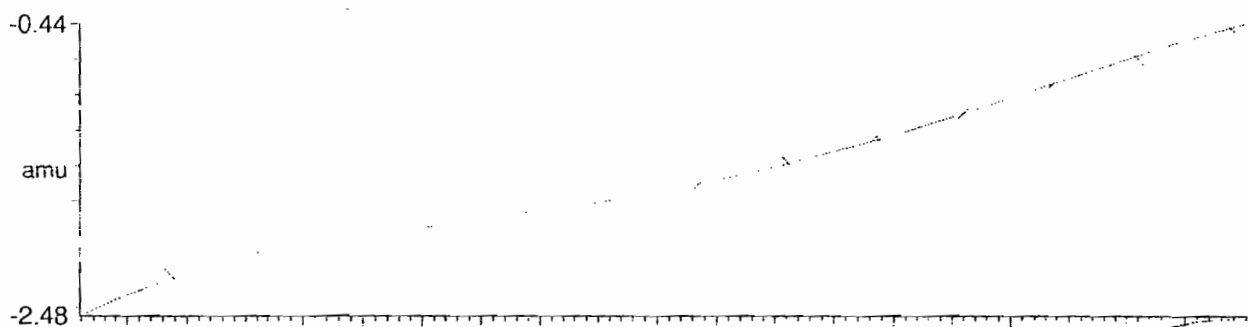
14 matches of 15 tested references



Reference file: Naics2

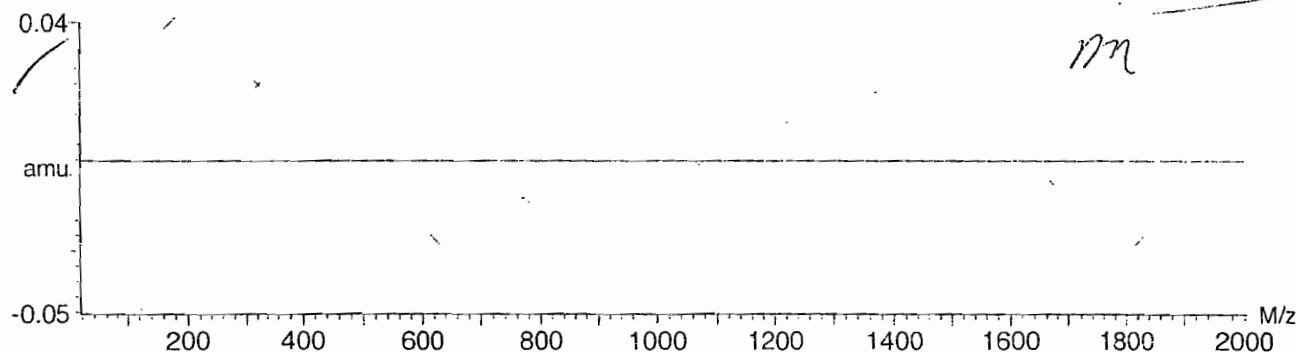


Mass difference (Raw - Ref mass)



Residuals

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

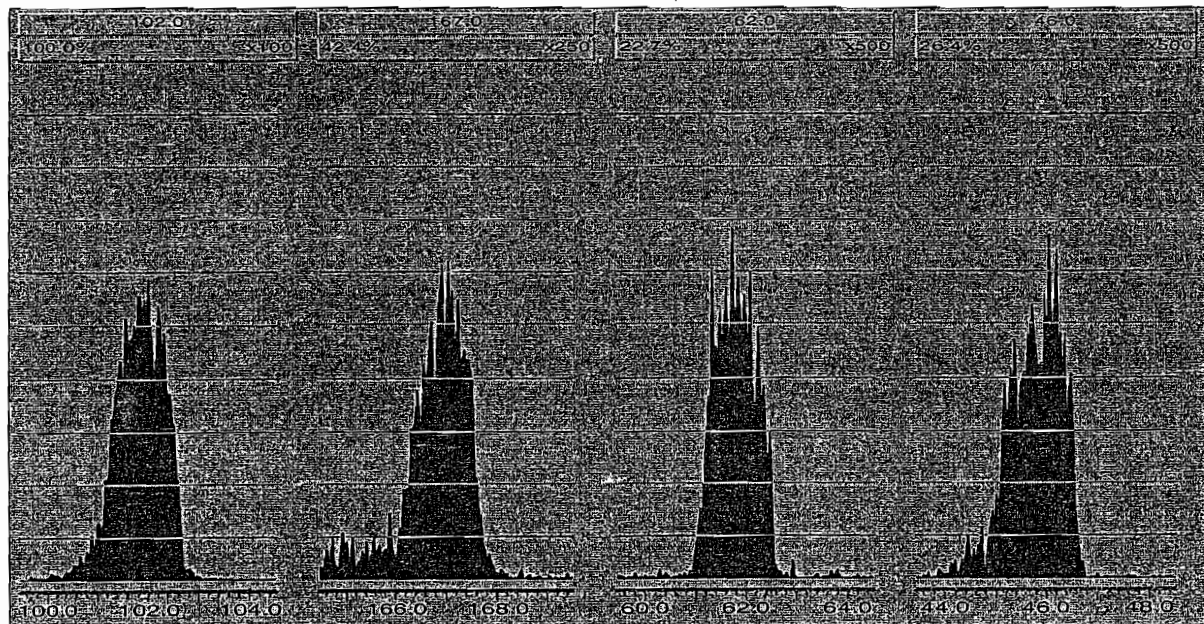


Quattro Micro Tune Parameters

Page 1

Parameter File: C:\MASSLYNX\NEW_EXP.PRO\ACQUDB\explosives04.IPR

Printed : Fri Mar 19 12:20:57 2010



High Explosives Internal Standard Summary

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

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) #
			8208.162	12.135	46566.233	17.593
Upper Limit			10670.6106	12.635	60536.1029	18.093
Lower Limit			5745.7134	11.635	32596.3631	17.093
MB for batch 956051	20-mar-10 22:53	EXP0319062a	7041.4	12.137	43516.9	17.595
LCS for batch 956051	20-mar-10 23:23	EXP0319063a	7779.88	12.133	49148.8	17.587
RE15-10-8349	21-mar-10 00:51	EXP0319066a	6869.07	12.136	42016.6	17.594
RE15-10-8348	21-mar-10 01:21	EXP0319067a	7099.62	12.134	42423.7	17.588

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

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

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

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

RT Upper Limit = +0.5 of average multipoint RT

RT Lower Limit = -0.5 of average multipoint RT

Column used to flag values outside QC limits with an asterisk

* Values outside of QC limits

SAMPLE DATA

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319066a

Date Analyzed: 21-MAR-10 00:51

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: Sun Mar 21 12:22:16 2010, Page 59 of 103

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319066a

Date: 21-Mar-2010

Time: 00:51:35

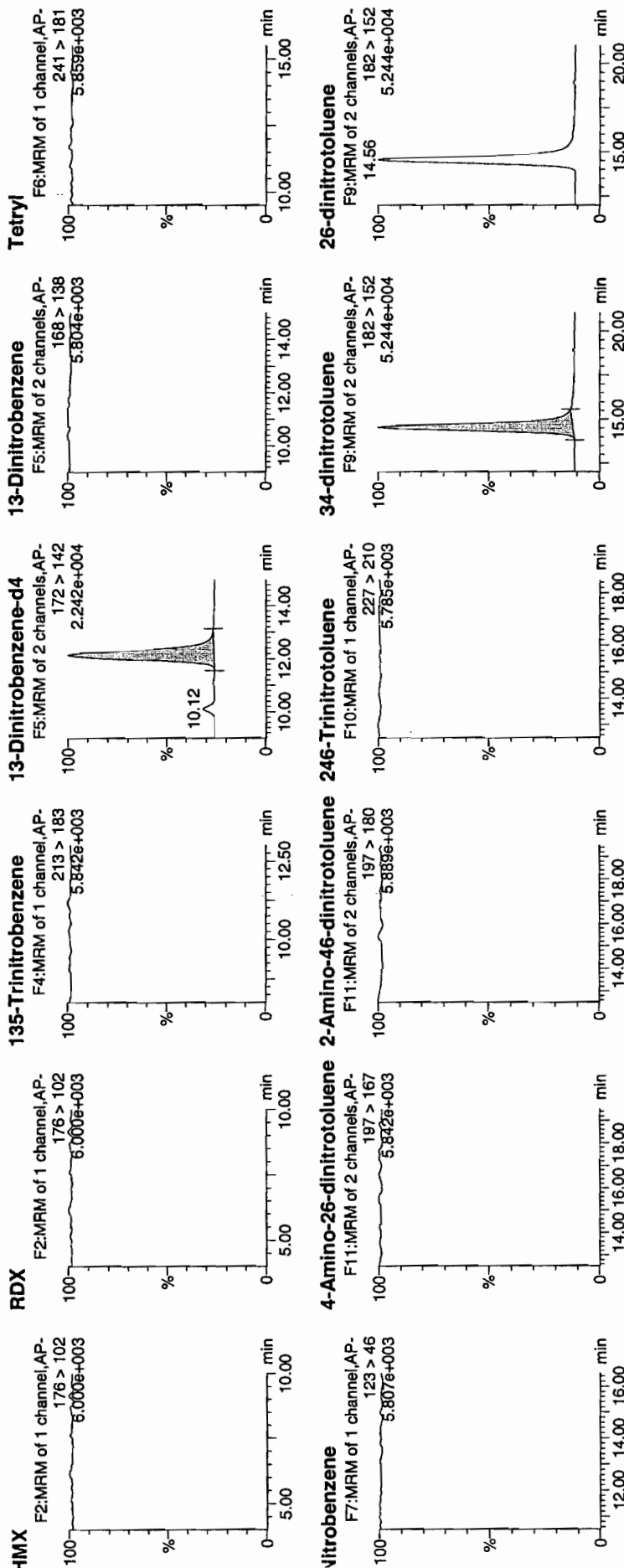
ID: 247551001

Vial: 2:5,E

1477
3/21/10

WAL 956053 | 21

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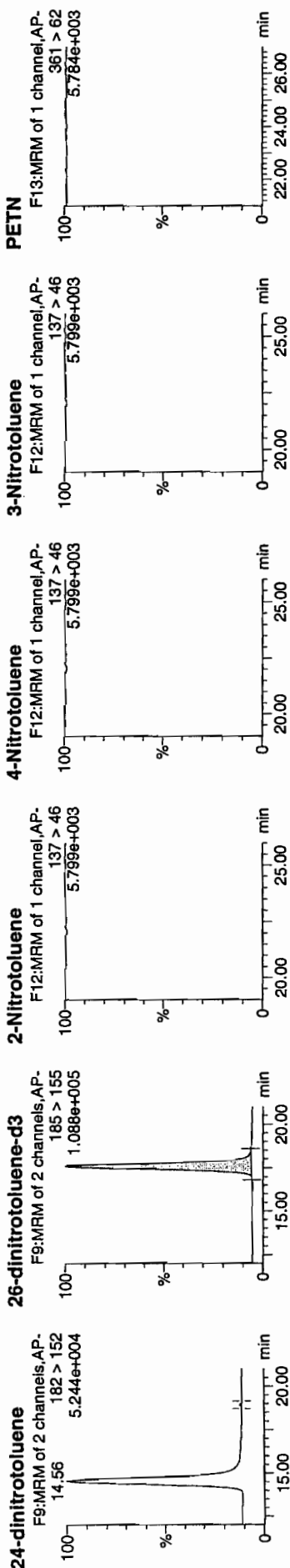
Handwritten signature

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Sun Mar 21 12:22:16 2010, Page 60 of 103

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



ID	Name	Trace	RT	Area	S:Area	Abs:Resp	Flags	Mod:Time	Mod:Date	Mod:Time	%Rec	%Dev	SN
247551001	HMX	176 > 102		6869.075									
247551001	RDX	176 > 102		6869.075									
247551001	135-Trinitrobenzene	213 > 183		6869.075									
247551001	13-Dinitrobenzene-d4	172 > 142	12.14	6869.075		6869.075	bb			418.4296	83.7	-16.3	354.9
247551001	13-Dinitrobenzene	168 > 138		6869.075									
247551001	Tetryl	241 > 181		6869.075									
247551001	Nitrobenzene	123 > 46		6869.075									
247551001	4-Amino-26-dinitrotoluene	197 > 167		42016.625									
247551001	2-Amino-46-dinitrotoluene	197 > 180		42016.625									
247551001	246-Trinitrotoluene	227 > 210		42016.625									
247551001	34-dinitrotoluene	182 > 152	14.56	22142.584	42016.625	22142.584	bb			236.1226	94.4	-5.6	1196.1
247551001	26-dinitrotoluene	182 > 152		42016.625									
247551001	24-dinitrotoluene	182 > 152		42016.625									
247551001	26-dinitrotoluene-d3	185 > 155	17.59	42016.625	42016.625	42016.625	MM- 21-Mar-10 12:18:38 bb			451.1490	90.2	-9.8	2378.6
247551001	2-Nitrotoluene	137 > 46		42016.625									
247551001	4-Nitrotoluene	137 > 46		42016.625									
247551001	3-Nitrotoluene	137 > 46		42016.625									
247551001	PETN	361 > 62		42016.625									

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8349

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551001

Sample Amount 2

Moisture: 6.9

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160018.wiff

Date Analyzed: 16-MAR-10 12:44

Units: ug/kg

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

*Concentration =

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

See 3/18/10

Sample Name: 247551001 Sample ID: 956053121ER File: EXS03160018.vwl

Peak Name: 35-Dinitroaniline Mass(es): 182.046.0 amu

Comment: LCX832125 Annotation: ..

Sample Index: 1

Sample Type: Unknown

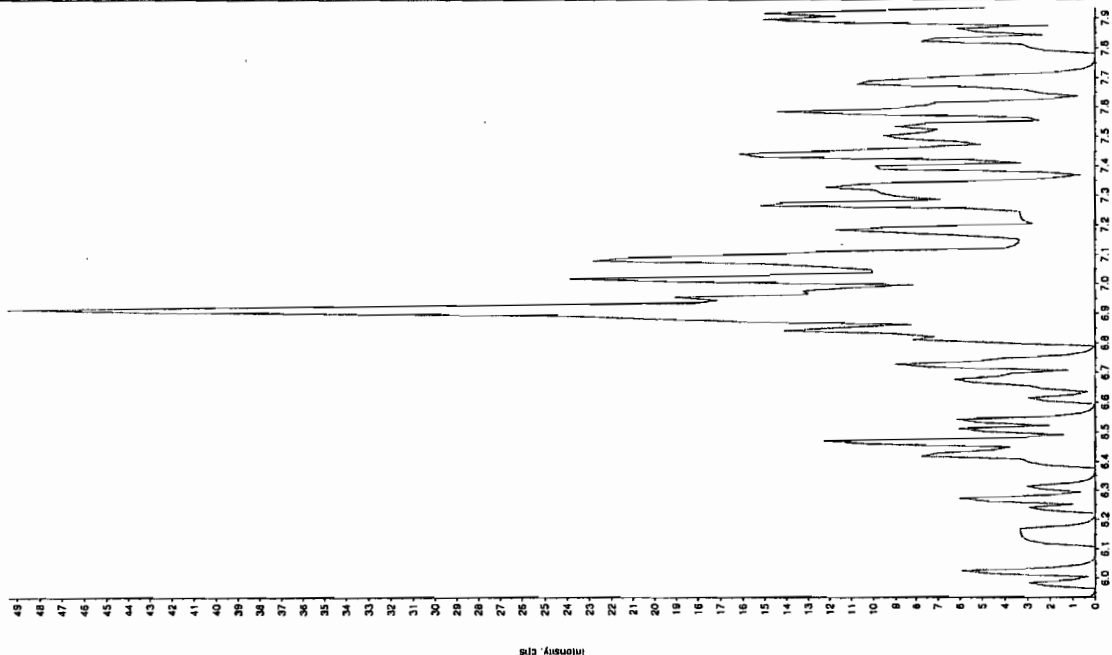
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 12:44:45 PM

Modified: No



44111-03172410

Sample Name: 247551001 Sample ID: 956053121ER File: EXS03160018.vwl

Peak Name: 35-Dinitroaniline Mass(es): 182.046.0 amu

Comment: LCX832125 Annotation: ..

Sample Index: 1

Sample Type: Unknown

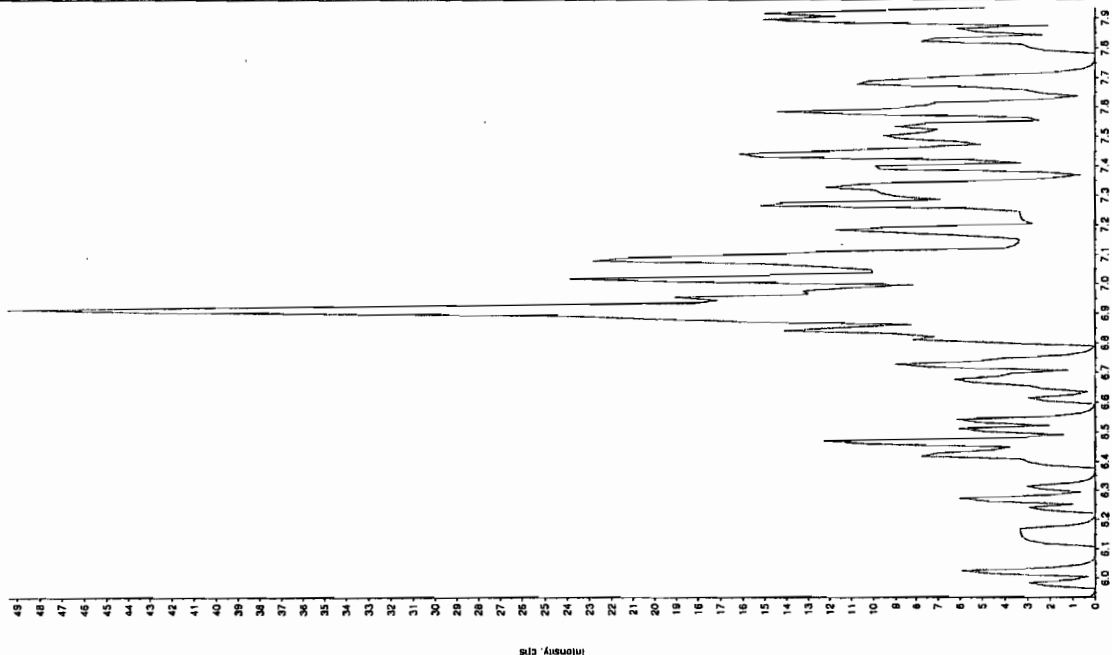
Concentration: N/A

Calculated Conc: 0.00 ng/mL

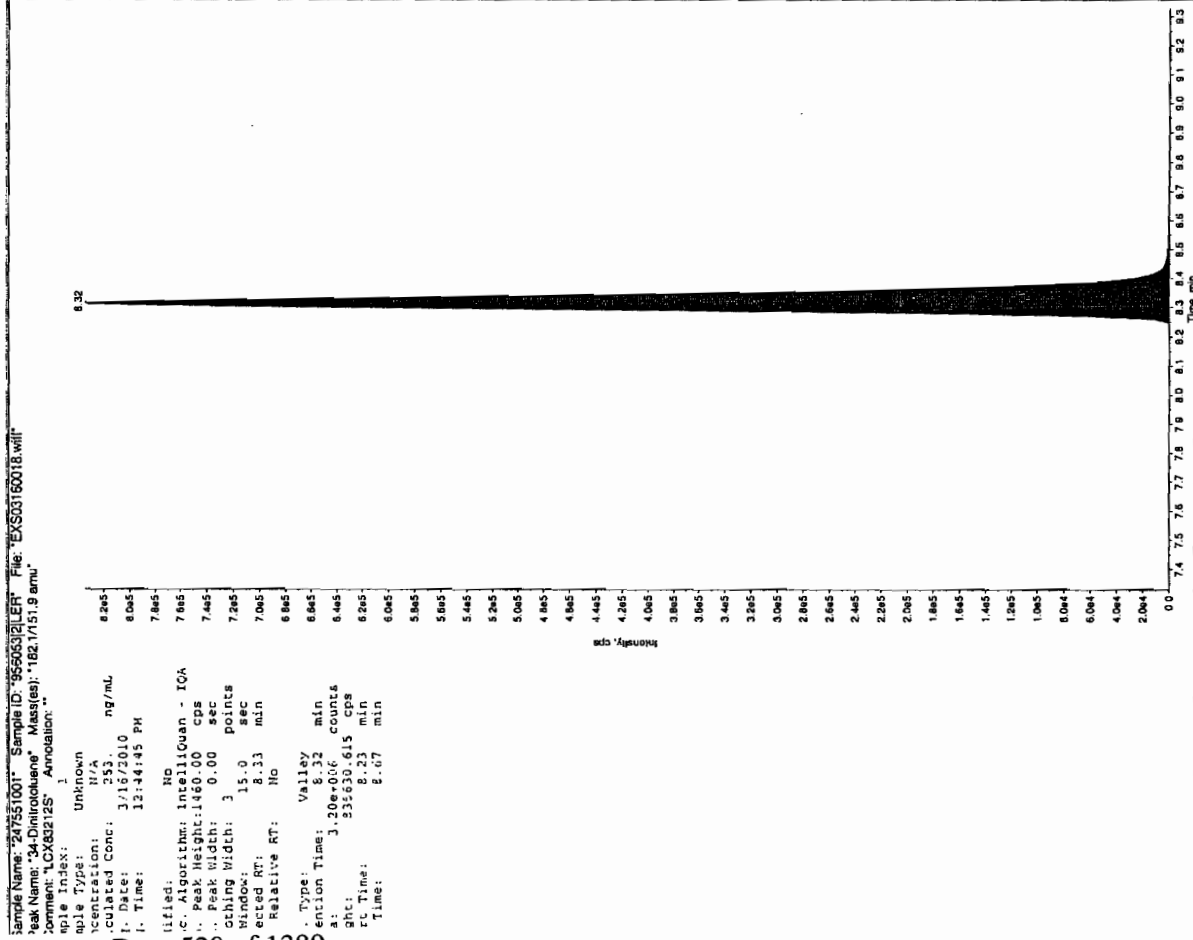
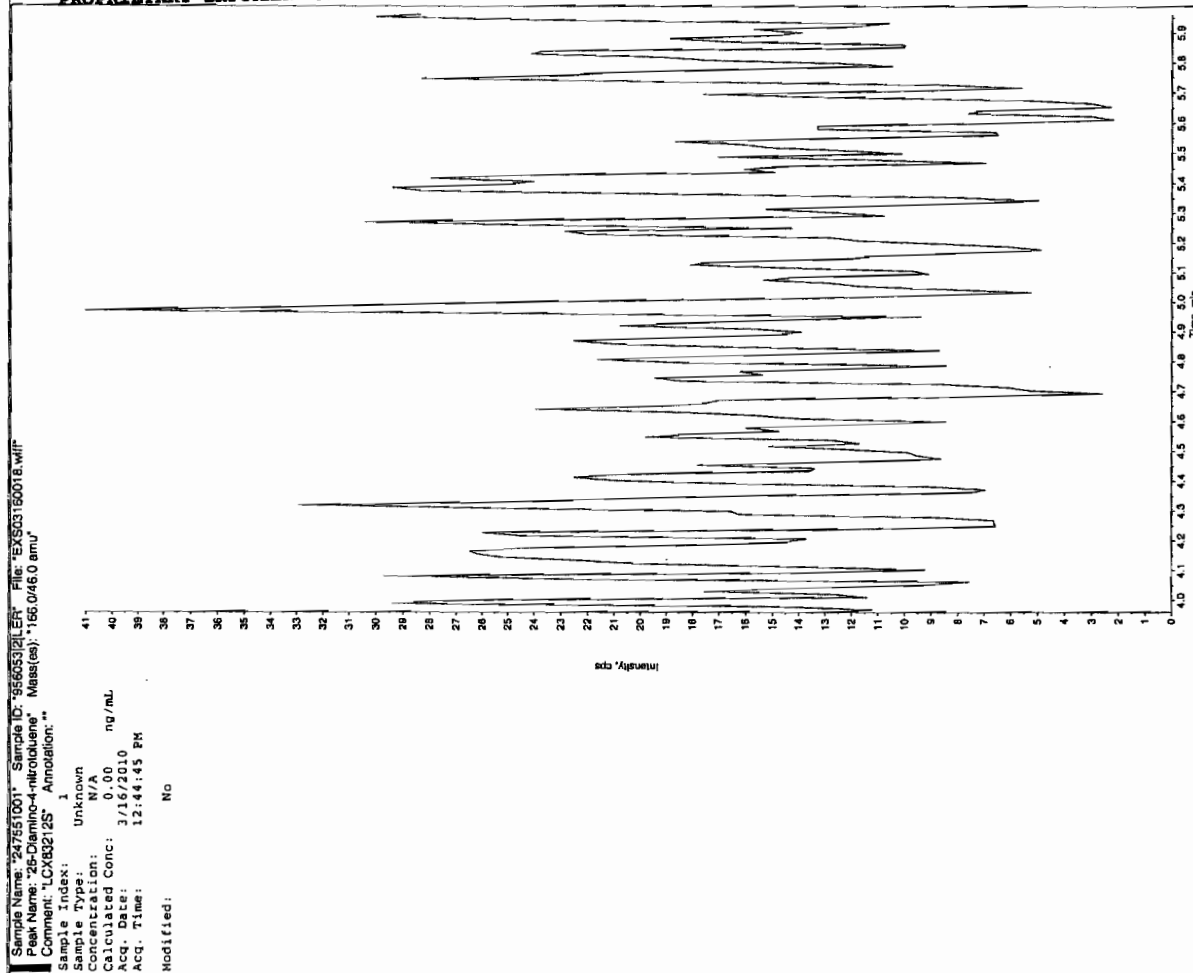
Acq. Date: 3/16/2010

Acq. Time: 12:44:45 PM

Modified: No



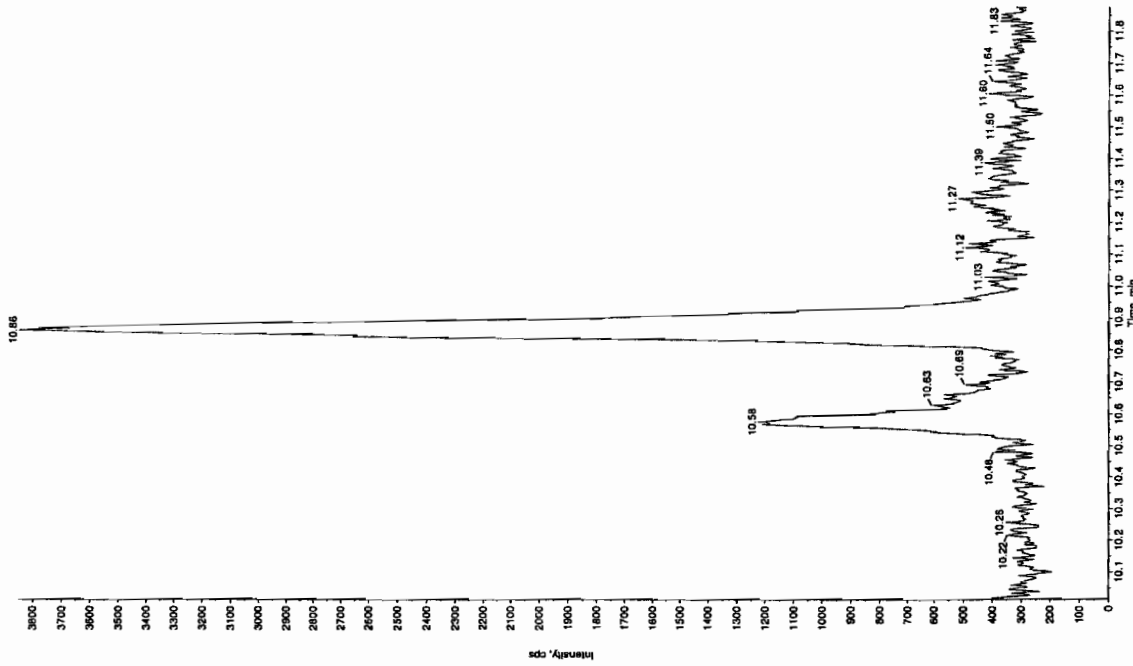
L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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

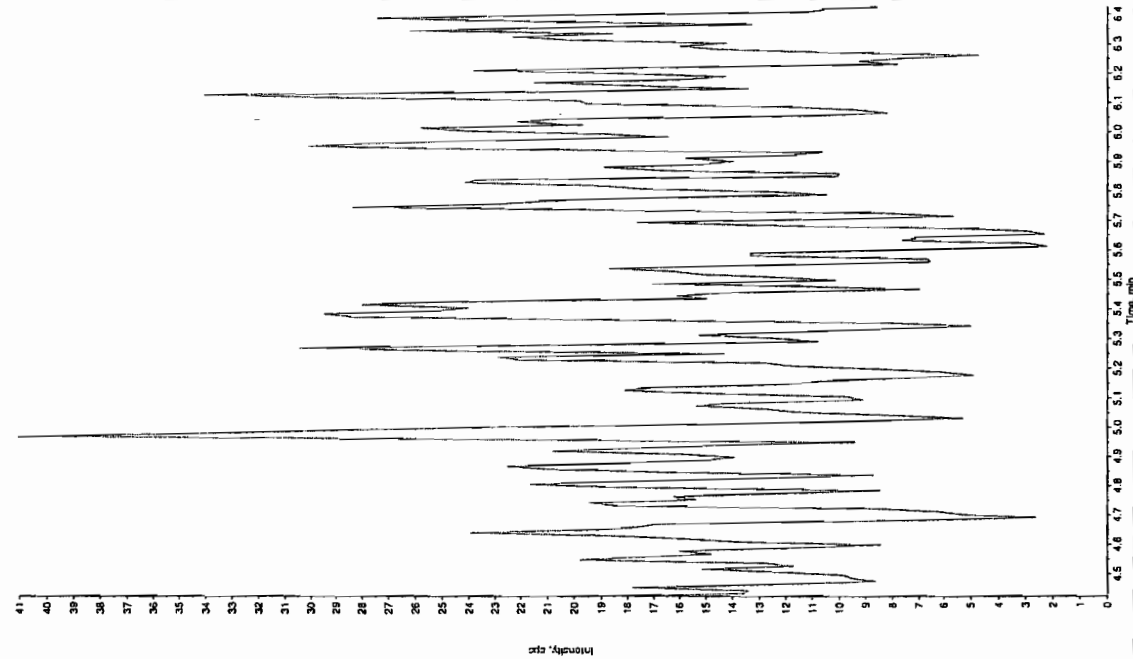
Sample Name: "247551001" Sample ID: "956053121" File: "EXS03160018.will"
 Peak Name: "tris(o-cresyl) phosphate" Mass(es): "369.191.0 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 12:44:45 PM
 Modified: No



Sample Name: "247551001" Sample ID: "956053121" File: "EXS03160018.will"
 Peak Name: "24-Diamino-6-nitrotoluene" Mass(es): "166.046.0 amu"
 Comment: "LCX83212S" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 12:44:45 PM
 Modified: No



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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319067a

Date Analyzed: 21-MAR-10 01:21

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: Sun Mar 21 12:22:16 2010, Page 61 of 103

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319067a

Date: 21-Mar-2010

Time: 01:21:05

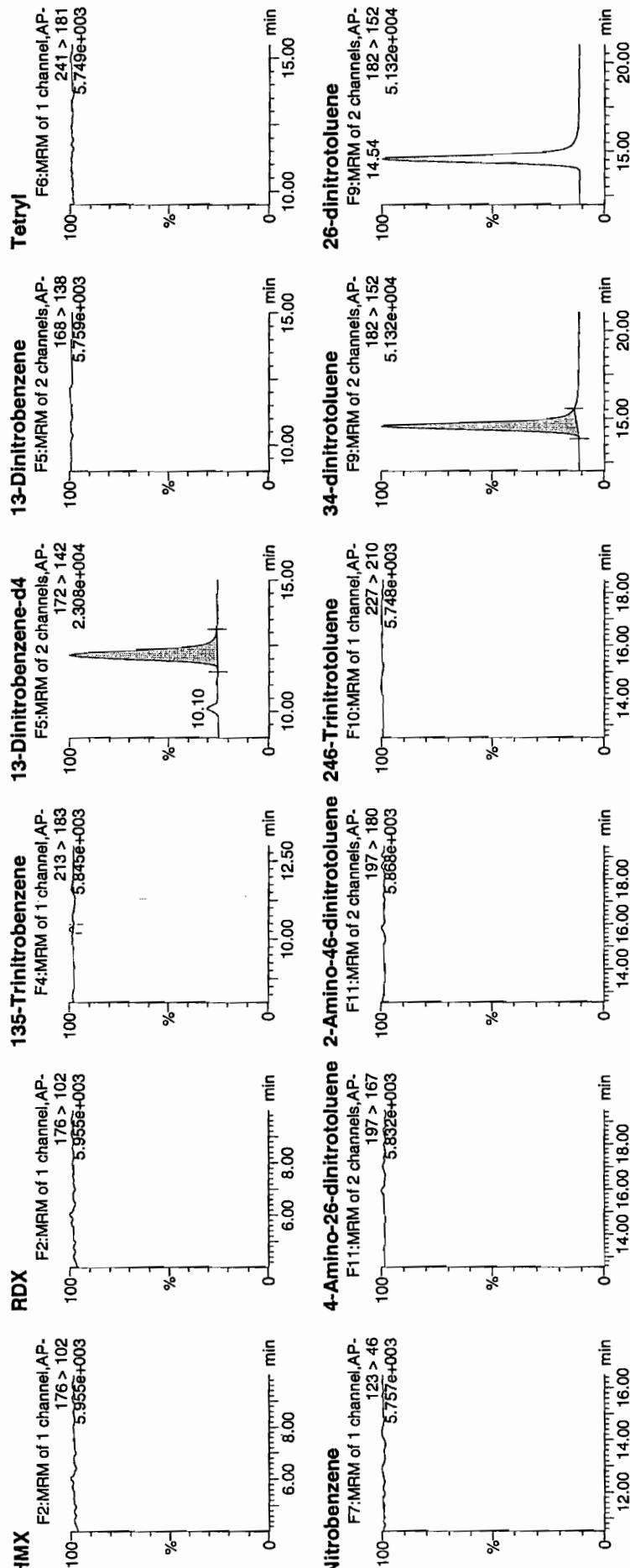
ID: 247551002

Vial: 2:5,F

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3/24/10

WAL 956053 | 21

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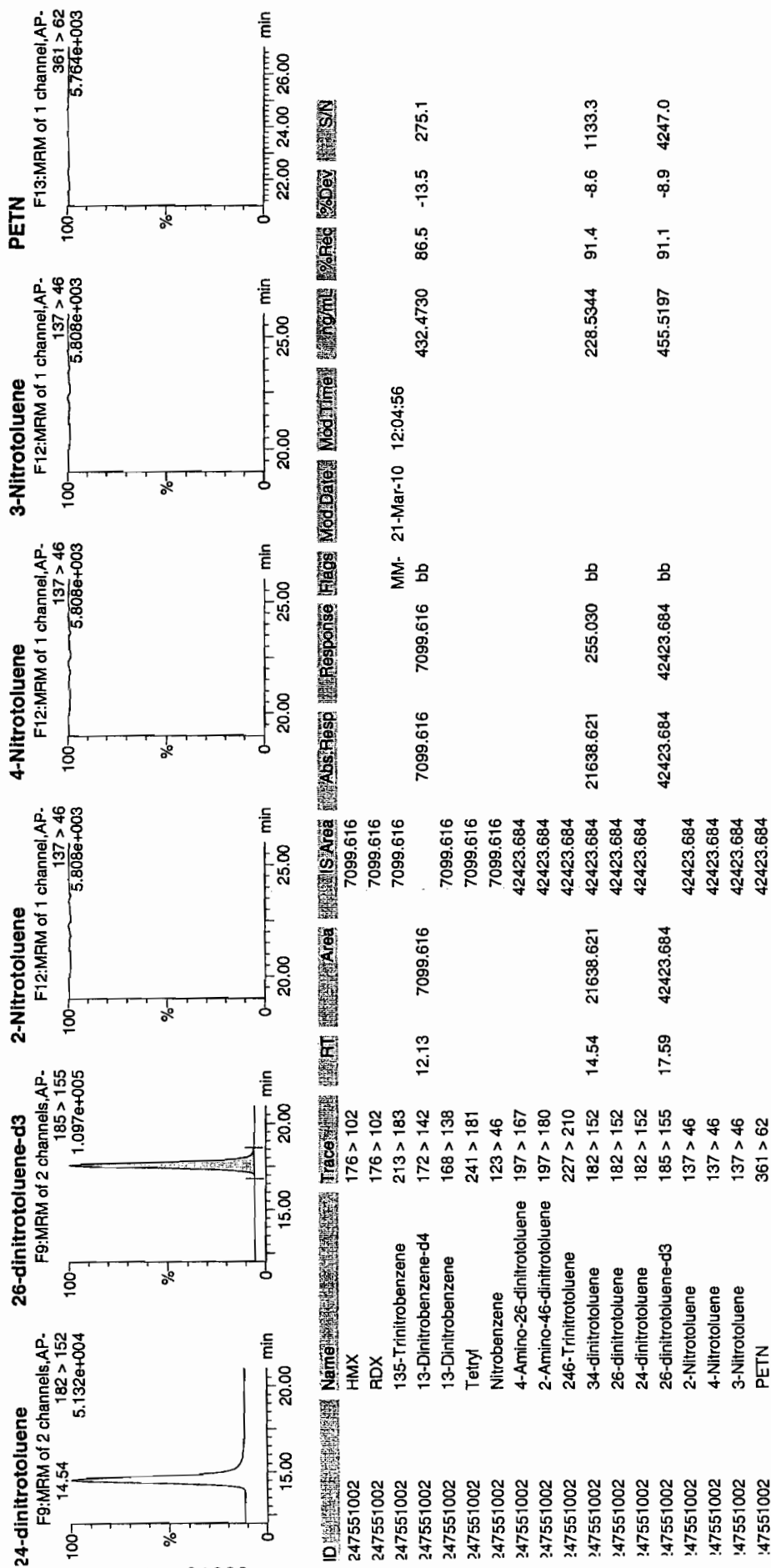
4/11/10
23/24/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Printed: Sun Mar 21 12:22:16 2010, Page 62 of 103



1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: RE15-10-8348

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 247551002

Sample Amount 2

Moisture: 3.7

Amount Units g

Date Received: 20-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160019.wiff

Date Analyzed: 16-MAR-10 13:00

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 3/18/10

Sample Name: "247551002" Sample ID: "95603212L" File: "EXS03160019.wif"

Peak Name: "35-Dinitroaniline" Mass(es): "182.046.0 amu"

Comment: "LCX832125" Annotation: "1"

Sample Index: "1"

Sample Type: "Unknown"

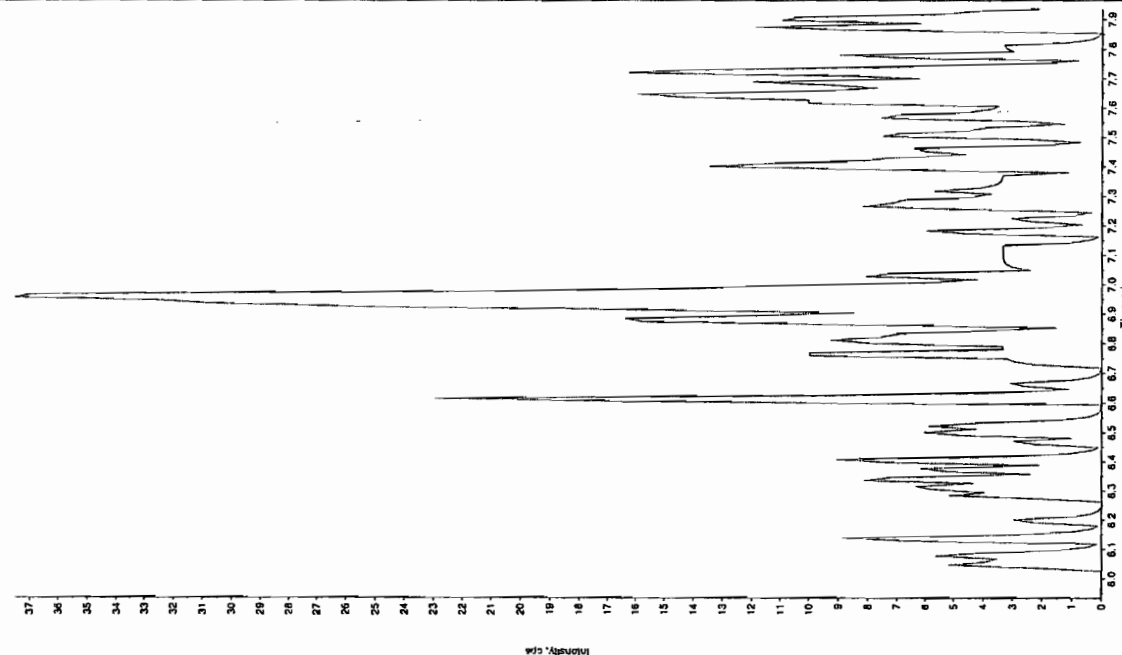
Concentration: "N/A" ng/mL

Calculated Conc: "0.00" ng/mL

Acq. Date: "3/16/2010"

Acq. Time: "1:00:29 PM"

Modified: "No"



See 3/18/10

Sample Name: "247551002" Sample ID: "95603212L" File: "EXS03160019.wif"

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

Comment: "LCX832125" Annotation: "1"

Sample Index: "1"

Sample Type: "Unknown"

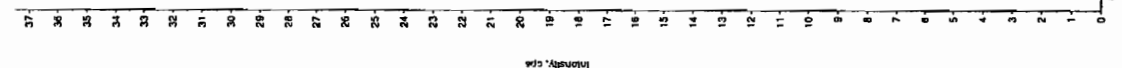
Concentration: "N/A" ng/mL

Calculated Conc: "0.00" ng/mL

Acq. Date: "3/16/2010"

Acq. Time: "1:00:29 PM"

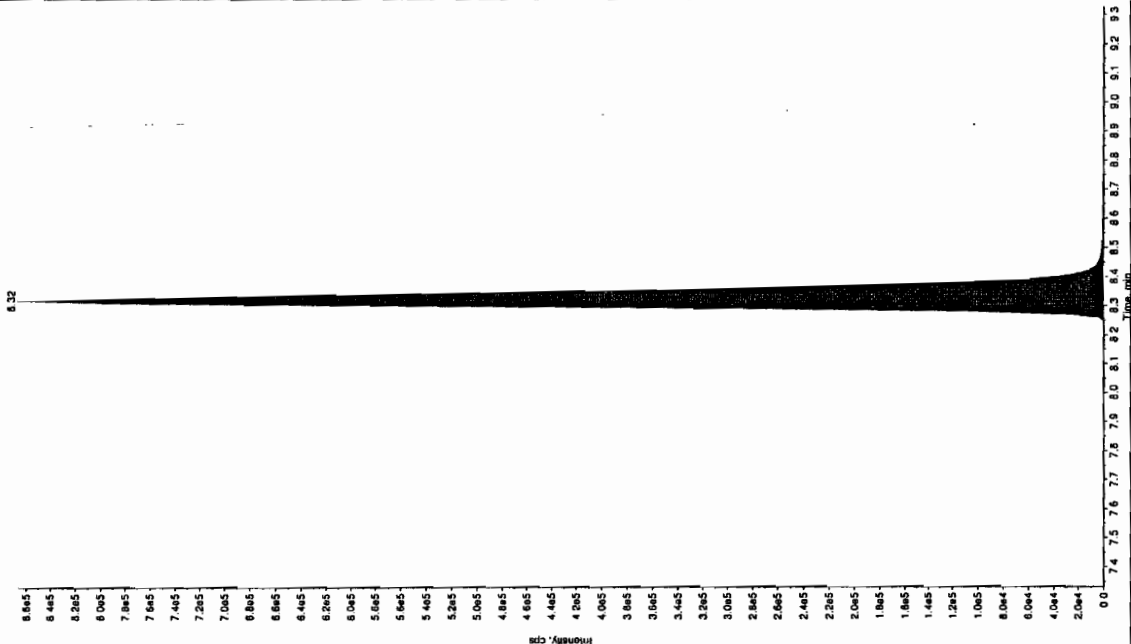
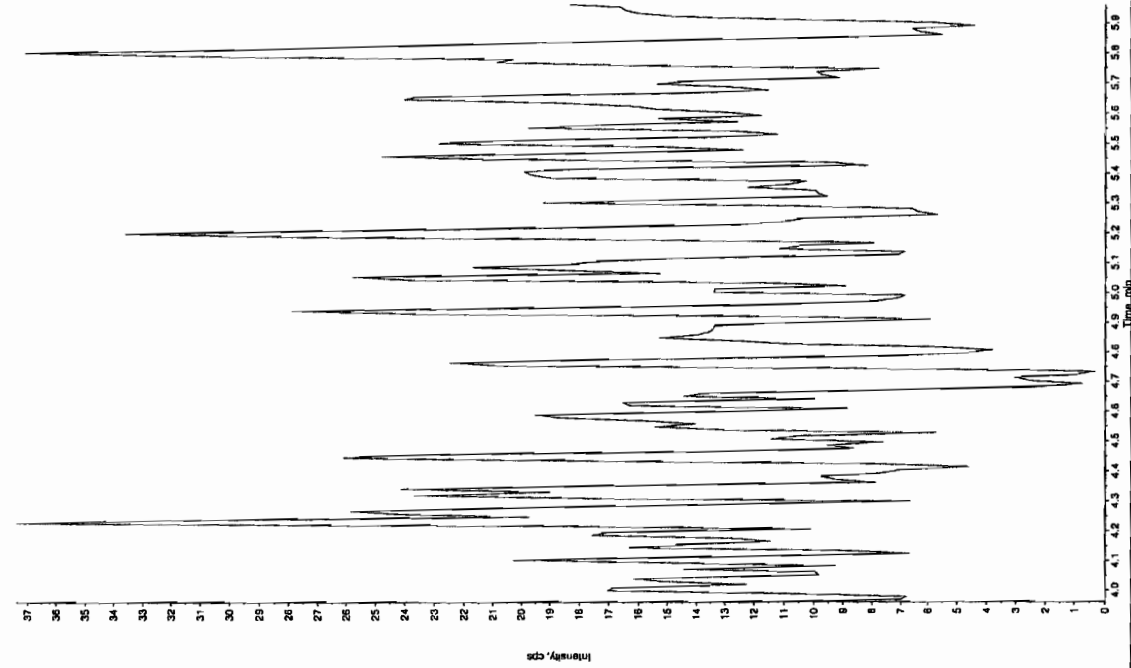
Modified: "No"



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

Sample Name: 247551002 Sample ID: 955032125 File: EX503160019.will
 Peak Name: 26-Diamino-4-nitrofluorene Mass(es): 166.0460 amu
 Comment: LCX832125 Annotation: 1

Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 1:00:29 PM
 Modified: No



Sample Name: 247551002 Sample ID: 955032125 File: EX503160019.will
 Peak Name: 26-Diamino-4-nitrofluorene Mass(es): 166.0460 amu
 Comment: LCX832125 Annotation: 1
 Sample Type: Unknown
 Concentration: 0.00 ng/mL
 Calculated Conc: 3/16/2010
 Acq. Date: 1:00:29 PM
 Modified: No
 c. Algorithm: IntelliQuan - IOA
 Peak Height: 1460.00 cps
 Peak Width: 0.30 sec
 Window: 15.0 sec
 Relative RT: 2.33 min
 Type: Valley
 Retention Time: 8.12 min
 zht: 3.20e+008 counts
 zht: 86633.708 cps
 zht Time: 2.23 min
 Time: 2.66 min

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

Sample Name: "247551002" Sample ID: "95605321ER" File: "EX503160019.wif"

Peak Name: "Ins(0-cresyl) phosphatidyl" Mass(es): "389.1/91.0 amu"

Comment: "LCX832125" Annotation: ""

Sample Index: 1

Sample Type: Unknown

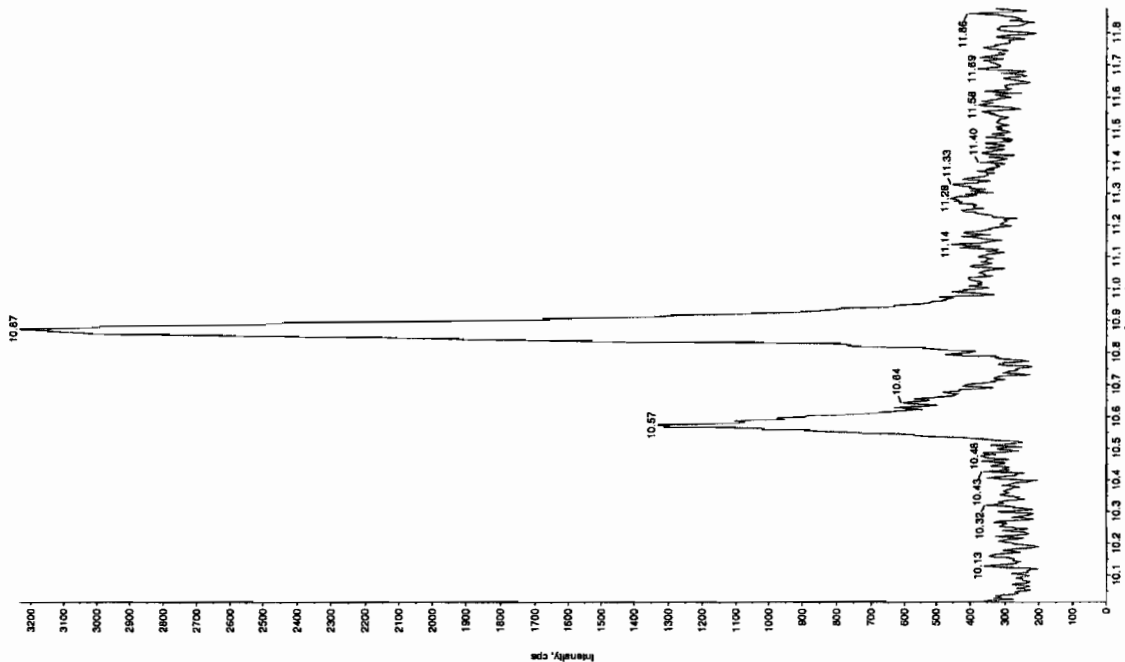
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 1:00:29 PM

Modified: No



Sample Name: "247551002" Sample ID: "95605321ER" File: "EX503160019.wif"

Peak Name: "24-Diamino-6-nitrobutene" Mass(es): "156.0/46.0 amu"

Comment: "LCX832125" Annotation: ""

Sample Index: 1

Sample Type: Unknown

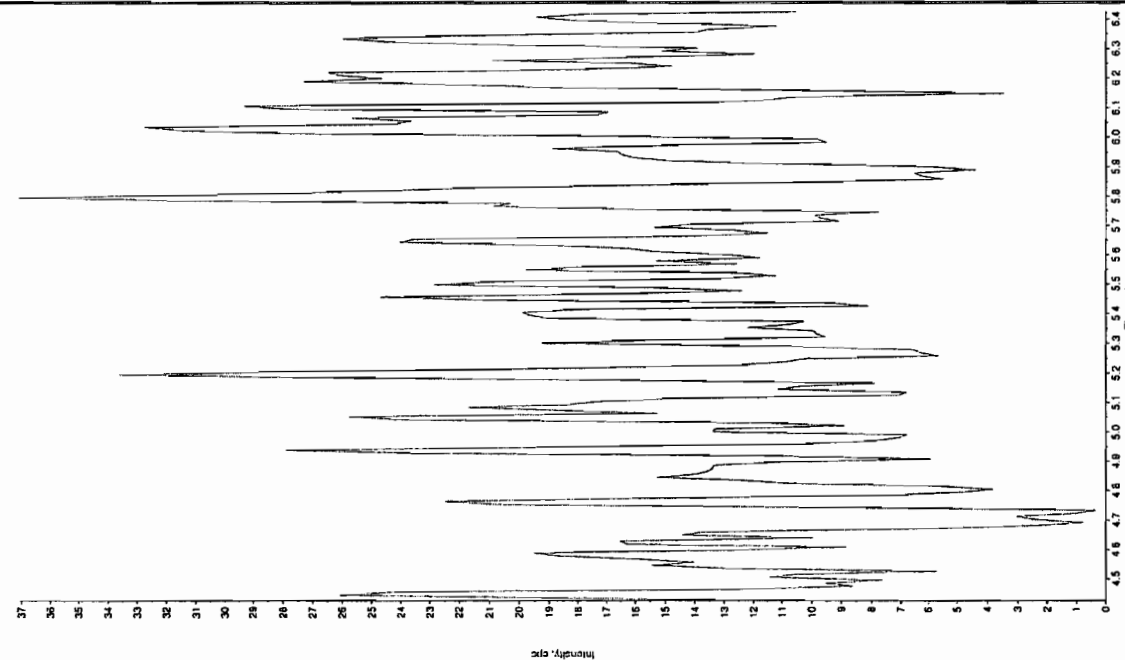
Concentration: N/A

Calculated Conc: 0.00 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 1:00:29 PM

Modified: No



3L SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

STANDARDS DATA

**SW846 8321A Modified-Explosives
Calibration Standard Concentration Levels**

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	CCV
3,4-Dinitrotoluene (Surrogate)	12.5	25	100	200	400	500		300
Primary Analytes								
HMX	25	50	200	400	800	1000	na	600
RDX	25	50	200	400	800	1000	na	600
DNX	25	50	200	400	800	1000	na	600
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

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1969

Lab Code: GEL

Run Date: 16-MAR-10.19-MAR-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
Data File:	EXP0319003a	EXP0319004a	EXP0319005a	EXP0319006a	EXP0319007a	EXP0319008a			
1,3,5-Trinitrobenzene	4.934	4.658	4.052	4.308	4.896	5.867	4.786	13.17	
1,3-Dinitrobenzene-d4	17.078	17.454	16.592	19.338	13.899	14.139	16.417	12.663	
2,4,6-Trinitrotoluene	.451	.404	.409	.331	.44	.542	0.430	16.164	
2,4-Dinitrotoluene	.239	.248	.246	.211	.249	.254	0.241	6.373	
2,6-Dinitrotoluene	1.106	1.153	1.116	1.085	1.162	1.147	1.128	2.683	
2,6-Dinitrotoluene-d3	97.958	93.948	90.487	115.944	84.041	76.417	93.133	14.513	
2-Amino-4,6-dinitrotoluene	.66	.538	.502	.526	.574	.766	0.594	16.922	
3,4-Dinitrotoluene	1.135	1.095	1.033	1.099	1.056	1.277	1.116	7.756	
4-Amino-2,6-dinitrotoluene	.406	.346	.352	.296	.362	.452	0.369	14.572	
HMX	4.054	4.355	4.659	3.304	5.158	3.924	4.242	15.066	
Nitrobenzene	.709	.661	.63	.684	.718	.766	0.695	6.827	
RDX	2.618	2.614	2.626	2.301	3.123	3.67	2.825	17.381	
Tetryl	1.115	1.134	1.207	1.016	1.261	1.326	1.177	9.47	
m-Dinitrobenzene	1.316	1.413	1.265	1.336	1.333	1.473	1.356	5.494	
m-Nitrotoluene	.061	.068	.05	.043	.056	.059	0.056	15.483	
o-Nitrotoluene	.106	.11	.083	.075	.093	.093	0.093	14.248	
p-Nitrotoluene	.051	.052	.043	.037	.047	.047	0.046	11.401	

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

* Values outside of QC Limit

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1969

Lab Code: GEL

Run Date: 16-MAR-10 19-MAR-10

LCMSMS Instrument ID: LCMSMS

Method: 8321A Modified

HPLC Column: Phenomenex Ultracarb 5 ODS(20)

Calibration Type: Linear

	1	2	3	4	5	6	Slope	Intercept	COD	Q
Calibration Level:	EXP0319003a	EXP0319004a	EXP0319005a	EXP0319006a	EXP0319007a	EXP0319008a				
Data File:										
Parname										
PETN	3571.23	7118.35	24758.3	44512.9	76075.7	84107.2	1.086	14.643	.9933	

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

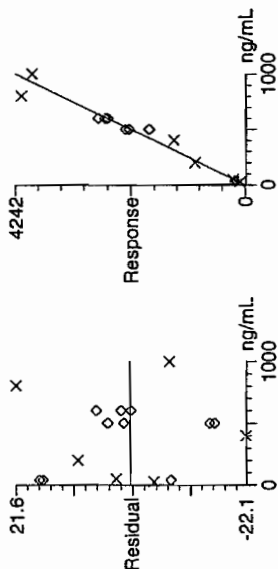
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

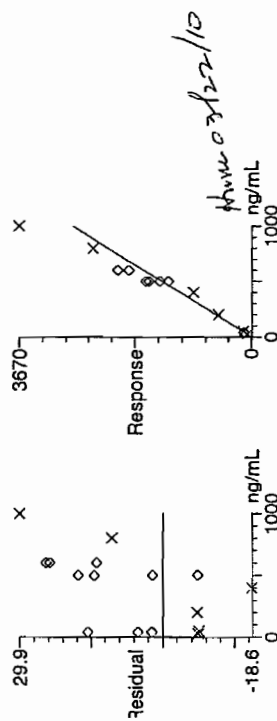
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Calibration: Untitled, Time: Sat Mar 20 11:05:24 2010

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Compound name: HMX
Response Factor: 4.24242
RF SD: 0.639182, % Relative SD: 15.0664
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: RDX
Response Factor: 2.82542
RF SD: 0.491092, % Relative SD: 17.3812
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF



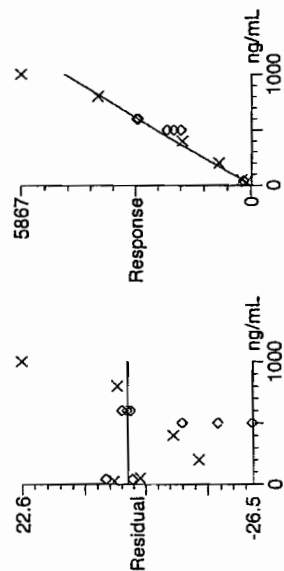
Compound name: 135-Trinitrobenzene

Response Factor: 4.78565

RRF SD: 0.630251, % Relative SD: 13.1696

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

Curve type: RF



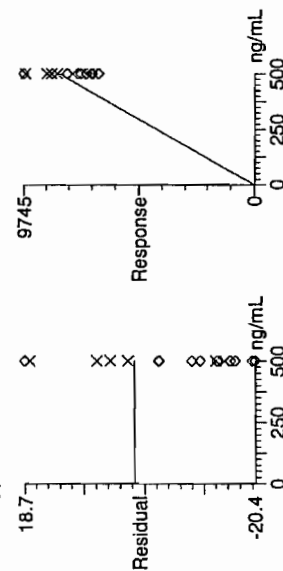
Compound name: 13-Dinitrobenzene-d4

Response Factor: 16.4163

RRF SD: 2.0788, % Relative SD: 12.663

Response type: External Std, Area

Curve type: RF

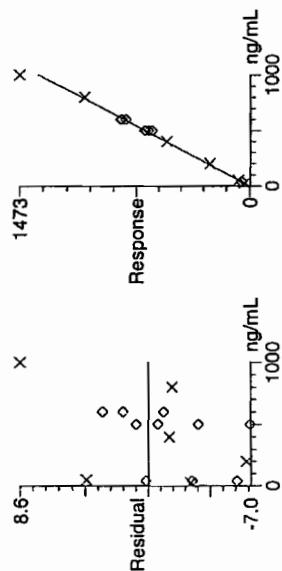


Quantify Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

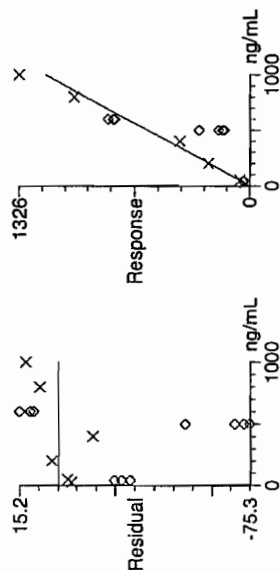
Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 13-Dinitrobenzene
 Response Factor: 1.35599
 RRF SD: 0.0744962, % Relative SD: 5.49386
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF

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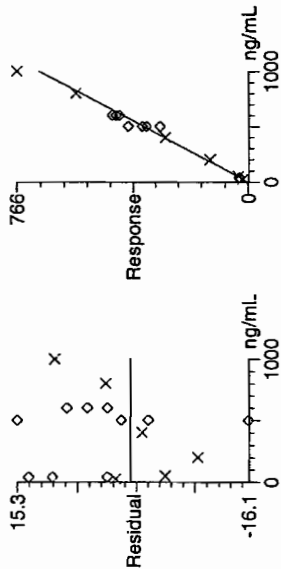
Compound name: Tetraol
 Response Factor: 1.17668
 RRF SD: 0.111431, % Relative SD: 9.46995
 Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
 Curve type: RF



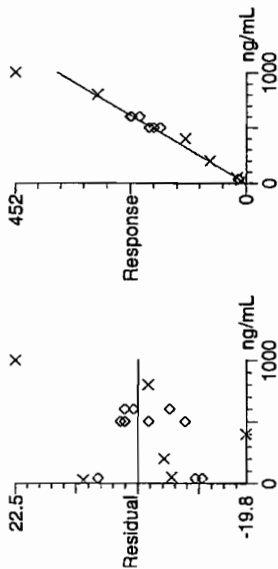
Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: Nitrobenzene
Response Factor: 0.69451
RF SD: 0.0474118, % Relative SD: 6.82665
Response type: Internal Std (Ref 4), Area * (IS Conc. / IS Area)
Curve type: RF

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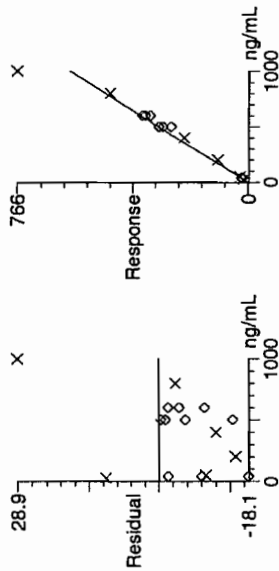
Compound name: 4-Amino-26-dinitrotoluene
Response Factor: 0.36909
RF SD: 0.0537838, % Relative SD: 14.572
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



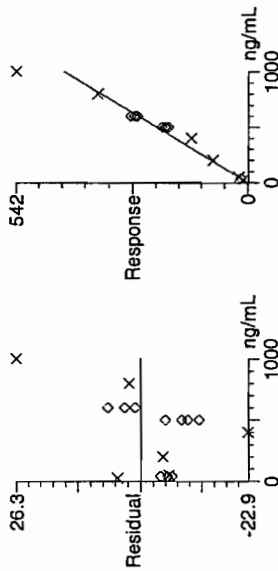
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 2-Amino-46-dinitrotoluene
Response Factor: 0.594147
RF SD: 0.100543, % Relative SD: 16.9222
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



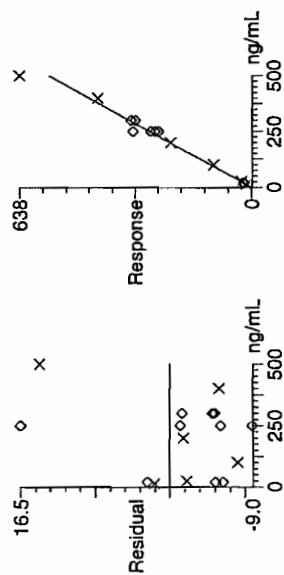
Compound name: 246-Trinitrotoluene
Response Factor: 0.4294
RF SD: 0.0694084, % Relative SD: 16.164
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



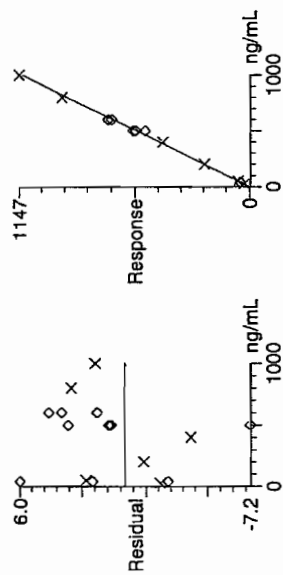
Quantify Calibration Report
SEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 34-dinitrotoluene
Response Factor: 1.11594
RF SD: 0.0865532, % Relative SD: 7.75611
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



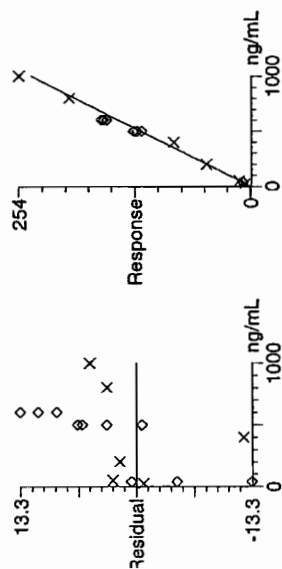
Compound name: 26-dinitrotoluene
Response Factor: 1.12816
RF SD: 0.0302691, % Relative SD: 2.68306
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



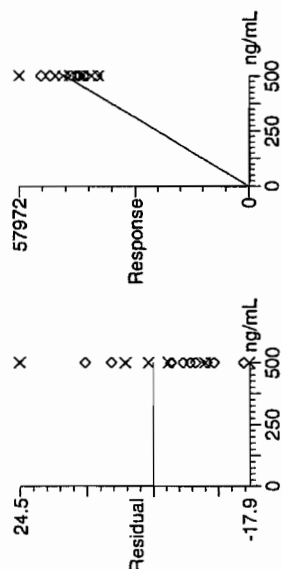
Quantify Calibration Report
 iEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 24-dinitrotoluene
 Response Factor: 0.241092
 RF SD: 0.0153653, % Relative SD: 6.3732
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



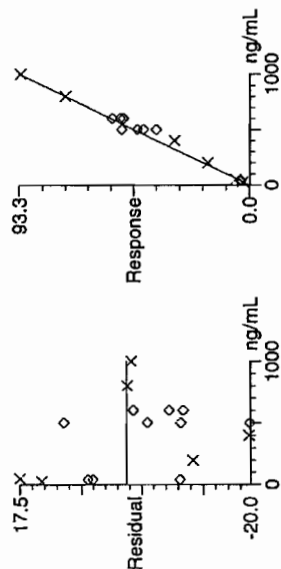
Compound name: 26-dinitrotoluene-d3
 Response Factor: 93.1325
 RF SD: 13.516, % Relative SD: 14.5127
 Response type: External Std, Area
 Curve type: RF



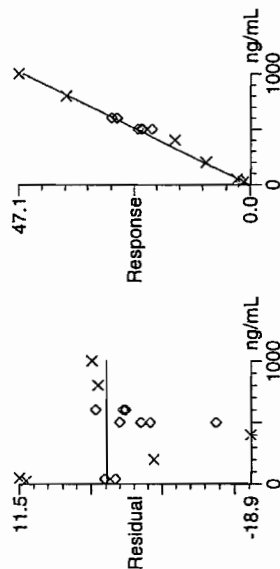
Quantify Calibration Report
 GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 2-Nitrotoluene
 Response Factor: 0.0933197
 RRF SD: 0.0132962, % Relative SD: 14.2481
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



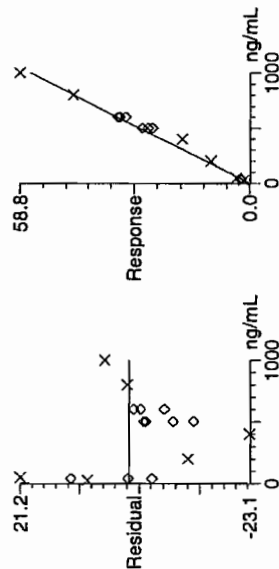
Compound name: 4-Nitrotoluene
 Response Factor: 0.0461933
 RRF SD: 0.00526639, % Relative SD: 11.4008
 Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
 Curve type: RF



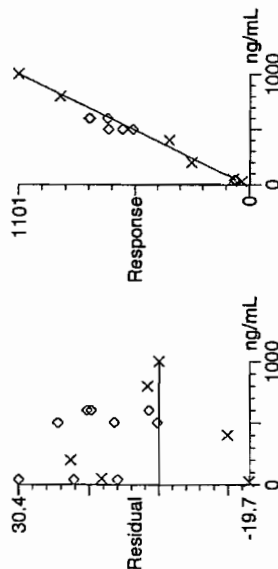
Quantify Calibration Report
GEL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Compound name: 3-Nitrotoluene
Response Factor: 0.0562003
RRF SD: 0.00870123, % Relative SD: 15.4825
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: RF



Compound name: PETN
Correlation coefficient: $r = 0.996647$, $r^2 = 0.993305$
Calibration curve: $1.08596 * x + 14.643$
Response type: Internal Std (Ref 14), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: Null, Axis trans: None



Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXP0319010a

Analysis Date: 19-MAR-10 21:19

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
4-Amino-2,6-dinitrotoluene	600	565.303	94	
HMX	600	599.565	100	
Nitrobenzene	600	651.909	109	
PETN	600	613.34	102	
RDX	600	746.638	124	*
Tetryl	600	666.124	111	
m-Dinitrobenzene	600	618.738	103	
m-Nitrotoluene	600	586.775	98	
o-Nitrotoluene	600	558.066	93	
p-Nitrotoluene	600	584.772	97	
1,3,5-Trinitrobenzene	600	601.679	100	
1,3-Dinitrobenzene-d4	500	400.213	80	
2,4,6-Trinitrotoluene	600	607.061	101	
2,4-Dinitrotoluene	600	679.677	113	
2,6-Dinitrotoluene	600	621.301	104	
2,6-Dinitrotoluene-d3	500	448.99	90	
2-Amino-4,6-dinitrotoluene	600	545.067	91	
3,4-Dinitrotoluene	300	285.258	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

Printed: Sat Mar 20 11:06:08 2010, Page 19 of 73

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319010a

Date: 19-Mar-2010

Time: 21:19:38

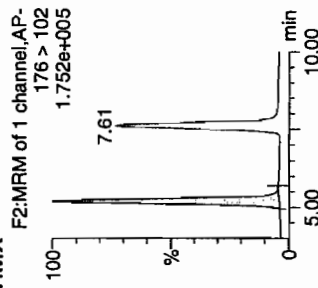
ID: WXX100319-07ICV

Vial: 1:1,B

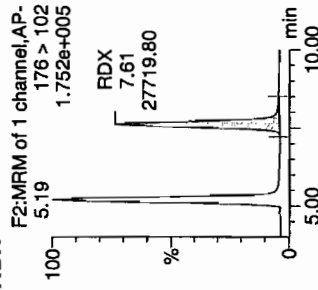
Handwritten: *3/20/10*

Page 543 of 1389

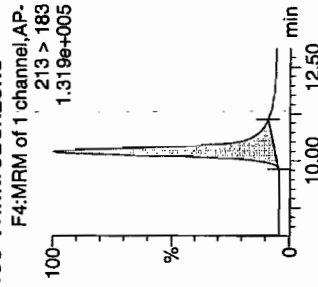
HMX



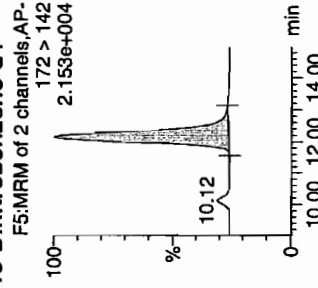
RDX



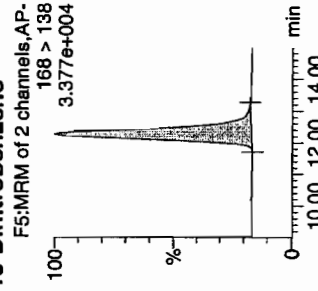
135-Trinitrobenzene



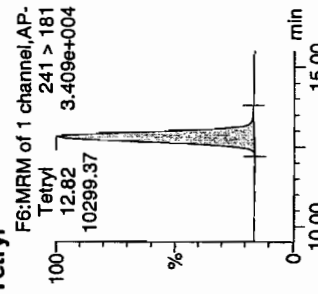
13-Dinitrobenzene-d4



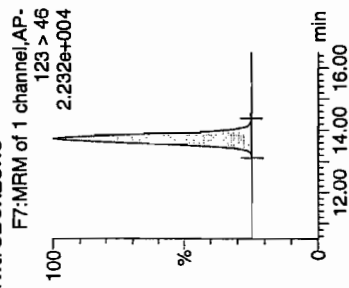
13-Dinitrobenzene



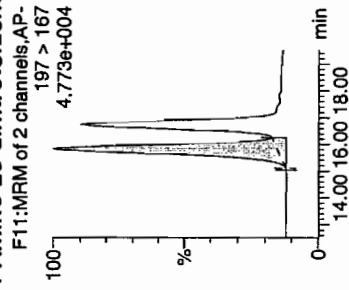
Tetryl



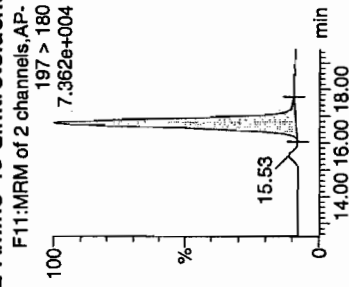
Nitrobenzene



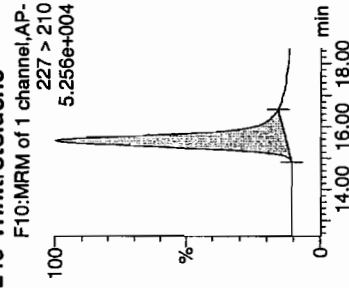
4-Amino-26-dinitrotoluene



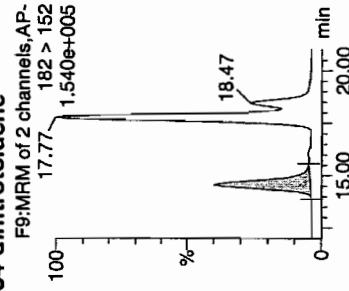
2-Amino-46-dinitrotoluene



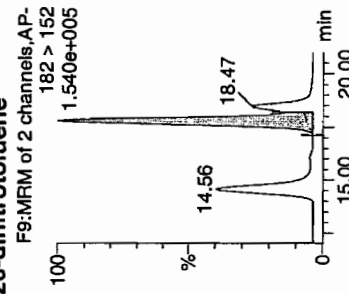
246-Trinitrotoluene



34-dinitrotoluene

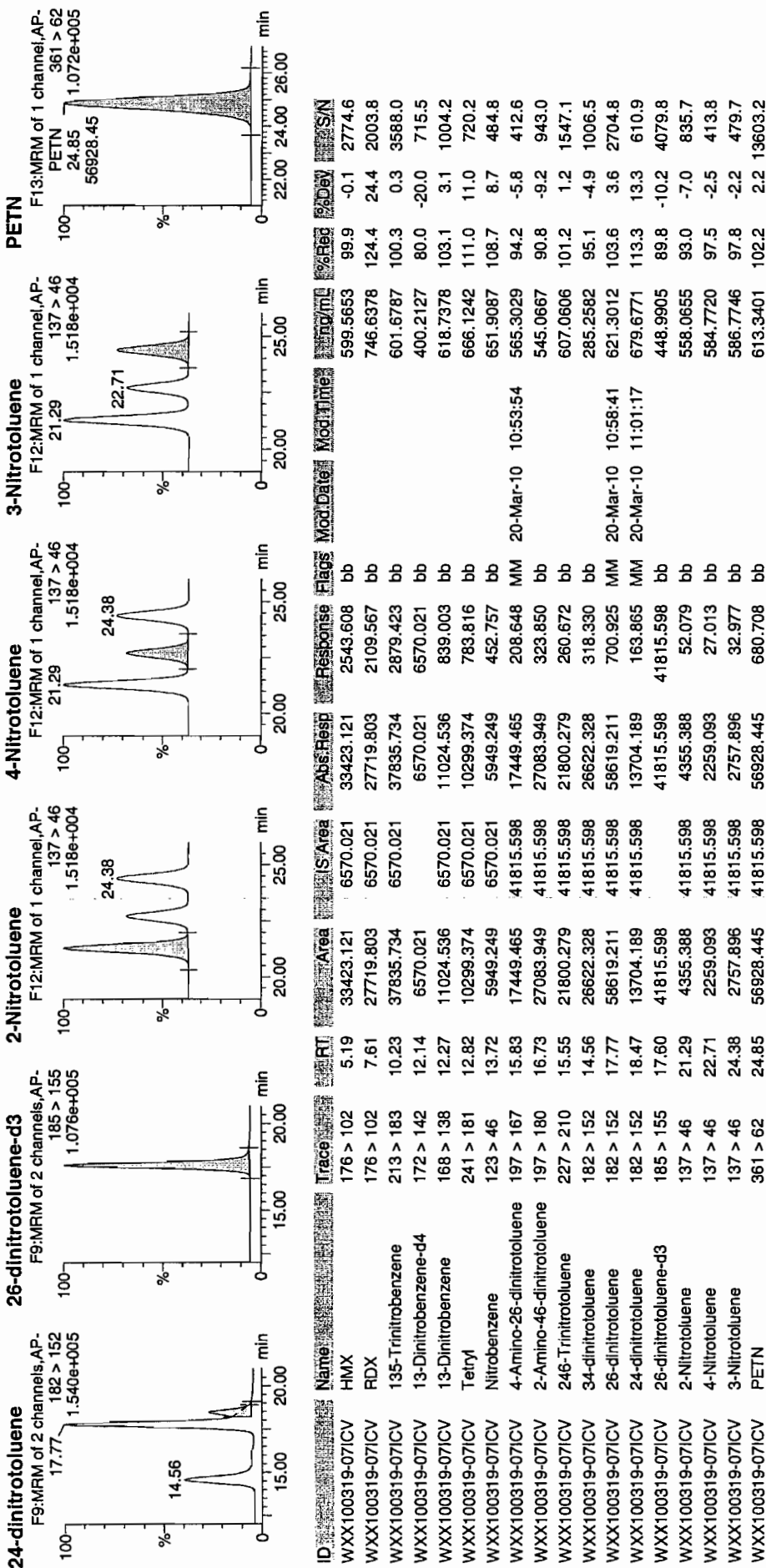


26-dinitrotoluene



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Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/19/10
 Time of Injection: 2119
 Standard Number: WXX100319-07ICV
 Data File: EXP0319010a

HMX	99.9
RDX	124.4
135-TNB	100.3
13-DNB	103.1
Tetryl	111.0
Nitrobenzene	108.7
4A-26-DNT	94.2
2A-46-DNT	90.8
246-TNT	101.2
34-DNT(surr)	95.1
26-DNT	103.6
24-DNT	113.3
2-NT	93.0
4-NT	97.5
3-NT	97.8
PETN	102.2

//
//
//

not
3/22/10

Total 1636.1

Hand 03/22/10

Average 102.3

ICV Limits 85-115%
CRI Limits 70-130%
CCV Limits 85-115%
No single analyte > +/- 60%

Explosives Initial Calibration

Lab Name: GEL Laboratories LLC

GEL Job No: 10-1969

Lab Code: GEL

Run Date: 16-MAR-10.19-MAR-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:	EXS03160003.wiff	EXS03160004.wiff	EXS03160005.wiff	EXS03160006.wiff	EXS03160007.wiff	EXS03160008.wiff	EXS03160009.wiff					
Parname:												
2,4-Diamino-6-nitrotoluene	59900	111000	285000	537000	842000	1070000	2160000	6780	1080	-.004	.9998	
2,6-Diamino-4-nitrotoluene	85600	172000	418000	822000	1180000	1600000	3140000	11900	1600	-.02	1	
3,4-Dinitrotoluene	347000	655000	1590000	2900000	4380000	5970000	10900000	-18900	13400	-2.47	.9989	
3,5-Dinitroaniline	519000	994000	2340000	4410000	6370000	8180000	14100000	84100	9190	-1.08	1	
TATB	75500	160000	398000	824000	1270000	1770000	3610000	-19600	1700	.059	.9999	
tris(o-cresyl) phosphate	709000	1340000	3260000	6150000	8920000	11800000	20800000	66900	12900	-1.26	1	

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

031610ICAL

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

Fit	Quadratic	weighting	None	Iterate No
a0	-1.96e+004			
a1	1.7e+003			
a2	0.0593			
Correlation coefficient 0.9999				
Use Area				

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

Fit	Quadratic	weighting	None	Iterate No
a0	8.41e+004			
a1	9.19e+003			
a2	-1.08			
Correlation coefficient 1.0000				
Use Area				

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

Fit	Quadratic	weighting	None	Iterate No
a0	-1.89e+004			
a1	1.34e+004			
a2	-2.47			
Correlation coefficient 0.9989				
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	1.19e+004			
a1	1.6e+003			
a2	-0.0198			
Correlation coefficient 1.0000				
Use Area				

Handwritten: Jan 3/18/10

Handwritten: HMMW 3/23/10

031610ICAL

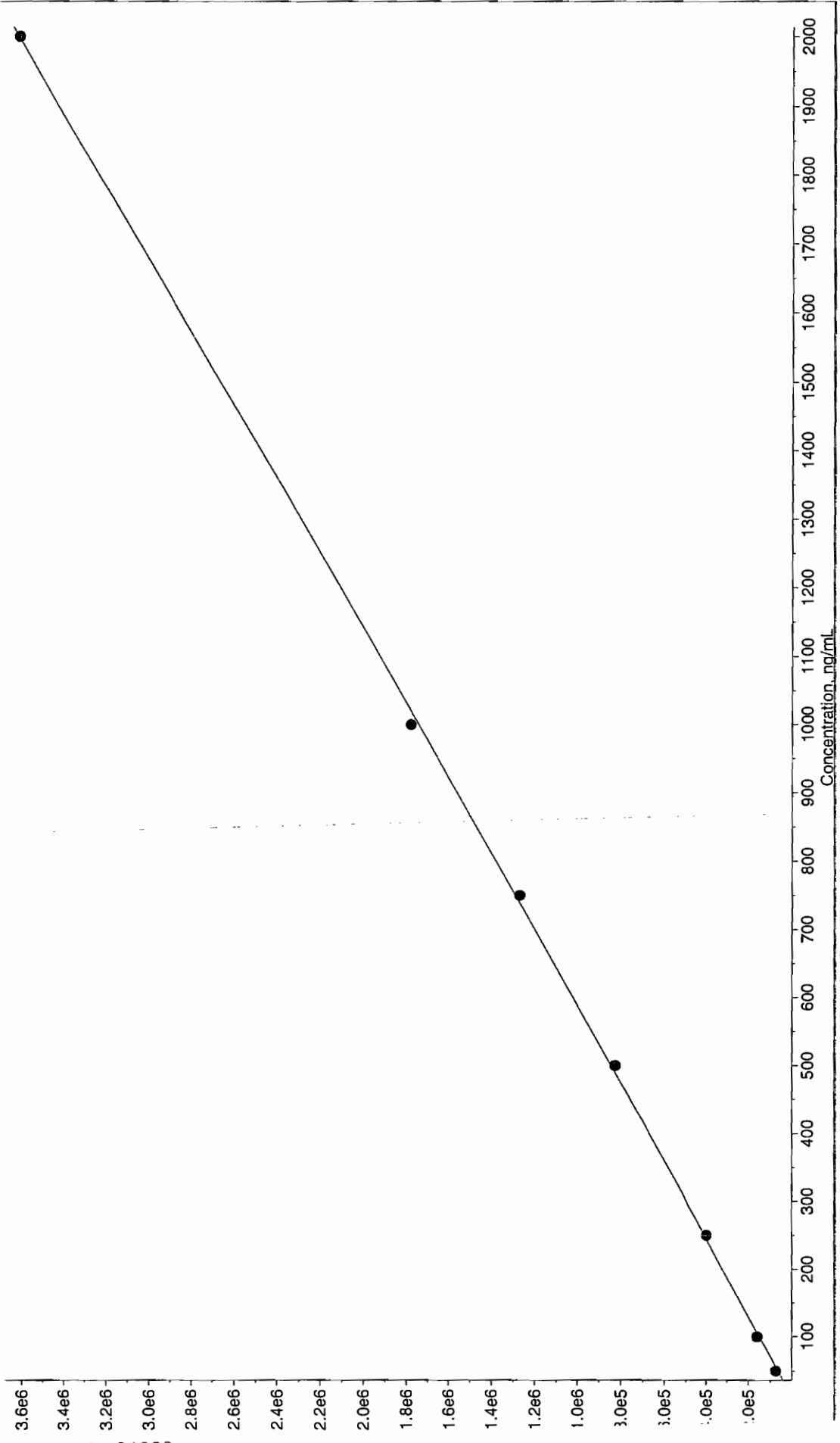
Peak Name: 24-Diamino-6-nitrotoluene
No Internal Standard
Q1/Q3 Masses: 165.97/46.00 amu

Fit	Quadratic	Weighting	None	Iterate No
a0	6.78e+003			
a1	1.08e+003			
a2	-0.00433			
Correlation coefficient 0.9998				
Use Area				

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

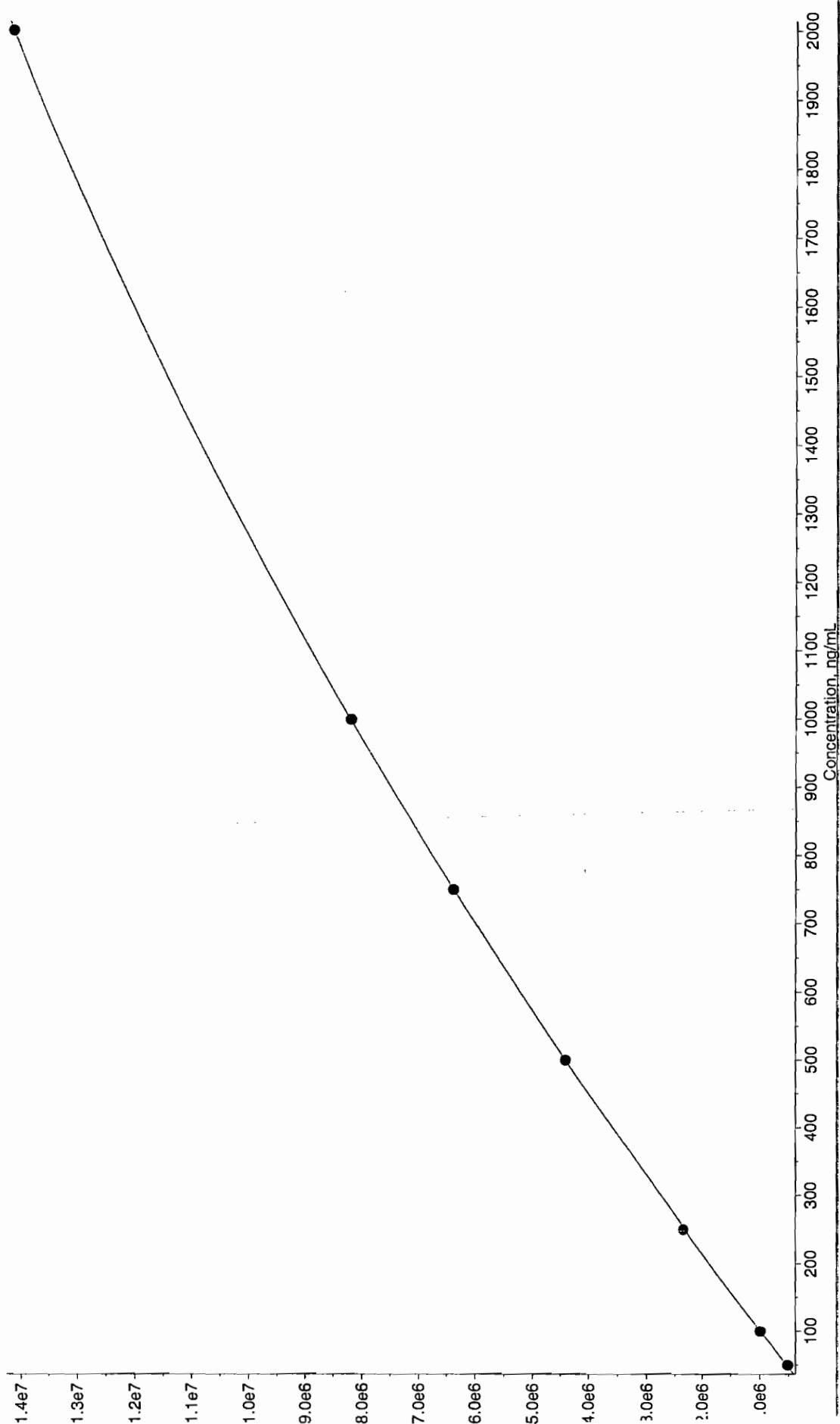
Fit	Quadratic	Weighting	None	Iterate No
a0	6.69e+004			
a1	1.29e+004			
a2	-1.26			
Correlation coefficient 1.0000				
Use Area				

031610.rdb (TATB): "Quadratic" Regression ("No" weighting): $y = 0.0593 x^2 + 1.7e+003 x + -1.96e+004$ ($r = 0.9999$)



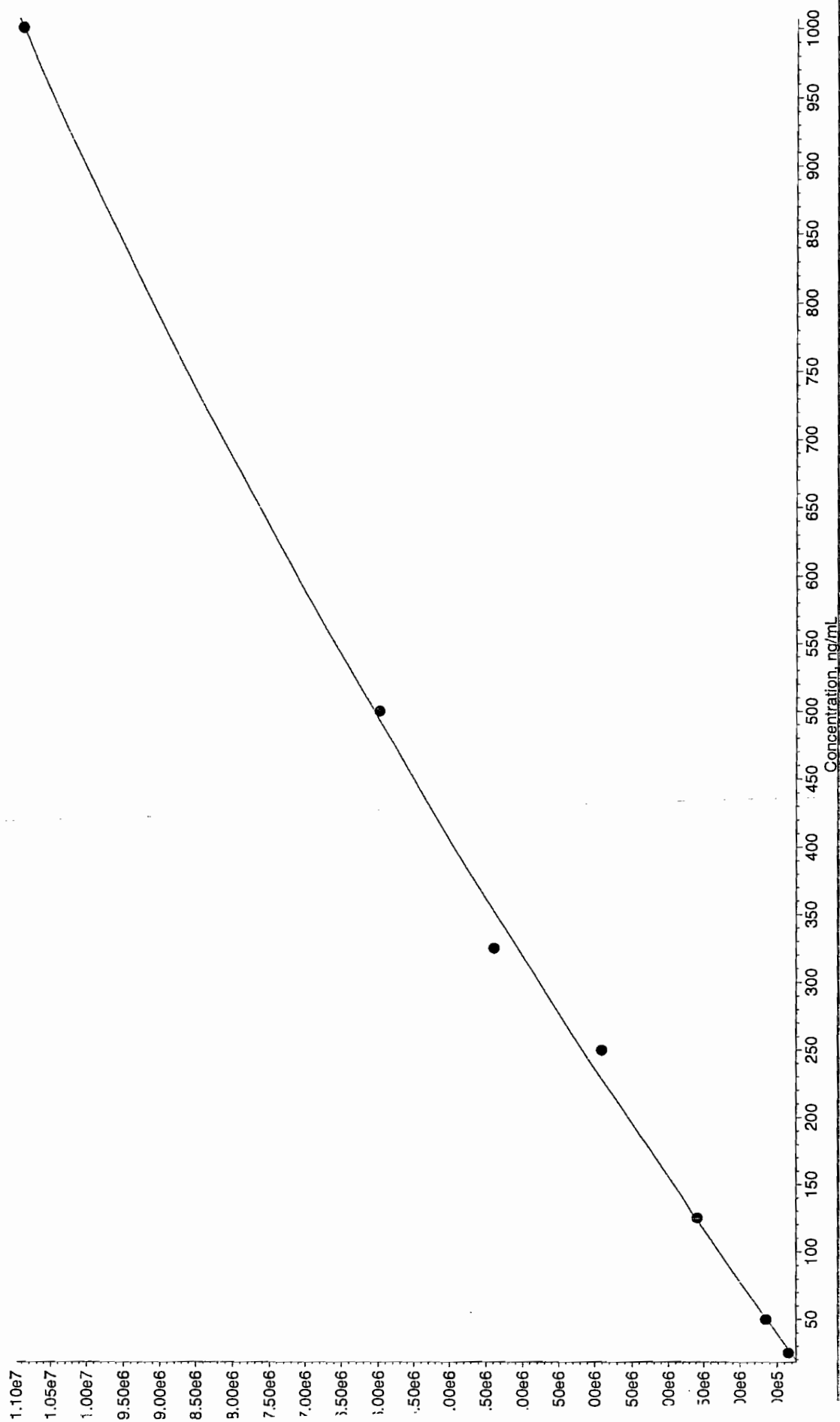
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

031610.rdb (35-Dinitroaniline): "Quadratic" Regression ("No" weighting): $y = -1.08 x^2 + 9.19e+003 x + 8.41e+004$ ($r = 1.0000$)



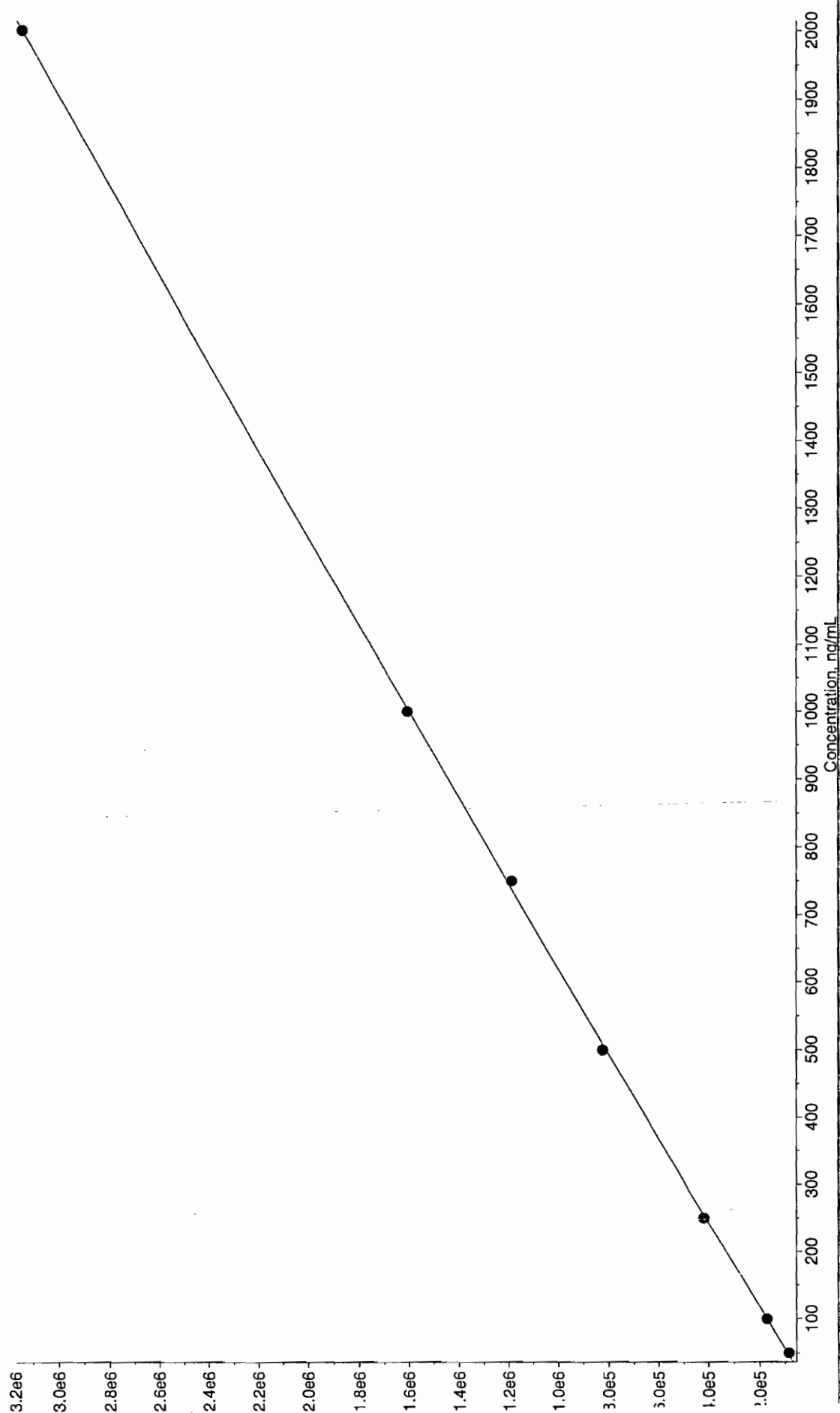
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

031610.rdb (34-Dinitrotoluene): "Quadratic" Regression ("No" weighting): $y = -2.47 x^2 + 1.34e+004 x + -1.89e+004$ ($r = 0.9989$)



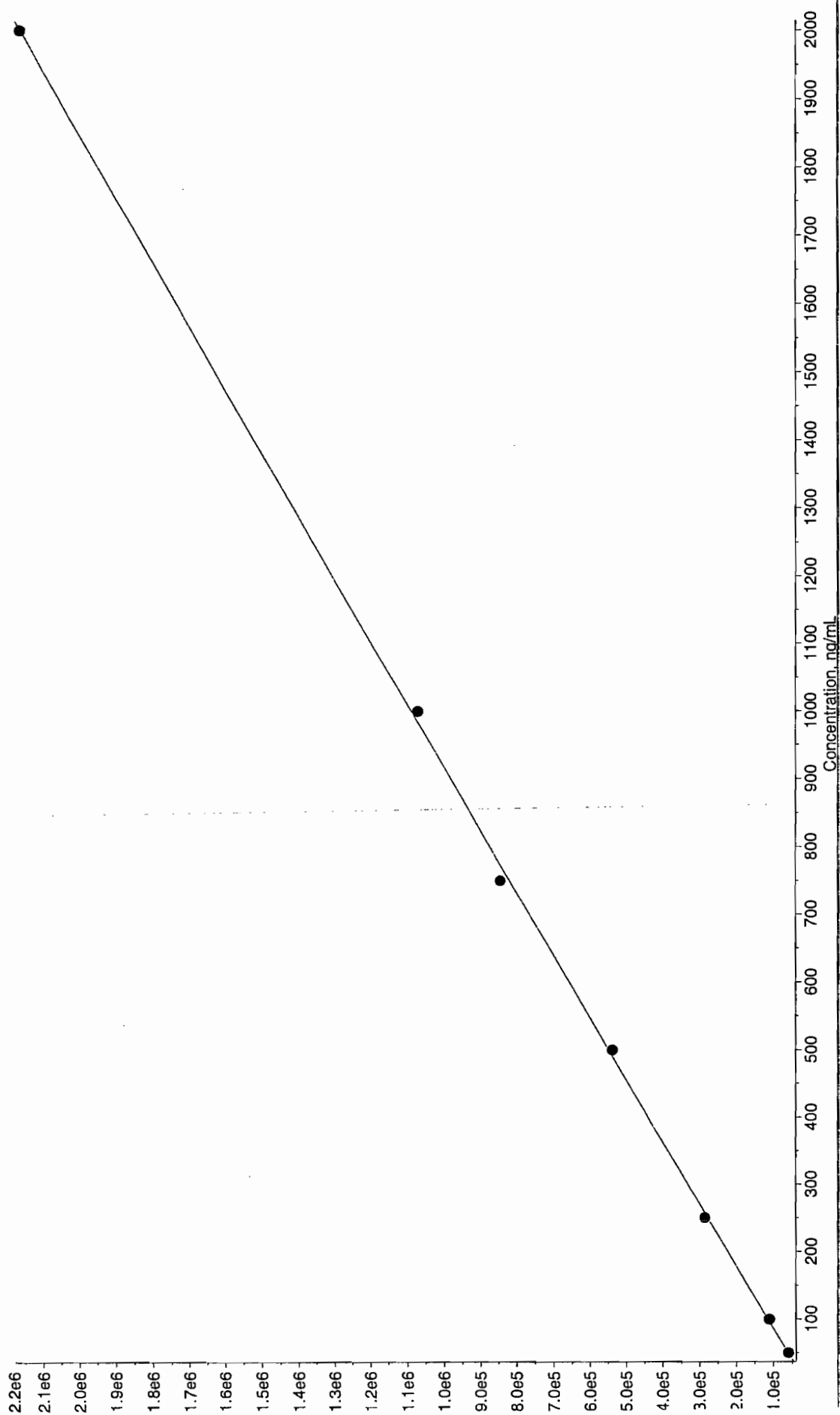
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

031610.rdb (26-Diamino-4-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.0198 x^2 + 1.6e+003 x + 1.19e+004$ ($r = 1.0000$)



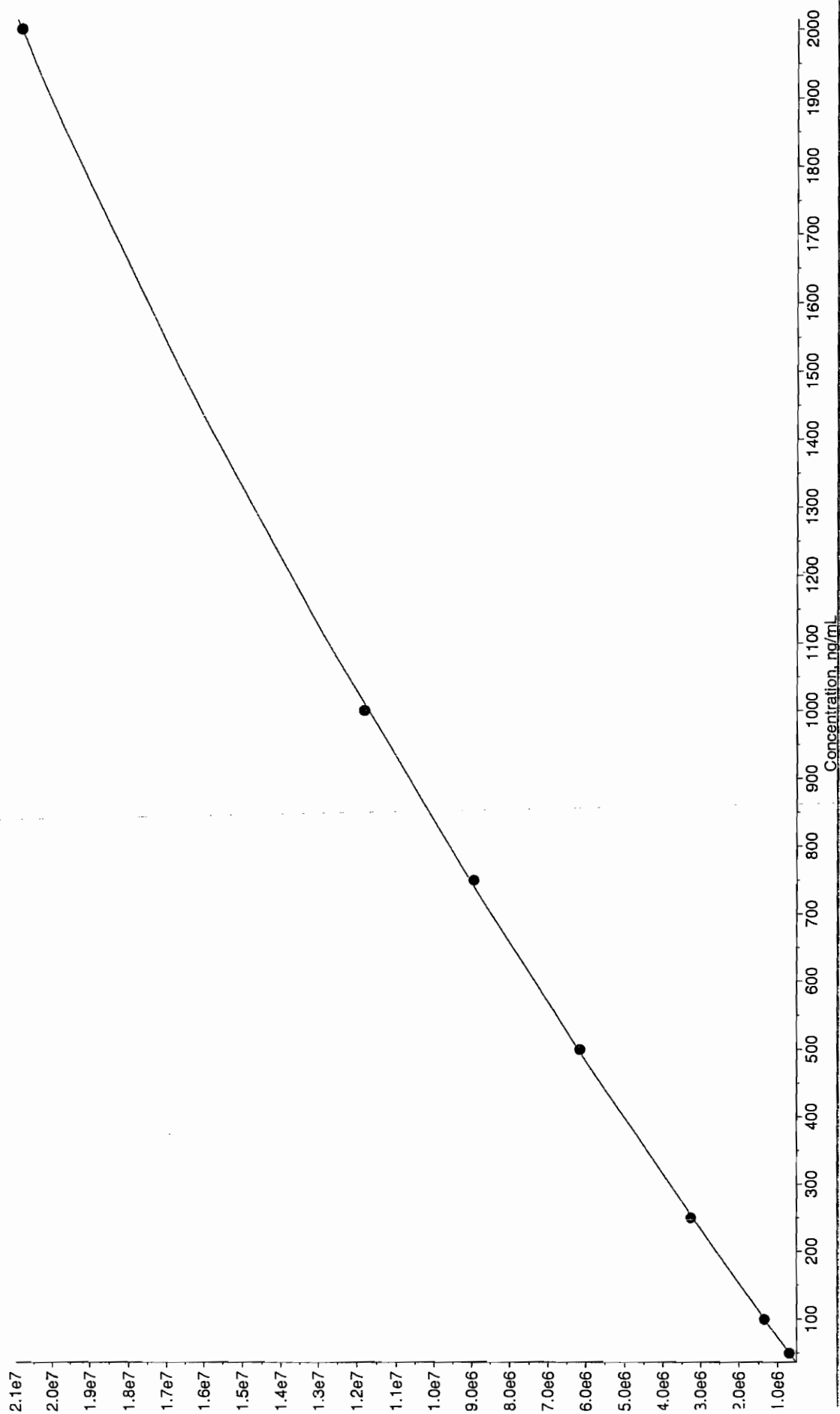
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

031610.rdb (24-Diamino-6-nitrotoluene): "Quadratic" Regression ("No" weighting): $y = -0.00433 x^2 + 1.08e+003 x + 6.78e+003$ ($r = 0.9998$)



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

031610.rdb (tris(o-cresyl) phosphate): "Quadratic" Regression ("No" weighting): $y = -1.26 x^2 + 1.29e+004 x + 6.69e+004$ ($r = 1.0000$)



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

Explosives Initial Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

Lab Code: GEL

GEL Sample ID: WXXICV

GEL Data File EXS03160011.wiff

Analysis Date: 16-MAR-10 10:54

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	487	97	
2,6-Diamino-4-nitrotoluene	500	468	94	
3,4-Dinitrotoluene	250	232	93	
3,5-Dinitroaniline	500	486	97	
TATB	500	494	99	
tris(o-cresyl) phosphate	500	490	98	

Recovery Limits:

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

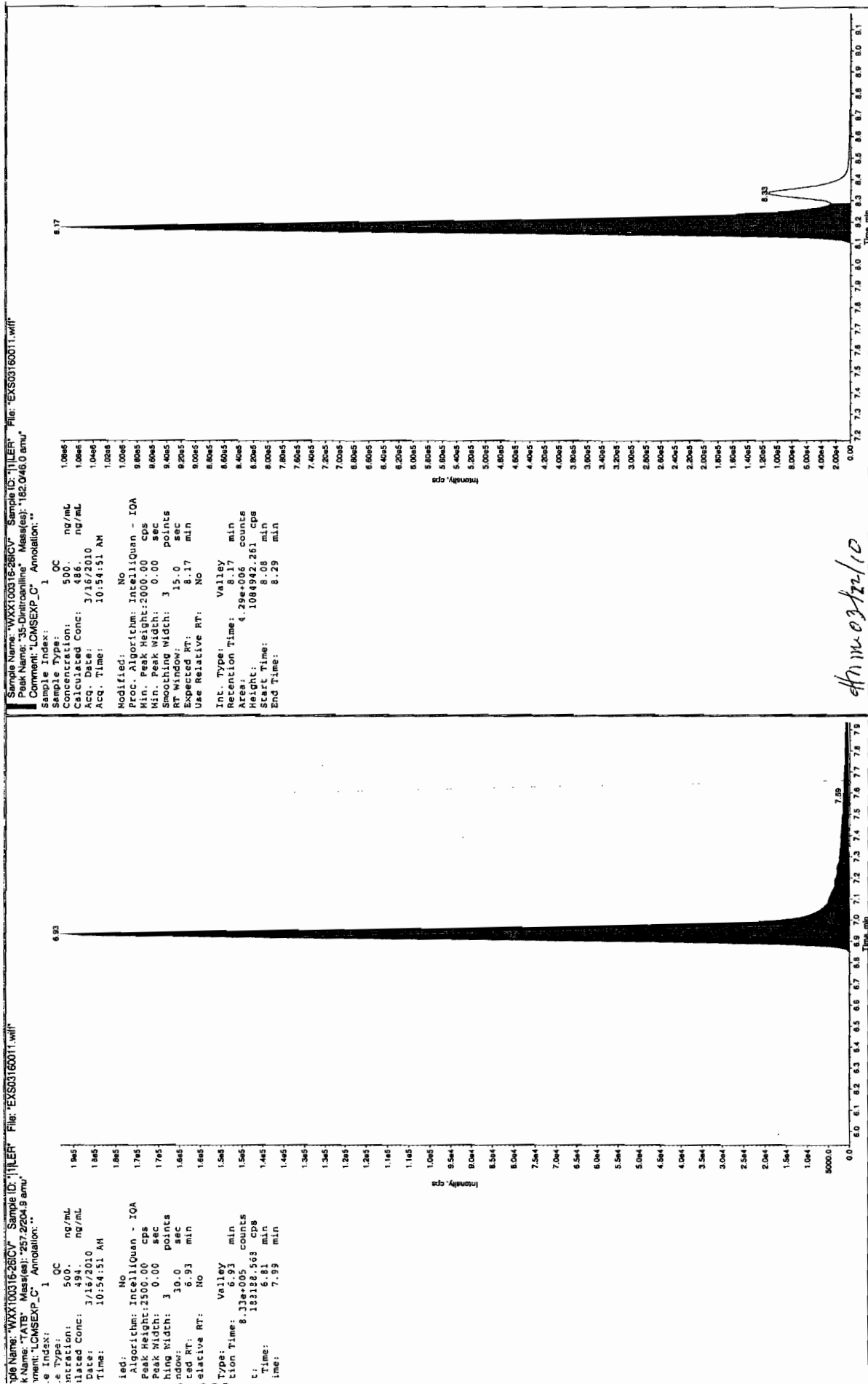
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

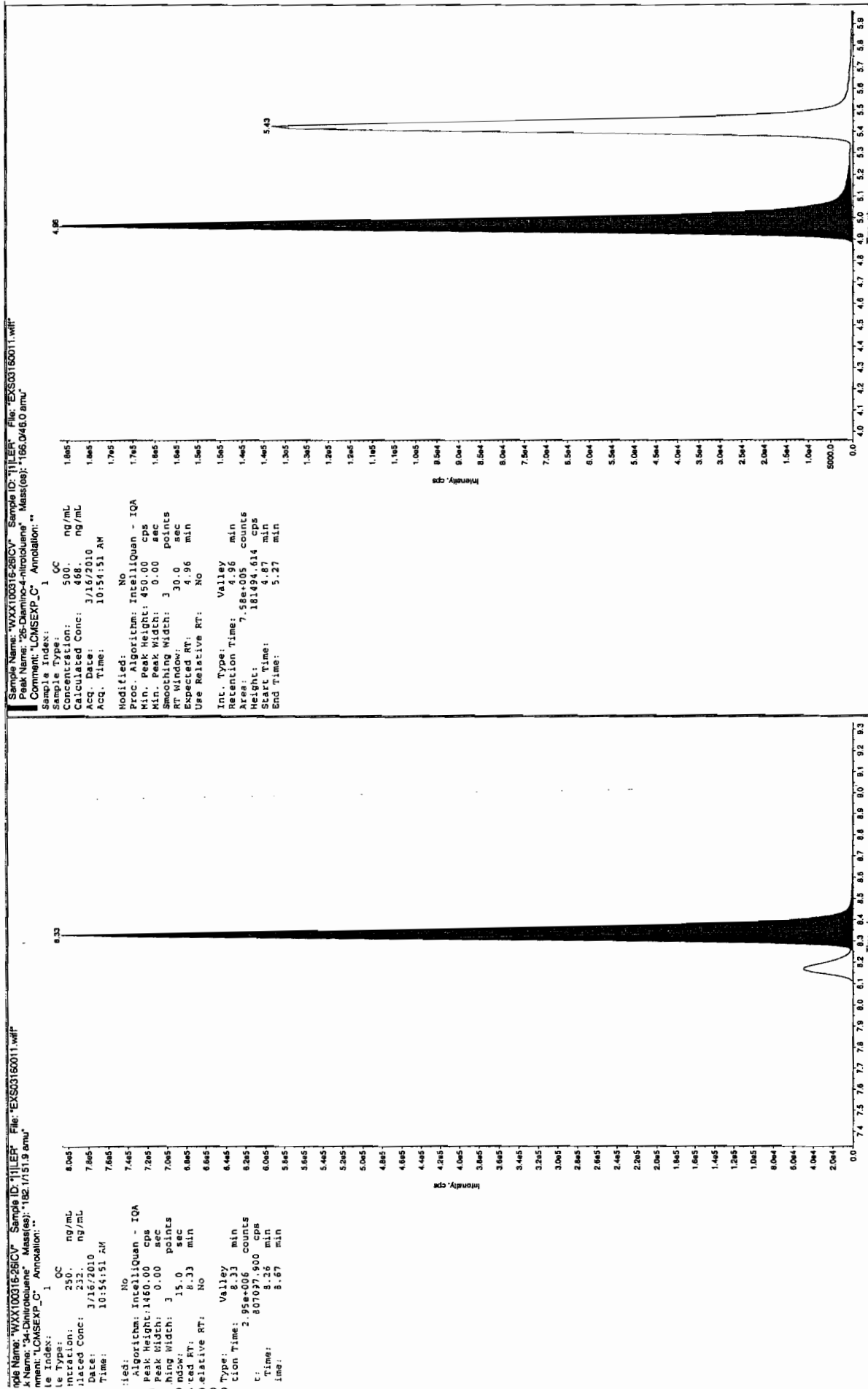
* Value outside of Recovery Limits

San 3/18/10

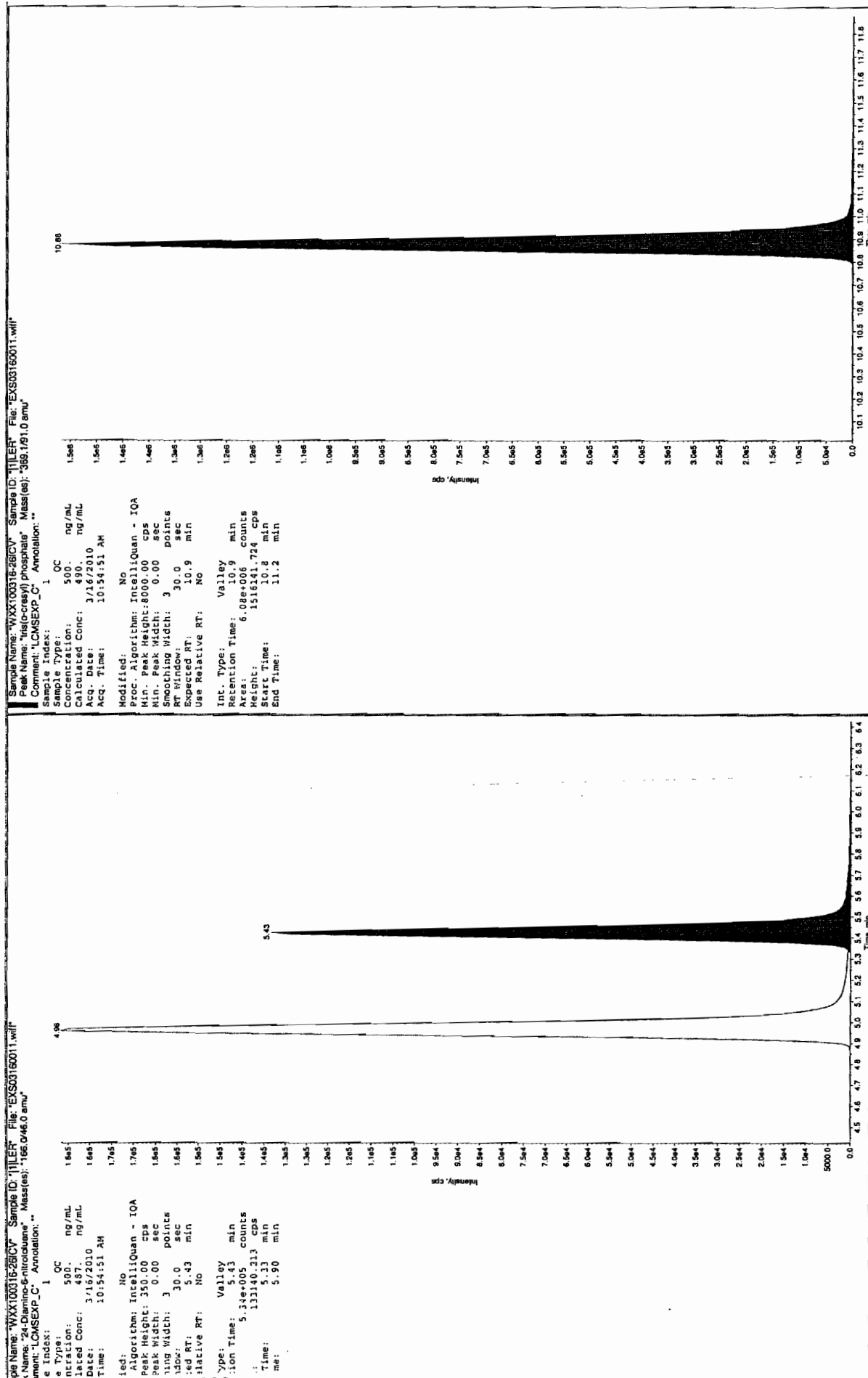


4/11/03/22/10

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



SOP GL-OA-E-056, Method 8321A-Modified LCMSEMS#4



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

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319012a

Analysis Date: 19-MAR-10 22:18

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
3,4-Dinitrotoluene	20	18.832	94	
4-Amino-2,6-dinitrotoluene	40	35.27	88	
HMX	40	36.922	92	
Nitrobenzene	40	45.522	114	
PETN	40	43.663	109	
RDX	40	40.907	102	
Tetryl	40	30.076	75	
m-Dinitrobenzene	40	38.78	97	
m-Nitrotoluene	40	44.56	111	
o-Nitrotoluene	40	42.241	106	
p-Nitrotoluene	40	39.554	99	
1,3,5-Trinitrobenzene	40	39.627	99	
1,3-Dinitrobenzene-d4	500	444.248	89	
2,4,6-Trinitrotoluene	40	37.741	94	
2,4-Dinitrotoluene	40	34.69	87	
2,6-Dinitrotoluene	40	42.395	106	
2,6-Dinitrotoluene-d3	500	471.684	94	
2-Amino-4,6-dinitrotoluene	40	32.751	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
 EL Laboratories, LLC / Analyst : Michael A. Penny

Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Sample Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0319012a

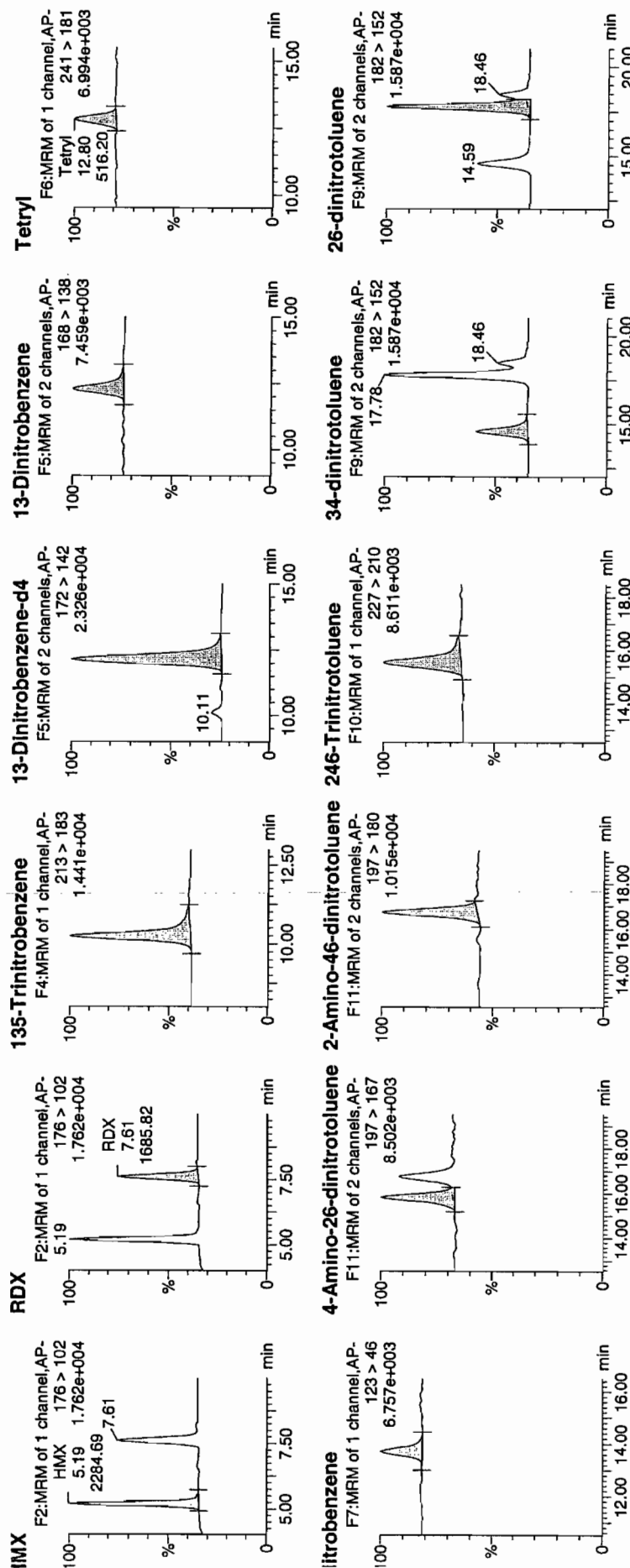
Plate: 19-Mar-2010

Time: 22:18:36

Age: 3: WXX100319-08CRI

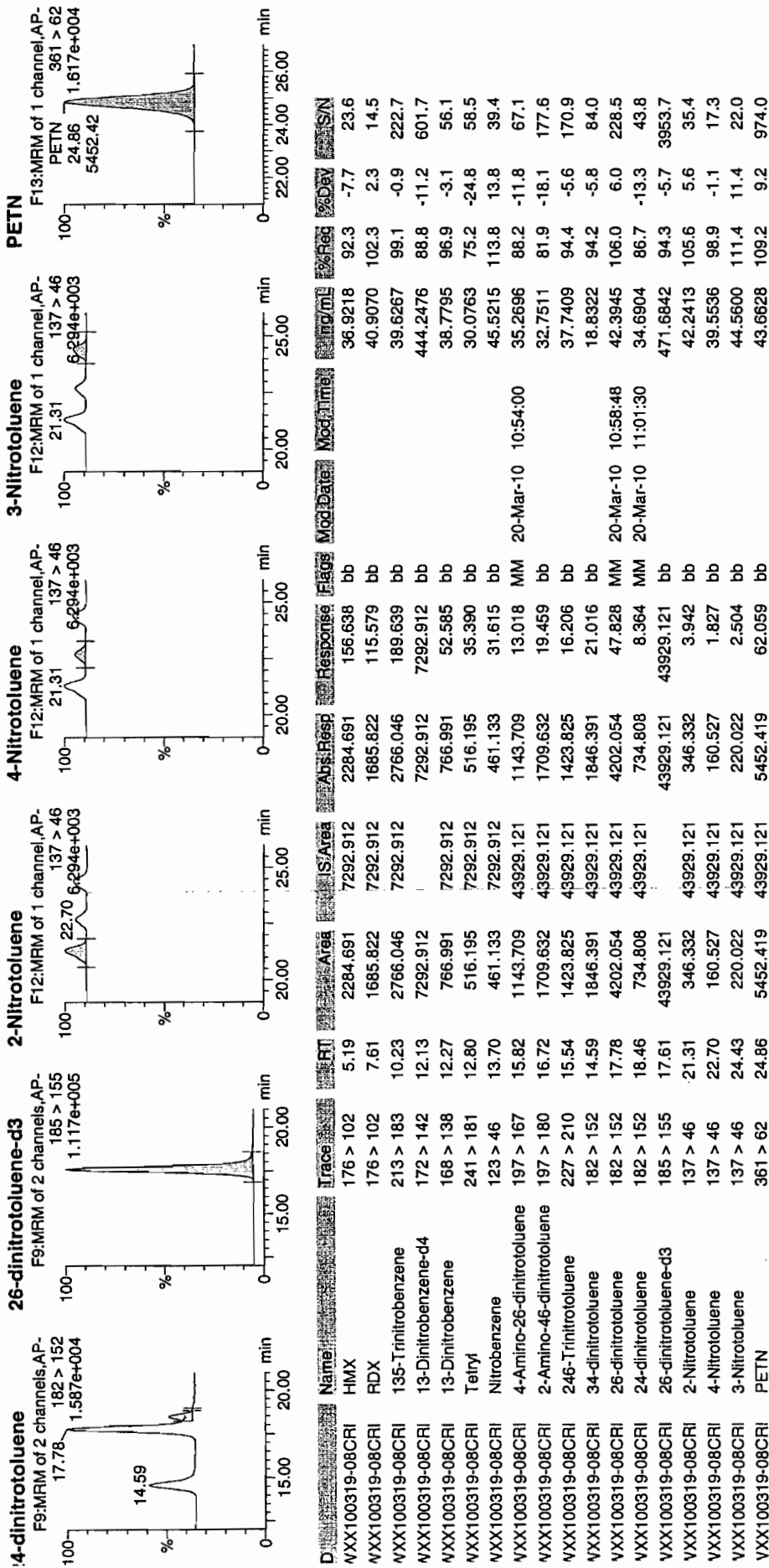
Ratio: 1:1,C

3/12/10



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Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/19/10
 Time of Injection 2218
 Standard Number WXX100319-08CRI
 Data File EXP0319012a

HMX	92.3
RDX	102.3
135-TNB	99.1
13-DNB	96.9
Tetryl	75.2
Nitrobenzene	113.8
4A-26-DNT	88.2
2A-46-DNT	81.9
246-TNT	94.4
34-DNT(surr)	94.2
26-DNT	106.0
24-DNT	86.7
2-NT	105.6
4-NT	98.9
3-NT	111.4
PETN	109.2

*not
3/22/10*

Total 1556.1

Average 97.3

HMM-03/22/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0319022a

Analysis Date: 20-MAR-10 03:13

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4-Dinitrotoluene	600	654.89	109	
2,6-Dinitrotoluene	600	625.73	104	
2,6-Dinitrotoluene-d3	500	415.339	83	
2-Amino-4,6-dinitrotoluene	600	575.512	96	
3,4-Dinitrotoluene	300	286.078	95	
4-Amino-2,6-dinitrotoluene	600	604.613	101	
HMX	600	610.321	102	
Nitrobenzene	600	619.1	103	
PETN	600	694.771	116	
RDX	600	682.896	114	
Tetryl	600	657.931	110	
m-Dinitrobenzene	600	593.531	99	
m-Nitrotoluene	600	594.961	99	
o-Nitrotoluene	600	593.465	99	
p-Nitrotoluene	600	608.706	101	
1,3,5-Trinitrobenzene	600	596.766	99	
1,3-Dinitrobenzene-d4	500	398.076	80	*
2,4,6-Trinitrotoluene	600	620.636	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

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Sample Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319022a

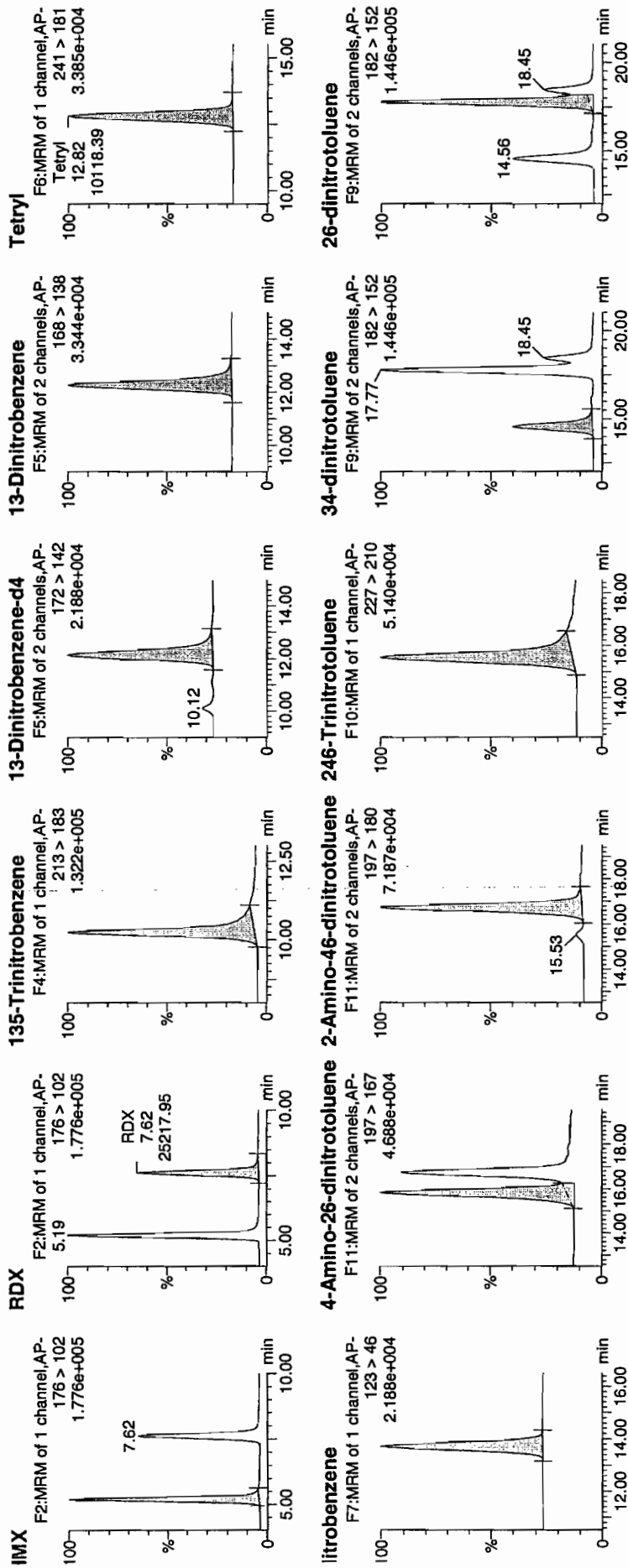
Date: 20-Mar-2010

Time: 03:13:32

File: D:\WXX\100319-07CCV

Ratio: 1:1,B

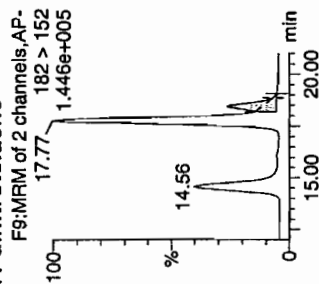
10/10
3/10/10



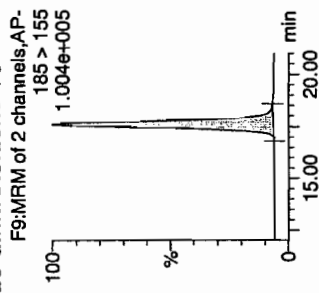
10/10
3/10/10

Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

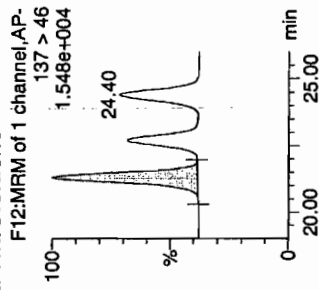
4-dinitrotoluene



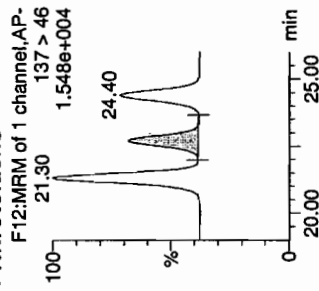
26-dinitrotoluene-d3



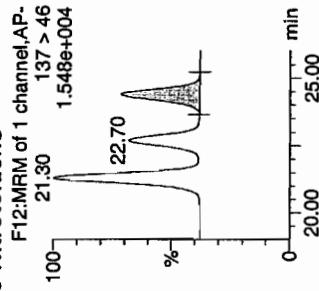
2-Nitrotoluene



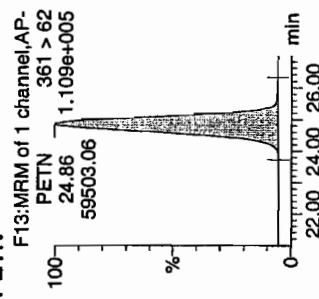
4-Nitrotoluene



3-Nitrotoluene



PETN



D	Name	Trace	RT	Area	IS Area	Abs Resp	Flags	Mod Date	Mod Time	Conc	% Rec	% Dev	S/N
NXX100319-07CCV	HMX	176 > 102	5.19	33841.027	6534.942	33841.027	2589.237	bb		610.3206	101.7	1.7	1654.0
NXX100319-07CCV	RDX	176 > 102	7.82	25217.945	6534.942	25217.945	1929.470	bb		682.8960	113.8	13.8	1054.2
NXX100319-07CCV	135-Trinitrobenzene	213 > 183	10.23	37326.414	6534.942	37326.414	2855.910	bb		596.7656	99.5	-0.5	3187.8
NXX100319-07CCV	13-Dinitrobenzene-d4	172 > 142	12.14	6534.942		6534.942	6534.942	bb		398.0759	79.6	-20.4	655.7
NXX100319-07CCV	13-Dinitrobenzene	168 > 138	12.27	10518.950	6534.942	10518.950	804.824	bb		593.5315	98.9	-1.1	655.9
NXX100319-07CCV	Tetryl	241 > 181	12.82	10118.385	6534.942	10118.385	774.176	bb		657.9314	109.7	9.7	637.9
NXX100319-07CCV	Nitrobenzene	123 > 46	13.72	5619.675	6534.942	5619.675	429.971	bb		619.1001	103.2	3.2	331.4
NXX100319-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.83	17264.109	38681.594	17264.109	223.157	MM	20-Mar-10 10:54:11	604.6127	100.8	0.8	412.1
NXX100319-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.73	26453.498	38681.594	26453.498	341.939	bb		575.5124	95.9	-4.1	1152.1
NXX100319-07CCV	246-Trinitrotoluene	227 > 210	15.55	20617.357	38681.594	20617.357	266.501	bb		620.6360	103.4	3.4	1736.0
NXX100319-07CCV	34-dinitrotoluene	182 > 152	14.56	24697.807	38681.594	24697.807	319.245	bb		286.0780	95.4	-4.6	446.6
NXX100319-07CCV	26-dinitrotoluene	182 > 152	17.77	54612.371	38681.594	54612.371	705.922	MM	20-Mar-10 10:59:11	625.7303	104.3	4.3	1189.3
NXX100319-07CCV	24-dinitrotoluene	182 > 152	18.45	12214.756	38681.594	12214.756	157.888	MM	20-Mar-10 11:01:47	654.8895	109.1	9.1	261.2
NXX100319-07CCV	26-dinitrotoluene-d3	185 > 155	17.60	38681.594		38681.594	38681.594	bb		415.3394	83.1	-16.9	1556.2
NXX100319-07CCV	2-Nitrotoluene	137 > 46	21.30	4284.523	38681.594	4284.523	55.382	bb		593.4646	98.9	-1.1	264.8
NXX100319-07CCV	4-Nitrotoluene	137 > 46	22.70	2175.311	38681.594	2175.311	28.118	bb		608.7063	101.5	1.5	128.8
NXX100319-07CCV	3-Nitrotoluene	137 > 46	24.40	2586.789	38681.594	2586.789	33.437	bb		594.9609	99.2	-0.8	144.1
NXX100319-07CCV	PETN	361 > 62	24.86	59503.059	38681.594	59503.059	769.139	bb		694.7709	115.8	15.8	15839.0

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/20/10
 Time of Injection: 0313
 Standard Number: WXX100319-07CCV
 Data File: EXP0319022a

HMX	101.7
RDX	113.8
135-TNB	99.5
13-DNB	98.9
Tetryl	109.7
Nitrobenzene	103.2
4A-26-DNT	100.8
2A-46-DNT	95.9
246-TNT	103.4
34-DNT(surr)	95.4
26-DNT	104.3
24-DNT	109.1
2-NT	98.9
4-NT	101.5
3-NT	99.2
PETN	115.8

Handwritten: 1477
3/20/10

Total 1651.1

Average 103.2

Handwritten: 4111-0319022/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319024a

Analysis Date: 20-MAR-10 04:12

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	41.981	105	
1,3-Dinitrobenzene-d4	500	414.198	83	
2,4,6-Trinitrotoluene	40	37.34	93	
2,4-Dinitrotoluene	40	40.233	101	
2,6-Dinitrotoluene	40	40.727	102	
2,6-Dinitrotoluene-d3	500	442.71	89	
2-Amino-4,6-dinitrotoluene	40	36.537	91	
3,4-Dinitrotoluene	20	19.003	95	
4-Amino-2,6-dinitrotoluene	40	42.896	107	
HMX	40	46.851	117	
Nitrobenzene	40	44.233	111	
PETN	40	47.421	119	
RDX	40	42.067	105	
Tetryl	40	31.143	78	
m-Dinitrobenzene	40	37.549	94	
m-Nitrotoluene	40	38.238	96	
o-Nitrotoluene	40	36.515	91	
p-Nitrotoluene	40	40.115	100	

Recovery Limits:

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

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

Name: C:\MASSLYNX\NEW_EXP_PRO\Data\EXP0319024a

Date: 20-Mar-2010

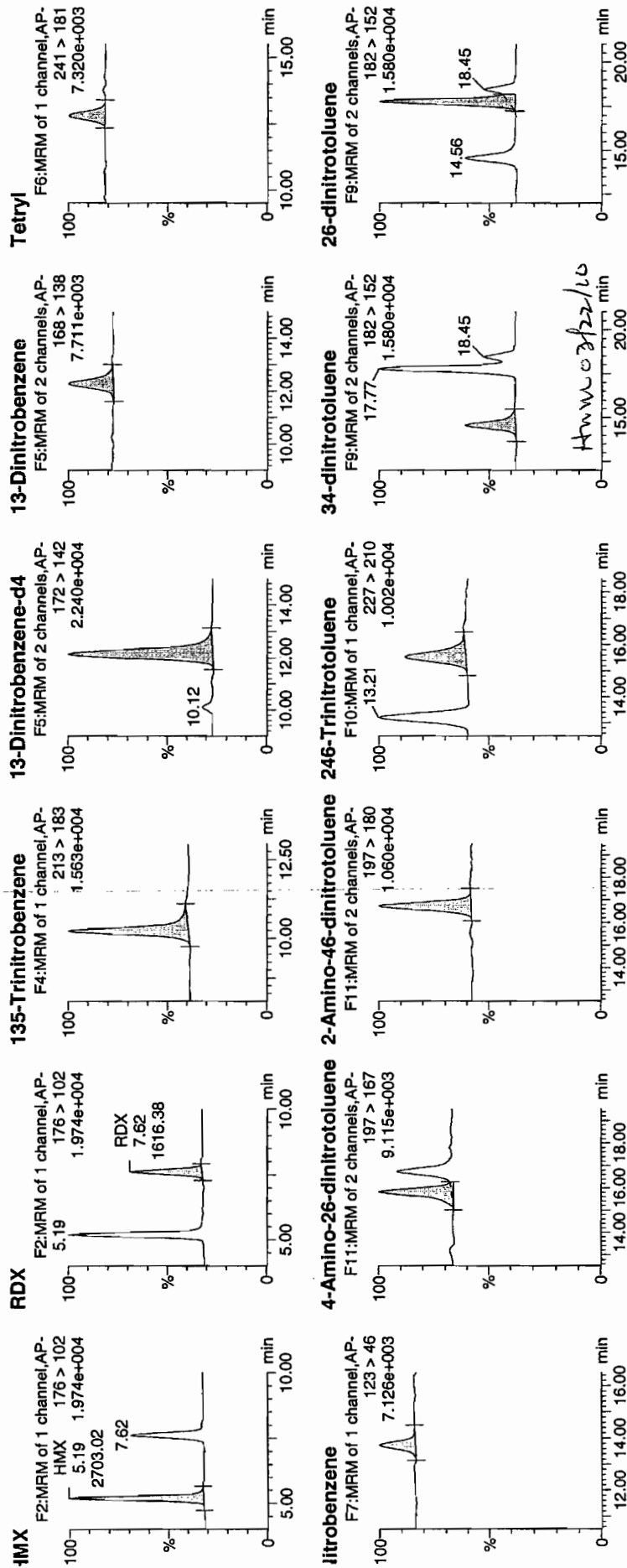
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D: WXX100319-08CRI

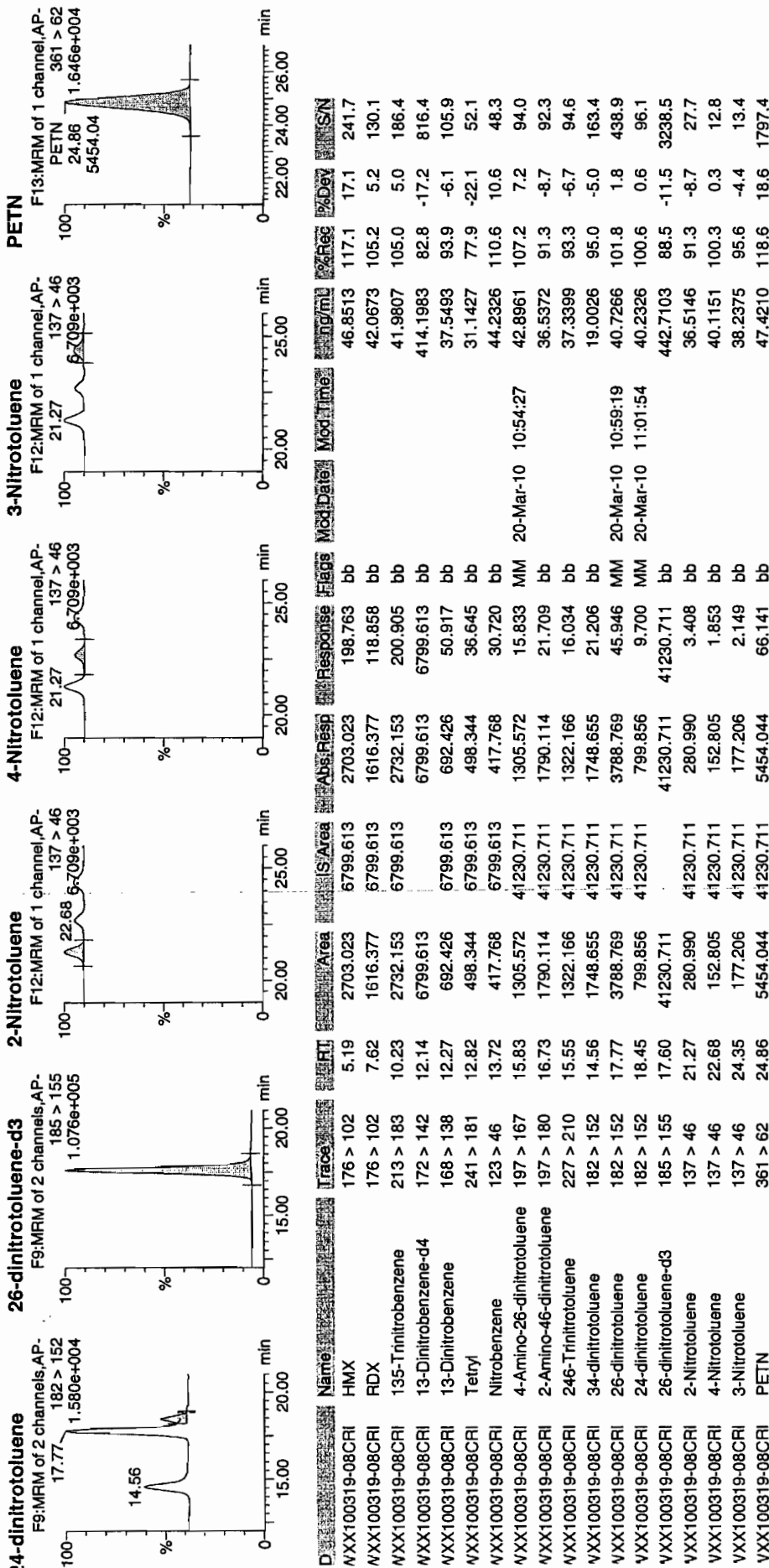
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3/20/10

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/20/10
 Time of Injection 0412
 Standard Number WXX100319-08CRI
 Data File EXP0319024a

HMX	117.1
RDX	105.2
135-TNB	105.0
13-DNB	93.9
Tetryl	77.9
Nitrobenzene	110.6
4A-26-DNT	107.2
2A-46-DNT	91.3
246-TNT	93.3
34-DNT(surr)	95.0
26-DNT	101.8
24-DNT	100.6
2-NT	91.3
4-NT	100.3
3-NT	95.6
PETN	118.6

*MTT
3/20/10*

Total 1604.7

Average 100.3

HMM-0319024a

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0319034a

Analysis Date: 20-MAR-10 09:07

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Tetryl	600	691.27	115	
m-Dinitrobenzene	600	610.491	102	
m-Nitrotoluene	600	559.832	93	
o-Nitrotoluene	600	544.36	91	
p-Nitrotoluene	600	587.044	98	
1,3,5-Trinitrobenzene	600	607.809	101	
1,3-Dinitrobenzene-d4	500	418.159	84	
2,4,6-Trinitrotoluene	600	641.716	107	
2,4-Dinitrotoluene	600	667.541	111	
2,6-Dinitrotoluene	600	609.314	102	
2,6-Dinitrotoluene-d3	500	459.614	92	
2-Amino-4,6-dinitrotoluene	600	588.691	98	
3,4-Dinitrotoluene	300	295.867	99	
4-Amino-2,6-dinitrotoluene	600	614.541	102	
HMX	600	638.024	106	
Nitrobenzene	600	635.42	106	
PETN	600	689.169	115	
RDX	600	742.292	124	*

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

3EL Laboratories, LLC / Analyst : Michael A. Penny

Printed: Sat Mar 20 11:06:08 2010, Page 67 of 73

Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010

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Date: 20-Mar-2010

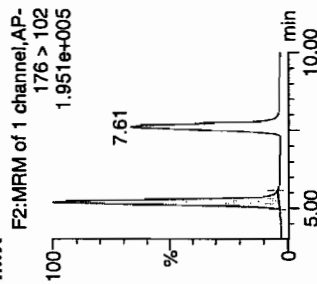
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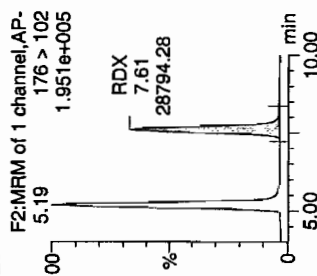
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WXX
3/20/10

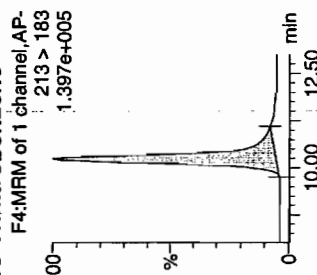
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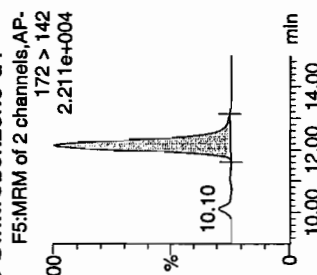
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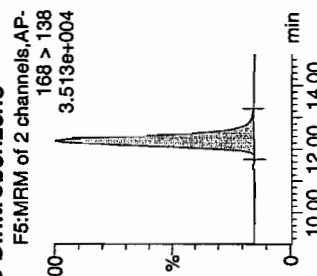
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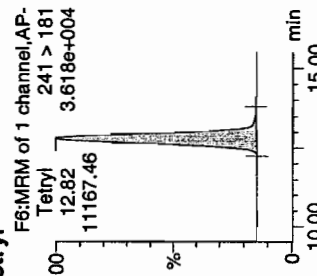
13-Dinitrobenzene-d4



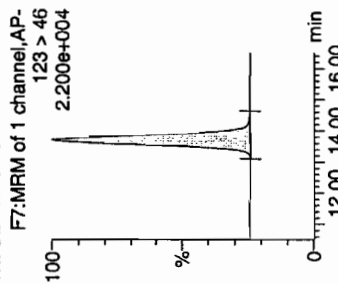
13-Dinitrobenzene



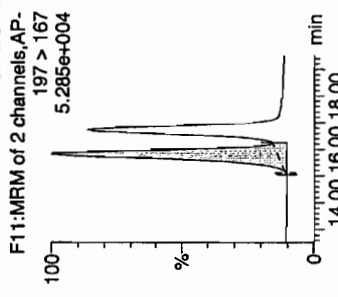
Tetryl



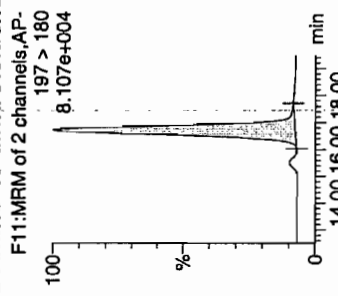
litrobenzene



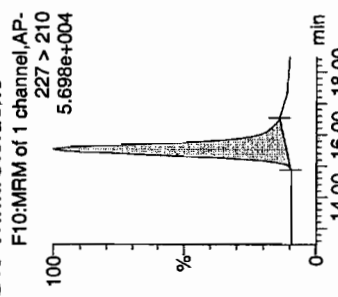
4-Amino-26-dinitrotoluene



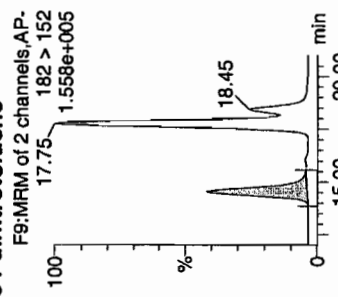
2-Amino-46-dinitrotoluene



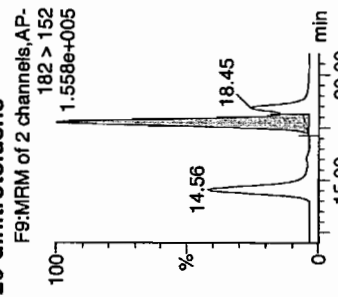
246-Trinitrotoluene



34-dinitrotoluene



26-dinitrotoluene



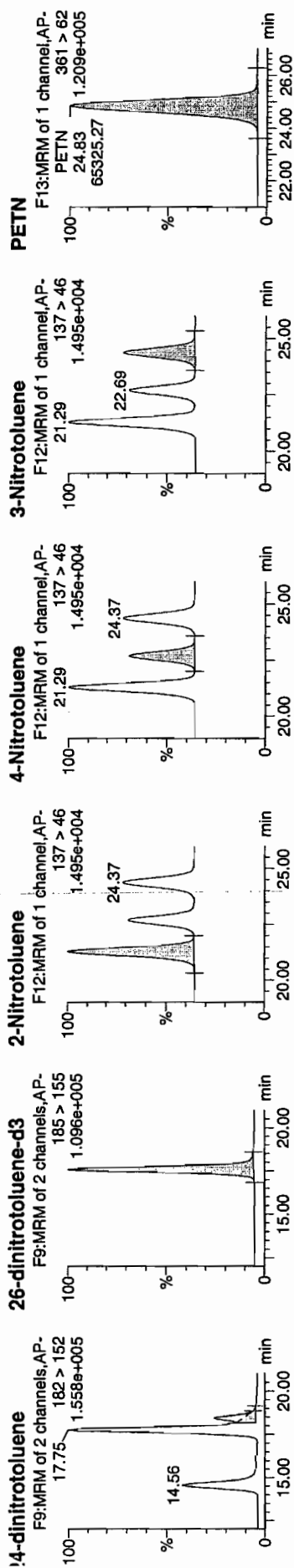
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Quantify Sample Report

3EL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Sat Mar 20 11:06:08 2010, Page 68 of 73

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



D	Name	Trace	RT	Area	IS Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc (ng/mL)	% Rec	% Dev	SN
VXX100319-07CCV	HMX	176 > 102	5.19	37161.945	6864.640	37161.945	2706.766	bb			638.0238	106.3	6.3	2648.6
VXX100319-07CCV	RDX	176 > 102	7.61	28794.277	6864.640	28794.277	2097.290	bb			742.2924	123.7	23.7	1752.5
VXX100319-07CCV	135-Trinitrobenzene	213 > 183	10.23	39935.156	6864.640	39935.156	2908.758	bb			607.8086	101.3	1.3	3147.4
VXX100319-07CCV	13-Dinitrobenzene-d4	172 > 142	12.14	6864.640	6864.640	6864.640	6864.640	bb			418.1594	83.6	-16.4	652.6
VXX100319-07CCV	13-Dinitrobenzene	168 > 138	12.24	11365.383	6864.640	11365.383	827.821	bb			610.4912	101.7	1.7	309.2
VXX100319-07CCV	Tetryl	241 > 181	12.82	11167.464	6864.640	11167.464	813.405	bb			691.2703	115.2	15.2	1004.3
VXX100319-07CCV	Nitrobenzene	123 > 46	13.72	6058.806	6864.640	6058.806	441.305	bb			635.4197	105.9	5.9	368.4
VXX100319-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.80	19418.162	42805.016	19418.162	226.821	MM	20-Mar-10	10:55:20	614.5410	102.4	2.4	712.0
VXX100319-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.70	29943.756	42805.016	29943.756	349.769	bb			588.6912	98.1	-1.9	1691.1
VXX100319-07CCV	246-Trinitrotoluene	227 > 210	15.55	23590.053	42805.016	23590.053	275.552	bb			641.7156	107.0	7.0	2040.2
VXX100319-07CCV	34-dinitrotoluene	182 > 152	14.56	28265.732	42805.016	28265.732	330.168	bb			295.8667	98.6	-1.4	689.6
VXX100319-07CCV	26-dinitrotoluene	182 > 152	17.75	58848.512	42805.016	58848.512	687.402	MM	20-Mar-10	10:59:59	609.3142	101.6	1.6	1743.9
VXX100319-07CCV	24-dinitrotoluene	182 > 152	18.45	13777.957	42805.016	13777.957	160.939	MM	20-Mar-10	11:02:53	667.5407	111.3	11.3	390.5
VXX100319-07CCV	26-dinitrotoluene-d3	185 > 155	17.57	42805.016	42805.016	42805.016	42805.016	bb			459.6142	91.9	-8.1	2566.3
VXX100319-07CCV	2-Nitrotoluene	137 > 46	21.29	4348.948	42805.016	4348.948	50.800	bb			544.3600	90.7	-9.3	781.9
VXX100319-07CCV	4-Nitrotoluene	137 > 46	22.69	2321.533	42805.016	2321.533	27.118	bb			587.0444	97.8	-2.2	401.5
VXX100319-07CCV	3-Nitrotoluene	137 > 46	24.37	2693.521	42805.016	2693.521	31.463	bb			559.8317	93.3	-6.7	437.0
VXX100319-07CCV	PETN	361 > 62	24.83	65325.270	42805.016	65325.270	763.056	bb			689.1695	114.9	14.9	19799.0

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/20/10
 Time of Injection: 0907
 Standard Number: WXX100319-07CCV
 Data File: EXP0319034a

HMX	106.3
RDX	123.7
135-TNB	101.3
13-DNB	101.7
Tetryl	115.2
Nitrobenzene	105.9
4A-26-DNT	102.4
2A-46-DNT	98.1
246-TNT	107.0
34-DNT(surr)	98.6
26-DNT	101.6
24-DNT	111.3
2-NT	90.7
4-NT	97.8
3-NT	93.3
PETN	114.9

Handwritten: 104.4
3/20/10

Total 1669.8

Average 104.4

Handwritten: 4/11/10 12:22:10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319036a

Analysis Date: 20-MAR-10 10:06

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	41.932	105	
1,3-Dinitrobenzene-d4	500	429.507	86	
2,4,6-Trinitrotoluene	40	38.317	96	
2,4-Dinitrotoluene	40	38.152	95	
2,6-Dinitrotoluene	40	39.018	98	
2,6-Dinitrotoluene-d3	500	464.792	93	
2-Amino-4,6-dinitrotoluene	40	39.247	98	
3,4-Dinitrotoluene	20	20.507	103	
4-Amino-2,6-dinitrotoluene	40	35.784	89	
HMX	40	46.606	117	
Nitrobenzene	40	41.291	103	
PETN	40	52.159	130	*
RDX	40	46.272	116	
Tetryl	40	28.725	72	
m-Dinitrobenzene	40	40.068	100	
m-Nitrotoluene	40	40.078	100	
o-Nitrotoluene	40	42.592	106	
p-Nitrotoluene	40	40.139	100	

Recovery Limits:

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

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

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Date: 20-Mar-2010

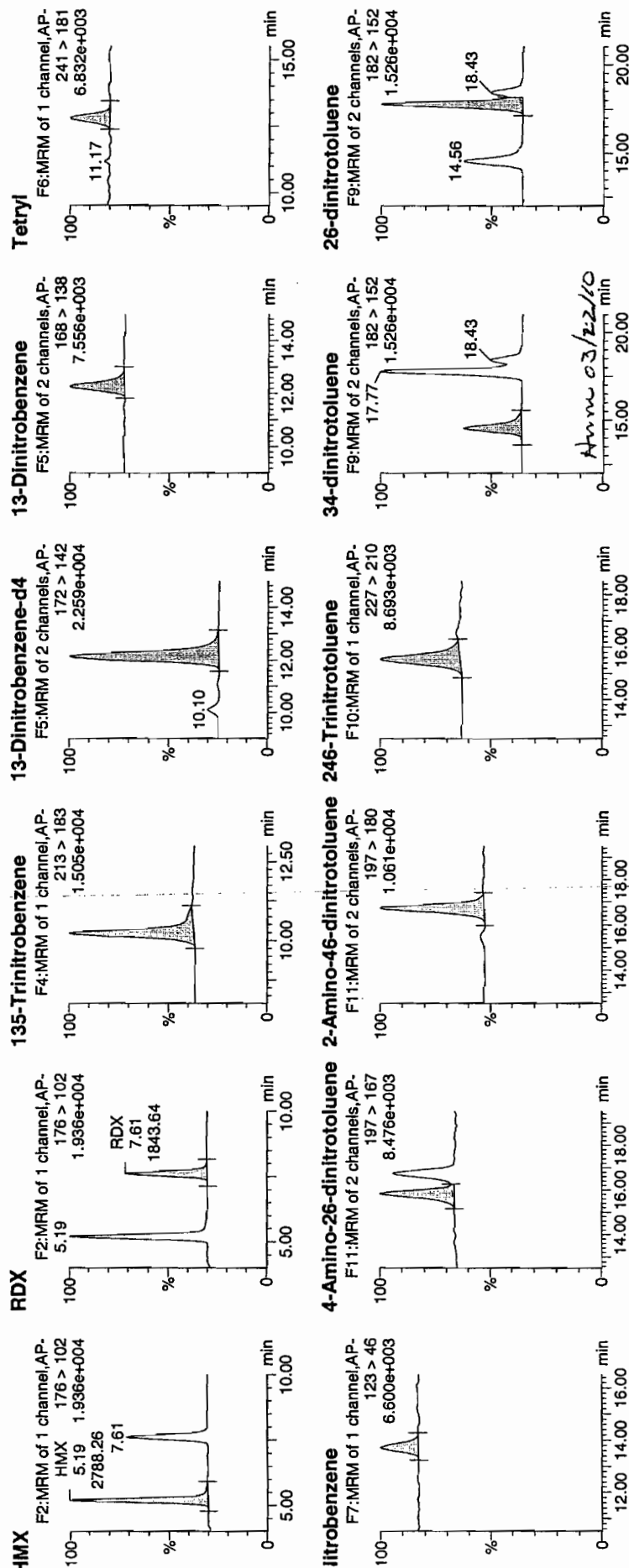
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ID: WXX100319-08CRI

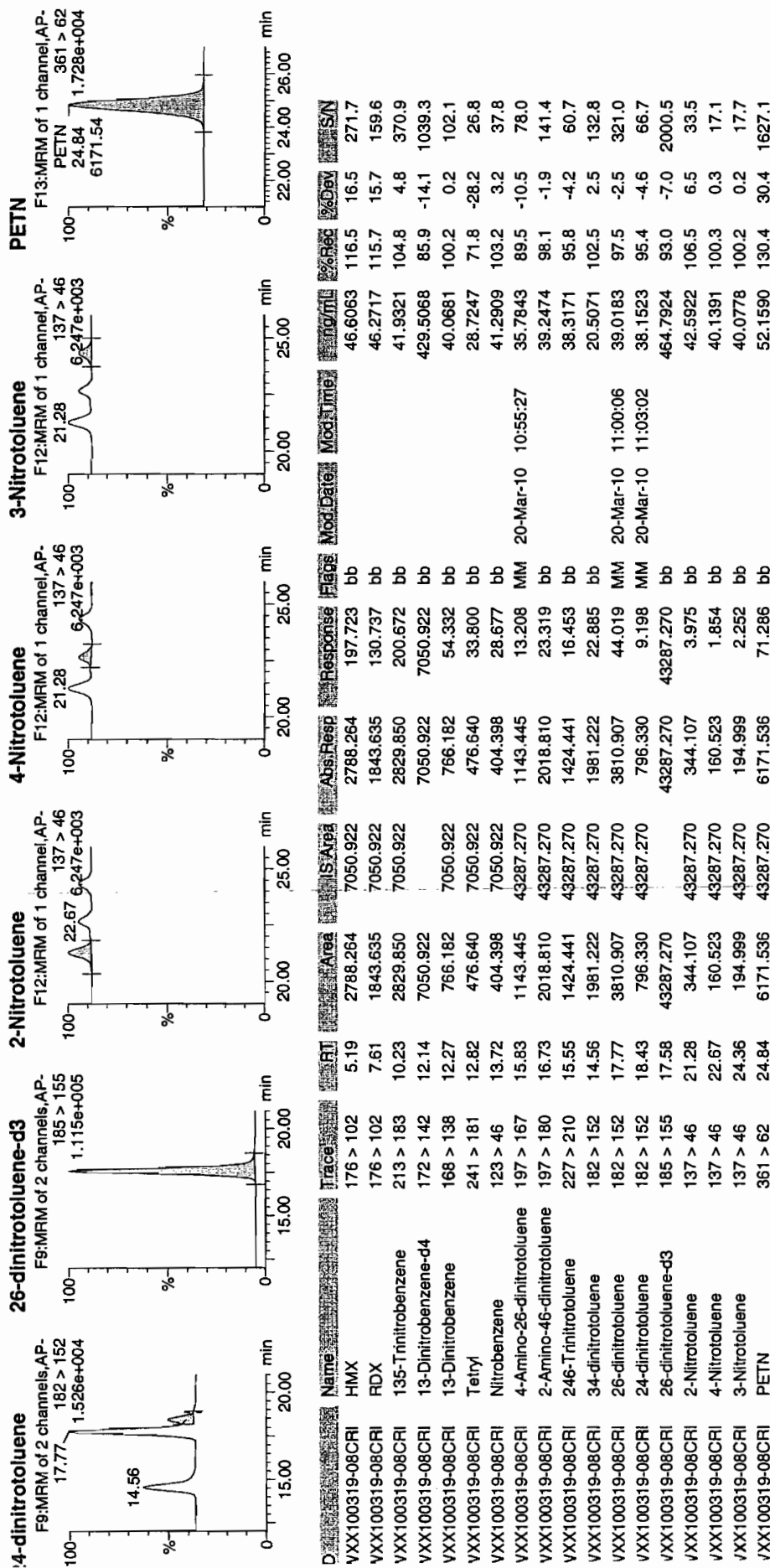
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3/12/10

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA.qld, Time: Sat Mar 20 11:05:24 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/20/10
 Time of Injection 1006
 Standard Number WXX100319-08CRI
 Data File EXP0319036a

HMX	116.5
RDX	115.7
135-TNB	104.8
13-DNB	100.2
Tetryl	71.8
Nitrobenzene	103.2
4A-26-DNT	89.5
2A-46-DNT	98.1
246-TNT	95.8
34-DNT(surr)	102.5
26-DNT	97.5
24-DNT	95.4
2-NT	106.5
4-NT	100.3
3-NT	100.2
PETN	130.4

*sum
3/22/10*

Total 1628.4

Average 101.8

sum 03/22/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0319047a

Analysis Date: 20-MAR-10 15:30

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3-Dinitrobenzene-d4	500	425.661	85	
2,4,6-Trinitrotoluene	600	624.11	104	
2,4-Dinitrotoluene	600	649.388	108	
2,6-Dinitrotoluene	600	623.466	104	
2,6-Dinitrotoluene-d3	500	445.978	89	
2-Amino-4,6-dinitrotoluene	600	556.254	93	
3,4-Dinitrotoluene	300	283.304	94	
4-Amino-2,6-dinitrotoluene	600	599.338	100	
HMX	600	631.041	105	
Nitrobenzene	600	590.064	98	
PETN	600	651.449	109	
RDX	600	671.226	112	
Tetryl	600	612.056	102	
m-Dinitrobenzene	600	588.611	98	
m-Nitrotoluene	600	569.905	95	
o-Nitrotoluene	600	542.331	90	
p-Nitrotoluene	600	595.86	99	
1,3,5-Trinitrobenzene	600	569.715	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

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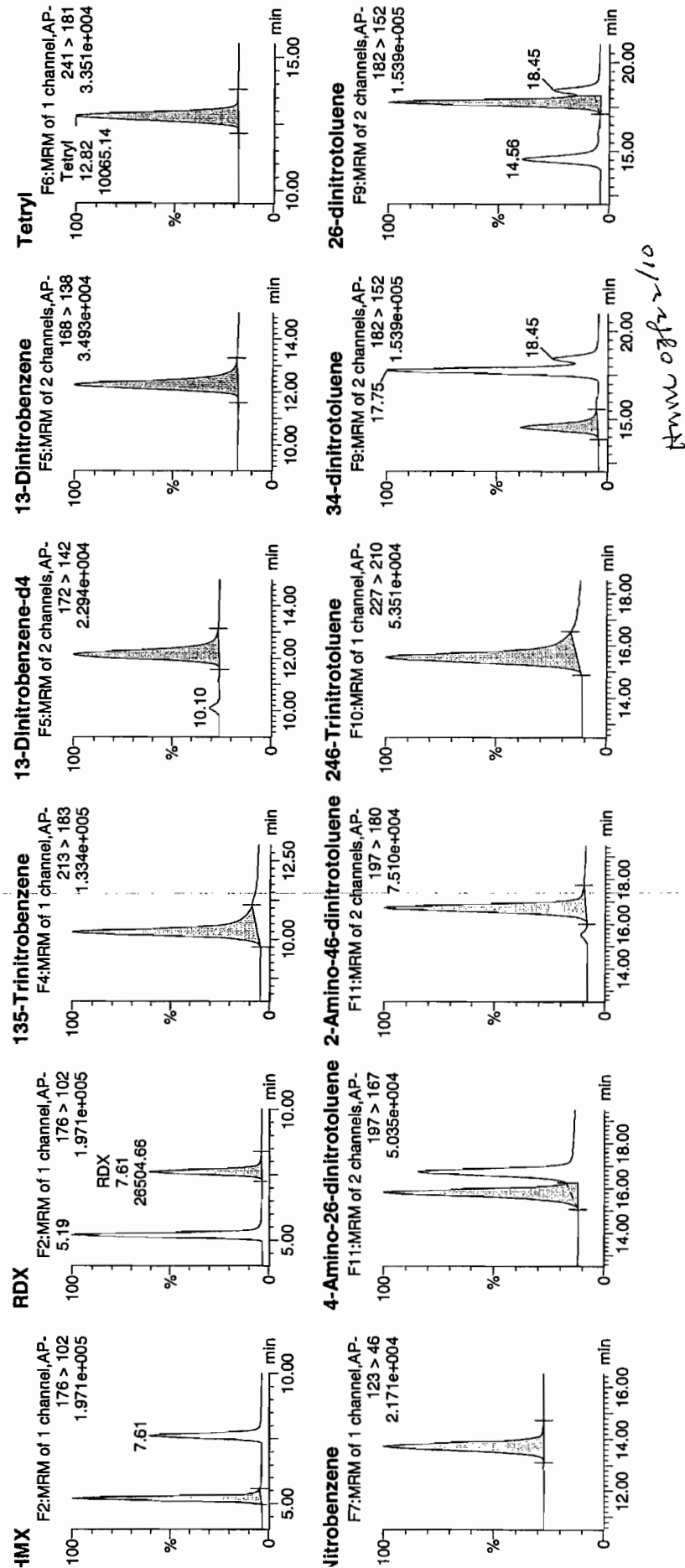
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D: WXX100319-07CCV

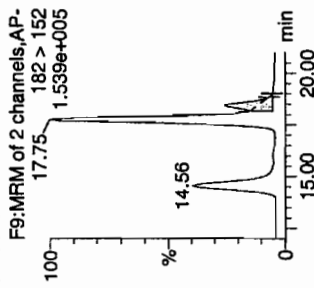
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WAT
3/21/10

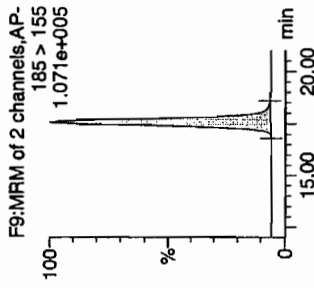


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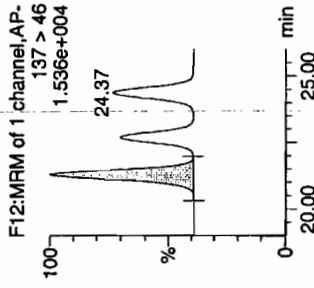
24-dinitrotoluene



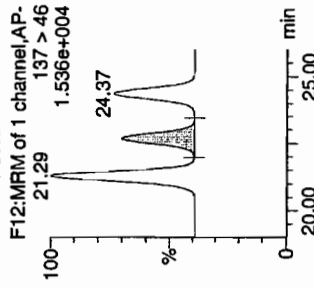
26-dinitrotoluene-d3



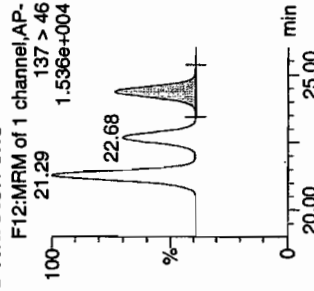
2-Nitrotoluene



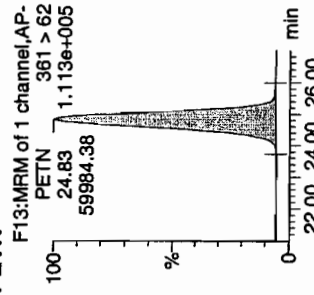
4-Nitrotoluene



3-Nitrotoluene



PETN



ID	Name	Trace	RT	Area	Abs Resp	Response	Flags	Mod Date	Mod Time	Conc	% Rec	% Dev	SN
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WXX100319-07CCV	RDX	176 > 102	7.61	26504.664	6987.790	1896.498	bb			671.2265	111.9	11.9	1202.8
WXX100319-07CCV	135-Trinitrobenzene	213 > 183	10.23	38103.828	6987.790	2726.458	bb			569.7155	95.0	-5.0	3968.3
WXX100319-07CCV	13-Dinitrobenzene-d4	172 > 142	12.14	6987.790	6987.790	6987.790	bb			425.6611	85.1	-14.9	523.0
WXX100319-07CCV	13-Dinitrobenzene	168 > 138	12.27	11154.627	6987.790	798.151	bb			588.6109	98.1	-1.9	660.0
WXX100319-07CCV	Tetryl	241 > 181	12.82	10065.140	6987.790	720.195	bb			612.0559	102.0	2.0	1013.8
WXX100319-07CCV	Nitrobenzene	123 > 46	13.72	5727.269	6987.790	409.805	bb			590.0640	98.3	-1.7	543.0
WXX100319-07CCV	4-Amino-26-dinitrotoluene	197 > 167	15.80	18375.930	41535.063	221.210	MM	21-Mar-10	12:11:21	599.3381	99.9	-0.1	434.9
WXX100319-07CCV	2-Amino-46-dinitrotoluene	197 > 180	16.70	27454.424	41535.063	27454.424	bb			556.2544	92.7	-7.3	1343.2
WXX100319-07CCV	246-Trinitrotoluene	227 > 210	15.55	22262.184	41535.063	267.993	bb			624.1101	104.0	4.0	565.7
WXX100319-07CCV	34-dinitrotoluene	182 > 152	14.56	26262.578	41535.063	316.149	bb			283.3041	94.4	-5.6	637.8
WXX100319-07CCV	26-dinitrotoluene	182 > 152	17.75	58428.797	41535.063	703.367	MM	21-Mar-10	12:13:47	623.4657	103.9	3.9	1742.0
WXX100319-07CCV	24-dinitrotoluene	182 > 152	18.45	13005.634	41535.063	156.562	MM	21-Mar-10	12:19:52	649.3880	108.2	8.2	367.2
WXX100319-07CCV	26-dinitrotoluene-d3	185 > 155	17.59	41535.063	41535.063	41535.063	bb			445.9783	89.2	-10.8	3461.8
WXX100319-07CCV	2-Nitrotoluene	137 > 46	21.29	4204.195	41535.063	50.610	bb			542.3313	90.4	-9.6	373.9
WXX100319-07CCV	4-Nitrotoluene	137 > 46	22.68	2286.484	41535.063	27.525	bb			595.8598	99.3	-0.7	191.2
WXX100319-07CCV	3-Nitrotoluene	137 > 46	24.37	2660.637	41535.063	32.029	bb			569.9050	95.0	-5.0	210.4
WXX100319-07CCV	PETN	361 > 62	24.83	59984.383	41535.063	722.093	bb			651.4491	108.6	8.6	3707.5

GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/20/10
 Time of Injection: 1530
 Standard Number: WXX100319-07CCV
 Data File: EXP0319047a

HMX	105.2
RDX	111.9
135-TNB	95.0
13-DNB	98.1
Tetryl	102.0
Nitrobenzene	98.3
4A-26-DNT	99.9
2A-46-DNT	92.7
246-TNT	104.0
34-DNT(surr)	94.4
26-DNT	103.9
24-DNT	108.2
2-NT	90.4
4-NT	99.3
3-NT	95.0
PETN	108.6

WTT
3/21/10

Total 1606.9

Average 100.4

H/MK 03/22/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319049a

Analysis Date: 20-MAR-10 16:30

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
Nitrobenzene	40	42.362	106	
PETN	40	46.335	116	
RDX	40	48.91	122	
Tetryl	40	25.298	63	*
m-Dinitrobenzene	40	41.003	103	
m-Nitrotoluene	40	36.41	91	
o-Nitrotoluene	40	36.545	91	
p-Nitrotoluene	40	46.73	117	
1,3,5-Trinitrobenzene	40	42.36	106	
1,3-Dinitrobenzene-d4	500	425.894	85	
2,4,6-Trinitrotoluene	40	44.23	111	
2,4-Dinitrotoluene	40	50.779	127	
2,6-Dinitrotoluene	40	41.353	103	
2,6-Dinitrotoluene-d3	500	471.28	94	
2-Amino-4,6-dinitrotoluene	40	31.885	80	
3,4-Dinitrotoluene	20	20.064	100	
4-Amino-2,6-dinitrotoluene	40	44.304	111	
HMX	40	50.353	126	

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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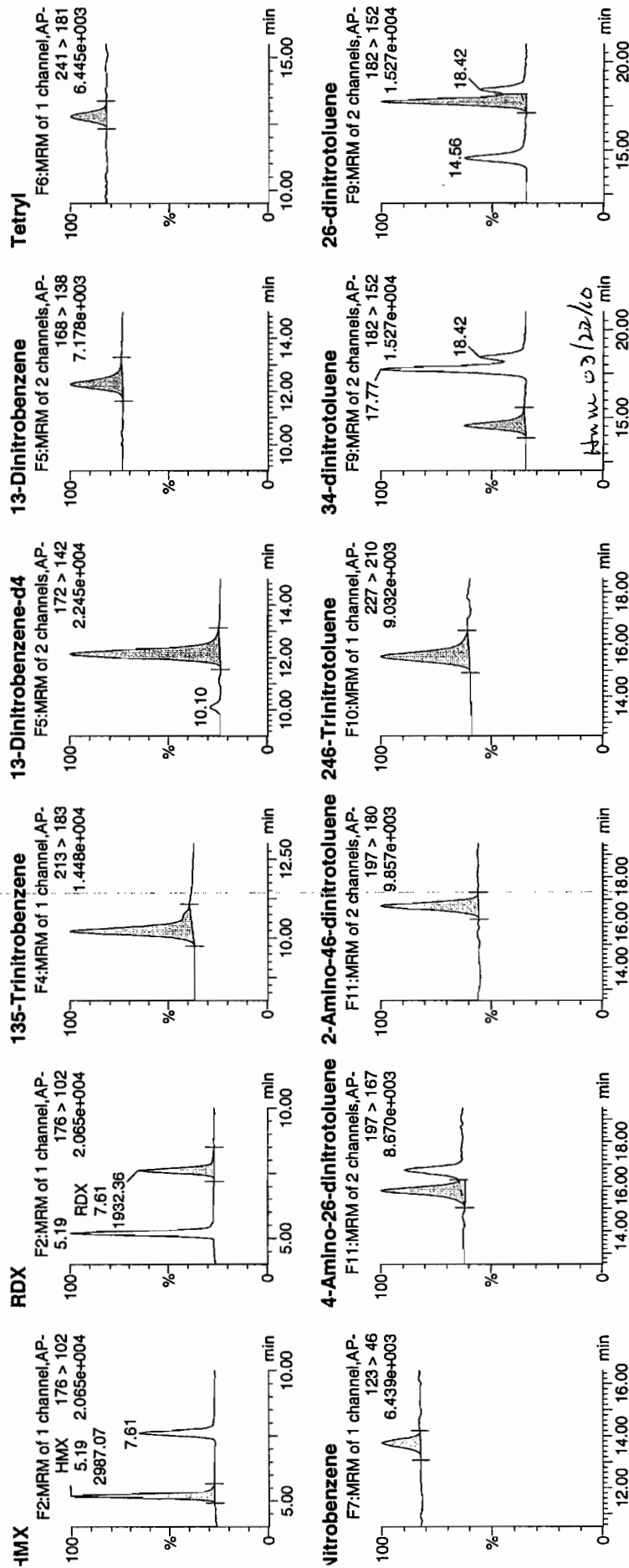
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Time: 16:30:07

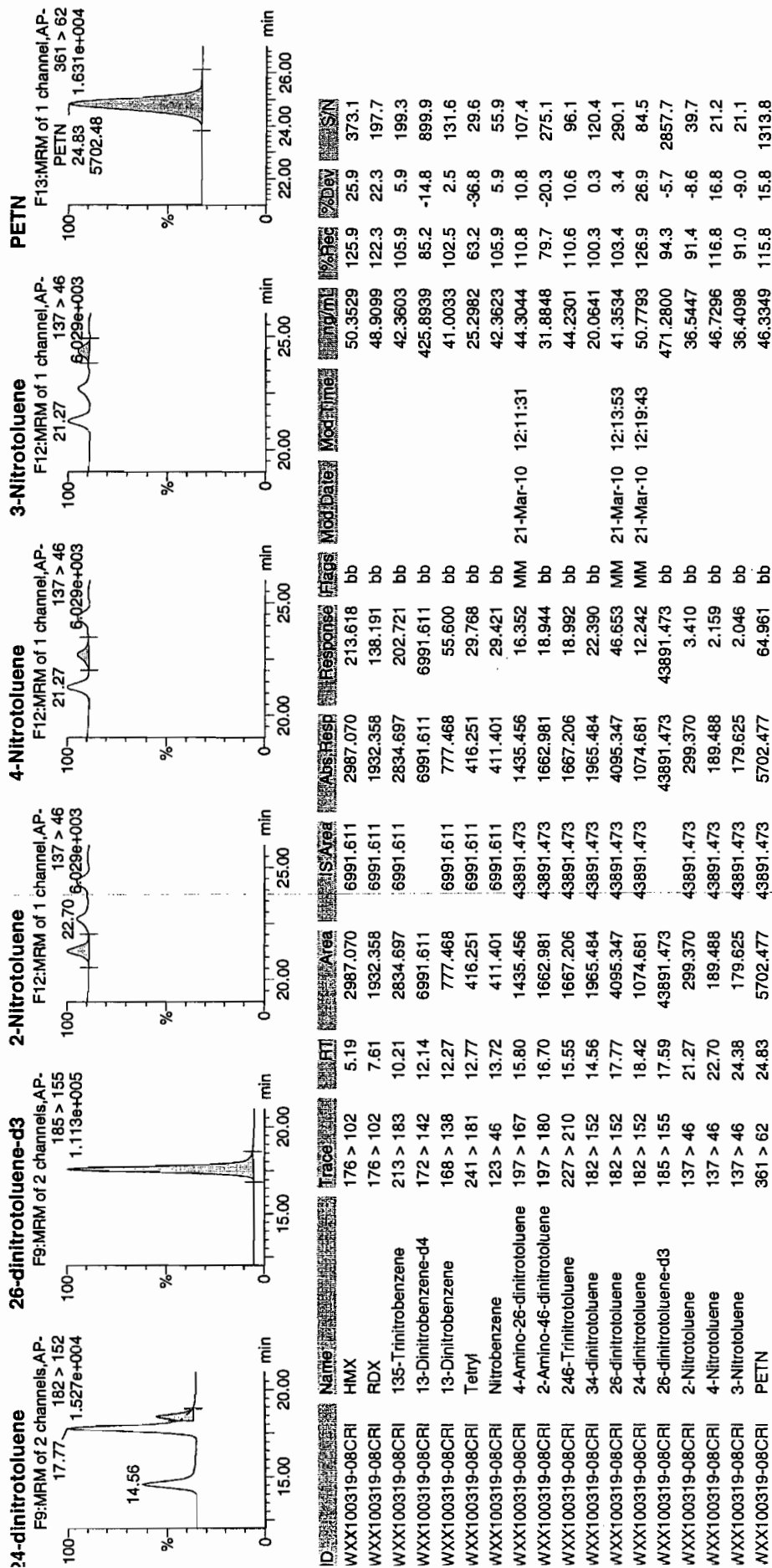
Page D: WXX100319-08CRI

File: 1:1,C

10/10
3/22/10



Dataset: C:\MASSLYNX\New_Exp_PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/20/10
 Time of Injection 1630
 Standard Number WXX100319-08CRI
 Data File EXP0319049a

HMX	125.9
RDX	122.3
135-TNB	105.9
13-DNB	102.5
Tetryl	63.2
Nitrobenzene	105.9
4A-26-DNT	110.8
2A-46-DNT	79.7
246-TNT	110.6
34-DNT(surr)	100.3
26-DNT	103.4
24-DNT	126.9
2-NT	91.4
4-NT	116.8
3-NT	91.0
PETN	115.8

*1477
3/21/10*

Total 1672.4

HW 03/22/10

Average 104.5

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0319059a

Analysis Date: 20-MAR-10 21:24

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
PETN	600	712.406	119	
RDX	600	712.175	119	
Tetryl	600	662.828	110	
m-Dinitrobenzene	600	609.817	102	
m-Nitrotoluene	600	582.842	97	
o-Nitrotoluene	600	678.142	113	
p-Nitrotoluene	600	608.825	101	
1,3,5-Trinitrobenzene	600	604.918	101	
1,3-Dinitrobenzene-d4	500	391.283	78	*
2,4,6-Trinitrotoluene	600	602.348	100	
2,4-Dinitrotoluene	600	703.344	117	
2,6-Dinitrotoluene	600	626.187	104	
2,6-Dinitrotoluene-d3	500	419.09	84	
2-Amino-4,6-dinitrotoluene	600	583.672	97	
3,4-Dinitrotoluene	300	286.477	95	
4-Amino-2,6-dinitrotoluene	600	584.489	97	
HMX	600	641.492	107	
Nitrobenzene	600	598.49	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

Printed: Sun Mar 21 12:22:16 2010, Page 45 of 103

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

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Date: 20-Mar-2010

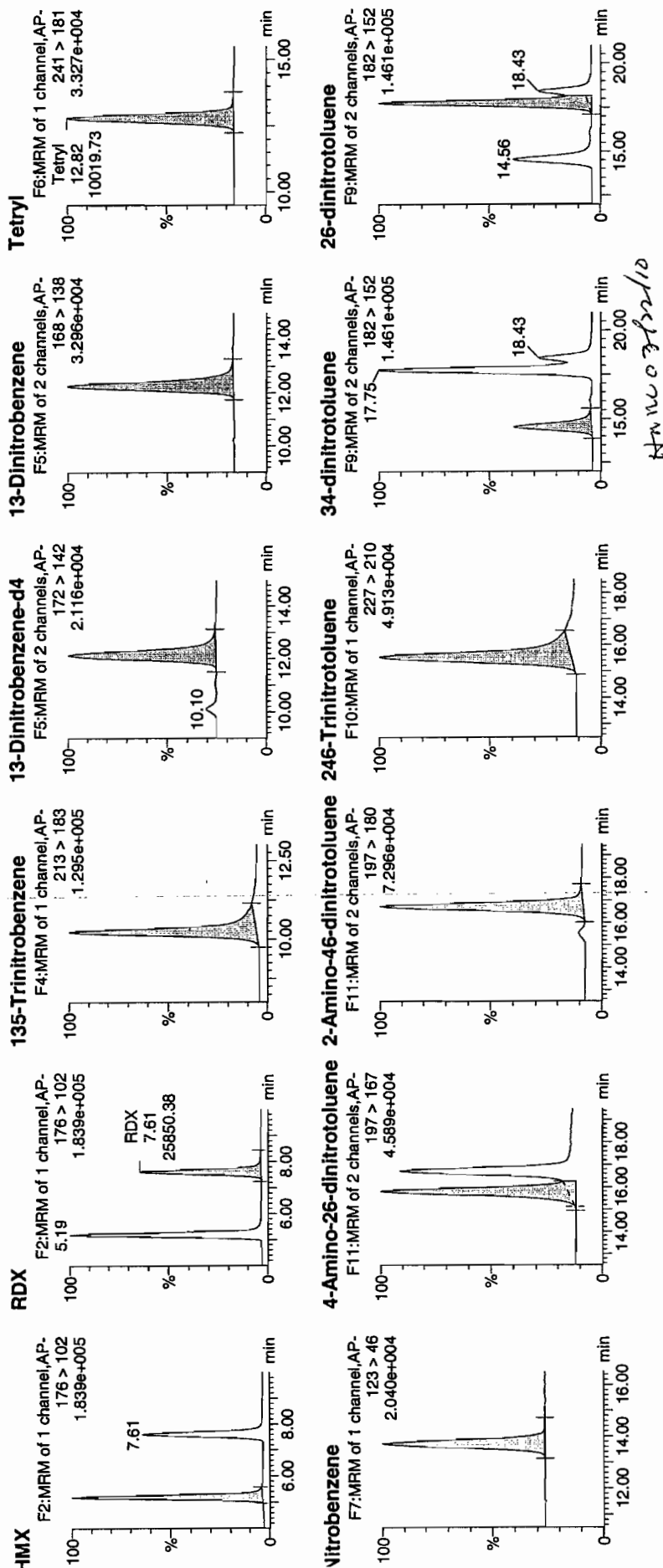
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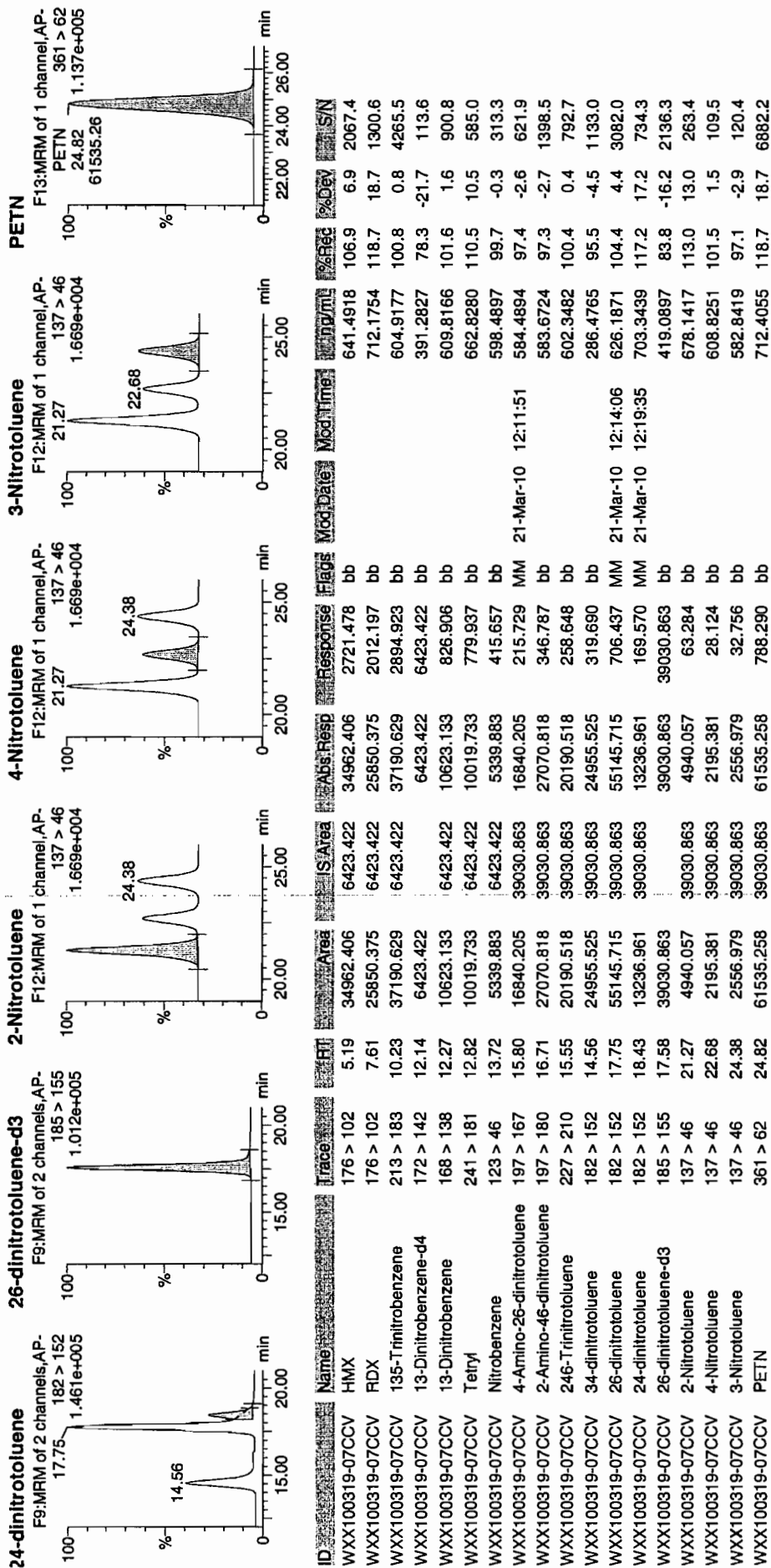
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10/11/10
1/12/10

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Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/20/10
 Time of Injection: 2124
 Standard Number: WXX100319-07CCV
 Data File: EXP0319059a

HMX	106.9
RDX	118.7
135-TNB	100.8
13-DNB	101.6
Tetryl	110.5
Nitrobenzene	99.7
4A-26-DNT	97.4
2A-46-DNT	97.3
246-TNT	100.4
34-DNT(surr)	95.5
26-DNT	104.4
24-DNT	117.2
2-NT	113.0
4-NT	101.5
3-NT	97.1
PETN	118.7

*MIT
3/21/10*

Total 1680.7

Home 03/22/10

Average 105.0

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319061a

Analysis Date: 20-MAR-10 22:24

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	40	39.755	99	
1,3-Dinitrobenzene-d4	500	433.946	87	
2,4,6-Trinitrotoluene	40	36.564	91	
2,4-Dinitrotoluene	40	42.81	107	
2,6-Dinitrotoluene	40	40.694	102	
2,6-Dinitrotoluene-d3	500	474.965	95	
2-Amino-4,6-dinitrotoluene	40	34.564	86	
3,4-Dinitrotoluene	20	18.719	94	
4-Amino-2,6-dinitrotoluene	40	37.649	94	
HMX	40	46.909	117	
Nitrobenzene	40	41.889	105	
PETN	40	49.601	124	
RDX	40	44.557	111	
Tetryl	40	25.35	63	*
m-Dinitrobenzene	40	41.331	103	
m-Nitrotoluene	40	49.186	123	
o-Nitrotoluene	40	35.398	88	
p-Nitrotoluene	40	37.225	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 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319061a

Date: 20-Mar-2010

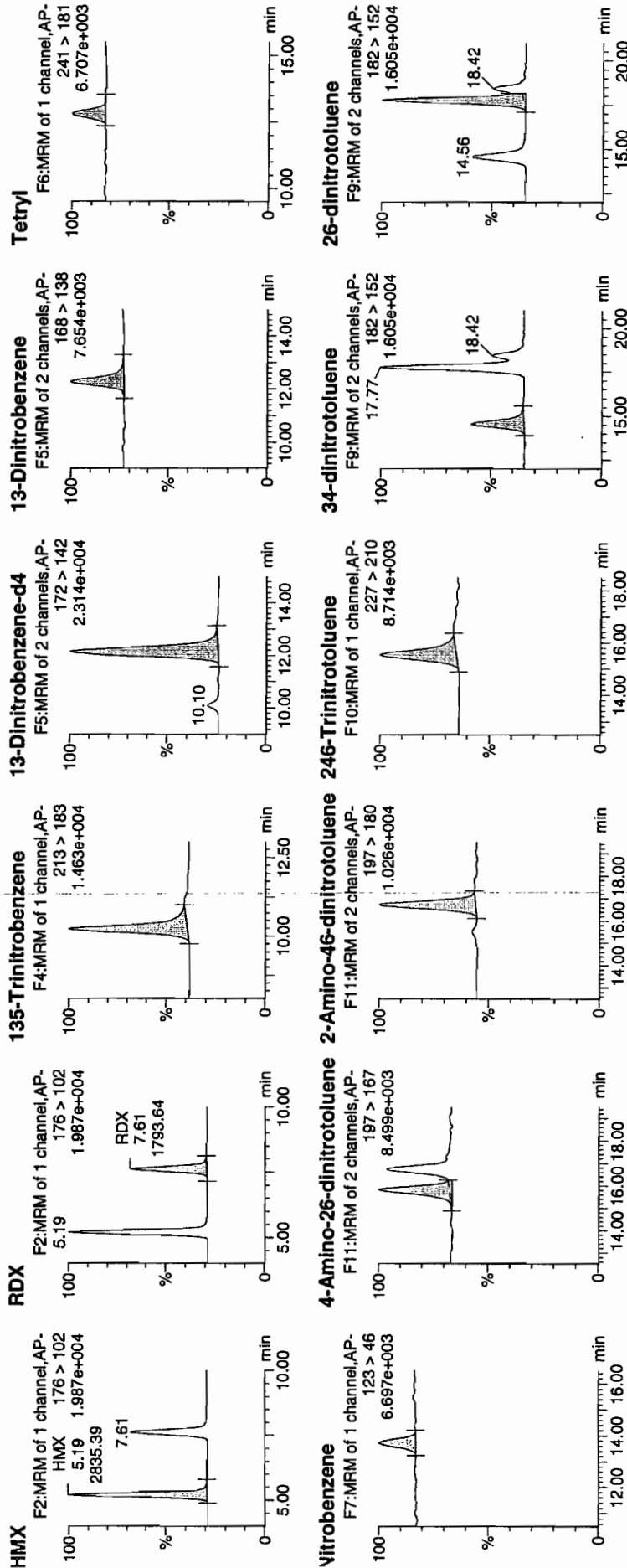
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ID: WXX100319-08CRI

Vial: 1:1,C

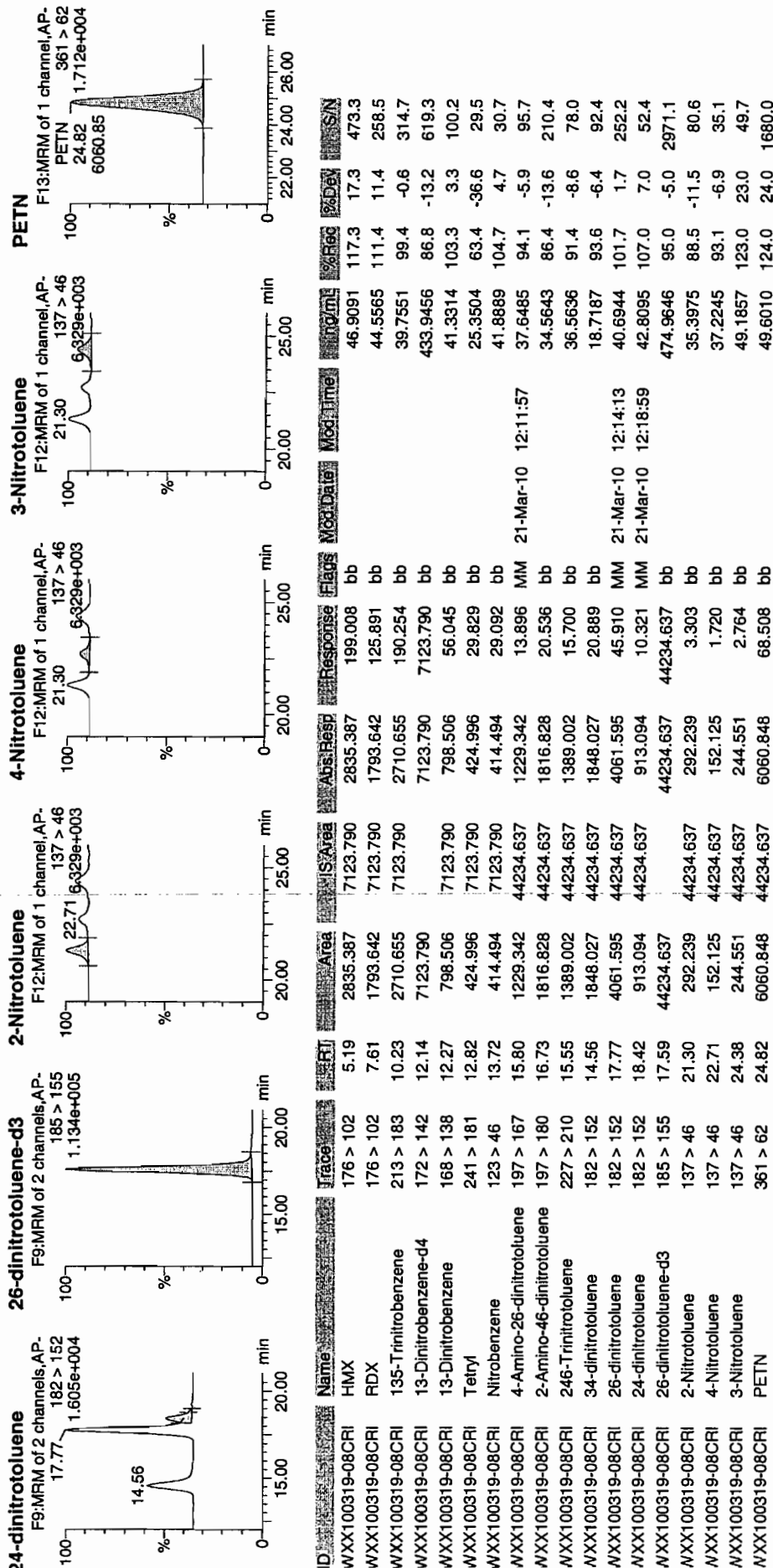
3/22/10
KMP

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Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA1.qid, Time: Sun Mar 21 12:20:26 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/20/10
 Time of Injection 2224
 Standard Number WXX100319-08CRI
 Data File EXP0319061a

HMX	117.3
RDX	111.4
135-TNB	99.4
13-DNB	103.3
Tetryl	63.4
Nitrobenzene	104.7
4A-26-DNT	94.1
2A-46-DNT	86.4
246-TNT	91.4
34-DNT(surr)	93.6
26-DNT	101.7
24-DNT	107.0
2-NT	88.5
4-NT	93.1
3-NT	123.0
PETN	124.0

*with
3/20/10*

Total 1602.3

Average 100.1

Hum 03/22/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXP0319072a

Analysis Date: 21-MAR-10 03:48

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
1,3,5-Trinitrobenzene	600	609.061	102	
1,3-Dinitrobenzene-d4	500	385.16	77	*
2,4,6-Trinitrotoluene	600	601.271	100	
2,4-Dinitrotoluene	600	656.41	109	
2,6-Dinitrotoluene	600	626.218	104	
2,6-Dinitrotoluene-d3	500	416.487	83	
2-Amino-4,6-dinitrotoluene	600	584.288	97	
3,4-Dinitrotoluene	300	291.784	97	
4-Amino-2,6-dinitrotoluene	600	604.71	101	
HMX	600	637.803	106	
Nitrobenzene	600	620.682	103	
PETN	600	690.817	115	
RDX	600	787.952	131	*
Tetryl	600	666.135	111	
m-Dinitrobenzene	600	594.347	99	
m-Nitrotoluene	600	590.019	98	
o-Nitrotoluene	600	577.148	96	
p-Nitrotoluene	600	592.981	99	

Recovery Limits:

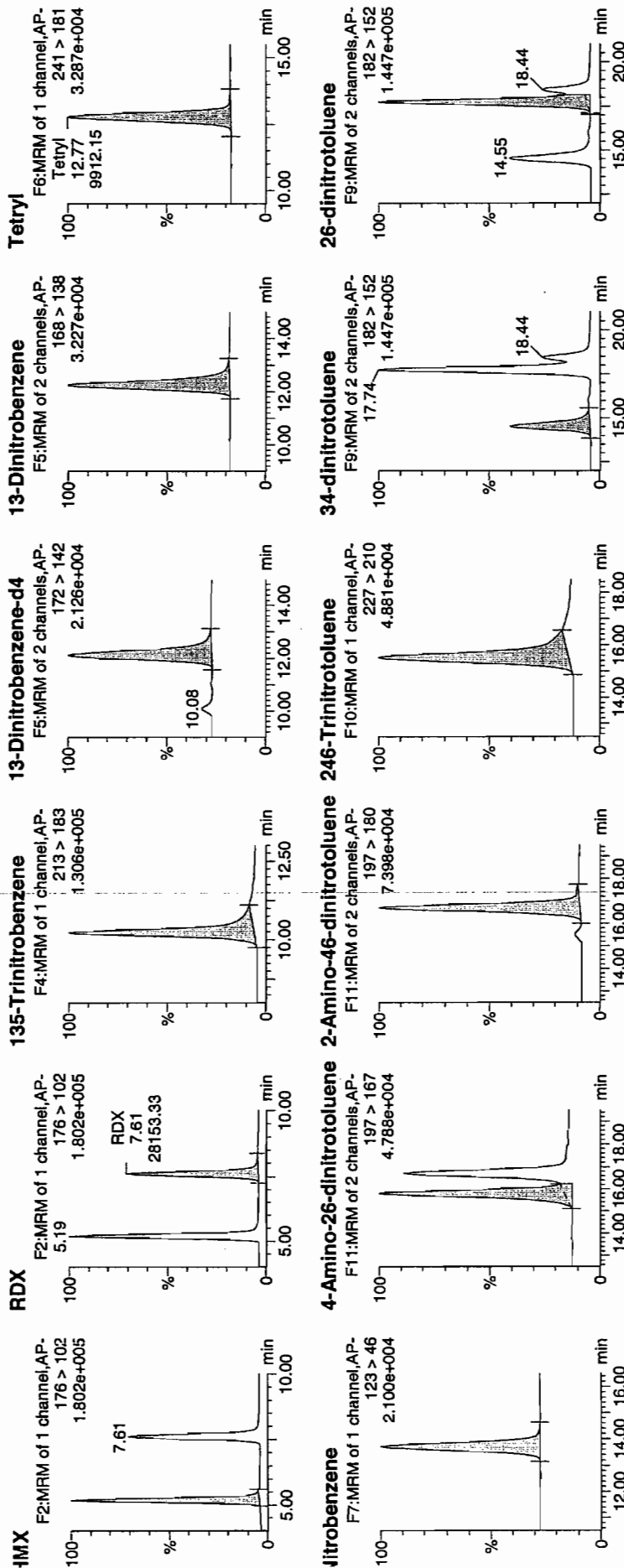
3,4-Dinitrotoluene (Surrogate), TATB, tris(o-cresyl)phosphate, 3,5-Dinitroaniline, 2,6-Diamino-4-nitrotoluene ,
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

MP
 2/12/10



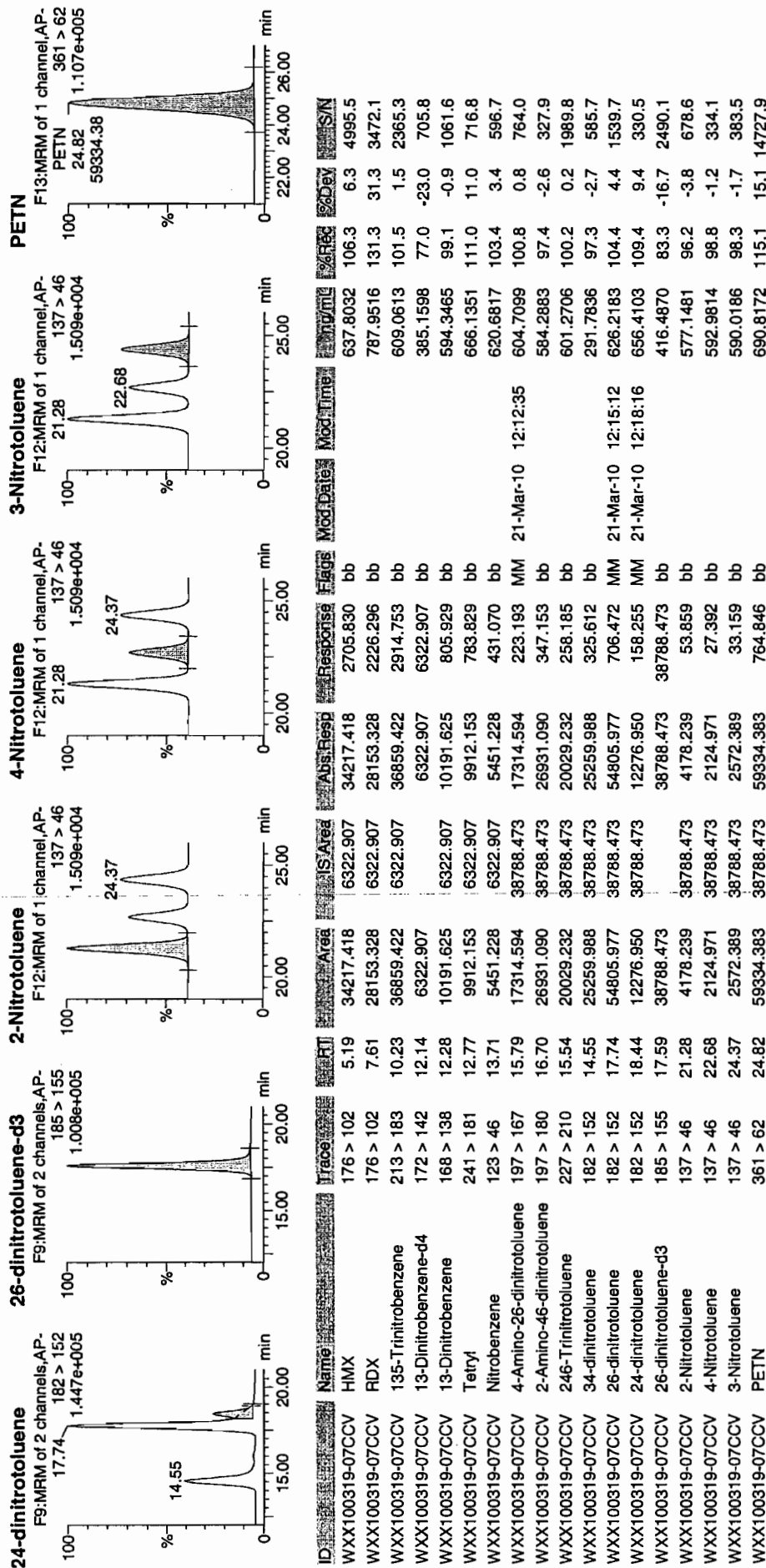
Handwritten signature

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Sun Mar 21 12:22:16 2010, Page 72 of 103

Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



GRAND MEAN AVERAGE

Vendor: Restek
 Date of Analysis: 03/21/10
 Time of Injection: 0348
 Standard Number: WXX100319-07CCV
 Data File: EXP0319072a

HMX	106.3
RDX	131.3
135-TNB	101.5
13-DNB	99.1
Tetryl	111.0
Nitrobenzene	103.4
4A-26-DNT	100.8
2A-46-DNT	97.4
246-TNT	100.2
34-DNT(surr)	97.3
26-DNT	104.4
24-DNT	109.4
2-NT	96.2
4-NT	98.8
3-NT	98.3
PETN	115.1

*147
3/21/10*

Total 1670.5

Sum 03/22/10

Average 104.4

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXP0319074a

Analysis Date: 21-MAR-10 04:47

LCMSMS ID: 903

Column ID: Phenomenex Ultracarb 5u ODS(20)

Compound	True	Found	Recovery	Q
2,4-Dinitrotoluene	40	41.823	105	
2,6-Dinitrotoluene	40	39.812	100	
2,6-Dinitrotoluene-d3	500	446.738	89	
2-Amino-4,6-dinitrotoluene	40	36.125	90	
3,4-Dinitrotoluene	20	18.599	93	
4-Amino-2,6-dinitrotoluene	40	36.219	91	
HMX	40	44.998	112	
Nitrobenzene	40	45.494	114	
PETN	40	47.233	118	
RDX	40	43.597	109	
Tetryl	40	20.539	51	*
m-Dinitrobenzene	40	44.141	110	
m-Nitrotoluene	40	37.676	94	
o-Nitrotoluene	40	44.018	110	
p-Nitrotoluene	40	43.804	110	
1,3,5-Trinitrobenzene	40	39.357	98	
1,3-Dinitrobenzene-d4	500	408.962	82	
2,4,6-Trinitrotoluene	40	34.491	86	

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\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Sample Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319074a

Date: 21-Mar-2010

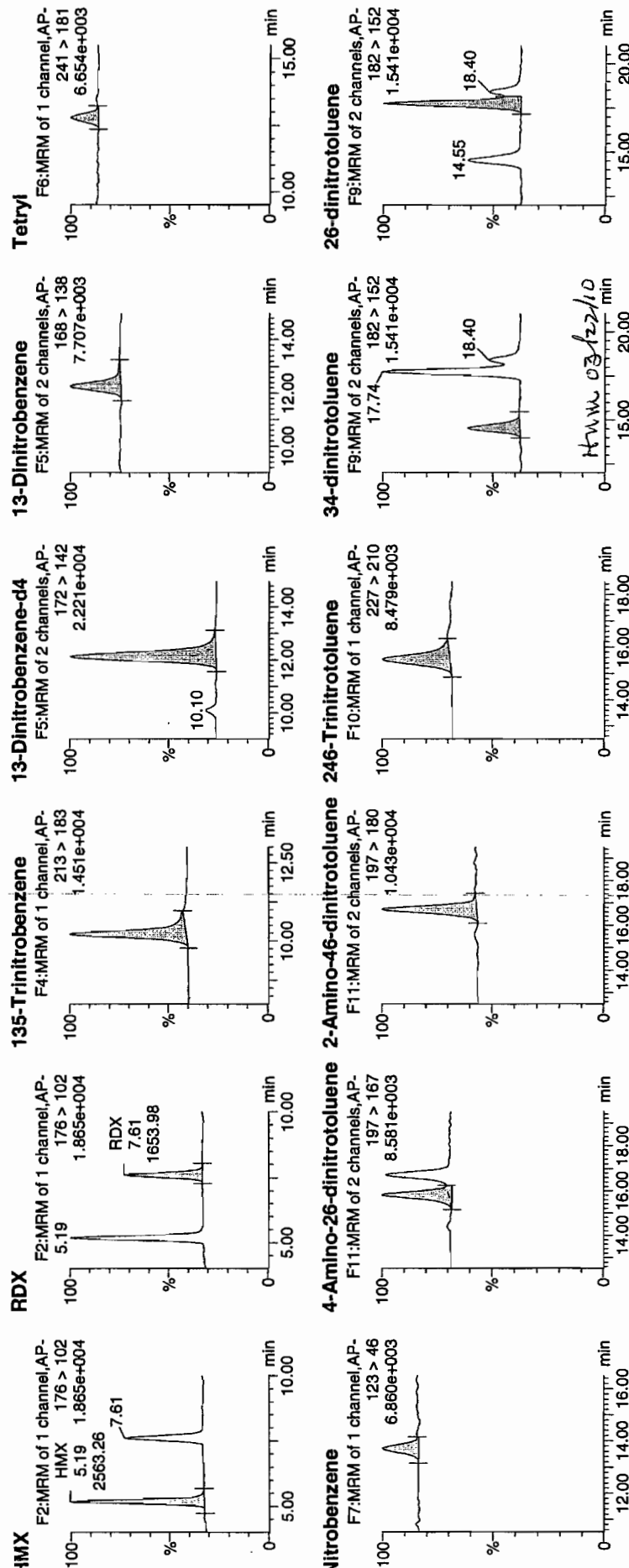
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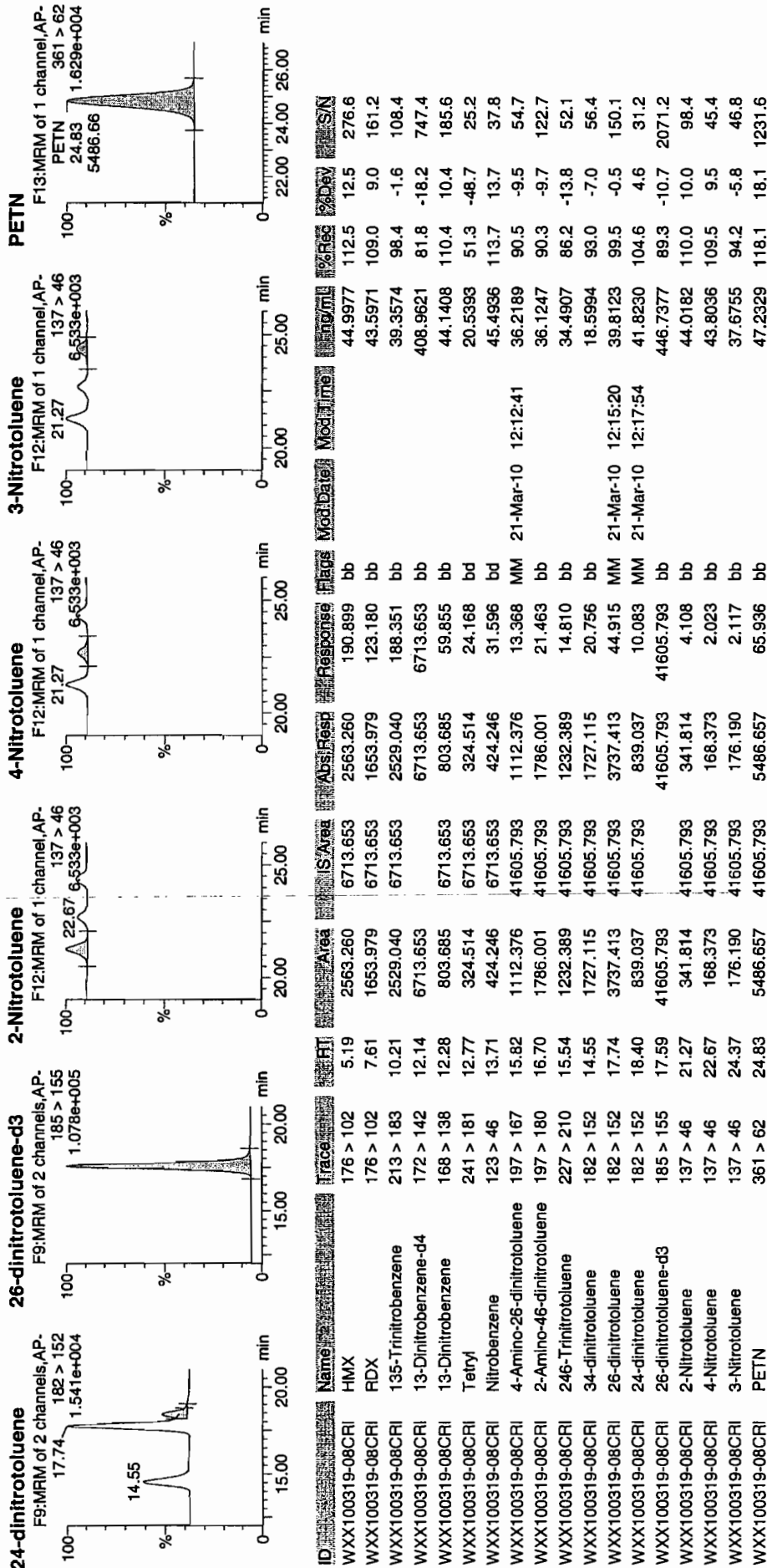
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MTT
3/21/10

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Dataset: C:\MASSL\YXX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



GRAND MEAN AVERAGE

Vendor: UltraScientific
 Date of Analysis 03/21/10
 Time of Injection 0447
 Standard Number WXX100319-08CRI
 Data File EXP0319074a

HMX	112.5
RDX	109.0
135-TNB	98.4
13-DNB	110.4
Tetryl	51.3
Nitrobenzene	113.7
4A-26-DNT	90.5
2A-46-DNT	90.3
246-TNT	86.2
34-DNT(surr)	93.0
26-DNT	99.5
24-DNT	104.6
2-NT	110.0
4-NT	109.5
3-NT	94.2
PETN	118.1

*MTT
3/24/10*

Total 1591.2

Average 99.5

HMC 03/22/10

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): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS03160013.wiff

Analysis Date: 16-MAR-10 11:26

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	81.8	82	
2,6-Diamino-4-nitrotoluene	100	87.6	88	
3,4-Dinitrotoluene	50	46.1	92	
3,5-Dinitroaniline	100	92.4	92	
TATB	100	98.9	99	
tris(o-cresyl) phosphate	100	102	102	

Recovery Limits:

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

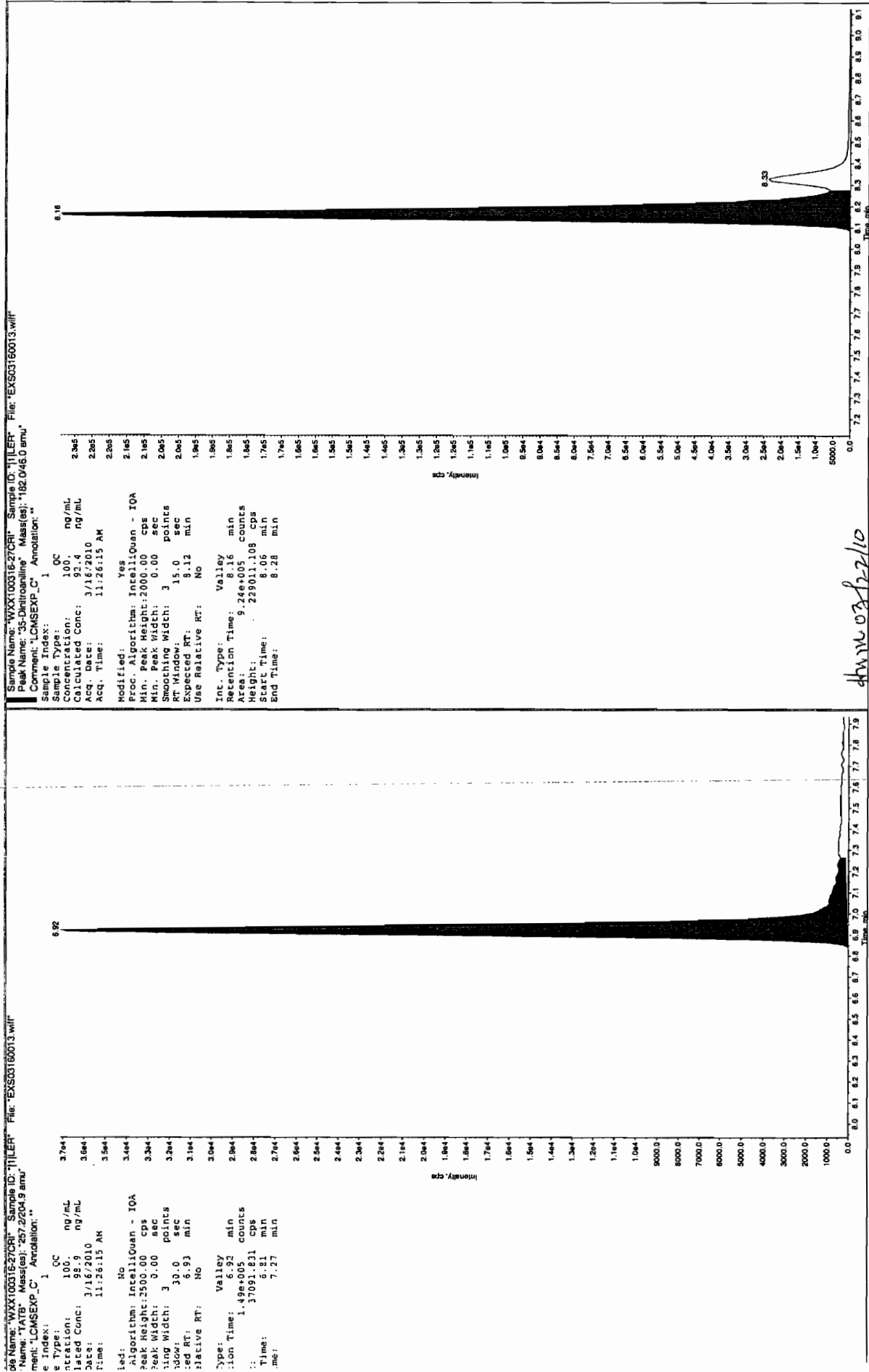
2,4-Diamino-6-nitrotoluene 50-150%

OtherTarget Analytes 70-130%

Column used to flag Recovery outside of Limits

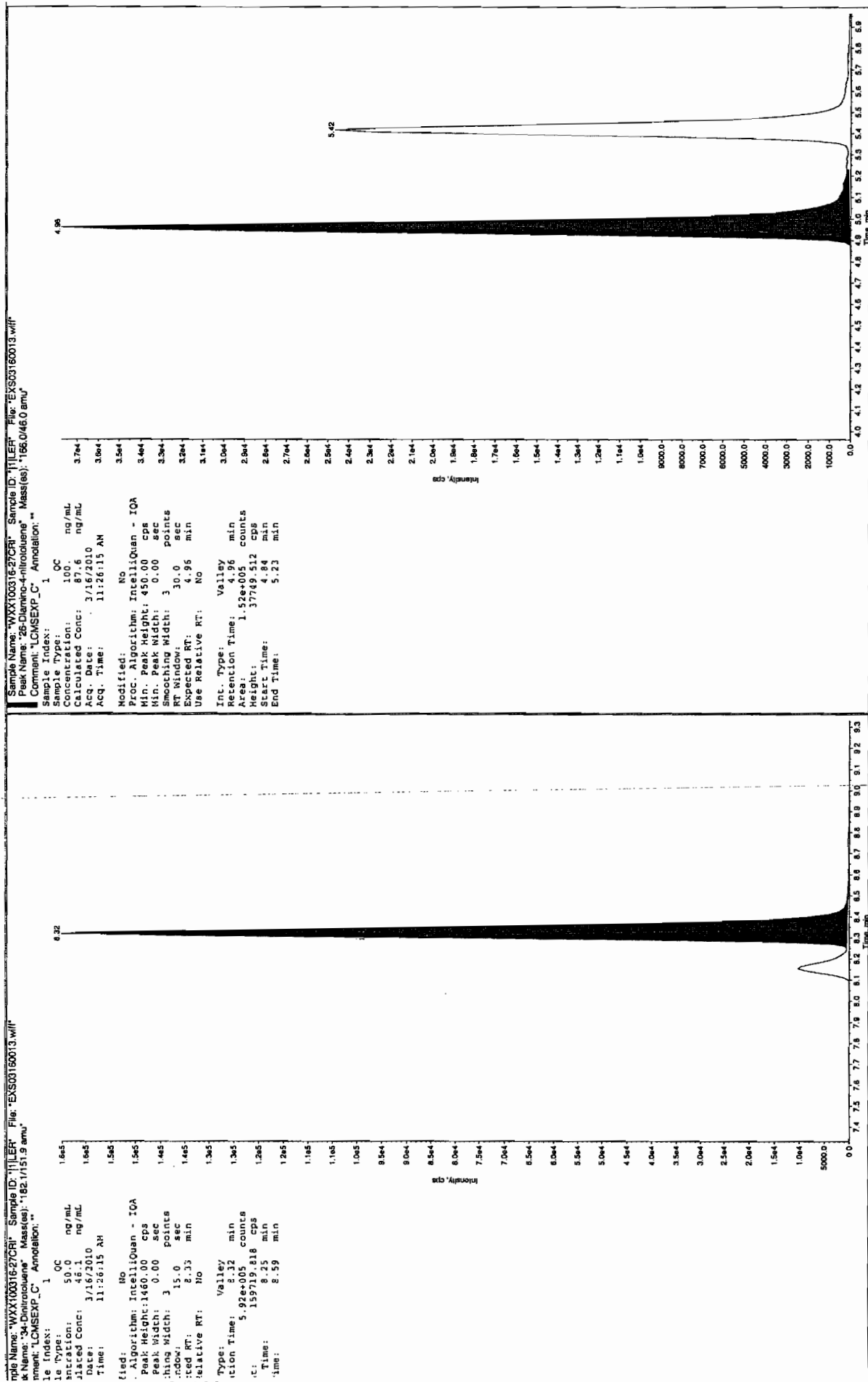
* Value outside of Recovery Limits

Jan 3/18/10

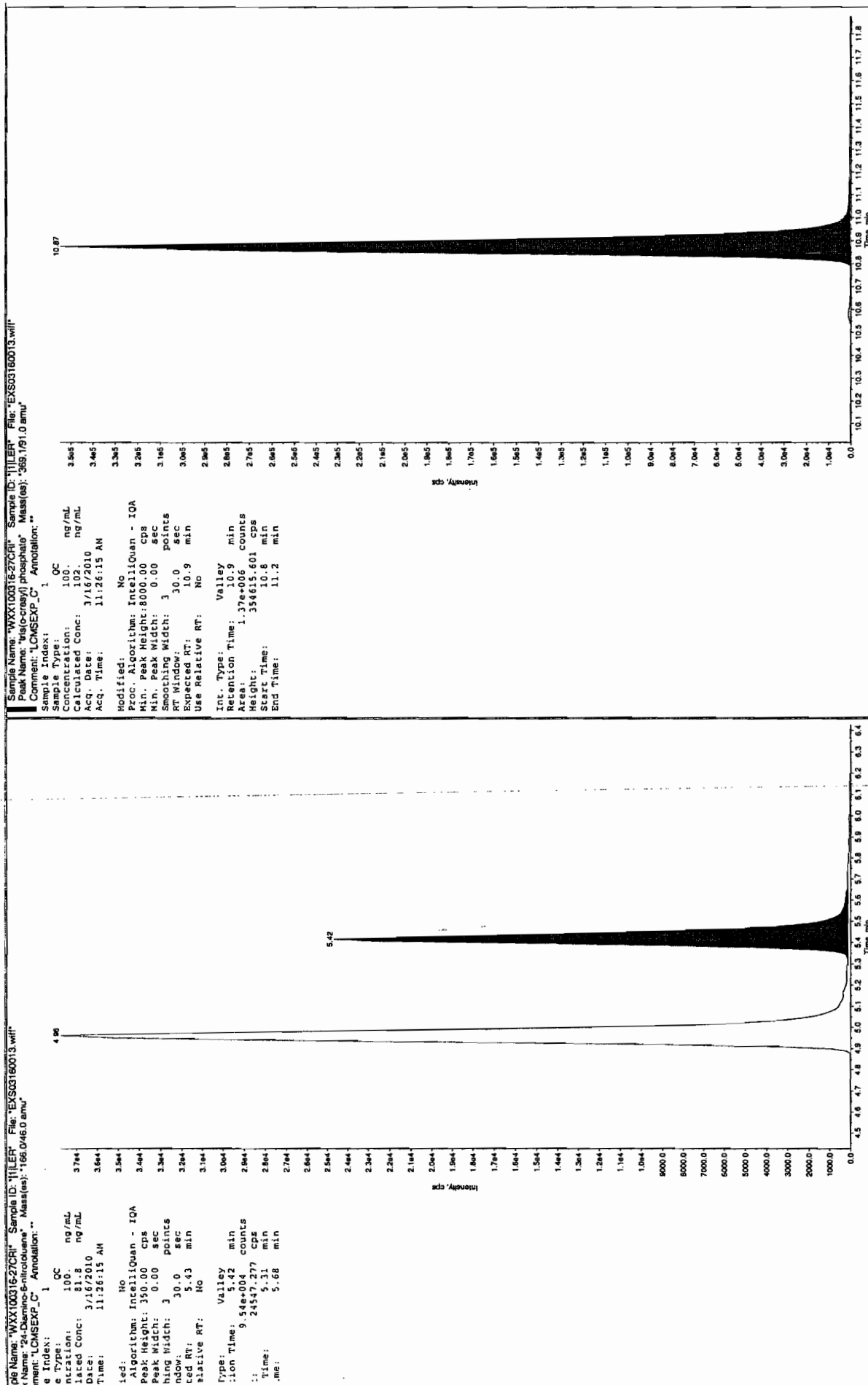


dmw 03/18/10

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



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



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

7A
Explosives Continuing Calibration Verification

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCCV

GEL Data File EXS03160024.wiff

Analysis Date: 16-MAR-10 14:18

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	500	446	89	
2,6-Diamino-4-nitrotoluene	500	441	88	
3,4-Dinitrotoluene	250	221	88	
3,5-Dinitroaniline	500	503	101	
TATB	500	499	100	
tris(o-cresyl) phosphate	500	487	97	

Recovery Limits:

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

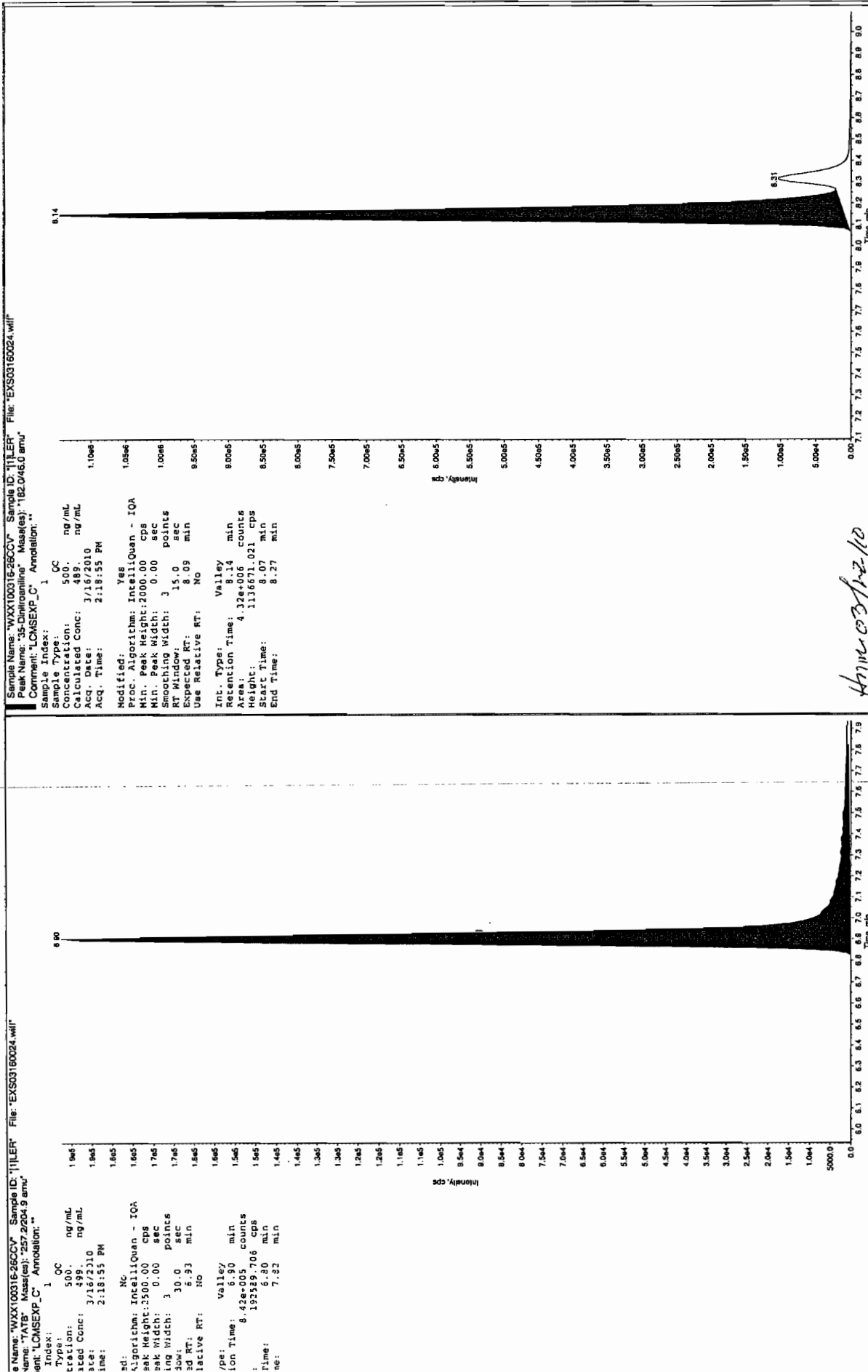
2,4-Diamino-6-nitrotoluene 70-130%

Other Target Analytes 80-120%

Column used to flag Recovery outside of Limits

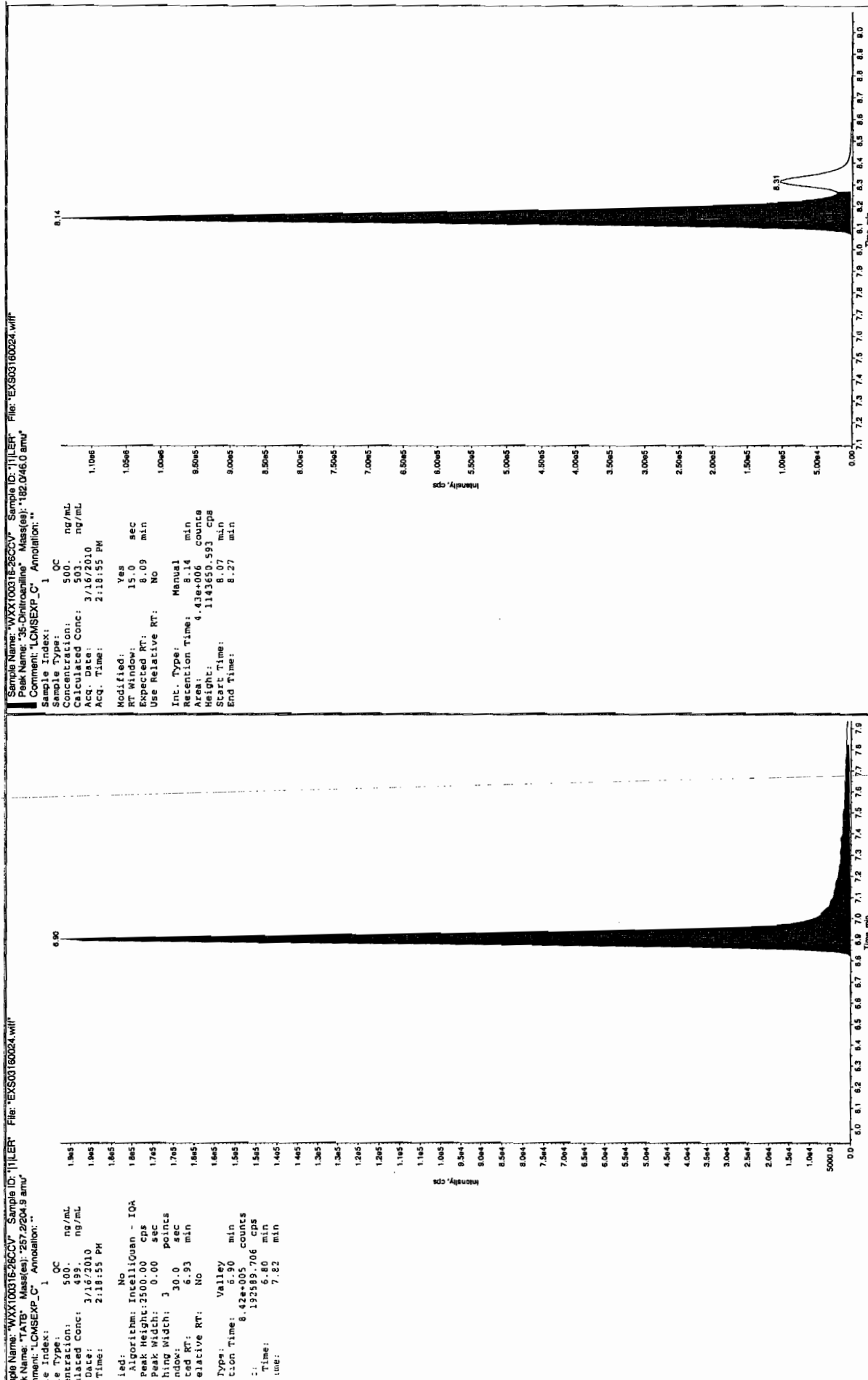
* Value outside of Recovery Limits

Before Jan 31/8/10



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

after Jan 3/18/10



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

Sample Name: "WXX100316-260CV" Sample ID: "11LER" File: "EXS03160024.wil"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "166.0/160.0 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 500. ng/mL
 Calculated Conc: 441. ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 2:18:55 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 Resolution: 30.0 sec
 Expanded RT: 4.96 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 4.95 min
 Area: 7.16e+005 counts
 Height: 167627.060 cps
 Start Time: 4.83 min
 End Time: 5.25 min

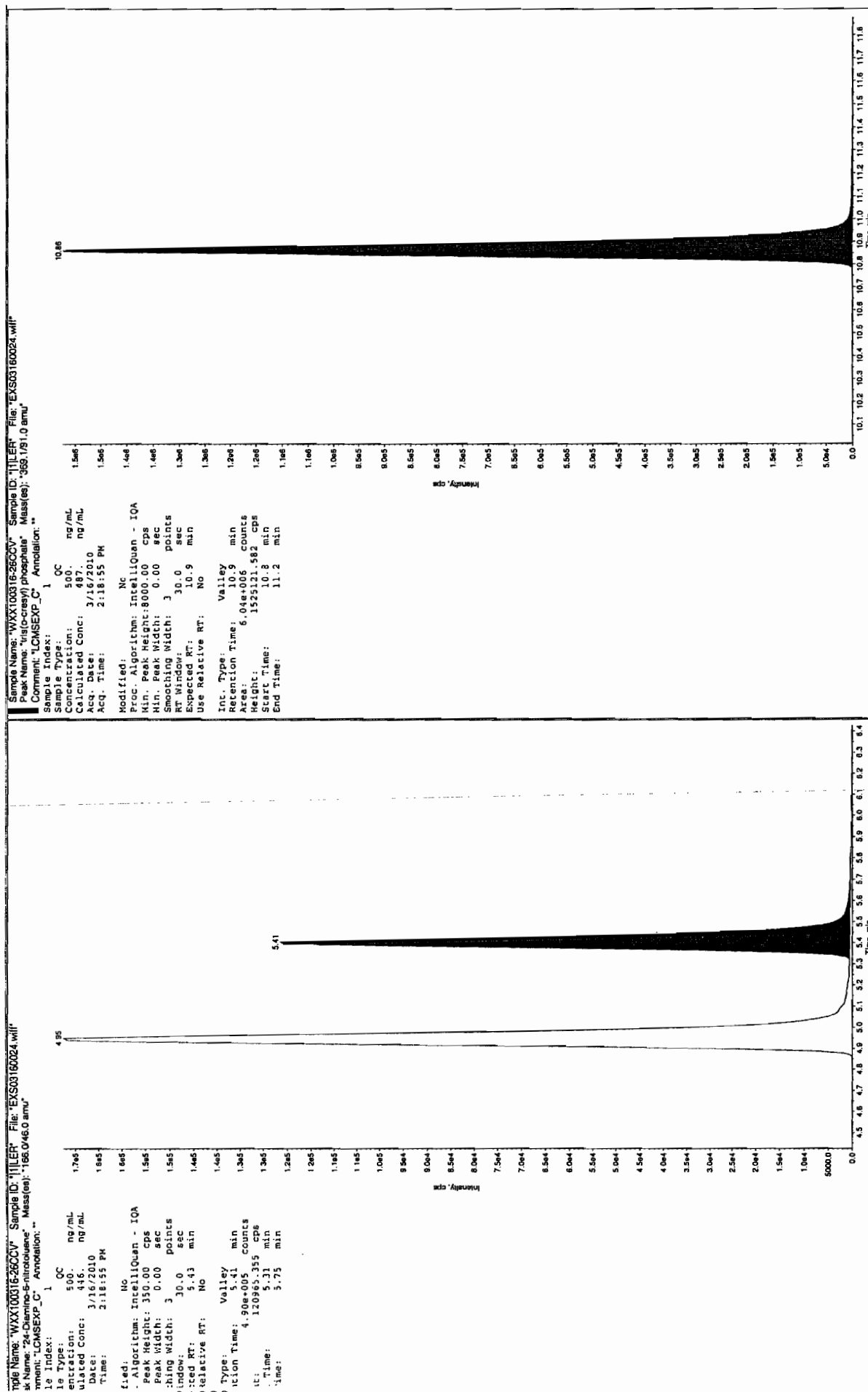


Sample Name: "WXX100316-260CV" Sample ID: "11LER" File: "EXS03160024.wil"
 Peak Name: "26-Diamino-4-nitrotoluene" Mass(es): "182.1/151.9 amu"
 Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1
 Sample Type: QC
 Concentration: 250. ng/mL
 Calculated Conc: 221. ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 2:18:55 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IOA
 Min. Peak Height: 150.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 Resolution: 15.0 sec
 Expanded RT: 8.33 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.31 min
 Area: 2.81e+006 counts
 Height: 776187.988 cps
 Start Time: 8.24 min
 End Time: 8.60 min



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



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

7B
Explosives CRI Standard

Lab Name: GEL Laboratories LLC

GEL Job No (SDG): 10-1969

Lab Code: GEL

GEL Sample ID: WXXCRI

GEL Data File EXS03160026.wiff

Analysis Date: 16-MAR-10 14:50

LCMSMS ID: 1358

Column ID: JSphere ODS-H80

Compound	True	Found	Recovery	Q
2,4-Diamino-6-nitrotoluene	100	87.3	87	
2,6-Diamino-4-nitrotoluene	100	83.1	83	
3,4-Dinitrotoluene	50	46.2	92	
3,5-Dinitroaniline	100	89.4	89	
TATB	100	100	100	
tris(o-cresyl) phosphate	100	96.9	97	

Recovery Limits:

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

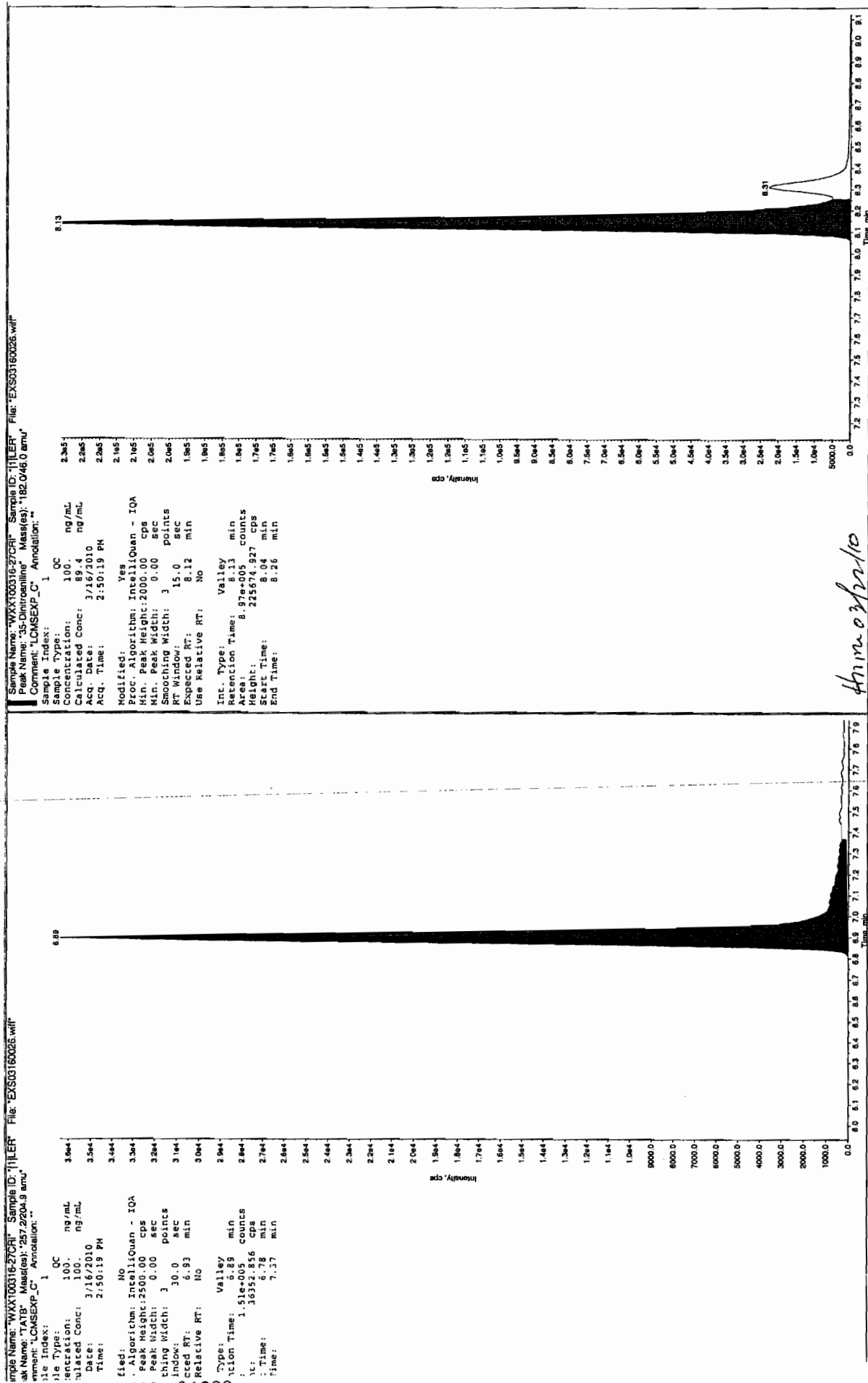
2,4-Diamino-6-nitrotoluene 50-150%

Other Target Analytes 70-130%

Column used to flag Recovery outside of Limits

* Value outside of Recovery Limits

Run 3/18/10



Sample Name: "WX100316-27CR1" Sample ID: "111ER" File: "EXS03160028.wif"

Peak Name: "1ATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 89.4 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 2:50:19 PM

Modified: No

Proc. Algorithm: IntelliQuan - IOA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 3.00 sec

Smoothing Width: 3.00 points

RT Window: 30.0 sec

Expected RT: 6.93 min

Use Relative RT: No

Int. Type: Valley

Retention Time: 6.89 min

Area: 1.51e+005 counts

Height: 36352.856 cps

Start Time: 6.78 min

End Time: 7.37 min

Sample Name: "WX100316-27CR1" Sample ID: "111ER" File: "EXS03160028.wif"

Peak Name: "1ATB" Mass(es): "257.2204.9 amu"

Comment: "LCMSEXP_C" Annotation: ""

Sample Index: 1

Sample Type: QC

Concentration: 100. ng/mL

Calculated Conc: 89.4 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 2:50:19 PM

Modified: No

Proc. Algorithm: IntelliQuan - IOA

Min. Peak Height: 2500.00 cps

Min. Peak Width: 3.00 sec

Smoothing Width: 3.00 points

RT Window: 30.0 sec

Expected RT: 8.12 min

Use Relative RT: No

Int. Type: Valley

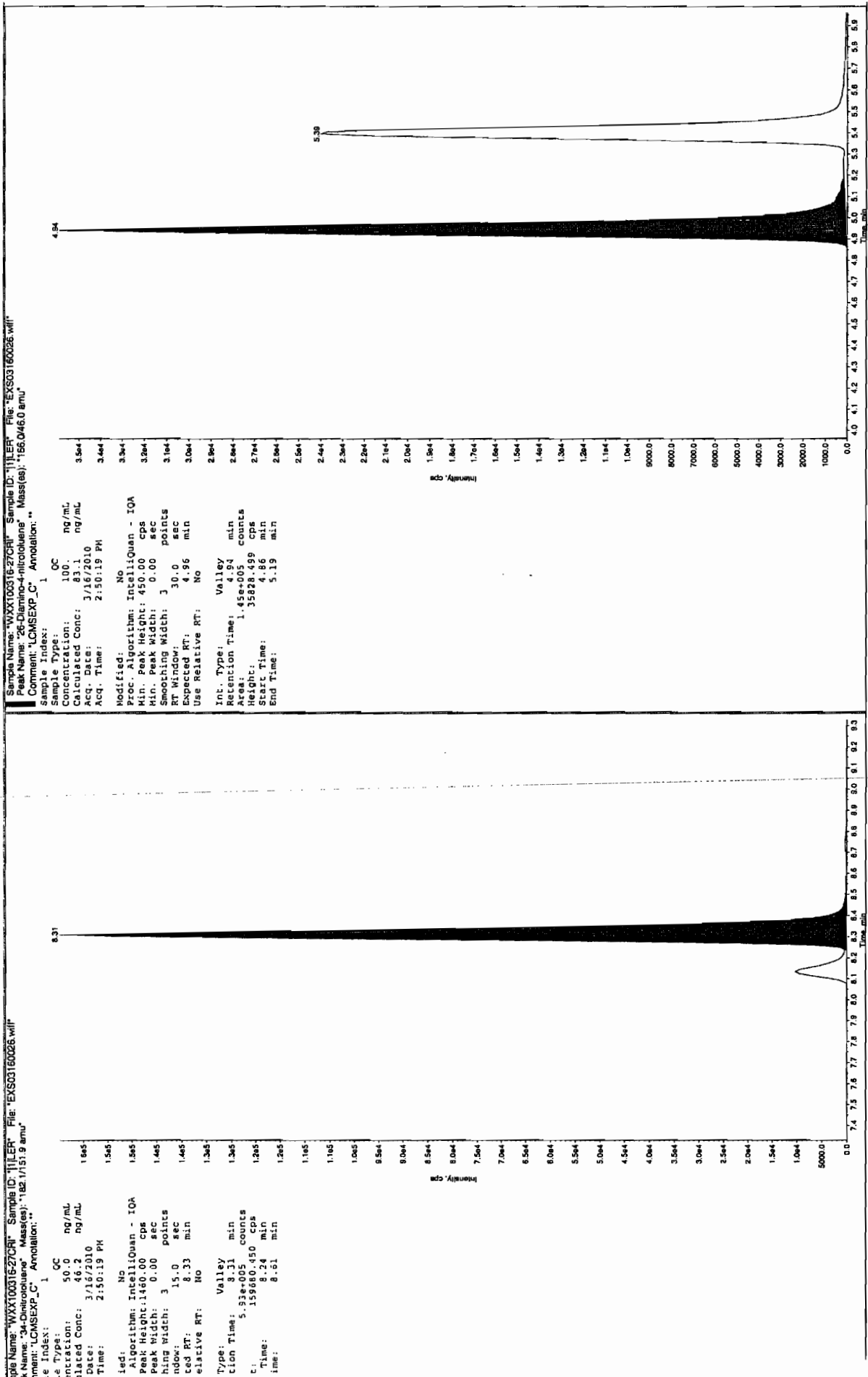
Retention Time: 8.13 min

Area: 8.97e+005 counts

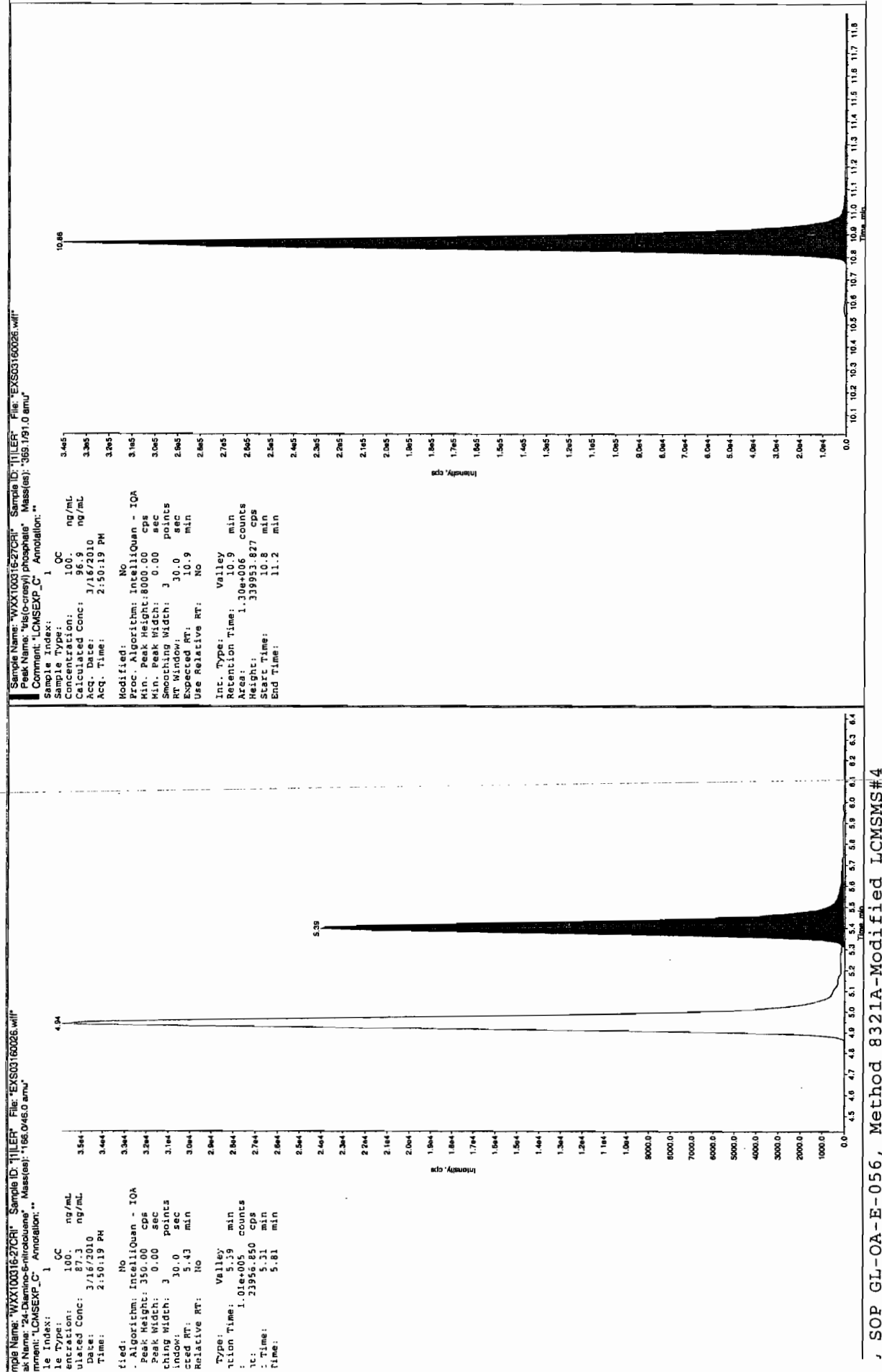
Height: 225674.927 cps

Start Time: 8.04 min

End Time: 8.26 min



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



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

QUALITY CONTROL DATA

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 956051

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 1202049932

Sample Amount 2

Moisture:

Amount Units g

Date Received: 22-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319062a

Date Analyzed: 20-MAR-10 22:53

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		

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP.PRO\Data\EXP0319062a

Date: 20-Mar-2010

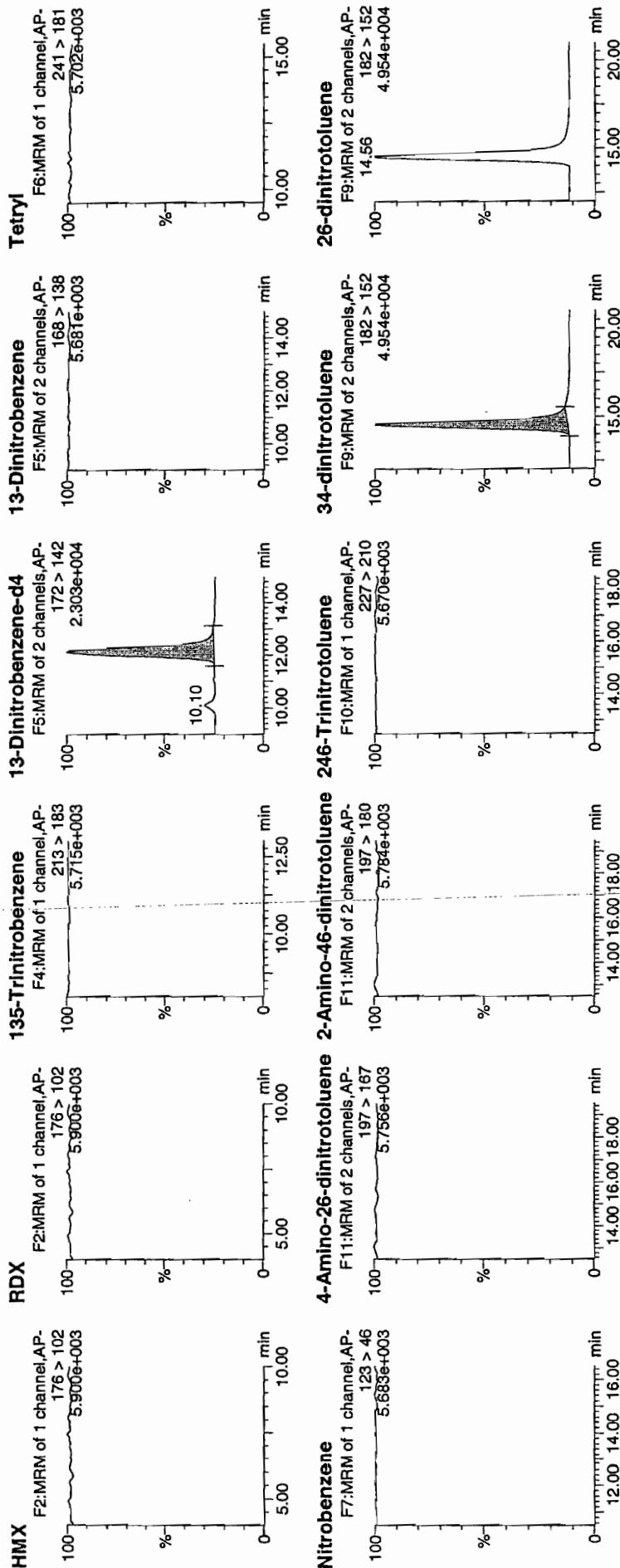
Time: 22:53:33

ID: 1202049932

Vial: 2:5,A

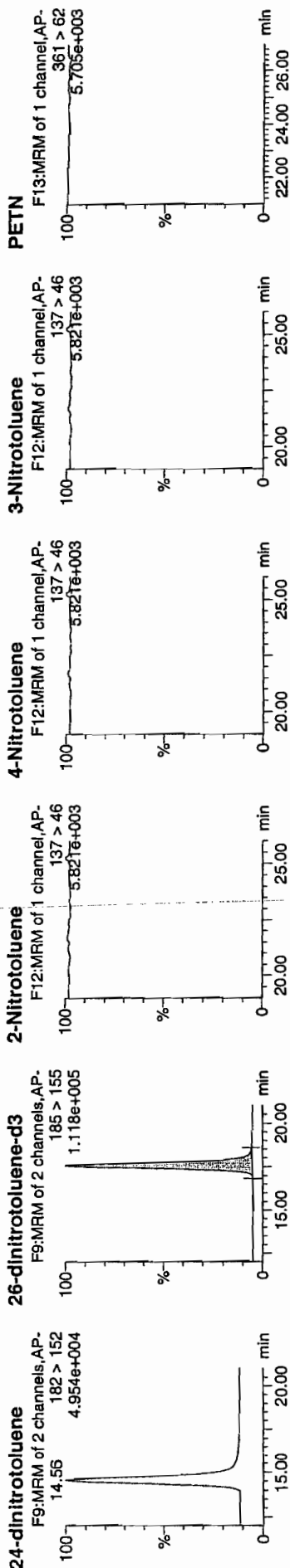
μA
3/21/10

WAW 956053 | 5000 | 13 | 21



4110
03/24/10

Dataset: C:\MASSLYNX\New_Exp.PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



ID#	Name	Trace	RT	Area	IS:Area	Response	Flags	Mod	Time	Norm	Area	%	Day	SN
1202049932	HMX	176 > 102		7041.396										
1202049932	RDX	176 > 102		7041.396										
1202049932	135-Trinitrobenzene	213 > 183		7041.396										
1202049932	13-Dinitrobenzene-d4	172 > 142	12.14	7041.396										
1202049932	13-Dinitrobenzene	168 > 138		7041.396										
1202049932	Tetryl	241 > 181		7041.396										
1202049932	Nitrobenzene	123 > 46		43516.902										
1202049932	4-Amino-26-dinitrotoluene	197 > 167		43516.902										
1202049932	2-Amino-46-dinitrotoluene	197 > 180		43516.902										
1202049932	246-Trinitrotoluene	227 > 210		43516.902										
202049932	34-dinitrotoluene	182 > 152	14.56	20829.945										
202049932	26-dinitrotoluene	182 > 152		43516.902										
202049932	24-dinitrotoluene	182 > 152		43516.902										
202049932	26-dinitrotoluene-d3	185 > 155	17.59	43516.902										
202049932	2-Nitrotoluene	137 > 46		43516.902										
202049932	4-Nitrotoluene	137 > 46		43516.902										
202049932	3-Nitrotoluene	137 > 46		43516.902										
202049932	PETN	361 > 62		43516.902										
				7041.396										
				7041.396										
				7041.396										
				7041.396										
				43516.902										
				43516.902										
				43516.902										
				43516.902										
				20829.945										
				43516.902										
				43516.902										
				239.332										
				428.9265										
				85.8										
				1854.3										
				214.4671										
				85.8										
				1125.5										
				467.2580										
				93.5										
				1399.3										

1

High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: MB for batch 956051

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 1202049932

Sample Amount 2

Moisture:

Amount Units g

Date Received: 22-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160014.wiff

Date Analyzed: 16-MAR-10 11:41

Units: ug/kg

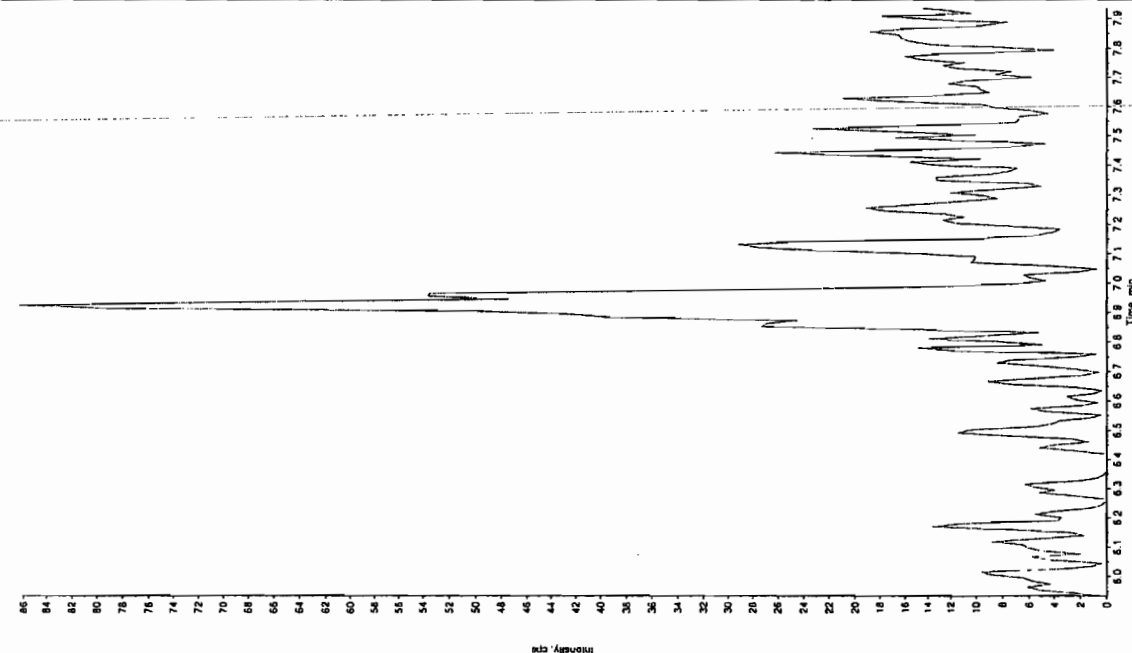
Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	1000	U
59229-75-3	2,6-Diamino-4-nitrotoluene	2000	U
618-87-1	3,5-Dinitroaniline	1000	U
6629-29-4	2,4-Diamino-6-nitrotoluene	2000	U
78-30-8	tris(o-cresyl) phosphate	1000	U

*Concentration =

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

Scan 3/10/10

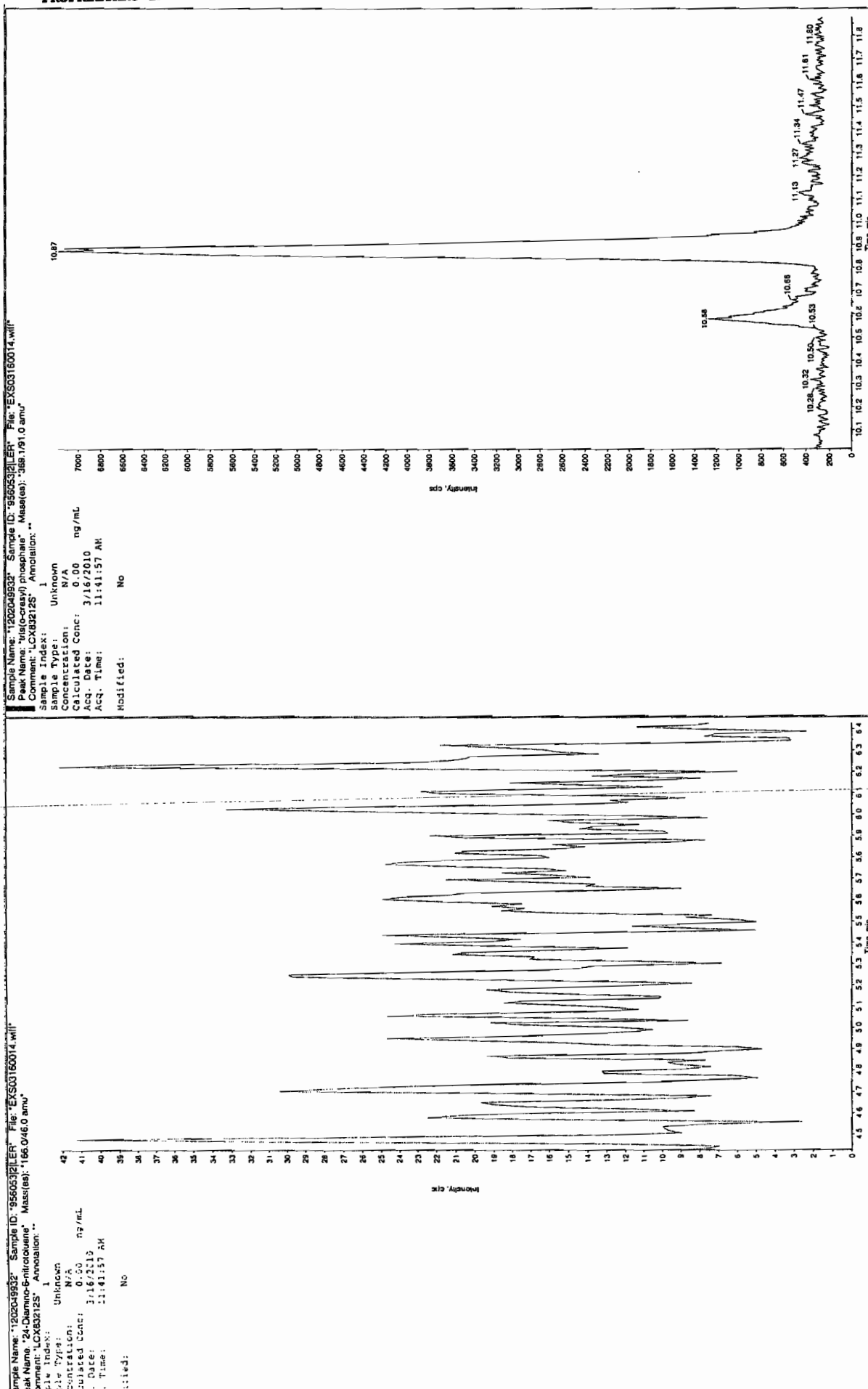
Sample Name: "1202049932" Sample ID: "95605321LER" File: "EX503160014.wif"
 Peak Name: "35-Diethylamine" Mass(es): "182.046.0 amu"
 Concentration: "0.00 ng/mL"
 Sample Index: "1"
 Sample Type: "Unknown"
 Calculated Conc: "0.00 ng/mL"
 Acq. Date: "3/16/2010"
 Acq. Time: "11:41:57 AM"
 Modified: "No"



1.0065
9.8094
8.6094
9.4094
8.2094
9.0094
8.8094
8.6094
8.4094
8.2094
8.0094
7.8094
7.6094
7.4094
7.2094
7.0094
6.8094
6.6094
6.4094
6.2094
6.0094
5.8094
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5.2094
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4.8094
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3.2094
3.0094
2.8094
2.6094
2.4094
2.2094
2.0094
1.8094
1.6094
1.4094
1.2094
1.0094
8000.00
6000.00
4000.00
2000.00

Scan 3/10/10

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



Sample Name: 12024932 Sample ID: 9560321ER File: EXS03160014.wif
 Peak Name: Tris(ocetyl) phosphate Mass(es): 388.1910 amu
 Comment: LCX832125 Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 11:41:57 AM
 Modified: No

Sample Name: 24-Dinitro-5-nitroindene Sample ID: 9560321ER File: EXS03160014.wif
 Peak Name: LCX832125 Mass(es): 165.046.0 amu
 Comment: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 0.00 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 11:41:57 AM
 Modified: No

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

1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 956051

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 1202049933

Sample Amount 2

Moisture:

Amount Units g

Date Received: 22-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXP0319063a

Date Analyzed: 20-MAR-10 23:23

Units: ug/kg

Cas No.	Compound	Concentration*	Q
118-96-7	2,4,6-Trinitrotoluene	4730	
121-14-2	2,4-Dinitrotoluene	5390	
121-82-4	RDX	5530	
19406-51-0	4-Amino-2,6-dinitrotoluene	5070	
2691-41-0	HMX	4910	
35572-78-2	2-Amino-4,6-dinitrotoluene	4910	
479-45-8	Tetryl	2740	
606-20-2	2,6-Dinitrotoluene	5210	
78-11-5	PETN	5840	
88-72-2	o-Nitrotoluene	4490	
98-95-3	Nitrobenzene	5050	
99-08-1	m-Nitrotoluene	4770	
99-35-4	1,3,5-Trinitrobenzene	4860	
99-65-0	m-Dinitrobenzene	5140	
99-99-0	p-Nitrotoluene	4770	

*Concentration =

Instrument Value	X	Concentrated Extract Volume	X	Dilution Factor
		Sample Amount		

Dataset: C:\MASSLYNX\New_Exp\PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSLYNX\NEW_EXP\PRO\Data\EXP0319063a

Date: 20-Mar-2010

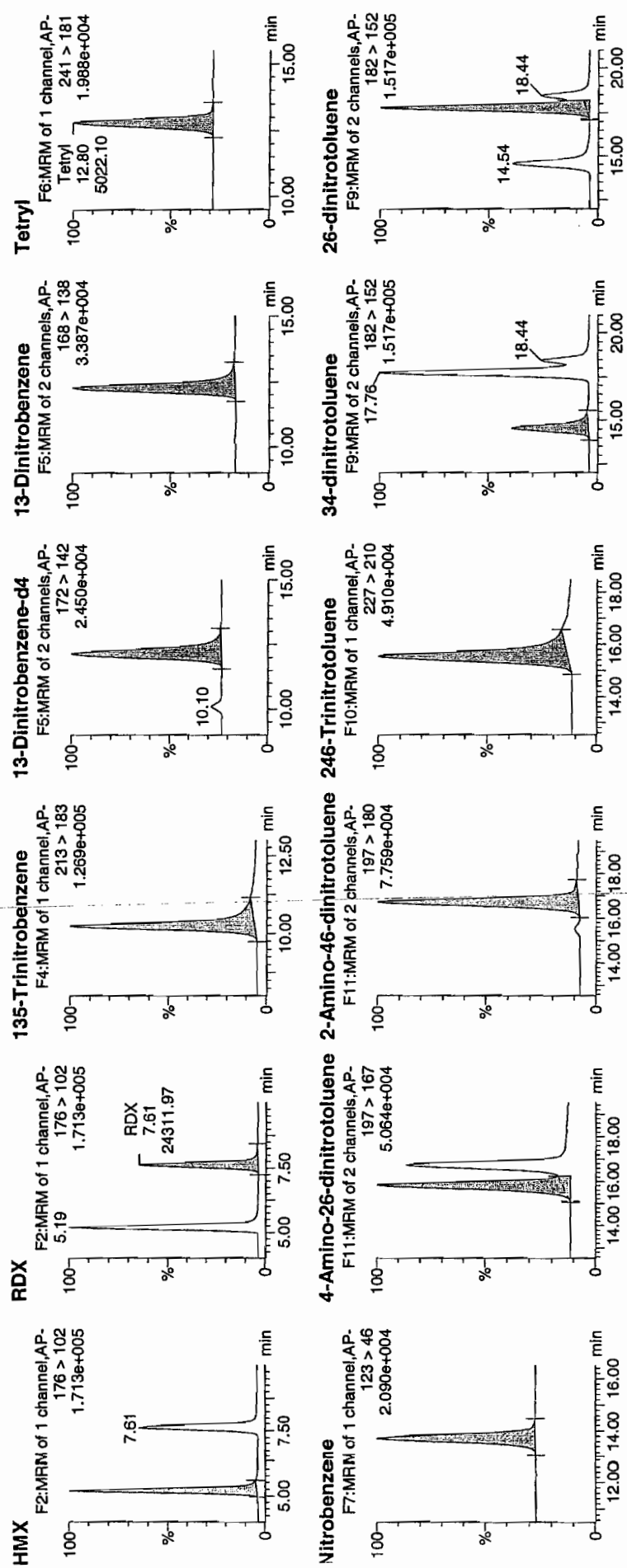
Time: 23:23:07

ID: 1202049933

Vial: 2:5,B

4377
3/24/10

LAUW 956053 / 8025 / 108 / 21



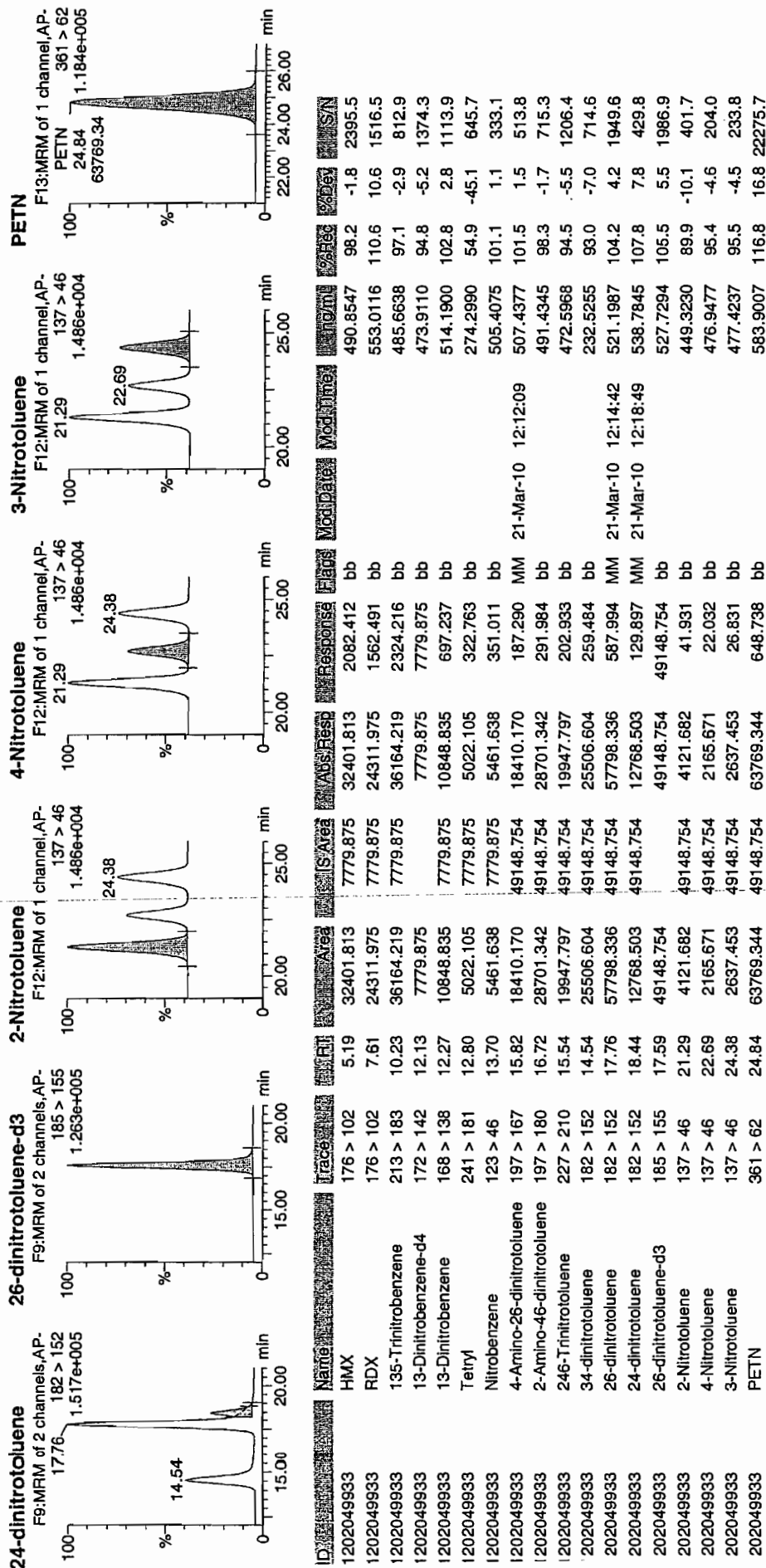
AMN
03/24/10

Quantify Sample Report

GEL Laboratories, LLC / Analyst: Michael A. Penny

Printed: Sun Mar 21 12:22:16 2010, Page 54 of 103

Dataset: C:\MASSLYNXNew_Exp_PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



1
High Explosives Analysis Data Sheet

Lab Name: GEL Laboratories LLC

Client Sample ID: LCS for batch 956051

Lab Code: GEL

GEL Job No (SDG) 10-1969

Matrix: SOIL

GEL Sample ID: 1202049933

Sample Amount 2

Moisture:

Amount Units g

Date Received: 22-FEB-10

Extraction Type Sonication

Extraction Batch ID: 956051

Concentrated Extract Volume (mL) 10

Date Extracted: 25-FEB-10

Dilution Factor: 2

Injection Volume (uL): 50

GEL data file: EXS03160015.wiff

Date Analyzed: 16-MAR-10 11:57

Units: ug/kg

Cas No.	Compound	Concentration*	Q
3058-38-6	TATB	8490	
59229-75-3	2,6-Diamino-4-nitrotoluene	4830	
618-87-1	3,5-Dinitroaniline	4960	
6629-29-4	2,4-Diamino-6-nitrotoluene	4460	
78-30-8	tris(o-cresyl) phosphate	5140	

*Concentration =

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

OK 3/18/10

Sample Name: "1202049833" Sample ID: "95605321ER" File: "EX503160015.will"

Peak Name: "35-Dinitroanilins" Mass(es): "182.046.0 amu"

Comment: "LCX832125" Annotation: "

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 496 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 11:57:40 AM

Modified: Yes

Proc. Algorithm: IntelliQuan - IOA

Min. Peak Height: 2000.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 15.0 sec

Expected RT: 8.15 min

Use Relative RT: No

Int. Type: Valley

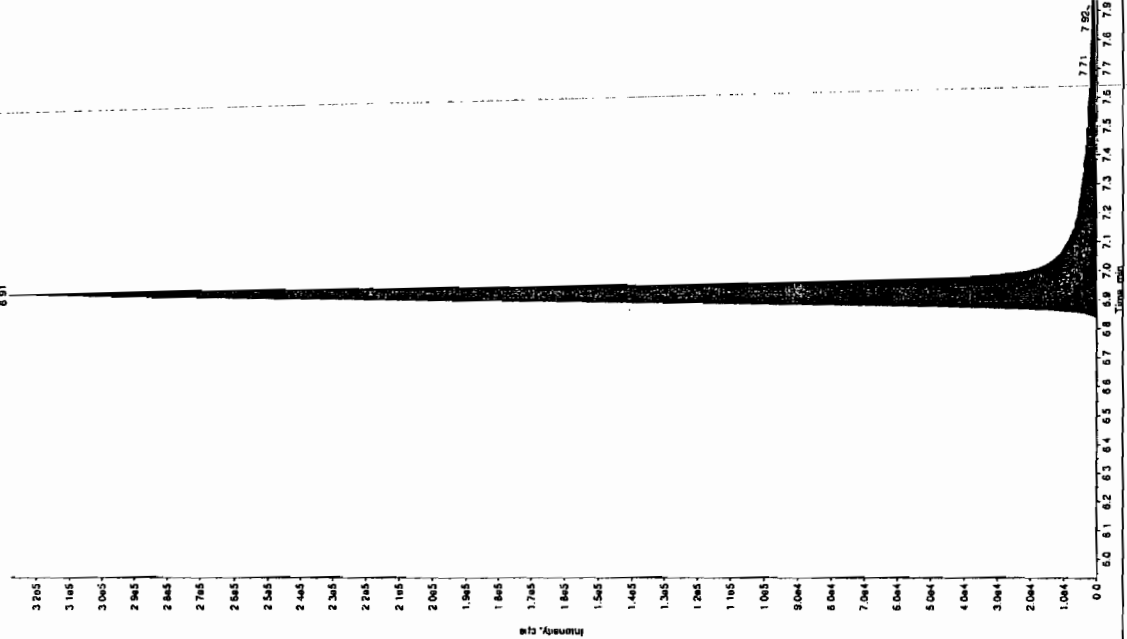
Retention Time: 8.15 min

Peak Height: 4.38e+006 counts

Weight: 1101004.639 cps

Start Time: 8.08 min

End Time: 8.28 min



Sample Name: "1202049833" Sample ID: "95605321ER" File: "EX503160015.will"

Peak Name: "TATB" Mass(es): "257.2204 g amu"

Comment: "LCX832125" Annotation: "

Sample Index: 1

Sample Type: Unknown

Concentration: N/A

Calculated Conc: 496 ng/mL

Acq. Date: 3/16/2010

Acq. Time: 11:57:40 AM

Modified: No

Proc. Algorithm: IntelliQuan - IOA

Min. Peak Height: 1500.00 cps

Min. Peak Width: 0.00 sec

Smoothing Width: 3 points

RT Window: 30.0 sec

Expected RT: 6.93 min

Use Relative RT: No

Int. Type: Valley

Retention Time: 6.91 min

Peak Height: 1.46e+006 counts

Weight: 3382019.96 cps

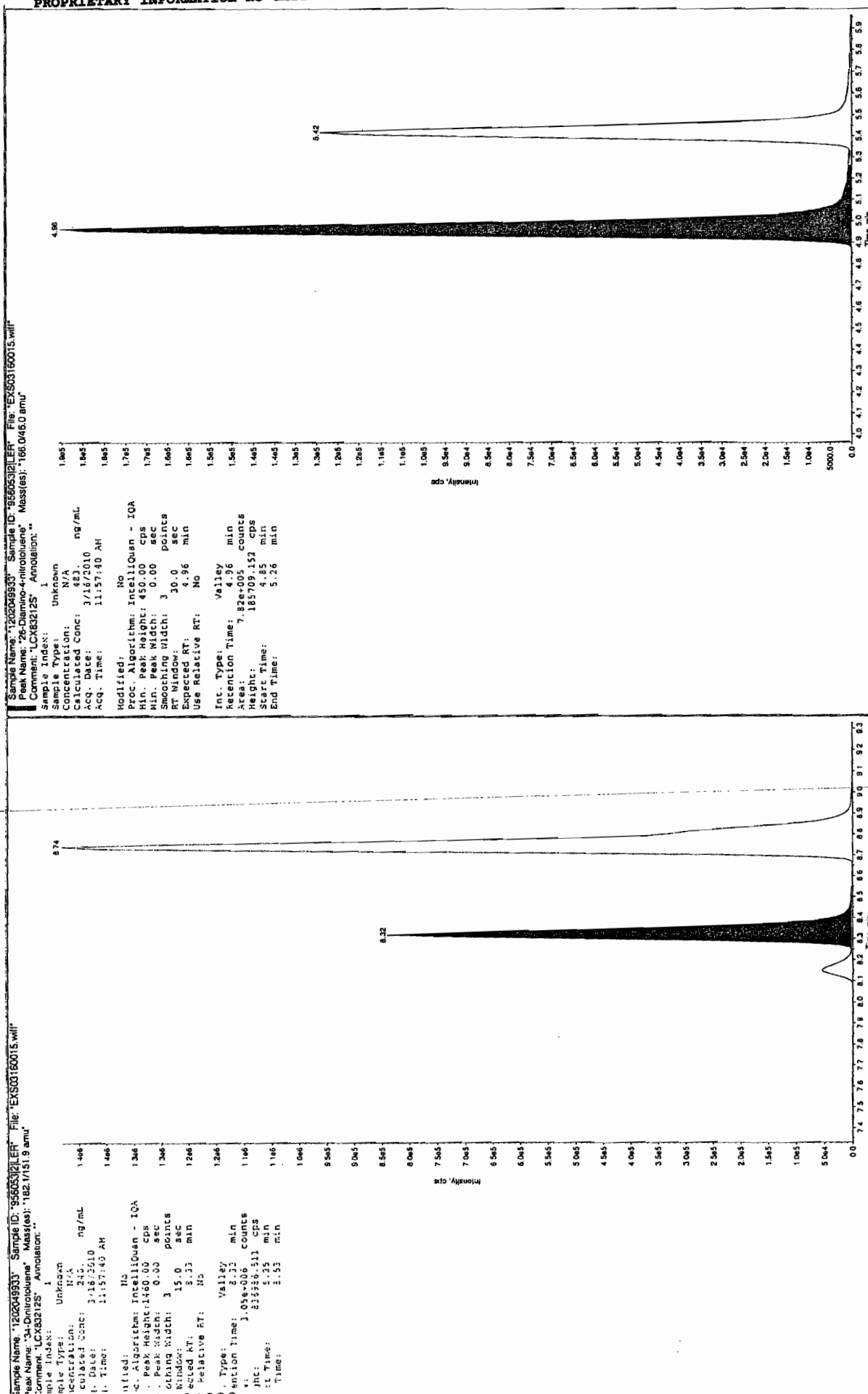
Start Time: 6.81 min

End Time: 7.01 min



4/11/03 12:10

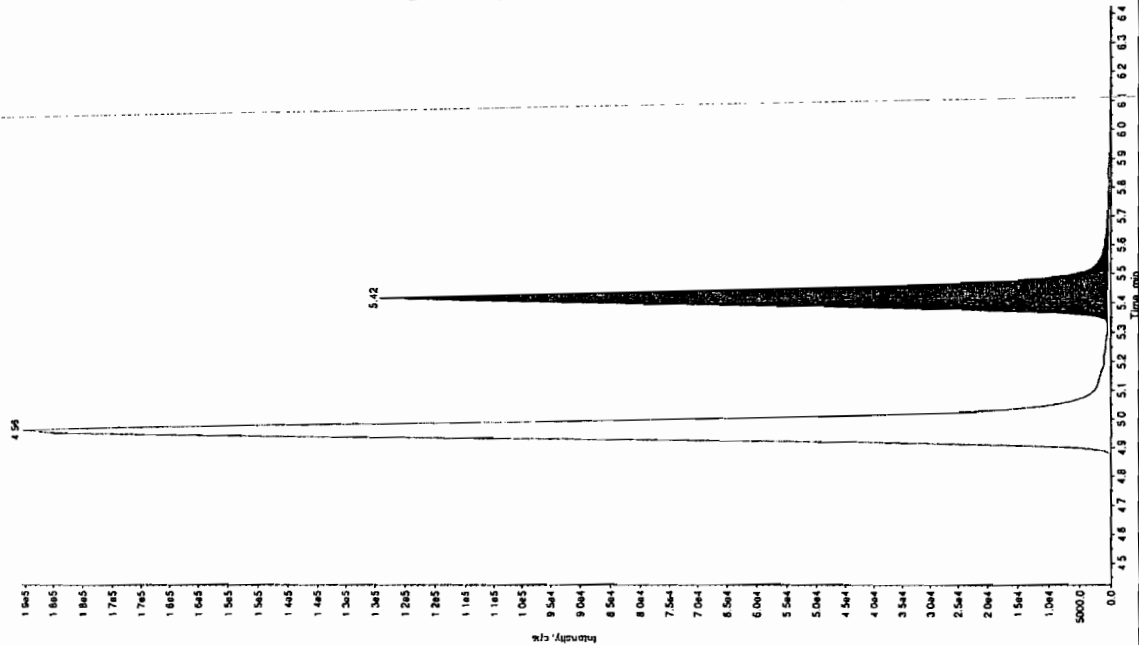
SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4



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

Sample Name: "1202049933" Sample ID: "956053121ER" File: "EX503160015.wif"
 Peak Name: "24-Diamino-6-nitrocholine" Mass(es): "359.1/91.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 514. ng/mL
 Acq. Date: 3/18/2010
 Acq. Time: 11:57:40 AM
 Modified: No
 Proc Algorithm: IntelliQuan - IOA
 Min. Peak Height: 8000.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 10.9 min
 Area: 6.36e-006 counts
 Height: 1482809.937 cps
 Start Time: 10.8 min
 End Time: 11.2 min



Sample Name: "1202049933" Sample ID: "956053121ER" File: "EX503160015.wif"
 Peak Name: "24-Diamino-6-nitrocholine" Mass(es): "166.0/46.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 446. ng/mL
 Acq. Date: 3/18/2010
 Acq. Time: 11:57:40 AM
 Modified: No
 Proc Algorithm: IntelliQuan - IOA
 Min. Peak Height: 350.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 30.0 sec
 Expected RT: 5.43 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 5.43 min
 Area: 4.43e-005 counts
 Height: 123592.911 cps
 Start Time: 5.33 min
 End Time: 5.53 min

MISCELLANEOUS DATA

Prep Logbook Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC)

Batch ID: 956051
 Analyst: Sirena White
 Method: SW846 8330 PREP

Verified by: _____

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)
1202049932 MB	25-FEB-2010 16:42:00	2	10	5
1202049933 LCS	25-FEB-2010 16:42:00	2	10	5
247545001	25-FEB-2010 16:42:00	2	10	5
247545002	25-FEB-2010 16:42:00	2	10	5
247551001	25-FEB-2010 16:42:00	2	10	5
247551002	25-FEB-2010 16:42:00	2	10	5
247552002	25-FEB-2010 16:42:00	2	10	5
247556001	25-FEB-2010 16:42:00	2	10	5
1202049934 MS (247556001)	25-FEB-2010 16:42:00	2	10	5
1202049935 MSD (247556001)	25-FEB-2010 16:42:00	2	10	5
247556002	25-FEB-2010 16:42:00	2	10	5
247556003	25-FEB-2010 16:42:00	2	10	5
247556004	25-FEB-2010 16:42:00	2	10	5
247556005	25-FEB-2010 16:42:00	2	10	5
247565001	25-FEB-2010 16:42:00	2	10	5
247565002	25-FEB-2010 16:42:00	2	10	5
247565003	25-FEB-2010 16:42:00	2	10	5
247565004	25-FEB-2010 16:42:00	2	10	5
247565005	25-FEB-2010 16:42:00	2	10	5
247565006	25-FEB-2010 16:42:00	2	10	5
247565007	25-FEB-2010 16:42:00	2	10	5
247565008	25-FEB-2010 16:42:00	2	10	5
247565009	25-FEB-2010 16:42:00	2	10	5
247565010	25-FEB-2010 16:42:00	2	10	5

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202049933	8321 Explosives LCS	IXX100208-03	.1	mL	Final Solvent: ACN
LCS	1202049933	8321 LANL Explosives Mix 10mg/L	UXX100210-02.4	1	mL	
MS	1202049934	8321 Explosives LCS	IXX100208-03	.1	mL	
MS	1202049934	8321 LANL Explosives Mix 10mg/L	UXX100210-02.4	1	mL	
MSD	1202049935	8321 Explosives LCS	IXX100208-03	.1	mL	
MSD	1202049935	8321 LANL Explosives Mix 10mg/L	UXX100210-02.4	1	mL	
SURR	All	3,4-Dinitrotoluene (8330 Sur.) 100ppm	IXP100223-02	.05	mL	

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCOMSMS #1

Reviewed BY: *thm*
Date: *03/24/10*
SOP: GL-OA-E-056 Rev.12
Alt Check Std. ID: WXX100319-07

Method: SW846 8321A-Modified
Int. Std.: UXX100309-01.1
Mobile Phase Lot#: 1285274, 1281642
Standard-Samp Reagent Lot#: 1283379, 1284736

Date: 03/19/10
Extr. Injection Volume: 50uL
Sequence Number: 031910expA
Initial Calibration Date: 03/19/10

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC_Flag
EXP0319001a	XIBLK01	MAP	3/19/10 16:54			1		USE	B
EXP0319002a	XIBLK01	MAP	3/19/10 17:23			1		USE	B
EXP0319003a	WXXICAL-01	MAP	3/19/10 17:53			1		USE	I
EXP0319004a	WXXICAL-02	MAP	3/19/10 18:22			1		USE	I
EXP0319005a	WXXICAL-03	MAP	3/19/10 18:52			1		USE	I
EXP0319006a	WXXICAL-04	MAP	3/19/10 19:21			1		USE	I
EXP0319007a	WXXICAL-05	MAP	3/19/10 19:51			1		USE	I
EXP0319008a	WXXICAL-06	MAP	3/19/10 20:20			1		USE	I
EXP0319009a	XIBLK02	MAP	3/19/10 20:50			1		USE	B
EXP0319010a	WXXICV	MAP	3/19/10 21:19			1		USE	C
EXP0319011a	XIBLK03	MAP	3/19/10 21:49			1		USE	B
EXP0319012a	WXXCRI	MAP	3/19/10 22:18			1		USE	C
EXP0319013a	247346004	MAP	3/19/10 22:48	955065	10-1911	2	LANL	USE	S
EXP0319014a	247346005	MAP	3/19/10 23:17	955065	10-1911	2	LANL	USE	S
EXP0319015a	247346006	MAP	3/19/10 23:47	955065	10-1911	2	LANL	USE	S
EXP0319016a	247346007	MAP	3/20/10 0:16	955065	10-1911	2	LANL	USE	S
EXP0319017a	247346008	MAP	3/20/10 0:46	955065	10-1911	2	LANL	USE	S
EXP0319018a	247358001	MAP	3/20/10 1:15	955065	10-1914	2	LANL	USE	S
EXP0319019a	247358002	MAP	3/20/10 1:45	955065	10-1914	2	LANL	USE	S
EXP0319020a	247358003	MAP	3/20/10 2:14	955065	10-1914	2	LANL	USE	S
EXP0319021a	247358004	MAP	3/20/10 2:44	955065	10-1914	2	LANL	USE	S
EXP0319022a	WXXCCV	MAP	3/20/10 3:13			1		USE	C
EXP0319023a	XIBLK04	MAP	3/20/10 3:43			1		USE	B
EXP0319024a	WXXCRI	MAP	3/20/10 4:12			1		USE	C
EXP0319025a	248259006	MAP	3/20/10 4:41	958286	10-2148	10	LANL	USE	S
EXP0319026a	1202055085	MAP	3/20/10 5:11	958286	10-2051	2	LANL	USE	S
EXP0319027a	XIBLK05	MAP	3/20/10 5:41			1		USE	B
EXP0319028a	1202049901	MAP	3/20/10 6:10	956045	Various	2	LANL	USE	S
EXP0319029a	1202049902	MAP	3/20/10 6:40	956045	Various	2	LANL	USE	S

EXP0319030a	247421002	MAP	3/20/10 7:09	956045	10-1920	2	LANL	USE	S
EXP0319031a	1202049903	MAP	3/20/10 7:38	956045	10-1920	2	LANL	USE	S
EXP0319032a	1202049904	MAP	3/20/10 8:08	956045	10-1920	2	LANL	USE	S
EXP0319033a	247421003	MAP	3/20/10 8:37	956045	10-1920	2	LANL	USE	S
EXP0319034a	WXXCVC	MAP	3/20/10 9:07			1		USE	C
EXP0319035a	XIBLK06	MAP	3/20/10 9:36			1		USE	B
EXP0319036a	WXXCRI	MAP	3/20/10 10:06			1		USE	C
EXP0319037a	247421004	MAP	3/20/10 10:35	956045	10-1920	2	LANL	USE	S
EXP0319038a	247421005	MAP	3/20/10 11:05	956045	10-1920	2	LANL	USE	S
EXP0319039a	247421006	MAP	3/20/10 11:34	956045	10-1920	2	LANL	USE	S
EXP0319040a	247421007	MAP	3/20/10 12:04	956045	10-1920	2	LANL	USE	S
EXP0319041a	247450002	MAP	3/20/10 12:33	956045	10-1937	2	LANL	USE	S
EXP0319042a	247450003	MAP	3/20/10 13:03	956045	10-1937	2	LANL	USE	S
EXP0319043a	247450004	MAP	3/20/10 13:32	956045	10-1937	2	LANL	USE	S
EXP0319044a	247450005	MAP	3/20/10 14:02	956045	10-1937	2	LANL	USE	S
EXP0319045a	247450006	MAP	3/20/10 14:31	956045	10-1937	2	LANL	USE	S
EXP0319046a	247450007	MAP	3/20/10 15:01	956045	10-1937	2	LANL	USE	S
EXP0319047a	WXXCVC	MAP	3/20/10 15:30			1	LANL	DUSE-RA	S
EXP0319048a	XIBLK07	MAP	3/20/10 16:00			1		USE	C
EXP0319049a	WXXCRI	MAP	3/20/10 16:30			1		USE	B
EXP0319050a	247450007	MAP	3/20/10 16:59	956045	10-1937	2	LANL	USE	S
EXP0319051a	247562002	MAP	3/20/10 17:29	956045	10-1950	2	LANL	USE	S
EXP0319052a	247562003	MAP	3/20/10 17:58	956045	10-1950	2	LANL	USE	S
EXP0319053a	247562004	MAP	3/20/10 18:28	956045	10-1950	2	LANL	DUSE-RA	S
EXP0319054a	247562005	MAP	3/20/10 18:57	956045	10-1950	2	LANL	USE	S
EXP0319055a	247562006	MAP	3/20/10 19:27	956045	10-1950	2	LANL	USE	S
EXP0319056a	247562007	MAP	3/20/10 19:56	956045	10-1950	2	LANL	USE	S
EXP0319057a	247562008	MAP	3/20/10 20:26	956045	10-1950	2	LANL	USE	S
EXP0319058a	247562009	MAP	3/20/10 20:55	956045	10-1950	2	LANL	USE	S
EXP0319059a	WXXCVC	MAP	3/20/10 21:24			1		USE	C
EXP0319060a	XIBLK08	MAP	3/20/10 21:54			1		USE	B
EXP0319061a	WXXCRI	MAP	3/20/10 22:24			1		USE	C
EXP0319062a	1202049932	MAP	3/20/10 22:53	956053	Various	2	LANL	USE	S
EXP0319063a	1202049933	MAP	3/20/10 23:23	956053	Various	2	LANL	USE	S
EXP0319064a	247545001	MAP	3/20/10 23:52	956053	10-1964	2	LANL	USE	S
EXP0319065a	247545002	MAP	3/21/10 0:22	956053	10-1964	2	LANL	USE	S
EXP0319066a	247551001	MAP	3/21/10 0:51	956053	10-1969	2	LANL	USE	S

EXP0319067a	247551002	MAP	3/21/10 1:21	956053	10-1969	2	LANL	USE	S
EXP0319068a	247552002	MAP	3/21/10 1:50	956053	10-1970	2	LANL	USE	S
EXP0319069a	247556001	MAP	3/21/10 2:20	956053	10-1953	2	LANL	USE	S
EXP0319070a	1202049934	MAP	3/21/10 2:49	956053	10-1953	2	LANL	USE	S
EXP0319071a	1202049935	MAP	3/21/10 3:19	956053	10-1953	2	LANL	USE	S
EXP0319072a	WXXCCV	MAP	3/21/10 3:48			1		USE	C
EXP0319073a	XIBLK09	MAP	3/21/10 4:18			1		USE	B
EXP0319074a	WXXCRI	MAP	3/21/10 4:47			1		USE	C
EXP0319075a	247556002	MAP	3/21/10 5:17	956053	10-1953	2	LANL	USE	S
EXP0319076a	247556003	MAP	3/21/10 5:46	956053	10-1953	2	LANL	USE	S
EXP0319077a	247556004	MAP	3/21/10 6:16	956053	10-1953	2	LANL	USE	S
EXP0319078a	247556005	MAP	3/21/10 6:45	956053	10-1953	2	LANL	USE	S
EXP0319079a	247556001	MAP	3/21/10 7:15	956053	10-1956	2	LANL	USE	S
EXP0319080a	247556002	MAP	3/21/10 7:44	956053	10-1956	2	LANL	USE	S
EXP0319081a	247556003	MAP	3/21/10 8:14	956053	10-1956	2	LANL	USE	S
EXP0319082a	247556004	MAP	3/21/10 8:43	956053	10-1956	2	LANL	USE	S
EXP0319083a	247556005	MAP	3/21/10 9:13	956053	10-1956	2	LANL	USE	S
EXP0319084a	247556006	MAP	3/21/10 9:42	956053	10-1956	2	LANL	USE	S
EXP0319085a	WXXCCV	MAP	3/21/10 10:12			1		USE	C
EXP0319086a	XIBLK10	MAP	3/21/10 10:41			1		USE	B
EXP0319087a	WXXCRI	MAP	3/21/10 11:11			1		USE	C
EXP0319088a	247565007	MAP	3/21/10 11:40	956053	10-1956	2	LANL	DUSE-RA	S
EXP0319089a	247565008	MAP	3/21/10 12:10	956053	10-1956	2	LANL	DUSE-RA	S
EXP0319090a	247565009	MAP	3/21/10 12:40	956053	10-1956	2	LANL	DUSE-RA	S
EXP0319091a	247565010	MAP	3/21/10 13:09	956053	10-1956	2	LANL	DUSE-RA	S
EXP0319092a	247562004	MAP	3/21/10 13:39	956045	10-1950	2	LANL	DUSE-RA	S
EXP0319093a	1202035690	MAP	3/21/10 14:08	955087	Various	2	LANL	DUSE-RA	S
EXP0319094a	1202035691	MAP	3/21/10 14:38	955087	Various	2	LANL	DUSE-RA	S
EXP0319095a	246434002	MAP	3/21/10 15:07	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319096a	1202035692	MAP	3/21/10 15:37	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319097a	1202035693	MAP	3/21/10 16:06	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319098a	WXXCCV	MAP	3/21/10 16:36			1		DUSE	C
EXP0319099a	XIBLK11	MAP	3/21/10 17:05			1		DUSE	B
EXP0319100a	WXXCRI	MAP	3/21/10 17:35			1		DUSE	C
EXP0319101a	246434003	MAP	3/21/10 18:04	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319102a	246434004	MAP	3/21/10 18:34	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319103a	246434005	MAP	3/21/10 19:03	955087	10-1620	2	LANL	DUSE-RA	S

EXP0319104a	246434006	MAP	3/21/10 19:33	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319105a	246434007	MAP	3/21/10 20:02	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319106a	246434008	MAP	3/21/10 20:32	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319107a	246434009	MAP	3/21/10 21:01	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319108a	246434010	MAP	3/21/10 21:31	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319109a	246434011	MAP	3/21/10 22:00	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319110a	246434012	MAP	3/21/10 22:30	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319111a	WXXCCV	MAP	3/21/10 22:59			1		DUSE	C
EXP0319112a	XIBLK12	MAP	3/21/10 23:29			1		DUSE	B
EXP0319113a	WXXCRI	MAP	3/21/10 23:58			1		DUSE	C
EXP0319114a	246434013	MAP	3/22/10 0:28	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319115a	246434014	MAP	3/22/10 0:57	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319116a	246434015	MAP	3/22/10 1:27	955087	10-1620	2	LANL	DUSE-RA	S
EXP0319117a	246442002	MAP	3/22/10 1:56	955087	10-1623	2	LANL	DUSE-RA	S
EXP0319118a	246442003	MAP	3/22/10 2:26	955087	10-1623	2	LANL	DUSE-RA	S
EXP0319119a	246442004	MAP	3/22/10 2:55	955087	10-1623	2	LANL	DUSE-RA	S
EXP0319120a	246442005	MAP	3/22/10 3:25	955087	10-1623	2	LANL	DUSE-RA	S
EXP0319121a	246442006	MAP	3/22/10 3:54	955087	10-1623	2	LANL	DUSE-RA	S
EXP0319122a	WXXCCV	MAP	3/22/10 4:24			1		DUSE	C
EXP0319123a	XIBLK13	MAP	3/22/10 4:53			1		DUSE	B
EXP0319124a	WXXCRI	MAP	3/22/10 5:23			1		DUSE	C

GEL ORGANIC RUN LOG

INSTRUMENT ID: LCMSMS4

Date: 03/16/10
 Extr. Injection Volume: 10uL
 Sequence Number: 031610exs
 Initial Calibration Date: 031610
 Method: 8321A-Modified
 Int. Std.: N/A
 Mobile Phase Lot#: 1268566, 1268568
 Standard-Samp Reagent Lot# : 1274562, 1261217
 Reviewed By: *thw*
 Date: 03/22/10
 SOP: GL-OA-E-056 Rev.12
 Alt Check Std. ID: WXX100316-26

DataFile	Sample	Analyst	Injection Date	Batch	SDG	Dilution	Client	Comments	QC Flag
EXS03160001.wiff	XIBLK01	LER	3/16/2010 8:17			1		USE	B
EXS03160002.wiff	XIBLK01	LER	3/16/2010 8:33			1		USE	B
EXS03160003.wiff	WXXICAL-19	LER	3/16/2010 8:49			1		USE	I
EXS03160004.wiff	WXXICAL-20	LER	3/16/2010 9:04			1		USE	I
EXS03160005.wiff	WXXICAL-21	LER	3/16/2010 9:20			1		USE	I
EXS03160006.wiff	WXXICAL-22	LER	3/16/2010 9:36			1		USE	I
EXS03160007.wiff	WXXICAL-23	LER	3/16/2010 9:52			1		USE	I
EXS03160008.wiff	WXXICAL-24	LER	3/16/2010 10:07			1		USE	I
EXS03160009.wiff	WXXICAL-25	LER	3/16/2010 10:23			1		USE	I
EXS03160010.wiff	XIBLK02	LER	3/16/2010 10:39			1		USE	I
EXS03160011.wiff	WXXICV	LER	3/16/2010 10:54			1		USE	B
EXS03160012.wiff	XIBLK03	LER	3/16/2010 11:10			1		USE	C
EXS03160013.wiff	WXXCR1	LER	3/16/2010 11:26			1		USE	B
EXS03160014.wiff	1202049932	LER	3/16/2010 11:41	956053	VARIOUS	2	LANL	USE	C
EXS03160015.wiff	1202049933	LER	3/16/2010 11:57	956053	VARIOUS	2	LANL	USE	S
EXS03160016.wiff	247545001	LER	3/16/2010 12:13	956053	10-1964	2	LANL	USE	S
EXS03160017.wiff	247545002	LER	3/16/2010 12:29	956053	10-1964	2	LANL	USE	S
EXS03160018.wiff	247551001	LER	3/16/2010 12:44	956053	10-1969	2	LANL	USE	S
EXS03160019.wiff	247551002	LER	3/16/2010 13:00	956053	10-1969	2	LANL	USE	S
EXS03160020.wiff	247552002	LER	3/16/2010 13:16	956053	10-1970	2	LANL	USE	S
EXS03160021.wiff	247556001	LER	3/16/2010 13:31	956053	10-1953	2	LANL	USE	S
EXS03160022.wiff	1202049934	LER	3/16/2010 13:47	956053	10-1953	2	LANL	USE	S
EXS03160023.wiff	1202049935	LER	3/16/2010 14:03	956053	10-1953	2	LANL	USE	S
EXS03160024.wiff	WXXCCV	LER	3/16/2010 14:18			1		USE	C
EXS03160025.wiff	XIBLK04	LER	3/16/2010 14:34			1		USE	B
EXS03160026.wiff	WXXCR1	LER	3/16/2010 14:50			1		USE	C
EXS03160027.wiff	247556002	LER	3/16/2010 15:06	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160028.wiff	247556003	LER	3/16/2010 15:21	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160029.wiff	247556004	LER	3/16/2010 15:37	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160030.wiff	247556005	LER	3/16/2010 15:53	956053	10-1953	2	LANL	DUSE-RA	S

EXS03160031.wiff	247565001	LER	3/16/2010 16:08	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160032.wiff	247565002	LER	3/16/2010 16:24	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160033.wiff	247565003	LER	3/16/2010 16:40	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160034.wiff	247565004	LER	3/16/2010 16:56	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160035.wiff	247565005	LER	3/16/2010 17:11	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160036.wiff	247565006	LER	3/16/2010 17:27	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160037.wiff	WXXCVC	LER	3/16/2010 17:43			1		DUSE	C
EXS03160038.wiff	XIBLK05	LER	3/16/2010 17:58			1		DUSE	B
EXS03160039.wiff	WXXCRI	LER	3/16/2010 18:14			1		DUSE	C
EXS03160040.wiff	247565007	LER	3/16/2010 18:30	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160041.wiff	247565008	LER	3/16/2010 18:45	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160042.wiff	247565009	LER	3/16/2010 19:01	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160043.wiff	247565010	LER	3/16/2010 19:17	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160044.wiff	XIBLK06	LER	3/16/2010 19:33			1		DUSE-RA	B
EXS03160045.wiff	1202055047	LER	3/16/2010 19:48	958273	VARIOUS	2	LANL	DUSE-RA	S
EXS03160046.wiff	1202055048	LER	3/16/2010 20:04	958273	VARIOUS	2	LANL	DUSE-RA	S
EXS03160047.wiff	248059002	LER	3/16/2010 20:20	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160048.wiff	248059003	LER	3/16/2010 20:36	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160049.wiff	248059004	LER	3/16/2010 20:51	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160050.wiff	WXXCVC	LER	3/16/2010 21:07			1		USE	C
EXS03160051.wiff	XIBLK07	LER	3/16/2010 21:23			1		USE	B
EXS03160052.wiff	WXXCRI	LER	3/16/2010 21:38			1		USE	C
EXS03160053.wiff	248059005	LER	3/16/2010 21:54	958273	10-2082	2	LANL	USE	S
EXS03160054.wiff	248059006	LER	3/16/2010 22:10	958273	10-2082	2	LANL	USE	S
EXS03160055.wiff	248059007	LER	3/16/2010 22:26	958273	10-2082	2	LANL	USE	S
EXS03160056.wiff	248059008	LER	3/16/2010 22:41	958273	10-2082	2	LANL	USE	S
EXS03160057.wiff	248059009	LER	3/16/2010 22:57	958273	10-2082	2	LANL	USE	S
EXS03160058.wiff	248060003	LER	3/16/2010 23:13	958273	10-2080	2	LANL	USE	S
EXS03160059.wiff	248060004	LER	3/16/2010 23:28	958273	10-2080	2	LANL	USE	S
EXS03160060.wiff	248060005	LER	3/16/2010 23:44	958273	10-2080	2	LANL	USE	S
EXS03160061.wiff	248060006	LER	3/17/2010 0:00	958273	10-2080	2	LANL	USE	S
EXS03160062.wiff	WXXCVC	LER	3/17/2010 0:16			1		USE	C
EXS03160063.wiff	XIBLK08	LER	3/17/2010 0:31			1		USE	B
EXS03160064.wiff	WXXCRI	LER	3/17/2010 0:47			1		USE	C
EXS03160065.wiff	248064001	LER	3/17/2010 1:03	958273	10-2085	2	LANL	USE	S
EXS03160066.wiff	1202055049	LER	3/17/2010 1:18	958273	10-2085	2	LANL	USE	S
EXS03160067.wiff	1202055050	LER	3/17/2010 1:34	958273	10-2085	2	LANL	USE	S

EXS03160068.wiff	248064002	LER	3/17/2010 1:50	958273	10-2085	2	LANL	USE	S
EXS03160069.wiff	248064003	LER	3/17/2010 2:06	958273	10-2085	2	LANL	USE	S
EXS03160070.wiff	248064004	LER	3/17/2010 2:21	958273	10-2085	2	LANL	USE	S
EXS03160071.wiff	248064005	LER	3/17/2010 2:37	958273	10-2085	2	LANL	USE	S
EXS03160072.wiff	248064006	LER	3/17/2010 2:53	958273	10-2085	2	LANL	USE	S
EXS03160073.wiff	248064007	LER	3/17/2010 3:08	958273	10-2085	2	LANL	USE	S
EXS03160074.wiff	248064008	LER	3/17/2010 3:24	958273	10-2085	2	LANL	USE	S
EXS03160075.wiff	WXXCVC	LER	3/17/2010 3:40			1		USE	C
EXS03160076.wiff	XIBLK09	LER	3/17/2010 3:55			1		USE	B
EXS03160077.wiff	WXXCRI	LER	3/17/2010 4:11			1		USE	C
EXS03160078.wiff	1202057490	LER	3/17/2010 4:27	959334	VARIOUS	2	LANL	USE	S
EXS03160079.wiff	1202057491	LER	3/17/2010 4:43	959334	VARIOUS	2	LANL	USE	S
EXS03160080.wiff	248202001	LER	3/17/2010 4:58	959334	10-2124	2	LANL	USE	S
EXS03160081.wiff	248202002	LER	3/17/2010 5:14	959334	10-2124	2	LANL	USE	S
EXS03160082.wiff	248203002	LER	3/17/2010 5:30	959334	10-2125	2	LANL	USE	S
EXS03160083.wiff	248234001	LER	3/17/2010 5:45	959334	10-2131	2	LANL	USE	S
EXS03160084.wiff	248234002	LER	3/17/2010 6:01	959334	10-2131	2	LANL	USE	S
EXS03160085.wiff	248234003	LER	3/17/2010 6:17	959334	10-2131	2	LANL	USE	S
EXS03160086.wiff	248234004	LER	3/17/2010 6:32	959334	10-2131	2	LANL	USE	S
EXS03160087.wiff	248234005	LER	3/17/2010 6:48	959334	10-2131	2	LANL	USE	S
EXS03160088.wiff	WXXCVC	LER	3/17/2010 7:04			1		USE	C
EXS03160089.wiff	XIBLK10	LER	3/17/2010 7:20			1		USE	B
EXS03160090.wiff	WXXCRI	LER	3/17/2010 7:35			1		USE	C
EXS03160091.wiff	248234006	LER	3/17/2010 7:51	959334	10-2131	2	LANL	USE	S
EXS03160092.wiff	248234007	LER	3/17/2010 8:07	959334	10-2131	2	LANL	USE	S
EXS03160093.wiff	248240001	LER	3/17/2010 8:22	959334	10-2134	2	LANL	USE	S
EXS03160094.wiff	1202057492	LER	3/17/2010 8:38	959334	10-2134	2	LANL	USE	S
EXS03160095.wiff	1202057493	LER	3/17/2010 8:54	959334	10-2134	2	LANL	USE	S
EXS03160096.wiff	248240002	LER	3/17/2010 9:10	959334	10-2134	2	LANL	USE	S
EXS03160097.wiff	248240003	LER	3/17/2010 9:25	959334	10-2134	2	LANL	USE	S
EXS03160098.wiff	248240004	LER	3/17/2010 9:41	959334	10-2134	2	LANL	USE	S
EXS03160099.wiff	248240005	LER	3/17/2010 9:57	959334	10-2134	2	LANL	USE	S
EXS03160100.wiff	248240006	LER	3/17/2010 10:12	959334	10-2134	2	LANL	USE	S
EXS03160101.wiff	WXXCVC	LER	3/17/2010 10:28			1		USE	C
EXS03160102.wiff	XIBLK11	LER	3/17/2010 10:44			1		USE	B
EXS03160103.wiff	WXXCRI	LER	3/17/2010 10:59			1		USE	C
EXS03160104.wiff	248240007	LER	3/17/2010 11:15	959334	10-2134	2	LANL	USE	S

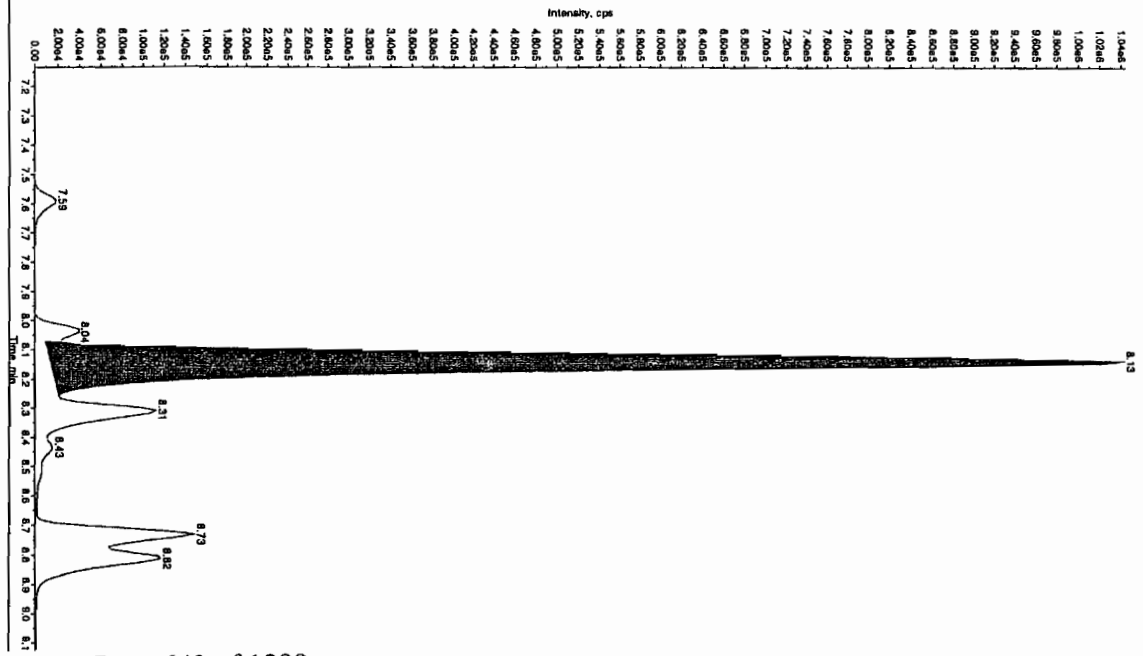
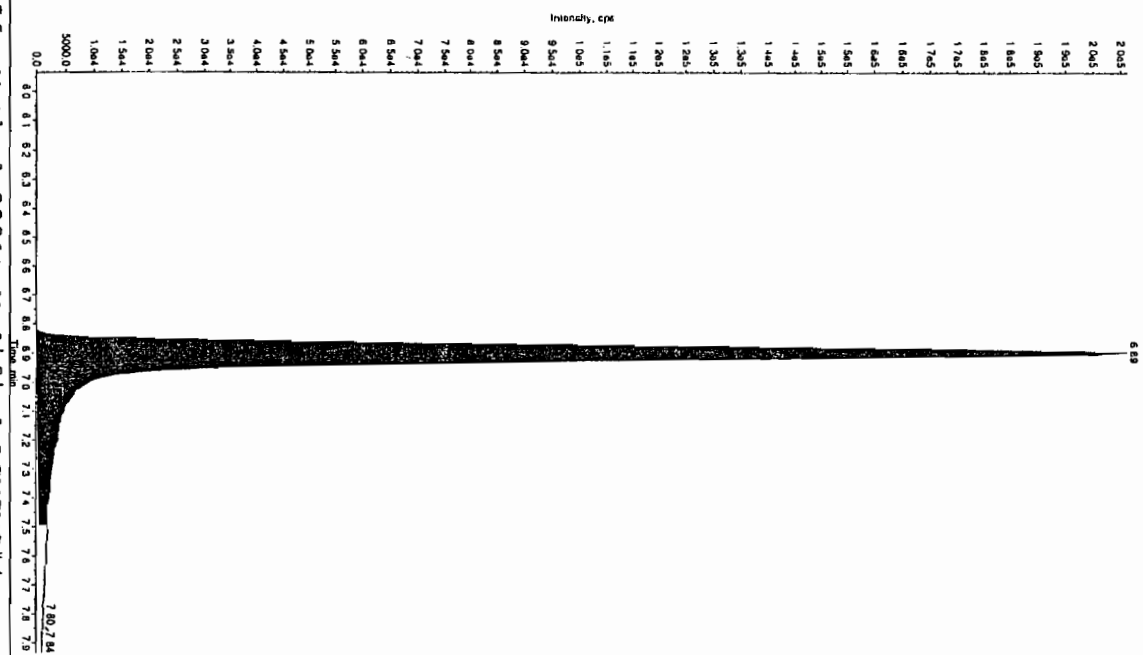
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EXS03160107.wiff	248240010	LER	3/17/2010 12:02	959334	10-2134	2	LANL	USE	S
EXS03160108.wiff	WXXCCV	LER	3/17/2010 12:18			1		USE	C
EXS03160109.wiff	XIBLK12	LER	3/17/2010 12:34			1		USE	B
EXS03160110.wiff	WXXCRI	LER	3/17/2010 12:49			1		USE	C
EXS03160111.wiff	247556002	LER	3/17/2010 13:05	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160112.wiff	247556003	LER	3/17/2010 13:21	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160113.wiff	247556004	LER	3/17/2010 13:37	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160114.wiff	247556005	LER	3/17/2010 13:52	956053	10-1953	2	LANL	DUSE-RA	S
EXS03160115.wiff	247556001	LER	3/17/2010 14:08	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160116.wiff	247556002	LER	3/17/2010 14:24	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160117.wiff	247556003	LER	3/17/2010 14:39	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160118.wiff	247556004	LER	3/17/2010 14:55	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160119.wiff	247556005	LER	3/17/2010 15:11	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160120.wiff	247556006	LER	3/17/2010 15:27	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160121.wiff	WXXCCV	LER	3/17/2010 15:42			1		DUSE	C
EXS03160122.wiff	XIBLK13	LER	3/17/2010 15:58			1		DUSE	B
EXS03160123.wiff	WXXCRI	LER	3/17/2010 16:14			1		DUSE	C
EXS03160124.wiff	247556007	LER	3/17/2010 16:29	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160125.wiff	247556008	LER	3/17/2010 16:45	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160126.wiff	247556009	LER	3/17/2010 17:01	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160127.wiff	247556010	LER	3/17/2010 17:17	956053	10-1956	2	LANL	DUSE-RA	S
EXS03160128.wiff	XIBLK14	LER	3/17/2010 17:32			1		DUSE-RA	B
EXS03160129.wiff	1202055047	LER	3/17/2010 17:48	958273	VARIOUS	2	LANL	DUSE-RA	S
EXS03160130.wiff	1202055048	LER	3/17/2010 18:04	958273	VARIOUS	2	LANL	DUSE-RA	S
EXS03160131.wiff	248059002	LER	3/17/2010 18:19	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160132.wiff	248059003	LER	3/17/2010 18:35	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160133.wiff	248059004	LER	3/17/2010 18:51	958273	10-2082	2	LANL	DUSE-RA	S
EXS03160134.wiff	WXXCCV	LER	3/17/2010 19:07			1		USE	C
EXS03160135.wiff	XIBLK15	LER	3/17/2010 19:22			1		USE	B
EXS03160136.wiff	WXXCRI	LER	3/17/2010 19:38			1		USE	C
EXS03160137.wiff	1202047270	LER	3/17/2010 19:54	954941	10-1886	2	LANL	USE	S
EXS03160138.wiff	1202047271	LER	3/17/2010 20:09	954941	10-1886	2	LANL	USE	S
EXS03160139.wiff	247261003	LER	3/17/2010 20:25	954941	10-1886	2	LANL	USE	S
EXS03160140.wiff	1202047272	LER	3/17/2010 20:41	954941	10-1886	2	LANL	USE	S
EXS03160141.wiff	1202047273	LER	3/17/2010 20:57	954941	10-1886	2	LANL	USE	S

EXS03160142.wiff	WXXCCV	LER	3/17/2010 21:12	1		USE	C
EXS03160143.wiff	XIBLK16	LER	3/17/2010 21:28	1		USE	B
EXS03160144.wiff	WXXCRI	LER	3/17/2010 21:44	1		USE	C
EXS03160145.wiff	UXX100223-02.2	LER	3/17/2010 21:59	2	SCREEN	O2SI	S
EXS03160146.wiff	XIBLK17	LER	3/17/2010 22:15	1		USE	B
EXS03160147.wiff	1202055940	LER	3/17/2010 22:31	2	958640	VARIOUS	S
EXS03160148.wiff	1202055941	LER	3/17/2010 22:46	2	958640	VARIOUS	S
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EXS03160151.wiff	248130004	LER	3/17/2010 23:34	2	958640	10-2097	S
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EXS03160153.wiff	248184002	LER	3/18/2010 0:05	2	958640	10-2119	S
EXS03160154.wiff	248184003	LER	3/18/2010 0:21	2	958640	10-2119	S
EXS03160155.wiff	WXXCCV	LER	3/18/2010 0:36	1		USE	C
EXS03160156.wiff	XIBLK18	LER	3/18/2010 0:52	1		USE	B
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EXS03160159.wiff	1202055942	LER	3/18/2010 1:39	2	958640	10-2121	S
EXS03160160.wiff	1202055943	LER	3/18/2010 1:55	2	958640	10-2121	S
EXS03160161.wiff	248197002	LER	3/18/2010 2:11	2	958640	10-2121	S
EXS03160162.wiff	248197003	LER	3/18/2010 2:26	2	958640	10-2121	S
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EXS03160164.wiff	248197005	LER	3/18/2010 2:58	2	958640	10-2121	S
EXS03160165.wiff	248197007	LER	3/18/2010 3:13	2	958640	10-2121	S
EXS03160166.wiff	248197008	LER	3/18/2010 3:29	2	958640	10-2121	S
EXS03160167.wiff	248197009	LER	3/18/2010 3:45	2	958640	10-2121	S
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EXS03160169.wiff	XIBLK19	LER	3/18/2010 4:16	1		USE	B
EXS03160170.wiff	WXXCRI	LER	3/18/2010 4:32	1		USE	C
EXS03160171.wiff	248197010	LER	3/18/2010 4:48	2	958640	10-2121	S
EXS03160172.wiff	248197011	LER	3/18/2010 5:03	2	958640	10-2121	S
EXS03160173.wiff	248197012	LER	3/18/2010 5:19	2	958640	10-2121	S
EXS03160174.wiff	248197013	LER	3/18/2010 5:35	2	958640	10-2121	S
EXS03160175.wiff	WXXCCV	LER	3/18/2010 5:50	1		USE	C
EXS03160176.wiff	XIBLK20	LER	3/18/2010 6:06	1		USE	B
EXS03160177.wiff	WXXCRI	LER	3/18/2010 6:22	1		USE	C

Sample Name: "1202049934" Sample ID: "956053121ER" File: "EXS03160022.wiff"
Peak Name: "35-Dihydroaniline" Mass(es): "182.046.0 amu"
Comment: "1, CX832125. Annotation. "

for 3/18/10

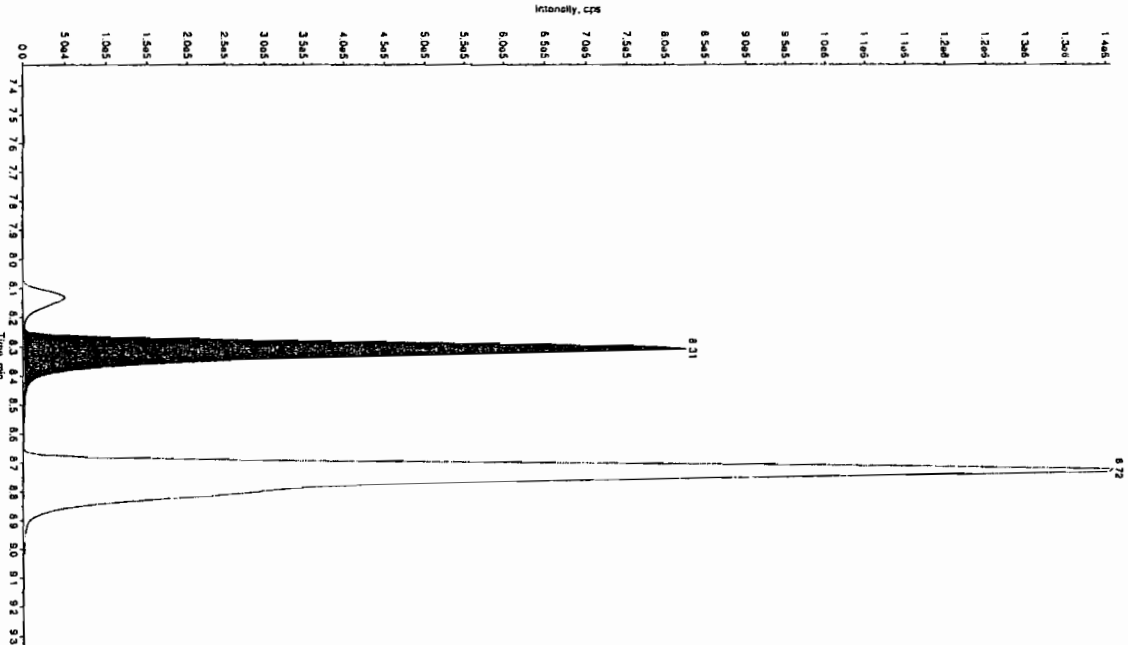
Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	469.
Acq. Date:	3/16/2010
Acq. Time:	1:47:32 PM
Modified:	Yes
Proc. Algorithm:	IntelliQuan - IC
Main Peak Height:	12000.00 cps
Min. Peak Width:	0.00 sec
Smoothing Width:	3 points
Rt Window:	15.0 sec
Expected RT:	8.13 min
User Note:	No
Int. Type:	Valley
Retention Time:	8.13 min
Area:	4.6e+006 counts
Height:	101357.568 cps
Start Time:	8.07 min
End Time:	8.26 min



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

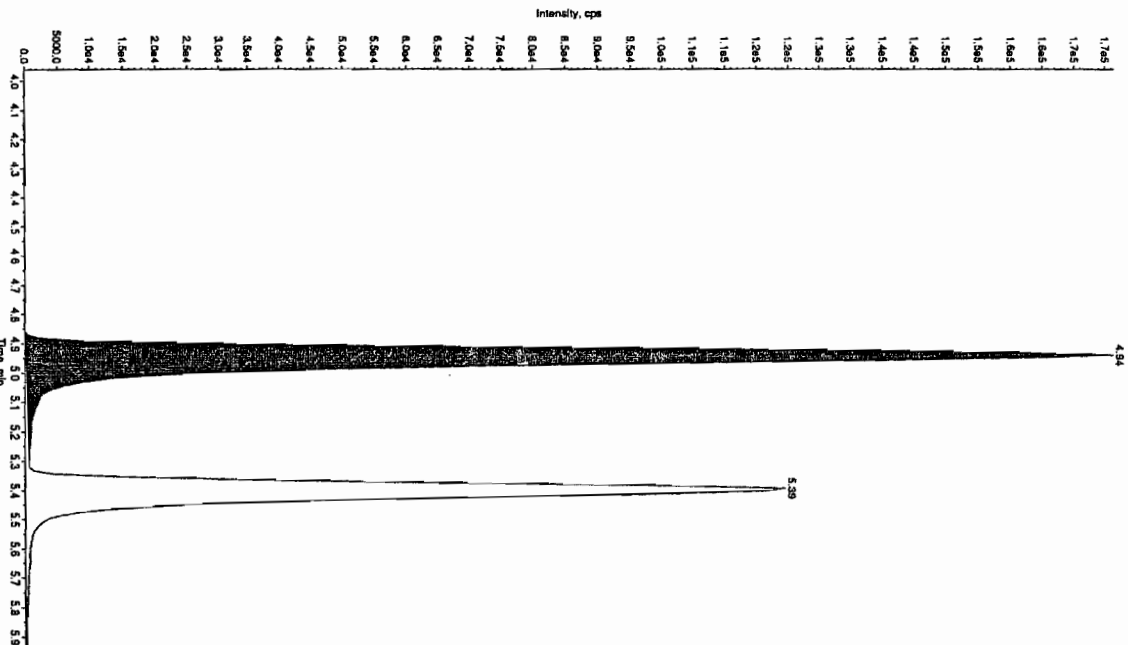
Sample Name: 120204934 Sample ID: 95603121ER File: EX50316022.wif
 Peak Name: 24-Dinitrobenzene Mass(es): 162.1151.9 amu
 Comment: LCX832125 Annotation: ..

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 243 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 1:47:32 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 1450.00 cps
 Min. Peak Width: 3.00 points
 Smoothing Width: 3.00 points
 RT Window: 3.00 min
 Expected RT: 1.33 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.31 min
 Area: 3.08e+006 counts
 Height: 23414.159 cps
 Start Time: 8.23 min
 End Time: 8.53 min

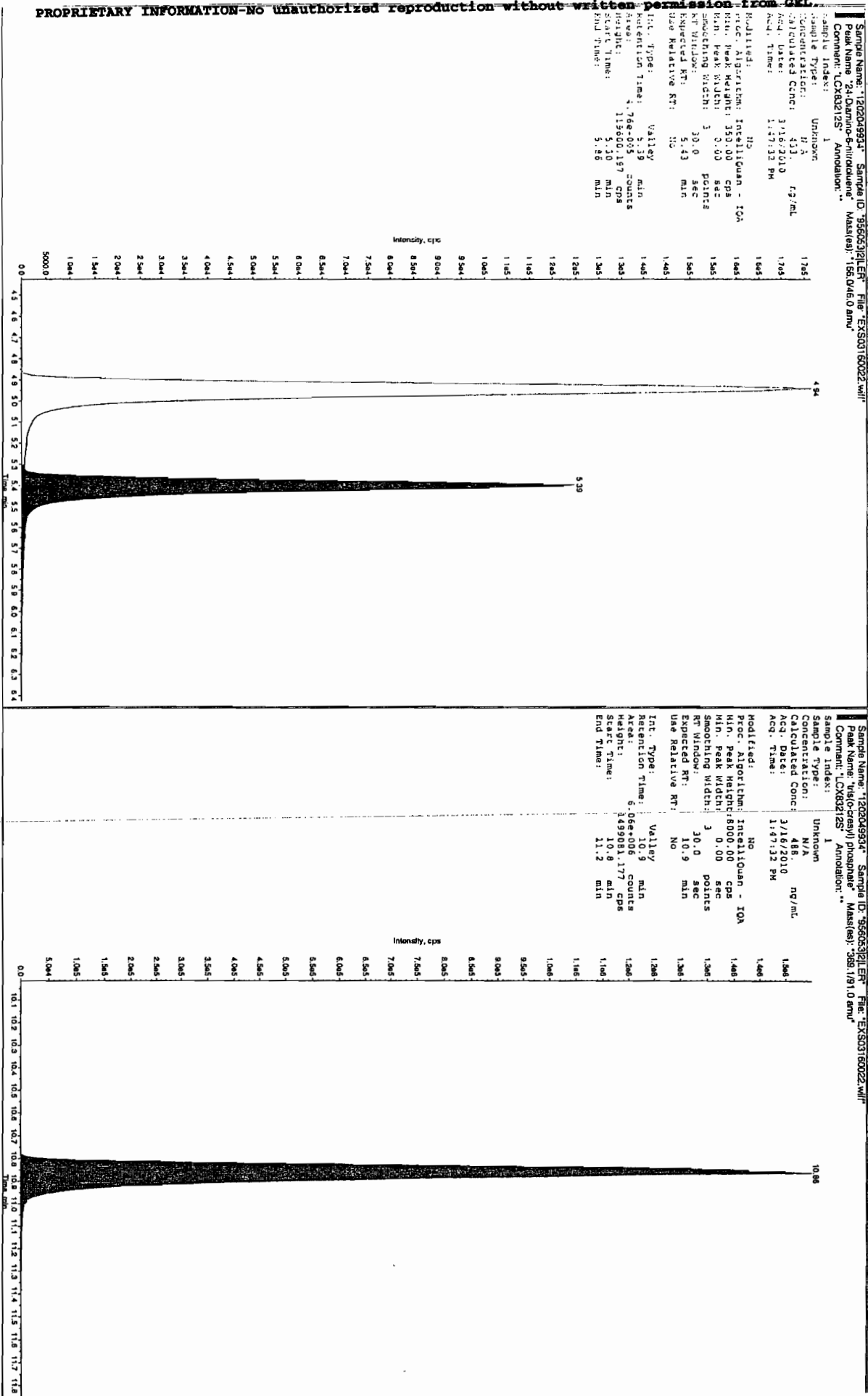


Sample Name: 120204934 Sample ID: 95603121ER File: EX50316022.wif
 Peak Name: 26-Dinitrobenzene Mass(es): 166.046.0 amu
 Comment: LCX832125 Annotation: ..

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 440 ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 1:47:32 PM
 Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 450.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3.00 points
 RT Window: 3.00 min
 Expected RT: 4.96 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 4.94 min
 Area: 7.33e+005 counts
 Height: 171300.537 cps
 Start Time: 4.85 min
 End Time: 5.25 min



* GEL SOP GL-0A-E-056, Method 8321A-Modified LCMSMS#4



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

Printed: Sun Mar 21 12:22:16 2010, Page 67 of 103

Dataset: C:\MASSL\YNNXNew_Exp\PRO\031910expA1.qld, Time: Sun Mar 21 12:20:26 2010

Name: C:\MASSL\YNNXNEW_EXP\PRO\Data\EXP0319070a

Date: 21-Mar-2010

Time: 02:49:35

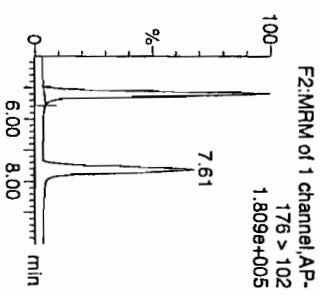
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Vial: 2:6,C

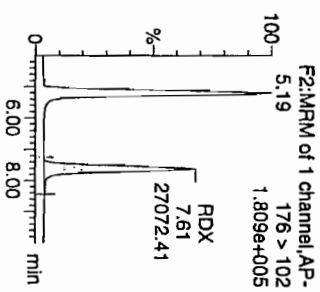
LAU-198053 / Seals / 245570001 us / 2 /

1.47
3/21/10

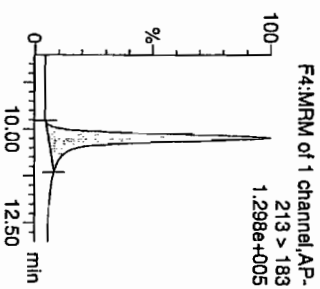
HMX



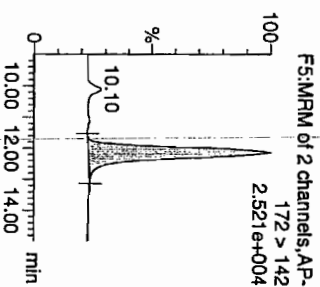
RDY



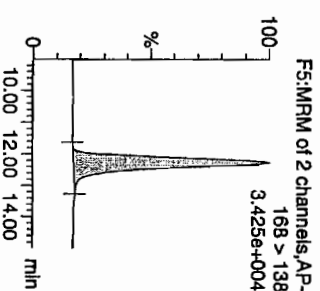
135-Trinitrobenzene



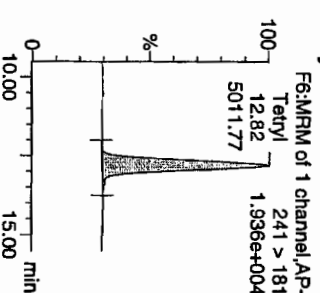
13-Dinitrobenzene-d4



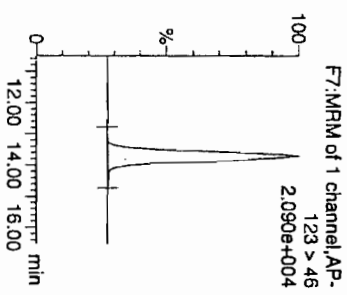
13-Dinitrobenzene



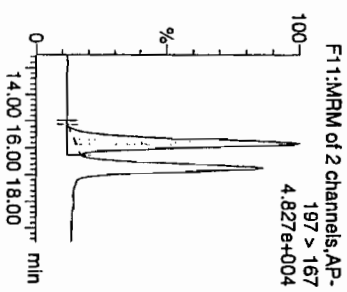
Tetryl



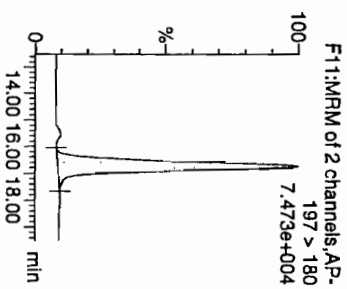
Nitrobenzene



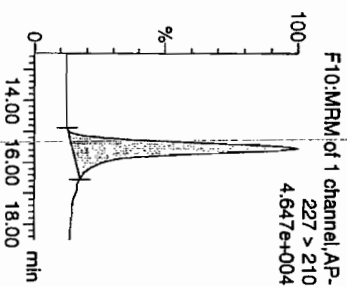
4-Amino-26-dinitrotoluene



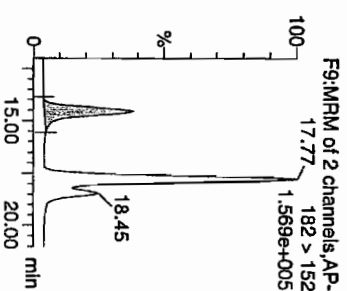
2-Amino-46-dinitrotoluene



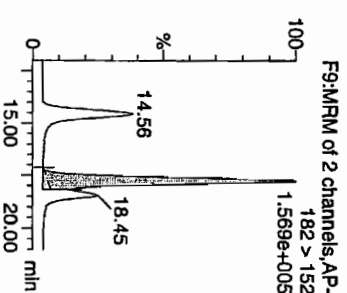
246-Trinitrotoluene



34-dinitrotoluene

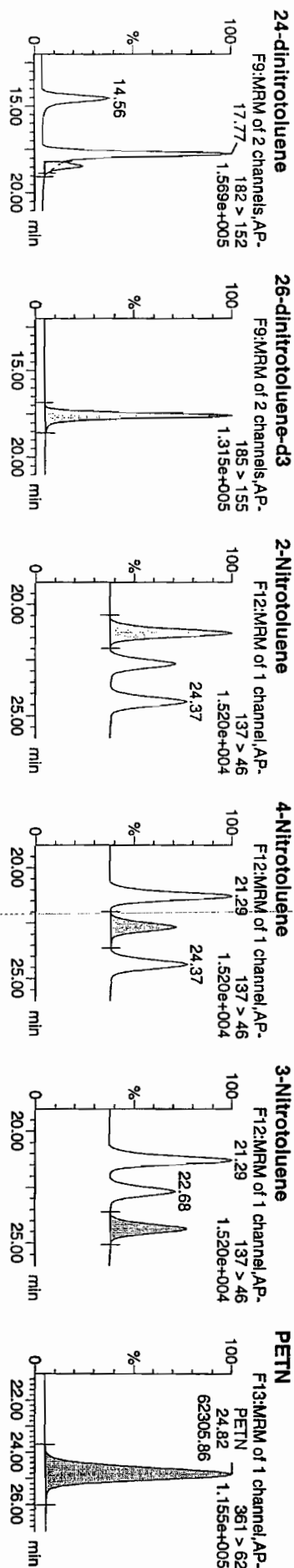


26-dinitrotoluene



Amw
03/24/10

Dataset: C:\MASSLYNX\New_Exp_PROV031910expA1.qld, Time: Sun Mar 21 12:20:26 2010



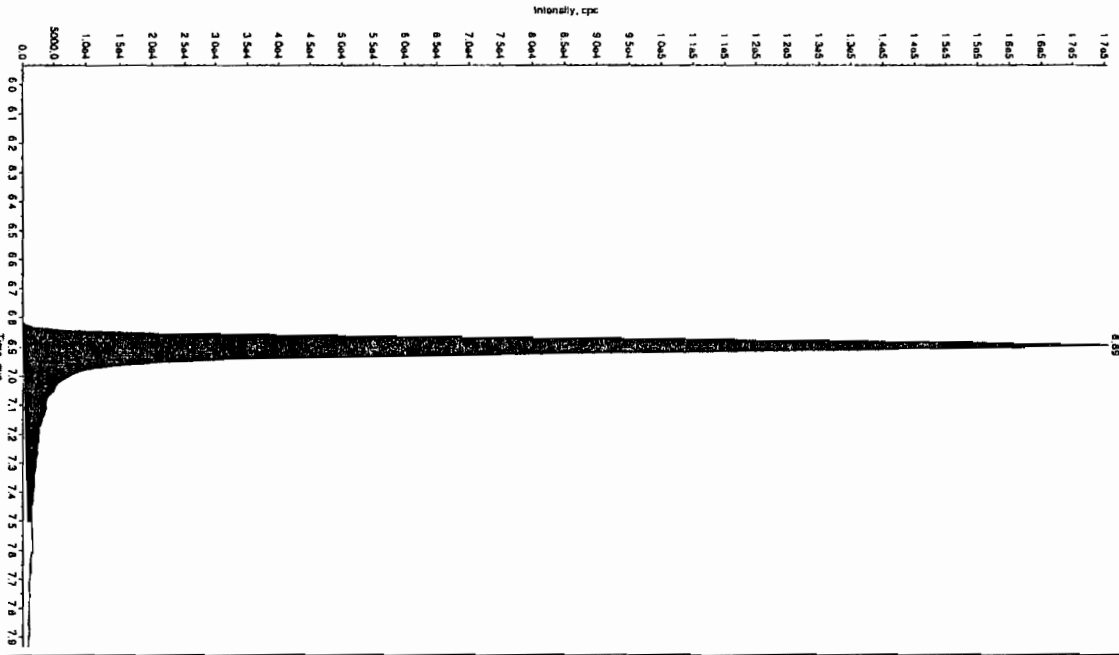
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1202049934	HMX	176 > 102	5.19	34258.555	7955.944	34258.555	2153.016	bb			507.4971	101.5	1.5	1991.2
1202049934	RDX	176 > 102	7.61	27072.410	7955.944	27072.410	1701.395	bb			602.1737	120.4	20.4	1328.7
1202049934	135-Trinitrobenzene	213 > 183	10.23	36149.656	7955.944	36149.656	2271.865	bb			474.7246	94.9	-5.1	2258.5
1202049934	13-Dinitrobenzene-d4	172 > 142	12.13	7955.944	7955.944	7955.944	7955.944	bb			484.6362	96.9	-3.1	780.0
1202049934	13-Dinitrobenzene	168 > 138	12.27	10820.252	7955.944	10820.252	680.011	bb			501.4859	100.3	0.3	732.6
1202049934	Tetryl	241 > 181	12.82	5011.766	7955.944	5011.766	314.970	bb			267.6765	53.5	-46.5	287.8
1202049934	Nitrobenzene	123 > 46	13.71	5556.872	7955.944	5556.872	349.228	bb			502.8403	100.6	0.6	381.8
1202049934	4-Amino-26-dinitrotoluene	197 > 167	15.80	17500.801	51177.914	17500.801	170.980	MM	21-Mar-10	12:12:19	463.2472	92.6	-7.4	489.0
1202049934	2-Amino-46-dinitrotoluene	197 > 180	16.71	27756.045	51177.914	27756.045	271.172	bb			456.4056	91.3	-8.7	1889.7
1202049934	246-Trinitrobenzene	227 > 210	15.55	18993.756	51177.914	18993.756	185.566	bb			432.1521	86.4	-13.6	1167.4
1202049934	34-dinitrotoluene	182 > 152	14.56	25856.988	51177.914	25856.988	252.619	bb			226.3736	90.5	-9.5	827.1
1202049934	26-dinitrotoluene	182 > 152	17.77	60186.773	51177.914	60186.773	588.015	MM	21-Mar-10	12:14:32	521.2175	104.2	4.2	2311.3
1202049934	24-dinitrotoluene	182 > 152	18.45	12665.059	51177.914	12665.059	123.736	MM	21-Mar-10	12:18:34	513.2302	102.6	2.6	474.7
1202049934	26-dinitrotoluene-d3	185 > 155	17.60	51177.914	51177.914	51177.914	41.712	bb			549.5173	109.9	9.9	3657.3
1202049934	2-Nitrotoluene	137 > 46	21.29	4269.432	51177.914	4269.432	23.241	bb			446.9760	89.4	-10.6	316.8
1202049934	4-Nitrotoluene	137 > 46	22.68	2378.846	51177.914	2378.846	28.170	bb			503.1234	100.6	0.6	169.6
1202049934	3-Nitrotoluene	137 > 46	24.37	2883.337	51177.914	2883.337	608.718	bb			501.2287	100.2	0.2	197.4
1202049934	PETN	361 > 62	24.82	62305.859	51177.914	62305.859					547.0487	109.4	9.4	6962.3

Refer Dec 31/8710

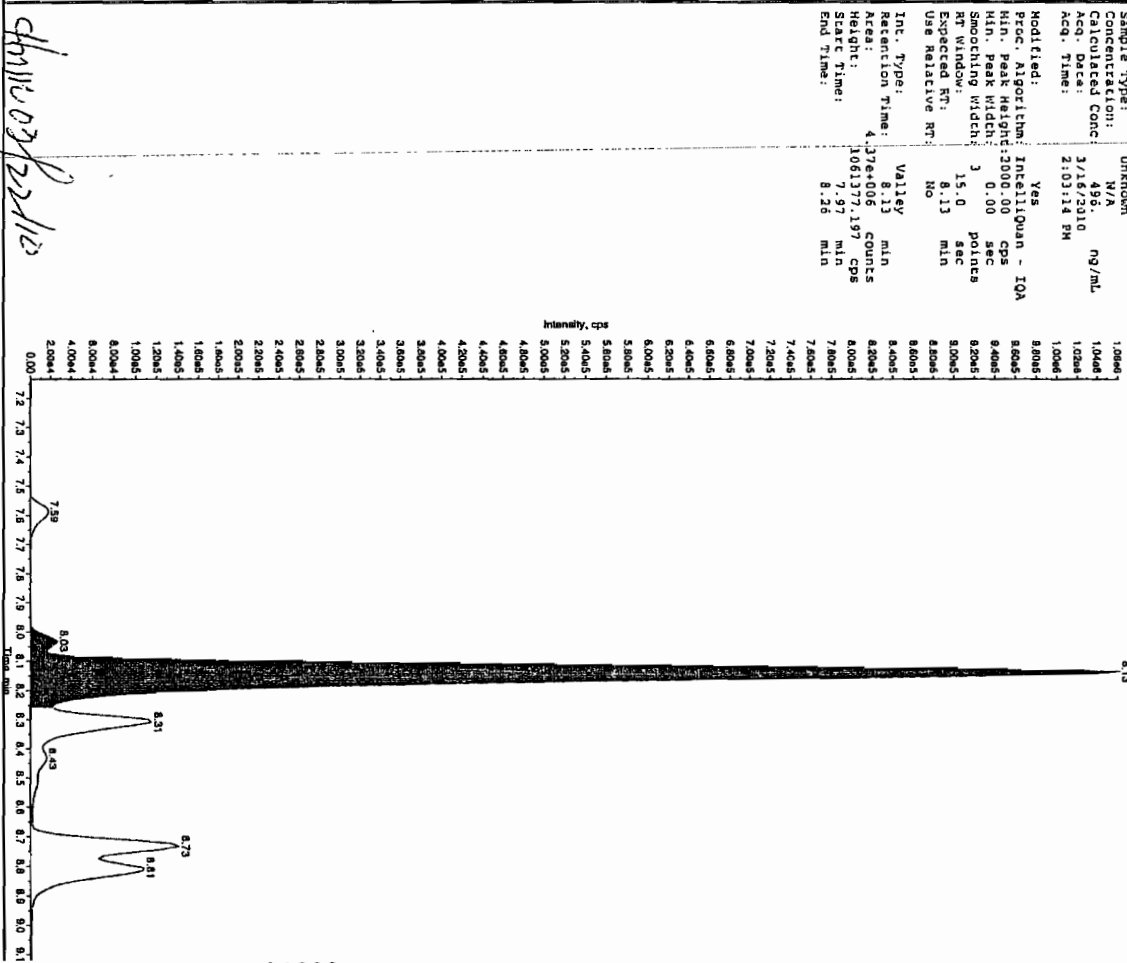
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*GEL SOP GL-0A-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: 122049935 Sample ID: 956032121 File: EX50316023.wif
Peak Name: 1ATB Mass(es): 257.2204.9 amu
Comment: LCX832125 Annotation: "
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 110.0 ng/mL
Acq. Date: 3/16/2010
Acq. Time: 2:03:14 PM
Modified: No
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2500.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 30.0 sec
Expected RT: 6.51 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 6.51 min
Area: 7.22e+05 counts
Height: 170612.93 cps
Start Time: 6.20 min
End Time: 7.50 min



Sample Name: 35-Dihydroquinone Sample ID: 956032121 File: EX50316023.wif
Peak Name: 35-Dihydroquinone Mass(es): 182.046.0 amu
Comment: LCX832125 Annotation: "
Sample Index: 1
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 116.72010 ng/mL
Acq. Date: 3/16/2010
Acq. Time: 2:03:14 PM
Modified: Yes
Proc. Algorithm: IntelliQuan - IQA
Min. Peak Height: 2000.00 cps
Min. Peak Width: 0.00 sec
Smoothing Width: 3 points
RT Window: 15.0 sec
Expected RT: 8.13 min
Use Relative RT: No
Int. Type: Valley
Retention Time: 8.13 min
Area: 4.37e+05 counts
Height: 106137.197 cps
Start Time: 7.97 min
End Time: 8.26 min

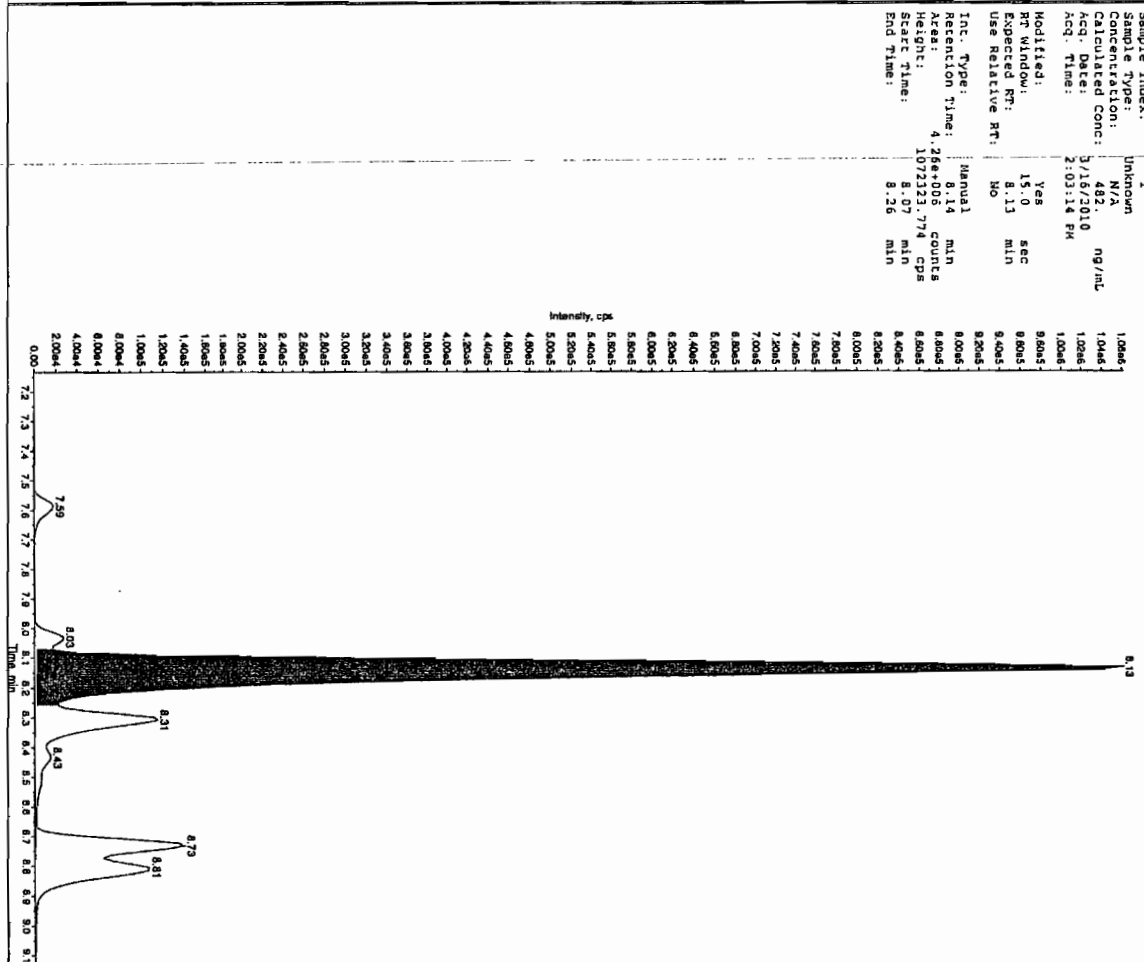
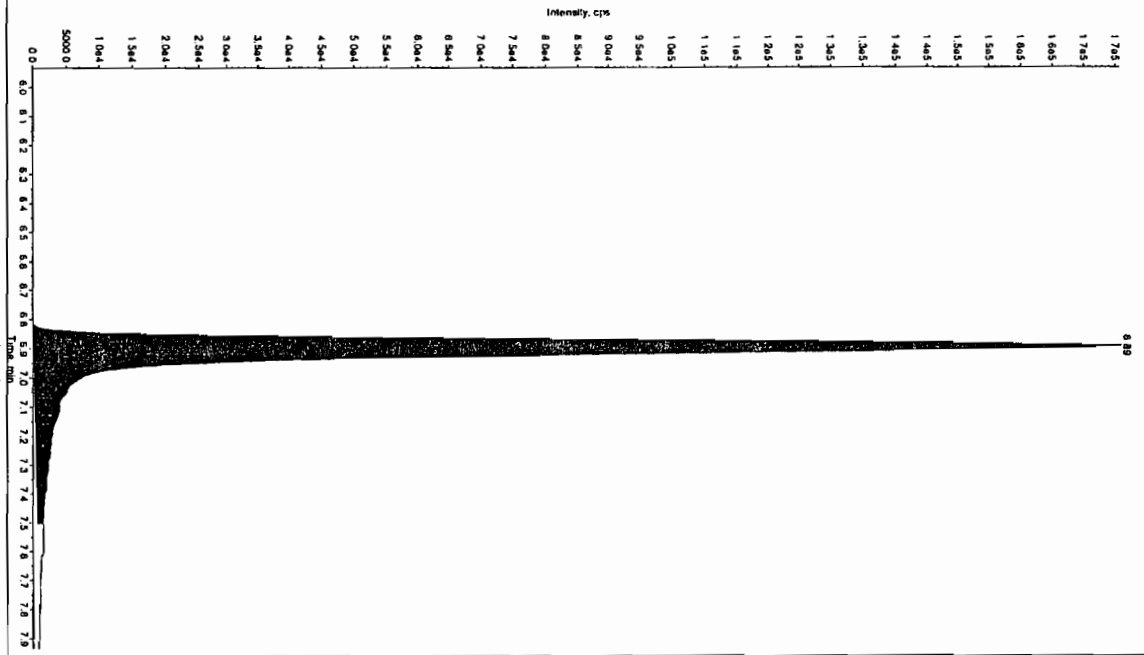


Sample Name: "1202049935" Sample ID: "956053121LER" File: "EXS03160023.wif"
Peak Name: "35-Dinitrobenzine" Mass(es): "182.046.0 amu"
Comment: "LCX632125" Annotation: ""
Sample Index: 1

of the Dec 31/8/10

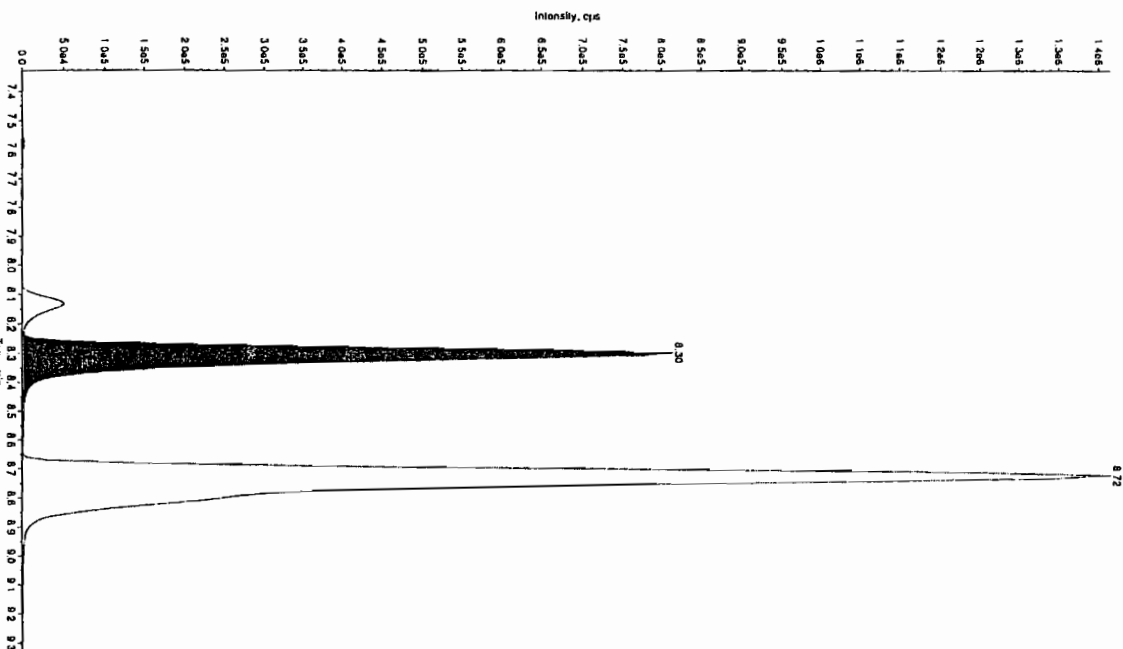
Sample Index:	1	
Sample Type:	Unknown	
Identification:	140	ng/mL
Lot:	3-18-2010	
Exp. Date:	2-03-11	PM
Test Time:	2:05:11	PM
Modified:	NO	
Proc. Algorithm:	IntelliQuan - 10A	
Min. Peak Height:	1500.00	cps
Min. Peak Width:	3.000	seconds
Min. Window:	13.00	sec
Injected Volume:	6.5	min
Relative RT:	NO	
Ac. Type:	Valley	min
Retention Time:	7.294005	Counts
Height:	15051.793	cps
Start Time:	6.20	min
End Time:	7.50	min

Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	483.
Acq. Date:	9/16/2010
Acq. Time:	2:03:14 PM
Modified:	Yes
RF Expected:	15.000
Use Relative RF:	8.13 min
Inc. Type:	Manual
Retention Time:	8.14 min
Area:	4.26e+005
Height:	1077.807
Signal:	779.406 counts
End Time:	8.26 min

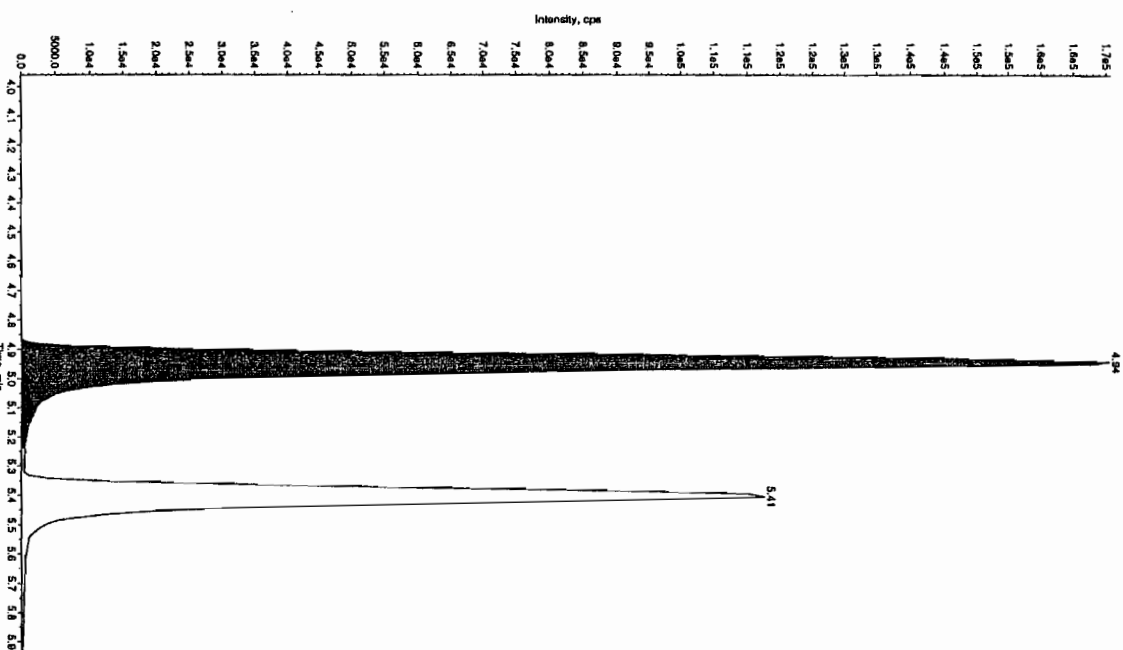


* GEL SOP GL-OA-E-056, Method 8321A-Modified LCMSMS#4

Sample Name: "120049935" Sample ID: "956053121" File: "EX503160023.wi"
 Peak Name: "24-Dinitrofluorene" Mass(es): "182.1/151.9 amu"
 Comment: "LCX832125" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: 11.2 ng/mL
 Calculated Conc: 3.14/2010
 Acq. Date: 2-03-14 PM
 Acq. Time: 2:03:14 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: 8.33 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 8.33 min
 Area: 2.95+008 counts
 Height: 212+033 cps
 Start Time: 8.33 min
 End Time: 8.50 min



Sample Name: "120049935" Sample ID: "956053121" File: "EX503160023.wi"
 Peak Name: "26-Dinitro-4-nitrofluorene" Mass(es): "166.0/166.0 amu"
 Comment: "LCX832125" Annotation: ""
 Sample Index: 1
 Sample Type: Unknown
 Concentration: 11.2 ng/mL
 Calculated Conc: 3.14/2010
 Acq. Date: 2-03-14 PM
 Acq. Time: 2:03:14 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: 4.96 min
 Use Relative RT: No
 Int. Type: Valley
 Retention Time: 4.96 min
 Area: 7.03+009 counts
 Height: 16501901 cps
 Start Time: 4.96 min
 End Time: 5.24 min

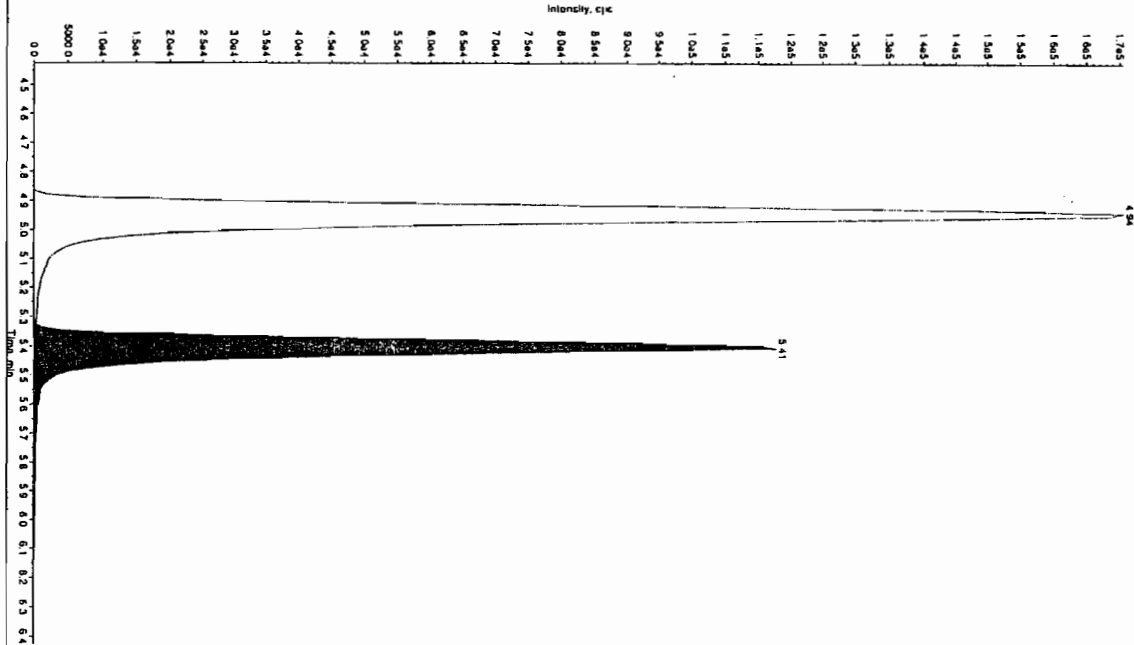


Sample Name: "1202049335" Sample ID: "956053121" File: "EXS03160023.wif"
 Peak Name: "24-Diamino-6-nitrofluorene" Mass(es): "156.046.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 411. ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 2:03:14 PM

Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 350.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 10.0 sec
 Expected RT: 5.33 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 5.41 min
 Area: 4.51e+005 counts
 Height: 112637.299 cps
 Start Time: 5.31 min
 End Time: 5.57 min

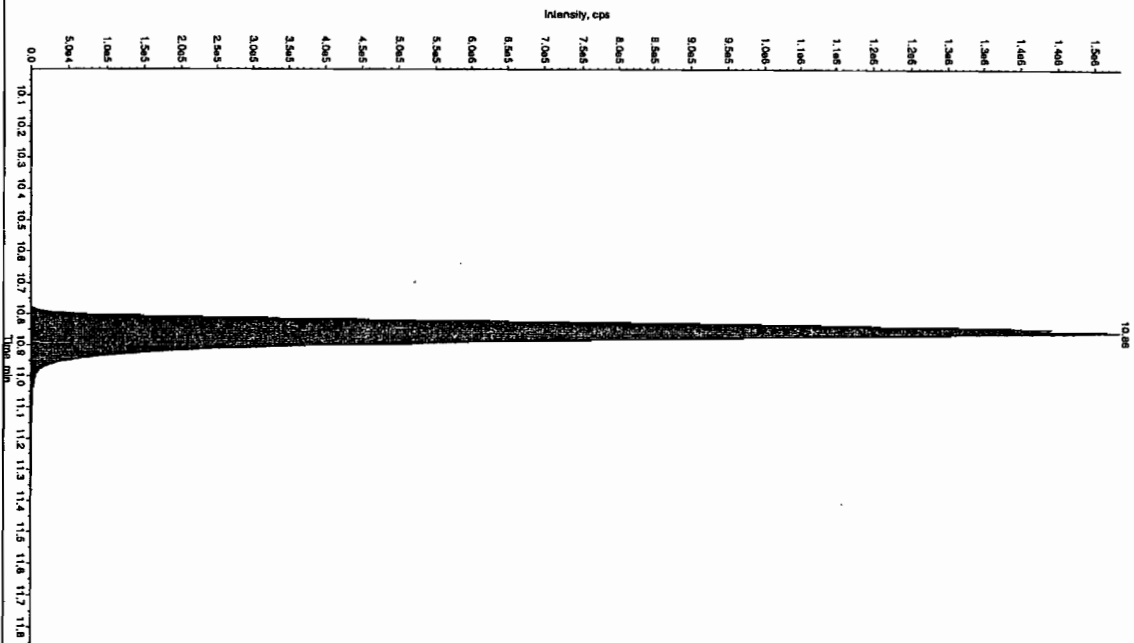


Sample Name: "1202049335" Sample ID: "956053121" File: "EXS03160023.wif"
 Peak Name: "18(10-cisyl) phosphoric" Mass(es): "369.191.0 amu"
 Comment: "LCX832125" Annotation: ""

Sample Index: 1
 Sample Type: Unknown
 Concentration: N/A
 Calculated Conc: 490. ng/mL
 Acq. Date: 3/16/2010
 Acq. Time: 2:03:14 PM

Modified: No
 Proc. Algorithm: IntelliQuan - IQA
 Min. Peak Height: 800.00 cps
 Min. Peak Width: 0.00 sec
 Smoothing Width: 3 points
 RT Window: 10.0 sec
 Expected RT: 10.9 min
 Use Relative RT: No

Int. Type: Valley
 Retention Time: 10.9 min
 Area: 6.07e+006 counts
 Height: 148518.652 cps
 Start Time: 10.7 min
 End Time: 11.2 min

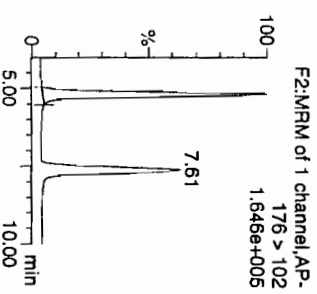


Name: C:\MASSLYNX\NEW_EXP\PRO\DATA\EXP0319071a
Date: 21-Mar-2010
Time: 03:19:05
ID: 1202049935
Vial: 2:6,D

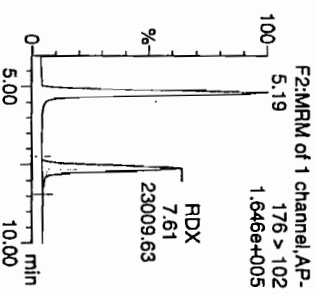
121

1477
3/21/10

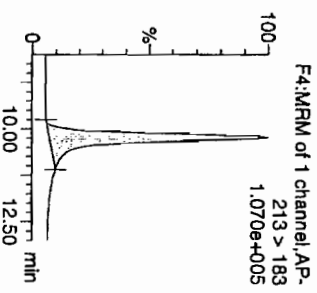
HMX



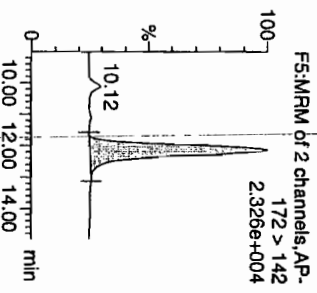
RDY



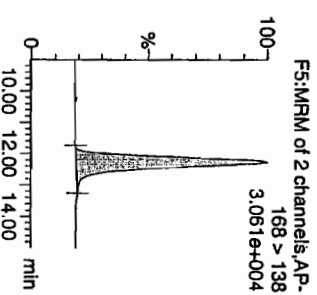
135-Trinitrobenzene



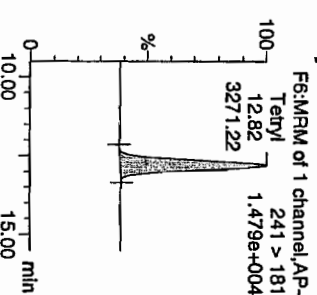
13-Dinitrobenzene-d4



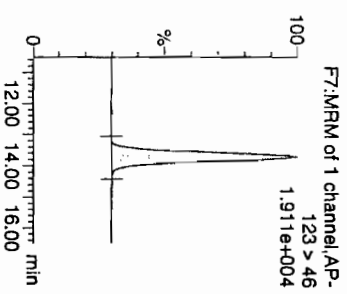
13-Dinitrobenzene



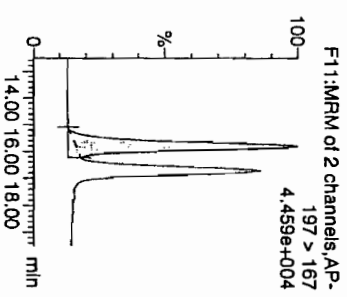
Tetryl



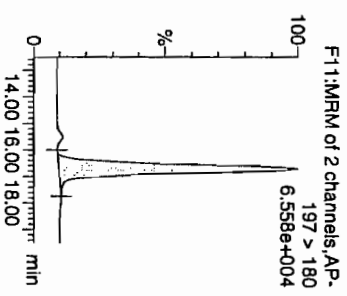
Nitrobenzene



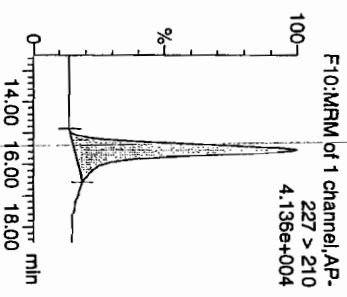
4-Amino-26-dinitrotoluene



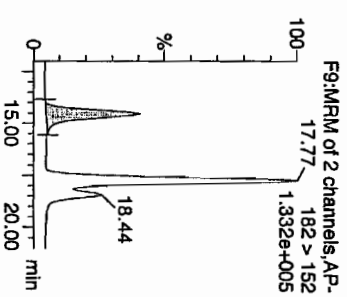
2-Amino-46-dinitrotoluene



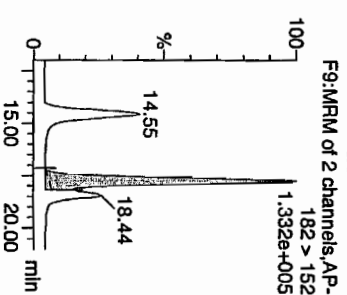
246-Trinitrotoluene

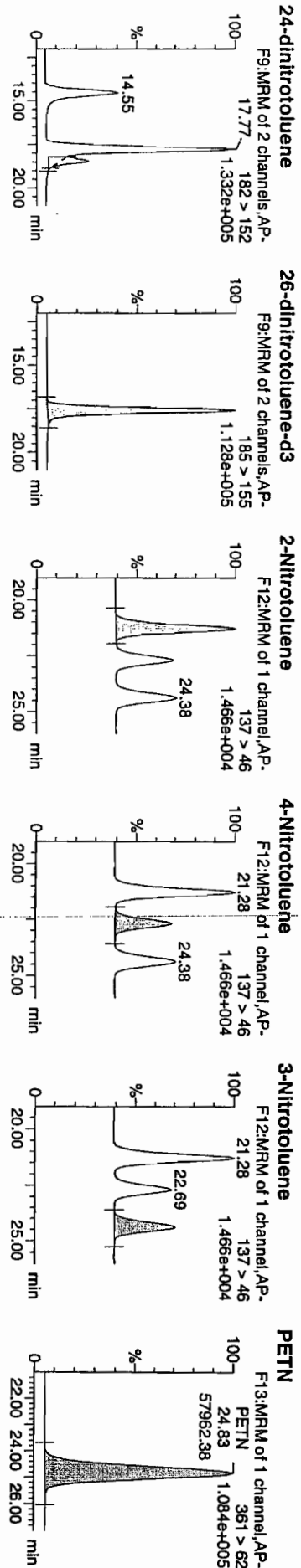


34-dinitrotoluene



26-dinitrotoluene





ID	Name	Trace	RT	Area	S Area	Abs Resp	Response	Flags	Mod Date	Mod Time	RT/Min	%H ₂ O	%D ₂ O	S/N
1202049935	HMX	176 > 102	5.19	31112.125	7262.079	31112.125	2142.095	bb			504.9228	101.0	1.0	3650.6
1202049935	RDX	176 > 102	7.61	23009.627	7262.079	23009.627	1584.231	bb			560.7060	112.1	12.1	2279.1
1202049935	135-Trinitrobenzene	213 > 183	10.23	30053.492	7262.079	30053.492	2069.207	bb			432.3776	86.5	-13.5	1672.3
1202049935	13-Dinitrobenzene-d4	172 > 142	12.14	7262.079	7262.079	7262.079	658.306	bb			442.3694	88.5	-11.5	611.4
1202049935	13-Dinitrobenzene	168 > 138	12.28	9561.335	7262.079	9561.335	658.306	bb			485.4792	97.1	-2.9	601.9
1202049935	Tetryl	241 > 181	12.82	3271.217	7262.079	3271.217	228.226	bb			191.4077	38.3	-61.7	351.5
1202049935	Nitrobenzene	123 > 46	13.71	4782.355	7262.079	4782.355	329.269	bb			474.1025	94.8	-5.2	566.2
1202049935	4-Amino-26-dinitrotoluene	197 > 167	15.82	15614.585	44127.535	15614.585	176.926	MM	21-Mar-10	12:12:26	479.3560	95.9	-4.1	371.9
1202049935	2-Amino-46-dinitrotoluene	197 > 180	16.73	23943.938	44127.535	23943.938	271.304	bb			456.6273	91.3	-8.7	549.4
1202049935	246-Trinitrotoluene	227 > 210	15.54	16503.611	44127.535	16503.611	186.999	bb			435.4894	87.1	-12.9	344.1
1202049935	34-dinitrotoluene	182 > 152	14.55	23049.525	44127.535	23049.525	261.169	bb			234.0360	93.6	-6.4	1342.1
1202049935	26-dinitrotoluene	182 > 152	17.77	49893.289	44127.535	49893.289	565.331	MM	21-Mar-10	12:15:01	501.1099	100.2	0.2	3555.0
1202049935	26-dinitrotoluene-d3	182 > 152	18.44	10803.253	44127.535	10803.253	122.409	MM	21-Mar-10	12:18:26	507.7296	101.5	1.5	751.0
1202049935	26-dinitrotoluene	185 > 155	17.59	44127.535	44127.535	44127.535	44127.535	bb			473.8146	94.8	-5.2	2733.5
1202049935	2-Nitrotoluene	137 > 46	21.28	3902.938	44127.535	3902.938	44.223	bb			473.8912	94.8	-5.2	133.4
1202049935	4-Nitrotoluene	137 > 46	22.69	1990.743	44127.535	1990.743	22.557	bb			488.3108	97.7	-2.3	64.0
1202049935	3-Nitrotoluene	137 > 46	24.38	2305.721	44127.535	2305.721	26.126	bb			464.8671	93.0	-7.0	68.8
1202049935	PETN	361 > 62	24.83	57962.379	44127.535	57962.379	656.760	bb			591.2873	118.3	18.3	9401.8

GEL Laboratories LLC
Form GEL-DER

DER Report No.: 808778

Revision No.: 1

DATA EXCEPTION REPORT

Mo.Day Yr. 24-MAR-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: LC-MS/MS	Test / Method: SW846 8321A Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 956053	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 247545(10-1964),247551(10-1969),247552(10-1970),247556(10-1953),247565(10-1956) Application Issues: Failed Recovery for LCS/LCSD Failed RPD for MS/MSD, or PS/PSD			
Specification and Requirements		DER Disposition:	
Exception Description:			
1. The Laboratory Control Sample (1202049933) did not meet spike recovery limits for TATB at 170%. The recovery limits are 28-162%. 2. The MS/MSD pair (1202049934/5) did not meet RPD acceptance limits for Tetra at 33.2%. The acceptance limits are 0-30%.		1. While the Laboratory Control Sample exhibited a high bias in the, both the Matrix Spike and Matrix Spike Duplicate met acceptance limits for TATB. Since TATB was not detected in the associated samples, the data are reported with the appropriate DER. The discrepancy is noted in the case narrative. 2. Since all other RPD recoveries met acceptance criteria, the noted exception is attributed to vagaries in the extraction process. The data are reported with the appropriate DER. The discrepancy is noted in the case narrative.	

Originator's Name:

Michael Penny

24-MAR-10

Data Validator/Group Leader:

Herbert Maier

24-MAR-10

Metals Analysis

Case Narrative

**Metals Fractional Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1969**

Sample Analysis

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202049278	Method Blank (MB) ICP
1202049283	Laboratory Control Sample (LCS)
1202049280	247561001(RE15-10-8314L) Serial Dilution (SD)
1202049279	247561001(RE15-10-8314D) Sample Duplicate (DUP)
1202049281	247561001(RE15-10-8314S) Matrix Spike (MS)
1202049282	247561001(RE15-10-8314SD) Matrix Spike Duplicate (MSD)
1202049284	Method Blank (MB) ICP-MS
1202049289	Laboratory Control Sample (LCS)
1202049286	247561001(RE15-10-8314L) Serial Dilution (SD)
1202049285	247561001(RE15-10-8314D) Sample Duplicate (DUP)
1202049287	247561001(RE15-10-8314S) Matrix Spike (MS)
1202049288	247561001(RE15-10-8314SD) Matrix Spike Duplicate (MSD)
1202056041	Method Blank (MB) CVAA
1202056042	Laboratory Control Sample (LCS)
1202056050	247546001(RE46-10-13324L) Serial Dilution (SD)
1202056043	247546001(RE46-10-13324D) Sample Duplicate (DUP)
1202056044	247546001(RE46-10-13324S) Matrix Spike (MS)
1202056051	247546001(RE46-10-13324SD) Matrix Spike Duplicate (MSD)

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

Method/Analysis Information

Analytical Batch:	955816, 955818 and 958689
Prep Batch :	955815, 955817 and 958687
Standard Operating	GL-MA-E-013 REV# 20, GL-MA-E-009 REV# 19, GL-MA-E-

Procedures: 014 REV# 21 and GL-MA-E-010 REV# 23
Analytical Method: SW846 3050B/6010B, SW846 3050B/6020 and SW846 7471A
Prep Method : SW846 3050B and SW846 7471A Prep

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

System Configuration

The Metals analysis-ICP was performed on a P E 4300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with a Burgener nebulizer, cyclonic spray chamber, and yttrium or scandium internal standard. Operating conditions for the ICP are set at a power level of 1500 watts. The instrument has a peristaltic pump flow rate of 1.4L/min, argon gas flows of 15 L/min and 0.2 L/min for the torch and auxiliary gases, and a flow setting of 0.65L/min for the nebulizer.

The Metals analysis - ICPMS was performed on a Perkin Elmer ELAN 9000 inductively coupled plasma mass spectrometer (ICP-MS). The instrument is equipped with a cross-flow nebulizer, quadrupole mass spectrometer, and dual mode electron multiplier detector. Internal standards of scandium, germanium, indium, tantalum, and/or lutetium were utilized to cover the mass spectrum. Operating conditions are set at 1400W power and combined argon pressures of 3607 kPa for the plasma and auxiliary gases, and 0.85 L/min carrier gas flow, and an initial lens voltage of 5.2.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm. Sample introduction through the flow injection system is performed via a peristaltic pump at 9 mL/min and nitrogen carrier gas rate of 80 mL/min.

Calibration Information

Instrument Calibration

All initial calibration requirements have been met for this sample delivery group (SDG).

CRDL Requirements

All CRDL standards met the advisory control limits with the exceptions of: ICP-MS. The CRDL failed high for Tl and U.

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: 247561001 (RE15-10-8314)-ICP and ICP-MS and 247546001 (RE46-10-13324)-CVAA.

Matrix Spike (MS) Recovery Statement

The percent recoveries (%R) obtained from the MS analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes, with the exception of calcium, magnesium, potassium, sodium, and selenium, as indicated by the "N" qualifiers.

Matrix Spike Duplicate (MSD) Recovery Statement

The percent recovery (%R) obtained from the MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MSD met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes, with the exception of calcium, 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, 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 RL is used to evaluate the DUP results. All applicable analytes met these requirements, with the exception of calcium, iron, zinc, 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: 806530 and 807237. A copy is included in the Miscellaneous

Data section of this package.

Additional Comments

Additional comments were not required for this SDG.

Certification Statement

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

Review Validation:

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

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

Reviewer:  Date: 3/22/10

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: 10-1969 GEL Work Order: 247551

The Qualifiers in this report are defined as follows:

- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by



3/22/10

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1969

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 247551001

BASIS: Dry Weight

DATE COLLECTED 15-FEB-10

CLIENT ID: RE15-10-8349

LEVEL: Low

DATE RECEIVED 20-FEB-10

MATRIX: SOIL

%SOLIDS: 93.1

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	2770000	ug/Kg		7190	21100	21100	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-36-0	Antimony	602	ug/Kg	J	349	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-38-2	Arsenic	0.734	mg/kg	J	0.21	1.05	1.05	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-39-3	Barium	32900	ug/Kg		106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-41-7	Beryllium	0.663	mg/kg		0.021	0.105	0.105	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-43-9	Cadmium	134	ug/Kg	J	106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-70-2	Calcium	1070000	ug/Kg		8460	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-47-3	Chromium	1840	ug/Kg		159	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-48-4	Cobalt	1010	ug/Kg		159	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-50-8	Copper	4120	ug/Kg		317	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-89-6	Iron	9510000	ug/Kg		8460	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-92-1	Lead	6410	ug/Kg		264	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-95-4	Magnesium	456000	ug/Kg		8990	31700	31700	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-96-5	Manganese	332000	ug/Kg		211	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816
7439-97-6	Mercury	6.34	ug/kg	J	3.92	11.5	11.5	1	AV	JXL1	03/08/10 10:35	030810S1-4	958689
7440-02-0	Nickel	1.93	mg/kg		0.105	0.42	0.42	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-09-7	Potassium	592000	ug/Kg		6770	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7782-49-2	Selenium	1.05	mg/kg	U	0.525	1.05	1.05	2	MS	SKJ	03/19/10 05:05	100318-2	955818
7440-22-4	Silver	529	ug/Kg	U	106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-23-5	Sodium	383000	ug/Kg		7400	26400	26400	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-28-0	Thallium	0.210	mg/kg	U	0.0629	0.21	0.21	2	MS	SKJ	03/19/10 05:05	100318-2	955818
7440-61-1	Uranium	1.09	mg/kg		0.0138	0.042	0.042	2	MS	SKJ	03/19/10 18:06	100319-3	955818
7440-62-2	Vanadium	5300	ug/Kg		106	529	529	1	P	HSC	03/19/10 07:30	031910D-1	955816
7440-66-6	Zinc	52600	ug/Kg		349	1060	1060	1	P	HSC	03/19/10 07:30	031910D-1	955816

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
955816	955815	SW846 3050B	0.508	g	50	mL	02/25/10	AXG2
955818	955817	SW846 3050B	0.512	g	50	mL	02/25/10	AXG2
958689	958687	SW846 7471A Prep	0.559	g	30	mL	03/06/10	TXB3

METALS
-1-
INORGANICS ANALYSIS DATA PACKAGE

SDG No: 10-1969

CONTRACT: LANL01004

METHOD TYPE: SW846

SAMPLE ID: 247551002

BASIS: Dry Weight

DATE COLLECTED 15-FEB-10

CLIENT ID: RE15-10-8348

LEVEL: Low

DATE RECEIVED 20-FEB-10

MATRIX: SOIL

%SOLIDS: 96.3

CAS No.	Analyte	Result	Units	Qual	MDL	PQL	CRDL	DF	M*	Analyst	Run Date	Analytical Run	Analytical Batch
7429-90-5	Aluminum	4090000	ug/Kg		6880	20200	20200	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-36-0	Antimony	386	ug/Kg	J	334	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-38-2	Arsenic	1.26	mg/kg		0.189	0.945	0.945	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-39-3	Barium	55000	ug/Kg		101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-41-7	Beryllium	0.602	mg/kg		0.0189	0.0945	0.0945	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-43-9	Cadmium	164	ug/Kg	J	101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-70-2	Calcium	1290000	ug/Kg		8090	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-47-3	Chromium	4710	ug/Kg		152	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-48-4	Cobalt	1880	ug/Kg		152	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-50-8	Copper	5690	ug/Kg		304	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-89-6	Iron	10600000	ug/Kg		8090	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-92-1	Lead	8140	ug/Kg		253	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-95-4	Magnesium	711000	ug/Kg		8600	30400	30400	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-96-5	Manganese	282000	ug/Kg		202	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816
7439-97-6	Mercury	13.3	ug/kg		3.91	11.5	11.5	1	AV	JXL1	03/08/10 10:36	030810S1-4	958689
7440-02-0	Nickel	4.63	mg/kg		0.0945	0.378	0.378	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-09-7	Potassium	639000	ug/Kg		6480	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7782-49-2	Selenium	0.945	mg/kg	U	0.473	0.945	0.945	2	MS	SKJ	03/19/10 05:09	100318-2	955818
7440-22-4	Silver	506	ug/Kg	U	101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-23-5	Sodium	177000	ug/Kg		7080	25300	25300	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-28-0	Thallium	0.189	mg/kg	U	0.0567	0.189	0.189	2	MS	SKJ	03/19/10 05:09	100318-2	955818
7440-61-1	Uranium	1.63	mg/kg		0.0125	0.0378	0.0378	2	MS	SKJ	03/19/10 18:09	100319-3	955818
7440-62-2	Vanadium	10500	ug/Kg		101	506	506	1	P	HSC	03/19/10 07:34	031910D-1	955816
7440-66-6	Zinc	36900	ug/Kg		334	1010	1010	1	P	HSC	03/19/10 07:34	031910D-1	955816

Prep Information:

Analytical Batch	Prep Batch	Prep Method	Initial wt./vol.	Units	Final wt./vol.	Units	Date	Analyst
955816	955815	SW846 3050B	0.513	g	50	mL	02/25/10	AXG2
955818	955817	SW846 3050B	0.549	g	50	mL	02/25/10	AXG2
958689	958687	SW846 7471A Prep	0.542	g	30	mL	03/06/10	TXB3

Quality Control Summary

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Acceptance Window (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
ICV01										
	Mercury	5.2	ug/L	5	ug/L	104	90.0 – 110.0	AV	08-MAR-10 09:19	030810S1-4
	Selenium	54.1	ug/L	50	ug/L	108.2	90.0 – 110.0	MS	19-MAR-10 04:29	100318-2
	Thallium	54.5	ug/L	50	ug/L	109.1	90.0 – 110.0	MS	19-MAR-10 04:29	100318-2
	Aluminum	5020	ug/L	5000	ug/L	100.3	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Antimony	506	ug/L	500	ug/L	101.2	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Barium	512	ug/L	500	ug/L	102.4	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Cadmium	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Calcium	5080	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Chromium	493	ug/L	500	ug/L	98.6	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Cobalt	511	ug/L	500	ug/L	102.1	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Copper	507	ug/L	500	ug/L	101.5	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Iron	5230	ug/L	5000	ug/L	104.6	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Lead	497	ug/L	500	ug/L	99.5	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Magnesium	5320	ug/L	5000	ug/L	106.5	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Manganese	526	ug/L	500	ug/L	105.1	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Potassium	2530	ug/L	2500	ug/L	101.1	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Silver	260	ug/L	250	ug/L	104.1	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Sodium	2550	ug/L	2500	ug/L	101.9	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Vanadium	518	ug/L	500	ug/L	103.7	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Zinc	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	19-MAR-10 06:30	031910D-1
	Arsenic	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	19-MAR-10 17:16	100319-3
	Beryllium	49.1	ug/L	50	ug/L	98.3	90.0 – 110.0	MS	19-MAR-10 17:16	100319-3
	Nickel	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	19-MAR-10 17:16	100319-3
	Uranium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	19-MAR-10 17:16	100319-3
CCV01										
	Mercury	5.18	ug/L	5	ug/L	103.5	80.0 – 120.0	AV	08-MAR-10 09:24	030810S1-4
	Selenium	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	19-MAR-10 04:47	100318-2
	Thallium	54.7	ug/L	50	ug/L	109.3	90.0 – 110.0	MS	19-MAR-10 04:47	100318-2
	Aluminum	4780	ug/L	5000	ug/L	95.5	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Antimony	498	ug/L	500	ug/L	99.5	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

<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>
	Barium	479	ug/L	500	ug/L	95.9	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Cadmium	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Calcium	4870	ug/L	5000	ug/L	97.4	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Chromium	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Cobalt	479	ug/L	500	ug/L	95.9	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Copper	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Iron	4870	ug/L	5000	ug/L	97.3	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Lead	479	ug/L	500	ug/L	95.8	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Magnesium	4940	ug/L	5000	ug/L	98.7	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Manganese	488	ug/L	500	ug/L	97.5	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Potassium	5250	ug/L	5000	ug/L	105	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Silver	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Sodium	9830	ug/L	10000	ug/L	98.3	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Vanadium	483	ug/L	500	ug/L	96.6	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Zinc	481	ug/L	500	ug/L	96.2	90.0 – 110.0	P	19-MAR-10 06:53	031910D-1
	Arsenic	49.9	ug/L	50	ug/L	99.9	90.0 – 110.0	MS	19-MAR-10 17:32	100319-3
	Beryllium	48.2	ug/L	50	ug/L	96.4	90.0 – 110.0	MS	19-MAR-10 17:32	100319-3
	Nickel	49.6	ug/L	50	ug/L	99.2	90.0 – 110.0	MS	19-MAR-10 17:32	100319-3
	Uranium	50.5	ug/L	50	ug/L	101	90.0 – 110.0	MS	19-MAR-10 17:32	100319-3
CCV02										
	Mercury	5.3	ug/L	5	ug/L	106	80.0 – 120.0	AV	08-MAR-10 09:44	030810S1-4
	Selenium	51	ug/L	50	ug/L	102	90.0 – 110.0	MS	19-MAR-10 05:12	100318-2
	Thallium	55.2	ug/L	50	ug/L	110.3	90.0 – 110.0	MS	19-MAR-10 05:12	100318-2
	Aluminum	4830	ug/L	5000	ug/L	96.5	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Antimony	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Barium	483	ug/L	500	ug/L	96.7	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Cadmium	485	ug/L	500	ug/L	97.1	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Calcium	4910	ug/L	5000	ug/L	98.2	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Chromium	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Cobalt	484	ug/L	500	ug/L	96.7	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

<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>
	Copper	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Iron	4890	ug/L	5000	ug/L	97.9	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Lead	482	ug/L	500	ug/L	96.4	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Magnesium	4960	ug/L	5000	ug/L	99.1	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Manganese	491	ug/L	500	ug/L	98.3	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Potassium	4950	ug/L	5000	ug/L	99.1	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Silver	487	ug/L	500	ug/L	97.4	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Sodium	9770	ug/L	10000	ug/L	97.7	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Vanadium	486	ug/L	500	ug/L	97.2	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Zinc	484	ug/L	500	ug/L	96.8	90.0 – 110.0	P	19-MAR-10 07:12	031910D-1
	Arsenic	49.7	ug/L	50	ug/L	99.3	90.0 – 110.0	MS	19-MAR-10 17:39	100319-3
	Beryllium	48	ug/L	50	ug/L	96	90.0 – 110.0	MS	19-MAR-10 17:39	100319-3
	Nickel	50.8	ug/L	50	ug/L	101.5	90.0 – 110.0	MS	19-MAR-10 17:39	100319-3
	Uranium	50.5	ug/L	50	ug/L	100.9	90.0 – 110.0	MS	19-MAR-10 17:39	100319-3
CCV03										
	Mercury	5.4	ug/L	5	ug/L	108	80.0 – 120.0	AV	08-MAR-10 10:04	030810S1-4
	Selenium	51.8	ug/L	50	ug/L	103.5	90.0 – 110.0	MS	19-MAR-10 05:41	100318-2
	Thallium	54.5	ug/L	50	ug/L	109.1	90.0 – 110.0	MS	19-MAR-10 05:41	100318-2
	Aluminum	4980	ug/L	5000	ug/L	99.7	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Antimony	496	ug/L	500	ug/L	99.2	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Barium	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Cadmium	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Calcium	5070	ug/L	5000	ug/L	101.4	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Chromium	498	ug/L	500	ug/L	99.6	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Cobalt	498	ug/L	500	ug/L	99.7	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Copper	501	ug/L	500	ug/L	100.1	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Iron	5130	ug/L	5000	ug/L	102.7	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Lead	495	ug/L	500	ug/L	99.1	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Magnesium	5130	ug/L	5000	ug/L	102.6	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Manganese	511	ug/L	500	ug/L	102.2	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

<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>
CCV04	Potassium	5140	ug/L	5000	ug/L	102.8	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Silver	505	ug/L	500	ug/L	101.1	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Sodium	10200	ug/L	10000	ug/L	102.2	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Vanadium	502	ug/L	500	ug/L	100.4	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Zinc	499	ug/L	500	ug/L	99.8	90.0 – 110.0	P	19-MAR-10 07:52	031910D-1
	Arsenic	48.6	ug/L	50	ug/L	97.1	90.0 – 110.0	MS	19-MAR-10 17:59	100319-3
	Beryllium	49.8	ug/L	50	ug/L	99.6	90.0 – 110.0	MS	19-MAR-10 17:59	100319-3
	Nickel	51.1	ug/L	50	ug/L	102.1	90.0 – 110.0	MS	19-MAR-10 17:59	100319-3
	Uranium	50.9	ug/L	50	ug/L	101.7	90.0 – 110.0	MS	19-MAR-10 17:59	100319-3
	Mercury	5.1	ug/L	5	ug/L	102	80.0 – 120.0	AV	08-MAR-10 10:25	030810S1-4
CCV04	Aluminum	5090	ug/L	5000	ug/L	101.7	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Antimony	520	ug/L	500	ug/L	104	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Barium	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Cadmium	516	ug/L	500	ug/L	103.2	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Calcium	5220	ug/L	5000	ug/L	104.4	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Chromium	517	ug/L	500	ug/L	103.4	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Cobalt	516	ug/L	500	ug/L	103.3	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Copper	519	ug/L	500	ug/L	103.8	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Iron	5440	ug/L	5000	ug/L	108.8	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Lead	513	ug/L	500	ug/L	102.6	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Magnesium	5310	ug/L	5000	ug/L	106.1	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Manganese	529	ug/L	500	ug/L	105.8	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Potassium	5210	ug/L	5000	ug/L	104.3	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Silver	521	ug/L	500	ug/L	104.3	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Sodium	10900	ug/L	10000	ug/L	108.7	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Vanadium	521	ug/L	500	ug/L	104.1	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Zinc	518	ug/L	500	ug/L	103.6	90.0 – 110.0	P	19-MAR-10 08:29	031910D-1
	Arsenic	49.3	ug/L	50	ug/L	98.6	90.0 – 110.0	MS	19-MAR-10 18:29	100319-3
	Beryllium	51.7	ug/L	50	ug/L	103.5	90.0 – 110.0	MS	19-MAR-10 18:29	100319-3

METALS
-2a-
Initial and Continuing Calibration Verification

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

Initial Calibration Source: Solutions Plus

Continuing Calibration Source: O2Si

Instrument ID: HG3,ICPMS5,OPTIMA1

<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>
CCV05	Nickel	49.7	ug/L	50	ug/L	99.5	90.0 – 110.0	MS	19-MAR-10 18:29	100319-3
	Uranium	51.8	ug/L	50	ug/L	103.6	90.0 – 110.0	MS	19-MAR-10 18:29	100319-3
	Mercury	5.18	ug/L	5	ug/L	103.5	80.0 – 120.0	AV	08-MAR-10 10:45	030810S1-4

METALS
-2b-
CRDL Standard for AA & ICP

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

AA CRDL Standard Source: SPEX

ICP CRDL Standard Source Solutions Plus

Instrument ID: HG3,ICPMS5,OPTIMA1

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>True Value</u>	<u>Units</u>	<u>% Recovery</u>	<u>Advisory Limits (%R)</u>	<u>M</u>	<u>Analysis Date/Time</u>	<u>Run Number</u>
CRDL01										
	Mercury	.192	ug/L	.2	ug/L	96	70.0 – 130.0	AV	08-MAR-10 09:23	030810S1-4
	Thallium	1.35	ug/L	1	ug/L	135.4	70.0 – 130.0	MS	19-MAR-10 04:36	100318-2
	Selenium	6.11	ug/L	5	ug/L	122.3	70.0 – 130.0	MS	19-MAR-10 04:36	100318-2
	Nickel	2.27	ug/L	2	ug/L	113.5	70.0 – 130.0	MS	19-MAR-10 17:22	100319-3
	Uranium	.271	ug/L	.2	ug/L	135.5	70.0 – 130.0	MS	19-MAR-10 17:22	100319-3
	Arsenic	5.54	ug/L	5	ug/L	110.7	70.0 – 130.0	MS	19-MAR-10 17:22	100319-3
	Beryllium	.555	ug/L	.5	ug/L	111	70.0 – 130.0	MS	19-MAR-10 17:22	100319-3
PQL01										
	Magnesium	319	ug/L	300	ug/L	106.5	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Manganese	8.22	ug/L	10	ug/L	82.2	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Potassium	137	ug/L	150	ug/L	91.5	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Silver	4.58	ug/L	5	ug/L	91.6	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Sodium	275	ug/L	300	ug/L	91.5	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Antimony	8.22	ug/L	10	ug/L	82.2	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Barium	4.34	ug/L	5	ug/L	86.8	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Lead	9.04	ug/L	10	ug/L	90.4	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Iron	73.9	ug/L	100	ug/L	73.9	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Aluminum	182	ug/L	200	ug/L	91.1	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Cadmium	4.7	ug/L	5	ug/L	93.9	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Chromium	4.4	ug/L	5	ug/L	87.9	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Cobalt	4.19	ug/L	5	ug/L	83.9	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Copper	8.17	ug/L	10	ug/L	81.7	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Vanadium	4.74	ug/L	5	ug/L	94.9	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Zinc	11.9	ug/L	10	ug/L	119	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1
	Calcium	190	ug/L	200	ug/L	94.8	70.0 – 130.0	P	19-MAR-10 06:37	031910D-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1969

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										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 09:21	030810S1-4
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	19-MAR-10 04:33	100318-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	19-MAR-10 04:33	100318-2
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	19-MAR-10 06:34	031910D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 06:34	031910D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 06:34	031910D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	19-MAR-10 06:34	031910D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 06:34	031910D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	19-MAR-10 06:34	031910D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	19-MAR-10 06:34	031910D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	19-MAR-10 06:34	031910D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	19-MAR-10 06:34	031910D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	19-MAR-10 06:34	031910D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:34	031910D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 06:34	031910D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	19-MAR-10 17:19	100319-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	19-MAR-10 17:19	100319-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	19-MAR-10 17:19	100319-3
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	19-MAR-10 17:19	100319-3
CCB01										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 09:26	030810S1-4
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	19-MAR-10 04:51	100318-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	19-MAR-10 04:51	100318-2
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	19-MAR-10 06:56	031910D-1
	Antimony	6.45	+/-10	J	3.3	10.0	SOL	P	19-MAR-10 06:56	031910D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:56	031910D-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:56	031910D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 06:56	031910D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 06:56	031910D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 06:56	031910D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	19-MAR-10 06:56	031910D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 06:56	031910D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	19-MAR-10 06:56	031910D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	19-MAR-10 06:56	031910D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	19-MAR-10 06:56	031910D-1
	Potassium	118.13	+/-250	J	64.0	250	SOL	P	19-MAR-10 06:56	031910D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:56	031910D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	19-MAR-10 06:56	031910D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 06:56	031910D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 06:56	031910D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	19-MAR-10 17:36	100319-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	19-MAR-10 17:36	100319-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	19-MAR-10 17:36	100319-3
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	19-MAR-10 17:36	100319-3
CCB02										
	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 09:46	030810S1-4
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	19-MAR-10 05:16	100318-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	19-MAR-10 05:16	100318-2
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	19-MAR-10 07:16	031910D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 07:16	031910D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 07:16	031910D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	19-MAR-10 07:16	031910D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 07:16	031910D-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

<u>Sample ID</u>	<u>Analyte</u>	<u>Result</u> <u>ug/L</u>	<u>Acceptance</u>	<u>Conc</u> <u>Qual</u>	<u>MDL</u>	<u>RDL</u>	<u>Matrix</u>	<u>M</u>	<u>Analysis</u> <u>Date/Time</u>	<u>Run</u>
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	19-MAR-10 07:16	031910D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	19-MAR-10 07:16	031910D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	19-MAR-10 07:16	031910D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	19-MAR-10 07:16	031910D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	19-MAR-10 07:16	031910D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:16	031910D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 07:16	031910D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	19-MAR-10 17:42	100319-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	19-MAR-10 17:42	100319-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	19-MAR-10 17:42	100319-3
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	19-MAR-10 17:42	100319-3
CCB03	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 10:06	030810S1-4
	Selenium	2.5	+/-5	U	2.5	5.0	SOL	MS	19-MAR-10 05:45	100318-2
	Thallium	0.3	+/-1	U	0.3	1.0	SOL	MS	19-MAR-10 05:45	100318-2
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	19-MAR-10 07:56	031910D-1
	Antimony	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 07:56	031910D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 07:56	031910D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	19-MAR-10 07:56	031910D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 07:56	031910D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	19-MAR-10 07:56	031910D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	19-MAR-10 07:56	031910D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	19-MAR-10 07:56	031910D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	19-MAR-10 07:56	031910D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	19-MAR-10 07:56	031910D-1

Metals
-3a-
Initial and Continuing Calibration Blank Summary

SDG No.: 10-1969

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>
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 07:56	031910D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 07:56	031910D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	19-MAR-10 18:02	100319-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	19-MAR-10 18:02	100319-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	19-MAR-10 18:02	100319-3
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	19-MAR-10 18:02	100319-3
CCB04	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 10:26	030810S1-4
	Aluminum	68.0	+/-200	U	68.0	200	SOL	P	19-MAR-10 08:32	031910D-1
	Antimony	4.66	+/-10	J	3.3	10.0	SOL	P	19-MAR-10 08:32	031910D-1
	Barium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Cadmium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Calcium	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 08:32	031910D-1
	Chromium	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Cobalt	1.5	+/-5	U	1.5	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Copper	3.0	+/-10	U	3.0	10.0	SOL	P	19-MAR-10 08:32	031910D-1
	Iron	80.0	+/-250	U	80.0	250	SOL	P	19-MAR-10 08:32	031910D-1
	Lead	2.5	+/-10	U	2.5	10.0	SOL	P	19-MAR-10 08:32	031910D-1
	Magnesium	85.0	+/-300	U	85.0	300	SOL	P	19-MAR-10 08:32	031910D-1
	Manganese	2.0	+/-10	U	2.0	10.0	SOL	P	19-MAR-10 08:32	031910D-1
	Potassium	64.0	+/-250	U	64.0	250	SOL	P	19-MAR-10 08:32	031910D-1
	Silver	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Sodium	70.0	+/-250	U	70.0	250	SOL	P	19-MAR-10 08:32	031910D-1
	Vanadium	1.0	+/-5	U	1.0	5.0	SOL	P	19-MAR-10 08:32	031910D-1
	Zinc	3.3	+/-10	U	3.3	10.0	SOL	P	19-MAR-10 08:32	031910D-1
	Arsenic	1.0	+/-5	U	1.0	5.0	SOL	MS	19-MAR-10 18:32	100319-3
	Beryllium	0.1	+/-5	U	0.1	0.5	SOL	MS	19-MAR-10 18:32	100319-3
	Nickel	0.5	+/-2	U	0.5	2.0	SOL	MS	19-MAR-10 18:32	100319-3
	Uranium	0.066	+/-2	U	0.066	0.2	SOL	MS	19-MAR-10 18:32	100319-3
CCB05	Mercury	0.068	+/-2	U	0.068	0.2	SOL	AV	08-MAR-10 10:46	030810S1-4

METALS
-3b-
PREPARATION BLANK SUMMARY

SDG NO. 10-1969
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>
1202049278	Zinc	329	ug/Kg	+/-996	U	P	329	996
	Vanadium	99.6	ug/Kg	+/-498	U	P	99.6	498
	Aluminum	6770	ug/Kg	+/-19900	U	P	6770	19900
	Barium	99.6	ug/Kg	+/-498	U	P	99.6	498
	Chromium	149	ug/Kg	+/-498	U	P	149	498
	Calcium	7970	ug/Kg	+/-24900	U	P	7970	24900
	Cadmium	99.6	ug/Kg	+/-498	U	P	99.6	498
	Antimony	329	ug/Kg	+/-996	U	P	329	996
	Cobalt	149	ug/Kg	+/-498	U	P	149	498
	Sodium	6970	ug/Kg	+/-24900	U	P	6970	24900
	Silver	99.6	ug/Kg	+/-498	U	P	99.6	498
	Potassium	6370	ug/Kg	+/-24900	U	P	6370	24900
	Manganese	199	ug/Kg	+/-996	U	P	199	996
	Magnesium	8470	ug/Kg	+/-29900	U	P	8470	29900
	Lead	249	ug/Kg	+/-996	U	P	249	996
	Iron	7970	ug/Kg	+/-24900	U	P	7970	24900
	Copper	299	ug/Kg	+/-996	U	P	299	996
1202049284	Arsenic	0.183	mg/kg	+/-0.917	U	MS	0.183	0.917
	Beryllium	0.0184	mg/kg	+/-0.0917	U	MS	0.0184	0.0917
	Uranium	0.0121	mg/kg	+/-0.0367	U	MS	0.0121	0.0367
	Nickel	0.0917	mg/kg	+/-0.367	U	MS	0.0917	0.367
	Selenium	0.459	mg/kg	+/-0.917	U	MS	0.459	0.917
	Thallium	0.0551	mg/kg	+/-0.183	U	MS	0.0551	0.183
1202056041	Mercury	3.97	ug/kg	+/-11.7	U	AV	3.97	11.7

METALS

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Interference Check Sample

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: OPTIMA1

<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	495000	ug/L	500000	ug/L	99	80.0 – 120.0	19-MAR-10 06:41	031910D-1
	Antimony	-0.915	ug/L					19-MAR-10 06:41	031910D-1
	Barium	6.66	ug/L					19-MAR-10 06:41	031910D-1
	Cadmium	3.71	ug/L					19-MAR-10 06:41	031910D-1
	Calcium	465000	ug/L	500000	ug/L	93	80.0 – 120.0	19-MAR-10 06:41	031910D-1
	Chromium	-2.01	ug/L					19-MAR-10 06:41	031910D-1
	Cobalt	2.37	ug/L					19-MAR-10 06:41	031910D-1
	Copper	11.2	ug/L					19-MAR-10 06:41	031910D-1
	Iron	179000	ug/L	200000	ug/L	89.6	80.0 – 120.0	19-MAR-10 06:41	031910D-1
	Lead	0.141	ug/L					19-MAR-10 06:41	031910D-1
	Magnesium	472000	ug/L	500000	ug/L	94.3	80.0 – 120.0	19-MAR-10 06:41	031910D-1
	Manganese	-1.01	ug/L					19-MAR-10 06:41	031910D-1
	Potassium	-69.5	ug/L					19-MAR-10 06:41	031910D-1
	Silver	1.33	ug/L					19-MAR-10 06:41	031910D-1
	Sodium	11.3	ug/L					19-MAR-10 06:41	031910D-1
	Vanadium	-2.38	ug/L					19-MAR-10 06:41	031910D-1
	Zinc	-2.87	ug/L					19-MAR-10 06:41	031910D-1
ICSAB01									
	Aluminum	497000	ug/L	500000	ug/L	99.3	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Antimony	508	ug/L	500	ug/L	102	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Barium	480	ug/L	500	ug/L	96	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Cadmium	446	ug/L	500	ug/L	89.3	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Calcium	469000	ug/L	500000	ug/L	93.9	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Chromium	463	ug/L	500	ug/L	92.7	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Cobalt	428	ug/L	500	ug/L	85.5	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Copper	543	ug/L	500	ug/L	109	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Iron	184000	ug/L	200000	ug/L	92.1	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Lead	467	ug/L	500	ug/L	93.4	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Magnesium	480000	ug/L	500000	ug/L	96.1	80.0 – 120.0	19-MAR-10 06:43	031910D-1

METALS
-4-
Interference Check Sample

SDG No: 10-1969

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	465	ug/L	500	ug/L	93	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Potassium	5030	ug/L	5000	ug/L	101	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Silver	258	ug/L	250	ug/L	103	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Sodium	5140	ug/L	5000	ug/L	103	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Vanadium	495	ug/L	500	ug/L	99.1	80.0 – 120.0	19-MAR-10 06:43	031910D-1
	Zinc	451	ug/L	500	ug/L	90.3	80.0 – 120.0	19-MAR-10 06:43	031910D-1

METALS

-4-

Interference Check Sample

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

<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	Selenium	-1.06	ug/L					19-MAR-10 04:40	100318-2
	Thallium	-0.104	ug/L					19-MAR-10 04:40	100318-2
ICSAB01	Selenium	19.5	ug/L	20	ug/L	97.7	80.0 - 120.0	19-MAR-10 04:43	100318-2
	Thallium	22.7	ug/L	20	ug/L	113	80.0 - 120.0	19-MAR-10 04:43	100318-2

METALS

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Interference Check Sample

SDG No: 10-1969

Contract: LANL01004

Lab Code: GEL

ICS: O2Si

Instrument: ICPMS5

<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	-0.259	ug/L					19-MAR-10 17:26	100319-3
	Beryllium	0.097	ug/L					19-MAR-10 17:26	100319-3
	Nickel	3.08	ug/L					19-MAR-10 17:26	100319-3
	Uranium	0.001	ug/L					19-MAR-10 17:26	100319-3
ICSAB01									
	Arsenic	21.6	ug/L	20	ug/L	108	80.0 - 120.0	19-MAR-10 17:29	100319-3
	Beryllium	19.3	ug/L	20	ug/L	96.5	80.0 - 120.0	19-MAR-10 17:29	100319-3
	Nickel	22.8	ug/L	23.31	ug/L	97.9	80.0 - 120.0	19-MAR-10 17:29	100319-3
	Uranium	22.3	ug/L	20	ug/L	112	80.0 - 120.0	19-MAR-10 17:29	100319-3

METALS

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Matrix Spike Summary

SDG NO. 10-1969 Client ID RE15-10-8314S

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 97.3

Sample ID: 247561001 Spike ID: 1202049281

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Aluminum	ug/Kg		5170000		2580000		497000	520	N/A	P
Antimony	ug/Kg	75-125	49400		324	U	49700	99		P
Barium	ug/Kg	75-125	96300		35900		49700	121		P
Cadmium	ug/Kg	75-125	51400		112	J	49700	103		P
Calcium	ug/Kg	75-125	4850000		954000		497000	783	N	P
Chromium	ug/Kg	75-125	54500		2160		49700	105		P
Cobalt	ug/Kg	75-125	49400		862		49700	97.6		P
Copper	ug/Kg	75-125	59200		2730		49700	114		P
Iron	ug/Kg		9250000		7670000		497000	317	N/A	P
Lead	ug/Kg	75-125	57400		5380		49700	105		P
Magnesium	ug/Kg	75-125	1130000		459000		497000	136	N	P
Manganese	ug/Kg		310000		229000		49700	164	N/A	P
Potassium	ug/Kg	75-125	1320000		624000		497000	140	N	P
Silver	ug/Kg	75-125	51700		98.1	U	49700	104		P
Sodium	ug/Kg	75-125	928000		269000		497000	132	N	P
Vanadium	ug/Kg	75-125	58100		5680		49700	105		P
Zinc	ug/Kg	75-125	91200		33800		49700	115		P

METALS

-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1969 Client ID RE15-10-8314SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 97.3

Sample ID: 247561001 Spike ID: 1202049282

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Aluminum	ug/Kg		5720000		2580000		501000	627	N/A	P
Antimony	ug/Kg	75-125	49400		324	U	50100	98.2		P
Barium	ug/Kg	75-125	94800		35900		50100	117		P
Cadmium	ug/Kg	75-125	51200		112	J	50100	102		P
Calcium	ug/Kg	75-125	1850000		954000		501000	179	N	P
Chromium	ug/Kg	75-125	54300		2160		50100	104		P
Cobalt	ug/Kg	75-125	49600		862		50100	97.4		P
Copper	ug/Kg	75-125	58500		2730		50100	111		P
Iron	ug/Kg		9660000		7670000		501000	397	N/A	P
Lead	ug/Kg	75-125	58100		5380		50100	105		P
Magnesium	ug/Kg	75-125	1180000		459000		501000	143	N	P
Manganese	ug/Kg		263000		229000		50100	68.1	N/A	P
Potassium	ug/Kg	75-125	1340000		624000		501000	142	N	P
Silver	ug/Kg	75-125	51500		98.1	U	50100	103		P
Sodium	ug/Kg	75-125	791000		269000		501000	104		P
Vanadium	ug/Kg	75-125	58300		5680		50100	105		P
Zinc	ug/Kg	75-125	91400		33800		50100	115		P

METALS

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Matrix Spike Summary

SDG NO. 10-1969 **Client ID** RE15-10-8314S

Contract: LANL01004 **Level:** Low

Matrix: SOIL **% Solids:** 97.3

Sample ID: 247561001 **Spike ID:** 1202049287

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Arsenic	mg/kg	75-125	8.82		0.942	J	8.11	97.1		MS
Beryllium	mg/kg	75-125	5.42		0.447		5.07	98.1		MS
Nickel	mg/kg	75-125	7.38		2.31		5.07	99.9		MS
Selenium	mg/kg	75-125	1.52		0.511	U	2.03	73.3	N	MS
Thallium	mg/kg	75-125	10.7		0.0732	J	10.1	105		MS
Uranium	mg/kg	75-125	6.15		1.37		5.07	94.3		MS

METALS

-5a-

Matrix Spike Duplicate Summary

SDG NO. 10-1969 Client ID RE15-10-8314SD

Contract: LANL01004 Level: Low

Matrix: SOIL % Solids: 97.3

Sample ID: 247561001 Spike ID: 1202049288

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Uranium	mg/kg	75-125	6.44		1.37		5.09	99.6		MS
Arsenic	mg/kg	75-125	8.58		0.942	J	8.14	93.8		MS
Beryllium	mg/kg	75-125	5.31		0.447		5.09	95.5		MS
Nickel	mg/kg	75-125	7.25		2.31		5.09	97		MS
Selenium	mg/kg	75-125	1.63		0.511	U	2.04	78.4		MS
Thallium	mg/kg	75-125	10.9		0.0732	J	10.2	107		MS

METALS

-5a-

Matrix Spike Summary

SDG NO.	10-1969	Client ID	RE46-10-13324S
Contract:	LANL01004	Level:	Low
Matrix:	SOIL	% Solids:	86
Sample ID:	247546001	Spike ID:	1202056044

<u>Analyte</u>	<u>Units</u>	<u>Acceptance Limit</u>	<u>Spiked Result</u>	<u>C</u>	<u>Sample Result</u>	<u>C</u>	<u>Spike Added</u>	<u>% Recovery</u>	<u>Qual</u>	<u>M</u>
Mercury	ug/kg	75-125	148		9.78	J	126	109		AV

METALS
-5a-

Matrix Spike Duplicate Summary

SDG NO.	10-1969	Client ID	RE46-10-13324SD
Contract:	LANL01004	Level:	Low
Matrix:	SOIL	% Solids:	86
Sample ID:	247546001	Spike ID:	1202056051

Analyte	Units	Acceptance Limit	Spiked Result	C	Sample Result	C	Spike Added	% Recovery	Qual	M
Mercury	ug/kg	75-125	154		9.78	J	129	112		AV

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE15-10-8314D

Sample ID: 247561001

Duplicate ID: 1202049279

Percent Solids for Dup: 97.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20%	2580000		2990000		14.9		P
Antimony	ug/Kg		324 U		318 U				P
Barium	ug/Kg	+/-20%	35900		41800		15.1		P
Cadmium	ug/Kg	+/-482	112 J		122 J		8.44		P
Calcium	ug/Kg	+/-20%	954000		1270000		28.7	*	P
Chromium	ug/Kg	+/-482	2160		2430		11.5		P
Cobalt	ug/Kg	+/-482	862		1000		14.9		P
Copper	ug/Kg	+/-964	2730		3190		15.5		P
Iron	ug/Kg	+/-20%	7670000		9430000		20.5	*	P
Lead	ug/Kg	+/-20%	5380		5850		8.32		P
Magnesium	ug/Kg	+/-20%	459000		543000		16.6		P
Manganese	ug/Kg	+/-20%	229000		237000		3.66		P
Potassium	ug/Kg	+/-20%	624000		654000		4.65		P
Silver	ug/Kg		98.1 U		96.4 U				P
Sodium	ug/Kg	+/-20%	269000		262000		2.94		P
Vanadium	ug/Kg	+/-20%	5680		6510		13.7		P
Zinc	ug/Kg	+/-20%	33800		42300		22.4	*	P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE15-10-8314SD

Sample ID: 1202049281

Duplicate ID: 1202049282

Percent Solids for Dup: 97.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Aluminum	ug/Kg	+/-20	5170000		5720000		10.2		P
Antimony	ug/Kg	+/-20	49400		49400		.0552		P
Barium	ug/Kg	+/-20	96300		94800		1.56		P
Cadmium	ug/Kg	+/-20	51400		51200		.313		P
Calcium	ug/Kg	+/-20	4850000		1850000		89.5	*	P
Chromium	ug/Kg	+/-20	54500		54300		.367		P
Cobalt	ug/Kg	+/-20	49400		49600		.523		P
Copper	ug/Kg	+/-20	59200		58500		1.21		P
Iron	ug/Kg	+/-20	9250000		9660000		4.37		P
Lead	ug/Kg	+/-20	57400		58100		1.15		P
Magnesium	ug/Kg	+/-20	1130000		1180000		3.82		P
Manganese	ug/Kg	+/-20	310000		263000		16.5		P
Potassium	ug/Kg	+/-20	1320000		1340000		1.12		P
Silver	ug/Kg	+/-20	51700		51500		.427		P
Sodium	ug/Kg	+/-20	928000		791000		15.9		P
Vanadium	ug/Kg	+/-20	58100		58300		.379		P
Zinc	ug/Kg	+/-20	91200		91400		.268		P

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1969**Contract:** LANL01004**Lab Code:** GEL**Matrix:** SOLID**Level:** Low**Client ID:** RE15-10-8314D**Sample ID:** 247561001**Duplicate ID:** 1202049285**Percent Solids for Dup:** 97.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-1	0.942 J		1.15		19.5		MS
Beryllium	mg/kg	+/-1	0.447		0.473		5.53		MS
Nickel	mg/kg	+/-20%	2.31		2.72		16.2		MS
Selenium	mg/kg		0.511 U		0.502 U				MS
Thallium	mg/kg	+/-201	0.0732 J		0.0699 J		4.61		MS
Uranium	mg/kg	+/-20%	1.37		0.664		69.5	*	MS

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE15-10-8314SD

Sample ID: 1202049287

Duplicate ID: 1202049288

Percent Solids for Dup: 97.3

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Arsenic	mg/kg	+/-20	8.82		8.58		2.73		MS
Beryllium	mg/kg	+/-20	5.42		5.31		2.07		MS
Nickel	mg/kg	+/-20	7.38		7.25		1.74		MS
Selenium	mg/kg	+/-20	1.52		1.63		6.96		MS
Thallium	mg/kg	+/-20	10.7		10.9		2.26		MS
Uranium	mg/kg	+/-20	6.15		6.44		4.55		MS

Metals

-6-

Duplicate Sample Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE46-10-13324D

Sample ID: 247546001

Duplicate ID: 1202056043

Percent Solids for Dup: 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-13.9	9.78 J		7.18 J		30.6		AV

Metals
-6-
Duplicate Sample Summary

SDG No.: 10-1969

Contract: LANL01004

Lab Code: GEL

Matrix: SOLID

Level: Low

Client ID: RE46-10-13324SD

Sample ID: 1202056044

Duplicate ID: 1202056051

Percent Solids for Dup: 86

Analyte	Units	Acceptance Limit	Sample Result	C	Duplicate Result	C	RPD	Qual	M
Mercury	ug/kg	+/-20	148		154		4.6		AV

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1969

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>
1202049283								
	Vanadium	ug/Kg	115000	130000		113	79-121	P
	Zinc	ug/Kg	594000	629000		106	80-121	P
	Aluminum	ug/Kg	10500000	9510000		90.6	56-144	P
	Antimony	ug/Kg	173000	125000		72.5	71-130	P
	Barium	ug/Kg	198000	205000		104	80-120	P
	Cadmium	ug/Kg	60700	62900		104	81-120	P
	Calcium	ug/Kg	9870000	10200000		103	83-117	P
	Chromium	ug/Kg	236000	260000		110	80-120	P
	Cobalt	ug/Kg	91200	95700		105	81-120	P
	Copper	ug/Kg	174000	202000		116	81-118	P
	Iron	ug/Kg	18000000	19600000		109	51-149	P
	Lead	ug/Kg	86000	89300		104	79-121	P
	Magnesium	ug/Kg	4000000	4020000		100	79-122	P
	Manganese	ug/Kg	558000	575000		103	81-119	P
	Potassium	ug/Kg	4300000	4190000		97.5	74-127	P
	Silver	ug/Kg	30100	32800		109	66-134	P
	Sodium	ug/Kg	1020000	1090000		107	74-127	P

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1969

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>
1202049289								
	Beryllium	mg/kg	77.6	81.9		106	84-116	MS
	Nickel	mg/kg	134	143		107	78-123	MS
	Selenium	mg/kg	286	286		99.9	77-123	MS
	Thallium	mg/kg	121	140		115	78-122	MS
	Uranium	mg/kg	2.13	2.1		98.8	73-127	MS
	Arsenic	mg/kg	104	108		104	78-123	MS

METALS

-7-

Laboratory Control Sample Summary

SDG NO. 10-1969

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>
1202056042	Mercury	ug/kg	5150	5420		105	71.6-128.3	AV

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1969 Client ID RE15-10-8314L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 247561001 Serial Dilution ID: 1202049280

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Aluminum	26300		25800		2.09		10	P
Antimony	3.3	U	16.5	U				P
Barium	366		341		6.97		10	P
Cadmium	1.14	J	5	U	100			P
Calcium	9730		9550		1.85		10	P
Chromium	22.1		21	J	4.98			P
Cobalt	8.79		7.5	U	100			P
Copper	27.8		24.4	J	12.2			P
Iron	78200		78000		.256		10	P
Lead	54.9		42.8	J	22			P
Magnesium	4680		4550		2.78		10	P
Manganese	2330		2290		1.72		10	P
Potassium	6360		6050		4.87		10	P
Silver	1	U	5	U				P
Sodium	2750		2720		1.09			P
Vanadium	57.9		55.5		4.15		10	P
Zinc	345		319		7.68		10	P

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1969 Client ID RE15-10-8314L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 247561001 Serial Dilution ID: 1202049286

Analyte	Initial Value ug/L	C	Serial Value ug/L	C	% Difference	Qual	Acceptance Limit	M
Arsenic	4.61	J	5.1	J	10.6			MS
Beryllium	2.19		2.28	J	4.11			MS
Nickel	11.3		11.7		3.1			MS
Selenium	2.5	U	12.5	U				MS
Thallium	.358	J	1.5	U	100			MS
Uranium	6.71		6.9		2.83		10	MS

METALS

-9-

Serial Dilution Sample Summary

SDG NO. 10-1969 Client ID RE46-10-13324L

Contract: LANL01004

Matrix: SOLID Level: Low

Sample ID: 247546001 Serial Dilution ID: 1202056050

<u>Analyte</u>	<u>Initial Value ug/L</u>	<u>C</u>	<u>Serial Value ug/L</u>	<u>C</u>	<u>% Difference</u>	<u>Qual</u>	<u>Acceptance Limit</u>	<u>M</u>
Mercury	.154	J	.34	U	100			AV

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1969

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 955815							
1202049278	MB for batch 955815	MB	S	25-FEB-10	.502g	50mL	
1202049283	LCS for batch 955815	LCS	S	25-FEB-10	.509g	50mL	
1202049281	RE15-10-8314S	MS	S	25-FEB-10	.517g	50mL	
1202049282	RE15-10-8314SD	MSD	S	25-FEB-10	.513g	50mL	
1202049279	RE15-10-8314D	DUP	S	25-FEB-10	.533g	50mL	
247551001	RE15-10-8349	SAMPLE	S	25-FEB-10	.508g	50mL	
247551002	RE15-10-8348	SAMPLE	S	25-FEB-10	.513g	50mL	

SW846

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1969

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	955817						
1202049284	MB for batch 955817	MB	S	25-FEB-10	.545g	50mL	
1202049289	LCS for batch 955817	LCS	S	25-FEB-10	.521g	50mL	
1202049287	RE15-10-8314S	MS	S	25-FEB-10	.507g	50mL	
1202049288	RE15-10-8314SD	MSD	S	25-FEB-10	.505g	50mL	
1202049285	RE15-10-8314D	DUP	S	25-FEB-10	.512g	50mL	
247551001	RE15-10-8349	SAMPLE	S	25-FEB-10	.512g	50mL	
247551002	RE15-10-8348	SAMPLE	S	25-FEB-10	.549g	50mL	

SW846

METALS
-13-
SAMPLE PREPARATION SUMMARY

SDG No: 10-1969

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 958687							
1202056041	MB for batch 958687	MB	S	06-MAR-10	.514g	30mL	
1202056042	LCS for batch 958687	LCS	S	06-MAR-10	.203g	30mL	
1202056044	RE46-10-13324S	MS	S	06-MAR-10	.553g	30mL	
1202056051	RE46-10-13324SD	MSD	S	06-MAR-10	.541g	30mL	
1202056043	RE46-10-13324D	DUP	S	06-MAR-10	.5g	30mL	
247551001	RE15-10-8349	SAMPLE	S	06-MAR-10	.559g	30mL	
247551002	RE15-10-8348	SAMPLE	S	06-MAR-10	.542g	30mL	

SW846

Metals
-14-
Analysis Run Log

Contract: LANL01004**Lab Code:** GEL**Inst Name:** ICPMS5**Start Date:** 19-MAR-10**End Date:** 19-MAR-10**Client Sdg:** 10-1969**Method:** MS**Data File:** 100318-2

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	04:18																		X			X			
S10	1	04:22																		X			X			
S100	1	04:25																		X			X			
ICV01	1	04:29																		X			X			
ICB01	1	04:33																		X			X			
CRDL01	1	04:36																		X			X			
ICSA01	1	04:40																		X			X			
ICSAB01	1	04:43																		X			X			
CCV01	1	04:47																		X			X			
CCB01	1	04:51																		X			X			
1202049284	2	04:54																		X			X			
1202049289	40	04:58																		X			X			
ZZZZZZ	2	05:02																								
247551001	2	05:05																		X			X			
247551002	2	05:09																		X			X			
CCV02	1	05:12																		X			X			
CCB02	1	05:16																		X			X			
ZZZZZZ	2	05:20																								
1202049285	2	05:23																		X			X			
1202049287	2	05:27																		X			X			
1202049288	2	05:31																		X			X			
1202049286	10	05:34																		X			X			
ZZZZZZ	2	05:38																								
CCV03	1	05:41																		X			X			
CCB03	1	05:45																		X			X			

Metals
-14-
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: ICPMS5

Start Date: 19-MAR-10

End Date: 19-MAR-10

Client Sdg: 10-1969

Method MS

Data File: 100319-3

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	17:06			X		X											X						X		
S10	1	17:09			X		X											X						X		
S100	1	17:12			X		X											X						X		
ICV01	1	17:16			X		X											X						X		
ICB01	1	17:19			X		X											X						X		
CRDL01	1	17:22			X		X											X						X		
ICSA01	1	17:26			X		X											X						X		
ICSAB01	1	17:29			X		X											X						X		
CCV01	1	17:32			X		X											X						X		
CCB01	1	17:36			X		X											X						X		
CCV02	1	17:39			X		X											X						X		
CCB02	1	17:42			X		X											X						X		
ZZZZZZ	1	17:46																								
1202049284	2	17:49			X		X											X						X		
1202049289	40	17:52			X		X											X						X		
ZZZZZZ	2	17:56																								
CCV03	1	17:59			X		X											X						X		
CCB03	1	18:02			X		X											X						X		
247551001	2	18:06			X		X											X						X		
247551002	2	18:09			X		X											X						X		
ZZZZZZ	2	18:12																								
1202049285	2	18:16			X		X											X						X		
1202049287	2	18:19			X		X											X						X		
1202049288	2	18:22			X		X											X						X		
1202049286	10	18:26			X		X											X						X		
CCV04	1	18:29			X		X											X						X		
CCB04	1	18:32			X		X											X						X		

Metals
-14-
Analysis Run Log

Contract: LANL01004**Lab Code:** GEL**Inst Name:** HG3**Start Date:** 08-MAR-10**End Date:** 08-MAR-10**Client Sdg:** 10-1969**Method:** AV**Data File:** 030810S1-4

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	09:09															X									
S0.2	1	09:11															X									
S0.5	1	09:13															X									
S2.0	1	09:14															X									
S5.0	1	09:16															X									
S10.0	1	09:18															X									
ICV01	1	09:19															X									
ICB01	1	09:21															X									
CRDL01	1	09:23															X									
CCV01	1	09:24															X									
CCB01	1	09:26															X									
ZZZZZZ	1	09:28																								
ZZZZZZ	10	09:29																								
ZZZZZZ	1	09:31																								
ZZZZZZ	1	09:33																								
ZZZZZZ	1	09:34																								
ZZZZZZ	1	09:36																								
ZZZZZZ	5	09:38																								
ZZZZZZ	1	09:39																								
ZZZZZZ	1	09:41																								
ZZZZZZ	1	09:43																								
CCV02	1	09:44															X									
CCB02	1	09:46															X									
ZZZZZZ	1	09:48																								
ZZZZZZ	1	09:49																								
ZZZZZZ	1	09:51																								
ZZZZZZ	1	09:53																								
ZZZZZZ	1	09:54																								
ZZZZZZ	1	09:56																								
ZZZZZZ	1	09:58																								
ZZZZZZ	1	09:59																								
ZZZZZZ	1	10:01																								
ZZZZZZ	1	10:03																								
CCV03	1	10:04															X									
CCB03	1	10:06															X									
ZZZZZZ	1	10:08																								
ZZZZZZ	1	10:09																								
ZZZZZZ	1	10:11																								
1202056041	1	10:13															X									
1202056042	10	10:15															X									

Samp No.	D/F	Run Time
ZZZZZZ	1	10:16
1202056043	1	10:18
1202056044	1	10:20
1202056051	1	10:21
1202056050	5	10:23
CCV04	1	10:25
CCB04	1	10:26
ZZZZZZ	1	10:28
ZZZZZZ	1	10:30
ZZZZZZ	1	10:31
ZZZZZZ	1	10:33
247551001	1	10:35
247551002	1	10:36
ZZZZZZ	1	10:38
ZZZZZZ	1	10:40
ZZZZZZ	1	10:41
ZZZZZZ	1	10:43
CCV05	1	10:45
CCB05	1	10:46

Metals
-14-
Analysis Run Log

Contract: LANL01004

Lab Code: GEL

Inst Name: OPTIMA1

Start Date: 19-MAR-10

End Date: 19-MAR-10

Client Sdg: 10-1969

Method P

Data File: 031910D-1

Samp No.	D/F	Run Time	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Ni	K	Se	Ag	Na	Tl	U	V	Zn
S0.0	1	06:14	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S0.1	1	06:18		X		X		X		X	X	X		X		X			X		X				X	X
S0.5	1	06:20	X	X		X		X	X	X	X	X		X	X	X			X		X				X	X
SCAL	1	06:24	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
S10	1	06:28	X					X					X		X							X				
ICV01	1	06:30	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICB01	1	06:34	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
PQL01	1	06:37	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSA01	1	06:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ICSAB01	1	06:43	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR01	1	06:46	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR02	1	06:49	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV01	1	06:53	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB01	1	06:56	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR03	1	07:05	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
LR04	1	07:09	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV02	1	07:12	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB02	1	07:16	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202049278	1	07:19	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202049283	1	07:23	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	07:26																								
247551001	1	07:30	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
247551002	1	07:34	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	07:37																								
1202049279	1	07:41	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202049281	1	07:45	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202049282	1	07:48	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCV03	1	07:52	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB03	1	07:56	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
1202049280	5	07:59	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
ZZZZZZ	1	08:03																								
ZZZZZZ	1	08:07																								
ZZZZZZ	1	08:10																								
ZZZZZZ	1	08:14																								
ZZZZZZ	1	08:18																								
ZZZZZZ	1	08:21																								
ZZZZZZ	1	08:25																								
CCV04	1	08:29	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X
CCB04	1	08:32	X	X		X		X	X	X	X	X	X	X	X	X			X		X	X			X	X

Standards

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1969

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. 10-1969

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 15-JUN-09

		<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u> <u>ug/L</u>	<u>RDL</u> <u>ug/L</u>
MERCURY	<u>Analyte</u>			
SOLID	Mercury		0.068	.2

METALS
-10-
Instrument Detection Limits

SDG NO. 10-1969

Contract: LANL01004

Lab Code: GEL

MDL Effective Date: 01-JUL-09

ICP	<u>Analyte</u>	<u>Wavelength</u> <u>(nm)</u>	<u>MDL</u>	<u>RDL</u>
			<u>ug/L</u>	<u>ug/L</u>
SOLID	Aluminum	396.153	68.0	200
	Antimony	206.836	3.3	10
	Arsenic	188.979	5.0	30
	Barium	233.527	1.0	5
	Beryllium	313.107	1.0	5
	Cadmium	226.502	1.0	5
	Calcium	317.933	80.0	250
	Chromium	267.716	1.5	5
	Cobalt	228.616	1.5	5
	Copper	324.752	3.0	10
	Iron	238.204	80.0	250
	Lead	220.353	2.5	10
	Magnesium	279.077	85.0	300
	Manganese	257.61	2.0	10
	Nickel	231.604	1.5	5
	Potassium	766.49	64.0	250
	Selenium	196.026	5.0	30
	Silver	328.068	1.0	5
	Sodium	589.592	70.0	250
	Thallium	190.801	5.0	20
	Uranium	409.014	10.0	50
	Vanadium	292.402	1.0	5
	Zinc	213.857	3.3	10

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1969**

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Aluminum	Antimony	Arsenic	Barium	Beryllium
Parmname	Wavelength					
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	-0.05500	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	-0.28800	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.04600	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1969**

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Boron	Cadmium	Chromium	Cobalt	Copper
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	11.3250	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	-1.59900	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	-21.2250	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	1.68400
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	1.19100	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	105.59
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	3.36300	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	-2.30400	0.00000	0.00000
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	1.61100

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1969**

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: **01-FEB-10**

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	20.5430
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	-16.3320
Arsenic	188.979	-0.05800	0.00000	0.00000	0.00000	1.97700
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.00000	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.13300	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	-0.90500
Copper	324.752	-0.13900	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.03800	-2.87600	0.00000	0.00000	0.00000
Magnesium	279.077	1.07300	0.00000	0.00000	0.00000	-16.8110
Manganese	257.61	-0.13900	0.00000	0.04000	0.00000	0.00000
Molybdenum	202.031	-0.03800	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	-0.01300	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.81200	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	-0.88200	0.00000	0.28200	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	-0.06300	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	-0.03900	0.00000	0.00000	-4.11700	0.00000
Tin	189.927	-0.09200	0.00000	-0.19600	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.07900	0.00000	0.00000
Uranium	409.014	0.13900	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	-0.05300	0.00000	0.00000	0.00000	-7.71400
Zinc	213.857	0.14460	0.00000	0.02030	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1969**

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Nickel	Phosphorous	Selenium	Silicon	Silver
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	0.00000	0.00000
Cadmium	226.502	-0.99900	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	0.00000	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	0.00000	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	0.00000	0.00000
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	0.00000
Zinc	213.857	4.41600	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GELGEL Job No: **10-1969**

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: **01-FEB-10**

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

Parmname	Wavelength	Sulfur	Thallium	Tin	Titanium	Uranium
Aluminum	396.153	0.00000	0.00000	0.00000	0.00000	0.00000
Antimony	206.836	0.00000	0.00000	0.00000	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000	0.00000	0.00000	0.00000
Barium	233.527	0.00000	0.00000	0.00000	0.00000	0.00000
Beryllium	313.107	0.00000	0.00000	0.00000	0.38100	0.00000
Boron	249.677	0.00000	0.00000	0.00000	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000	0.00000	0.00000	0.00000
Chromium	267.716	0.00000	0.00000	0.00000	0.00000	0.00000
Cobalt	228.616	0.00000	0.00000	0.00000	2.08700	0.00000
Copper	324.752	0.00000	0.00000	0.00000	0.00000	0.00000
Iron	238.204	0.00000	0.00000	0.00000	0.00000	0.00000
Lead	220.353	0.00000	0.00000	0.00000	0.00000	1.04000
Magnesium	279.077	0.00000	0.00000	0.00000	0.00000	0.00000
Manganese	257.61	0.00000	0.00000	0.00000	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000	0.00000	0.00000	0.00000
Nickel	231.604	0.00000	0.00000	0.00000	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000	-14.8110	0.00000	0.00000
Selenium	196.026	0.00000	0.00000	0.00000	0.00000	0.00000
Silicon	251.611	0.00000	0.00000	0.00000	0.00000	0.00000
Silver	328.068	0.00000	0.00000	0.00000	0.00000	0.00000
Sulfur	181.975	0.00000	0.00000	0.00000	0.00000	0.00000
Thallium	190.801	0.00000	0.00000	0.00000	-8.68900	-1.22400
Tin	189.927	0.00000	0.00000	0.00000	0.00000	0.00000
Titanium	334.94	0.00000	0.00000	0.00000	0.00000	0.00000
Uranium	409.014	0.00000	0.00000	0.00000	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000	0.00000	0.00000	-1.03900
Zinc	213.857	0.00000	0.00000	0.00000	0.00000	0.00000

METALS
-11-
Interelement Correction Factors

Lab Code: GEL

GEL Job No: 10-1969

Contract: LANL01004

Instrument: OPTIMA1

Effective Dates: 01-FEB-10

Interelement Correction Factors (apparent ppb analyte/ppm interferent)

		Vanadium	Zinc
Parmname	Wavelength		
Aluminum	396.153	0.00000	0.00000
Antimony	206.836	0.00000	0.00000
Arsenic	188.979	0.00000	0.00000
Barium	233.527	-1.80500	0.00000
Beryllium	313.107	0.00000	0.00000
Boron	249.677	0.00000	0.00000
Cadmium	226.502	0.00000	0.00000
Chromium	267.716	-0.63000	0.00000
Cobalt	228.616	0.00000	0.00000
Copper	324.752	0.00000	0.00000
Iron	238.204	0.00000	0.00000
Lead	220.353	0.00000	0.00000
Magnesium	279.077	0.00000	0.00000
Manganese	257.61	0.00000	0.00000
Molybdenum	202.031	0.00000	0.00000
Nickel	231.604	0.00000	0.00000
Phosphorous	214.914	0.00000	0.00000
Selenium	196.026	0.00000	0.00000
Silicon	251.611	0.00000	0.00000
Silver	328.068	-6.59800	0.00000
Sulfur	181.975	0.00000	0.00000
Thallium	190.801	0.00000	0.00000
Tin	189.927	0.00000	0.00000
Titanium	334.94	0.00000	0.00000
Uranium	409.014	0.00000	0.00000
Vanadium	292.402	0.00000	0.00000
Zinc	213.857	0.00000	0.00000

METALS
-12-
Linear Ranges

SDG NO. 10-1969

Contract: LANL01004

Lab Code: GEL

Instrument ID ICPMS5

<u>Analyte</u>	<u>Integration Time (msec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Aluminum	1	50000	ug/L	01-FEB-10
Antimony	1000	250	ug/L	01-FEB-10
Arsenic	1000	1000	ug/L	01-FEB-10
Barium	1000	1000	ug/L	01-FEB-10
Beryllium	1000	1000	ug/L	01-FEB-10
Cadmium	1000	1000	ug/L	01-FEB-10
Calcium	500	50000	ug/L	01-FEB-10
Chromium	1000	1000	ug/L	01-FEB-10
Cobalt	1000	1000	ug/L	01-FEB-10
Copper	1000	1000	ug/L	01-FEB-10
Iron	500	50000	ug/L	01-FEB-10
Lead	1000	5000	ug/L	01-FEB-10
Magnesium	1	50000	ug/L	01-FEB-10
Manganese	1000	1000	ug/L	01-FEB-10
Nickel	1000	1000	ug/L	01-FEB-10
Potassium	1	50000	ug/L	01-FEB-10
Selenium	1000	500	ug/L	01-FEB-10
Silver	1000	250	ug/L	01-FEB-10
Sodium	1	50000	ug/L	01-FEB-10
Thallium	1000	500	ug/L	01-FEB-10
Uranium	1000	5000	ug/L	01-FEB-10
Vanadium	1000	100	ug/L	01-FEB-10
Zinc	1000	2500	ug/L	01-FEB-10

METALS
-12-
Linear Ranges

SDG NO. 10-1969

Contract: LANL01004

Lab Code: GEL

Instrument ID OPTIMA1

<u>Analyte</u>	<u>Integration Time (sec)</u>	<u>LDR</u>	<u>Units</u>	<u>Effective Date</u>
Antimony	20	10000	ug/L	01-FEB-10
Arsenic	20	10000	ug/L	01-FEB-10
Barium	20	15000	ug/L	01-FEB-10
Beryllium	20	3000	ug/L	01-FEB-10
Cadmium	20	10000	ug/L	01-FEB-10
Calcium	20	500000	ug/L	01-FEB-10
Chromium	20	25000	ug/L	01-FEB-10
Cobalt	20	10000	ug/L	01-FEB-10
Copper	20	20000	ug/L	01-FEB-10
Iron	20	500000	ug/L	01-FEB-10
Lead	20	25000	ug/L	01-FEB-10
Magnesium	20	500000	ug/L	01-FEB-10
Manganese	20	10000	ug/L	01-FEB-10
Nickel	20	10000	ug/L	01-FEB-10
Potassium	20	300000	ug/L	01-FEB-10
Selenium	20	10000	ug/L	01-FEB-10
Silver	20	1000	ug/L	01-FEB-10
Sodium	20	500000	ug/L	01-FEB-10
Thallium	20	10000	ug/L	01-FEB-10
Uranium	20	15000	ug/L	01-FEB-10
Vanadium	20	10000	ug/L	01-FEB-10
Zinc	20	15000	ug/L	01-FEB-10
Aluminum	20	500000	ug/L	01-FEB-10

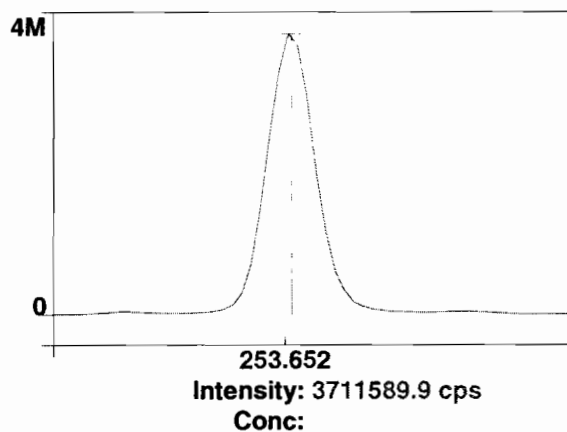
Raw Data

Method: Hg_ReAlign
Result: 032210

Sample ID: Hg_ReAlign

Hg 253.652

Rep: 1



1

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Analysis Begun

Start Time: 3/19/2010 06:14:29

Plasma On Time: 00:00:00

Logged In Analyst: optima

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N1030502 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optimal\Sample Information\031910.sif

Batch ID:

Results Data Set: 031910D

Results Library: c:\pe\optimal\Results\Results.mdb
=====

Method Loaded

Method Name: Gen Eng fast_new Si

Method Last Saved: 3/17/2010 23:02:24

IEC File: 011510.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 8

Sample ID: S0

Date Collected: 3/19/2010 06:14:42

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:
=====

Replicate Data: S0

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Units	Analysis Time
1	Sc RADIAL	87283.1	87283.1	99.5 %		06:15:21
1	Al 396.153Radial†	206.1	207.1	[0.00] µg/L		06:15:21
1	Ca 317.933Radial†	335.6	337.2	[0.00] µg/L		06:15:41
1	Fe 238.204 Radial†	11.1	11.2	[0.00] µg/L		06:15:41

1	K 766.490 Radial†	151.0	151.7	[0.00]	µg/L	06:15:21
1	Mg 279.077 IEC†	7.7	7.7	[0.00]	µg/L	06:15:41
1	Na 589.592 Radial†	115.3	115.8	[0.00]	µg/L	06:15:21
1	Sr 421.552†	182.2	183.0	[0.00]	µg/L	06:15:21
1	Sc 361.383	1990823.5	1990823.5	100.29	%	06:16:43
1	Y 371.029	1362845.6	1362845.6	100.37	%	06:16:43
1	Ag 328.068†	607.5	605.8	[0.00]	µg/L	06:16:49
1	As 188.979†	0.3	0.3	[0.00]	µg/L	06:17:09
1	B 249.677†	399.0	397.8	[0.00]	µg/L	06:17:09
1	Ba 233.527†	4.0	4.0	[0.00]	µg/L	06:17:09
1	Be 313.107†	-852.4	-850.0	[0.00]	µg/L	06:16:49
1	Cd 226.502†	-160.3	-159.8	[0.00]	µg/L	06:17:09
1	Co 228.616†	46.7	46.6	[0.00]	µg/L	06:17:09
1	Cr 267.716†	96.7	96.5	[0.00]	µg/L	06:17:09
1	Cu 324.752†	4336.7	4324.3	[0.00]	µg/L	06:16:49
1	Mn 257.610†	-224.9	-224.3	[0.00]	µg/L	06:17:09
1	Mo 202.031†	23.7	23.6	[0.00]	µg/L	06:17:09
1	Ni 231.604†	363.0	362.0	[0.00]	µg/L	06:17:09
1	P 214.914†	15.5	15.5	[0.00]	µg/L	06:17:09
1	Pb 220.353†	49.7	49.6	[0.00]	µg/L	06:17:09
1	S 181.975 Axial†	23.0	22.9	[0.00]	µg/L	06:17:09
1	Sb 206.836†	23.4	23.3	[0.00]	µg/L	06:17:09
1	Se 196.026†	22.5	22.5	[0.00]	µg/L	06:17:09
1	SiO2†	3004.2	2995.7	[0.00]	µg/L	06:17:09
1	Si 251.611†	726.4	724.4	[0.00]	µg/L	06:17:09
1	Sn 189.927†	6.6	6.6	[0.00]	µg/L	06:17:09
1	Ti 334.940†	4712.4	4699.0	[0.00]	µg/L	06:16:49
1	Tl 190.801†	-37.2	-37.1	[0.00]	µg/L	06:17:09
1	U 409.014†	8.6	8.6	[0.00]	µg/L	06:16:49
1	V 292.402†	-107.8	-107.5	[0.00]	µg/L	06:16:49
1	Zn 213.857†	904.4	901.8	[0.00]	µg/L	06:17:09
2	Sc RADIAL	87507.5	87507.5	99.8	%	06:15:47
2	Al 396.153Radial†	203.0	203.4	[0.00]	µg/L	06:15:47
2	Ca 317.933Radial†	334.7	335.4	[0.00]	µg/L	06:16:07
2	Fe 238.204 Radial†	12.7	12.8	[0.00]	µg/L	06:16:07
2	K 766.490 Radial†	185.8	186.2	[0.00]	µg/L	06:15:47
2	Mg 279.077 IEC†	7.9	8.0	[0.00]	µg/L	06:16:07
2	Na 589.592 Radial†	189.3	189.7	[0.00]	µg/L	06:15:47
2	Sr 421.552†	145.7	146.0	[0.00]	µg/L	06:15:47
2	Sc 361.383	1978664.2	1978664.2	99.674	%	06:17:15
2	Y 371.029	1355385.4	1355385.4	99.818	%	06:17:15
2	Ag 328.068†	594.8	596.7	[0.00]	µg/L	06:17:21
2	As 188.979†	-1.8	-1.8	[0.00]	µg/L	06:17:41
2	B 249.677†	396.2	397.5	[0.00]	µg/L	06:17:41
2	Ba 233.527†	1.3	1.3	[0.00]	µg/L	06:17:41
2	Be 313.107†	-901.3	-904.3	[0.00]	µg/L	06:17:21
2	Cd 226.502†	-167.9	-168.4	[0.00]	µg/L	06:17:41
2	Co 228.616†	55.6	55.8	[0.00]	µg/L	06:17:41
2	Cr 267.716†	78.1	78.3	[0.00]	µg/L	06:17:41
2	Cu 324.752†	4255.9	4269.8	[0.00]	µg/L	06:17:21
2	Mn 257.610†	-264.9	-265.8	[0.00]	µg/L	06:17:41
2	Mo 202.031†	24.0	24.1	[0.00]	µg/L	06:17:41
2	Ni 231.604†	367.1	368.3	[0.00]	µg/L	06:17:41
2	P 214.914†	15.3	15.3	[0.00]	µg/L	06:17:41
2	Pb 220.353†	32.8	32.9	[0.00]	µg/L	06:17:41
2	S 181.975 Axial†	20.9	21.0	[0.00]	µg/L	06:17:41
2	Sb 206.836†	28.0	28.1	[0.00]	µg/L	06:17:41
2	Se 196.026†	27.9	28.0	[0.00]	µg/L	06:17:41
2	SiO2†	3002.2	3012.1	[0.00]	µg/L	06:17:41
2	Si 251.611†	709.5	711.9	[0.00]	µg/L	06:17:41
2	Sn 189.927†	1.1	1.1	[0.00]	µg/L	06:17:41
2	Ti 334.940†	4967.2	4983.5	[0.00]	µg/L	06:17:21
2	Tl 190.801†	-30.1	-30.2	[0.00]	µg/L	06:17:41
2	U 409.014†	8.8	8.8	[0.00]	µg/L	06:17:21
2	V 292.402†	-180.0	-180.6	[0.00]	µg/L	06:17:21
2	Zn 213.857†	905.6	908.6	[0.00]	µg/L	06:17:41
3	Sc RADIAL	88268.9	88268.9	101	%	06:16:13
3	Al 396.153Radial†	208.9	207.6	[0.00]	µg/L	06:16:13
3	Ca 317.933Radial†	364.7	362.2	[0.00]	µg/L	06:16:33
3	Fe 238.204 Radial†	15.6	15.5	[0.00]	µg/L	06:16:33
3	K 766.490 Radial†	260.1	258.4	[0.00]	µg/L	06:16:13

3	Mg 279.077 IEC†	3.9	3.9	[0.00]	µg/L	06:16:33
3	Na 589.592 Radial†	184.4	183.2	[0.00]	µg/L	06:16:13
3	Sr 421.552†	146.4	145.4	[0.00]	µg/L	06:16:13
3	Sc 361.383	1985937.2	1985937.2	100.04	%	06:17:47
3	Y 371.029	1355353.4	1355353.4	99.815	%	06:17:47
3	Ag 328.068†	587.0	586.8	[0.00]	µg/L	06:17:53
3	As 188.979†	-0.3	-0.3	[0.00]	µg/L	06:18:13
3	B 249.677†	399.2	399.0	[0.00]	µg/L	06:18:13
3	Ba 233.527†	8.1	8.1	[0.00]	µg/L	06:18:13
3	Be 313.107†	-959.7	-959.3	[0.00]	µg/L	06:17:53
3	Cd 226.502†	-164.8	-164.8	[0.00]	µg/L	06:18:13
3	Co 228.616†	46.1	46.1	[0.00]	µg/L	06:18:13
3	Cr 267.716†	80.2	80.2	[0.00]	µg/L	06:18:13
3	Cu 324.752†	4272.3	4270.6	[0.00]	µg/L	06:17:53
3	Mn 257.610†	-337.7	-337.6	[0.00]	µg/L	06:18:13
3	Mo 202.031†	28.6	28.6	[0.00]	µg/L	06:18:13
3	Ni 231.604†	375.2	375.0	[0.00]	µg/L	06:18:13
3	P 214.914†	15.2	15.2	[0.00]	µg/L	06:18:13
3	Pb 220.353†	36.3	36.3	[0.00]	µg/L	06:18:13
3	S 181.975 Axial†	26.3	26.3	[0.00]	µg/L	06:18:13
3	Sb 206.836†	28.0	28.0	[0.00]	µg/L	06:18:13
3	Se 196.026†	23.2	23.2	[0.00]	µg/L	06:18:13
3	SiO2†	2985.3	2984.1	[0.00]	µg/L	06:18:13
3	Si 251.611†	702.3	702.1	[0.00]	µg/L	06:18:13
3	Sn 189.927†	-3.1	-3.1	[0.00]	µg/L	06:18:13
3	Ti 334.940†	4996.3	4994.3	[0.00]	µg/L	06:17:53
3	Tl 190.801†	-35.5	-35.5	[0.00]	µg/L	06:18:13
3	U 409.014†	-67.4	-67.4	[0.00]	µg/L	06:17:53
3	V 292.402†	-197.2	-197.1	[0.00]	µg/L	06:17:53
3	Zn 213.857†	930.1	929.7	[0.00]	µg/L	06:18:13

Mean Data: S0

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	1985141.6	6118.55	0.31%	100.00 %
Sc RADIAL	87686.5	516.73	0.59%	100 %
Y 371.029	1357861.4	4316.40	0.32%	100.00 %
Ag 328.068†	596.4	9.50	1.59%	[0.00] µg/L
Al 396.153Radial†	206.0	2.25	1.09%	[0.00] µg/L
As 188.979†	-0.6	1.08	179.14%	[0.00] µg/L
B 249.677†	398.1	0.79	0.20%	[0.00] µg/L
Ba 233.527†	4.4	3.40	76.43%	[0.00] µg/L
Be 313.107†	-904.5	54.69	6.05%	[0.00] µg/L
Ca 317.933Radial†	344.9	15.02	4.36%	[0.00] µg/L
Cd 226.502†	-164.3	4.33	2.63%	[0.00] µg/L
Co 228.616†	49.5	5.46	11.03%	[0.00] µg/L
Cr 267.716†	85.0	9.98	11.75%	[0.00] µg/L
Cu 324.752†	4288.3	31.24	0.73%	[0.00] µg/L
Fe 238.204 Radial†	13.1	2.16	16.44%	[0.00] µg/L
K 766.490 Radial†	198.7	54.43	27.39%	[0.00] µg/L
Mg 279.077 IEC†	6.5	2.30	35.15%	[0.00] µg/L
Mn 257.610†	-275.9	57.30	20.77%	[0.00] µg/L
Mo 202.031†	25.4	2.76	10.86%	[0.00] µg/L
Na 589.592 Radial†	162.9	40.93	25.13%	[0.00] µg/L
Ni 231.604†	368.4	6.52	1.77%	[0.00] µg/L
P 214.914†	15.3	0.16	1.07%	[0.00] µg/L
Pb 220.353†	39.6	8.84	22.34%	[0.00] µg/L
S 181.975 Axial†	23.4	2.69	11.50%	[0.00] µg/L
Sb 206.836†	26.5	2.74	10.36%	[0.00] µg/L
Se 196.026†	24.6	2.98	12.12%	[0.00] µg/L
SiO2†	2997.3	14.07	0.47%	[0.00] µg/L
Si 251.611†	712.8	11.19	1.57%	[0.00] µg/L
Sn 189.927†	1.5	4.84	313.21%	[0.00] µg/L
Sr 421.552†	158.1	21.54	13.62%	[0.00] µg/L
Ti 334.940†	4892.3	167.49	3.42%	[0.00] µg/L
Tl 190.801†	-34.2	3.60	10.52%	[0.00] µg/L
U 409.014†	-16.7	43.91	263.38%	[0.00] µg/L
V 292.402†	-161.7	47.70	29.50%	[0.00] µg/L
Zn 213.857†	913.4	14.55	1.59%	[0.00] µg/L

Sequence No.: 2

Sample ID: S0.1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 2

Date Collected: 3/19/2010 06:18:22

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	90291.0	90291.0	103 %	06:18:54
1	K 766.490 Radial†	2705.3	2428.5	[1000] µg/L	06:18:54
1	Sr 421.552†	17231.2	16576.0	[100] µg/L	06:18:54
1	Sc 361.383	2005872.6	2005872.6	101.04 %	06:19:16
1	Y 371.029	1367419.5	1367419.5	100.70 %	06:19:16
1	Ag 328.068†	14038.2	13296.7	[100] µg/L	06:19:21
1	As 188.979†	75.6	75.4	[100] µg/L	06:19:42
1	B 249.677†	2669.3	2243.6	[100] µg/L	06:19:21
1	Ba 233.527†	4887.4	4832.4	[100] µg/L	06:19:42
1	Be 313.107†	181114.0	180146.7	[100] µg/L	06:19:16
1	Cd 226.502†	4374.1	4493.2	[100] µg/L	06:19:42
1	Co 228.616†	2567.6	2491.6	[100] µg/L	06:19:42
1	Cr 267.716†	5147.7	5009.5	[100] µg/L	06:19:21
1	Cu 324.752†	20933.7	16429.1	[100] µg/L	06:19:21
1	Mn 257.610†	35475.4	35384.6	[100] µg/L	06:19:21
1	Mo 202.031†	1142.6	1105.3	[100] µg/L	06:19:42
1	Ni 231.604†	2325.8	1933.3	[100] µg/L	06:19:42
1	P 214.914†	329.7	310.9	[500] µg/L	06:19:42
1	Pb 220.353†	467.5	423.1	[100] µg/L	06:19:42
1	S 181.975 Axial†	92.7	68.3	[200] µg/L	06:19:42
1	Sb 206.836†	151.4	123.4	[100] µg/L	06:19:42
1	Se 196.026†	147.0	121.0	[100] µg/L	06:19:42
1	SiO2†	9050.9	5960.1	[1069.5] µg/L	06:19:21
1	Si 251.611†	8129.7	7332.9	[500] µg/L	06:19:21
1	Sn 189.927†	298.3	293.6	[100] µg/L	06:19:42
1	Ti 334.940†	44765.6	39410.7	[100] µg/L	06:19:21
1	Tl 190.801†	73.2	106.7	[100] µg/L	06:19:42
1	U 409.014†	1211.8	1215.9	[100] µg/L	06:19:21
1	V 292.402†	9773.8	9834.5	[100] µg/L	06:19:21
1	Zn 213.857†	5633.1	4661.5	[100] µg/L	06:19:42
2	Sc RADIAL	90234.5	90234.5	103 %	06:19:00
2	K 766.490 Radial†	2601.8	2329.5	[1000] µg/L	06:19:00
2	Sr 421.552†	17219.0	16574.6	[100] µg/L	06:19:00
2	Sc 361.383	2008678.4	2008678.4	101.19 %	06:19:48
2	Y 371.029	1373356.8	1373356.8	101.14 %	06:19:48
2	Ag 328.068†	14005.7	13245.1	[100] µg/L	06:19:54
2	As 188.979†	76.0	75.7	[100] µg/L	06:20:14
2	B 249.677†	2695.7	2266.0	[100] µg/L	06:19:54
2	Ba 233.527†	4874.8	4813.2	[100] µg/L	06:20:14
2	Be 313.107†	181571.9	180348.9	[100] µg/L	06:19:48
2	Cd 226.502†	4339.2	4452.7	[100] µg/L	06:20:14
2	Co 228.616†	2556.8	2477.4	[100] µg/L	06:20:14
2	Cr 267.716†	5129.0	4983.9	[100] µg/L	06:19:54
2	Cu 324.752†	20969.2	16435.3	[100] µg/L	06:19:54
2	Mn 257.610†	35444.1	35304.6	[100] µg/L	06:19:54
2	Mo 202.031†	1141.4	1102.6	[100] µg/L	06:20:14
2	Ni 231.604†	2301.7	1906.3	[100] µg/L	06:20:14
2	P 214.914†	324.6	305.5	[500] µg/L	06:20:14
2	Pb 220.353†	461.1	416.1	[100] µg/L	06:20:14
2	S 181.975 Axial†	86.1	61.7	[200] µg/L	06:20:14
2	Sb 206.836†	151.6	123.4	[100] µg/L	06:20:14
2	Se 196.026†	135.6	109.5	[100] µg/L	06:20:14
2	SiO2†	9074.3	5970.7	[1069.5] µg/L	06:19:54
2	Si 251.611†	8179.5	7370.9	[500] µg/L	06:19:54
2	Sn 189.927†	292.8	287.8	[100] µg/L	06:20:14
2	Ti 334.940†	45178.5	39756.8	[100] µg/L	06:19:54
2	Tl 190.801†	78.3	111.7	[100] µg/L	06:20:14
2	U 409.014†	1202.2	1204.8	[100] µg/L	06:19:54
2	V 292.402†	9758.7	9806.1	[100] µg/L	06:19:54

2	Zn 213.857†	5630.6	4651.3	[100]	µg/L	06:20:14
3	Sc RADIAL	90125.2	90125.2	103	%	06:19:05
3	K 766.490 Radial†	2648.3	2377.9	[1000]	µg/L	06:19:05
3	Sr 421.552†	17130.0	16508.3	[100]	µg/L	06:19:05
3	Sc 361.383	2007464.0	2007464.0	101.12	%	06:20:21
3	Y 371.029	1372253.0	1372253.0	101.06	%	06:20:21
3	Ag 328.068†	14067.9	13315.0	[100]	µg/L	06:20:26
3	As 188.979†	71.1	70.9	[100]	µg/L	06:20:47
3	B 249.677†	2706.3	2278.1	[100]	µg/L	06:20:26
3	Ba 233.527†	4883.9	4825.1	[100]	µg/L	06:20:47
3	Be 313.107†	181691.6	180575.7	[100]	µg/L	06:20:21
3	Cd 226.502†	4358.6	4474.5	[100]	µg/L	06:20:47
3	Co 228.616†	2568.2	2490.2	[100]	µg/L	06:20:47
3	Cr 267.716†	5119.7	4977.8	[100]	µg/L	06:20:26
3	Cu 324.752†	20900.2	16379.5	[100]	µg/L	06:20:26
3	Mn 257.610†	35578.1	35458.4	[100]	µg/L	06:20:26
3	Mo 202.031†	1142.1	1104.0	[100]	µg/L	06:20:47
3	Ni 231.604†	2314.6	1920.4	[100]	µg/L	06:20:47
3	P 214.914†	326.1	307.1	[500]	µg/L	06:20:47
3	Pb 220.353†	468.9	424.1	[100]	µg/L	06:20:47
3	S 181.975 Axial†	88.4	64.0	[200]	µg/L	06:20:47
3	Sb 206.836†	149.3	121.2	[100]	µg/L	06:20:47
3	Se 196.026†	138.7	112.6	[100]	µg/L	06:20:47
3	SiO2†	9140.6	6041.7	[1069.5]	µg/L	06:20:26
3	Si 251.611†	8252.2	7447.6	[500]	µg/L	06:20:26
3	Sn 189.927†	284.1	279.4	[100]	µg/L	06:20:47
3	Ti 334.940†	45448.3	40050.7	[100]	µg/L	06:20:26
3	Tl 190.801†	79.1	112.5	[100]	µg/L	06:20:47
3	U 409.014†	1177.8	1181.3	[100]	µg/L	06:20:26
3	V 292.402†	9800.6	9853.3	[100]	µg/L	06:20:26
3	Zn 213.857†	5624.0	4648.1	[100]	µg/L	06:20:47

Mean Data: S0.1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	2007338.3	1407.10	0.07%	101.12	%
Sc RADIAL	90216.9	84.27	0.09%	103	%
Y 371.029	1371009.8	3157.88	0.23%	100.97	%
Ag 328.068†	13285.6	36.24	0.27%	[100]	µg/L
As 188.979†	74.0	2.68	3.63%	[100]	µg/L
B 249.677†	2262.5	17.51	0.77%	[100]	µg/L
Ba 233.527†	4823.6	9.68	0.20%	[100]	µg/L
Be 313.107†	180357.1	214.62	0.12%	[100]	µg/L
Cd 226.502†	4473.4	20.28	0.45%	[100]	µg/L
Co 228.616†	2486.4	7.84	0.32%	[100]	µg/L
Cr 267.716†	4990.4	16.82	0.34%	[100]	µg/L
Cu 324.752†	16414.6	30.56	0.19%	[100]	µg/L
K 766.490 Radial†	2378.6	49.48	2.08%	[1000]	µg/L
Mn 257.610†	35382.5	76.89	0.22%	[100]	µg/L
Mo 202.031†	1104.0	1.34	0.12%	[100]	µg/L
Ni 231.604†	1920.0	13.53	0.70%	[100]	µg/L
P 214.914†	307.8	2.80	0.91%	[500]	µg/L
Pb 220.353†	421.1	4.34	1.03%	[100]	µg/L
S 181.975 Axial†	64.7	3.39	5.24%	[200]	µg/L
Sb 206.836†	122.7	1.27	1.04%	[100]	µg/L
Se 196.026†	114.4	5.94	5.20%	[100]	µg/L
SiO2†	5990.8	44.36	0.74%	[1069.5]	µg/L
Si 251.611†	7383.8	58.43	0.79%	[500]	µg/L
Sn 189.927†	286.9	7.18	2.50%	[100]	µg/L
Sr 421.552†	16553.0	38.69	0.23%	[100]	µg/L
Ti 334.940†	39739.4	320.35	0.81%	[100]	µg/L
Tl 190.801†	110.3	3.11	2.82%	[100]	µg/L
U 409.014†	1200.7	17.65	1.47%	[100]	µg/L
V 292.402†	9831.3	23.76	0.24%	[100]	µg/L
Zn 213.857†	4653.7	7.01	0.15%	[100]	µg/L

Sequence No.: 3

Sample ID: S0.5

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 3/19/2010 06:20:57

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: S0.5

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Analysis Time
1	Sc RADIAL	90118.9	90118.9	103 %	06:21:27
1	Al 396.153Radial†	10732.5	10236.8	[5000] µg/L	06:21:27
1	Ca 317.933Radial†	14463.8	13728.4	[5000] µg/L	06:21:27
1	K 766.490 Radial†	11339.1	10834.3	[5000] µg/L	06:21:27
1	Mg 279.077 IEC†	399.8	382.5	[5000] µg/L	06:21:48
1	Sr 421.552†	85794.4	83320.6	[500] µg/L	06:21:27
1	Sc 361.383	2007589.3	2007589.3	101.13 %	06:22:51
1	Y 371.029	1367229.1	1367229.1	100.69 %	06:22:51
1	Ag 328.068†	68338.8	66978.3	[500] µg/L	06:22:57
1	As 188.979†	378.6	374.9	[500] µg/L	06:23:17
1	B 249.677†	12187.3	11652.9	[500] µg/L	06:22:57
1	Ba 233.527†	24998.2	24714.2	[500] µg/L	06:22:57
1	Be 313.107†	918419.8	909055.1	[500] µg/L	06:22:51
1	Cd 226.502†	22800.9	22710.3	[500] µg/L	06:22:57
1	Co 228.616†	12910.7	12716.8	[500] µg/L	06:22:57
1	Cr 267.716†	25578.7	25207.8	[500] µg/L	06:22:57
1	Cu 324.752†	87837.2	82566.8	[500] µg/L	06:22:57
1	Mn 257.610†	180213.0	178473.8	[500] µg/L	06:22:51
1	Mo 202.031†	5689.0	5600.0	[500] µg/L	06:23:17
1	Ni 231.604†	10266.0	9782.8	[500] µg/L	06:22:57
1	P 214.914†	1585.6	1552.6	[2500] µg/L	06:23:17
1	Pb 220.353†	2159.0	2095.3	[500] µg/L	06:23:17
1	S 181.975 Axial†	370.0	342.4	[1000] µg/L	06:23:17
1	Sb 206.836†	673.5	639.5	[500] µg/L	06:23:17
1	Se 196.026†	607.5	576.2	[500] µg/L	06:23:17
1	SiO2†	35080.6	31691.1	[5347.5] µg/L	06:22:57
1	Si 251.611†	40026.1	38865.8	[2500] µg/L	06:22:57
1	Sn 189.927†	1444.4	1426.7	[500] µg/L	06:23:17
1	Ti 334.940†	230523.7	223053.8	[500] µg/L	06:22:51
1	Tl 190.801†	516.2	544.7	[500] µg/L	06:23:17
1	U 409.014†	6081.0	6029.7	[500] µg/L	06:22:57
1	V 292.402†	50140.5	49741.6	[500] µg/L	06:22:57
1	Zn 213.857†	25033.0	23839.7	[500] µg/L	06:22:57
2	Sc RADIAL	90568.5	90568.5	103 %	06:21:53
2	Al 396.153Radial†	10766.9	10218.3	[5000] µg/L	06:21:53
2	Ca 317.933Radial†	14616.4	13806.4	[5000] µg/L	06:21:53
2	K 766.490 Radial†	11346.4	10786.6	[5000] µg/L	06:21:53
2	Mg 279.077 IEC†	402.6	383.3	[5000] µg/L	06:22:14
2	Sr 421.552†	86390.4	83483.2	[500] µg/L	06:21:53
2	Sc 361.383	2005745.7	2005745.7	101.04 %	06:23:25
2	Y 371.029	1367428.5	1367428.5	100.70 %	06:23:25
2	Ag 328.068†	68398.0	67098.9	[500] µg/L	06:23:30
2	As 188.979†	371.6	368.4	[500] µg/L	06:23:51
2	B 249.677†	12146.7	11623.8	[500] µg/L	06:23:30
2	Ba 233.527†	24945.8	24685.1	[500] µg/L	06:23:30
2	Be 313.107†	915592.3	907091.4	[500] µg/L	06:23:25
2	Cd 226.502†	22790.4	22720.6	[500] µg/L	06:23:30
2	Co 228.616†	12891.2	12709.3	[500] µg/L	06:23:30
2	Cr 267.716†	25458.9	25112.4	[500] µg/L	06:23:30
2	Cu 324.752†	87733.6	82544.1	[500] µg/L	06:23:30
2	Mn 257.610†	179690.2	178120.2	[500] µg/L	06:23:25
2	Mo 202.031†	5595.6	5512.7	[500] µg/L	06:23:51
2	Ni 231.604†	10275.6	9801.7	[500] µg/L	06:23:30
2	P 214.914†	1575.7	1544.2	[2500] µg/L	06:23:51
2	Pb 220.353†	2132.5	2071.0	[500] µg/L	06:23:51
2	S 181.975 Axial†	359.4	332.3	[1000] µg/L	06:23:51
2	Sb 206.836†	659.6	626.3	[500] µg/L	06:23:51
2	Se 196.026†	605.6	574.8	[500] µg/L	06:23:51
2	SiO2†	35056.1	31698.7	[5347.5] µg/L	06:23:30

2	Si 251.611†	40183.9	39058.4	[2500]	µg/L	06:23:30
2	Sn 189.927†	1435.3	1419.1	[500]	µg/L	06:23:51
2	Ti 334.940†	230161.7	222905.1	[500]	µg/L	06:23:25
2	Tl 190.801†	522.0	550.8	[500]	µg/L	06:23:51
2	U 409.014†	6083.7	6037.9	[500]	µg/L	06:23:30
2	V 292.402†	50111.0	49757.9	[500]	µg/L	06:23:30
2	Zn 213.857†	25009.8	23839.5	[500]	µg/L	06:23:30
3	Sc RADIAL	90990.9	90990.9	104	%	06:22:19
3	Al 396.153Radial†	10880.6	10279.5	[5000]	µg/L	06:22:19
3	Ca 317.933Radial†	14682.7	13804.6	[5000]	µg/L	06:22:19
3	K 766.490 Radial†	11329.8	10719.7	[5000]	µg/L	06:22:19
3	Mg 279.077 IEC†	402.4	381.2	[5000]	µg/L	06:22:40
3	Sr 421.552†	86855.2	83543.0	[500]	µg/L	06:22:19
3	Sc 361.383	2002995.1	2002995.1	100.90	%	06:23:58
3	Y 371.029	1366038.5	1366038.5	100.60	%	06:23:58
3	Ag 328.068†	63657.7	62493.9	[500]	µg/L	06:24:04
3	As 188.979†	309.7	307.6	[500]	µg/L	06:24:24
3	B 249.677†	11192.2	10694.3	[500]	µg/L	06:24:04
3	Ba 233.527†	22341.4	22137.8	[500]	µg/L	06:24:04
3	Be 313.107†	846090.1	839453.1	[500]	µg/L	06:23:58
3	Cd 226.502†	20243.5	20227.4	[500]	µg/L	06:24:04
3	Co 228.616†	11339.6	11189.0	[500]	µg/L	06:24:04
3	Cr 267.716†	21837.4	21557.8	[500]	µg/L	06:24:04
3	Cu 324.752†	78242.4	73256.7	[500]	µg/L	06:24:04
3	Mn 257.610†	165949.4	164746.1	[500]	µg/L	06:23:58
3	Mo 202.031†	4558.7	4492.6	[500]	µg/L	06:24:24
3	Ni 231.604†	9096.8	8647.3	[500]	µg/L	06:24:04
3	P 214.914†	1307.2	1280.2	[2500]	µg/L	06:24:24
3	Pb 220.353†	1803.8	1748.2	[500]	µg/L	06:24:24
3	S 181.975 Axial†	316.6	290.4	[1000]	µg/L	06:24:24
3	Sb 206.836†	562.6	531.1	[500]	µg/L	06:24:24
3	Se 196.026†	514.3	485.2	[500]	µg/L	06:24:24
3	SiO2†	32233.7	28949.2	[5347.5]	µg/L	06:24:04
3	Si 251.611†	36685.4	35645.7	[2500]	µg/L	06:24:04
3	Sn 189.927†	1152.6	1140.8	[500]	µg/L	06:24:24
3	Ti 334.940†	211957.2	205175.7	[500]	µg/L	06:23:58
3	Tl 190.801†	452.4	482.6	[500]	µg/L	06:24:24
3	U 409.014†	5260.2	5230.0	[500]	µg/L	06:24:04
3	V 292.402†	43995.2	43764.8	[500]	µg/L	06:24:04
3	Zn 213.857†	22223.0	21111.6	[500]	µg/L	06:24:04

Mean Data: S0.5

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	2005443.3	2311.95	0.12%	101.02	%
Sc RADIAL	90559.4	436.06	0.48%	103	%
Y 371.029	1366898.7	751.61	0.05%	100.67	%
Ag 328.068†	65523.7	2624.57	4.01%	[500]	µg/L
Al 396.153Radial†	10244.8	31.38	0.31%	[5000]	µg/L
As 188.979†	350.3	37.16	10.61%	[500]	µg/L
B 249.677†	11323.7	545.25	4.82%	[500]	µg/L
Ba 233.527†	23845.7	1479.15	6.20%	[500]	µg/L
Be 313.107†	885199.9	39630.07	4.48%	[500]	µg/L
Ca 317.933Radial†	13779.8	44.49	0.32%	[5000]	µg/L
Cd 226.502†	21886.1	1436.51	6.56%	[500]	µg/L
Co 228.616†	12205.0	879.92	7.21%	[500]	µg/L
Cr 267.716†	23959.3	2080.33	8.68%	[500]	µg/L
Cu 324.752†	79455.9	5368.60	6.76%	[500]	µg/L
K 766.490 Radial†	10780.2	57.57	0.53%	[5000]	µg/L
Mg 279.077 IEC†	382.3	1.02	0.27%	[5000]	µg/L
Mn 257.610†	173780.1	7825.64	4.50%	[500]	µg/L
Mo 202.031†	5201.8	615.69	11.84%	[500]	µg/L
Ni 231.604†	9410.6	661.12	7.03%	[500]	µg/L
P 214.914†	1459.0	154.87	10.62%	[2500]	µg/L
Pb 220.353†	1971.5	193.77	9.83%	[500]	µg/L
S 181.975 Axial†	321.7	27.57	8.57%	[1000]	µg/L
Sb 206.836†	599.0	59.16	9.88%	[500]	µg/L
Se 196.026†	545.4	52.14	9.56%	[500]	µg/L
SiO2†	30779.7	1585.26	5.15%	[5347.5]	µg/L
Si 251.611†	37856.6	1917.16	5.06%	[2500]	µg/L

Sn 189.927†	1328.8	162.94	12.26%	[500] µg/L
Sr 421.552†	83448.9	115.07	0.14%	[500] µg/L
Ti 334.940†	217044.9	10279.29	4.74%	[500] µg/L
Tl 190.801†	526.1	37.72	7.17%	[500] µg/L
U 409.014†	5765.9	464.09	8.05%	[500] µg/L
V 292.402†	47754.8	3455.43	7.24%	[500] µg/L
Zn 213.857†	22930.3	1575.03	6.87%	[500] µg/L

Sequence No.: 4

Sample ID: SCAL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 3/19/2010 06:24:34

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: SCAL

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc RADIAL	92795.1	92795.1	106 %	06:25:04
1	Al 396.153Radial†	21085.5	19718.7	[10000] µg/L	06:25:04
1	Ca 317.933Radial†	28433.1	26522.8	[10000] µg/L	06:25:04
1	Fe 238.204 Radial†	839.9	780.6	[10000] µg/L	06:25:25
1	K 766.490 Radial†	22185.4	20765.3	[10000] µg/L	06:25:04
1	Mg 279.077 IEC†	783.4	733.7	[10000] µg/L	06:25:25
1	Na 589.592 Radial†	20418.2	19131.2	[10000] µg/L	06:25:04
1	Sr 421.552†	171761.8	162147.8	[1000] µg/L	06:25:04
1	Sc 361.383	2036949.6	2036949.6	102.61 %	06:26:29
1	Y 371.029	1384397.1	1384397.1	101.95 %	06:26:29
1	Ag 328.068†	133539.2	129546.3	[1000] µg/L	06:26:35
1	As 188.979†	748.7	730.2	[1000] µg/L	06:26:55
1	B 249.677†	23451.8	22457.2	[1000] µg/L	06:26:35
1	Ba 233.527†	48753.4	47509.0	[1000] µg/L	06:26:35
1	Be 313.107†	1800374.0	1755487.6	[1000] µg/L	06:26:29
1	Cd 226.502†	44190.3	43230.7	[1000] µg/L	06:26:35
1	Co 228.616†	24980.5	24295.6	[1000] µg/L	06:26:35
1	Cr 267.716†	49455.5	48112.6	[1000] µg/L	06:26:35
1	Cu 324.752†	167888.2	159329.9	[1000] µg/L	06:26:35
1	Mn 257.610†	350049.5	341422.2	[1000] µg/L	06:26:35
1	Mo 202.031†	11197.7	10887.5	[1000] µg/L	06:26:55
1	Ni 231.604†	19479.0	18615.1	[1000] µg/L	06:26:35
1	P 214.914†	3123.8	3029.0	[5000] µg/L	06:26:55
1	Pb 220.353†	4231.4	4084.2	[1000] µg/L	06:26:55
1	S 181.975 Axial†	702.2	660.9	[2000] µg/L	06:26:55
1	Sb 206.836†	1304.6	1245.0	[1000] µg/L	06:26:55
1	Se 196.026†	1168.1	1113.9	[1000] µg/L	06:26:55
1	SiO2†	65310.5	60652.1	[10695] µg/L	06:26:35
1	Si 251.611†	77401.7	74720.3	[5000] µg/L	06:26:35
1	Sn 189.927†	2868.8	2794.3	[1000] µg/L	06:26:55
1	Ti 334.940†	452496.4	436095.3	[1000] µg/L	06:26:29
1	Tl 190.801†	1063.0	1070.2	[1000] µg/L	06:26:55
1	U 409.014†	11947.0	11659.8	[1000] µg/L	06:26:35
1	V 292.402†	98167.3	95832.2	[1000] µg/L	06:26:35
1	Zn 213.857†	47367.8	45249.7	[1000] µg/L	06:26:35
2	Sc RADIAL	92538.6	92538.6	106 %	06:25:30
2	Al 396.153Radial†	21060.4	19750.1	[10000] µg/L	06:25:30
2	Ca 317.933Radial†	28436.4	26600.5	[10000] µg/L	06:25:30
2	Fe 238.204 Radial†	845.2	787.7	[10000] µg/L	06:25:51
2	K 766.490 Radial†	22068.2	20712.3	[10000] µg/L	06:25:30
2	Mg 279.077 IEC†	782.6	735.1	[10000] µg/L	06:25:51
2	Na 589.592 Radial†	20379.9	19148.4	[10000] µg/L	06:25:30
2	Sr 421.552†	171280.1	162141.2	[1000] µg/L	06:25:30
2	Sc 361.383	2020565.8	2020565.8	101.78 %	06:27:02
2	Y 371.029	1374546.6	1374546.6	101.23 %	06:27:02
2	Ag 328.068†	133796.5	130854.3	[1000] µg/L	06:27:08
2	As 188.979†	740.8	728.4	[1000] µg/L	06:27:28
2	B 249.677†	23526.4	22715.8	[1000] µg/L	06:27:08
2	Ba 233.527†	48865.5	48004.3	[1000] µg/L	06:27:08
2	Be 313.107†	1788416.1	1757966.4	[1000] µg/L	06:27:02
2	Cd 226.502†	44462.9	43847.7	[1000] µg/L	06:27:08
2	Co 228.616†	25024.2	24536.0	[1000] µg/L	06:27:08
2	Cr 267.716†	49737.2	48780.2	[1000] µg/L	06:27:08
2	Cu 324.752†	168387.3	161146.9	[1000] µg/L	06:27:08
2	Mn 257.610†	351347.0	345463.1	[1000] µg/L	06:27:08
2	Mo 202.031†	11072.9	10853.4	[1000] µg/L	06:27:28
2	Ni 231.604†	19545.9	18834.8	[1000] µg/L	06:27:08
2	P 214.914†	3088.2	3018.8	[5000] µg/L	06:27:28
2	Pb 220.353†	4194.1	4081.0	[1000] µg/L	06:27:28

2	S 181.975 Axial†	698.0	662.4	[2000]	µg/L	06:27:28
2	Sb 206.836†	1292.9	1243.8	[1000]	µg/L	06:27:28
2	Se 196.026†	1167.6	1122.6	[1000]	µg/L	06:27:28
2	SiO2†	65748.9	61599.0	[10695]	µg/L	06:27:08
2	Si 251.611†	77883.4	75805.2	[5000]	µg/L	06:27:08
2	Sn 189.927†	2836.2	2785.0	[1000]	µg/L	06:27:28
2	Ti 334.940†	449178.4	436411.2	[1000]	µg/L	06:27:02
2	Tl 190.801†	1051.1	1067.0	[1000]	µg/L	06:27:28
2	U 409.014†	11964.1	11771.0	[1000]	µg/L	06:27:08
2	V 292.402†	98403.7	96840.2	[1000]	µg/L	06:27:08
2	Zn 213.857†	47569.9	45822.6	[1000]	µg/L	06:27:08
3	Sc RADIAL	92857.8	92857.8	106	%	06:25:56
3	Al 396.153Radial†	21181.6	19796.0	[10000]	µg/L	06:25:56
3	Ca 317.933Radial†	28598.0	26660.4	[10000]	µg/L	06:25:56
3	Fe 238.204 Radial†	850.1	789.6	[10000]	µg/L	06:26:17
3	K 766.490 Radial†	22192.8	20758.1	[10000]	µg/L	06:25:56
3	Mg 279.077 IEC†	791.2	740.6	[10000]	µg/L	06:26:17
3	Na 589.592 Radial†	20414.3	19114.6	[10000]	µg/L	06:25:56
3	Sr 421.552†	171905.1	162173.4	[1000]	µg/L	06:25:56
3	Sc 361.383	2029616.5	2029616.5	102.24	%	06:27:35
3	Y 371.029	1379997.3	1379997.3	101.63	%	06:27:35
3	Ag 328.068†	128016.5	124614.8	[1000]	µg/L	06:27:41
3	As 188.979†	647.7	634.1	[1000]	µg/L	06:28:01
3	B 249.677†	22374.0	21485.6	[1000]	µg/L	06:27:41
3	Ba 233.527†	45336.2	44338.3	[1000]	µg/L	06:27:41
3	Be 313.107†	1701486.6	1665106.5	[1000]	µg/L	06:27:35
3	Cd 226.502†	41016.7	40282.2	[1000]	µg/L	06:27:41
3	Co 228.616†	22934.5	22382.4	[1000]	µg/L	06:27:41
3	Cr 267.716†	44605.0	43542.6	[1000]	µg/L	06:27:41
3	Cu 324.752†	155422.9	147728.9	[1000]	µg/L	06:27:41
3	Mn 257.610†	321999.8	315219.7	[1000]	µg/L	06:27:41
3	Mo 202.031†	9510.2	9276.4	[1000]	µg/L	06:28:01
3	Ni 231.604†	17976.7	17214.4	[1000]	µg/L	06:27:41
3	P 214.914†	2720.0	2645.1	[5000]	µg/L	06:28:01
3	Pb 220.353†	3709.3	3588.4	[1000]	µg/L	06:28:01
3	S 181.975 Axial†	625.5	588.4	[2000]	µg/L	06:28:01
3	Sb 206.836†	1143.7	1092.1	[1000]	µg/L	06:28:01
3	Se 196.026†	1056.5	1008.8	[1000]	µg/L	06:28:01
3	SiO2†	62263.5	57901.9	[10695]	µg/L	06:27:41
3	Si 251.611†	73548.5	71224.1	[5000]	µg/L	06:27:41
3	Sn 189.927†	2408.1	2353.8	[1000]	µg/L	06:28:01
3	Ti 334.940†	426369.6	412134.3	[1000]	µg/L	06:27:35
3	Tl 190.801†	968.7	981.7	[1000]	µg/L	06:28:01
3	U 409.014†	10900.2	10678.0	[1000]	µg/L	06:27:41
3	V 292.402†	90093.0	88280.5	[1000]	µg/L	06:27:41
3	Zn 213.857†	43770.8	41898.3	[1000]	µg/L	06:27:41

Mean Data: SCAL

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	2029044.0	8206.88	0.40%	102.21 %
Sc RADIAL	92730.5	169.14	0.18%	106 %
Y 371.029	1379647.0	4934.59	0.36%	101.60 %
Ag 328.068†	128338.5	3290.42	2.56%	[1000] µg/L
Al 396.153Radial†	19754.9	38.88	0.20%	[10000] µg/L
As 188.979†	697.6	54.99	7.88%	[1000] µg/L
B 249.677†	22219.5	648.62	2.92%	[1000] µg/L
Ba 233.527†	46617.2	1989.09	4.27%	[1000] µg/L
Be 313.107†	1726186.8	52911.66	3.07%	[1000] µg/L
Ca 317.933Radial†	26594.6	68.99	0.26%	[10000] µg/L
Cd 226.502†	42453.5	1905.56	4.49%	[1000] µg/L
Co 228.616†	23738.0	1180.09	4.97%	[1000] µg/L
Cr 267.716†	46811.8	2850.82	6.09%	[1000] µg/L
Cu 324.752†	156068.5	7279.30	4.66%	[1000] µg/L
Fe 238.204 Radial†	786.0	4.77	0.61%	[10000] µg/L
K 766.490 Radial†	20745.3	28.74	0.14%	[10000] µg/L
Mg 279.077 IEC†	736.5	3.66	0.50%	[10000] µg/L
Mn 257.610†	334035.0	16419.34	4.92%	[1000] µg/L
Mo 202.031†	10339.1	920.46	8.90%	[1000] µg/L
Na 589.592 Radial†	19131.4	16.91	0.09%	[10000] µg/L

Ni 231.604†	18221.4	879.03	4.82%	[1000] µg/L
P 214.914†	2897.6	218.76	7.55%	[5000] µg/L
Pb 220.353†	3917.9	285.30	7.28%	[1000] µg/L
S 181.975 Axial†	637.2	42.29	6.64%	[2000] µg/L
Sb 206.836†	1193.6	87.90	7.36%	[1000] µg/L
Se 196.026†	1081.8	63.33	5.85%	[1000] µg/L
SiO2†	60051.0	1920.44	3.20%	[10695] µg/L
Si 251.611†	73916.5	2393.99	3.24%	[5000] µg/L
Sn 189.927†	2644.4	251.69	9.52%	[1000] µg/L
Sr 421.552†	162154.2	17.03	0.01%	[1000] µg/L
Ti 334.940†	428213.6	13925.97	3.25%	[1000] µg/L
Tl 190.801†	1039.6	50.19	4.83%	[1000] µg/L
U 409.014†	11369.6	601.52	5.29%	[1000] µg/L
V 292.402†	93651.0	4678.15	5.00%	[1000] µg/L
Zn 213.857†	44323.5	2119.74	4.78%	[1000] µg/L

Sequence No.: 5

Sample ID: S10

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 5

Date Collected: 3/19/2010 06:28:11

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: S10

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Analysis Time
1	Sc RADIAL	91265.6	91265.6	104 %	06:28:41
1	Al 396.153Radial†	104067.9	99780.8	[50000] µg/L	06:28:41
1	Ca 317.933Radial†	137144.4	131421.2	[50000] µg/L	06:28:41
1	Fe 238.204 Radial†	1616.5	1540.0	[20000] µg/L	06:29:01
1	Mg 279.077 IEC†	3767.9	3613.6	[50000] µg/L	06:29:01
1	Na 589.592 Radial†	39147.6	37449.5	[20000] µg/L	06:28:41
1	Sc 361.383	2009205.4	2009205.4	101.21 %	06:30:05
1	Y 371.029	1357485.1	1357485.1	99.972 %	06:30:05
2	Sc RADIAL	90670.5	90670.5	103 %	06:29:07
2	Al 396.153Radial†	104456.3	100812.7	[50000] µg/L	06:29:07
2	Ca 317.933Radial†	137745.0	132866.9	[50000] µg/L	06:29:07
2	Fe 238.204 Radial†	1628.2	1561.5	[20000] µg/L	06:29:27
2	Mg 279.077 IEC†	3787.3	3656.1	[50000] µg/L	06:29:27
2	Na 589.592 Radial†	39474.5	38012.5	[20000] µg/L	06:29:07
2	Sc 361.383	2000659.0	2000659.0	100.78 %	06:30:13
2	Y 371.029	1351934.1	1351934.1	99.563 %	06:30:13
3	Sc RADIAL	90045.0	90045.0	103 %	06:29:33
3	Al 396.153Radial†	105211.6	102249.8	[50000] µg/L	06:29:33
3	Ca 317.933Radial†	138485.0	134512.9	[50000] µg/L	06:29:33
3	Fe 238.204 Radial†	1633.8	1577.9	[20000] µg/L	06:29:53
3	Mg 279.077 IEC†	3793.5	3687.6	[50000] µg/L	06:29:53
3	Na 589.592 Radial†	39608.9	38408.6	[20000] µg/L	06:29:33
3	Sc 361.383	2010145.5	2010145.5	101.26 %	06:30:20
3	Y 371.029	1360314.8	1360314.8	100.18 %	06:30:20

Mean Data: S10

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Calib Conc. Units
Sc 361.383	2006670.0	5226.84	0.26%	101.08 %
Sc RADIAL	90660.4	610.39	0.67%	103 %
Y 371.029	1356578.0	4263.34	0.31%	99.905 %
Al 396.153Radial†	100947.8	1240.07	1.23%	[50000] µg/L
Ca 317.933Radial†	132933.7	1546.94	1.16%	[50000] µg/L
Fe 238.204 Radial†	1559.8	19.02	1.22%	[20000] µg/L
Mg 279.077 IEC†	3652.4	37.16	1.02%	[50000] µg/L
Na 589.592 Radial†	37956.9	481.97	1.27%	[20000] µg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin Thru 0	0.0	128.9	0.00000	0.999961	
Al 396.153Radial	3	Lin Thru 0	0.0	2.018	0.00000	0.999990	
As 188.979	3	Lin Thru 0	0.0	0.6985	0.00000	0.999984	
B 249.677	3	Lin Thru 0	0.0	22.31	0.00000	0.999970	
Ba 233.527	3	Lin Thru 0	0.0	46.84	0.00000	0.999955	
Be 313.107	3	Lin Thru 0	0.0	1736	0.00000	0.999942	
Ca 317.933Radial	3	Lin Thru 0	0.0	2.660	0.00000	0.999994	
Cd 226.502	3	Lin Thru 0	0.0	42.73	0.00000	0.999916	
Co 228.616	3	Lin Thru 0	0.0	23.88	0.00000	0.999930	
Cr 267.716	3	Lin Thru 0	0.0	47.06	0.00000	0.999941	
Cu 324.752	3	Lin Thru 0	0.0	156.7	0.00000	0.999965	
Fe 238.204 Radia	2	Lin Thru 0	0.0	0.0781	0.00000	0.999995	
K 766.490 Radial	3	Lin Thru 0	0.0	2.093	0.00000	0.999805	
Mg 279.077 IEC	3	Lin Thru 0	0.0	0.0731	0.00000	0.999989	
Mn 257.610	3	Lin Thru 0	0.0	336.9	0.00000	0.999862	
Mo 202.031	3	Lin Thru 0	0.0	10.36	0.00000	0.999980	
Na 589.592 Radia	2	Lin Thru 0	0.0	1.901	0.00000	0.999995	

Ni 231.604	3	Lin Thru 0	0.0	18.35	0.00000	0.999907
P 214.914	3	Lin Thru 0	0.0	0.5806	0.00000	0.999982
Pb 220.353	3	Lin Thru 0	0.0	3.925	0.00000	0.999976
S 181.975 Axial	3	Lin Thru 0	0.0	0.3193	0.00000	0.999992
Sb 206.836	3	Lin Thru 0	0.0	1.195	0.00000	0.999996
Se 196.026	3	Lin Thru 0	0.0	1.084	0.00000	0.999982
SiO2	3	Lin Thru 0	0.0	5.643	0.00000	0.999950
Si 251.611	3	Lin Thru 0	0.0	14.85	0.00000	0.999953
Sn 189.927	3	Lin Thru 0	0.0	2.649	0.00000	0.999970
Sr 421.552	3	Lin Thru 0	0.0	163.1	0.00000	0.999932
Ti 334.940	3	Lin Thru 0	0.0	429.1	0.00000	0.999963
Tl 190.801	3	Lin Thru 0	0.0	1.043	0.00000	0.999975
U 409.014	3	Lin Thru 0	0.0	11.41	0.00000	0.999973
V 292.402	3	Lin Thru 0	0.0	94.06	0.00000	0.999961
Zn 213.857	3	Lin Thru 0	0.0	44.65	0.00000	0.999899

Sequence No.: 6

Sample ID: ICV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 9

Date Collected: 3/19/2010 06:30:30

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: ICV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	92499.8	92499.8	105 %		06:31:01
1	Al 396.153Radial†	10893.5	10120.6	5004.5 µg/L	5004.5 ppb	06:31:01
1	Ca 317.933Radial†	14577.3	13473.9	5066.1 µg/L	5066.1 ppb	06:31:01
1	Fe 238.204 Radial†	439.1	403.1	5172.4 µg/L	5172.4 ppb	06:31:21
1	K 766.490 Radial†	5814.3	5313.0	2538.3 µg/L	2538.3 ppb	06:31:01
1	Mg 279.077 IEC†	411.5	383.5	5250.7 µg/L	5250.7 ppb	06:31:21
1	Na 589.592 Radial†	5215.1	4780.8	2515.0 µg/L	2515.0 ppb	06:31:01
1	Sr 421.552†	92363.9	87399.5	535.79 µg/L	535.79 ppb	06:31:01
1	Sc 361.383	2020147.9	2020147.9	101.76 %		06:32:25
1	Y 371.029	1377292.2	1377292.2	101.43 %		06:32:25
1	Ag 328.068†	34692.5	33494.9	263.72 µg/L	263.72 ppb	06:32:31
1	As 188.979†	350.9	345.4	492.09 µg/L	492.09 ppb	06:32:51
1	B 249.677†	12465.0	11850.9	529.38 µg/L	529.38 ppb	06:32:31
1	Ba 233.527†	25068.3	24629.5	526.74 µg/L	526.74 ppb	06:32:31
1	Be 313.107†	482850.5	475387.9	273.71 µg/L	273.71 ppb	06:32:25
1	Cd 226.502†	22465.0	22240.0	520.38 µg/L	520.38 ppb	06:32:31
1	Co 228.616†	12896.2	12623.2	528.05 µg/L	528.05 ppb	06:32:31
1	Cr 267.716†	24712.7	24199.5	514.60 µg/L	514.60 ppb	06:32:31
1	Cu 324.752†	87712.5	81904.4	523.66 µg/L	523.66 ppb	06:32:31
1	Mn 257.610†	183813.4	180904.1	536.96 µg/L	536.96 ppb	06:32:25
1	Mo 202.031†	6049.5	5919.3	571.70 µg/L	571.70 ppb	06:32:51
1	Ni 231.604†	10191.3	9646.3	525.17 µg/L	525.17 ppb	06:32:31
1	P 214.914†	1586.0	1543.2	2608.5 µg/L	2608.5 ppb	06:32:51
1	Pb 220.353†	2124.8	2048.4	522.57 µg/L	522.57 ppb	06:32:51
1	S 181.975 Axial†	878.8	840.2	2631.5 µg/L	2631.5 ppb	06:32:51
1	Sb 206.836†	672.8	634.7	534.63 µg/L	534.63 ppb	06:32:51
1	Se 196.026†	2985.4	2909.1	2695.6 µg/L	2695.6 ppb	06:32:51
1	SiO2†	64838.3	60717.5	10760 µg/L	10760 ppb	06:32:31
1	Si 251.611†	76629.4	74588.8	5021.3 µg/L	5021.3 ppb	06:32:31
1	Sn 189.927†	1565.5	1536.8	580.71 µg/L	580.71 ppb	06:32:51
1	Ti 334.940†	229147.6	220284.6	512.99 µg/L	512.99 ppb	06:32:25
1	Tl 190.801†	542.2	567.1	549.49 µg/L	549.49 ppb	06:32:51
1	U 409.014†	5861.8	5776.9	505.41 µg/L	505.41 ppb	06:32:31
1	V 292.402†	50549.1	49834.9	536.04 µg/L	536.04 ppb	06:32:31
1	Zn 213.857†	25130.8	23782.0	528.97 µg/L	528.97 ppb	06:32:31
2	Sc RADIAL	91851.8	91851.8	105 %		06:31:27
2	Al 396.153Radial†	10840.4	10142.8	5015.5 µg/L	5015.5 ppb	06:31:27
2	Ca 317.933Radial†	14548.4	13543.8	5092.3 µg/L	5092.3 ppb	06:31:27
2	Fe 238.204 Radial†	441.5	408.4	5239.4 µg/L	5239.4 ppb	06:31:47
2	K 766.490 Radial†	5663.0	5207.4	2487.9 µg/L	2487.9 ppb	06:31:27
2	Mg 279.077 IEC†	416.8	391.3	5356.9 µg/L	5356.9 ppb	06:31:47
2	Na 589.592 Radial†	5263.1	4861.5	2557.5 µg/L	2557.5 ppb	06:31:27
2	Sr 421.552†	92145.8	87809.1	538.30 µg/L	538.30 ppb	06:31:27
2	Sc 361.383	2015578.6	2015578.6	101.53 %		06:32:58
2	Y 371.029	1373389.9	1373389.9	101.14 %		06:32:58
2	Ag 328.068†	34799.7	33677.7	265.15 µg/L	265.15 ppb	06:33:04
2	As 188.979†	355.6	350.8	499.80 µg/L	499.80 ppb	06:33:24
2	B 249.677†	12523.8	11936.6	533.18 µg/L	533.18 ppb	06:33:04
2	Ba 233.527†	25036.0	24653.5	527.26 µg/L	527.26 ppb	06:33:04
2	Be 313.107†	482286.7	475908.3	274.01 µg/L	274.01 ppb	06:32:58
2	Cd 226.502†	22480.1	22305.0	521.89 µg/L	521.89 ppb	06:33:04
2	Co 228.616†	12859.0	12615.4	527.72 µg/L	527.72 ppb	06:33:04
2	Cr 267.716†	24651.7	24194.5	514.50 µg/L	514.50 ppb	06:33:04
2	Cu 324.752†	87581.1	81970.3	524.10 µg/L	524.10 ppb	06:33:04
2	Mn 257.610†	183712.3	181214.0	537.87 µg/L	537.87 ppb	06:32:58
2	Mo 202.031†	6014.5	5898.2	569.67 µg/L	569.67 ppb	06:33:24
2	Ni 231.604†	10151.6	9629.9	524.28 µg/L	524.28 ppb	06:33:04
2	P 214.914†	1575.2	1536.1	2596.1 µg/L	2596.1 ppb	06:33:24
2	Pb 220.353†	2121.9	2050.2	523.02 µg/L	523.02 ppb	06:33:24

2	S 181.975 Axial†	879.3	842.6	2639.2 µg/L	2639.2 ppb	06:33:24
2	Sb 206.836†	669.6	633.0	533.24 µg/L	533.24 ppb	06:33:24
2	Se 196.026†	2966.9	2897.5	2685.0 µg/L	2685.0 ppb	06:33:24
2	SiO2†	64950.8	60972.7	10806 µg/L	10806 ppb	06:33:04
2	Si 251.611†	76688.2	74817.4	5036.7 µg/L	5036.7 ppb	06:33:04
2	Sn 189.927†	1557.2	1532.1	578.93 µg/L	578.93 ppb	06:33:24
2	Ti 334.940†	229010.9	220660.4	513.86 µg/L	513.86 ppb	06:32:58
2	Tl 190.801†	540.5	566.6	549.02 µg/L	549.02 ppb	06:33:24
2	U 409.014†	5905.8	5833.3	510.35 µg/L	510.35 ppb	06:33:04
2	V 292.402†	50565.2	49963.4	537.39 µg/L	537.39 ppb	06:33:04
2	Zn 213.857†	25100.1	23807.7	529.54 µg/L	529.54 ppb	06:33:04
3	Sc RADIAL	91447.3	91447.3	104 %		06:31:53
3	Al 396.153Radial†	10809.5	10158.9	5025.5 µg/L	5025.5 ppb	06:31:53
3	Ca 317.933Radial†	14495.3	13554.3	5096.3 µg/L	5096.3 ppb	06:31:53
3	Fe 238.204 Radial†	443.0	411.7	5280.3 µg/L	5280.3 ppb	06:32:13
3	K 766.490 Radial†	5778.6	5342.2	2552.3 µg/L	2552.3 ppb	06:31:53
3	Mg 279.077 IEC†	415.8	392.1	5366.5 µg/L	5366.5 ppb	06:32:13
3	Na 589.592 Radial†	5266.3	4886.8	2570.8 µg/L	2570.8 ppb	06:31:53
3	Sr 421.552†	92075.9	88131.2	540.28 µg/L	540.28 ppb	06:31:53
3	Sc 361.383	2006701.9	2006701.9	101.09 %		06:33:32
3	Y 371.029	1366524.2	1366524.2	100.64 %		06:33:32
3	Ag 328.068†	32934.4	31984.1	251.66 µg/L	251.66 ppb	06:33:37
3	As 188.979†	301.6	299.0	425.79 µg/L	425.79 ppb	06:33:58
3	B 249.677†	11651.4	11128.0	496.81 µg/L	496.81 ppb	06:33:37
3	Ba 233.527†	22788.0	22538.7	482.01 µg/L	482.01 ppb	06:33:37
3	Be 313.107†	445792.7	441907.5	254.44 µg/L	254.44 ppb	06:33:32
3	Cd 226.502†	20313.1	20259.1	473.96 µg/L	473.96 ppb	06:33:37
3	Co 228.616†	11562.7	11389.0	476.36 µg/L	476.36 ppb	06:33:37
3	Cr 267.716†	21476.9	21161.2	450.00 µg/L	450.00 ppb	06:33:37
3	Cu 324.752†	79272.6	74132.7	474.09 µg/L	474.09 ppb	06:33:37
3	Mn 257.610†	170666.7	169108.9	501.94 µg/L	501.94 ppb	06:33:32
3	Mo 202.031†	4961.7	4882.9	471.64 µg/L	471.64 ppb	06:33:58
3	Ni 231.604†	9170.7	8703.7	473.86 µg/L	473.86 ppb	06:33:37
3	P 214.914†	1326.7	1297.1	2188.2 µg/L	2188.2 ppb	06:33:58
3	Pb 220.353†	1809.8	1750.8	446.60 µg/L	446.60 ppb	06:33:58
3	S 181.975 Axial†	771.5	739.8	2317.2 µg/L	2317.2 ppb	06:33:58
3	Sb 206.836†	566.9	534.4	449.78 µg/L	449.78 ppb	06:33:58
3	Se 196.026†	2569.2	2517.0	2334.2 µg/L	2334.2 ppb	06:33:58
3	SiO2†	60404.1	56757.9	10059 µg/L	10059 ppb	06:33:37
3	Si 251.611†	71132.4	69655.4	4689.2 µg/L	4689.2 ppb	06:33:37
3	Sn 189.927†	1248.4	1233.4	466.16 µg/L	466.16 ppb	06:33:58
3	Ti 334.940†	210762.8	203606.1	474.11 µg/L	474.11 ppb	06:33:32
3	Tl 190.801†	482.8	511.9	496.18 µg/L	496.18 ppb	06:33:58
3	U 409.014†	5179.5	5140.5	449.61 µg/L	449.61 ppb	06:33:37
3	V 292.402†	45134.0	44810.7	481.66 µg/L	481.66 ppb	06:33:37
3	Zn 213.857†	22776.3	21618.2	480.80 µg/L	480.80 ppb	06:33:37

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2014142.8	101.46 %	0.344			0.34%
Sc RADIAL	91933.0	105 %	0.6			0.58%
Y 371.029	1372402.1	101.07 %	0.401			0.40%
Ag 328.068†	33052.2	260.18 µg/L	7.413	260.18 ppb	7.413	2.85%
QC value within limits for Ag 328.068 Recovery = 104.07%						
Al 396.153Radial†	10140.8	5015.2 µg/L	10.53	5015.2 ppb	10.53	0.21%
QC value within limits for Al 396.153Radial Recovery = 100.30%						
As 188.979†	331.7	472.56 µg/L	40.685	472.56 ppb	40.685	8.61%
QC value within limits for As 188.979 Recovery = 94.51%						
B 249.677†	11638.5	519.79 µg/L	19.990	519.79 ppb	19.990	3.85%
QC value within limits for B 249.677 Recovery = 103.96%						
Ba 233.527†	23940.5	512.00 µg/L	25.975	512.00 ppb	25.975	5.07%
QC value within limits for Ba 233.527 Recovery = 102.40%						
Be 313.107†	464401.2	267.39 µg/L	11.216	267.39 ppb	11.216	4.19%
QC value within limits for Be 313.107 Recovery = 106.95%						
Ca 317.933Radial†	13524.0	5084.9 µg/L	16.44	5084.9 ppb	16.44	0.32%
QC value within limits for Ca 317.933Radial Recovery = 101.70%						
Cd 226.502†	21601.4	505.41 µg/L	27.246	505.41 ppb	27.246	5.39%
QC value within limits for Cd 226.502 Recovery = 101.08%						
Co 228.616†	12209.2	510.71 µg/L	29.750	510.71 ppb	29.750	5.83%

QC value within limits for Co 228.616 Recovery = 102.14%							
Cr 267.716†	23185.1	493.04 µg/L	37.267	493.04 ppb	37.267	7.56%	
QC value within limits for Cr 267.716 Recovery = 98.61%							
Cu 324.752†	79335.8	507.28 µg/L	28.749	507.28 ppb	28.749	5.67%	
QC value within limits for Cu 324.752 Recovery = 101.46%							
Fe 238.204 Radial†	407.7	5230.7 µg/L	54.44	5230.7 ppb	54.44	1.04%	
QC value within limits for Fe 238.204 Radial Recovery = 104.61%							
K 766.490 Radial†	5287.5	2526.2 µg/L	33.87	2526.2 ppb	33.87	1.34%	
QC value within limits for K 766.490 Radial Recovery = 101.05%							
Mg 279.077 IEC†	389.0	5324.7 µg/L	64.28	5324.7 ppb	64.28	1.21%	
QC value within limits for Mg 279.077 IEC Recovery = 106.49%							
Mn 257.610†	177075.6	525.59 µg/L	20.486	525.59 ppb	20.486	3.90%	
QC value within limits for Mn 257.610 Recovery = 105.12%							
Mo 202.031†	5566.8	537.67 µg/L	57.190	537.67 ppb	57.190	10.64%	
QC value within limits for Mo 202.031 Recovery = 107.53%							
Na 589.592 Radial†	4843.0	2547.8 µg/L	29.11	2547.8 ppb	29.11	1.14%	
QC value within limits for Na 589.592 Radial Recovery = 101.91%							
Ni 231.604†	9326.6	507.77 µg/L	29.369	507.77 ppb	29.369	5.78%	
QC value within limits for Ni 231.604 Recovery = 101.55%							
P 214.914†	1458.8	2464.3 µg/L	239.18	2464.3 ppb	239.18	9.71%	
QC value within limits for P 214.914 Recovery = 98.57%							
Pb 220.353†	1949.8	497.40 µg/L	43.993	497.40 ppb	43.993	8.84%	
QC value within limits for Pb 220.353 Recovery = 99.48%							
S 181.975 Axial†	807.5	2529.3 µg/L	183.71	2529.3 ppb	183.71	7.26%	
QC value within limits for S 181.975 Axial Recovery = 101.17%							
Sb 206.836†	600.7	505.89 µg/L	48.592	505.89 ppb	48.592	9.61%	
QC value within limits for Sb 206.836 Recovery = 101.18%							
Se 196.026†	2774.5	2571.6 µg/L	205.68	2571.6 ppb	205.68	8.00%	
QC value within limits for Se 196.026 Recovery = 102.86%							
SiO2†	59482.7	10541 µg/L	418.8	10541 ppb	418.8	3.97%	
QC value within limits for SiO2 Recovery = 98.56%							
Si 251.611†	73020.5	4915.7 µg/L	196.34	4915.7 ppb	196.34	3.99%	
QC value within limits for Si 251.611 Recovery = 98.31%							
Sn 189.927†	1434.1	541.93 µg/L	65.629	541.93 ppb	65.629	12.11%	
QC value within limits for Sn 189.927 Recovery = 108.39%							
Sr 421.552†	87779.9	538.12 µg/L	2.248	538.12 ppb	2.248	0.42%	
QC value within limits for Sr 421.552 Recovery = 107.62%							
Ti 334.940†	214850.4	500.32 µg/L	22.699	500.32 ppb	22.699	4.54%	
QC value within limits for Ti 334.940 Recovery = 100.06%							
Tl 190.801†	548.5	531.57 µg/L	30.643	531.57 ppb	30.643	5.76%	
QC value within limits for Tl 190.801 Recovery = 106.31%							
U 409.014†	5583.6	488.46 µg/L	33.731	488.46 ppb	33.731	6.91%	
QC value within limits for U 409.014 Recovery = 97.69%							
V 292.402†	48203.0	518.36 µg/L	31.795	518.36 ppb	31.795	6.13%	
QC value within limits for V 292.402 Recovery = 103.67%							
Zn 213.857†	23069.3	513.10 µg/L	27.977	513.10 ppb	27.977	5.45%	
QC value within limits for Zn 213.857 Recovery = 102.62%							
All analyte(s) passed QC.							

Sequence No.: 7

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 10

Date Collected: 3/19/2010 06:34:07

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	89095.7	89095.7	102 %		06:34:38
1	Al 396.153Radial†	216.9	7.5	3.7016 µg/L	3.7016 ppb	06:34:38
1	Ca 317.933Radial†	331.5	-18.6	-7.0111 µg/L	-7.0111 ppb	06:34:58
1	Fe 238.204 Radial†	12.4	-0.9	-11.936 µg/L	-11.936 ppb	06:34:58
1	K 766.490 Radial†	86.9	-113.2	-54.085 µg/L	-54.085 ppb	06:34:38
1	Mg 279.077 IEC†	9.9	3.2	44.300 µg/L	44.300 ppb	06:34:58
1	Na 589.592 Radial†	137.5	-27.6	-14.502 µg/L	-14.502 ppb	06:34:38
1	Sr 421.552†	139.8	-20.5	-0.1259 µg/L	-0.1259 ppb	06:34:38
1	Sc 361.383	1998093.0	1998093.0	100.65 %		06:36:00
1	Y 371.029	1366214.0	1366214.0	100.62 %		06:36:00
1	Ag 328.068†	552.0	-48.0	-0.3742 µg/L	-0.3742 ppb	06:36:06
1	As 188.979†	1.0	1.6	2.3253 µg/L	2.3253 ppb	06:36:26
1	B 249.677†	468.6	67.5	3.0309 µg/L	3.0309 ppb	06:36:06
1	Ba 233.527†	-9.6	-14.0	-0.2982 µg/L	-0.2982 ppb	06:36:26
1	Be 313.107†	-1238.2	-325.6	-0.1829 µg/L	-0.1829 ppb	06:36:06
1	Cd 226.502†	-167.2	-1.7	-0.0394 µg/L	-0.0394 ppb	06:36:26
1	Co 228.616†	27.3	-22.4	-0.9108 µg/L	-0.9108 ppb	06:36:26
1	Cr 267.716†	100.0	14.4	0.3049 µg/L	0.3049 ppb	06:36:06
1	Cu 324.752†	4215.4	-100.2	-0.6418 µg/L	-0.6418 ppb	06:36:06
1	Mn 257.610†	-702.9	-422.4	-1.2576 µg/L	-1.2576 ppb	06:36:26
1	Mo 202.031†	23.6	-2.0	-0.1912 µg/L	-0.1912 ppb	06:36:26
1	Ni 231.604†	370.6	-0.2	-0.0082 µg/L	-0.0082 ppb	06:36:26
1	P 214.914†	8.3	-7.1	-12.096 µg/L	-12.096 ppb	06:36:26
1	Pb 220.353†	44.5	4.6	1.1729 µg/L	1.1729 ppb	06:36:26
1	S 181.975 Axial†	23.5	-0.1	-0.1986 µg/L	-0.1986 ppb	06:36:26
1	Sb 206.836†	26.1	-0.6	-0.4788 µg/L	-0.4788 ppb	06:36:26
1	Se 196.026†	16.8	-7.9	-7.3452 µg/L	-7.3452 ppb	06:36:26
1	SiO2†	2779.1	-236.2	-41.862 µg/L	-41.862 ppb	06:36:06
1	Si 251.611†	416.4	-299.1	-20.134 µg/L	-20.134 ppb	06:36:26
1	Sn 189.927†	4.2	2.6	0.9756 µg/L	0.9756 ppb	06:36:26
1	Ti 334.940†	-439.1	-5328.5	-12.420 µg/L	-12.420 ppb	06:36:06
1	Tl 190.801†	-35.6	-1.1	-1.1718 µg/L	-1.1718 ppb	06:36:26
1	U 409.014†	44.3	60.7	5.3252 µg/L	5.3252 ppb	06:36:06
1	V 292.402†	-178.0	-15.2	-0.1568 µg/L	-0.1568 ppb	06:36:06
1	Zn 213.857†	882.9	-36.2	-0.8114 µg/L	-0.8114 ppb	06:36:26
2	Sc RADIAL	88998.8	88998.8	101 %		06:35:04
2	Al 396.153Radial†	190.4	-18.5	-9.1535 µg/L	-9.1535 ppb	06:35:04
2	Ca 317.933Radial†	321.8	-27.9	-10.476 µg/L	-10.476 ppb	06:35:24
2	Fe 238.204 Radial†	13.8	0.5	6.3043 µg/L	6.3043 ppb	06:35:24
2	K 766.490 Radial†	131.7	-69.0	-32.971 µg/L	-32.971 ppb	06:35:04
2	Mg 279.077 IEC†	8.5	1.9	25.601 µg/L	25.601 ppb	06:35:24
2	Na 589.592 Radial†	202.1	36.2	19.060 µg/L	19.060 ppb	06:35:04
2	Sr 421.552†	67.5	-91.7	-0.5620 µg/L	-0.5620 ppb	06:35:04
2	Sc 361.383	1999299.3	1999299.3	100.71 %		06:36:32
2	Y 371.029	1367329.8	1367329.8	100.70 %		06:36:32
2	Ag 328.068†	595.1	-5.6	-0.0423 µg/L	-0.0423 ppb	06:36:38
2	As 188.979†	-2.8	-2.1	-3.0542 µg/L	-3.0542 ppb	06:36:58
2	B 249.677†	422.2	21.1	0.9427 µg/L	0.9427 ppb	06:36:38
2	Ba 233.527†	-6.7	-11.1	-0.2377 µg/L	-0.2377 ppb	06:36:58
2	Be 313.107†	-1270.2	-356.6	-0.2007 µg/L	-0.2007 ppb	06:36:38
2	Cd 226.502†	-179.7	-14.1	-0.3312 µg/L	-0.3312 ppb	06:36:58
2	Co 228.616†	36.2	-13.5	-0.5392 µg/L	-0.5392 ppb	06:36:58
2	Cr 267.716†	75.1	-10.4	-0.2213 µg/L	-0.2213 ppb	06:36:38
2	Cu 324.752†	4176.4	-141.4	-0.9015 µg/L	-0.9015 ppb	06:36:38
2	Mn 257.610†	-730.5	-449.4	-1.3355 µg/L	-1.3355 ppb	06:36:58
2	Mo 202.031†	25.1	-0.5	-0.0445 µg/L	-0.0445 ppb	06:36:58
2	Ni 231.604†	365.7	-5.3	-0.2873 µg/L	-0.2873 ppb	06:36:58
2	P 214.914†	16.9	1.4	2.5976 µg/L	2.5976 ppb	06:36:58
2	Pb 220.353†	31.0	-8.8	-2.2474 µg/L	-2.2474 ppb	06:36:58

2	S 181.975 Axial†	25.2	1.6	4.9720 µg/L	4.9720 ppb	06:36:58
2	Sb 206.836†	28.9	2.3	1.8953 µg/L	1.8953 ppb	06:36:58
2	Se 196.026†	20.0	-4.7	-4.3398 µg/L	-4.3398 ppb	06:36:58
2	SiO2†	2756.8	-260.0	-46.080 µg/L	-46.080 ppb	06:36:38
2	Si 251.611†	423.3	-292.5	-19.690 µg/L	-19.690 ppb	06:36:58
2	Sn 189.927†	4.3	2.8	1.0407 µg/L	1.0407 ppb	06:36:58
2	Ti 334.940†	-457.3	-5346.3	-12.461 µg/L	-12.461 ppb	06:36:38
2	Tl 190.801†	-38.8	-4.3	-4.2103 µg/L	-4.2103 ppb	06:36:58
2	U 409.014†	11.1	27.7	2.4251 µg/L	2.4251 ppb	06:36:38
2	V 292.402†	-158.8	4.0	0.0443 µg/L	0.0443 ppb	06:36:38
2	Zn 213.857†	879.6	-40.0	-0.8960 µg/L	-0.8960 ppb	06:36:58
3	Sc RADIAL	89020.4	89020.4	102 %		06:35:30
3	Al 396.153Radial†	175.8	-32.8	-16.277 µg/L	-16.277 ppb	06:35:30
3	Ca 317.933Radial†	333.4	-16.5	-6.2154 µg/L	-6.2154 ppb	06:35:50
3	Fe 238.204 Radial†	13.5	0.1	1.5218 µg/L	1.5218 ppb	06:35:50
3	K 766.490 Radial†	124.2	-76.4	-36.495 µg/L	-36.495 ppb	06:35:30
3	Mg 279.077 IEC†	6.8	0.2	2.4392 µg/L	2.4392 ppb	06:35:50
3	Na 589.592 Radial†	168.7	3.3	1.7462 µg/L	1.7462 ppb	06:35:30
3	Sr 421.552†	159.0	-1.6	-0.0095 µg/L	-0.0095 ppb	06:35:30
3	Sc 361.383	2005327.9	2005327.9	101.02 %		06:37:04
3	Y 371.029	1374582.6	1374582.6	101.23 %		06:37:04
3	Ag 328.068†	613.6	11.0	0.0844 µg/L	0.0844 ppb	06:37:10
3	As 188.979†	-4.8	-4.2	-5.9941 µg/L	-5.9941 ppb	06:37:30
3	B 249.677†	440.3	37.8	1.6916 µg/L	1.6916 ppb	06:37:10
3	Ba 233.527†	-7.4	-11.8	-0.2521 µg/L	-0.2521 ppb	06:37:30
3	Be 313.107†	-1232.1	-315.2	-0.1768 µg/L	-0.1768 ppb	06:37:10
3	Cd 226.502†	-168.4	-2.4	-0.0553 µg/L	-0.0553 ppb	06:37:30
3	Co 228.616†	40.3	-9.6	-0.3745 µg/L	-0.3745 ppb	06:37:30
3	Cr 267.716†	88.0	2.1	0.0453 µg/L	0.0453 ppb	06:37:10
3	Cu 324.752†	4159.4	-170.7	-1.0890 µg/L	-1.0890 ppb	06:37:10
3	Mn 257.610†	-733.9	-450.6	-1.3377 µg/L	-1.3377 ppb	06:37:30
3	Mo 202.031†	29.8	4.0	0.3888 µg/L	0.3888 ppb	06:37:30
3	Ni 231.604†	377.6	5.3	0.2913 µg/L	0.2913 ppb	06:37:30
3	P 214.914†	12.6	-2.8	-4.7840 µg/L	-4.7840 ppb	06:37:30
3	Pb 220.353†	45.3	5.3	1.3463 µg/L	1.3463 ppb	06:37:30
3	S 181.975 Axial†	21.5	-2.1	-6.6772 µg/L	-6.6772 ppb	06:37:30
3	Sb 206.836†	30.9	4.2	3.5024 µg/L	3.5024 ppb	06:37:30
3	Se 196.026†	29.0	4.1	3.7932 µg/L	3.7932 ppb	06:37:30
3	SiO2†	2819.7	-205.9	-36.493 µg/L	-36.493 ppb	06:37:10
3	Si 251.611†	429.5	-287.5	-19.357 µg/L	-19.357 ppb	06:37:30
3	Sn 189.927†	3.7	2.2	0.8148 µg/L	0.8148 ppb	06:37:30
3	Ti 334.940†	-508.8	-5396.0	-12.574 µg/L	-12.574 ppb	06:37:10
3	Tl 190.801†	-37.6	-2.9	-2.9236 µg/L	-2.9236 ppb	06:37:30
3	U 409.014†	-38.8	-21.8	-1.9093 µg/L	-1.9093 ppb	06:37:10
3	V 292.402†	-175.3	-11.9	-0.1252 µg/L	-0.1252 ppb	06:37:10
3	Zn 213.857†	919.5	-3.2	-0.0704 µg/L	-0.0704 ppb	06:37:30

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2000906.7	100.79 %		0.195			0.19%
Sc RADIAL	89038.3	102 %		0.1			0.06%
Y 371.029	1369375.5	100.85 %		0.335			0.33%
Ag 328.068†	-14.2	-0.1107 µg/L		0.23684	-0.1107 ppb	0.23684	213.90%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	-14.6	-7.2431 µg/L		10.12556	-7.2431 ppb	10.12556	139.80%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	-1.6	-2.2410 µg/L		4.21891	-2.2410 ppb	4.21891	188.26%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	42.1	1.8884 µg/L		1.05794	1.8884 ppb	1.05794	56.02%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-12.3	-0.2627 µg/L		0.03160	-0.2627 ppb	0.03160	12.03%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	-332.5	-0.1868 µg/L		0.01244	-0.1868 ppb	0.01244	6.66%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-21.0	-7.9008 µg/L		2.26540	-7.9008 ppb	2.26540	28.67%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	-6.1	-0.1419 µg/L		0.16407	-0.1419 ppb	0.16407	115.58%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-15.1	-0.6082 µg/L		0.27471	-0.6082 ppb	0.27471	45.17%

QC value within limits for Co 228.616 Recovery = Not calculated

Cr 267.716† 2.0 0.0430 µg/L 0.26309 0.0430 ppb 0.26309 612.17%

QC value within limits for Cr 267.716 Recovery = Not calculated

Cu 324.752† -137.5 -0.8774 µg/L 0.22454 -0.8774 ppb 0.22454 25.59%

QC value within limits for Cu 324.752 Recovery = Not calculated

Fe 238.204 Radial† -0.1 -1.3701 µg/L 9.45791 -1.3701 ppb 9.45791 690.30%

QC value within limits for Fe 238.204 Radial Recovery = Not calculated

K 766.490 Radial† -86.2 -41.184 µg/L 11.3108 -41.184 ppb 11.3108 27.46%

QC value within limits for K 766.490 Radial Recovery = Not calculated

Mg 279.077 IEC† 1.8 24.113 µg/L 20.9698 24.113 ppb 20.9698 86.96%

QC value within limits for Mg 279.077 IEC Recovery = Not calculated

Mn 257.610† -440.8 -1.3103 µg/L 0.04561 -1.3103 ppb 0.04561 3.48%

QC value within limits for Mn 257.610 Recovery = Not calculated

Mo 202.031† 0.5 0.0510 µg/L 0.30156 0.0510 ppb 0.30156 591.00%

QC value within limits for Mo 202.031 Recovery = Not calculated

Na 589.592 Radial† 4.0 2.1012 µg/L 16.78382 2.1012 ppb 16.78382 798.78%

QC value within limits for Na 589.592 Radial Recovery = Not calculated

Ni 231.604† -0.0 -0.0014 µg/L 0.28938 -0.0014 ppb 0.28938 >999.9%

QC value within limits for Ni 231.604 Recovery = Not calculated

P 214.914† -2.8 -4.7609 µg/L 7.34700 -4.7609 ppb 7.34700 154.32%

QC value within limits for P 214.914 Recovery = Not calculated

Pb 220.353† 0.4 0.0906 µg/L 2.02663 0.0906 ppb 2.02663 >999.9%

QC value within limits for Pb 220.353 Recovery = Not calculated

S 181.975 Axial† -0.2 -0.6346 µg/L 5.83679 -0.6346 ppb 5.83679 919.76%

QC value within limits for S 181.975 Axial Recovery = Not calculated

Sb 206.836† 2.0 1.6396 µg/L 2.00292 1.6396 ppb 2.00292 122.16%

QC value within limits for Sb 206.836 Recovery = Not calculated

Se 196.026† -2.8 -2.6306 µg/L 5.76256 -2.6306 ppb 5.76256 219.06%

QC value within limits for Se 196.026 Recovery = Not calculated

SiO2† -234.1 -41.478 µg/L 4.8048 -41.478 ppb 4.8048 11.58%

QC value within limits for SiO2 Recovery = Not calculated

Si 251.611† -293.0 -19.727 µg/L 0.3898 -19.727 ppb 0.3898 1.98%

QC value within limits for Si 251.611 Recovery = Not calculated

Sn 189.927† 2.5 0.9437 µg/L 0.11625 0.9437 ppb 0.11625 12.32%

QC value within limits for Sn 189.927 Recovery = Not calculated

Sr 421.552† -37.9 -0.2325 µg/L 0.29126 -0.2325 ppb 0.29126 125.28%

QC value within limits for Sr 421.552 Recovery = Not calculated

Ti 334.940† -5356.9 -12.485 µg/L 0.0798 -12.485 ppb 0.0798 0.64%

QC value less than the lower limit for Ti 334.940 Recovery = Not calculated

Tl 190.801† -2.8 -2.7686 µg/L 1.52521 -2.7686 ppb 1.52521 55.09%

QC value within limits for Tl 190.801 Recovery = Not calculated

U 409.014† 22.2 1.9470 µg/L 3.64091 1.9470 ppb 3.64091 187.00%

QC value within limits for U 409.014 Recovery = Not calculated

V 292.402† -7.7 -0.0792 µg/L 0.10815 -0.0792 ppb 0.10815 136.52%

QC value within limits for V 292.402 Recovery = Not calculated

Zn 213.857† -26.5 -0.5926 µg/L 0.45425 -0.5926 ppb 0.45425 76.65%

QC value within limits for Zn 213.857 Recovery = Not calculated

QC Failed. Continue with analysis.

Sequence No.: 8

Sample ID: PQL

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 101

Date Collected: 3/19/2010 06:37:41

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	92306.0	92306.0	105 %		06:38:11
1	Al 396.153Radial†	597.1	361.2	178.86 µg/L	178.86 ppb	06:38:11
1	Ca 317.933Radial†	881.1	492.0	185.00 µg/L	185.00 ppb	06:38:32
1	Fe 238.204 Radial†	19.4	5.3	67.387 µg/L	67.387 ppb	06:38:32
1	K 766.490 Radial†	537.7	312.0	149.06 µg/L	149.06 ppb	06:38:11
1	Mg 279.077 IEC†	33.1	25.0	341.41 µg/L	341.41 ppb	06:38:32
1	Na 589.592 Radial†	716.3	517.6	272.29 µg/L	272.29 ppb	06:38:11
1	Sr 421.552†	978.3	771.2	4.7276 µg/L	4.7276 ppb	06:38:11
1	Sc 361.383	2066064.1	2066064.1	104.08 %		06:39:34
1	Y 371.029	1413141.0	1413141.0	104.07 %		06:39:34
1	Ag 328.068†	1250.9	605.5	4.7341 µg/L	4.7341 ppb	06:39:39
1	As 188.979†	23.0	22.7	32.475 µg/L	32.475 ppb	06:40:00
1	B 249.677†	1494.0	1037.4	46.476 µg/L	46.476 ppb	06:40:00
1	Ba 233.527†	227.7	214.3	4.5836 µg/L	4.5836 ppb	06:40:00
1	Be 313.107†	7571.9	8179.8	4.7160 µg/L	4.7160 ppb	06:39:39
1	Cd 226.502†	46.0	208.6	4.8771 µg/L	4.8771 ppb	06:40:00
1	Co 228.616†	161.0	105.2	4.4280 µg/L	4.4280 ppb	06:40:00
1	Cr 267.716†	318.6	221.2	4.7029 µg/L	4.7029 ppb	06:40:00
1	Cu 324.752†	5867.5	1349.5	8.6247 µg/L	8.6247 ppb	06:39:39
1	Mn 257.610†	2813.6	2979.3	8.8249 µg/L	8.8249 ppb	06:40:00
1	Mo 202.031†	118.1	88.0	8.4994 µg/L	8.4994 ppb	06:40:00
1	Ni 231.604†	464.0	77.4	4.2127 µg/L	4.2127 ppb	06:40:00
1	P 214.914†	109.3	89.7	153.76 µg/L	153.76 ppb	06:40:00
1	Pb 220.353†	77.5	34.9	8.8620 µg/L	8.8620 ppb	06:40:00
1	S 181.975 Axial†	56.6	31.0	96.996 µg/L	96.996 ppb	06:40:00
1	Sb 206.836†	39.1	11.1	9.3772 µg/L	9.3772 ppb	06:40:00
1	Se 196.026†	60.7	33.7	31.069 µg/L	31.069 ppb	06:40:00
1	SiO2†	4003.0	849.0	150.45 µg/L	150.45 ppb	06:39:39
1	Si 251.611†	1874.9	1088.7	73.293 µg/L	73.293 ppb	06:40:00
1	Sn 189.927†	28.3	25.6	9.6941 µg/L	9.6941 ppb	06:40:00
1	Ti 334.940†	1635.9	-3320.4	-7.7615 µg/L	-7.7615 ppb	06:39:39
1	Tl 190.801†	-12.6	22.2	21.252 µg/L	21.252 ppb	06:40:00
1	U 409.014†	594.6	588.0	51.525 µg/L	51.525 ppb	06:39:39
1	V 292.402†	308.9	458.5	5.0056 µg/L	5.0056 ppb	06:39:39
1	Zn 213.857†	1533.9	560.4	12.498 µg/L	12.498 ppb	06:40:00
2	Sc RADIAL	91167.0	91167.0	104 %		06:38:37
2	Al 396.153Radial†	606.6	377.4	186.88 µg/L	186.88 ppb	06:38:37
2	Ca 317.933Radial†	890.7	511.7	192.41 µg/L	192.41 ppb	06:38:58
2	Fe 238.204 Radial†	19.8	5.9	75.921 µg/L	75.921 ppb	06:38:58
2	K 766.490 Radial†	465.6	249.1	119.01 µg/L	119.01 ppb	06:38:37
2	Mg 279.077 IEC†	29.7	22.1	301.84 µg/L	301.84 ppb	06:38:58
2	Na 589.592 Radial†	722.1	531.6	279.66 µg/L	279.66 ppb	06:38:37
2	Sr 421.552†	953.7	759.1	4.6538 µg/L	4.6538 ppb	06:38:37
2	Sc 361.383	2052274.6	2052274.6	103.38 %		06:40:06
2	Y 371.029	1400755.0	1400755.0	103.16 %		06:40:06
2	Ag 328.068†	1194.7	559.2	4.3760 µg/L	4.3760 ppb	06:40:11
2	As 188.979†	16.2	16.3	23.294 µg/L	23.294 ppb	06:40:32
2	B 249.677†	1491.0	1044.1	46.771 µg/L	46.771 ppb	06:40:32
2	Ba 233.527†	222.3	210.6	4.5042 µg/L	4.5042 ppb	06:40:32
2	Be 313.107†	7486.9	8146.5	4.6968 µg/L	4.6968 ppb	06:40:11
2	Cd 226.502†	46.1	208.9	4.8841 µg/L	4.8841 ppb	06:40:32
2	Co 228.616†	161.3	106.6	4.4867 µg/L	4.4867 ppb	06:40:32
2	Cr 267.716†	320.9	225.4	4.7936 µg/L	4.7936 ppb	06:40:32
2	Cu 324.752†	5819.3	1340.7	8.5701 µg/L	8.5701 ppb	06:40:11
2	Mn 257.610†	2770.1	2955.4	8.7572 µg/L	8.7572 ppb	06:40:32
2	Mo 202.031†	120.9	91.5	8.8346 µg/L	8.8346 ppb	06:40:32
2	Ni 231.604†	468.6	84.8	4.6200 µg/L	4.6200 ppb	06:40:32
2	P 214.914†	112.2	93.2	159.77 µg/L	159.77 ppb	06:40:32
2	Pb 220.353†	73.9	31.9	8.0979 µg/L	8.0979 ppb	06:40:32

2	S 181.975 Axial†	58.3	33.0	103.28 µg/L	103.28 ppb	06:40:32
2	Sb 206.836†	41.9	14.1	11.852 µg/L	11.852 ppb	06:40:32
2	Se 196.026†	64.1	37.5	34.578 µg/L	34.578 ppb	06:40:32
2	SiO2†	3978.7	851.3	150.86 µg/L	150.86 ppb	06:40:11
2	Si 251.611†	1869.6	1095.7	73.762 µg/L	73.762 ppb	06:40:32
2	Sn 189.927†	33.0	30.4	11.488 µg/L	11.488 ppb	06:40:32
2	Ti 334.940†	1629.4	-3316.2	-7.7484 µg/L	-7.7484 ppb	06:40:11
2	Tl 190.801†	-13.1	21.6	20.703 µg/L	20.703 ppb	06:40:32
2	U 409.014†	545.3	544.1	47.677 µg/L	47.677 ppb	06:40:11
2	V 292.402†	311.3	462.8	5.0507 µg/L	5.0507 ppb	06:40:11
2	Zn 213.857†	1519.7	556.6	12.412 µg/L	12.412 ppb	06:40:32
3	Sc RADIAL	91398.2	91398.2	104 %		06:39:03
3	Al 396.153Radial†	594.8	364.6	180.54 µg/L	180.54 ppb	06:39:03
3	Ca 317.933Radial†	889.7	508.6	191.23 µg/L	191.23 ppb	06:39:24
3	Fe 238.204 Radial†	20.1	6.1	78.369 µg/L	78.369 ppb	06:39:24
3	K 766.490 Radial†	520.5	300.6	143.61 µg/L	143.61 ppb	06:39:03
3	Mg 279.077 IEC†	30.8	23.0	314.96 µg/L	314.96 ppb	06:39:24
3	Na 589.592 Radial†	707.9	516.3	271.60 µg/L	271.60 ppb	06:39:03
3	Sr 421.552†	910.4	715.3	4.3850 µg/L	4.3850 ppb	06:39:03
3	Sc 361.383	2072909.2	2072909.2	104.42 %		06:40:38
3	Y 371.029	1416223.0	1416223.0	104.30 %		06:40:38
3	Ag 328.068†	1240.7	591.7	4.6230 µg/L	4.6230 ppb	06:40:43
3	As 188.979†	18.2	18.0	25.784 µg/L	25.784 ppb	06:41:04
3	B 249.677†	1368.0	911.9	40.844 µg/L	40.844 ppb	06:41:04
3	Ba 233.527†	196.8	184.0	3.9355 µg/L	3.9355 ppb	06:41:04
3	Be 313.107†	6634.9	7258.5	4.1854 µg/L	4.1854 ppb	06:40:43
3	Cd 226.502†	21.9	185.3	4.3299 µg/L	4.3299 ppb	06:41:04
3	Co 228.616†	142.5	87.0	3.6655 µg/L	3.6655 ppb	06:41:04
3	Cr 267.716†	270.0	173.6	3.6922 µg/L	3.6922 ppb	06:41:04
3	Cu 324.752†	5670.3	1142.0	7.3027 µg/L	7.3027 ppb	06:40:43
3	Mn 257.610†	2204.7	2387.3	7.0699 µg/L	7.0699 ppb	06:41:04
3	Mo 202.031†	109.1	79.1	7.6358 µg/L	7.6358 ppb	06:41:04
3	Ni 231.604†	448.6	61.2	3.3309 µg/L	3.3309 ppb	06:41:04
3	P 214.914†	93.1	73.9	126.58 µg/L	126.58 ppb	06:41:04
3	Pb 220.353†	83.1	40.0	10.160 µg/L	10.160 ppb	06:41:04
3	S 181.975 Axial†	51.2	25.6	80.142 µg/L	80.142 ppb	06:41:04
3	Sb 206.836†	31.8	4.0	3.4301 µg/L	3.4301 ppb	06:41:04
3	Se 196.026†	54.0	27.1	25.031 µg/L	25.031 ppb	06:41:04
3	SiO2†	3907.8	745.1	132.04 µg/L	132.04 ppb	06:40:43
3	Si 251.611†	1681.0	897.0	60.387 µg/L	60.387 ppb	06:41:04
3	Sn 189.927†	23.8	21.3	8.0552 µg/L	8.0552 ppb	06:41:04
3	Ti 334.940†	1384.2	-3566.7	-8.3331 µg/L	-8.3331 ppb	06:40:43
3	Tl 190.801†	-12.7	22.0	21.128 µg/L	21.128 ppb	06:41:04
3	U 409.014†	552.2	545.5	47.798 µg/L	47.798 ppb	06:40:43
3	V 292.402†	229.5	381.5	4.1751 µg/L	4.1751 ppb	06:40:43
3	Zn 213.857†	1458.6	483.5	10.781 µg/L	10.781 ppb	06:41:04

Mean Data: PQL

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2063749.3	103.96 %	0.529			0.51%
Sc RADIAL	91623.7	104 %	0.7			0.66%
Y 371.029	1410039.6	103.84 %	0.603			0.58%
Ag 328.068†	585.5	4.5777 µg/L	0.18329	4.5777 ppb	0.18329	4.00%
QC value within limits for Ag 328.068 Recovery = 91.55%						
Al 396.153Radial†	367.7	182.09 µg/L	4.227	182.09 ppb	4.227	2.32%
QC value within limits for Al 396.153Radial Recovery = 91.05%						
As 188.979†	19.0	27.184 µg/L	4.7478	27.184 ppb	4.7478	17.47%
QC value within limits for As 188.979 Recovery = 90.61%						
B 249.677†	997.8	44.697 µg/L	3.3402	44.697 ppb	3.3402	7.47%
QC value within limits for B 249.677 Recovery = 89.39%						
Ba 233.527†	203.0	4.3411 µg/L	0.35351	4.3411 ppb	0.35351	8.14%
QC value within limits for Ba 233.527 Recovery = 86.82%						
Be 313.107†	7861.6	4.5327 µg/L	0.30096	4.5327 ppb	0.30096	6.64%
QC value within limits for Be 313.107 Recovery = 90.65%						
Ca 317.933Radial†	504.1	189.55 µg/L	3.981	189.55 ppb	3.981	2.10%
QC value within limits for Ca 317.933Radial Recovery = 94.77%						
Cd 226.502†	200.9	4.6970 µg/L	0.31794	4.6970 ppb	0.31794	6.77%
QC value within limits for Cd 226.502 Recovery = 93.94%						
Co 228.616†	99.6	4.1934 µg/L	0.45813	4.1934 ppb	0.45813	10.93%

QC value within limits for Co 228.616 Recovery = 83.87%							
Cr 267.716†	206.7	4.3962 µg/L	0.61142	4.3962 ppb	0.61142	13.91%	
QC value within limits for Cr 267.716 Recovery = 87.92%							
Cu 324.752†	1277.4	8.1659 µg/L	0.74799	8.1659 ppb	0.74799	9.16%	
QC value within limits for Cu 324.752 Recovery = 81.66%							
Fe 238.204 Radial†	5.8	73.892 µg/L	5.7653	73.892 ppb	5.7653	7.80%	
QC value within limits for Fe 238.204 Radial Recovery = 73.89%							
K 766.490 Radial†	287.2	137.23 µg/L	16.012	137.23 ppb	16.012	11.67%	
QC value within limits for K 766.490 Radial Recovery = 91.48%							
Mg 279.077 IEC†	23.3	319.40 µg/L	20.159	319.40 ppb	20.159	6.31%	
QC value within limits for Mg 279.077 IEC Recovery = 106.47%							
Mn 257.610†	2774.0	8.2173 µg/L	0.99428	8.2173 ppb	0.99428	12.10%	
QC value within limits for Mn 257.610 Recovery = 82.17%							
Mo 202.031†	86.2	8.3233 µg/L	0.61854	8.3233 ppb	0.61854	7.43%	
QC value within limits for Mo 202.031 Recovery = 83.23%							
Na 589.592 Radial†	521.8	274.52 µg/L	4.465	274.52 ppb	4.465	1.63%	
QC value within limits for Na 589.592 Radial Recovery = 91.51%							
Ni 231.604†	74.5	4.0545 µg/L	0.65893	4.0545 ppb	0.65893	16.25%	
QC value within limits for Ni 231.604 Recovery = 81.09%							
P 214.914†	85.6	146.71 µg/L	17.682	146.71 ppb	17.682	12.05%	
QC value within limits for P 214.914 Recovery = 97.80%							
Pb 220.353†	35.6	9.0398 µg/L	1.04232	9.0398 ppb	1.04232	11.53%	
QC value within limits for Pb 220.353 Recovery = 90.40%							
S 181.975 Axial†	29.8	93.471 µg/L	11.9627	93.471 ppb	11.9627	12.80%	
QC value within limits for S 181.975 Axial Recovery = 93.47%							
Sb 206.836†	9.7	8.2199 µg/L	4.32877	8.2199 ppb	4.32877	52.66%	
QC value within limits for Sb 206.836 Recovery = 82.20%							
Se 196.026†	32.8	30.226 µg/L	4.8291	30.226 ppb	4.8291	15.98%	
QC value within limits for Se 196.026 Recovery = 100.75%							
SiO2†	815.1	144.45 µg/L	10.748	144.45 ppb	10.748	7.44%	
QC value less than the lower limit for SiO2 Recovery = 67.82%							
Si 251.611†	1027.2	69.148 µg/L	7.5904	69.148 ppb	7.5904	10.98%	
QC value less than the lower limit for Si 251.611 Recovery = 69.15%							
Sn 189.927†	25.8	9.7458 µg/L	1.71704	9.7458 ppb	1.71704	17.62%	
QC value within limits for Sn 189.927 Recovery = 97.46%							
Sr 421.552†	748.5	4.5888 µg/L	0.18034	4.5888 ppb	0.18034	3.93%	
QC value within limits for Sr 421.552 Recovery = 91.78%							
Ti 334.940†	-3401.1	-7.9477 µg/L	0.33390	-7.9477 ppb	0.33390	4.20%	
QC value less than the lower limit for Ti 334.940 Recovery = -158.95%							
Tl 190.801†	21.9	21.028 µg/L	0.2878	21.028 ppb	0.2878	1.37%	
QC value within limits for Tl 190.801 Recovery = 105.14%							
U 409.014†	559.2	49.000 µg/L	2.1876	49.000 ppb	2.1876	4.46%	
QC value within limits for U 409.014 Recovery = 98.00%							
V 292.402†	434.3	4.7438 µg/L	0.49302	4.7438 ppb	0.49302	10.39%	
QC value within limits for V 292.402 Recovery = 94.88%							
Zn 213.857†	533.5	11.897 µg/L	0.9671	11.897 ppb	0.9671	8.13%	
QC value within limits for Zn 213.857 Recovery = 118.97%							
QC Failed. Continue with analysis.							

Sequence No.: 9

Sample ID: ICSA

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 103

Date Collected: 3/19/2010 06:41:13

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	88851.2	88851.2	101 %		06:41:52
1	Al 396.153Radial†	1013741.8	1000247.8	495770 µg/L	495770 ppb	06:41:47
1	Ca 317.933Radial†	1255835.1	1239029.0	465870 µg/L	465870 ppb	06:41:47
1	Fe 238.204 Radial†	14161.9	13963.2	178760 µg/L	178760 ppb	06:41:52
1	K 766.490 Radial†	143.1	-57.5	-27.471 µg/L	-27.471 ppb	06:41:52
1	Mg 279.077 IEC†	34876.3	34412.6	470540 µg/L	470540 ppb	06:41:52
1	Na 589.592 Radial†	176.1	10.9	5.7219 µg/L	5.7219 ppb	06:41:52
1	Sr 421.552†	712.5	545.0	3.3410 µg/L	3.3410 ppb	06:41:52
1	Sc 361.383	1944048.4	1944048.4	97.930 %		06:42:27
1	Y 371.029	1315299.0	1315299.0	96.865 %		06:42:27
1	Ag 328.068†	-1006.1	-1623.8	1.0974 µg/L	1.0974 ppb	06:42:48
1	As 188.979†	27.1	28.3	-38.294 µg/L	-38.294 ppb	06:42:48
1	B 249.677†	1395.5	1026.9	-47.247 µg/L	-47.247 ppb	06:42:27
1	Ba 233.527†	306.5	308.5	6.5717 µg/L	6.5717 ppb	06:42:48
1	Be 313.107†	-1808.4	-942.0	-0.5490 µg/L	-0.5490 ppb	06:42:27
1	Cd 226.502†	848.0	1030.3	3.9041 µg/L	3.9041 ppb	06:42:48
1	Co 228.616†	101.0	53.6	2.2029 µg/L	2.2029 ppb	06:42:48
1	Cr 267.716†	7.2	-77.6	-1.6539 µg/L	-1.6539 ppb	06:42:48
1	Cu 324.752†	755.7	-3516.6	11.165 µg/L	11.165 ppb	06:42:48
1	Mn 257.610†	6390.9	6801.9	-0.9538 µg/L	-0.9538 ppb	06:42:27
1	Mo 202.031†	-67.9	-94.8	-2.3560 µg/L	-2.3560 ppb	06:42:48
1	Ni 231.604†	268.8	-93.9	-2.7956 µg/L	-2.7956 ppb	06:42:48
1	P 214.914†	85.0	71.5	122.64 µg/L	122.64 ppb	06:42:48
1	Pb 220.353†	-120.3	-162.5	-1.2338 µg/L	-1.2338 ppb	06:42:48
1	S 181.975 Axial†	-37.0	-61.2	-191.59 µg/L	-191.59 ppb	06:42:48
1	Sb 206.836†	24.3	-1.7	-8.5069 µg/L	-8.5069 ppb	06:42:48
1	Se 196.026†	-166.3	-194.3	-1.9892 µg/L	-1.9892 ppb	06:42:48
1	SiO2†	2464.2	-481.0	-85.235 µg/L	-85.235 ppb	06:42:48
1	Si 251.611†	461.3	-241.7	-16.273 µg/L	-16.273 ppb	06:42:48
1	Sn 189.927†	-74.6	-77.7	18.390 µg/L	18.390 ppb	06:42:48
1	Ti 334.940†	11673.6	7028.1	-13.450 µg/L	-13.450 ppb	06:42:27
1	Tl 190.801†	-16.0	18.0	-19.362 µg/L	-19.362 ppb	06:42:48
1	U 409.014†	-93.0	-78.3	-60.131 µg/L	-60.131 ppb	06:42:27
1	V 292.402†	-895.7	-752.9	-2.0795 µg/L	-2.0795 ppb	06:42:48
1	Zn 213.857†	2304.0	1439.3	-2.8846 µg/L	-2.8846 ppb	06:42:48
2	Sc RADIAL	88920.1	88920.1	101 %		06:42:03
2	Al 396.153Radial†	1007242.1	993063.1	492200 µg/L	492200 ppb	06:41:58
2	Ca 317.933Radial†	1248693.1	1231025.6	462860 µg/L	462860 ppb	06:41:58
2	Fe 238.204 Radial†	14204.1	13993.9	179160 µg/L	179160 ppb	06:42:03
2	K 766.490 Radial†	-8.8	-207.4	-99.095 µg/L	-99.095 ppb	06:42:03
2	Mg 279.077 IEC†	34994.6	34502.6	471770 µg/L	471770 ppb	06:42:03
2	Na 589.592 Radial†	161.5	-3.6	-1.8946 µg/L	-1.8946 ppb	06:42:03
2	Sr 421.552†	669.5	502.1	3.0781 µg/L	3.0781 ppb	06:42:03
2	Sc 361.383	1932525.5	1932525.5	97.350 %		06:42:56
2	Y 371.029	1309558.6	1309558.6	96.443 %		06:42:56
2	Ag 328.068†	-984.5	-1607.8	1.2482 µg/L	1.2482 ppb	06:43:17
2	As 188.979†	26.6	27.9	-38.493 µg/L	-38.493 ppb	06:43:17
2	B 249.677†	1309.0	946.6	-51.055 µg/L	-51.055 ppb	06:42:56
2	Ba 233.527†	304.2	308.0	6.5604 µg/L	6.5604 ppb	06:43:17
2	Be 313.107†	-1725.6	-868.0	-0.5064 µg/L	-0.5064 ppb	06:42:56
2	Cd 226.502†	827.7	1014.6	3.4932 µg/L	3.4932 ppb	06:43:17
2	Co 228.616†	105.8	59.2	2.4356 µg/L	2.4356 ppb	06:43:17
2	Cr 267.716†	-28.0	-113.8	-2.4232 µg/L	-2.4232 ppb	06:43:17
2	Cu 324.752†	766.6	-3500.8	11.340 µg/L	11.340 ppb	06:43:17
2	Mn 257.610†	6384.7	6834.4	-0.9170 µg/L	-0.9170 ppb	06:42:56
2	Mo 202.031†	-71.5	-98.8	-2.7350 µg/L	-2.7350 ppb	06:43:17
2	Ni 231.604†	285.8	-74.8	-1.7502 µg/L	-1.7502 ppb	06:43:17
2	P 214.914†	87.6	74.7	126.86 µg/L	126.86 ppb	06:43:17
2	Pb 220.353†	-105.3	-147.8	2.2438 µg/L	2.2438 ppb	06:43:17

2	S 181.975 Axial†	-19.0	-42.9	-134.46 µg/L	-134.46 ppb	06:43:17
2	Sb 206.836†	31.3	5.6	-2.3438 µg/L	-2.3438 ppb	06:43:17
2	Se 196.026†	-183.5	-213.1	-18.614 µg/L	-18.614 ppb	06:43:17
2	SiO2†	2465.9	-464.2	-82.273 µg/L	-82.273 ppb	06:43:17
2	Si 251.611†	452.5	-248.0	-16.694 µg/L	-16.694 ppb	06:43:17
2	Sn 189.927†	-69.4	-72.9	19.939 µg/L	19.939 ppb	06:43:17
2	Ti 334.940†	11605.6	7029.3	-13.592 µg/L	-13.592 ppb	06:42:56
2	Tl 190.801†	-9.6	24.4	-12.736 µg/L	-12.736 ppb	06:43:17
2	U 409.014†	-105.4	-91.6	-61.171 µg/L	-61.171 ppb	06:42:56
2	V 292.402†	-945.6	-809.7	-2.6758 µg/L	-2.6758 ppb	06:43:17
2	Zn 213.857†	2290.9	1439.9	-2.9653 µg/L	-2.9653 ppb	06:43:17
3	Sc RADIAL	89204.4	89204.4	102 %		06:42:15
3	Al 396.153Radial†	1019342.2	1001791.8	496530 µg/L	496530 ppb	06:42:10
3	Ca 317.933Radial†	1260874.5	1239075.5	465880 µg/L	465880 ppb	06:42:10
3	Fe 238.204 Radial†	14278.2	14022.1	179520 µg/L	179520 ppb	06:42:15
3	K 766.490 Radial†	27.6	-171.6	-82.004 µg/L	-82.004 ppb	06:42:15
3	Mg 279.077 IEC†	35172.5	34567.5	472660 µg/L	472660 ppb	06:42:15
3	Na 589.592 Radial†	224.1	57.4	30.190 µg/L	30.190 ppb	06:42:15
3	Sr 421.552†	718.6	548.2	3.3608 µg/L	3.3608 ppb	06:42:15
3	Sc 361.383	1930113.7	1930113.7	97.228 %		06:43:25
3	Y 371.029	1308088.3	1308088.3	96.334 %		06:43:25
3	Ag 328.068†	-938.1	-1561.3	1.6385 µg/L	1.6385 ppb	06:43:46
3	As 188.979†	25.2	26.5	-40.919 µg/L	-40.919 ppb	06:43:46
3	B 249.677†	1350.3	990.7	-49.265 µg/L	-49.265 ppb	06:43:25
3	Ba 233.527†	316.7	321.3	6.8446 µg/L	6.8446 ppb	06:43:46
3	Be 313.107†	-1813.2	-960.3	-0.5597 µg/L	-0.5597 ppb	06:43:25
3	Cd 226.502†	838.6	1026.9	3.7405 µg/L	3.7405 ppb	06:43:46
3	Co 228.616†	106.8	60.4	2.4835 µg/L	2.4835 ppb	06:43:46
3	Cr 267.716†	-7.0	-92.1	-1.9633 µg/L	-1.9633 ppb	06:43:46
3	Cu 324.752†	719.2	-3548.6	11.103 µg/L	11.103 ppb	06:43:46
3	Mn 257.610†	6307.9	6763.6	-1.1655 µg/L	-1.1655 ppb	06:43:25
3	Mo 202.031†	-82.1	-109.9	-3.7854 µg/L	-3.7854 ppb	06:43:46
3	Ni 231.604†	280.7	-79.7	-2.0127 µg/L	-2.0127 ppb	06:43:46
3	P 214.914†	84.7	71.8	122.86 µg/L	122.86 ppb	06:43:46
3	Pb 220.353†	-117.3	-160.2	-0.5864 µg/L	-0.5864 ppb	06:43:46
3	S 181.975 Axial†	-23.7	-47.8	-149.61 µg/L	-149.61 ppb	06:43:46
3	Sb 206.836†	43.4	18.2	8.1067 µg/L	8.1067 ppb	06:43:46
3	Se 196.026†	-165.6	-194.9	-1.6796 µg/L	-1.6796 ppb	06:43:46
3	SiO2†	2463.7	-463.3	-82.111 µg/L	-82.111 ppb	06:43:46
3	Si 251.611†	459.2	-240.5	-16.188 µg/L	-16.188 ppb	06:43:46
3	Sn 189.927†	-79.2	-83.0	16.415 µg/L	16.415 ppb	06:43:46
3	Ti 334.940†	11733.6	7175.9	-13.273 µg/L	-13.273 ppb	06:43:25
3	Tl 190.801†	-14.2	19.7	-17.566 µg/L	-17.566 ppb	06:43:46
3	U 409.014†	-121.1	-107.9	-62.832 µg/L	-62.832 ppb	06:43:25
3	V 292.402†	-918.7	-783.2	-2.3905 µg/L	-2.3905 ppb	06:43:46
3	Zn 213.857†	2300.0	1452.2	-2.7554 µg/L	-2.7554 ppb	06:43:46

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1935562.5	97.502 %	0.3751			0.38%
Sc RADIAL	88991.9	101 %	0.2			0.21%
Y 371.029	1310982.0	96.548 %	0.2806			0.29%
Ag 328.068†	-1597.6	1.3280 µg/L	0.27924	1.3280 ppb	0.27924	21.03%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	998367.6	494830 µg/L	2308.8	494830 ppb	2308.8	0.47%
QC value within limits for Al 396.153Radial Recovery = 98.97%						
As 188.979†	27.6	-39.235 µg/L	1.4616	-39.235 ppb	1.4616	3.73%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	988.0	-49.189 µg/L	1.9052	-49.189 ppb	1.9052	3.87%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	312.6	6.6589 µg/L	0.16094	6.6589 ppb	0.16094	2.42%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-923.5	-0.5384 µg/L	0.02821	-0.5384 ppb	0.02821	5.24%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	1236376.7	464870 µg/L	1742.4	464870 ppb	1742.4	0.37%
QC value within limits for Ca 317.933Radial Recovery = 92.97%						
Cd 226.502†	1023.9	3.7126 µg/L	0.20683	3.7126 ppb	0.20683	5.57%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	57.7	2.3740 µg/L	0.15009	2.3740 ppb	0.15009	6.32%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-94.5	-2.0135 µg/L	0.38711	-2.0135 ppb	0.38711	19.23%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-3522.0	11.203 µg/L	0.1231	11.203 ppb	0.1231	1.10%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	13993.1	179140 µg/L	377.2	179140 ppb	377.2	0.21%	
QC value within limits for Fe 238.204 Radial Recovery = 89.57%							
K 766.490 Radial†	-145.5	-69.523 µg/L	37.4073	-69.523 ppb	37.4073	53.81%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	34494.2	471660 µg/L	1063.7	471660 ppb	1063.7	0.23%	
QC value within limits for Mg 279.077 IEC Recovery = 94.33%							
Mn 257.610†	6800.0	-1.0121 µg/L	0.13411	-1.0121 ppb	0.13411	13.25%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-101.2	-2.9588 µg/L	0.74053	-2.9588 ppb	0.74053	25.03%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	21.6	11.339 µg/L	16.7636	11.339 ppb	16.7636	147.84%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-82.8	-2.1862 µg/L	0.54385	-2.1862 ppb	0.54385	24.88%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	72.7	124.12 µg/L	2.378	124.12 ppb	2.378	1.92%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-156.8	0.1412 µg/L	1.84944	0.1412 ppb	1.84944	>999.9%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	-50.6	-158.56 µg/L	29.598	-158.56 ppb	29.598	18.67%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.4	-0.9147 µg/L	8.39851	-0.9147 ppb	8.39851	918.19%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-200.8	-7.4276 µg/L	9.68892	-7.4276 ppb	9.68892	130.44%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-469.5	-83.206 µg/L	1.7586	-83.206 ppb	1.7586	2.11%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-243.4	-16.385 µg/L	0.2711	-16.385 ppb	0.2711	1.65%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	-77.9	18.248 µg/L	1.7660	18.248 ppb	1.7660	9.68%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	531.8	3.2600 µg/L	0.15784	3.2600 ppb	0.15784	4.84%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	7077.8	-13.438 µg/L	0.1600	-13.438 ppb	0.1600	1.19%	
QC value less than the lower limit for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	20.7	-16.555 µg/L	3.4264	-16.555 ppb	3.4264	20.70%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-92.6	-61.378 µg/L	1.3624	-61.378 ppb	1.3624	2.22%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-781.9	-2.3819 µg/L	0.29824	-2.3819 ppb	0.29824	12.52%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	1443.8	-2.8684 µg/L	0.10588	-2.8684 ppb	0.10588	3.69%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
QC Failed. Continue with analysis.							

Sequence No.: 10

Sample ID: ICSAB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 104

Date Collected: 3/19/2010 06:43:56

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	89875.1	89875.1	102 %		06:44:33
1	Al 396.153Radial†	1025534.6	1000355.4	495810 µg/L	495810 ppb	06:44:28
1	Ca 317.933Radial†	1276208.2	1244785.8	468030 µg/L	468030 ppb	06:44:28
1	Fe 238.204 Radial†	14704.9	14333.6	183510 µg/L	183510 ppb	06:44:33
1	K 766.490 Radial†	10952.5	10487.0	5010.3 µg/L	5010.3 ppb	06:44:33
1	Mg 279.077 IEC†	35977.3	35094.7	479880 µg/L	479880 ppb	06:44:33
1	Na 589.592 Radial†	10163.2	9752.8	5130.6 µg/L	5130.6 ppb	06:44:33
1	Sr 421.552†	82790.7	80616.5	494.21 µg/L	494.21 ppb	06:44:28
1	Sc 361.383	1935898.6	1935898.6	97.519 %		06:45:10
1	Y 371.029	1313042.6	1313042.6	96.699 %		06:45:10
1	Ag 328.068†	30808.4	30995.6	257.75 µg/L	257.75 ppb	06:45:10
1	As 188.979†	371.3	381.3	465.26 µg/L	465.26 ppb	06:45:31
1	B 249.677†	12274.3	12188.4	451.37 µg/L	451.37 ppb	06:45:10
1	Ba 233.527†	21902.9	22455.6	480.25 µg/L	480.25 ppb	06:45:31
1	Be 313.107†	395428.9	406391.9	233.96 µg/L	233.96 ppb	06:45:10
1	Cd 226.502†	19310.3	19965.8	446.91 µg/L	446.91 ppb	06:45:31
1	Co 228.616†	10030.6	10236.3	428.00 µg/L	428.00 ppb	06:45:31
1	Cr 267.716†	21339.2	21797.1	463.52 µg/L	463.52 ppb	06:45:31
1	Cu 324.752†	81929.5	79725.3	543.29 µg/L	543.29 ppb	06:45:10
1	Mn 257.610†	159372.2	163702.0	464.45 µg/L	464.45 ppb	06:45:10
1	Mo 202.031†	4898.9	4998.1	489.53 µg/L	489.53 ppb	06:45:31
1	Ni 231.604†	7933.7	7767.1	425.19 µg/L	425.19 ppb	06:45:31
1	P 214.914†	1503.6	1526.5	2576.0 µg/L	2576.0 ppb	06:45:31
1	Pb 220.353†	1675.6	1678.6	467.94 µg/L	467.94 ppb	06:45:31
1	S 181.975 Axial†	779.6	776.0	2430.5 µg/L	2430.5 ppb	06:45:31
1	Sb 206.836†	625.2	614.7	510.09 µg/L	510.09 ppb	06:45:31
1	Se 196.026†	2358.9	2394.4	2394.1 µg/L	2394.1 ppb	06:45:31
1	SiO2†	60717.9	59265.1	10503 µg/L	10503 ppb	06:45:10
1	Si 251.611†	72180.3	73303.5	4934.8 µg/L	4934.8 ppb	06:45:10
1	Sn 189.927†	1196.2	1225.1	510.48 µg/L	510.48 ppb	06:45:31
1	Ti 334.940†	221791.2	222540.6	488.05 µg/L	488.05 ppb	06:45:10
1	Tl 190.801†	440.1	485.5	434.80 µg/L	434.80 ppb	06:45:31
1	U 409.014†	5110.7	5257.4	406.84 µg/L	406.84 ppb	06:45:10
1	V 292.402†	44276.5	45564.5	495.79 µg/L	495.79 ppb	06:45:10
1	Zn 213.857†	22270.8	21923.9	452.43 µg/L	452.43 ppb	06:45:31
2	Sc RADIAL	89929.3	89929.3	103 %		06:44:45
2	Al 396.153Radial†	1033855.1	1007865.5	499530 µg/L	499530 ppb	06:44:39
2	Ca 317.933Radial†	1289776.8	1257265.7	472720 µg/L	472720 ppb	06:44:39
2	Fe 238.204 Radial†	14783.6	14401.7	184390 µg/L	184390 ppb	06:44:45
2	K 766.490 Radial†	10975.6	10503.1	5017.9 µg/L	5017.9 ppb	06:44:45
2	Mg 279.077 IEC†	35996.3	35092.1	479840 µg/L	479840 ppb	06:44:45
2	Na 589.592 Radial†	10181.6	9764.8	5136.9 µg/L	5136.9 ppb	06:44:45
2	Sr 421.552†	83739.5	81493.0	499.58 µg/L	499.58 ppb	06:44:39
2	Sc 361.383	1945475.6	1945475.6	98.002 %		06:45:40
2	Y 371.029	1318034.0	1318034.0	97.067 %		06:45:40
2	Ag 328.068†	30951.5	30986.1	257.73 µg/L	257.73 ppb	06:45:40
2	As 188.979†	372.0	380.2	463.04 µg/L	463.04 ppb	06:46:01
2	B 249.677†	12307.1	12159.9	449.63 µg/L	449.63 ppb	06:45:40
2	Ba 233.527†	21908.0	22350.2	478.00 µg/L	478.00 ppb	06:46:01
2	Be 313.107†	397435.3	406443.1	233.99 µg/L	233.99 ppb	06:45:40
2	Cd 226.502†	19293.8	19851.5	444.13 µg/L	444.13 ppb	06:46:01
2	Co 228.616†	10025.9	10180.9	425.68 µg/L	425.68 ppb	06:46:01
2	Cr 267.716†	21290.2	21639.3	460.17 µg/L	460.17 ppb	06:46:01
2	Cu 324.752†	82292.9	79682.5	543.18 µg/L	543.18 ppb	06:45:40
2	Mn 257.610†	160332.8	163877.7	465.02 µg/L	465.02 ppb	06:45:40
2	Mo 202.031†	4895.0	4969.3	486.79 µg/L	486.79 ppb	06:46:01
2	Ni 231.604†	7936.9	7730.3	423.20 µg/L	423.20 ppb	06:46:01
2	P 214.914†	1508.6	1524.1	2572.3 µg/L	2572.3 ppb	06:46:01
2	Pb 220.353†	1666.2	1660.6	463.64 µg/L	463.64 ppb	06:46:01

2	S 181.975 Axial†	788.6	781.3	2447.0 µg/L	2447.0 ppb	06:46:01
2	Sb 206.836†	622.0	608.3	504.64 µg/L	504.64 ppb	06:46:01
2	Se 196.026†	2359.5	2383.0	2385.9 µg/L	2385.9 ppb	06:46:01
2	SiO2†	61041.9	59289.2	10507 µg/L	10507 ppb	06:45:40
2	Si 251.611†	72584.1	73351.2	4938.0 µg/L	4938.0 ppb	06:45:40
2	Sn 189.927†	1213.9	1237.1	515.48 µg/L	515.48 ppb	06:46:01
2	Ti 334.940†	222527.5	222172.4	487.27 µg/L	487.27 ppb	06:45:40
2	Tl 190.801†	445.3	488.6	437.17 µg/L	437.17 ppb	06:46:01
2	U 409.014†	5025.5	5144.7	396.55 µg/L	396.55 ppb	06:45:40
2	V 292.402†	44391.3	45458.1	494.64 µg/L	494.64 ppb	06:45:40
2	Zn 213.857†	22212.7	21752.2	448.56 µg/L	448.56 ppb	06:46:01
3	Sc RADIAL	90577.5	90577.5	103 %		06:44:57
3	Al 396.153Radial†	1030335.1	997243.7	494270 µg/L	494270 ppb	06:44:51
3	Ca 317.933Radial†	1284939.0	1243582.4	467580 µg/L	467580 ppb	06:44:51
3	Fe 238.204 Radial†	14913.6	14424.5	184680 µg/L	184680 ppb	06:44:57
3	K 766.490 Radial†	11141.5	10587.1	5058.1 µg/L	5058.1 ppb	06:44:57
3	Mg 279.077 IEC†	36367.5	35200.3	481320 µg/L	481320 ppb	06:44:57
3	Na 589.592 Radial†	10276.7	9785.8	5148.0 µg/L	5148.0 ppb	06:44:57
3	Sr 421.552†	83412.9	80592.5	494.06 µg/L	494.06 ppb	06:44:51
3	Sc 361.383	1930209.8	1930209.8	97.233 %		06:46:10
3	Y 371.029	1309625.4	1309625.4	96.448 %		06:46:10
3	Ag 328.068†	30662.4	30938.6	257.39 µg/L	257.39 ppb	06:46:10
3	As 188.979†	366.2	377.3	459.37 µg/L	459.37 ppb	06:46:31
3	B 249.677†	12171.9	12120.1	447.70 µg/L	447.70 ppb	06:46:10
3	Ba 233.527†	21903.1	22522.0	481.67 µg/L	481.67 ppb	06:46:31
3	Be 313.107†	394388.1	406516.5	234.03 µg/L	234.03 ppb	06:46:10
3	Cd 226.502†	19313.7	20027.7	448.22 µg/L	448.22 ppb	06:46:31
3	Co 228.616†	10026.3	10262.1	429.09 µg/L	429.09 ppb	06:46:31
3	Cr 267.716†	21398.6	21922.6	466.19 µg/L	466.19 ppb	06:46:31
3	Cu 324.752†	81722.8	79760.3	543.73 µg/L	543.73 ppb	06:46:10
3	Mn 257.610†	159047.0	163849.2	464.86 µg/L	464.86 ppb	06:46:10
3	Mo 202.031†	4877.3	4990.7	488.86 µg/L	488.86 ppb	06:46:31
3	Ni 231.604†	7917.5	7774.4	425.60 µg/L	425.60 ppb	06:46:31
3	P 214.914†	1521.3	1549.3	2613.8 µg/L	2613.8 ppb	06:46:31
3	Pb 220.353†	1679.1	1687.3	470.04 µg/L	470.04 ppb	06:46:31
3	S 181.975 Axial†	785.2	784.1	2456.0 µg/L	2456.0 ppb	06:46:31
3	Sb 206.836†	621.6	612.8	508.50 µg/L	508.50 ppb	06:46:31
3	Se 196.026†	2339.8	2381.9	2385.2 µg/L	2385.2 ppb	06:46:31
3	SiO2†	60752.9	59484.6	10542 µg/L	10542 ppb	06:46:10
3	Si 251.611†	72178.6	73519.9	4949.3 µg/L	4949.3 ppb	06:46:10
3	Sn 189.927†	1193.7	1226.1	510.85 µg/L	510.85 ppb	06:46:31
3	Ti 334.940†	221140.9	222542.1	487.93 µg/L	487.93 ppb	06:46:10
3	Tl 190.801†	441.7	488.5	437.83 µg/L	437.83 ppb	06:46:31
3	U 409.014†	5173.0	5336.9	413.68 µg/L	413.68 ppb	06:46:10
3	V 292.402†	44132.0	45549.7	495.67 µg/L	495.67 ppb	06:46:10
3	Zn 213.857†	22241.6	21961.2	453.13 µg/L	453.13 ppb	06:46:31

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1937194.7	97.585 %	0.3886			0.40%
Sc RADIAL	90127.3	103 %	0.4			0.43%
Y 371.029	1313567.3	96.738 %	0.3114			0.32%
Ag 328.068†	30973.5	257.63 µg/L	0.201	257.63 ppb	0.201	0.08%
QC value within limits for Ag 328.068 Recovery = 103.05%						
Al 396.153Radial†	1001821.5	496530 µg/L	2706.5	496530 ppb	2706.5	0.55%
QC value within limits for Al 396.153Radial Recovery = 99.31%						
As 188.979†	379.6	462.56 µg/L	2.978	462.56 ppb	2.978	0.64%
QC value within limits for As 188.979 Recovery = 92.51%						
B 249.677†	12156.1	449.57 µg/L	1.832	449.57 ppb	1.832	0.41%
QC value within limits for B 249.677 Recovery = 89.91%						
Ba 233.527†	22442.6	479.97 µg/L	1.850	479.97 ppb	1.850	0.39%
QC value within limits for Ba 233.527 Recovery = 95.99%						
Be 313.107†	406450.5	233.99 µg/L	0.036	233.99 ppb	0.036	0.02%
QC value within limits for Be 313.107 Recovery = 93.60%						
Ca 317.933Radial†	1248544.7	469440 µg/L	2848.7	469440 ppb	2848.7	0.61%
QC value within limits for Ca 317.933Radial Recovery = 93.89%						
Cd 226.502†	19948.3	446.42 µg/L	2.088	446.42 ppb	2.088	0.47%
QC value within limits for Cd 226.502 Recovery = 89.28%						
Co 228.616†	10226.4	427.59 µg/L	1.739	427.59 ppb	1.739	0.41%

QC value within limits for Co 228.616 Recovery = 85.52%							
Cr 267.716†	21786.3	463.29 µg/L	3.018	463.29 ppb	3.018	0.65%	
QC value within limits for Cr 267.716 Recovery = 92.66%							
Cu 324.752†	79722.7	543.40 µg/L	0.292	543.40 ppb	0.292	0.05%	
QC value within limits for Cu 324.752 Recovery = 108.68%							
Fe 238.204 Radial†	14386.6	184190 µg/L	605.2	184190 ppb	605.2	0.33%	
QC value within limits for Fe 238.204 Radial Recovery = 92.10%							
K 766.490 Radial†	10525.8	5028.8 µg/L	25.68	5028.8 ppb	25.68	0.51%	
QC value within limits for K 766.490 Radial Recovery = 100.58%							
Mg 279.077 IEC†	35129.0	480350 µg/L	843.9	480350 ppb	843.9	0.18%	
QC value within limits for Mg 279.077 IEC Recovery = 96.07%							
Mn 257.610†	163809.6	464.78 µg/L	0.296	464.78 ppb	0.296	0.06%	
QC value within limits for Mn 257.610 Recovery = 92.96%							
Mo 202.031†	4986.0	488.40 µg/L	1.430	488.40 ppb	1.430	0.29%	
QC value within limits for Mo 202.031 Recovery = 97.68%							
Na 589.592 Radial†	9767.8	5138.5 µg/L	8.80	5138.5 ppb	8.80	0.17%	
QC value within limits for Na 589.592 Radial Recovery = 102.77%							
Ni 231.604†	7757.2	424.66 µg/L	1.285	424.66 ppb	1.285	0.30%	
QC value within limits for Ni 231.604 Recovery = 84.93%							
P 214.914†	1533.3	2587.4 µg/L	22.99	2587.4 ppb	22.99	0.89%	
QC value within limits for P 214.914 Recovery = 103.49%							
Pb 220.353†	1675.5	467.21 µg/L	3.260	467.21 ppb	3.260	0.70%	
QC value within limits for Pb 220.353 Recovery = 93.44%							
S 181.975 Axial†	780.5	2444.5 µg/L	12.93	2444.5 ppb	12.93	0.53%	
QC value within limits for S 181.975 Axial Recovery = 97.78%							
Sb 206.836†	611.9	507.74 µg/L	2.803	507.74 ppb	2.803	0.55%	
QC value within limits for Sb 206.836 Recovery = 101.55%							
Se 196.026†	2386.4	2388.4 µg/L	4.93	2388.4 ppb	4.93	0.21%	
QC value within limits for Se 196.026 Recovery = 95.54%							
SiO2†	59346.3	10517 µg/L	21.3	10517 ppb	21.3	0.20%	
QC value within limits for SiO2 Recovery = 98.34%							
Si 251.611†	73391.6	4940.7 µg/L	7.65	4940.7 ppb	7.65	0.15%	
QC value within limits for Si 251.611 Recovery = 98.81%							
Sn 189.927†	1229.4	512.27 µg/L	2.784	512.27 ppb	2.784	0.54%	
QC value within limits for Sn 189.927 Recovery = 102.45%							
Sr 421.552†	80900.6	495.95 µg/L	3.145	495.95 ppb	3.145	0.63%	
QC value within limits for Sr 421.552 Recovery = 99.19%							
Ti 334.940†	222418.3	487.75 µg/L	0.421	487.75 ppb	0.421	0.09%	
QC value within limits for Ti 334.940 Recovery = 97.55%							
Tl 190.801†	487.6	436.60 µg/L	1.590	436.60 ppb	1.590	0.36%	
QC value within limits for Tl 190.801 Recovery = 87.32%							
U 409.014†	5246.3	405.69 µg/L	8.620	405.69 ppb	8.620	2.12%	
QC value within limits for U 409.014 Recovery = 81.14%							
V 292.402†	45524.1	495.37 µg/L	0.629	495.37 ppb	0.629	0.13%	
QC value within limits for V 292.402 Recovery = 99.07%							
Zn 213.857†	21879.1	451.37 µg/L	2.463	451.37 ppb	2.463	0.55%	
QC value within limits for Zn 213.857 Recovery = 90.27%							

All analyte(s) passed QC.

Sequence No.: 11

Sample ID: LR1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 105

Date Collected: 3/19/2010 06:46:40

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	90956.4	90956.4	104 %		06:47:18
1	Al 396.153Radial†	1024453.4	987417.9	489410 µg/L	489410 ppb	06:47:13
1	Ca 317.933Radial†	1287480.5	1240850.2	466550 µg/L	466550 ppb	06:47:13
1	Fe 238.204 Radial†	35553.9	34262.5	438640 µg/L	438640 ppb	06:47:18
1	K 766.490 Radial†	163.6	-41.0	-19.597 µg/L	-19.597 ppb	06:47:18
1	Mg 279.077 IEC†	36127.4	34822.1	475870 µg/L	475870 ppb	06:47:18
1	Na 589.592 Radial†	963821.2	929008.6	488720 µg/L	488720 ppb	06:47:13
1	Sr 421.552†	2061.5	1829.2	11.214 µg/L	11.214 ppb	06:47:18
1	Sc 361.383	1918919.9	1918919.9	96.664 %		06:47:55
1	Y 371.029	1292803.6	1292803.6	95.209 %		06:47:55
1	Ag 328.068†	-3605.3	-4326.2	-0.0768 µg/L	-0.0768 ppb	06:47:55
1	As 188.979†	10.1	11.0	-95.181 µg/L	-95.181 ppb	06:48:16
1	B 249.677†	2651.5	2344.9	-123.76 µg/L	-123.76 ppb	06:47:55
1	Ba 233.527†	673.3	692.1	14.706 µg/L	14.706 ppb	06:48:16
1	Be 313.107†	-9524.4	-8948.6	-5.1650 µg/L	-5.1650 ppb	06:47:55
1	Cd 226.502†	2186.3	2426.0	7.1978 µg/L	7.1978 ppb	06:48:16
1	Co 228.616†	271.0	230.9	9.6004 µg/L	9.6004 ppb	06:48:16
1	Cr 267.716†	364.0	291.6	6.1732 µg/L	6.1732 ppb	06:48:16
1	Cu 324.752†	-2942.8	-7332.6	35.670 µg/L	35.670 ppb	06:48:16
1	Mn 257.610†	7546.2	8082.5	17.855 µg/L	17.855 ppb	06:47:55
1	Mo 202.031†	-171.7	-203.0	-2.9354 µg/L	-2.9354 ppb	06:48:16
1	Ni 231.604†	224.4	-136.3	-1.7375 µg/L	-1.7375 ppb	06:48:16
1	P 214.914†	254.5	248.0	216.50 µg/L	216.50 ppb	06:48:16
1	Pb 220.353†	-33.7	-74.4	10.107 µg/L	10.107 ppb	06:48:16
1	S 181.975 Axial†	-24.1	-48.4	-151.44 µg/L	-151.44 ppb	06:48:16
1	Sb 206.836†	33.2	7.9	-0.8137 µg/L	-0.8137 ppb	06:48:16
1	Se 196.026†	-410.8	-449.6	584.83 µg/L	584.83 ppb	06:48:16
1	SiO2†	2510.0	-400.6	-70.993 µg/L	-70.993 ppb	06:48:16
1	Si 251.611†	-39.5	-753.6	-50.732 µg/L	-50.732 ppb	06:48:16
1	Sn 189.927†	-59.1	-62.7	22.946 µg/L	22.946 ppb	06:48:16
1	Ti 334.940†	14586.4	10197.5	-6.4962 µg/L	-6.4962 ppb	06:47:55
1	Tl 190.801†	-46.7	-14.0	3.8131 µg/L	3.8131 ppb	06:48:16
1	U 409.014†	158877.1	164376.6	14321 µg/L	14321 ppb	06:47:55
1	V 292.402†	-3591.4	-3553.7	-8.2097 µg/L	-8.2097 ppb	06:48:16
1	Zn 213.857†	3819.2	3037.6	20.302 µg/L	20.302 ppb	06:48:16
2	Sc RADIAL	90441.8	90441.8	103 %		06:47:30
2	Al 396.153Radial†	1023857.4	992459.5	491910 µg/L	491910 ppb	06:47:25
2	Ca 317.933Radial†	1283998.0	1244536.0	467940 µg/L	467940 ppb	06:47:25
2	Fe 238.204 Radial†	35465.6	34372.0	440040 µg/L	440040 ppb	06:47:30
2	K 766.490 Radial†	264.3	57.5	27.458 µg/L	27.458 ppb	06:47:30
2	Mg 279.077 IEC†	36034.6	34930.3	477340 µg/L	477340 ppb	06:47:30
2	Na 589.592 Radial†	961437.7	931984.6	490290 µg/L	490290 ppb	06:47:25
2	Sr 421.552†	2092.8	1870.9	11.470 µg/L	11.470 ppb	06:47:30
2	Sc 361.383	1912799.5	1912799.5	96.356 %		06:48:24
2	Y 371.029	1290994.5	1290994.5	95.076 %		06:48:24
2	Ag 328.068†	-3545.4	-4276.0	0.4190 µg/L	0.4190 ppb	06:48:24
2	As 188.979†	15.6	16.8	-87.196 µg/L	-87.196 ppb	06:48:45
2	B 249.677†	2417.6	2110.9	-134.98 µg/L	-134.98 ppb	06:48:24
2	Ba 233.527†	668.1	688.9	14.639 µg/L	14.639 ppb	06:48:45
2	Be 313.107†	-9277.1	-8723.4	-5.0356 µg/L	-5.0356 ppb	06:48:24
2	Cd 226.502†	2179.5	2426.2	7.0455 µg/L	7.0455 ppb	06:48:45
2	Co 228.616†	256.8	217.1	9.0196 µg/L	9.0196 ppb	06:48:45
2	Cr 267.716†	370.1	299.1	6.3323 µg/L	6.3323 ppb	06:48:45
2	Cu 324.752†	-2822.2	-7217.2	36.670 µg/L	36.670 ppb	06:48:45
2	Mn 257.610†	7545.0	8106.3	17.909 µg/L	17.909 ppb	06:48:24
2	Mo 202.031†	-182.6	-215.0	-4.0323 µg/L	-4.0323 ppb	06:48:45
2	Ni 231.604†	251.6	-107.3	-0.1406 µg/L	-0.1406 ppb	06:48:45
2	P 214.914†	248.1	242.1	205.94 µg/L	205.94 ppb	06:48:45
2	Pb 220.353†	-24.2	-64.7	12.771 µg/L	12.771 ppb	06:48:45

2	S 181.975 Axial†	-39.4	-64.3	-201.49 µg/L	-201.49 ppb	06:48:45
2	Sb 206.836†	24.3	-1.3	-8.4835 µg/L	-8.4835 ppb	06:48:45
2	Se 196.026†	-397.0	-436.6	600.06 µg/L	600.06 ppb	06:48:45
2	SiO2†	2501.6	-401.0	-71.068 µg/L	-71.068 ppb	06:48:45
2	Si 251.611†	-44.5	-759.0	-51.095 µg/L	-51.095 ppb	06:48:45
2	Sn 189.927†	-53.6	-57.1	25.171 µg/L	25.171 ppb	06:48:45
2	Ti 334.940†	14896.2	10567.3	-5.7294 µg/L	-5.7294 ppb	06:48:24
2	Tl 190.801†	-42.0	-9.4	8.3852 µg/L	8.3852 ppb	06:48:45
2	U 409.014†	158481.1	164491.6	14331 µg/L	14331 ppb	06:48:24
2	V 292.402†	-3596.9	-3571.3	-8.3477 µg/L	-8.3477 ppb	06:48:45
2	Zn 213.857†	3818.6	3049.6	20.412 µg/L	20.412 ppb	06:48:45
3	Sc RADIAL	90943.8	90943.8	104 %		06:47:42
3	Al 396.153Radial†	1021951.0	985142.2	488280 µg/L	488280 ppb	06:47:36
3	Ca 317.933Radial†	1278222.9	1232096.4	463260 µg/L	463260 ppb	06:47:36
3	Fe 238.204 Radial†	35580.8	34293.2	439040 µg/L	439040 ppb	06:47:42
3	K 766.490 Radial†	134.5	-69.1	-32.990 µg/L	-32.990 ppb	06:47:42
3	Mg 279.077 IEC†	36086.2	34787.1	475390 µg/L	475390 ppb	06:47:42
3	Na 589.592 Radial†	960146.7	925594.6	486920 µg/L	486920 ppb	06:47:36
3	Sr 421.552†	2081.8	1849.1	11.336 µg/L	11.336 ppb	06:47:42
3	Sc 361.383	1920560.1	1920560.1	96.747 %		06:48:53
3	Y 371.029	1295744.0	1295744.0	95.425 %		06:48:53
3	Ag 328.068†	-3713.4	-4434.7	-0.8847 µg/L	-0.8847 ppb	06:48:53
3	As 188.979†	11.7	12.6	-92.506 µg/L	-92.506 ppb	06:49:14
3	B 249.677†	2659.2	2350.5	-123.71 µg/L	-123.71 ppb	06:48:53
3	Ba 233.527†	688.1	706.8	15.021 µg/L	15.021 ppb	06:49:14
3	Be 313.107†	-9644.5	-9064.3	-5.2320 µg/L	-5.2320 ppb	06:48:53
3	Cd 226.502†	2171.2	2408.6	6.7452 µg/L	6.7452 ppb	06:49:14
3	Co 228.616†	261.9	221.2	9.1937 µg/L	9.1937 ppb	06:49:14
3	Cr 267.716†	378.9	306.7	6.4941 µg/L	6.4941 ppb	06:49:14
3	Cu 324.752†	-2923.0	-7309.5	35.891 µg/L	35.891 ppb	06:49:14
3	Mn 257.610†	7502.1	8030.2	17.755 µg/L	17.755 ppb	06:48:53
3	Mo 202.031†	-173.4	-204.6	-3.0745 µg/L	-3.0745 ppb	06:49:14
3	Ni 231.604†	237.9	-122.5	-0.9808 µg/L	-0.9808 ppb	06:49:14
3	P 214.914†	245.3	238.2	199.10 µg/L	199.10 ppb	06:49:14
3	Pb 220.353†	-72.2	-114.2	-0.1283 µg/L	-0.1283 ppb	06:49:14
3	S 181.975 Axial†	-39.8	-64.5	-202.17 µg/L	-202.17 ppb	06:49:14
3	Sb 206.836†	22.8	-2.8	-9.7294 µg/L	-9.7294 ppb	06:49:14
3	Se 196.026†	-405.4	-443.6	592.23 µg/L	592.23 ppb	06:49:14
3	SiO2†	2502.1	-411.0	-72.837 µg/L	-72.837 ppb	06:49:14
3	Si 251.611†	-51.1	-765.5	-51.536 µg/L	-51.536 ppb	06:49:14
3	Sn 189.927†	-40.5	-43.4	29.908 µg/L	29.908 ppb	06:49:14
3	Ti 334.940†	14923.3	10532.9	-5.7289 µg/L	-5.7289 ppb	06:48:53
3	Tl 190.801†	-32.3	0.9	18.796 µg/L	18.796 ppb	06:49:14
3	U 409.014†	159205.1	164575.3	14338 µg/L	14338 ppb	06:48:53
3	V 292.402†	-3540.2	-3497.5	-7.5817 µg/L	-7.5817 ppb	06:49:14
3	Zn 213.857†	3835.4	3051.0	20.608 µg/L	20.608 ppb	06:49:14

Mean Data: LR1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1917426.5	96.589 %	0.2060			0.21%
Sc RADIAL	90780.7	104 %	0.3			0.32%
Y 371.029	1293180.7	95.237 %	0.1765			0.19%
Ag 328.068†	-4345.6	-0.1808 µg/L	0.65803	-0.1808 ppb	0.65803	363.88%
Al 396.153Radial†	988339.8	489860 µg/L	1856.1	489860 ppb	1856.1	0.38%
QC value within limits for Al 396.153Radial Recovery = 97.97%						
As 188.979†	13.5	-91.628 µg/L	4.0647	-91.628 ppb	4.0647	4.44%
B 249.677†	2268.7	-127.48 µg/L	6.493	-127.48 ppb	6.493	5.09%
Ba 233.527†	695.9	14.789 µg/L	0.2040	14.789 ppb	0.2040	1.38%
Be 313.107†	-8912.1	-5.1442 µg/L	0.09983	-5.1442 ppb	0.09983	1.94%
Ca 317.933Radial†	1239160.8	465910 µg/L	2402.4	465910 ppb	2402.4	0.52%
QC value within limits for Ca 317.933Radial Recovery = 93.18%						
Cd 226.502†	2420.3	6.9962 µg/L	0.23031	6.9962 ppb	0.23031	3.29%
Co 228.616†	223.0	9.2712 µg/L	0.29803	9.2712 ppb	0.29803	3.21%
Cr 267.716†	299.1	6.3332 µg/L	0.16045	6.3332 ppb	0.16045	2.53%
Cu 324.752†	-7286.5	36.077 µg/L	0.5252	36.077 ppb	0.5252	1.46%
Fe 238.204 Radial†	34309.3	439240 µg/L	723.1	439240 ppb	723.1	0.16%
QC value less than the lower limit for Fe 238.204 Radial Recovery = 87.85%						
K 766.490 Radial†	-17.5	-8.3762 µg/L	31.74786	-8.3762 ppb	31.74786	379.03%
Mg 279.077 IEC†	34846.5	476200 µg/L	1020.1	476200 ppb	1020.1	0.21%

QC value within limits for Mg 279.077 IEC Recovery = 95.24%							
Mn 257.610†	8073.0	17.840 µg/L	0.0779	17.840 ppb	0.0779	0.44%	
Mo 202.031†	-207.5	-3.3474 µg/L	0.59720	-3.3474 ppb	0.59720	17.84%	
Na 589.592 Radial†	928862.6	488640 µg/L	1682.1	488640 ppb	1682.1	0.34%	
QC value within limits for Na 589.592 Radial Recovery = 97.73%							
Ni 231.604†	-122.1	-0.9530 µg/L	0.79885	-0.9530 ppb	0.79885	83.83%	
P 214.914†	242.8	207.18 µg/L	8.767	207.18 ppb	8.767	4.23%	
Pb 220.353†	-84.4	7.5831 µg/L	6.80983	7.5831 ppb	6.80983	89.80%	
S 181.975 Axial†	-59.1	-185.03 µg/L	29.094	-185.03 ppb	29.094	15.72%	
Sb 206.836†	1.2	-6.3422 µg/L	4.82816	-6.3422 ppb	4.82816	76.13%	
Se 196.026†	-443.3	592.37 µg/L	7.613	592.37 ppb	7.613	1.29%	
SiO2†	-404.2	-71.632 µg/L	1.0437	-71.632 ppb	1.0437	1.46%	
Si 251.611†	-759.4	-51.121 µg/L	0.4026	-51.121 ppb	0.4026	0.79%	
Sn 189.927†	-54.4	26.009 µg/L	3.5558	26.009 ppb	3.5558	13.67%	
Sr 421.552†	1849.8	11.340 µg/L	0.1279	11.340 ppb	0.1279	1.13%	
Ti 334.940†	10432.6	-5.9848 µg/L	0.44284	-5.9848 ppb	0.44284	7.40%	
Tl 190.801†	-7.5	10.331 µg/L	7.6786	10.331 ppb	7.6786	74.32%	
U 409.014†	164481.2	14330 µg/L	8.8	14330 ppb	8.8	0.06%	
QC value within limits for U 409.014 Recovery = 95.53%							
V 292.402†	-3540.8	-8.0464 µg/L	0.40832	-8.0464 ppb	0.40832	5.07%	
Zn 213.857†	3046.1	20.440 µg/L	0.1549	20.440 ppb	0.1549	0.76%	
QC Failed. Continue with analysis.							

Sequence No.: 12

Sample ID: LR2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 108

Date Collected: 3/19/2010 06:49:24

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	93282.1	93282.1	106 %		06:50:03
1	Al 396.153Radial†	1107.9	835.4	207.53 µg/L	207.53 ppb	06:50:03
1	Ca 317.933Radial†	524.5	148.1	55.697 µg/L	55.697 ppb	06:50:23
1	Fe 238.204 Radial†	12.0	-1.9	176.67 µg/L	176.67 ppb	06:50:23
1	K 766.490 Radial†	652321.9	612993.1	292860 µg/L	292860 ppb	06:49:57
1	Mg 279.077 IEC†	4.8	-2.0	141.24 µg/L	141.24 ppb	06:50:23
1	Na 589.592 Radial†	1086.4	858.3	451.52 µg/L	451.52 ppb	06:50:03
1	Sr 421.552†	1670561.5	1570193.4	9625.9 µg/L	9625.9 ppb	06:49:57
1	Sc 361.383	2025127.1	2025127.1	102.01 %		06:51:55
1	Y 371.029	1371146.7	1371146.7	100.98 %		06:51:55
1	Ag 328.068†	-8796.7	-9219.5	-5.7600 µg/L	-5.7600 ppb	06:52:01
1	As 188.979†	6791.6	6658.1	9511.8 µg/L	9511.8 ppb	06:52:01
1	B 249.677†	111744.3	109139.8	4931.4 µg/L	4931.4 ppb	06:51:55
1	Ba 233.527†	692937.0	679250.7	14519 µg/L	14519 ppb	06:51:55
1	Be 313.107†	5042348.7	4943693.5	2844.7 µg/L	2844.7 ppb	06:51:45
1	Cd 226.502†	420641.5	412500.4	9662.6 µg/L	9662.6 ppb	06:51:55
1	Co 228.616†	230911.3	226302.6	9465.1 µg/L	9465.1 ppb	06:51:55
1	Cr 267.716†	1169178.8	1146008.7	24360 µg/L	24360 ppb	06:51:55
1	Cu 324.752†	3215885.0	3148100.1	20090 µg/L	20090 ppb	06:51:55
1	Mn 257.610†	3253599.9	3189634.5	9468.3 µg/L	9468.3 ppb	06:51:55
1	Mo 202.031†	106260.0	104136.5	10054 µg/L	10054 ppb	06:51:55
1	Ni 231.604†	182505.9	178534.0	9719.0 µg/L	9719.0 ppb	06:51:55
1	P 214.914†	8901.7	8710.6	13032 µg/L	13032 ppb	06:52:01
1	Pb 220.353†	99318.3	97317.7	24789 µg/L	24789 ppb	06:51:55
1	S 181.975 Axial†	16772.3	16417.7	51423 µg/L	51423 ppb	06:52:01
1	Sb 206.836†	12596.0	12320.8	10201 µg/L	10201 ppb	06:52:01
1	Se 196.026†	10860.0	10621.1	9797.5 µg/L	9797.5 ppb	06:52:01
1	SiO2†	564961.3	550809.1	97614 µg/L	97614 ppb	06:51:55
1	Si 251.611†	689562.2	675234.2	45457 µg/L	45457 ppb	06:51:55
1	Sn 189.927†	27506.5	26961.8	10179 µg/L	10179 ppb	06:52:01
1	Ti 334.940†	4303949.1	4214076.7	9819.9 µg/L	9819.9 ppb	06:51:45
1	Tl 190.801†	10063.6	9899.1	9587.7 µg/L	9587.7 ppb	06:52:01
1	U 409.014†	-2284.8	-2223.0	-194.89 µg/L	-194.89 ppb	06:51:55
1	V 292.402†	956145.8	937428.6	10096 µg/L	10096 ppb	06:51:55
1	Zn 213.857†	663285.7	649276.0	14467 µg/L	14467 ppb	06:51:55
2	Sc RADIAL	92904.8	92904.8	106 %		06:50:35
2	Al 396.153Radial†	1079.9	813.2	201.14 µg/L	201.14 ppb	06:50:35
2	Ca 317.933Radial†	530.6	155.9	58.605 µg/L	58.605 ppb	06:50:55
2	Fe 238.204 Radial†	10.9	-2.9	158.85 µg/L	158.85 ppb	06:50:55
2	K 766.490 Radial†	646142.4	609651.3	291270 µg/L	291270 ppb	06:50:30
2	Mg 279.077 IEC†	4.2	-2.6	130.35 µg/L	130.35 ppb	06:50:55
2	Na 589.592 Radial†	837.9	628.0	330.35 µg/L	330.35 ppb	06:50:35
2	Sr 421.552†	1650749.3	1557872.3	9550.3 µg/L	9550.3 ppb	06:50:30
2	Sc 361.383	2015431.6	2015431.6	101.53 %		06:52:20
2	Y 371.029	1366420.1	1366420.1	100.63 %		06:52:20
2	Ag 328.068†	-8398.3	-8868.6	-4.6308 µg/L	-4.6308 ppb	06:52:26
2	As 188.979†	6707.2	6607.0	9439.1 µg/L	9439.1 ppb	06:52:26
2	B 249.677†	110197.2	108142.9	4885.7 µg/L	4885.7 ppb	06:52:20
2	Ba 233.527†	673486.5	663360.2	14179 µg/L	14179 ppb	06:52:20
2	Be 313.107†	4945601.1	4872178.1	2803.6 µg/L	2803.6 ppb	06:52:10
2	Cd 226.502†	409946.6	403949.8	9462.3 µg/L	9462.3 ppb	06:52:20
2	Co 228.616†	223681.2	220270.0	9212.6 µg/L	9212.6 ppb	06:52:20
2	Cr 267.716†	1131297.5	1114210.3	23685 µg/L	23685 ppb	06:52:20
2	Cu 324.752†	3134060.8	3082670.7	19673 µg/L	19673 ppb	06:52:20
2	Mn 257.610†	3148749.7	3101703.0	9207.3 µg/L	9207.3 ppb	06:52:20
2	Mo 202.031†	103384.4	101805.2	9829.2 µg/L	9829.2 ppb	06:52:20
2	Ni 231.604†	176946.5	173918.7	9467.8 µg/L	9467.8 ppb	06:52:20
2	P 214.914†	8732.1	8585.5	12856 µg/L	12856 ppb	06:52:26
2	Pb 220.353†	96941.5	95445.0	24312 µg/L	24312 ppb	06:52:20

2	S 181.975 Axial†	16595.5	16322.7	51125 µg/L	51125 ppb	06:52:26
2	Sb 206.836†	12366.9	12154.6	10066 µg/L	10066 ppb	06:52:26
2	Se 196.026†	10739.1	10553.2	9734.8 µg/L	9734.8 ppb	06:52:26
2	SiO2†	555054.0	543714.8	96356 µg/L	96356 ppb	06:52:20
2	Si 251.611†	677612.1	666715.5	44883 µg/L	44883 ppb	06:52:20
2	Sn 189.927†	26522.3	26122.2	9861.9 µg/L	9861.9 ppb	06:52:26
2	Ti 334.940†	4224672.4	4156287.5	9685.3 µg/L	9685.3 ppb	06:52:10
2	Tl 190.801†	10081.0	9963.8	9648.3 µg/L	9648.3 ppb	06:52:26
2	U 409.014†	-2202.9	-2153.1	-188.75 µg/L	-188.75 ppb	06:52:20
2	V 292.402†	928525.9	914732.8	9851.2 µg/L	9851.2 ppb	06:52:20
2	Zn 213.857†	644980.2	634373.4	14135 µg/L	14135 ppb	06:52:20
3	Sc RADIAL	90730.1	90730.1	103 %		06:51:07
3	Al 396.153Radial†	1009.6	769.7	202.94 µg/L	202.94 ppb	06:51:07
3	Ca 317.933Radial†	526.5	163.9	61.611 µg/L	61.611 ppb	06:51:28
3	Fe 238.204 Radial†	13.7	0.1	173.76 µg/L	173.76 ppb	06:51:28
3	K 766.490 Radial†	638164.4	616557.8	294570 µg/L	294570 ppb	06:51:01
3	Mg 279.077 IEC†	6.7	-0.1	145.28 µg/L	145.28 ppb	06:51:28
3	Na 589.592 Radial†	719.1	532.1	279.90 µg/L	279.90 ppb	06:51:07
3	Sr 421.552†	1632488.8	1577567.4	9671.1 µg/L	9671.1 ppb	06:51:01
3	Sc 361.383	2039745.7	2039745.7	102.75 %		06:52:45
3	Y 371.029	1383772.3	1383772.3	101.91 %		06:52:45
3	Ag 328.068†	-7202.1	-7605.8	-2.4004 µg/L	-2.4004 ppb	06:52:50
3	As 188.979†	5942.6	5784.1	8263.2 µg/L	8263.2 ppb	06:52:50
3	B 249.677†	102078.1	98947.3	4468.2 µg/L	4468.2 ppb	06:52:45
3	Ba 233.527†	609842.4	593512.5	12686 µg/L	12686 ppb	06:52:45
3	Be 313.107†	4592851.1	4470804.9	2572.6 µg/L	2572.6 ppb	06:52:34
3	Cd 226.502†	369800.8	360065.5	8434.3 µg/L	8434.3 ppb	06:52:45
3	Co 228.616†	200164.2	194756.3	8144.8 µg/L	8144.8 ppb	06:52:45
3	Cr 267.716†	987507.2	960986.6	20428 µg/L	20428 ppb	06:52:45
3	Cu 324.752†	2796965.6	2717802.5	17344 µg/L	17344 ppb	06:52:45
3	Mn 257.610†	2814460.2	2739392.9	8131.8 µg/L	8131.8 ppb	06:52:45
3	Mo 202.031†	92537.4	90034.7	8692.8 µg/L	8692.8 ppb	06:52:45
3	Ni 231.604†	158622.3	154007.6	8383.9 µg/L	8383.9 ppb	06:52:45
3	P 214.914†	7523.1	7306.4	10876 µg/L	10876 ppb	06:52:50
3	Pb 220.353†	88814.9	86397.8	22007 µg/L	22007 ppb	06:52:45
3	S 181.975 Axial†	14686.7	14270.1	44696 µg/L	44696 ppb	06:52:50
3	Sb 206.836†	10853.4	10536.4	8729.6 µg/L	8729.6 ppb	06:52:50
3	Se 196.026†	9469.6	9191.5	8478.9 µg/L	8478.9 ppb	06:52:50
3	SiO2†	512611.2	495891.3	87881 µg/L	87881 ppb	06:52:45
3	Si 251.611†	625556.7	608097.8	40937 µg/L	40937 ppb	06:52:45
3	Sn 189.927†	22693.7	22084.7	8337.6 µg/L	8337.6 ppb	06:52:50
3	Ti 334.940†	3925717.5	3815733.7	8891.7 µg/L	8891.7 ppb	06:52:34
3	Tl 190.801†	9131.7	8921.5	8640.8 µg/L	8640.8 ppb	06:52:50
3	U 409.014†	-1969.6	-1900.2	-166.59 µg/L	-166.59 ppb	06:52:45
3	V 292.402†	828869.3	806842.1	8688.4 µg/L	8688.4 ppb	06:52:45
3	Zn 213.857†	580196.6	563751.3	12562 µg/L	12562 ppb	06:52:45

Mean Data: LR2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2026768.1	102.10 %	0.617			0.60%
Sc RADIAL	92305.7	105 %	1.6			1.49%
Y 371.029	1373779.7	101.17 %	0.661			0.65%
Ag 328.068†	-8564.6	-4.2637 µg/L	1.70959	-4.2637 ppb	1.70959	40.10%
Al 396.153Radial†	806.1	203.87 µg/L	3.294	203.87 ppb	3.294	1.62%
As 188.979†	6349.8	9071.4 µg/L	700.83	9071.4 ppb	700.83	7.73%
QC value within limits for As 188.979 Recovery = 90.71%						
B 249.677†	105410.0	4761.8 µg/L	255.25	4761.8 ppb	255.25	5.36%
QC value within limits for B 249.677 Recovery = 95.24%						
Ba 233.527†	645374.5	13794 µg/L	975.0	13794 ppb	975.0	7.07%
QC value within limits for Ba 233.527 Recovery = 91.96%						
Be 313.107†	4762225.5	2740.3 µg/L	146.68	2740.3 ppb	146.68	5.35%
QC value within limits for Be 313.107 Recovery = 91.34%						
Ca 317.933Radial†	156.0	58.637 µg/L	2.9571	58.637 ppb	2.9571	5.04%
Cd 226.502†	392171.9	9186.4 µg/L	659.02	9186.4 ppb	659.02	7.17%
QC value within limits for Cd 226.502 Recovery = 91.86%						
Co 228.616†	213776.3	8940.9 µg/L	700.85	8940.9 ppb	700.85	7.84%
QC value less than the lower limit for Co 228.616 Recovery = 89.41%						
Cr 267.716†	1073735.2	22824 µg/L	2102.8	22824 ppb	2102.8	9.21%
QC value within limits for Cr 267.716 Recovery = 91.30%						

Cu 324.752†	2982857.8	19036 µg/L	1479.7	19036 ppb	1479.7	7.77%
QC value within limits for Cu 324.752 Recovery = 95.18%						
Fe 238.204 Radial†	-1.6	169.76 µg/L	9.558	169.76 ppb	9.558	5.63%
K 766.490 Radial†	613067.4	292900 µg/L	1650.1	292900 ppb	1650.1	0.56%
QC value within limits for K 766.490 Radial Recovery = 97.63%						
Mg 279.077 IEC†	-1.5	138.95 µg/L	7.722	138.95 ppb	7.722	5.56%
Mn 257.610†	3010243.4	8935.8 µg/L	708.42	8935.8 ppb	708.42	7.93%
QC value less than the lower limit for Mn 257.610 Recovery = 89.36%						
Mo 202.031†	98658.8	9525.4 µg/L	729.82	9525.4 ppb	729.82	7.66%
QC value within limits for Mo 202.031 Recovery = 95.25%						
Na 589.592 Radial†	672.8	353.92 µg/L	88.209	353.92 ppb	88.209	24.92%
Ni 231.604†	168820.1	9190.2 µg/L	709.53	9190.2 ppb	709.53	7.72%
QC value within limits for Ni 231.604 Recovery = 91.90%						
P 214.914†	8200.8	12254 µg/L	1197.1	12254 ppb	1197.1	9.77%
QC value less than the lower limit for P 214.914 Recovery = 81.70%						
Pb 220.353†	93053.5	23703 µg/L	1487.4	23703 ppb	1487.4	6.28%
QC value within limits for Pb 220.353 Recovery = 94.81%						
S 181.975 Axial†	15670.2	49081 µg/L	3800.6	49081 ppb	3800.6	7.74%
QC value within limits for S 181.975 Axial Recovery = 98.16%						
Sb 206.836†	11670.6	9665.3 µg/L	813.22	9665.3 ppb	813.22	8.41%
QC value within limits for Sb 206.836 Recovery = 96.65%						
Se 196.026†	10121.9	9337.1 µg/L	743.90	9337.1 ppb	743.90	7.97%
QC value within limits for Se 196.026 Recovery = 93.37%						
SiO2†	530138.4	93950 µg/L	5293.6	93950 ppb	5293.6	5.63%
QC value less than the lower limit for SiO2 Recovery = 87.80%						
Si 251.611†	650015.8	43759 µg/L	2460.6	43759 ppb	2460.6	5.62%
QC value less than the lower limit for Si 251.611 Recovery = 87.52%						
Sn 189.927†	25056.2	9459.5 µg/L	984.40	9459.5 ppb	984.40	10.41%
QC value within limits for Sn 189.927 Recovery = 94.59%						
Sr 421.552†	1568544.4	9615.8 µg/L	61.00	9615.8 ppb	61.00	0.63%
QC value within limits for Sr 421.552 Recovery = 96.16%						
Ti 334.940†	4062032.6	9465.6 µg/L	501.59	9465.6 ppb	501.59	5.30%
QC value within limits for Ti 334.940 Recovery = 94.66%						
Tl 190.801†	9594.8	9292.3 µg/L	565.01	9292.3 ppb	565.01	6.08%
QC value within limits for Tl 190.801 Recovery = 92.92%						
U 409.014†	-2092.1	-183.41 µg/L	14.886	-183.41 ppb	14.886	8.12%
V 292.402†	886334.5	9545.1 µg/L	751.87	9545.1 ppb	751.87	7.88%
QC value within limits for V 292.402 Recovery = 95.45%						
Zn 213.857†	615800.2	13722 µg/L	1017.8	13722 ppb	1017.8	7.42%
QC value within limits for Zn 213.857 Recovery = 91.48%						
QC Failed. Continue with analysis.						

Sequence No.: 13

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/19/2010 06:53:00

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	91396.9	91396.9	104 %		06:53:33
1	Al 396.153Radial†	10284.2	9660.7	4777.5 µg/L	4777.5 ppb	06:53:33
1	Ca 317.933Radial†	13880.0	12971.6	4877.2 µg/L	4877.2 ppb	06:53:33
1	Fe 238.204 Radial†	408.1	378.4	4855.1 µg/L	4855.1 ppb	06:53:53
1	K 766.490 Radial†	11823.2	11144.5	5324.3 µg/L	5324.3 ppb	06:53:33
1	Mg 279.077 IEC†	382.8	360.7	4938.0 µg/L	4938.0 ppb	06:53:53
1	Na 589.592 Radial†	19657.7	18696.8	9835.7 µg/L	9835.7 ppb	06:53:33
1	Sr 421.552†	82471.6	78965.4	484.09 µg/L	484.09 ppb	06:53:33
1	Sc 361.383	2025275.8	2025275.8	102.02 %		06:54:57
1	Y 371.029	1380350.4	1380350.4	101.66 %		06:54:57
1	Ag 328.068†	64939.5	63056.2	492.77 µg/L	492.77 ppb	06:55:02
1	As 188.979†	365.0	358.3	510.77 µg/L	510.77 ppb	06:55:23
1	B 249.677†	11653.5	11024.4	492.47 µg/L	492.47 ppb	06:55:02
1	Ba 233.527†	23558.6	23087.3	493.76 µg/L	493.76 ppb	06:55:02
1	Be 313.107†	871732.5	855362.2	492.65 µg/L	492.65 ppb	06:54:57
1	Cd 226.502†	21476.5	21215.2	496.41 µg/L	496.41 ppb	06:55:02
1	Co 228.616†	12135.0	11845.0	495.47 µg/L	495.47 ppb	06:55:02
1	Cr 267.716†	24043.2	23481.8	499.33 µg/L	499.33 ppb	06:55:02
1	Cu 324.752†	83855.4	77905.4	498.08 µg/L	498.08 ppb	06:55:02
1	Mn 257.610†	171088.9	167974.3	498.58 µg/L	498.58 ppb	06:54:57
1	Mo 202.031†	5576.9	5441.0	525.50 µg/L	525.50 ppb	06:55:23
1	Ni 231.604†	9675.6	9115.4	496.27 µg/L	496.27 ppb	06:55:02
1	P 214.914†	1514.3	1468.9	2482.5 µg/L	2482.5 ppb	06:55:23
1	Pb 220.353†	2052.9	1972.6	503.17 µg/L	503.17 ppb	06:55:23
1	S 181.975 Axial†	356.5	326.0	1021.2 µg/L	1021.2 ppb	06:55:23
1	Sb 206.836†	661.3	621.8	523.28 µg/L	523.28 ppb	06:55:23
1	Se 196.026†	586.1	549.9	518.58 µg/L	518.58 ppb	06:55:23
1	SiO2†	33103.0	29449.8	5219.1 µg/L	5219.1 ppb	06:55:02
1	Si 251.611†	37702.8	36242.9	2439.9 µg/L	2439.9 ppb	06:55:02
1	Sn 189.927†	1391.1	1362.0	514.68 µg/L	514.68 ppb	06:55:23
1	Ti 334.940†	219862.5	210613.3	490.47 µg/L	490.47 ppb	06:54:57
1	Tl 190.801†	493.5	517.9	502.09 µg/L	502.09 ppb	06:55:23
1	U 409.014†	5688.6	5592.5	489.31 µg/L	489.31 ppb	06:55:02
1	V 292.402†	47253.1	46478.4	499.93 µg/L	499.93 ppb	06:55:02
1	Zn 213.857†	23725.9	22342.3	496.93 µg/L	496.93 ppb	06:55:02
2	Sc RADIAL	90837.8	90837.8	104 %		06:53:59
2	Al 396.153Radial†	10228.0	9667.2	4780.8 µg/L	4780.8 ppb	06:53:59
2	Ca 317.933Radial†	13807.7	12983.8	4881.8 µg/L	4881.8 ppb	06:53:59
2	Fe 238.204 Radial†	409.3	381.9	4900.4 µg/L	4900.4 ppb	06:54:19
2	K 766.490 Radial†	11648.2	11045.4	5277.0 µg/L	5277.0 ppb	06:53:59
2	Mg 279.077 IEC†	381.3	361.5	4948.8 µg/L	4948.8 ppb	06:54:19
2	Na 589.592 Radial†	19561.8	18720.3	9848.1 µg/L	9848.1 ppb	06:53:59
2	Sr 421.552†	82124.6	79117.4	485.02 µg/L	485.02 ppb	06:53:59
2	Sc 361.383	2027871.1	2027871.1	102.15 %		06:55:30
2	Y 371.029	1382650.1	1382650.1	101.83 %		06:55:30
2	Ag 328.068†	65111.3	63142.9	493.46 µg/L	493.46 ppb	06:55:36
2	As 188.979†	359.0	352.0	501.76 µg/L	501.76 ppb	06:55:56
2	B 249.677†	11619.3	10976.4	490.29 µg/L	490.29 ppb	06:55:36
2	Ba 233.527†	23595.2	23093.6	493.89 µg/L	493.89 ppb	06:55:36
2	Be 313.107†	874501.1	856978.9	493.59 µg/L	493.59 ppb	06:55:30
2	Cd 226.502†	21480.7	21192.4	495.87 µg/L	495.87 ppb	06:55:36
2	Co 228.616†	12161.2	11855.4	495.90 µg/L	495.90 ppb	06:55:36
2	Cr 267.716†	24086.9	23494.4	499.60 µg/L	499.60 ppb	06:55:36
2	Cu 324.752†	83897.2	77841.1	497.68 µg/L	497.68 ppb	06:55:36
2	Mn 257.610†	171772.0	168428.4	499.93 µg/L	499.93 ppb	06:55:30
2	Mo 202.031†	5524.3	5382.5	519.86 µg/L	519.86 ppb	06:55:56
2	Ni 231.604†	9724.7	9151.3	498.23 µg/L	498.23 ppb	06:55:36
2	P 214.914†	1505.5	1458.5	2464.4 µg/L	2464.4 ppb	06:55:56
2	Pb 220.353†	2051.9	1969.1	502.24 µg/L	502.24 ppb	06:55:56

2	S 181.975 Axial†	355.2	324.3	1015.9 µg/L	1015.9 ppb	06:55:56
2	Sb 206.836†	661.1	620.7	522.28 µg/L	522.28 ppb	06:55:56
2	Se 196.026†	584.2	547.4	516.37 µg/L	516.37 ppb	06:55:56
2	SiO2†	33158.7	29462.7	5221.3 µg/L	5221.3 ppb	06:55:36
2	Si 251.611†	37910.1	36398.5	2450.3 µg/L	2450.3 ppb	06:55:36
2	Sn 189.927†	1376.1	1345.5	508.46 µg/L	508.46 ppb	06:55:56
2	Ti 334.940†	220401.4	210865.0	491.06 µg/L	491.06 ppb	06:55:30
2	Tl 190.801†	495.0	518.8	502.90 µg/L	502.90 ppb	06:55:56
2	U 409.014†	5766.4	5661.5	495.35 µg/L	495.35 ppb	06:55:36
2	V 292.402†	47440.9	46602.9	501.22 µg/L	501.22 ppb	06:55:36
2	Zn 213.857†	23797.1	22382.3	497.81 µg/L	497.81 ppb	06:55:36
3	Sc RADIAL	91828.2	91828.2	105 %		06:54:24
3	Al 396.153Radial†	10316.1	9644.8	4771.5 µg/L	4771.5 ppb	06:54:24
3	Ca 317.933Radial†	13888.1	12916.8	4856.6 µg/L	4856.6 ppb	06:54:24
3	Fe 238.204 Radial†	409.3	377.7	4845.5 µg/L	4845.5 ppb	06:54:45
3	K 766.490 Radial†	11494.7	10777.6	5149.1 µg/L	5149.1 ppb	06:54:24
3	Mg 279.077 IEC†	383.6	359.7	4922.8 µg/L	4922.8 ppb	06:54:45
3	Na 589.592 Radial†	19692.8	18641.7	9806.8 µg/L	9806.8 ppb	06:54:24
3	Sr 421.552†	83005.7	79103.8	484.94 µg/L	484.94 ppb	06:54:24
3	Sc 361.383	2030258.8	2030258.8	102.27 %		06:56:03
3	Y 371.029	1384244.6	1384244.6	101.94 %		06:56:03
3	Ag 328.068†	61607.7	59642.1	465.95 µg/L	465.95 ppb	06:56:09
3	As 188.979†	306.1	299.9	427.29 µg/L	427.29 ppb	06:56:29
3	B 249.677†	10893.7	10253.5	457.82 µg/L	457.82 ppb	06:56:09
3	Ba 233.527†	21552.8	21069.4	450.59 µg/L	450.59 ppb	06:56:09
3	Be 313.107†	810617.7	793508.4	457.03 µg/L	457.03 ppb	06:56:03
3	Cd 226.502†	19543.9	19273.9	450.93 µg/L	450.93 ppb	06:56:09
3	Co 228.616†	10972.4	10679.1	446.64 µg/L	446.64 ppb	06:56:09
3	Cr 267.716†	21119.8	20565.5	437.32 µg/L	437.32 ppb	06:56:09
3	Cu 324.752†	76312.0	70327.9	449.72 µg/L	449.72 ppb	06:56:09
3	Mn 257.610†	159719.8	156446.3	464.36 µg/L	464.36 ppb	06:56:03
3	Mo 202.031†	4587.0	4459.7	430.76 µg/L	430.76 ppb	06:56:29
3	Ni 231.604†	8759.7	8196.6	446.26 µg/L	446.26 ppb	06:56:09
3	P 214.914†	1273.1	1229.5	2073.8 µg/L	2073.8 ppb	06:56:29
3	Pb 220.353†	1773.7	1694.7	432.22 µg/L	432.22 ppb	06:56:29
3	S 181.975 Axial†	303.2	273.1	855.30 µg/L	855.30 ppb	06:56:29
3	Sb 206.836†	571.0	531.8	447.15 µg/L	447.15 ppb	06:56:29
3	Se 196.026†	503.0	467.2	442.31 µg/L	442.31 ppb	06:56:29
3	SiO2†	30981.7	27296.0	4837.4 µg/L	4837.4 ppb	06:56:09
3	Si 251.611†	35133.1	33639.6	2264.6 µg/L	2264.6 ppb	06:56:09
3	Sn 189.927†	1129.6	1102.9	416.87 µg/L	416.87 ppb	06:56:29
3	Ti 334.940†	203211.8	193803.6	451.30 µg/L	451.30 ppb	06:56:03
3	Tl 190.801†	445.0	469.4	455.11 µg/L	455.11 ppb	06:56:29
3	U 409.014†	5061.7	4965.9	434.38 µg/L	434.38 ppb	06:56:09
3	V 292.402†	42463.8	41681.9	448.02 µg/L	448.02 ppb	06:56:09
3	Zn 213.857†	21548.1	20155.9	448.26 µg/L	448.26 ppb	06:56:09

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2027801.9	102.15 %	0.126			0.12%
Sc RADIAL	91354.3	104 %	0.6			0.54%
Y 371.029	1382415.1	101.81 %	0.144			0.14%
Ag 328.068†	61947.1	484.06 µg/L	15.686	484.06 ppb	15.686	3.24%
QC value within limits for Ag 328.068 Recovery = 96.81%						
Al 396.153Radial†	9657.5	4776.6 µg/L	4.70	4776.6 ppb	4.70	0.10%
QC value within limits for Al 396.153Radial Recovery = 95.53%						
As 188.979†	336.8	479.94 µg/L	45.814	479.94 ppb	45.814	9.55%
QC value within limits for As 188.979 Recovery = 95.99%						
B 249.677†	10751.4	480.19 µg/L	19.410	480.19 ppb	19.410	4.04%
QC value within limits for B 249.677 Recovery = 96.04%						
Ba 233.527†	22416.8	479.41 µg/L	24.963	479.41 ppb	24.963	5.21%
QC value within limits for Ba 233.527 Recovery = 95.88%						
Be 313.107†	835283.1	481.09 µg/L	20.842	481.09 ppb	20.842	4.33%
QC value within limits for Be 313.107 Recovery = 96.22%						
Ca 317.933Radial†	12957.4	4871.9 µg/L	13.41	4871.9 ppb	13.41	0.28%
QC value within limits for Ca 317.933Radial Recovery = 97.44%						
Cd 226.502†	20560.5	481.07 µg/L	26.103	481.07 ppb	26.103	5.43%
QC value within limits for Cd 226.502 Recovery = 96.21%						
Co 228.616†	11459.9	479.34 µg/L	28.315	479.34 ppb	28.315	5.91%

QC value within limits for Co 228.616 Recovery = 95.87%							
Cr 267.716†	22513.9	478.75 µg/L	35.878	478.75 ppb	35.878	7.49%	
QC value within limits for Cr 267.716 Recovery = 95.75%							
Cu 324.752†	75358.2	481.83 µg/L	27.805	481.83 ppb	27.805	5.77%	
QC value within limits for Cu 324.752 Recovery = 96.37%							
Fe 238.204 Radial†	379.4	4867.0 µg/L	29.30	4867.0 ppb	29.30	0.60%	
QC value within limits for Fe 238.204 Radial Recovery = 97.34%							
K 766.490 Radial†	10989.1	5250.1 µg/L	90.68	5250.1 ppb	90.68	1.73%	
QC value within limits for K 766.490 Radial Recovery = 105.00%							
Mg 279.077 IEC†	360.7	4936.5 µg/L	13.08	4936.5 ppb	13.08	0.26%	
QC value within limits for Mg 279.077 IEC Recovery = 98.73%							
Mn 257.610†	164283.0	487.62 µg/L	20.158	487.62 ppb	20.158	4.13%	
QC value within limits for Mn 257.610 Recovery = 97.52%							
Mo 202.031†	5094.4	492.04 µg/L	53.145	492.04 ppb	53.145	10.80%	
QC value within limits for Mo 202.031 Recovery = 98.41%							
Na 589.592 Radial†	18686.3	9830.2 µg/L	21.21	9830.2 ppb	21.21	0.22%	
QC value within limits for Na 589.592 Radial Recovery = 98.30%							
Ni 231.604†	8821.1	480.25 µg/L	29.459	480.25 ppb	29.459	6.13%	
QC value within limits for Ni 231.604 Recovery = 96.05%							
P 214.914†	1385.6	2340.2 µg/L	230.90	2340.2 ppb	230.90	9.87%	
QC value within limits for P 214.914 Recovery = 93.61%							
Pb 220.353†	1878.8	479.21 µg/L	40.696	479.21 ppb	40.696	8.49%	
QC value within limits for Pb 220.353 Recovery = 95.84%							
S 181.975 Axial†	307.8	964.12 µg/L	94.279	964.12 ppb	94.279	9.78%	
QC value within limits for S 181.975 Axial Recovery = 96.41%							
Sb 206.836†	591.4	497.57 µg/L	43.667	497.57 ppb	43.667	8.78%	
QC value within limits for Sb 206.836 Recovery = 99.51%							
Se 196.026†	521.5	492.42 µg/L	43.410	492.42 ppb	43.410	8.82%	
QC value within limits for Se 196.026 Recovery = 98.48%							
SiO2†	28736.2	5092.6 µg/L	221.04	5092.6 ppb	221.04	4.34%	
QC value within limits for SiO2 Recovery = 95.23%							
Si 251.611†	35427.0	2384.9 µg/L	104.34	2384.9 ppb	104.34	4.37%	
QC value within limits for Si 251.611 Recovery = 95.40%							
Sn 189.927†	1270.1	480.00 µg/L	54.765	480.00 ppb	54.765	11.41%	
QC value within limits for Sn 189.927 Recovery = 96.00%							
Sr 421.552†	79062.2	484.68 µg/L	0.516	484.68 ppb	0.516	0.11%	
QC value within limits for Sr 421.552 Recovery = 96.94%							
Ti 334.940†	205094.0	477.61 µg/L	22.786	477.61 ppb	22.786	4.77%	
QC value within limits for Ti 334.940 Recovery = 95.52%							
Tl 190.801†	502.0	486.70 µg/L	27.361	486.70 ppb	27.361	5.62%	
QC value within limits for Tl 190.801 Recovery = 97.34%							
U 409.014†	5406.7	473.01 µg/L	33.596	473.01 ppb	33.596	7.10%	
QC value within limits for U 409.014 Recovery = 94.60%							
V 292.402†	44921.1	483.06 µg/L	30.352	483.06 ppb	30.352	6.28%	
QC value within limits for V 292.402 Recovery = 96.61%							
Zn 213.857†	21626.9	481.00 µg/L	28.360	481.00 ppb	28.360	5.90%	
QC value within limits for Zn 213.857 Recovery = 96.20%							

All analyte(s) passed QC.

Sequence No.: 14

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/19/2010 06:56:39

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	89306.9	89306.9	102 %		06:57:10
1	Al 396.153Radial†	180.6	-28.7	-14.240 µg/L	-14.240 ppb	06:57:10
1	Ca 317.933Radial†	343.2	-8.0	-3.0005 µg/L	-3.0005 ppb	06:57:30
1	Fe 238.204 Radial†	14.1	0.7	8.9287 µg/L	8.9287 ppb	06:57:30
1	K 766.490 Radial†	455.4	248.4	118.65 µg/L	118.65 ppb	06:57:10
1	Mg 279.077 IEC†	9.8	3.1	42.870 µg/L	42.870 ppb	06:57:30
1	Na 589.592 Radial†	268.6	100.8	53.019 µg/L	53.019 ppb	06:57:10
1	Sr 421.552†	194.2	32.5	0.1995 µg/L	0.1995 ppb	06:57:10
1	Sc 361.383	2022663.4	2022663.4	101.89 %		06:58:33
1	Y 371.029	1382169.0	1382169.0	101.79 %		06:58:33
1	Ag 328.068†	546.5	-60.1	-0.4641 µg/L	-0.4641 ppb	06:58:38
1	As 188.979†	-3.6	-2.9	-4.2031 µg/L	-4.2031 ppb	06:58:59
1	B 249.677†	473.5	66.5	2.9785 µg/L	2.9785 ppb	06:58:59
1	Ba 233.527†	8.5	3.9	0.0835 µg/L	0.0835 ppb	06:58:59
1	Be 313.107†	-1210.9	-283.9	-0.1590 µg/L	-0.1590 ppb	06:58:38
1	Cd 226.502†	-170.9	-3.4	-0.0820 µg/L	-0.0820 ppb	06:58:59
1	Co 228.616†	41.8	-8.4	-0.3274 µg/L	-0.3274 ppb	06:58:59
1	Cr 267.716†	97.7	10.9	0.2320 µg/L	0.2320 ppb	06:58:59
1	Cu 324.752†	4751.1	374.7	2.3927 µg/L	2.3927 ppb	06:58:38
1	Mn 257.610†	-663.3	-375.1	-1.1159 µg/L	-1.1159 ppb	06:58:59
1	Mo 202.031†	40.5	14.4	1.3863 µg/L	1.3863 ppb	06:58:59
1	Ni 231.604†	351.1	-23.9	-1.2997 µg/L	-1.2997 ppb	06:58:59
1	P 214.914†	11.0	-4.6	-8.0807 µg/L	-8.0807 ppb	06:58:59
1	Pb 220.353†	46.6	6.2	1.5728 µg/L	1.5728 ppb	06:58:59
1	S 181.975 Axial†	24.8	0.9	2.8149 µg/L	2.8149 ppb	06:58:59
1	Sb 206.836†	36.0	8.8	7.4207 µg/L	7.4207 ppb	06:58:59
1	Se 196.026†	21.3	-3.6	-3.3693 µg/L	-3.3693 ppb	06:58:59
1	SiO2†	2761.1	-287.4	-50.925 µg/L	-50.925 ppb	06:58:59
1	Si 251.611†	478.8	-242.8	-16.347 µg/L	-16.347 ppb	06:58:59
1	Sn 189.927†	9.2	7.5	2.8135 µg/L	2.8135 ppb	06:58:59
1	Ti 334.940†	-231.9	-5119.9	-11.934 µg/L	-11.934 ppb	06:58:38
1	Tl 190.801†	-34.4	0.5	0.3501 µg/L	0.3501 ppb	06:58:59
1	U 409.014†	-17.2	-0.2	-0.0187 µg/L	-0.0187 ppb	06:58:38
1	V 292.402†	-140.5	23.8	0.2647 µg/L	0.2647 ppb	06:58:38
1	Zn 213.857†	952.6	21.6	0.4826 µg/L	0.4826 ppb	06:58:59
2	Sc RADIAL	89177.1	89177.1	102 %		06:57:36
2	Al 396.153Radial†	186.8	-22.4	-11.123 µg/L	-11.123 ppb	06:57:36
2	Ca 317.933Radial†	343.2	-7.5	-2.8196 µg/L	-2.8196 ppb	06:57:57
2	Fe 238.204 Radial†	13.1	-0.3	-3.2753 µg/L	-3.2753 ppb	06:57:57
2	K 766.490 Radial†	443.3	237.2	113.31 µg/L	113.31 ppb	06:57:36
2	Mg 279.077 IEC†	7.2	0.5	7.1507 µg/L	7.1507 ppb	06:57:57
2	Na 589.592 Radial†	272.9	105.4	55.450 µg/L	55.450 ppb	06:57:36
2	Sr 421.552†	145.2	-15.4	-0.0941 µg/L	-0.0941 ppb	06:57:36
2	Sc 361.383	2024562.0	2024562.0	101.99 %		06:59:05
2	Y 371.029	1383116.4	1383116.4	101.86 %		06:59:05
2	Ag 328.068†	554.5	-52.8	-0.4079 µg/L	-0.4079 ppb	06:59:10
2	As 188.979†	0.2	0.8	1.1335 µg/L	1.1335 ppb	06:59:31
2	B 249.677†	463.3	56.1	2.5176 µg/L	2.5176 ppb	06:59:31
2	Ba 233.527†	-9.8	-14.1	-0.3005 µg/L	-0.3005 ppb	06:59:31
2	Be 313.107†	-1254.5	-325.5	-0.1830 µg/L	-0.1830 ppb	06:59:10
2	Cd 226.502†	-167.9	-0.3	-0.0082 µg/L	-0.0082 ppb	06:59:31
2	Co 228.616†	51.0	0.5	0.0471 µg/L	0.0471 ppb	06:59:31
2	Cr 267.716†	83.9	-2.7	-0.0564 µg/L	-0.0564 ppb	06:59:31
2	Cu 324.752†	4768.3	387.2	2.4702 µg/L	2.4702 ppb	06:59:10
2	Mn 257.610†	-676.0	-387.0	-1.1493 µg/L	-1.1493 ppb	06:59:31
2	Mo 202.031†	45.3	19.0	1.8306 µg/L	1.8306 ppb	06:59:31
2	Ni 231.604†	364.0	-11.5	-0.6267 µg/L	-0.6267 ppb	06:59:31
2	P 214.914†	21.7	5.9	9.9966 µg/L	9.9966 ppb	06:59:31
2	Pb 220.353†	36.9	-3.4	-0.8582 µg/L	-0.8582 ppb	06:59:31

2	S 181.975 Axial†	27.9	3.9	12.302 µg/L	12.302 ppb	06:59:31
2	Sb 206.836†	34.8	7.7	6.4370 µg/L	6.4370 ppb	06:59:31
2	Se 196.026†	22.3	-2.7	-2.5334 µg/L	-2.5334 ppb	06:59:31
2	SiO2†	2740.3	-310.3	-54.991 µg/L	-54.991 ppb	06:59:31
2	Si 251.611†	485.1	-237.1	-15.959 µg/L	-15.959 ppb	06:59:31
2	Sn 189.927†	10.9	9.1	3.4437 µg/L	3.4437 ppb	06:59:31
2	Ti 334.940†	-209.9	-5098.0	-11.880 µg/L	-11.880 ppb	06:59:10
2	Tl 190.801†	-34.6	0.4	0.2324 µg/L	0.2324 ppb	06:59:31
2	U 409.014†	17.8	34.1	2.9910 µg/L	2.9910 ppb	06:59:10
2	V 292.402†	-140.0	24.4	0.2765 µg/L	0.2765 ppb	06:59:10
2	Zn 213.857†	954.8	22.8	0.5099 µg/L	0.5099 ppb	06:59:31
3	Sc RADIAL	89288.7	89288.7	102 %		06:58:02
3	Al 396.153Radial†	199.7	-10.0	-4.9723 µg/L	-4.9723 ppb	06:58:02
3	Ca 317.933Radial†	340.8	-10.2	-3.8437 µg/L	-3.8437 ppb	06:58:23
3	Fe 238.204 Radial†	13.0	-0.4	-4.6705 µg/L	-4.6705 ppb	06:58:23
3	K 766.490 Radial†	463.3	256.3	122.44 µg/L	122.44 ppb	06:58:02
3	Mg 279.077 IEC†	9.0	2.3	32.121 µg/L	32.121 ppb	06:58:23
3	Na 589.592 Radial†	274.6	106.8	56.159 µg/L	56.159 ppb	06:58:02
3	Sr 421.552†	158.3	-2.7	-0.0167 µg/L	-0.0167 ppb	06:58:02
3	Sc 361.383	2004694.7	2004694.7	100.98 %		06:59:37
3	Y 371.029	1369114.0	1369114.0	100.83 %		06:59:37
3	Ag 328.068†	600.1	-2.2	-0.0162 µg/L	-0.0162 ppb	06:59:43
3	As 188.979†	-1.4	-0.7	-1.0653 µg/L	-1.0653 ppb	07:00:03
3	B 249.677†	443.2	40.8	1.8306 µg/L	1.8306 ppb	07:00:03
3	Ba 233.527†	-7.6	-11.9	-0.2545 µg/L	-0.2545 ppb	07:00:03
3	Be 313.107†	-1154.4	-238.7	-0.1329 µg/L	-0.1329 ppb	06:59:43
3	Cd 226.502†	-163.1	2.8	0.0659 µg/L	0.0659 ppb	07:00:03
3	Co 228.616†	40.5	-9.3	-0.3645 µg/L	-0.3645 ppb	07:00:03
3	Cr 267.716†	94.3	8.4	0.1781 µg/L	0.1781 ppb	07:00:03
3	Cu 324.752†	4778.9	444.1	2.8330 µg/L	2.8330 ppb	06:59:43
3	Mn 257.610†	-668.4	-386.0	-1.1484 µg/L	-1.1484 ppb	07:00:03
3	Mo 202.031†	43.5	17.6	1.6993 µg/L	1.6993 ppb	07:00:03
3	Ni 231.604†	363.4	-8.6	-0.4664 µg/L	-0.4664 ppb	07:00:03
3	P 214.914†	14.5	-1.0	-1.9779 µg/L	-1.9779 ppb	07:00:03
3	Pb 220.353†	50.2	10.2	2.5881 µg/L	2.5881 ppb	07:00:03
3	S 181.975 Axial†	24.1	0.5	1.4340 µg/L	1.4340 ppb	07:00:03
3	Sb 206.836†	33.3	6.5	5.4900 µg/L	5.4900 ppb	07:00:03
3	Se 196.026†	31.3	6.4	5.8954 µg/L	5.8954 ppb	07:00:03
3	SiO2†	2753.8	-270.3	-47.909 µg/L	-47.909 ppb	07:00:03
3	Si 251.611†	472.8	-244.6	-16.466 µg/L	-16.466 ppb	07:00:03
3	Sn 189.927†	6.7	5.1	1.9345 µg/L	1.9345 ppb	07:00:03
3	Ti 334.940†	-326.7	-5215.8	-12.157 µg/L	-12.157 ppb	06:59:43
3	Tl 190.801†	-36.3	-1.7	-1.6980 µg/L	-1.6980 ppb	07:00:03
3	U 409.014†	-15.6	1.2	0.1086 µg/L	0.1086 ppb	06:59:43
3	V 292.402†	-146.7	16.5	0.1884 µg/L	0.1884 ppb	06:59:43
3	Zn 213.857†	972.7	49.8	1.1118 µg/L	1.1118 ppb	07:00:03

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2017306.7	101.62 %	0.552			0.54%
Sc RADIAL	89257.6	102 %	0.1			0.08%
Y 371.029	1378133.1	101.49 %	0.576			0.57%
Ag 328.068†	-38.4	-0.2960 µg/L	0.24398	-0.2960 ppb	0.24398	82.41%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-20.3	-10.112 µg/L	4.7157	-10.112 ppb	4.7157	46.64%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-1.0	-1.3783 µg/L	2.68203	-1.3783 ppb	2.68203	194.59%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	54.5	2.4422 µg/L	0.57765	2.4422 ppb	0.57765	23.65%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-7.4	-0.1572 µg/L	0.20969	-0.1572 ppb	0.20969	133.42%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-282.7	-0.1583 µg/L	0.02509	-0.1583 ppb	0.02509	15.85%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-8.6	-3.2213 µg/L	0.54656	-3.2213 ppb	0.54656	16.97%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	-0.3	-0.0081 µg/L	0.07397	-0.0081 ppb	0.07397	912.30%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-5.8	-0.2149 µg/L	0.22771	-0.2149 ppb	0.22771	105.94%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	5.5	0.1179 µg/L	0.15334	0.1179 ppb	0.15334	130.02%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	402.0	2.5653 µg/L	0.23507	2.5653 ppb	0.23507	9.16%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.0	0.3276 µg/L	7.48131	0.3276 ppb	7.48131	>999.9%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	247.3	118.13 µg/L	4.589	118.13 ppb	4.589	3.88%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	2.0	27.381 µg/L	18.3254	27.381 ppb	18.3254	66.93%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-382.7	-1.1379 µg/L	0.01902	-1.1379 ppb	0.01902	1.67%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	17.0	1.6387 µg/L	0.22823	1.6387 ppb	0.22823	13.93%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	104.3	54.876 µg/L	1.6467	54.876 ppb	1.6467	3.00%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-14.6	-0.7976 µg/L	0.44217	-0.7976 ppb	0.44217	55.44%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	0.1	-0.0207 µg/L	9.19624	-0.0207 ppb	9.19624	>999.9%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	4.3	1.1009 µg/L	1.77097	1.1009 ppb	1.77097	160.87%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	1.8	5.5169 µg/L	5.91639	5.5169 ppb	5.91639	107.24%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	7.7	6.4492 µg/L	0.96542	6.4492 ppb	0.96542	14.97%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	0.0	-0.0024 µg/L	5.12476	-0.0024 ppb	5.12476	>999.9%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-289.3	-51.275 µg/L	3.5535	-51.275 ppb	3.5535	6.93%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-241.5	-16.257 µg/L	0.2653	-16.257 ppb	0.2653	1.63%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	7.2	2.7306 µg/L	0.75803	2.7306 ppb	0.75803	27.76%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	4.8	0.0295 µg/L	0.15217	0.0295 ppb	0.15217	515.16%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-5144.6	-11.990 µg/L	0.1466	-11.990 ppb	0.1466	1.22%	
QC value less than the lower limit for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-0.3	-0.3718 µg/L	1.14997	-0.3718 ppb	1.14997	309.27%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	11.7	1.0269 µg/L	1.70206	1.0269 ppb	1.70206	165.74%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	21.6	0.2432 µg/L	0.04783	0.2432 ppb	0.04783	19.67%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	31.4	0.7014 µg/L	0.35567	0.7014 ppb	0.35567	50.71%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
QC Failed. Continue with analysis.							

=====
Analysis Begun

Start Time: 3/19/2010 07:05:22

Plasma On Time: 00:00:00

Logged In Analyst: optima

Technique: ICP Continuous

Spectrometer Model: Optima 4300 DV, S/N 077N1030502 Autosampler Model: AS-93plus

Sample Information File: C:\pe\optimal\Sample Information\031910.sif

Batch ID:

Results Data Set: 031910D

Results Library: c:\pe\optimal\Results\Results.mdb
=====

Method Loaded

Method Name: Gen Eng fast_new Si

Method Last Saved: 3/17/2010 23:02:24

IEC File: 011510.iec

MSF File:

Method Description:

Analyte	Calibration Equation	Processing	View	Internal Standard	IEC
Ag 328.068	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Al 396.153Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
As 188.979	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
B 249.677	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ba 233.527	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Be 313.107	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Ca 317.933Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Cd 226.502	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Co 228.616	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cr 267.716	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Cu 324.752	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Fe 238.204 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
K 766.490 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Mg 279.077 IEC	Lin Thru 0	Peak Area	Radial	Sc RADIAL	Yes
Mn 257.610	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Mo 202.031	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Na 589.592 Radial	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ni 231.604	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
P 214.914	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Pb 220.353	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
S 181.975 Axial	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sb 206.836	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sc 361.383	Lin Thru 0	Peak Area	Axial	n/a	n/a
Sc RADIAL	Lin, Calc Int	Peak Area	Radial	n/a	n/a
Se 196.026	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
SiO2	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Si 251.611	Lin Thru 0	Peak Area	Axial	Sc 361.383	No
Sn 189.927	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Sr 421.552	Lin Thru 0	Peak Area	Radial	Sc RADIAL	No
Ti 334.940	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Tl 190.801	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
U 409.014	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
V 292.402	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes
Y 371.029	Lin, Calc Int	Peak Area	Axial	n/a	n/a
Zn 213.857	Lin Thru 0	Peak Area	Axial	Sc 361.383	Yes

Sequence No.: 1

Autosampler Location: 113

Sample ID: LR1

Date Collected: 3/19/2010 07:05:22

Analyst: HSC

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Replicate Data: LR1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	91158.4	91158.4	104 %		07:05:59
1	Al 396.153Radial†	193.0	-20.4	-9.7380 µg/L	-9.7380 ppb	07:05:59
1	Ca 317.933Radial†	492.5	128.8	48.444 µg/L	48.444 ppb	07:06:19
1	Fe 238.204 Radial†	30851.9	29663.8	379770 µg/L	379770 ppb	07:05:59

1	K 766.490 Radial†	-25.2	-223.0	-106.55 µg/L	-106.55 ppb	07:05:59
1	Mg 279.077 IEC†	11.6	4.6	-344.30 µg/L	-344.30 ppb	07:06:19
1	Na 589.592 Radial†	240.2	68.2	35.875 µg/L	35.875 ppb	07:05:59
1	Sr 421.552†	191.4	26.0	0.1593 µg/L	0.1593 ppb	07:05:59
1	Sc 361.383	2029312.0	2029312.0	102.23 %		07:07:22
1	Y 371.029	1379469.2	1379469.2	101.59 %		07:07:22
1	Ag 328.068†	-2432.8	-2976.3	6.0142 µg/L	6.0142 ppb	07:07:28
1	As 188.979†	-22.1	-21.0	-76.973 µg/L	-76.973 ppb	07:07:48
1	B 249.677†	2332.1	1883.2	-113.75 µg/L	-113.75 ppb	07:07:28
1	Ba 233.527†	557.9	541.3	11.527 µg/L	11.527 ppb	07:07:48
1	Be 313.107†	-1456.3	-520.1	-0.2949 µg/L	-0.2949 ppb	07:07:28
1	Cd 226.502†	1919.5	2042.1	4.8684 µg/L	4.8684 ppb	07:07:28
1	Co 228.616†	515.7	454.9	19.062 µg/L	19.062 ppb	07:07:48
1	Cr 267.716†	-183.7	-264.7	-5.6346 µg/L	-5.6346 ppb	07:07:48
1	Cu 324.752†	-1662.6	-5914.7	33.650 µg/L	33.650 ppb	07:07:28
1	Mn 257.610†	297.0	566.5	24.159 µg/L	24.159 ppb	07:07:22
1	Mo 202.031†	-153.8	-175.9	-2.5531 µg/L	-2.5531 ppb	07:07:28
1	Ni 231.604†	286.4	-88.3	0.1022 µg/L	0.1022 ppb	07:07:48
1	P 214.914†	242.1	221.5	77.156 µg/L	77.156 ppb	07:07:48
1	Pb 220.353†	35.7	-4.7	5.1249 µg/L	5.1249 ppb	07:07:48
1	S 181.975 Axial†	-15.1	-38.2	-119.71 µg/L	-119.71 ppb	07:07:48
1	Sb 206.836†	9.5	-17.1	-14.546 µg/L	-14.546 ppb	07:07:48
1	Se 196.026†	-304.4	-322.3	910.28 µg/L	910.28 ppb	07:07:48
1	SiO2†	2491.5	-560.0	-99.247 µg/L	-99.247 ppb	07:07:28
1	Si 251.611†	-145.9	-855.5	-57.592 µg/L	-57.592 ppb	07:07:28
1	Sn 189.927†	18.0	16.0	4.2491 µg/L	4.2491 ppb	07:07:48
1	Ti 334.940†	-533.7	-5414.3	-12.621 µg/L	-12.621 ppb	07:07:28
1	Tl 190.801†	-58.7	-23.2	31.298 µg/L	31.298 ppb	07:07:48
1	U 409.014†	888.4	885.7	24.857 µg/L	24.857 ppb	07:07:28
1	V 292.402†	-1649.9	-1452.3	-2.7431 µg/L	-2.7431 ppb	07:07:28
1	Zn 213.857†	2996.1	2017.5	27.229 µg/L	27.229 ppb	07:07:48
2	Sc RADIAL	90038.0	90038.0	103 %		07:06:25
2	Al 396.153Radial†	198.1	-13.1	-6.2018 µg/L	-6.2018 ppb	07:06:25
2	Ca 317.933Radial†	485.0	127.4	47.914 µg/L	47.914 ppb	07:06:45
2	Fe 238.204 Radial†	30812.7	29994.8	384010 µg/L	384010 ppb	07:06:25
2	K 766.490 Radial†	17.3	-181.9	-86.893 µg/L	-86.893 ppb	07:06:25
2	Mg 279.077 IEC†	9.4	2.7	-375.79 µg/L	-375.79 ppb	07:06:45
2	Na 589.592 Radial†	206.8	38.5	20.244 µg/L	20.244 ppb	07:06:25
2	Sr 421.552†	196.0	32.7	0.2007 µg/L	0.2007 ppb	07:06:25
2	Sc 361.383	2009072.2	2009072.2	101.21 %		07:07:55
2	Y 371.029	1361849.3	1361849.3	100.29 %		07:07:55
2	Ag 328.068†	-2374.6	-2942.8	6.5960 µg/L	6.5960 ppb	07:08:00
2	As 188.979†	-22.8	-21.9	-78.744 µg/L	-78.744 ppb	07:08:21
2	B 249.677†	2262.7	1837.7	-118.00 µg/L	-118.00 ppb	07:08:00
2	Ba 233.527†	541.7	530.8	11.302 µg/L	11.302 ppb	07:08:21
2	Be 313.107†	-1459.5	-537.6	-0.3049 µg/L	-0.3049 ppb	07:08:00
2	Cd 226.502†	1892.3	2034.1	4.2026 µg/L	4.2026 ppb	07:08:00
2	Co 228.616†	505.3	449.8	18.847 µg/L	18.847 ppb	07:08:21
2	Cr 267.716†	-155.6	-238.7	-5.0832 µg/L	-5.0832 ppb	07:08:21
2	Cu 324.752†	-1681.7	-5949.9	34.222 µg/L	34.222 ppb	07:08:00
2	Mn 257.610†	346.3	618.1	24.565 µg/L	24.565 ppb	07:07:55
2	Mo 202.031†	-134.1	-157.9	-0.6552 µg/L	-0.6552 ppb	07:08:00
2	Ni 231.604†	271.6	-100.1	-0.4853 µg/L	-0.4853 ppb	07:08:21
2	P 214.914†	224.9	206.9	48.630 µg/L	48.630 ppb	07:08:21
2	Pb 220.353†	52.6	12.4	9.5635 µg/L	9.5635 ppb	07:08:21
2	S 181.975 Axial†	-8.3	-31.6	-99.086 µg/L	-99.086 ppb	07:08:21
2	Sb 206.836†	7.4	-19.2	-16.229 µg/L	-16.229 ppb	07:08:21
2	Se 196.026†	-299.8	-320.8	925.17 µg/L	925.17 ppb	07:08:21
2	SiO2†	2466.7	-559.9	-99.229 µg/L	-99.229 ppb	07:08:00
2	Si 251.611†	-141.5	-852.6	-57.397 µg/L	-57.397 ppb	07:08:00
2	Sn 189.927†	9.6	8.0	1.1883 µg/L	1.1883 ppb	07:08:21
2	Ti 334.940†	-540.4	-5426.2	-12.647 µg/L	-12.647 ppb	07:08:00
2	Tl 190.801†	-60.6	-25.7	29.513 µg/L	29.513 ppb	07:08:21
2	U 409.014†	767.1	774.7	14.533 µg/L	14.533 ppb	07:08:00
2	V 292.402†	-1693.9	-1512.1	-3.2313 µg/L	-3.2313 ppb	07:08:00
2	Zn 213.857†	2973.8	2025.0	27.200 µg/L	27.200 ppb	07:08:21
3	Sc RADIAL	90225.0	90225.0	103 %		07:06:51
3	Al 396.153Radial†	157.8	-52.6	-25.818 µg/L	-25.818 ppb	07:06:51
3	Ca 317.933Radial†	495.6	136.8	51.421 µg/L	51.421 ppb	07:07:11
3	Fe 238.204 Radial†	30889.1	30006.9	384160 µg/L	384160 ppb	07:06:51
3	K 766.490 Radial†	63.5	-137.0	-65.462 µg/L	-65.462 ppb	07:06:51

3	Mg 279.077 IEC†	8.5	1.7	-389.10 µg/L	-389.10 ppb	07:07:11
3	Na 589.592 Radial†	185.3	17.2	9.0459 µg/L	9.0459 ppb	07:06:51
3	Sr 421.552†	165.8	3.0	0.0182 µg/L	0.0182 ppb	07:06:51
3	Sc 361.383	2027444.9	2027444.9	102.13 %		07:08:27
3	Y 371.029	1376643.3	1376643.3	101.38 %		07:08:27
3	Ag 328.068†	-2114.4	-2666.7	8.7610 µg/L	8.7610 ppb	07:08:33
3	As 188.979†	-20.8	-19.7	-75.650 µg/L	-75.650 ppb	07:08:53
3	B 249.677†	2167.2	1723.9	-123.18 µg/L	-123.18 ppb	07:08:33
3	Ba 233.527†	467.1	452.9	9.6427 µg/L	9.6427 ppb	07:08:53
3	Be 313.107†	-1482.6	-547.1	-0.3104 µg/L	-0.3104 ppb	07:08:33
3	Cd 226.502†	1787.3	1914.3	1.3824 µg/L	1.3824 ppb	07:08:33
3	Co 228.616†	469.3	410.0	17.185 µg/L	17.185 ppb	07:08:53
3	Cr 267.716†	-122.2	-204.6	-4.3580 µg/L	-4.3580 ppb	07:08:53
3	Cu 324.752†	-1342.3	-5602.6	36.468 µg/L	36.468 ppb	07:08:33
3	Mn 257.610†	280.5	550.5	24.375 µg/L	24.375 ppb	07:08:27
3	Mo 202.031†	-111.1	-134.2	1.6400 µg/L	1.6400 ppb	07:08:33
3	Ni 231.604†	286.8	-87.6	0.1978 µg/L	0.1978 ppb	07:08:53
3	P 214.914†	192.9	173.6	-9.1270 µg/L	-9.1270 ppb	07:08:53
3	Pb 220.353†	49.5	8.9	8.6701 µg/L	8.6701 ppb	07:08:53
3	S 181.975 Axial†	-10.0	-33.2	-104.04 µg/L	-104.04 ppb	07:08:53
3	Sb 206.836†	16.1	-10.7	-9.1175 µg/L	-9.1175 ppb	07:08:53
3	Se 196.026†	-256.3	-275.5	967.50 µg/L	967.50 ppb	07:08:53
3	SiO2†	2528.0	-522.0	-92.510 µg/L	-92.510 ppb	07:08:33
3	Si 251.611†	-142.3	-852.1	-57.362 µg/L	-57.362 ppb	07:08:33
3	Sn 189.927†	15.4	13.5	3.2689 µg/L	3.2689 ppb	07:08:53
3	Ti 334.940†	-563.4	-5443.9	-12.687 µg/L	-12.687 ppb	07:08:33
3	Tl 190.801†	-55.4	-19.9	35.017 µg/L	35.017 ppb	07:08:53
3	U 409.014†	737.7	739.0	11.387 µg/L	11.387 ppb	07:08:33
3	V 292.402†	-1544.7	-1350.8	-1.4955 µg/L	-1.4955 ppb	07:08:33
3	Zn 213.857†	2697.7	1728.1	20.536 µg/L	20.536 ppb	07:08:53

Mean Data: LR1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2021943.0	101.85 %	%	0.563			0.55%
Sc RADIAL	90473.8	103 %	%	0.7			0.66%
Y 371.029	1372653.9	101.09 %	%	0.697			0.69%
Ag 328.068†	-2861.9	7.1237 µg/L	µg/L	1.44742	7.1237 ppb	1.44742	20.32%
Al 396.153Radial†	-28.7	-13.919 µg/L	µg/L	10.4550	-13.919 ppb	10.4550	75.11%
As 188.979†	-20.9	-77.122 µg/L	µg/L	1.5523	-77.122 ppb	1.5523	2.01%
B 249.677†	1814.9	-118.31 µg/L	µg/L	4.723	-118.31 ppb	4.723	3.99%
Ba 233.527†	508.3	10.824 µg/L	µg/L	1.0293	10.824 ppb	1.0293	9.51%
Be 313.107†	-534.9	-0.3034 µg/L	µg/L	0.00788	-0.3034 ppb	0.00788	2.60%
Ca 317.933Radial†	131.0	49.260 µg/L	µg/L	1.8904	49.260 ppb	1.8904	3.84%
Cd 226.502†	1996.8	3.4844 µg/L	µg/L	1.85065	3.4844 ppb	1.85065	53.11%
Co 228.616†	438.2	18.365 µg/L	µg/L	1.0270	18.365 ppb	1.0270	5.59%
Cr 267.716†	-236.0	-5.0253 µg/L	µg/L	0.64026	-5.0253 ppb	0.64026	12.74%
Cu 324.752†	-5822.4	34.780 µg/L	µg/L	1.4892	34.780 ppb	1.4892	4.28%
Fe 238.204 Radial†	29888.5	382640 µg/L	µg/L	2492.8	382640 ppb	2492.8	0.65%
K 766.490 Radial†	-180.6	-86.302 µg/L	µg/L	20.5507	-86.302 ppb	20.5507	23.81%
Mg 279.077 IEC†	3.0	-369.73 µg/L	µg/L	23.008	-369.73 ppb	23.008	6.22%
Mn 257.610†	578.4	24.367 µg/L	µg/L	0.2031	24.367 ppb	0.2031	0.83%
Mo 202.031†	-156.0	-0.5228 µg/L	µg/L	2.09967	-0.5228 ppb	2.09967	401.62%
Na 589.592 Radial†	41.3	21.722 µg/L	µg/L	13.4756	21.722 ppb	13.4756	62.04%
Ni 231.604†	-92.0	-0.0618 µg/L	µg/L	0.36991	-0.0618 ppb	0.36991	598.87%
P 214.914†	200.7	38.886 µg/L	µg/L	43.9592	38.886 ppb	43.9592	113.04%
Pb 220.353†	5.5	7.7861 µg/L	µg/L	2.34761	7.7861 ppb	2.34761	30.15%
S 181.975 Axial†	-34.4	-107.61 µg/L	µg/L	10.764	-107.61 ppb	10.764	10.00%
Sb 206.836†	-15.7	-13.297 µg/L	µg/L	3.7165	-13.297 ppb	3.7165	27.95%
Se 196.026†	-306.2	934.32 µg/L	µg/L	29.690	934.32 ppb	29.690	3.18%
SiO2†	-547.3	-96.995 µg/L	µg/L	3.8845	-96.995 ppb	3.8845	4.00%
Si 251.611†	-853.4	-57.450 µg/L	µg/L	0.1237	-57.450 ppb	0.1237	0.22%
Sn 189.927†	12.5	2.9021 µg/L	µg/L	1.56300	2.9021 ppb	1.56300	53.86%
Sr 421.552†	20.6	0.1261 µg/L	µg/L	0.09570	0.1261 ppb	0.09570	75.91%
Ti 334.940†	-5428.2	-12.652 µg/L	µg/L	0.0331	-12.652 ppb	0.0331	0.26%
Tl 190.801†	-22.9	31.943 µg/L	µg/L	2.8080	31.943 ppb	2.8080	8.79%
U 409.014†	799.8	16.926 µg/L	µg/L	7.0465	16.926 ppb	7.0465	41.63%
V 292.402†	-1438.4	-2.4900 µg/L	µg/L	0.89520	-2.4900 ppb	0.89520	35.95%
Zn 213.857†	1923.5	24.988 µg/L	µg/L	3.8558	24.988 ppb	3.8558	15.43%

Sequence No.: 2

Sample ID: LR2

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 114

Date Collected: 3/19/2010 07:09:03

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	92419.0	92419.0	105 %		07:09:33
1	Al 396.153Radial†	200.4	-15.9	-7.8492 µg/L	-7.8492 ppb	07:09:33
1	Ca 317.933Radial†	402.9	37.3	14.030 µg/L	14.030 ppb	07:09:54
1	Fe 238.204 Radial†	13.4	-0.5	105.21 µg/L	105.21 ppb	07:09:54
1	K 766.490 Radial†	197.0	-11.8	-5.6397 µg/L	-5.6397 ppb	07:09:33
1	Mg 279.077 IEC†	9.6	2.6	34.937 µg/L	34.937 ppb	07:09:54
1	Na 589.592 Radial†	261.1	84.8	44.625 µg/L	44.625 ppb	07:09:33
1	Sr 421.552†	226.4	56.6	0.3472 µg/L	0.3472 ppb	07:09:33
1	Sc 361.383	2024659.6	2024659.6	101.99 %		07:10:57
1	Y 371.029	1378127.4	1378127.4	101.49 %		07:10:57
1	Ag 328.068†	707.3	97.0	0.7520 µg/L	0.7520 ppb	07:11:03
1	As 188.979†	1.1	1.6	2.3599 µg/L	2.3599 ppb	07:11:23
1	B 249.677†	872.0	456.8	20.484 µg/L	20.484 ppb	07:11:23
1	Ba 233.527†	9.3	4.7	0.1005 µg/L	0.1005 ppb	07:11:23
1	Be 313.107†	-1010.9	-86.7	-0.0459 µg/L	-0.0459 ppb	07:11:03
1	Cd 226.502†	-149.7	17.6	0.4167 µg/L	0.4167 ppb	07:11:23
1	Co 228.616†	127768.9	125225.6	5243.9 µg/L	5243.9 ppb	07:11:03
1	Cr 267.716†	148.5	60.6	1.2876 µg/L	1.2876 ppb	07:11:23
1	Cu 324.752†	4283.1	-88.7	-0.5674 µg/L	-0.5674 ppb	07:11:03
1	Mn 257.610†	1821667.5	1786387.5	5302.8 µg/L	5302.8 ppb	07:10:57
1	Mo 202.031†	19.9	-6.0	-0.5754 µg/L	-0.5754 ppb	07:11:23
1	Ni 231.604†	457.8	80.4	-1.8622 µg/L	-1.8622 ppb	07:11:23
1	P 214.914†	16.9	1.2	2.2230 µg/L	2.2230 ppb	07:11:23
1	Pb 220.353†	36.4	-3.9	-0.9749 µg/L	-0.9749 ppb	07:11:23
1	S 181.975 Axial†	17.7	-6.1	-19.063 µg/L	-19.063 ppb	07:11:23
1	Sb 206.836†	26.0	-0.9	-0.7904 µg/L	-0.7904 ppb	07:11:23
1	Se 196.026†	22.3	-2.7	-2.5074 µg/L	-2.5074 ppb	07:11:23
1	SiO2†	471639.1	459436.3	81421 µg/L	81421 ppb	07:10:57
1	Si 251.611†	571457.5	559590.8	37672 µg/L	37672 ppb	07:10:57
1	Sn 189.927†	9.0	7.3	2.7627 µg/L	2.7627 ppb	07:11:23
1	Ti 334.940†	383.4	-4516.4	-10.527 µg/L	-10.527 ppb	07:11:03
1	Tl 190.801†	-14.5	20.0	23.697 µg/L	23.697 ppb	07:11:23
1	U 409.014†	-231.7	-210.5	-18.456 µg/L	-18.456 ppb	07:11:03
1	V 292.402†	-170.5	-5.5	-0.0797 µg/L	-0.0797 ppb	07:11:03
1	Zn 213.857†	956.5	24.4	0.5272 µg/L	0.5272 ppb	07:11:23
2	Sc RADIAL	92954.6	92954.6	106 %		07:09:59
2	Al 396.153Radial†	202.9	-14.7	-7.2438 µg/L	-7.2438 ppb	07:09:59
2	Ca 317.933Radial†	396.1	28.8	10.812 µg/L	10.812 ppb	07:10:19
2	Fe 238.204 Radial†	13.5	-0.5	104.10 µg/L	104.10 ppb	07:10:19
2	K 766.490 Radial†	220.2	9.0	4.3083 µg/L	4.3083 ppb	07:09:59
2	Mg 279.077 IEC†	8.4	1.4	18.915 µg/L	18.915 ppb	07:10:19
2	Na 589.592 Radial†	222.9	47.3	24.903 µg/L	24.903 ppb	07:09:59
2	Sr 421.552†	166.2	-1.4	-0.0085 µg/L	-0.0085 ppb	07:09:59
2	Sc 361.383	2030004.3	2030004.3	102.26 %		07:11:30
2	Y 371.029	1382215.3	1382215.3	101.79 %		07:11:30
2	Ag 328.068†	750.7	137.7	1.0660 µg/L	1.0660 ppb	07:11:36
2	As 188.979†	-0.7	-0.0	-0.0606 µg/L	-0.0606 ppb	07:11:57
2	B 249.677†	868.4	451.1	20.226 µg/L	20.226 ppb	07:11:57
2	Ba 233.527†	13.7	9.0	0.1907 µg/L	0.1907 ppb	07:11:57
2	Be 313.107†	-966.6	-40.7	-0.0194 µg/L	-0.0194 ppb	07:11:36
2	Cd 226.502†	-149.5	18.1	0.4278 µg/L	0.4278 ppb	07:11:57
2	Co 228.616†	126527.5	123681.8	5179.3 µg/L	5179.3 ppb	07:11:36
2	Cr 267.716†	160.5	72.0	1.5295 µg/L	1.5295 ppb	07:11:57
2	Cu 324.752†	4226.3	-155.4	-0.9925 µg/L	-0.9925 ppb	07:11:36
2	Mn 257.610†	1828998.1	1788853.5	5310.1 µg/L	5310.1 ppb	07:11:30
2	Mo 202.031†	14.3	-11.5	-1.1066 µg/L	-1.1066 ppb	07:11:57
2	Ni 231.604†	446.2	67.9	-2.4692 µg/L	-2.4692 ppb	07:11:57
2	P 214.914†	17.9	2.2	3.9822 µg/L	3.9822 ppb	07:11:57
2	Pb 220.353†	40.9	0.4	0.1146 µg/L	0.1146 ppb	07:11:57

2	S 181.975 Axial†	24.9	0.9	2.7959 µg/L	2.7959 ppb	07:11:57
2	Sb 206.836†	33.2	6.0	4.9899 µg/L	4.9899 ppb	07:11:57
2	Se 196.026†	35.9	10.5	9.6898 µg/L	9.6898 ppb	07:11:57
2	SiO2†	474825.1	461334.3	81757 µg/L	81757 ppb	07:11:30
2	Si 251.611†	575832.6	562394.0	37860 µg/L	37860 ppb	07:11:30
2	Sn 189.927†	6.7	5.0	1.9026 µg/L	1.9026 ppb	07:11:57
2	Ti 334.940†	351.8	-4548.2	-10.600 µg/L	-10.600 ppb	07:11:36
2	Tl 190.801†	-15.0	19.5	23.477 µg/L	23.477 ppb	07:11:57
2	U 409.014†	-196.5	-175.4	-15.380 µg/L	-15.380 ppb	07:11:36
2	V 292.402†	-187.5	-21.7	-0.2519 µg/L	-0.2519 ppb	07:11:36
2	Zn 213.857†	966.3	31.6	0.6920 µg/L	0.6920 ppb	07:11:57
3	Sc RADIAL	92753.4	92753.4	106 %		07:10:25
3	Al 396.153Radial†	219.3	1.3	0.6586 µg/L	0.6586 ppb	07:10:25
3	Ca 317.933Radial†	392.0	25.7	9.6573 µg/L	9.6573 ppb	07:10:45
3	Fe 238.204 Radial†	13.9	-0.0	100.01 µg/L	100.01 ppb	07:10:45
3	K 766.490 Radial†	236.0	24.3	11.618 µg/L	11.618 ppb	07:10:25
3	Mg 279.077 IEC†	10.1	3.0	41.652 µg/L	41.652 ppb	07:10:45
3	Na 589.592 Radial†	218.3	43.5	22.885 µg/L	22.885 ppb	07:10:25
3	Sr 421.552†	204.1	34.8	0.2136 µg/L	0.2136 ppb	07:10:25
3	Sc 361.383	2030921.3	2030921.3	102.31 %		07:12:03
3	Y 371.029	1384301.2	1384301.2	101.95 %		07:12:03
3	Ag 328.068†	728.8	115.9	0.8957 µg/L	0.8957 ppb	07:12:09
3	As 188.979†	0.8	1.4	2.0488 µg/L	2.0488 ppb	07:12:29
3	B 249.677†	789.0	373.0	16.724 µg/L	16.724 ppb	07:12:29
3	Ba 233.527†	5.7	1.1	0.0232 µg/L	0.0232 ppb	07:12:29
3	Be 313.107†	-987.7	-60.9	-0.0311 µg/L	-0.0311 ppb	07:12:09
3	Cd 226.502†	-145.0	22.6	0.5320 µg/L	0.5320 ppb	07:12:29
3	Co 228.616†	115193.2	112547.1	4713.0 µg/L	4713.0 ppb	07:12:09
3	Cr 267.716†	140.7	52.6	1.1169 µg/L	1.1169 ppb	07:12:29
3	Cu 324.752†	4275.7	-108.9	-0.6949 µg/L	-0.6949 ppb	07:12:09
3	Mn 257.610†	1721438.3	1682910.6	4995.6 µg/L	4995.6 ppb	07:12:03
3	Mo 202.031†	10.3	-15.3	-1.4814 µg/L	-1.4814 ppb	07:12:29
3	Ni 231.604†	440.7	62.4	-2.2133 µg/L	-2.2133 ppb	07:12:29
3	P 214.914†	17.5	1.8	3.1312 µg/L	3.1312 ppb	07:12:29
3	Pb 220.353†	38.2	-2.3	-0.5655 µg/L	-0.5655 ppb	07:12:29
3	S 181.975 Axial†	17.0	-6.8	-21.186 µg/L	-21.186 ppb	07:12:29
3	Sb 206.836†	21.0	-5.9	-4.9835 µg/L	-4.9835 ppb	07:12:29
3	Se 196.026†	30.1	4.9	4.4611 µg/L	4.4611 ppb	07:12:29
3	SiO2†	456976.8	443678.7	78628 µg/L	78628 ppb	07:12:03
3	Si 251.611†	553519.9	540330.1	36375 µg/L	36375 ppb	07:12:03
3	Sn 189.927†	4.6	2.9	1.1101 µg/L	1.1101 ppb	07:12:29
3	Ti 334.940†	403.2	-4498.1	-10.485 µg/L	-10.485 ppb	07:12:09
3	Tl 190.801†	-16.8	17.9	22.117 µg/L	22.117 ppb	07:12:29
3	U 409.014†	-190.8	-169.8	-14.888 µg/L	-14.888 ppb	07:12:09
3	V 292.402†	-211.3	-44.8	-0.5008 µg/L	-0.5008 ppb	07:12:09
3	Zn 213.857†	1001.7	65.7	1.4564 µg/L	1.4564 ppb	07:12:29

Mean Data: LR2

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	2028528.4	102.19	%	0.170				0.17%
Sc RADIAL	92709.0	106	%	0.3				0.29%
Y 371.029	1381548.0	101.74	%	0.231				0.23%
Ag 328.068†	116.9	0.9046	µg/L	0.15721	0.9046	ppb	0.15721	17.38%
Al 396.153Radial†	-9.8	-4.8115	µg/L	4.74686	-4.8115	ppb	4.74686	98.66%
As 188.979†	1.0	1.4494	µg/L	1.31690	1.4494	ppb	1.31690	90.86%
B 249.677†	427.0	19.145	µg/L	2.1004	19.145	ppb	2.1004	10.97%
Ba 233.527†	4.9	0.1048	µg/L	0.08384	0.1048	ppb	0.08384	80.01%
Be 313.107†	-62.8	-0.0321	µg/L	0.01329	-0.0321	ppb	0.01329	41.35%
Ca 317.933Radial†	30.6	11.500	µg/L	2.2660	11.500	ppb	2.2660	19.71%
Cd 226.502†	19.4	0.4588	µg/L	0.06358	0.4588	ppb	0.06358	13.86%
Co 228.616†	120484.8	5045.4	µg/L	289.67	5045.4	ppb	289.67	5.74%
Cr 267.716†	61.7	1.3113	µg/L	0.20731	1.3113	ppb	0.20731	15.81%
Cu 324.752†	-117.7	-0.7516	µg/L	0.21813	-0.7516	ppb	0.21813	29.02%
Fe 238.204 Radial†	-0.3	103.11	µg/L	2.735	103.11	ppb	2.735	2.65%
K 766.490 Radial†	7.2	3.4289	µg/L	8.66240	3.4289	ppb	8.66240	252.63%
Mg 279.077 IEC†	2.3	31.835	µg/L	11.6818	31.835	ppb	11.6818	36.70%
Mn 257.610†	1752717.2	5202.9	µg/L	179.49	5202.9	ppb	179.49	3.45%
Mo 202.031†	-10.9	-1.0545	µg/L	0.45522	-1.0545	ppb	0.45522	43.17%
Na 589.592 Radial†	58.6	30.804	µg/L	12.0119	30.804	ppb	12.0119	38.99%

Ni 231.604†	70.2	-2.1816 µg/L	0.30471	-2.1816 ppb	0.30471	13.97%
P 214.914†	1.7	3.1121 µg/L	0.87973	3.1121 ppb	0.87973	28.27%
Pb 220.353†	-1.9	-0.4753 µg/L	0.55029	-0.4753 ppb	0.55029	115.79%
S 181.975 Axial†	-4.0	-12.484 µg/L	13.2757	-12.484 ppb	13.2757	106.34%
Sb 206.836†	-0.3	-0.2613 µg/L	5.00767	-0.2613 ppb	5.00767	>999.9%
Se 196.026†	4.2	3.8812 µg/L	6.11925	3.8812 ppb	6.11925	157.66%
SiO2†	454816.4	80602 µg/L	1717.6	80602 ppb	1717.6	2.13%
Si 251.611†	554105.0	37302 µg/L	808.6	37302 ppb	808.6	2.17%
Sn 189.927†	5.1	1.9252 µg/L	0.82651	1.9252 ppb	0.82651	42.93%
Sr 421.552†	30.0	0.1841 µg/L	0.17963	0.1841 ppb	0.17963	97.58%
Ti 334.940†	-4520.9	-10.537 µg/L	0.0582	-10.537 ppb	0.0582	0.55%
Tl 190.801†	19.1	23.097 µg/L	0.8560	23.097 ppb	0.8560	3.71%
U 409.014†	-185.3	-16.242 µg/L	1.9335	-16.242 ppb	1.9335	11.90%
V 292.402†	-24.0	-0.2775 µg/L	0.21172	-0.2775 ppb	0.21172	76.30%
Zn 213.857†	40.6	0.8919 µg/L	0.49579	0.8919 ppb	0.49579	55.59%

Sequence No.: 3

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/19/2010 07:12:38

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	91545.3	91545.3	104 %		07:13:11
1	Al 396.153Radial†	10382.2	9738.6	4816.4 µg/L	4816.4 ppb	07:13:11
1	Ca 317.933Radial†	14007.4	13072.0	4915.0 µg/L	4915.0 ppb	07:13:11
1	Fe 238.204 Radial†	412.9	382.4	4905.6 µg/L	4905.6 ppb	07:13:31
1	K 766.490 Radial†	11058.0	10393.1	4965.4 µg/L	4965.4 ppb	07:13:11
1	Mg 279.077 IEC†	383.6	360.9	4940.8 µg/L	4940.8 ppb	07:13:31
1	Na 589.592 Radial†	19537.3	18550.8	9759.0 µg/L	9759.0 ppb	07:13:11
1	Sr 421.552†	83132.9	79470.6	487.18 µg/L	487.18 ppb	07:13:11
1	Sc 361.383	2035363.3	2035363.3	102.53 %		07:14:35
1	Y 371.029	1387151.5	1387151.5	102.16 %		07:14:35
1	Ag 328.068†	65287.6	63080.2	492.98 µg/L	492.98 ppb	07:14:41
1	As 188.979†	363.2	354.9	505.84 µg/L	505.84 ppb	07:15:01
1	B 249.677†	11612.2	10927.5	488.10 µg/L	488.10 ppb	07:14:41
1	Ba 233.527†	23766.3	23175.5	495.64 µg/L	495.64 ppb	07:14:41
1	Be 313.107†	882839.2	861960.0	496.46 µg/L	496.46 ppb	07:14:35
1	Cd 226.502†	21711.6	21340.2	499.33 µg/L	499.33 ppb	07:14:41
1	Co 228.616†	12224.3	11873.2	496.64 µg/L	496.64 ppb	07:14:41
1	Cr 267.716†	24258.6	23575.1	501.31 µg/L	501.31 ppb	07:14:41
1	Cu 324.752†	83756.6	77401.7	494.88 µg/L	494.88 ppb	07:14:41
1	Mn 257.610†	173083.9	169089.0	501.89 µg/L	501.89 ppb	07:14:35
1	Mo 202.031†	5447.2	5287.4	510.68 µg/L	510.68 ppb	07:15:01
1	Ni 231.604†	9747.2	9138.3	497.52 µg/L	497.52 ppb	07:14:41
1	P 214.914†	1511.2	1458.6	2465.0 µg/L	2465.0 ppb	07:15:01
1	Pb 220.353†	2064.9	1974.3	503.56 µg/L	503.56 ppb	07:15:01
1	S 181.975 Axial†	356.4	324.2	1015.4 µg/L	1015.4 ppb	07:15:01
1	Sb 206.836†	646.7	604.2	508.34 µg/L	508.34 ppb	07:15:01
1	Se 196.026†	577.0	538.2	507.98 µg/L	507.98 ppb	07:15:01
1	SiO2†	33280.9	29462.5	5221.3 µg/L	5221.3 ppb	07:14:41
1	Si 251.611†	38133.3	36479.6	2455.8 µg/L	2455.8 ppb	07:14:41
1	Sn 189.927†	1394.3	1358.4	513.32 µg/L	513.32 ppb	07:15:01
1	Ti 334.940†	220659.7	210322.8	489.80 µg/L	489.80 ppb	07:14:35
1	Tl 190.801†	505.0	526.8	510.58 µg/L	510.58 ppb	07:15:01
1	U 409.014†	5782.4	5656.8	494.90 µg/L	494.90 ppb	07:14:41
1	V 292.402†	47663.0	46648.7	501.64 µg/L	501.64 ppb	07:14:41
1	Zn 213.857†	23852.5	22350.6	497.11 µg/L	497.11 ppb	07:14:41
2	Sc RADIAL	91103.9	91103.9	104 %		07:13:37
2	Al 396.153Radial†	10370.9	9775.9	4834.9 µg/L	4834.9 ppb	07:13:37
2	Ca 317.933Radial†	13920.9	13053.8	4908.1 µg/L	4908.1 ppb	07:13:37
2	Fe 238.204 Radial†	411.6	383.0	4914.1 µg/L	4914.1 ppb	07:13:57
2	K 766.490 Radial†	10975.6	10365.2	4952.0 µg/L	4952.0 ppb	07:13:37
2	Mg 279.077 IEC†	382.6	361.8	4951.9 µg/L	4951.9 ppb	07:13:57
2	Na 589.592 Radial†	19481.2	18587.5	9778.3 µg/L	9778.3 ppb	07:13:37
2	Sr 421.552†	82828.5	79563.4	487.75 µg/L	487.75 ppb	07:13:37
2	Sc 361.383	2012539.1	2012539.1	101.38 %		07:15:08
2	Y 371.029	1370017.7	1370017.7	100.90 %		07:15:08
2	Ag 328.068†	65270.2	63785.3	498.47 µg/L	498.47 ppb	07:15:14
2	As 188.979†	356.9	352.7	502.67 µg/L	502.67 ppb	07:15:34
2	B 249.677†	11537.3	10982.2	490.55 µg/L	490.55 ppb	07:15:14
2	Ba 233.527†	23686.2	23359.3	499.57 µg/L	499.57 ppb	07:15:14
2	Be 313.107†	871446.5	860487.7	495.61 µg/L	495.61 ppb	07:15:08
2	Cd 226.502†	21531.2	21402.4	500.78 µg/L	500.78 ppb	07:15:14
2	Co 228.616†	12229.7	12013.7	502.52 µg/L	502.52 ppb	07:15:14
2	Cr 267.716†	24095.3	23682.4	503.60 µg/L	503.60 ppb	07:15:14
2	Cu 324.752†	83700.1	78272.4	500.44 µg/L	500.44 ppb	07:15:14
2	Mn 257.610†	171388.0	169330.7	502.61 µg/L	502.61 ppb	07:15:08
2	Mo 202.031†	5363.4	5265.0	508.52 µg/L	508.52 ppb	07:15:34
2	Ni 231.604†	9699.3	9198.9	500.81 µg/L	500.81 ppb	07:15:14
2	P 214.914†	1496.6	1460.9	2468.4 µg/L	2468.4 ppb	07:15:34
2	Pb 220.353†	2049.5	1982.0	505.51 µg/L	505.51 ppb	07:15:34

2	S 181.975 Axial†	347.2	319.0	999.23 µg/L	999.23 ppb	07:15:34
2	Sb 206.836†	645.2	610.0	513.06 µg/L	513.06 ppb	07:15:34
2	Se 196.026†	568.1	535.8	505.71 µg/L	505.71 ppb	07:15:34
2	SiO2†	33304.3	29853.6	5290.6 µg/L	5290.6 ppb	07:15:14
2	Si 251.611†	38000.9	36770.8	2475.4 µg/L	2475.4 ppb	07:15:14
2	Sn 189.927†	1370.0	1349.8	510.08 µg/L	510.08 ppb	07:15:34
2	Ti 334.940†	218332.5	210468.0	490.13 µg/L	490.13 ppb	07:15:08
2	Tl 190.801†	488.9	516.5	500.66 µg/L	500.66 ppb	07:15:34
2	U 409.014†	5742.8	5681.3	497.08 µg/L	497.08 ppb	07:15:14
2	V 292.402†	47467.1	46982.6	505.18 µg/L	505.18 ppb	07:15:14
2	Zn 213.857†	23763.7	22526.9	501.03 µg/L	501.03 ppb	07:15:14
3	Sc RADIAL	91601.9	91601.9	104 %		07:14:03
3	Al 396.153Radial†	10402.0	9751.4	4824.5 µg/L	4824.5 ppb	07:14:03
3	Ca 317.933Radial†	13975.3	13033.1	4900.3 µg/L	4900.3 ppb	07:14:03
3	Fe 238.204 Radial†	409.4	378.8	4858.7 µg/L	4858.7 ppb	07:14:23
3	K 766.490 Radial†	11021.8	10352.0	4945.7 µg/L	4945.7 ppb	07:14:03
3	Mg 279.077 IEC†	386.6	363.5	4974.9 µg/L	4974.9 ppb	07:14:23
3	Na 589.592 Radial†	19563.0	18563.9	9765.9 µg/L	9765.9 ppb	07:14:03
3	Sr 421.552†	83061.1	79352.6	486.46 µg/L	486.46 ppb	07:14:03
3	Sc 361.383	2019544.7	2019544.7	101.73 %		07:15:42
3	Y 371.029	1375705.8	1375705.8	101.31 %		07:15:42
3	Ag 328.068†	61816.9	60167.4	470.05 µg/L	470.05 ppb	07:15:47
3	As 188.979†	301.5	297.0	423.17 µg/L	423.17 ppb	07:16:08
3	B 249.677†	10843.5	10260.6	458.14 µg/L	458.14 ppb	07:15:47
3	Ba 233.527†	21639.0	21265.9	454.79 µg/L	454.79 ppb	07:15:47
3	Be 313.107†	816981.7	803968.9	463.06 µg/L	463.06 ppb	07:15:42
3	Cd 226.502†	19658.3	19487.8	455.94 µg/L	455.94 ppb	07:15:47
3	Co 228.616†	11034.0	10796.6	451.55 µg/L	451.55 ppb	07:15:47
3	Cr 267.716†	21217.4	20771.0	441.69 µg/L	441.69 ppb	07:15:47
3	Cu 324.752†	76027.3	70443.9	450.47 µg/L	450.47 ppb	07:15:47
3	Mn 257.610†	160774.8	158311.9	469.89 µg/L	469.89 ppb	07:15:42
3	Mo 202.031†	4478.7	4377.0	422.78 µg/L	422.78 ppb	07:16:08
3	Ni 231.604†	8799.0	8280.7	450.83 µg/L	450.83 ppb	07:15:47
3	P 214.914†	1283.9	1246.7	2103.3 µg/L	2103.3 ppb	07:16:08
3	Pb 220.353†	1781.0	1711.1	436.38 µg/L	436.38 ppb	07:16:08
3	S 181.975 Axial†	309.8	281.1	880.45 µg/L	880.45 ppb	07:16:08
3	Sb 206.836†	553.5	517.6	435.04 µg/L	435.04 ppb	07:16:08
3	Se 196.026†	505.4	472.2	446.88 µg/L	446.88 ppb	07:16:08
3	SiO2†	31029.0	27503.1	4874.1 µg/L	4874.1 ppb	07:15:47
3	Si 251.611†	35272.4	33958.8	2286.1 µg/L	2286.1 ppb	07:15:47
3	Sn 189.927†	1126.7	1105.9	418.01 µg/L	418.01 ppb	07:16:08
3	Ti 334.940†	203201.4	194847.6	453.73 µg/L	453.73 ppb	07:15:42
3	Tl 190.801†	454.5	481.0	466.31 µg/L	466.31 ppb	07:16:08
3	U 409.014†	5066.6	4997.0	437.10 µg/L	437.10 ppb	07:15:47
3	V 292.402†	42594.0	42030.1	451.67 µg/L	451.67 ppb	07:15:47
3	Zn 213.857†	21665.6	20383.2	453.32 µg/L	453.32 ppb	07:15:47

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2022482.4	101.88 %	0.589			0.58%
Sc RADIAL	91417.0	104 %	0.3			0.30%
Y 371.029	1377625.0	101.46 %	0.643			0.63%
Ag 328.068†	62344.3	487.17 µg/L	15.073	487.17 ppb	15.073	3.09%
QC value within limits for Ag 328.068 Recovery = 97.43%						
Al 396.153Radial†	9755.3	4825.3 µg/L	9.30	4825.3 ppb	9.30	0.19%
QC value within limits for Al 396.153Radial Recovery = 96.51%						
As 188.979†	334.9	477.23 µg/L	46.842	477.23 ppb	46.842	9.82%
QC value within limits for As 188.979 Recovery = 95.45%						
B 249.677†	10723.4	478.93 µg/L	18.050	478.93 ppb	18.050	3.77%
QC value within limits for B 249.677 Recovery = 95.79%						
Ba 233.527†	22600.2	483.33 µg/L	24.800	483.33 ppb	24.800	5.13%
QC value within limits for Ba 233.527 Recovery = 96.67%						
Be 313.107†	842138.9	485.04 µg/L	19.043	485.04 ppb	19.043	3.93%
QC value within limits for Be 313.107 Recovery = 97.01%						
Ca 317.933Radial†	13053.0	4907.8 µg/L	7.33	4907.8 ppb	7.33	0.15%
QC value within limits for Ca 317.933Radial Recovery = 98.16%						
Cd 226.502†	20743.5	485.35 µg/L	25.482	485.35 ppb	25.482	5.25%
QC value within limits for Cd 226.502 Recovery = 97.07%						
Co 228.616†	11561.2	483.57 µg/L	27.886	483.57 ppb	27.886	5.77%

QC value within limits for Co 228.616 Recovery = 96.71%							
Cr 267.716†	22676.1	482.20 µg/L	35.100	482.20 ppb	35.100	7.28%	
QC value within limits for Cr 267.716 Recovery = 96.44%							
Cu 324.752†	75372.7	481.93 µg/L	27.387	481.93 ppb	27.387	5.68%	
QC value within limits for Cu 324.752 Recovery = 96.39%							
Fe 238.204 Radial†	381.4	4892.8 µg/L	29.83	4892.8 ppb	29.83	0.61%	
QC value within limits for Fe 238.204 Radial Recovery = 97.86%							
K 766.490 Radial†	10370.1	4954.4 µg/L	10.04	4954.4 ppb	10.04	0.20%	
QC value within limits for K 766.490 Radial Recovery = 99.09%							
Mg 279.077 IEC†	362.1	4955.8 µg/L	17.41	4955.8 ppb	17.41	0.35%	
QC value within limits for Mg 279.077 IEC Recovery = 99.12%							
Mn 257.610†	165577.2	491.46 µg/L	18.684	491.46 ppb	18.684	3.80%	
QC value within limits for Mn 257.610 Recovery = 98.29%							
Mo 202.031†	4976.5	480.66 µg/L	50.137	480.66 ppb	50.137	10.43%	
QC value within limits for Mo 202.031 Recovery = 96.13%							
Na 589.592 Radial†	18567.4	9767.7 µg/L	9.79	9767.7 ppb	9.79	0.10%	
QC value within limits for Na 589.592 Radial Recovery = 97.68%							
Ni 231.604†	8872.6	483.06 µg/L	27.955	483.06 ppb	27.955	5.79%	
QC value within limits for Ni 231.604 Recovery = 96.61%							
P 214.914†	1388.7	2345.6 µg/L	209.79	2345.6 ppb	209.79	8.94%	
QC value within limits for P 214.914 Recovery = 93.82%							
Pb 220.353†	1889.2	481.82 µg/L	39.360	481.82 ppb	39.360	8.17%	
QC value within limits for Pb 220.353 Recovery = 96.36%							
S 181.975 Axial†	308.1	965.03 µg/L	73.692	965.03 ppb	73.692	7.64%	
QC value within limits for S 181.975 Axial Recovery = 96.50%							
Sb 206.836†	577.3	485.48 µg/L	43.746	485.48 ppb	43.746	9.01%	
QC value within limits for Sb 206.836 Recovery = 97.10%							
Se 196.026†	515.4	486.85 µg/L	34.639	486.85 ppb	34.639	7.11%	
QC value within limits for Se 196.026 Recovery = 97.37%							
SiO2†	28939.7	5128.7 µg/L	223.20	5128.7 ppb	223.20	4.35%	
QC value within limits for SiO2 Recovery = 95.91%							
Si 251.611†	35736.4	2405.8 µg/L	104.10	2405.8 ppb	104.10	4.33%	
QC value within limits for Si 251.611 Recovery = 96.23%							
Sn 189.927†	1271.4	480.47 µg/L	54.115	480.47 ppb	54.115	11.26%	
QC value within limits for Sn 189.927 Recovery = 96.09%							
Sr 421.552†	79462.2	487.13 µg/L	0.648	487.13 ppb	0.648	0.13%	
QC value within limits for Sr 421.552 Recovery = 97.43%							
Ti 334.940†	205212.8	477.89 µg/L	20.920	477.89 ppb	20.920	4.38%	
QC value within limits for Ti 334.940 Recovery = 95.58%							
Tl 190.801†	508.1	492.52 µg/L	23.231	492.52 ppb	23.231	4.72%	
QC value within limits for Tl 190.801 Recovery = 98.50%							
U 409.014†	5444.9	476.36 µg/L	34.019	476.36 ppb	34.019	7.14%	
QC value within limits for U 409.014 Recovery = 95.27%							
V 292.402†	45220.4	486.17 µg/L	29.925	486.17 ppb	29.925	6.16%	
QC value within limits for V 292.402 Recovery = 97.23%							
Zn 213.857†	21753.5	483.82 µg/L	26.487	483.82 ppb	26.487	5.47%	
QC value within limits for Zn 213.857 Recovery = 96.76%							
All analyte(s) passed QC.							

Sequence No.: 4

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/19/2010 07:16:17

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	90998.5	90998.5	104 %		07:16:48
1	Al 396.153Radial†	159.7	-52.2	-25.844 µg/L	-25.844 ppb	07:16:48
1	Ca 317.933Radial†	329.2	-27.7	-10.417 µg/L	-10.417 ppb	07:17:08
1	Fe 238.204 Radial†	13.7	0.0	0.2671 µg/L	0.2671 ppb	07:17:08
1	K 766.490 Radial†	85.5	-116.4	-55.615 µg/L	-55.615 ppb	07:16:48
1	Mg 279.077 IEC†	8.6	1.8	24.453 µg/L	24.453 ppb	07:17:08
1	Na 589.592 Radial†	221.3	50.3	26.479 µg/L	26.479 ppb	07:16:48
1	Sr 421.552†	126.4	-36.3	-0.2225 µg/L	-0.2225 ppb	07:16:48
1	Sc 361.383	2021786.8	2021786.8	101.85 %		07:18:10
1	Y 371.029	1383693.5	1383693.5	101.90 %		07:18:10
1	Ag 328.068†	576.4	-30.4	-0.2369 µg/L	-0.2369 ppb	07:18:16
1	As 188.979†	-0.2	0.4	0.5198 µg/L	0.5198 ppb	07:18:36
1	B 249.677†	418.8	13.0	0.5833 µg/L	0.5833 ppb	07:18:16
1	Ba 233.527†	-4.8	-9.2	-0.1959 µg/L	-0.1959 ppb	07:18:36
1	Be 313.107†	-1192.5	-266.4	-0.1487 µg/L	-0.1487 ppb	07:18:16
1	Cd 226.502†	-171.0	-3.6	-0.0844 µg/L	-0.0844 ppb	07:18:36
1	Co 228.616†	42.5	-7.8	-0.2998 µg/L	-0.2998 ppb	07:18:36
1	Cr 267.716†	68.8	-17.4	-0.3708 µg/L	-0.3708 ppb	07:18:16
1	Cu 324.752†	4241.8	-123.4	-0.7873 µg/L	-0.7873 ppb	07:18:16
1	Mn 257.610†	-635.1	-347.7	-1.0337 µg/L	-1.0337 ppb	07:18:36
1	Mo 202.031†	14.4	-11.3	-1.0946 µg/L	-1.0946 ppb	07:18:36
1	Ni 231.604†	359.6	-15.3	-0.8343 µg/L	-0.8343 ppb	07:18:36
1	P 214.914†	19.3	3.7	6.4179 µg/L	6.4179 ppb	07:18:36
1	Pb 220.353†	45.3	4.9	1.2540 µg/L	1.2540 ppb	07:18:36
1	S 181.975 Axial†	25.5	1.6	5.1134 µg/L	5.1134 ppb	07:18:36
1	Sb 206.836†	35.0	7.9	6.6402 µg/L	6.6402 ppb	07:18:36
1	Se 196.026†	30.4	5.3	4.8775 µg/L	4.8775 ppb	07:18:36
1	SiO2†	2823.6	-224.9	-39.852 µg/L	-39.852 ppb	07:18:16
1	Si 251.611†	481.1	-240.4	-16.186 µg/L	-16.186 ppb	07:18:36
1	Sn 189.927†	6.7	5.0	1.8818 µg/L	1.8818 ppb	07:18:36
1	Ti 334.940†	-555.4	-5437.5	-12.673 µg/L	-12.673 ppb	07:18:16
1	Tl 190.801†	-28.8	5.9	5.5841 µg/L	5.5841 ppb	07:18:36
1	U 409.014†	-15.4	1.5	0.1342 µg/L	0.1342 ppb	07:18:16
1	V 292.402†	-175.4	-10.5	-0.1207 µg/L	-0.1207 ppb	07:18:16
1	Zn 213.857†	934.4	4.1	0.0961 µg/L	0.0961 ppb	07:18:36
2	Sc RADIAL	89774.6	89774.6	102 %		07:17:14
2	Al 396.153Radial†	194.9	-15.7	-7.7641 µg/L	-7.7641 ppb	07:17:14
2	Ca 317.933Radial†	333.1	-19.6	-7.3648 µg/L	-7.3648 ppb	07:17:34
2	Fe 238.204 Radial†	11.3	-2.1	-26.807 µg/L	-26.807 ppb	07:17:34
2	K 766.490 Radial†	145.4	-56.7	-27.100 µg/L	-27.100 ppb	07:17:14
2	Mg 279.077 IEC†	9.2	2.4	33.324 µg/L	33.324 ppb	07:17:34
2	Na 589.592 Radial†	172.3	5.4	2.8425 µg/L	2.8425 ppb	07:17:14
2	Sr 421.552†	100.1	-60.4	-0.3702 µg/L	-0.3702 ppb	07:17:14
2	Sc 361.383	2015449.9	2015449.9	101.53 %		07:18:42
2	Y 371.029	1377453.1	1377453.1	101.44 %		07:18:42
2	Ag 328.068†	598.7	-6.8	-0.0588 µg/L	-0.0588 ppb	07:18:48
2	As 188.979†	1.5	2.1	3.0242 µg/L	3.0242 ppb	07:19:08
2	B 249.677†	425.9	21.4	0.9722 µg/L	0.9722 ppb	07:18:48
2	Ba 233.527†	-12.2	-16.5	-0.3534 µg/L	-0.3534 ppb	07:19:08
2	Be 313.107†	-1279.7	-355.9	-0.2003 µg/L	-0.2003 ppb	07:18:48
2	Cd 226.502†	-171.8	-4.9	-0.1115 µg/L	-0.1115 ppb	07:19:08
2	Co 228.616†	43.5	-6.7	-0.2528 µg/L	-0.2528 ppb	07:19:08
2	Cr 267.716†	73.4	-12.7	-0.2707 µg/L	-0.2707 ppb	07:18:48
2	Cu 324.752†	4267.3	-85.1	-0.5480 µg/L	-0.5480 ppb	07:18:48
2	Mn 257.610†	-647.5	-361.9	-1.0782 µg/L	-1.0782 ppb	07:19:08
2	Mo 202.031†	24.3	-1.5	-0.1490 µg/L	-0.1490 ppb	07:19:08
2	Ni 231.604†	359.9	-13.9	-0.7588 µg/L	-0.7588 ppb	07:19:08
2	P 214.914†	13.8	-1.7	-2.7881 µg/L	-2.7881 ppb	07:19:08
2	Pb 220.353†	42.6	2.4	0.6164 µg/L	0.6164 ppb	07:19:08

2	S 181.975 Axial†	25.8	2.0	6.1257 µg/L	6.1257 ppb	07:19:08
2	Sb 206.836†	32.2	5.2	4.3709 µg/L	4.3709 ppb	07:19:08
2	Se 196.026†	20.2	-4.7	-4.4106 µg/L	-4.4106 ppb	07:19:08
2	SiO2†	2788.0	-251.2	-44.515 µg/L	-44.515 ppb	07:18:48
2	Si 251.611†	501.5	-218.8	-14.727 µg/L	-14.727 ppb	07:19:08
2	Sn 189.927†	7.9	6.2	2.3534 µg/L	2.3534 ppb	07:19:08
2	Ti 334.940†	-527.3	-5411.7	-12.613 µg/L	-12.613 ppb	07:18:48
2	Tl 190.801†	-38.3	-3.5	-3.4302 µg/L	-3.4302 ppb	07:19:08
2	U 409.014†	-38.1	-20.8	-1.8227 µg/L	-1.8227 ppb	07:18:48
2	V 292.402†	-223.5	-58.4	-0.6254 µg/L	-0.6254 ppb	07:18:48
2	Zn 213.857†	924.2	-3.1	-0.0655 µg/L	-0.0655 ppb	07:19:08
3	Sc RADIAL	89659.5	89659.5	102 %		07:17:40
3	Al 396.153Radial†	156.0	-53.5	-26.490 µg/L	-26.490 ppb	07:17:40
3	Ca 317.933Radial†	334.5	-17.8	-6.6970 µg/L	-6.6970 ppb	07:18:00
3	Fe 238.204 Radial†	14.0	0.6	7.1958 µg/L	7.1958 ppb	07:18:00
3	K 766.490 Radial†	180.4	-22.4	-10.681 µg/L	-10.681 ppb	07:17:40
3	Mg 279.077 IEC†	7.8	1.1	15.438 µg/L	15.438 ppb	07:18:00
3	Na 589.592 Radial†	165.0	-1.5	-0.7922 µg/L	-0.7922 ppb	07:17:40
3	Sr 421.552†	75.8	-84.0	-0.5152 µg/L	-0.5152 ppb	07:17:40
3	Sc 361.383	2004122.1	2004122.1	100.96 %		07:19:15
3	Y 371.029	1370162.6	1370162.6	100.91 %		07:19:15
3	Ag 328.068†	620.7	18.4	0.1418 µg/L	0.1418 ppb	07:19:20
3	As 188.979†	-2.3	-1.7	-2.4427 µg/L	-2.4427 ppb	07:19:41
3	B 249.677†	439.3	37.0	1.6549 µg/L	1.6549 ppb	07:19:20
3	Ba 233.527†	-14.3	-18.6	-0.3976 µg/L	-0.3976 ppb	07:19:41
3	Be 313.107†	-1225.9	-309.8	-0.1737 µg/L	-0.1737 ppb	07:19:20
3	Cd 226.502†	-171.8	-5.8	-0.1375 µg/L	-0.1375 ppb	07:19:41
3	Co 228.616†	49.6	-0.4	0.0091 µg/L	0.0091 ppb	07:19:41
3	Cr 267.716†	80.6	-5.1	-0.1092 µg/L	-0.1092 ppb	07:19:20
3	Cu 324.752†	4321.6	-7.6	-0.0472 µg/L	-0.0472 ppb	07:19:20
3	Mn 257.610†	-664.6	-382.4	-1.1357 µg/L	-1.1357 ppb	07:19:41
3	Mo 202.031†	14.7	-10.9	-1.0516 µg/L	-1.0516 ppb	07:19:41
3	Ni 231.604†	358.7	-13.1	-0.7136 µg/L	-0.7136 ppb	07:19:41
3	P 214.914†	9.2	-6.2	-10.765 µg/L	-10.765 ppb	07:19:41
3	Pb 220.353†	53.8	13.8	3.4987 µg/L	3.4987 ppb	07:19:41
3	S 181.975 Axial†	24.9	1.2	3.8880 µg/L	3.8880 ppb	07:19:41
3	Sb 206.836†	25.2	-1.5	-1.3034 µg/L	-1.3034 ppb	07:19:41
3	Se 196.026†	17.8	-7.0	-6.4111 µg/L	-6.4111 ppb	07:19:41
3	SiO2†	2844.5	-179.7	-31.845 µg/L	-31.845 ppb	07:19:20
3	Si 251.611†	496.1	-221.3	-14.899 µg/L	-14.899 ppb	07:19:41
3	Sn 189.927†	-1.1	-2.6	-0.9906 µg/L	-0.9906 ppb	07:19:41
3	Ti 334.940†	-540.6	-5427.7	-12.649 µg/L	-12.649 ppb	07:19:20
3	Tl 190.801†	-34.1	0.5	0.3543 µg/L	0.3543 ppb	07:19:41
3	U 409.014†	-20.7	-3.9	-0.3393 µg/L	-0.3393 ppb	07:19:20
3	V 292.402†	-186.9	-23.4	-0.2574 µg/L	-0.2574 ppb	07:19:20
3	Zn 213.857†	947.9	25.5	0.5738 µg/L	0.5738 ppb	07:19:41

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	2013786.3	101.44 %		0.451			0.44%
Sc RADIAL	90144.2	103 %		0.8			0.82%
Y 371.029	1377103.1	101.42 %		0.499			0.49%
Ag 328.068†	-6.3	-0.0513 µg/L		0.18946	-0.0513 ppb	0.18946	369.22%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 396.153Radial†	-40.4	-20.033 µg/L		10.6298	-20.033 ppb	10.6298	53.06%
QC value within limits for Al 396.153Radial Recovery = Not calculated							
As 188.979†	0.3	0.3671 µg/L		2.73668	0.3671 ppb	2.73668	745.49%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.677†	23.8	1.0701 µg/L		0.54244	1.0701 ppb	0.54244	50.69%
QC value within limits for B 249.677 Recovery = Not calculated							
Ba 233.527†	-14.8	-0.3156 µg/L		0.10599	-0.3156 ppb	0.10599	33.58%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	-310.7	-0.1742 µg/L		0.02580	-0.1742 ppb	0.02580	14.81%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933Radial†	-21.7	-8.1596 µg/L		1.98320	-8.1596 ppb	1.98320	24.31%
QC value within limits for Ca 317.933Radial Recovery = Not calculated							
Cd 226.502†	-4.7	-0.1111 µg/L		0.02656	-0.1111 ppb	0.02656	23.90%
QC value within limits for Cd 226.502 Recovery = Not calculated							
Co 228.616†	-4.9	-0.1811 µg/L		0.16641	-0.1811 ppb	0.16641	91.86%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-11.8	-0.2502 µg/L	0.13197	-0.2502 ppb	0.13197	52.74%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-72.0	-0.4609 µg/L	0.37768	-0.4609 ppb	0.37768	81.95%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	-0.5	-6.4480 µg/L	17.96837	-6.4480 ppb	17.96837	278.67%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-65.2	-31.132 µg/L	22.7366	-31.132 ppb	22.7366	73.03%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.8	24.405 µg/L	8.9435	24.405 ppb	8.9435	36.65%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-364.0	-1.0825 µg/L	0.05116	-1.0825 ppb	0.05116	4.73%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-7.9	-0.7650 µg/L	0.53397	-0.7650 ppb	0.53397	69.80%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	18.1	9.5098 µg/L	14.80783	9.5098 ppb	14.80783	155.71%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	-14.1	-0.7689 µg/L	0.06100	-0.7689 ppb	0.06100	7.93%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-1.4	-2.3783 µg/L	8.59863	-2.3783 ppb	8.59863	361.54%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	7.0	1.7897 µg/L	1.51399	1.7897 ppb	1.51399	84.59%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	1.6	5.0424 µg/L	1.12054	5.0424 ppb	1.12054	22.22%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	3.9	3.2359 µg/L	4.09161	3.2359 ppb	4.09161	126.44%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-2.1	-1.9814 µg/L	6.02363	-1.9814 ppb	6.02363	304.01%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-218.6	-38.738 µg/L	6.4080	-38.738 ppb	6.4080	16.54%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-226.8	-15.270 µg/L	0.7973	-15.270 ppb	0.7973	5.22%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	2.9	1.0815 µg/L	1.80992	1.0815 ppb	1.80992	167.35%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-60.2	-0.3693 µg/L	0.14635	-0.3693 ppb	0.14635	39.63%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-5425.6	-12.645 µg/L	0.0300	-12.645 ppb	0.0300	0.24%	
QC value less than the lower limit for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	1.0	0.8361 µg/L	4.52643	0.8361 ppb	4.52643	541.38%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	-7.7	-0.6759 µg/L	1.02098	-0.6759 ppb	1.02098	151.05%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-30.8	-0.3345 µg/L	0.26104	-0.3345 ppb	0.26104	78.04%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	8.9	0.2015 µg/L	0.33240	0.2015 ppb	0.33240	164.99%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
QC Failed. Continue with analysis.							

Sequence No.: 5

Sample ID: 1202049278|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 301

Date Collected: 3/19/2010 07:19:50

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049278|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	89632.9	89632.9	102 %		07:20:23
1	Al 396.153Radial†	179.8	-30.1	-14.895 µg/L	-14.895 ppb	07:20:23
1	Ca 317.933Radial†	362.9	10.1	3.8021 µg/L	3.8021 ppb	07:20:43
1	Fe 238.204 Radial†	15.2	1.8	22.446 µg/L	22.446 ppb	07:20:43
1	K 766.490 Radial†	296.9	91.7	43.813 µg/L	43.813 ppb	07:20:23
1	Mg 279.077 IEC†	8.2	1.5	20.177 µg/L	20.177 ppb	07:20:43
1	Na 589.592 Radial†	237.1	69.0	36.314 µg/L	36.314 ppb	07:20:23
1	Sr 421.552†	144.9	-16.4	-0.1005 µg/L	-0.1005 ppb	07:20:23
1	Sc 361.383	1996688.0	1996688.0	100.58 %		07:21:45
1	Y 371.029	1361855.4	1361855.4	100.29 %		07:21:45
1	Ag 328.068†	536.5	-63.1	-0.4886 µg/L	-0.4886 ppb	07:21:51
1	As 188.979†	-2.8	-2.2	-3.1236 µg/L	-3.1236 ppb	07:22:11
1	B 249.677†	498.7	97.7	4.3668 µg/L	4.3668 ppb	07:21:51
1	Ba 233.527†	3.3	-1.2	-0.0251 µg/L	-0.0251 ppb	07:22:11
1	Be 313.107†	-1187.4	-276.1	-0.1543 µg/L	-0.1543 ppb	07:21:51
1	Cd 226.502†	-166.8	-1.5	-0.0382 µg/L	-0.0382 ppb	07:22:11
1	Co 228.616†	44.1	-5.7	-0.2124 µg/L	-0.2124 ppb	07:22:11
1	Cr 267.716†	84.1	-1.3	-0.0286 µg/L	-0.0286 ppb	07:21:51
1	Cu 324.752†	4317.6	4.4	0.0322 µg/L	0.0322 ppb	07:21:51
1	Mn 257.610†	-424.7	-146.3	-0.4344 µg/L	-0.4344 ppb	07:22:11
1	Mo 202.031†	15.1	-10.4	-1.0034 µg/L	-1.0034 ppb	07:22:11
1	Ni 231.604†	370.4	-0.1	-0.0057 µg/L	-0.0057 ppb	07:22:11
1	P 214.914†	13.5	-1.9	-3.2141 µg/L	-3.2141 ppb	07:22:11
1	Pb 220.353†	42.8	3.0	0.7616 µg/L	0.7616 ppb	07:22:11
1	S 181.975 Axial†	29.9	6.4	19.907 µg/L	19.907 ppb	07:22:11
1	Sb 206.836†	21.8	-4.8	-4.0303 µg/L	-4.0303 ppb	07:22:11
1	Se 196.026†	28.7	3.9	3.6900 µg/L	3.6900 ppb	07:22:11
1	SiO2†	3018.8	4.0	0.7170 µg/L	0.7170 ppb	07:21:51
1	Si 251.611†	727.4	10.4	0.7034 µg/L	0.7034 ppb	07:22:11
1	Sn 189.927†	9.9	8.3	3.1508 µg/L	3.1508 ppb	07:22:11
1	Ti 334.940†	-425.1	-5314.9	-12.387 µg/L	-12.387 ppb	07:21:51
1	Tl 190.801†	-31.8	2.6	2.4113 µg/L	2.4113 ppb	07:22:11
1	U 409.014†	-56.4	-39.4	-3.4593 µg/L	-3.4593 ppb	07:21:51
1	V 292.402†	-177.3	-14.5	-0.1653 µg/L	-0.1653 ppb	07:21:51
1	Zn 213.857†	953.2	34.3	0.7655 µg/L	0.7655 ppb	07:22:11
2	Sc RADIAL	89458.4	89458.4	102 %		07:20:49
2	Al 396.153Radial†	153.0	-56.1	-27.763 µg/L	-27.763 ppb	07:20:49
2	Ca 317.933Radial†	357.7	5.6	2.1194 µg/L	2.1194 ppb	07:21:09
2	Fe 238.204 Radial†	15.6	2.1	27.273 µg/L	27.273 ppb	07:21:09
2	K 766.490 Radial†	162.8	-39.2	-18.719 µg/L	-18.719 ppb	07:20:49
2	Mg 279.077 IEC†	5.9	-0.7	-9.9873 µg/L	-9.9873 ppb	07:21:09
2	Na 589.592 Radial†	227.7	60.3	31.731 µg/L	31.731 ppb	07:20:49
2	Sr 421.552†	145.4	-15.6	-0.0959 µg/L	-0.0959 ppb	07:20:49
2	Sc 361.383	1999236.7	1999236.7	100.71 %		07:22:17
2	Y 371.029	1362394.9	1362394.9	100.33 %		07:22:17
2	Ag 328.068†	577.7	-22.8	-0.1744 µg/L	-0.1744 ppb	07:22:23
2	As 188.979†	-2.6	-2.0	-2.7983 µg/L	-2.7983 ppb	07:22:44
2	B 249.677†	444.3	43.1	1.9151 µg/L	1.9151 ppb	07:22:23
2	Ba 233.527†	-2.3	-6.7	-0.1429 µg/L	-0.1429 ppb	07:22:44
2	Be 313.107†	-1237.6	-324.3	-0.1821 µg/L	-0.1821 ppb	07:22:23
2	Cd 226.502†	-173.4	-7.8	-0.1866 µg/L	-0.1866 ppb	07:22:44
2	Co 228.616†	37.3	-12.4	-0.4946 µg/L	-0.4946 ppb	07:22:44
2	Cr 267.716†	67.0	-18.5	-0.3923 µg/L	-0.3923 ppb	07:22:23
2	Cu 324.752†	4307.2	-11.4	-0.0677 µg/L	-0.0677 ppb	07:22:23
2	Mn 257.610†	-423.3	-144.4	-0.4263 µg/L	-0.4263 ppb	07:22:44
2	Mo 202.031†	12.5	-13.0	-1.2569 µg/L	-1.2569 ppb	07:22:44
2	Ni 231.604†	358.4	-12.5	-0.6825 µg/L	-0.6825 ppb	07:22:44
2	P 214.914†	21.8	6.4	11.010 µg/L	11.010 ppb	07:22:44
2	Pb 220.353†	36.9	-2.9	-0.7414 µg/L	-0.7414 ppb	07:22:44

2	S 181.975 Axial†	28.3	4.7	14.580 µg/L	14.580 ppb	07:22:44
2	Sb 206.836†	25.9	-0.7	-0.5920 µg/L	-0.5920 ppb	07:22:44
2	Se 196.026†	28.2	3.5	3.3097 µg/L	3.3097 ppb	07:22:44
2	SiO2†	3022.1	3.5	0.6232 µg/L	0.6232 ppb	07:22:23
2	Si 251.611†	734.0	16.0	1.0799 µg/L	1.0799 ppb	07:22:44
2	Sn 189.927†	13.8	12.2	4.5997 µg/L	4.5997 ppb	07:22:44
2	Ti 334.940†	-449.6	-5338.7	-12.440 µg/L	-12.440 ppb	07:22:23
2	Tl 190.801†	-28.7	5.8	5.4462 µg/L	5.4462 ppb	07:22:44
2	U 409.014†	-78.1	-60.9	-5.3386 µg/L	-5.3386 ppb	07:22:23
2	V 292.402†	-153.8	9.0	0.0808 µg/L	0.0808 ppb	07:22:23
2	Zn 213.857†	960.6	40.5	0.9091 µg/L	0.9091 ppb	07:22:44
3	Sc RADIAL	89752.6	89752.6	102 %		07:21:15
3	Al 396.153Radial†	176.4	-33.7	-16.680 µg/L	-16.680 ppb	07:21:15
3	Ca 317.933Radial†	350.1	-2.9	-1.0881 µg/L	-1.0881 ppb	07:21:35
3	Fe 238.204 Radial†	17.7	4.1	52.736 µg/L	52.736 ppb	07:21:35
3	K 766.490 Radial†	253.4	48.8	23.331 µg/L	23.331 ppb	07:21:15
3	Mg 279.077 IEC†	8.0	1.3	17.750 µg/L	17.750 ppb	07:21:35
3	Na 589.592 Radial†	229.7	61.6	32.385 µg/L	32.385 ppb	07:21:15
3	Sr 421.552†	120.3	-40.6	-0.2490 µg/L	-0.2490 ppb	07:21:15
3	Sc 361.383	2008467.9	2008467.9	101.18 %		07:22:50
3	Y 371.029	1369855.2	1369855.2	100.88 %		07:22:50
3	Ag 328.068†	547.5	-55.3	-0.4241 µg/L	-0.4241 ppb	07:22:55
3	As 188.979†	-2.4	-1.7	-2.4770 µg/L	-2.4770 ppb	07:23:16
3	B 249.677†	462.6	59.1	2.6234 µg/L	2.6234 ppb	07:22:55
3	Ba 233.527†	2.8	-1.7	-0.0367 µg/L	-0.0367 ppb	07:23:16
3	Be 313.107†	-1218.5	-299.8	-0.1681 µg/L	-0.1681 ppb	07:22:55
3	Cd 226.502†	-168.5	-2.2	-0.0572 µg/L	-0.0572 ppb	07:23:16
3	Co 228.616†	41.0	-9.0	-0.3519 µg/L	-0.3519 ppb	07:23:16
3	Cr 267.716†	91.8	5.7	0.1220 µg/L	0.1220 ppb	07:22:55
3	Cu 324.752†	4320.2	-18.2	-0.1063 µg/L	-0.1063 ppb	07:22:55
3	Mn 257.610†	-447.1	-166.0	-0.4908 µg/L	-0.4908 ppb	07:23:16
3	Mo 202.031†	17.0	-8.7	-0.8332 µg/L	-0.8332 ppb	07:23:16
3	Ni 231.604†	371.0	-1.7	-0.0930 µg/L	-0.0930 ppb	07:23:16
3	P 214.914†	16.3	0.8	1.3741 µg/L	1.3741 ppb	07:23:16
3	Pb 220.353†	43.3	3.2	0.8207 µg/L	0.8207 ppb	07:23:16
3	S 181.975 Axial†	24.8	1.1	3.3297 µg/L	3.3297 ppb	07:23:16
3	Sb 206.836†	32.0	5.2	4.3385 µg/L	4.3385 ppb	07:23:16
3	Se 196.026†	22.5	-2.3	-1.9660 µg/L	-1.9660 ppb	07:23:16
3	SiO2†	3006.1	-26.1	-4.6263 µg/L	-4.6263 ppb	07:22:55
3	Si 251.611†	742.9	21.5	1.4470 µg/L	1.4470 ppb	07:23:16
3	Sn 189.927†	5.7	4.1	1.5388 µg/L	1.5388 ppb	07:23:16
3	Ti 334.940†	-384.8	-5272.6	-12.288 µg/L	-12.288 ppb	07:22:55
3	Tl 190.801†	-35.8	-1.1	-1.1576 µg/L	-1.1576 ppb	07:23:16
3	U 409.014†	11.4	28.0	2.4457 µg/L	2.4457 ppb	07:22:55
3	V 292.402†	-156.4	7.1	0.0734 µg/L	0.0734 ppb	07:22:55
3	Zn 213.857†	956.4	31.9	0.7117 µg/L	0.7117 ppb	07:23:16

Mean Data: 1202049278|955816|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	2001464.2	100.82	%	0.312				0.31%
Sc RADIAL	89614.7	102	%	0.2				0.17%
Y 371.029	1364701.8	100.50	%	0.329				0.33%
Ag 328.068†	-47.1	-0.3624	µg/L	0.16598	-0.3624	ppb	0.16598	45.81%
Al 396.153Radial†	-39.9	-19.779	µg/L	6.9714	-19.779	ppb	6.9714	35.25%
As 188.979†	-2.0	-2.7996	µg/L	0.32333	-2.7996	ppb	0.32333	11.55%
B 249.677†	66.6	2.9684	µg/L	1.26176	2.9684	ppb	1.26176	42.51%
Ba 233.527†	-3.2	-0.0682	µg/L	0.06494	-0.0682	ppb	0.06494	95.16%
Be 313.107†	-300.1	-0.1682	µg/L	0.01390	-0.1682	ppb	0.01390	8.26%
Ca 317.933Radial†	4.3	1.6112	µg/L	2.48440	1.6112	ppb	2.48440	154.20%
Cd 226.502†	-3.8	-0.0940	µg/L	0.08079	-0.0940	ppb	0.08079	85.96%
Co 228.616†	-9.0	-0.3530	µg/L	0.14109	-0.3530	ppb	0.14109	39.97%
Cr 267.716†	-4.7	-0.0997	µg/L	0.26439	-0.0997	ppb	0.26439	265.31%
Cu 324.752†	-8.4	-0.0473	µg/L	0.07148	-0.0473	ppb	0.07148	151.24%
Fe 238.204 Radial†	2.7	34.152	µg/L	16.2743	34.152	ppb	16.2743	47.65%
K 766.490 Radial†	33.8	16.142	µg/L	31.8802	16.142	ppb	31.8802	197.50%
Mg 279.077 IEC†	0.7	9.3134	µg/L	16.75883	9.3134	ppb	16.75883	179.94%
Mn 257.610†	-152.2	-0.4505	µg/L	0.03512	-0.4505	ppb	0.03512	7.80%
Mo 202.031†	-10.7	-1.0312	µg/L	0.21320	-1.0312	ppb	0.21320	20.68%
Na 589.592 Radial†	63.6	33.476	µg/L	2.4787	33.476	ppb	2.4787	7.40%

Ni 231.604†	-4.8	-0.2604 µg/L	0.36815	-0.2604 ppb	0.36815	141.37%
P 214.914†	1.8	3.0567 µg/L	7.25987	3.0567 ppb	7.25987	237.51%
Pb 220.353†	1.1	0.2803 µg/L	0.88532	0.2803 ppb	0.88532	315.85%
S 181.975 Axial†	4.0	12.606 µg/L	8.4632	12.606 ppb	8.4632	67.14%
Sb 206.836†	-0.1	-0.0946 µg/L	4.20650	-0.0946 ppb	4.20650	>999.9%
Se 196.026†	1.7	1.6779 µg/L	3.16144	1.6779 ppb	3.16144	188.42%
SiO2†	-6.2	-1.0954 µg/L	3.05824	-1.0954 ppb	3.05824	279.19%
Si 251.611†	16.0	1.0768 µg/L	0.37182	1.0768 ppb	0.37182	34.53%
Sn 189.927†	8.2	3.0964 µg/L	1.53115	3.0964 ppb	1.53115	49.45%
Sr 421.552†	-24.2	-0.1485 µg/L	0.08707	-0.1485 ppb	0.08707	58.64%
Ti 334.940†	-5308.7	-12.372 µg/L	0.0770	-12.372 ppb	0.0770	0.62%
Tl 190.801†	2.4	2.2333 µg/L	3.30549	2.2333 ppb	3.30549	148.01%
U 409.014†	-24.1	-2.1174 µg/L	4.06190	-2.1174 ppb	4.06190	191.83%
V 292.402†	0.5	-0.0037 µg/L	0.14002	-0.0037 ppb	0.14002	>999.9%
Zn 213.857†	35.6	0.7955 µg/L	0.10205	0.7955 ppb	0.10205	12.83%

Sequence No.: 6

Sample ID: 1202049283|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 302

Date Collected: 3/19/2010 07:23:26

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049283|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	92873.7	92873.7	106 %		07:23:57
1	Al 396.153Radial†	205963.8	194254.2	96269 µg/L	96269 ppb	07:23:57
1	Ca 317.933Radial†	291027.1	274427.6	103180 µg/L	103180 ppb	07:23:57
1	Fe 238.204 Radial†	16315.2	15390.8	197060 µg/L	197060 ppb	07:24:17
1	K 766.490 Radial†	94420.0	88947.6	42495 µg/L	42495 ppb	07:23:57
1	Mg 279.077 IEC†	3155.4	2972.6	40461 µg/L	40461 ppb	07:24:17
1	Na 589.592 Radial†	22455.6	21038.5	11068 µg/L	11068 ppb	07:23:57
1	Sr 421.552†	420883.3	397217.8	2435.1 µg/L	2435.1 ppb	07:23:57
1	Sc 361.383	1983845.9	1983845.9	99.935 %		07:25:27
1	Y 371.029	1378813.4	1378813.4	101.54 %		07:25:27
1	Ag 328.068†	40649.2	40079.3	334.77 µg/L	334.77 ppb	07:25:27
1	As 188.979†	829.1	830.2	1150.5 µg/L	1150.5 ppb	07:25:47
1	B 249.677†	38293.5	37920.4	1601.3 µg/L	1601.3 ppb	07:25:27
1	Ba 233.527†	98214.9	98274.6	2100.3 µg/L	2100.3 ppb	07:25:27
1	Be 313.107†	1490476.3	1492354.4	857.52 µg/L	857.52 ppb	07:25:27
1	Cd 226.502†	28509.6	28692.5	650.62 µg/L	650.62 ppb	07:25:47
1	Co 228.616†	24029.5	23995.7	992.53 µg/L	992.53 ppb	07:25:47
1	Cr 267.716†	125580.1	125577.2	2669.5 µg/L	2669.5 ppb	07:25:27
1	Cu 324.752†	323180.4	319103.3	2073.5 µg/L	2073.5 ppb	07:25:27
1	Mn 257.610†	1982704.1	1984274.9	5899.2 µg/L	5899.2 ppb	07:25:27
1	Mo 202.031†	5841.0	5819.4	569.35 µg/L	569.35 ppb	07:25:47
1	Ni 231.604†	27017.5	26666.7	1454.7 µg/L	1454.7 ppb	07:25:47
1	P 214.914†	5154.6	5142.7	8526.8 µg/L	8526.8 ppb	07:25:47
1	Pb 220.353†	3611.9	3574.7	919.54 µg/L	919.54 ppb	07:25:47
1	S 181.975 Axial†	1317.6	1295.0	4056.2 µg/L	4056.2 ppb	07:25:47
1	Sb 206.836†	1605.3	1579.9	1299.8 µg/L	1299.8 ppb	07:25:47
1	Se 196.026†	3493.9	3471.6	3788.7 µg/L	3788.7 ppb	07:25:47
1	SiO2†	567084.4	564457.6	100030 µg/L	100030 ppb	07:25:27
1	Si 251.611†	688431.3	688168.2	46327 µg/L	46327 ppb	07:25:27
1	Sn 189.927†	3032.7	3033.1	1154.4 µg/L	1154.4 ppb	07:25:47
1	Ti 334.940†	2637216.9	2634047.1	6136.5 µg/L	6136.5 ppb	07:25:27
1	Tl 190.801†	1318.7	1353.8	1385.9 µg/L	1385.9 ppb	07:25:47
1	U 409.014†	-1425.7	-1409.9	-157.29 µg/L	-157.29 ppb	07:25:27
1	V 292.402†	124026.1	124268.8	1337.7 µg/L	1337.7 ppb	07:25:27
1	Zn 213.857†	289325.1	288600.7	6442.8 µg/L	6442.8 ppb	07:25:27
2	Sc RADIAL	91862.0	91862.0	105 %		07:24:23
2	Al 396.153Radial†	204473.2	194973.1	96625 µg/L	96625 ppb	07:24:23
2	Ca 317.933Radial†	289140.8	275653.3	103640 µg/L	103640 ppb	07:24:23
2	Fe 238.204 Radial†	16424.2	15664.5	200560 µg/L	200560 ppb	07:24:44
2	K 766.490 Radial†	93956.7	89487.2	42753 µg/L	42753 ppb	07:24:23
2	Mg 279.077 IEC†	3183.8	3032.6	41277 µg/L	41277 ppb	07:24:44
2	Na 589.592 Radial†	22340.1	21161.8	11132 µg/L	11132 ppb	07:24:23
2	Sr 421.552†	418986.8	399784.0	2450.8 µg/L	2450.8 ppb	07:24:23
2	Sc 361.383	1983006.4	1983006.4	99.892 %		07:25:57
2	Y 371.029	1378684.9	1378684.9	101.53 %		07:25:57
2	Ag 328.068†	40559.0	40006.2	334.47 µg/L	334.47 ppb	07:25:57
2	As 188.979†	831.7	833.2	1154.3 µg/L	1154.3 ppb	07:26:18
2	B 249.677†	38259.5	37902.5	1598.7 µg/L	1598.7 ppb	07:25:57
2	Ba 233.527†	98205.2	98306.5	2101.0 µg/L	2101.0 ppb	07:25:57
2	Be 313.107†	1488800.0	1491307.6	856.92 µg/L	856.92 ppb	07:25:57
2	Cd 226.502†	28526.3	28721.3	650.90 µg/L	650.90 ppb	07:26:18
2	Co 228.616†	24001.9	23978.3	991.81 µg/L	991.81 ppb	07:26:18
2	Cr 267.716†	125394.6	125444.6	2666.7 µg/L	2666.7 ppb	07:25:57
2	Cu 324.752†	322857.8	318917.2	2073.0 µg/L	2073.0 ppb	07:25:57
2	Mn 257.610†	1978936.0	1981342.7	5890.6 µg/L	5890.6 ppb	07:25:57
2	Mo 202.031†	5835.1	5815.9	569.14 µg/L	569.14 ppb	07:26:18
2	Ni 231.604†	26956.3	26616.9	1452.1 µg/L	1452.1 ppb	07:26:18
2	P 214.914†	5155.1	5145.4	8528.8 µg/L	8528.8 ppb	07:26:18
2	Pb 220.353†	3623.6	3587.9	923.00 µg/L	923.00 ppb	07:26:18

2	S 181.975 Axial†	1319.1	1297.2	4062.9 µg/L	4062.9 ppb	07:26:18
2	Sb 206.836†	1606.6	1581.9	1301.4 µg/L	1301.4 ppb	07:26:18
2	Se 196.026†	3506.1	3485.3	3811.9 µg/L	3811.9 ppb	07:26:18
2	SiO2†	566154.9	563767.2	99910 µg/L	99910 ppb	07:25:57
2	Si 251.611†	687191.7	687218.9	46263 µg/L	46263 ppb	07:25:57
2	Sn 189.927†	3020.5	3022.2	1150.4 µg/L	1150.4 ppb	07:26:18
2	Ti 334.940†	2633744.5	2631688.1	6130.9 µg/L	6130.9 ppb	07:25:57
2	Tl 190.801†	1318.7	1354.4	1386.8 µg/L	1386.8 ppb	07:26:18
2	U 409.014†	-1415.9	-1400.8	-157.00 µg/L	-157.00 ppb	07:25:57
2	V 292.402†	123928.0	124223.2	1337.3 µg/L	1337.3 ppb	07:25:57
2	Zn 213.857†	288852.1	288249.8	6434.8 µg/L	6434.8 ppb	07:25:57
3	Sc RADIAL	91982.5	91982.5	105 %		07:24:50
3	Al 396.153Radial†	206782.4	196918.7	97590 µg/L	97590 ppb	07:24:50
3	Ca 317.933Radial†	290325.1	276420.6	103930 µg/L	103930 ppb	07:24:50
3	Fe 238.204 Radial†	16373.9	15596.0	199690 µg/L	199690 ppb	07:25:10
3	K 766.490 Radial†	94190.8	89592.9	42804 µg/L	42804 ppb	07:24:50
3	Mg 279.077 IEC†	3167.8	3013.3	41014 µg/L	41014 ppb	07:25:10
3	Na 589.592 Radial†	22493.1	21279.7	11195 µg/L	11195 ppb	07:24:50
3	Sr 421.552†	421027.2	401205.1	2459.5 µg/L	2459.5 ppb	07:24:50
3	Sc 361.383	1976454.1	1976454.1	99.562 %		07:26:28
3	Y 371.029	1374083.7	1374083.7	101.19 %		07:26:28
3	Ag 328.068†	40094.8	39674.6	331.64 µg/L	331.64 ppb	07:26:28
3	As 188.979†	777.2	781.2	1080.0 µg/L	1080.0 ppb	07:26:49
3	B 249.677†	37652.8	37420.2	1577.4 µg/L	1577.4 ppb	07:26:28
3	Ba 233.527†	96129.9	96548.0	2063.4 µg/L	2063.4 ppb	07:26:28
3	Be 313.107†	1452674.4	1459964.2	838.92 µg/L	838.92 ppb	07:26:28
3	Cd 226.502†	27155.1	27438.8	620.91 µg/L	620.91 ppb	07:26:49
3	Co 228.616†	22662.7	22712.8	939.09 µg/L	939.09 ppb	07:26:49
3	Cr 267.716†	121530.2	121979.4	2593.0 µg/L	2593.0 ppb	07:26:28
3	Cu 324.752†	314987.5	312083.7	2029.2 µg/L	2029.2 ppb	07:26:28
3	Mn 257.610†	1933570.2	1942345.0	5774.8 µg/L	5774.8 ppb	07:26:28
3	Mo 202.031†	5503.7	5502.4	538.84 µg/L	538.84 ppb	07:26:49
3	Ni 231.604†	25514.1	25257.8	1378.0 µg/L	1378.0 ppb	07:26:49
3	P 214.914†	4882.7	4888.9	8091.8 µg/L	8091.8 ppb	07:26:49
3	Pb 220.353†	3465.3	3440.9	885.60 µg/L	885.60 ppb	07:26:49
3	S 181.975 Axial†	1275.3	1257.5	3938.6 µg/L	3938.6 ppb	07:26:49
3	Sb 206.836†	1516.3	1496.5	1230.3 µg/L	1230.3 ppb	07:26:49
3	Se 196.026†	3378.0	3368.3	3701.3 µg/L	3701.3 ppb	07:26:49
3	SiO2†	555104.8	554547.5	98276 µg/L	98276 ppb	07:26:28
3	Si 251.611†	674210.6	676461.3	45539 µg/L	45539 ppb	07:26:28
3	Sn 189.927†	2862.5	2873.5	1094.2 µg/L	1094.2 ppb	07:26:49
3	Ti 334.940†	2563575.1	2569951.0	5987.1 µg/L	5987.1 ppb	07:26:28
3	Tl 190.801†	1280.0	1319.8	1352.0 µg/L	1352.0 ppb	07:26:49
3	U 409.014†	-1362.0	-1351.3	-152.56 µg/L	-152.56 ppb	07:26:28
3	V 292.402†	120738.0	121430.4	1307.2 µg/L	1307.2 ppb	07:26:28
3	Zn 213.857†	283364.1	283696.3	6333.2 µg/L	6333.2 ppb	07:26:28

Mean Data: 1202049283|955816|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1981102.1	99.797 %	0.2039			0.20%
Sc RADIAL	92239.4	105 %	0.6			0.60%
Y 371.029	1377194.0	101.42 %	0.198			0.20%
Ag 328.068†	39920.0	333.63 µg/L	1.731	333.63 ppb	1.731	0.52%
Al 396.153Radial†	195382.0	96828 µg/L	683.6	96828 ppb	683.6	0.71%
As 188.979†	814.9	1128.3 µg/L	41.83	1128.3 ppb	41.83	3.71%
B 249.677†	37747.7	1592.5 µg/L	13.11	1592.5 ppb	13.11	0.82%
Ba 233.527†	97709.7	2088.3 µg/L	21.51	2088.3 ppb	21.51	1.03%
Be 313.107†	1481208.7	851.12 µg/L	10.573	851.12 ppb	10.573	1.24%
Ca 317.933Radial†	275500.5	103590 µg/L	378.0	103590 ppb	378.0	0.36%
Cd 226.502†	28284.2	640.81 µg/L	17.235	640.81 ppb	17.235	2.69%
Co 228.616†	23562.2	974.48 µg/L	30.647	974.48 ppb	30.647	3.14%
Cr 267.716†	124333.7	2643.1 µg/L	43.36	2643.1 ppb	43.36	1.64%
Cu 324.752†	316701.4	2058.5 µg/L	25.43	2058.5 ppb	25.43	1.24%
Fe 238.204 Radial†	15550.4	199100 µg/L	1823.1	199100 ppb	1823.1	0.92%
K 766.490 Radial†	89342.6	42684 µg/L	165.4	42684 ppb	165.4	0.39%
Mg 279.077 IEC†	3006.2	40917 µg/L	416.8	40917 ppb	416.8	1.02%
Mn 257.610†	1969320.9	5854.9 µg/L	69.46	5854.9 ppb	69.46	1.19%
Mo 202.031†	5712.6	559.11 µg/L	17.552	559.11 ppb	17.552	3.14%
Na 589.592 Radial†	21160.0	11132 µg/L	63.4	11132 ppb	63.4	0.57%

Ni 231.604†	26180.5	1428.3 µg/L	43.53	1428.3 ppb	43.53	3.05%
P 214.914†	5059.0	8382.5 µg/L	251.75	8382.5 ppb	251.75	3.00%
Pb 220.353†	3534.5	909.38 µg/L	20.670	909.38 ppb	20.670	2.27%
S 181.975 Axial†	1283.2	4019.2 µg/L	69.92	4019.2 ppb	69.92	1.74%
Sb 206.836†	1552.8	1277.2 µg/L	40.59	1277.2 ppb	40.59	3.18%
Se 196.026†	3441.7	3767.3 µg/L	58.33	3767.3 ppb	58.33	1.55%
SiO2†	560924.1	99406 µg/L	980.6	99406 ppb	980.6	0.99%
Si 251.611†	683949.5	46043 µg/L	437.7	46043 ppb	437.7	0.95%
Sn 189.927†	2976.3	1133.0 µg/L	33.64	1133.0 ppb	33.64	2.97%
Sr 421.552†	399402.3	2448.5 µg/L	12.39	2448.5 ppb	12.39	0.51%
Ti 334.940†	2611895.4	6084.8 µg/L	84.69	6084.8 ppb	84.69	1.39%
Tl 190.801†	1342.7	1374.9 µg/L	19.84	1374.9 ppb	19.84	1.44%
U 409.014†	-1387.3	-155.62 µg/L	2.650	-155.62 ppb	2.650	1.70%
V 292.402†	123307.5	1327.4 µg/L	17.49	1327.4 ppb	17.49	1.32%
Zn 213.857†	286848.9	6403.6 µg/L	61.08	6403.6 ppb	61.08	0.95%

Sequence No.: 8

Sample ID: 247551001|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 304

Date Collected: 3/19/2010 07:30:36

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 247551001|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	88777.8	88777.8	101 %		07:31:07
1	Al 396.153Radial†	52768.5	51913.9	25731 µg/L	25731 ppb	07:31:07
1	Ca 317.933Radial†	27162.3	26483.5	9957.6 µg/L	9957.6 ppb	07:31:07
1	Fe 238.204 Radial†	7060.9	6961.0	89117 µg/L	89117 ppb	07:31:27
1	K 766.490 Radial†	11869.9	11525.3	5506.3 µg/L	5506.3 ppb	07:31:07
1	Mg 279.077 IEC†	328.6	318.0	4254.9 µg/L	4254.9 ppb	07:31:27
1	Na 589.592 Radial†	7021.9	6772.7	3562.9 µg/L	3562.9 ppb	07:31:07
1	Sr 421.552†	11056.8	10762.7	65.980 µg/L	65.980 ppb	07:31:07
1	Sc 361.383	1933023.6	1933023.6	97.375 %		07:32:33
1	Y 371.029	1433979.2	1433979.2	105.61 %		07:32:33
1	Ag 328.068†	-283.6	-887.7	0.2843 µg/L	0.2843 ppb	07:32:38
1	As 188.979†	12.7	13.6	7.2539 µg/L	7.2539 ppb	07:32:59
1	B 249.677†	1031.1	660.8	-16.850 µg/L	-16.850 ppb	07:32:38
1	Ba 233.527†	14416.4	14800.6	316.05 µg/L	316.05 ppb	07:32:38
1	Be 313.107†	15622.0	16947.8	8.7337 µg/L	8.7337 ppb	07:32:38
1	Cd 226.502†	336.0	509.4	1.8698 µg/L	1.8698 ppb	07:32:59
1	Co 228.616†	423.0	384.9	10.472 µg/L	10.472 ppb	07:32:59
1	Cr 267.716†	912.5	852.1	18.138 µg/L	18.138 ppb	07:32:59
1	Cu 324.752†	7605.2	3522.0	39.231 µg/L	39.231 ppb	07:32:38
1	Mn 257.610†	1039398.8	1067698.9	3174.4 µg/L	3174.4 ppb	07:32:33
1	Mo 202.031†	64.9	41.3	7.3692 µg/L	7.3692 ppb	07:32:59
1	Ni 231.604†	718.2	369.1	21.256 µg/L	21.256 ppb	07:32:59
1	P 214.914†	408.3	404.0	628.56 µg/L	628.56 ppb	07:32:59
1	Pb 220.353†	261.7	229.2	62.014 µg/L	62.014 ppb	07:32:59
1	S 181.975 Axial†	102.9	82.3	257.77 µg/L	257.77 ppb	07:32:59
1	Sb 206.836†	30.7	5.0	3.9187 µg/L	3.9187 ppb	07:32:59
1	Se 196.026†	-62.3	-88.5	197.54 µg/L	197.54 ppb	07:32:59
1	SiO2†	463127.2	472616.7	83757 µg/L	83757 ppb	07:32:33
1	Si 251.611†	561485.7	575911.6	38770 µg/L	38770 ppb	07:32:33
1	Sn 189.927†	24.5	23.6	9.4738 µg/L	9.4738 ppb	07:32:59
1	Ti 334.940†	1135785.2	1161515.9	2706.5 µg/L	2706.5 ppb	07:32:33
1	Tl 190.801†	-58.7	-26.0	23.477 µg/L	23.477 ppb	07:32:59
1	U 409.014†	-2457.4	-2507.0	-232.78 µg/L	-232.78 ppb	07:32:33
1	V 292.402†	4246.9	4523.1	50.924 µg/L	50.924 ppb	07:32:38
1	Zn 213.857†	22941.3	22646.5	502.64 µg/L	502.64 ppb	07:32:38
2	Sc RADIAL	87604.8	87604.8	99.9 %		07:31:33
2	Al 396.153Radial†	53317.8	53161.5	26349 µg/L	26349 ppb	07:31:33
2	Ca 317.933Radial†	27424.1	27104.8	10191 µg/L	10191 ppb	07:31:33
2	Fe 238.204 Radial†	7077.4	7070.8	90524 µg/L	90524 ppb	07:31:53
2	K 766.490 Radial†	12005.5	11817.9	5646.1 µg/L	5646.1 ppb	07:31:33
2	Mg 279.077 IEC†	331.5	325.3	4353.0 µg/L	4353.0 ppb	07:31:53
2	Na 589.592 Radial†	7089.6	6933.3	3647.4 µg/L	3647.4 ppb	07:31:33
2	Sr 421.552†	11206.5	11058.8	67.795 µg/L	67.795 ppb	07:31:33
2	Sc 361.383	1948440.9	1948440.9	98.151 %		07:33:07
2	Y 371.029	1446474.1	1446474.1	106.53 %		07:33:07
2	Ag 328.068†	-240.5	-841.5	0.7511 µg/L	0.7511 ppb	07:33:12
2	As 188.979†	16.7	17.6	12.831 µg/L	12.831 ppb	07:33:33
2	B 249.677†	1037.3	658.7	-17.678 µg/L	-17.678 ppb	07:33:12
2	Ba 233.527†	14590.7	14861.1	317.34 µg/L	317.34 ppb	07:33:12
2	Be 313.107†	15767.6	16969.1	8.7463 µg/L	8.7463 ppb	07:33:12
2	Cd 226.502†	336.6	507.3	1.6604 µg/L	1.6604 ppb	07:33:33
2	Co 228.616†	414.0	372.3	9.9487 µg/L	9.9487 ppb	07:33:33
2	Cr 267.716†	898.0	829.9	17.668 µg/L	17.668 ppb	07:33:33
2	Cu 324.752†	7648.0	3503.8	39.379 µg/L	39.379 ppb	07:33:12
2	Mn 257.610†	1050324.4	1070384.1	3182.4 µg/L	3182.4 ppb	07:33:07
2	Mo 202.031†	67.7	43.6	7.6475 µg/L	7.6475 ppb	07:33:33
2	Ni 231.604†	694.3	338.9	19.631 µg/L	19.631 ppb	07:33:33
2	P 214.914†	416.0	408.5	635.42 µg/L	635.42 ppb	07:33:33
2	Pb 220.353†	262.1	227.4	61.634 µg/L	61.634 ppb	07:33:33

2	S 181.975 Axial†	106.8	85.4	267.49 µg/L	267.49 ppb	07:33:33
2	Sb 206.836†	37.8	12.1	9.8218 µg/L	9.8218 ppb	07:33:33
2	Se 196.026†	-46.2	-71.7	217.46 µg/L	217.46 ppb	07:33:33
2	SiO2†	466801.5	472596.9	83753 µg/L	83753 ppb	07:33:07
2	Si 251.611†	565168.8	575101.5	38716 µg/L	38716 ppb	07:33:07
2	Sn 189.927†	31.0	30.0	11.914 µg/L	11.914 ppb	07:33:33
2	Ti 334.940†	1144535.3	1161201.4	2705.7 µg/L	2705.7 ppb	07:33:07
2	Tl 190.801†	-68.3	-35.3	14.808 µg/L	14.808 ppb	07:33:33
2	U 409.014†	-2454.6	-2484.2	-230.98 µg/L	-230.98 ppb	07:33:07
2	V 292.402†	4281.3	4523.7	50.981 µg/L	50.981 ppb	07:33:12
2	Zn 213.857†	23203.7	22727.4	504.39 µg/L	504.39 ppb	07:33:12
3	Sc RADIAL	88074.6	88074.6	100 %		07:31:59
3	Al 396.153Radial†	53956.2	53512.5	26523 µg/L	26523 ppb	07:31:59
3	Ca 317.933Radial†	27758.3	27291.0	10261 µg/L	10261 ppb	07:31:59
3	Fe 238.204 Radial†	7083.1	7038.7	90112 µg/L	90112 ppb	07:32:19
3	K 766.490 Radial†	12076.5	11824.6	5649.3 µg/L	5649.3 ppb	07:31:59
3	Mg 279.077 IEC†	331.2	323.2	4323.9 µg/L	4323.9 ppb	07:32:19
3	Na 589.592 Radial†	7138.1	6943.7	3652.9 µg/L	3652.9 ppb	07:31:59
3	Sr 421.552†	11306.0	11098.0	68.035 µg/L	68.035 ppb	07:31:59
3	Sc 361.383	1936234.9	1936234.9	97.536 %		07:33:41
3	Y 371.029	1431866.2	1431866.2	105.45 %		07:33:41
3	Ag 328.068†	-176.5	-777.4	1.2005 µg/L	1.2005 ppb	07:33:46
3	As 188.979†	12.8	13.7	7.2592 µg/L	7.2592 ppb	07:34:07
3	B 249.677†	992.9	619.8	-19.208 µg/L	-19.208 ppb	07:33:46
3	Ba 233.527†	13760.3	14103.4	301.16 µg/L	301.16 ppb	07:33:46
3	Be 313.107†	14748.9	16025.9	8.2434 µg/L	8.2434 ppb	07:33:46
3	Cd 226.502†	275.2	446.5	0.2835 µg/L	0.2835 ppb	07:34:07
3	Co 228.616†	366.3	326.1	8.2341 µg/L	8.2341 ppb	07:34:07
3	Cr 267.716†	837.1	773.3	16.461 µg/L	16.461 ppb	07:34:07
3	Cu 324.752†	7428.8	3328.2	38.181 µg/L	38.181 ppb	07:33:46
3	Mn 257.610†	1006090.0	1031778.3	3067.8 µg/L	3067.8 ppb	07:33:41
3	Mo 202.031†	62.1	38.2	7.1111 µg/L	7.1111 ppb	07:34:07
3	Ni 231.604†	679.4	328.2	19.040 µg/L	19.040 ppb	07:34:07
3	P 214.914†	387.5	381.9	590.18 µg/L	590.18 ppb	07:34:07
3	Pb 220.353†	247.5	214.2	58.261 µg/L	58.261 ppb	07:34:07
3	S 181.975 Axial†	101.1	80.3	251.41 µg/L	251.41 ppb	07:34:07
3	Sb 206.836†	30.0	4.3	3.3311 µg/L	3.3311 ppb	07:34:07
3	Se 196.026†	-44.1	-69.7	217.95 µg/L	217.95 ppb	07:34:07
3	SiO2†	451598.7	460008.2	81522 µg/L	81522 ppb	07:33:41
3	Si 251.611†	547181.9	560290.2	37719 µg/L	37719 ppb	07:33:41
3	Sn 189.927†	24.6	23.7	9.5464 µg/L	9.5464 ppb	07:34:07
3	Ti 334.940†	1092820.2	1115531.1	2599.3 µg/L	2599.3 ppb	07:33:41
3	Tl 190.801†	-59.1	-26.3	21.988 µg/L	21.988 ppb	07:34:07
3	U 409.014†	-2302.7	-2344.2	-218.66 µg/L	-218.66 ppb	07:33:41
3	V 292.402†	4032.2	4295.8	48.550 µg/L	48.550 ppb	07:33:46
3	Zn 213.857†	22176.4	21823.1	484.16 µg/L	484.16 ppb	07:33:46

Mean Data: 247551001|955816|1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	1939233.1	97.687	%	0.4098				0.42%
Sc RADIAL	88152.4	101	%	0.7				0.67%
Y 371.029	1437439.8	105.86	%	0.581				0.55%
Ag 328.068†	-835.5	0.7453	µg/L	0.45808	0.7453	ppb	0.45808	61.46%
Al 396.153Radial†	52862.6	26201	µg/L	416.4	26201	ppb	416.4	1.59%
As 188.979†	15.0	9.1147	µg/L	3.21834	9.1147	ppb	3.21834	35.31%
B 249.677†	646.5	-17.912	µg/L	1.1962	-17.912	ppb	1.1962	6.68%
Ba 233.527†	14588.4	311.52	µg/L	8.991	311.52	ppb	8.991	2.89%
Be 313.107†	16647.6	8.5745	µg/L	0.28678	8.5745	ppb	0.28678	3.34%
Ca 317.933Radial†	26959.8	10137	µg/L	159.0	10137	ppb	159.0	1.57%
Cd 226.502†	487.7	1.2712	µg/L	0.86177	1.2712	ppb	0.86177	67.79%
Co 228.616†	361.1	9.5516	µg/L	1.17060	9.5516	ppb	1.17060	12.26%
Cr 267.716†	818.4	17.422	µg/L	0.8649	17.422	ppb	0.8649	4.96%
Cu 324.752†	3451.4	38.930	µg/L	0.6531	38.930	ppb	0.6531	1.68%
Fe 238.204 Radial†	7023.5	89918	µg/L	723.0	89918	ppb	723.0	0.80%
K 766.490 Radial†	11722.6	5600.6	µg/L	81.66	5600.6	ppb	81.66	1.46%
Mg 279.077 IEC†	322.2	4310.6	µg/L	50.38	4310.6	ppb	50.38	1.17%
Mn 257.610†	1056620.4	3141.6	µg/L	63.98	3141.6	ppb	63.98	2.04%
Mo 202.031†	41.0	7.3759	µg/L	0.26828	7.3759	ppb	0.26828	3.64%
Na 589.592 Radial†	6883.2	3621.0	µg/L	50.44	3621.0	ppb	50.44	1.39%

Ni 231.604†	345.4	19.976 µg/L	1.1472	19.976 ppb	1.1472	5.74%
P 214.914†	398.1	618.05 µg/L	24.382	618.05 ppb	24.382	3.95%
Pb 220.353†	223.6	60.636 µg/L	2.0655	60.636 ppb	2.0655	3.41%
S 181.975 Axial†	82.7	258.89 µg/L	8.095	258.89 ppb	8.095	3.13%
Sb 206.836†	7.1	5.6905 µg/L	3.58982	5.6905 ppb	3.58982	63.08%
Se 196.026†	-76.6	210.98 µg/L	11.645	210.98 ppb	11.645	5.52%
SiO2†	468407.3	83011 µg/L	1289.1	83011 ppb	1289.1	1.55%
Si 251.611†	570434.4	38402 µg/L	592.0	38402 ppb	592.0	1.54%
Sn 189.927†	25.8	10.311 µg/L	1.3885	10.311 ppb	1.3885	13.47%
Sr 421.552†	10973.2	67.270 µg/L	1.1238	67.270 ppb	1.1238	1.67%
Ti 334.940†	1146082.8	2670.5 µg/L	61.66	2670.5 ppb	61.66	2.31%
Tl 190.801†	-29.2	20.091 µg/L	4.6353	20.091 ppb	4.6353	23.07%
U 409.014†	-2445.1	-227.47 µg/L	7.685	-227.47 ppb	7.685	3.38%
V 292.402†	4447.5	50.152 µg/L	1.3875	50.152 ppb	1.3875	2.77%
Zn 213.857†	22399.0	497.06 µg/L	11.209	497.06 ppb	11.209	2.26%

Sequence No.: 9

Sample ID: 247551002|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 305

Date Collected: 3/19/2010 07:34:17

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 247551002|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Conc. Units	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	85985.5	85985.5	98.1 %			07:34:47
1	Al 396.153Radial†	80131.6	81510.8	40400 µg/L	40400 ppb	07:34:47	07:34:47
1	Ca 317.933Radial†	33399.5	33715.3	12677 µg/L	12677 ppb	07:34:47	07:34:47
1	Fe 238.204 Radial†	8141.7	8289.7	106130 µg/L	106130 ppb	07:34:47	07:35:08
1	K 766.490 Radial†	13107.8	13168.3	6291.3 µg/L	6291.3 ppb	07:34:47	07:34:47
1	Mg 279.077 IEC†	526.3	530.2	7138.9 µg/L	7138.9 ppb	07:34:47	07:35:08
1	Na 589.592 Radial†	3425.5	3330.4	1752.0 µg/L	1752.0 ppb	07:34:47	07:34:47
1	Sr 421.552†	18790.6	19004.2	116.50 µg/L	116.50 ppb	07:34:47	07:34:47
1	Sc 361.383	1961081.6	1961081.6	98.788 %			07:36:13
1	Y 371.029	1421815.3	1421815.3	104.71 %			07:36:13
1	Ag 328.068†	-400.2	-1001.6	1.0643 µg/L	1.0643 ppb	07:36:19	07:36:19
1	As 188.979†	11.7	12.5	3.1118 µg/L	3.1118 ppb	07:36:39	07:36:39
1	B 249.677†	1228.3	845.3	-17.409 µg/L	-17.409 ppb	07:36:19	07:36:19
1	Ba 233.527†	25482.5	25790.7	550.76 µg/L	550.76 ppb	07:36:19	07:36:19
1	Be 313.107†	13752.0	14825.2	7.3955 µg/L	7.3955 ppb	07:36:19	07:36:19
1	Cd 226.502†	422.1	591.6	1.9022 µg/L	1.9022 ppb	07:36:39	07:36:39
1	Co 228.616†	651.6	610.1	19.297 µg/L	19.297 ppb	07:36:39	07:36:39
1	Cr 267.716†	2335.6	2279.3	48.502 µg/L	48.502 ppb	07:36:39	07:36:39
1	Cu 324.752†	9938.7	5772.4	56.790 µg/L	56.790 ppb	07:36:19	07:36:19
1	Mn 257.610†	936039.7	947799.6	2819.3 µg/L	2819.3 ppb	07:36:13	07:36:13
1	Mo 202.031†	343.1	321.9	35.110 µg/L	35.110 ppb	07:36:39	07:36:39
1	Ni 231.604†	1269.3	916.4	51.297 µg/L	51.297 ppb	07:36:39	07:36:39
1	P 214.914†	485.8	476.5	742.31 µg/L	742.31 ppb	07:36:39	07:36:39
1	Pb 220.353†	338.3	302.9	82.165 µg/L	82.165 ppb	07:36:39	07:36:39
1	S 181.975 Axial†	216.3	195.5	612.48 µg/L	612.48 ppb	07:36:39	07:36:39
1	Sb 206.836†	31.6	5.5	4.3843 µg/L	4.3843 ppb	07:36:39	07:36:39
1	Se 196.026†	-74.2	-99.6	238.97 µg/L	238.97 ppb	07:36:39	07:36:39
1	SiO2†	445809.8	448282.1	79444 µg/L	79444 ppb	07:36:13	07:36:13
1	Si 251.611†	540401.5	546318.8	36778 µg/L	36778 ppb	07:36:13	07:36:13
1	Sn 189.927†	22.3	21.0	8.7153 µg/L	8.7153 ppb	07:36:39	07:36:39
1	Ti 334.940†	1280497.4	1291315.2	3008.7 µg/L	3008.7 ppb	07:36:13	07:36:13
1	Tl 190.801†	-67.1	-33.6	20.189 µg/L	20.189 ppb	07:36:39	07:36:39
1	U 409.014†	-1777.2	-1782.4	-171.78 µg/L	-171.78 ppb	07:36:13	07:36:13
1	V 292.402†	9313.6	9589.6	105.70 µg/L	105.70 ppb	07:36:19	07:36:19
1	Zn 213.857†	17415.7	16716.0	368.68 µg/L	368.68 ppb	07:36:19	07:36:19
2	Sc RADIAL	86954.9	86954.9	99.2 %			07:35:13
2	Al 396.153Radial†	81025.6	81501.3	40395 µg/L	40395 ppb	07:35:13	07:35:13
2	Ca 317.933Radial†	33960.6	33901.4	12747 µg/L	12747 ppb	07:35:13	07:35:13
2	Fe 238.204 Radial†	8156.3	8211.7	105130 µg/L	105130 ppb	07:35:34	07:35:34
2	K 766.490 Radial†	13348.4	13262.0	6336.0 µg/L	6336.0 ppb	07:35:13	07:35:13
2	Mg 279.077 IEC†	524.4	522.3	7032.6 µg/L	7032.6 ppb	07:35:34	07:35:34
2	Na 589.592 Radial†	3464.1	3330.4	1752.0 µg/L	1752.0 ppb	07:35:13	07:35:13
2	Sr 421.552†	19080.8	19083.2	116.99 µg/L	116.99 ppb	07:35:13	07:35:13
2	Sc 361.383	1944458.2	1944458.2	97.951 %			07:36:47
2	Y 371.029	1408151.2	1408151.2	103.70 %			07:36:47
2	Ag 328.068†	-395.0	-999.7	1.0135 µg/L	1.0135 ppb	07:36:53	07:36:53
2	As 188.979†	13.9	14.8	6.5195 µg/L	6.5195 ppb	07:37:13	07:37:13
2	B 249.677†	1222.0	849.4	-16.703 µg/L	-16.703 ppb	07:36:53	07:36:53
2	Ba 233.527†	25666.8	26199.4	559.49 µg/L	559.49 ppb	07:36:53	07:36:53
2	Be 313.107†	13770.9	14963.5	7.4755 µg/L	7.4755 ppb	07:36:53	07:36:53
2	Cd 226.502†	419.6	592.7	2.0390 µg/L	2.0390 ppb	07:37:13	07:37:13
2	Co 228.616†	653.9	618.1	19.633 µg/L	19.633 ppb	07:37:13	07:37:13
2	Cr 267.716†	2309.5	2272.9	48.367 µg/L	48.367 ppb	07:37:13	07:37:13
2	Cu 324.752†	10013.3	5934.6	57.637 µg/L	57.637 ppb	07:36:53	07:36:53
2	Mn 257.610†	930544.2	950289.6	2826.6 µg/L	2826.6 ppb	07:36:47	07:36:47
2	Mo 202.031†	345.8	327.6	35.624 µg/L	35.624 ppb	07:37:13	07:37:13
2	Ni 231.604†	1243.7	901.3	50.459 µg/L	50.459 ppb	07:37:13	07:37:13
2	P 214.914†	481.6	476.4	742.87 µg/L	742.87 ppb	07:37:13	07:37:13
2	Pb 220.353†	343.0	310.6	84.121 µg/L	84.121 ppb	07:37:13	07:37:13

2	S 181.975 Axial†	211.3	192.3	602.27 µg/L	602.27 ppb	07:37:13
2	Sb 206.836†	30.6	4.8	3.8195 µg/L	3.8195 ppb	07:37:13
2	Se 196.026†	-79.7	-105.9	230.12 µg/L	230.12 ppb	07:37:13
2	SiO2†	441673.1	447916.8	79379 µg/L	79379 ppb	07:36:47
2	Si 251.611†	535178.5	545663.1	36734 µg/L	36734 ppb	07:36:47
2	Sn 189.927†	23.2	22.1	9.1286 µg/L	9.1286 ppb	07:37:13
2	Ti 334.940†	1269300.6	1290965.5	3007.9 µg/L	3007.9 ppb	07:36:47
2	Tl 190.801†	-70.0	-37.3	16.558 µg/L	16.558 ppb	07:37:13
2	U 409.014†	-1856.5	-1878.6	-180.09 µg/L	-180.09 ppb	07:36:47
2	V 292.402†	9394.3	9752.6	107.40 µg/L	107.40 ppb	07:36:53
2	Zn 213.857†	17570.6	17024.9	375.65 µg/L	375.65 ppb	07:36:53
3	Sc RADIAL	87475.4	87475.4	99.8 %		07:35:39
3	Al 396.153Radial†	81644.2	81635.2	40461 µg/L	40461 ppb	07:35:39
3	Ca 317.933Radial†	34196.4	33934.0	12759 µg/L	12759 ppb	07:35:39
3	Fe 238.204 Radial†	8122.0	8128.4	104060 µg/L	104060 ppb	07:36:00
3	K 766.490 Radial†	13400.3	13233.9	6322.6 µg/L	6322.6 ppb	07:35:39
3	Mg 279.077 IEC†	518.2	512.9	6904.9 µg/L	6904.9 ppb	07:36:00
3	Na 589.592 Radial†	3488.5	3334.0	1753.9 µg/L	1753.9 ppb	07:35:39
3	Sr 421.552†	19239.4	19127.7	117.26 µg/L	117.26 ppb	07:35:39
3	Sc 361.383	1965370.1	1965370.1	99.004 %		07:37:21
3	Y 371.029	1420325.0	1420325.0	104.60 %		07:37:21
3	Ag 328.068†	-396.1	-996.5	0.8969 µg/L	0.8969 ppb	07:37:26
3	As 188.979†	11.9	12.6	3.5680 µg/L	3.5680 ppb	07:37:47
3	B 249.677†	1171.9	785.5	-19.019 µg/L	-19.019 ppb	07:37:26
3	Ba 233.527†	24183.6	24422.4	521.54 µg/L	521.54 ppb	07:37:26
3	Be 313.107†	12831.9	13865.5	6.8933 µg/L	6.8933 ppb	07:37:26
3	Cd 226.502†	371.5	539.6	0.9115 µg/L	0.9115 ppb	07:37:47
3	Co 228.616†	587.3	543.7	16.790 µg/L	16.790 ppb	07:37:47
3	Cr 267.716†	2074.4	2010.3	42.781 µg/L	42.781 ppb	07:37:47
3	Cu 324.752†	9608.2	5416.6	54.131 µg/L	54.131 ppb	07:37:26
3	Mn 257.610†	904263.6	913636.3	2717.8 µg/L	2717.8 ppb	07:37:21
3	Mo 202.031†	313.6	291.3	32.078 µg/L	32.078 ppb	07:37:47
3	Ni 231.604†	1173.2	816.5	45.828 µg/L	45.828 ppb	07:37:47
3	P 214.914†	440.1	429.2	662.74 µg/L	662.74 ppb	07:37:47
3	Pb 220.353†	312.0	275.6	75.174 µg/L	75.174 ppb	07:37:47
3	S 181.975 Axial†	199.1	177.7	556.71 µg/L	556.71 ppb	07:37:47
3	Sb 206.836†	30.3	4.1	3.2418 µg/L	3.2418 ppb	07:37:47
3	Se 196.026†	-57.2	-82.3	248.55 µg/L	248.55 ppb	07:37:47
3	SiO2†	432905.1	434262.9	76960 µg/L	76960 ppb	07:37:21
3	Si 251.611†	524255.8	528817.1	35600 µg/L	35600 ppb	07:37:21
3	Sn 189.927†	14.3	12.9	5.6601 µg/L	5.6601 ppb	07:37:47
3	Ti 334.940†	1226760.6	1234209.5	2875.7 µg/L	2875.7 ppb	07:37:21
3	Tl 190.801†	-56.8	-23.1	28.439 µg/L	28.439 ppb	07:37:47
3	U 409.014†	-1763.3	-1764.4	-169.92 µg/L	-169.92 ppb	07:37:21
3	V 292.402†	8652.7	8901.4	98.282 µg/L	98.282 ppb	07:37:26
3	Zn 213.857†	16616.9	15870.7	349.89 µg/L	349.89 ppb	07:37:26

Mean Data: 247551002|955816|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1956970.0	98.581 %	0.5564			0.56%
Sc RADIAL	86805.3	99.0 %	0.86			0.87%
Y 371.029	1416763.9	104.34 %	0.552			0.53%
Ag 328.068†	-999.3	0.9916 µg/L	0.08583	0.9916 ppb	0.08583	8.66%
Al 396.153Radial†	81549.1	40419 µg/L	37.1	40419 ppb	37.1	0.09%
As 188.979†	13.3	4.3998 µg/L	1.84987	4.3998 ppb	1.84987	42.04%
B 249.677†	826.7	-17.710 µg/L	1.1868	-17.710 ppb	1.1868	6.70%
Ba 233.527†	25470.9	543.93 µg/L	19.876	543.93 ppb	19.876	3.65%
Be 313.107†	14551.4	7.2548 µg/L	0.31562	7.2548 ppb	0.31562	4.35%
Ca 317.933Radial†	33850.2	12727 µg/L	44.3	12727 ppb	44.3	0.35%
Cd 226.502†	574.6	1.6176 µg/L	0.61527	1.6176 ppb	0.61527	38.04%
Co 228.616†	590.6	18.573 µg/L	1.5534	18.573 ppb	1.5534	8.36%
Cr 267.716†	2187.5	46.550 µg/L	3.2649	46.550 ppb	3.2649	7.01%
Cu 324.752†	5707.8	56.186 µg/L	1.8293	56.186 ppb	1.8293	3.26%
Fe 238.204 Radial†	8209.9	105110 µg/L	1032.2	105110 ppb	1032.2	0.98%
K 766.490 Radial†	13221.4	6316.6 µg/L	22.95	6316.6 ppb	22.95	0.36%
Mg 279.077 IEC†	521.8	7025.5 µg/L	117.16	7025.5 ppb	117.16	1.67%
Mn 257.610†	937241.9	2787.9 µg/L	60.84	2787.9 ppb	60.84	2.18%
Mo 202.031†	313.6	34.271 µg/L	1.9160	34.271 ppb	1.9160	5.59%
Na 589.592 Radial†	3331.6	1752.6 µg/L	1.12	1752.6 ppb	1.12	0.06%

Ni 231.604†	878.1	49.195 µg/L	2.9453	49.195 ppb	2.9453	5.99%
P 214.914†	460.7	715.98 µg/L	46.102	715.98 ppb	46.102	6.44%
Pb 220.353†	296.4	80.487 µg/L	4.7039	80.487 ppb	4.7039	5.84%
S 181.975 Axial†	188.5	590.49 µg/L	29.692	590.49 ppb	29.692	5.03%
Sb 206.836†	4.8	3.8152 µg/L	0.57126	3.8152 ppb	0.57126	14.97%
Se 196.026†	-95.9	239.21 µg/L	9.215	239.21 ppb	9.215	3.85%
SiO2†	443487.3	78594 µg/L	1416.1	78594 ppb	1416.1	1.80%
Si 251.611†	540266.3	36371 µg/L	667.9	36371 ppb	667.9	1.84%
Sn 189.927†	18.7	7.8347 µg/L	1.89454	7.8347 ppb	1.89454	24.18%
Sr 421.552†	19071.7	116.92 µg/L	0.383	116.92 ppb	0.383	0.33%
Ti 334.940†	1272163.4	2964.1 µg/L	76.59	2964.1 ppb	76.59	2.58%
Tl 190.801†	-31.3	21.729 µg/L	6.0879	21.729 ppb	6.0879	28.02%
U 409.014†	-1808.5	-173.93 µg/L	5.412	-173.93 ppb	5.412	3.11%
V 292.402†	9414.5	103.79 µg/L	4.847	103.79 ppb	4.847	4.67%
Zn 213.857†	16537.2	364.74 µg/L	13.328	364.74 ppb	13.328	3.65%

Sequence No.: 11

Sample ID: 1202049279|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 307

Date Collected: 3/19/2010 07:41:36

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049279|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	87979.1	87979.1	100 %		07:42:06
1	Al 396.153Radial†	62944.8	62529.4	30992 µg/L	30992 ppb	07:42:06
1	Ca 317.933Radial†	35554.7	35091.5	13194 µg/L	13194 ppb	07:42:06
1	Fe 238.204 Radial†	7671.9	7633.2	97724 µg/L	97724 ppb	07:42:26
1	K 766.490 Radial†	14370.9	14124.3	6748.0 µg/L	6748.0 ppb	07:42:06
1	Mg 279.077 IEC†	427.9	420.0	5640.0 µg/L	5640.0 ppb	07:42:26
1	Na 589.592 Radial†	5347.5	5166.8	2718.1 µg/L	2718.1 ppb	07:42:06
1	Sr 421.552†	14382.0	14176.0	86.904 µg/L	86.904 ppb	07:42:06
1	Sc 361.383	1950805.4	1950805.4	98.270 %		07:43:32
1	Y 371.029	1402115.2	1402115.2	103.26 %		07:43:32
1	Ag 328.068†	-379.0	-982.1	0.3318 µg/L	0.3318 ppb	07:43:37
1	As 188.979†	9.5	10.3	1.0503 µg/L	1.0503 ppb	07:43:58
1	B 249.677†	1105.9	727.3	-18.349 µg/L	-18.349 ppb	07:43:37
1	Ba 233.527†	20314.4	20667.5	441.33 µg/L	441.33 ppb	07:43:37
1	Be 313.107†	11174.8	12276.0	5.5529 µg/L	5.5529 ppb	07:43:37
1	Cd 226.502†	362.2	532.9	1.4498 µg/L	1.4498 ppb	07:43:58
1	Co 228.616†	507.3	466.8	11.226 µg/L	11.226 ppb	07:43:58
1	Cr 267.716†	1292.9	1230.6	26.194 µg/L	26.194 ppb	07:43:58
1	Cu 324.752†	6550.3	2377.4	33.544 µg/L	33.544 ppb	07:43:37
1	Mn 257.610†	823140.8	837904.8	2492.7 µg/L	2492.7 ppb	07:43:32
1	Mo 202.031†	101.5	77.8	11.225 µg/L	11.225 ppb	07:43:58
1	Ni 231.604†	744.2	388.9	22.440 µg/L	22.440 ppb	07:43:58
1	P 214.914†	469.5	462.4	724.49 µg/L	724.49 ppb	07:43:58
1	Pb 220.353†	264.0	229.1	62.516 µg/L	62.516 ppb	07:43:58
1	S 181.975 Axial†	252.6	233.6	731.63 µg/L	731.63 ppb	07:43:58
1	Sb 206.836†	25.4	-0.6	-0.8678 µg/L	-0.8678 ppb	07:43:58
1	Se 196.026†	-75.6	-101.5	211.55 µg/L	211.55 ppb	07:43:58
1	SiO2†	441820.9	446600.1	79146 µg/L	79146 ppb	07:43:32
1	Si 251.611†	535139.7	543846.0	36612 µg/L	36612 ppb	07:43:32
1	Sn 189.927†	25.9	24.8	10.205 µg/L	10.205 ppb	07:43:58
1	Ti 334.940†	1687550.2	1712360.6	3990.0 µg/L	3990.0 ppb	07:43:32
1	Tl 190.801†	-73.6	-40.6	18.794 µg/L	18.794 ppb	07:43:58
1	U 409.014†	-2045.5	-2064.9	-195.41 µg/L	-195.41 ppb	07:43:32
1	V 292.402†	5940.4	6206.7	69.197 µg/L	69.197 ppb	07:43:37
1	Zn 213.857†	20733.5	20185.1	447.03 µg/L	447.03 ppb	07:43:37
2	Sc RADIAL	88064.1	88064.1	100 %		07:42:32
2	Al 396.153Radial†	63100.8	62624.2	31039 µg/L	31039 ppb	07:42:32
2	Ca 317.933Radial†	35683.5	35185.6	13229 µg/L	13229 ppb	07:42:32
2	Fe 238.204 Radial†	7646.5	7600.6	97306 µg/L	97306 ppb	07:42:52
2	K 766.490 Radial†	14520.5	14259.5	6812.6 µg/L	6812.6 ppb	07:42:32
2	Mg 279.077 IEC†	426.9	418.6	5621.5 µg/L	5621.5 ppb	07:42:52
2	Na 589.592 Radial†	5337.7	5151.9	2710.3 µg/L	2710.3 ppb	07:42:32
2	Sr 421.552†	14484.8	14264.6	87.447 µg/L	87.447 ppb	07:42:32
2	Sc 361.383	1960630.3	1960630.3	98.765 %		07:44:06
2	Y 371.029	1410405.3	1410405.3	103.87 %		07:44:06
2	Ag 328.068†	-368.0	-969.1	0.3976 µg/L	0.3976 ppb	07:44:11
2	As 188.979†	15.8	16.6	10.105 µg/L	10.105 ppb	07:44:32
2	B 249.677†	1113.1	728.9	-18.056 µg/L	-18.056 ppb	07:44:11
2	Ba 233.527†	20326.5	20576.1	439.37 µg/L	439.37 ppb	07:44:11
2	Be 313.107†	11238.0	12283.0	5.5594 µg/L	5.5594 ppb	07:44:11
2	Cd 226.502†	386.5	555.6	2.0272 µg/L	2.0272 ppb	07:44:32
2	Co 228.616†	494.0	450.7	10.566 µg/L	10.566 ppb	07:44:32
2	Cr 267.716†	1285.3	1216.4	25.892 µg/L	25.892 ppb	07:44:32
2	Cu 324.752†	6589.9	2384.1	33.508 µg/L	33.508 ppb	07:44:11
2	Mn 257.610†	825277.7	835871.1	2486.6 µg/L	2486.6 ppb	07:44:06
2	Mo 202.031†	95.2	70.9	10.547 µg/L	10.547 ppb	07:44:32
2	Ni 231.604†	729.7	370.4	21.432 µg/L	21.432 ppb	07:44:32
2	P 214.914†	472.8	463.4	726.59 µg/L	726.59 ppb	07:44:32
2	Pb 220.353†	255.1	218.7	59.852 µg/L	59.852 ppb	07:44:32

2	S 181.975 Axial†	256.5	236.3	740.25 µg/L	740.25 ppb	07:44:32
2	Sb 206.836†	22.8	-3.4	-3.2383 µg/L	-3.2383 ppb	07:44:32
2	Se 196.026†	-61.9	-87.2	223.43 µg/L	223.43 ppb	07:44:32
2	SiO2†	443442.7	445989.3	79038 µg/L	79038 ppb	07:44:06
2	Si 251.611†	537072.5	543074.0	36560 µg/L	36560 ppb	07:44:06
2	Sn 189.927†	23.3	22.0	9.1742 µg/L	9.1742 ppb	07:44:32
2	Ti 334.940†	1693274.5	1709551.2	3983.5 µg/L	3983.5 ppb	07:44:06
2	Tl 190.801†	-67.9	-34.5	24.485 µg/L	24.485 ppb	07:44:32
2	U 409.014†	-2001.1	-2009.4	-190.49 µg/L	-190.49 ppb	07:44:06
2	V 292.402†	5926.4	6162.2	68.710 µg/L	68.710 ppb	07:44:11
2	Zn 213.857†	20784.8	20131.3	445.85 µg/L	445.85 ppb	07:44:11
3	Sc RADIAL	87707.3	87707.3	100 %		07:42:58
3	Al 396.153Radial†	62913.0	62692.1	31073 µg/L	31073 ppb	07:42:58
3	Ca 317.933Radial†	35541.6	35188.3	13231 µg/L	13231 ppb	07:42:58
3	Fe 238.204 Radial†	7686.6	7671.7	98216 µg/L	98216 ppb	07:43:18
3	K 766.490 Radial†	14383.7	14181.6	6775.4 µg/L	6775.4 ppb	07:42:58
3	Mg 279.077 IEC†	425.0	418.4	5617.7 µg/L	5617.7 ppb	07:43:18
3	Na 589.592 Radial†	5311.3	5147.2	2707.8 µg/L	2707.8 ppb	07:42:58
3	Sr 421.552†	14405.6	14244.0	87.321 µg/L	87.321 ppb	07:42:58
3	Sc 361.383	1955279.2	1955279.2	98.496 %		07:44:39
3	Y 371.029	1404401.2	1404401.2	103.43 %		07:44:39
3	Ag 328.068†	-404.2	-1006.8	0.1481 µg/L	0.1481 ppb	07:44:45
3	As 188.979†	14.3	15.1	7.8903 µg/L	7.8903 ppb	07:45:05
3	B 249.677†	1093.2	711.7	-19.306 µg/L	-19.306 ppb	07:44:45
3	Ba 233.527†	19345.5	19636.5	419.31 µg/L	419.31 ppb	07:44:45
3	Be 313.107†	10427.3	11491.1	5.1643 µg/L	5.1643 ppb	07:44:45
3	Cd 226.502†	317.6	486.8	0.3118 µg/L	0.3118 ppb	07:45:05
3	Co 228.616†	456.5	414.0	9.3643 µg/L	9.3643 ppb	07:45:05
3	Cr 267.716†	1166.6	1099.4	23.403 µg/L	23.403 ppb	07:45:05
3	Cu 324.752†	6336.0	2144.6	32.151 µg/L	32.151 ppb	07:44:45
3	Mn 257.610†	795200.8	807621.5	2402.8 µg/L	2402.8 ppb	07:44:39
3	Mo 202.031†	82.9	58.7	9.3982 µg/L	9.3982 ppb	07:45:05
3	Ni 231.604†	703.4	345.7	20.098 µg/L	20.098 ppb	07:45:05
3	P 214.914†	435.0	426.3	662.10 µg/L	662.10 ppb	07:45:05
3	Pb 220.353†	253.2	217.5	59.553 µg/L	59.553 ppb	07:45:05
3	S 181.975 Axial†	242.8	223.1	698.65 µg/L	698.65 ppb	07:45:05
3	Sb 206.836†	29.8	3.8	2.8121 µg/L	2.8121 ppb	07:45:05
3	Se 196.026†	-57.2	-82.6	230.57 µg/L	230.57 ppb	07:45:05
3	SiO2†	429722.0	433287.8	76787 µg/L	76787 ppb	07:44:39
3	Si 251.611†	520525.0	527762.1	35529 µg/L	35529 ppb	07:44:39
3	Sn 189.927†	26.4	25.3	10.406 µg/L	10.406 ppb	07:45:05
3	Ti 334.940†	1620806.9	1640668.8	3823.0 µg/L	3823.0 ppb	07:44:39
3	Tl 190.801†	-68.0	-34.8	22.652 µg/L	22.652 ppb	07:45:05
3	U 409.014†	-1884.1	-1896.2	-180.69 µg/L	-180.69 ppb	07:44:39
3	V 292.402†	5533.9	5780.1	64.674 µg/L	64.674 ppb	07:44:45
3	Zn 213.857†	19748.9	19137.1	423.55 µg/L	423.55 ppb	07:44:45

Mean Data: 1202049279|955816|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1955571.6	98.510 %		0.2478			0.25%
Sc RADIAL	87916.9	100 %		0.2			0.21%
Y 371.029	1405640.6	103.52 %		0.315			0.30%
Ag 328.068†	-986.0	0.2925 µg/L		0.12929	0.2925 ppb	0.12929	44.20%
Al 396.153Radial†	62615.3	31035 µg/L		40.5	31035 ppb	40.5	0.13%
As 188.979†	14.0	6.3484 µg/L		4.71996	6.3484 ppb	4.71996	74.35%
B 249.677†	722.6	-18.570 µg/L		0.6538	-18.570 ppb	0.6538	3.52%
Ba 233.527†	20293.4	433.34 µg/L		12.188	433.34 ppb	12.188	2.81%
Be 313.107†	12016.7	5.4255 µg/L		0.22627	5.4255 ppb	0.22627	4.17%
Ca 317.933Radial†	35155.1	13218 µg/L		20.7	13218 ppb	20.7	0.16%
Cd 226.502†	525.1	1.2629 µg/L		0.87285	1.2629 ppb	0.87285	69.11%
Co 228.616†	443.8	10.385 µg/L		0.9438	10.385 ppb	0.9438	9.09%
Cr 267.716†	1182.2	25.163 µg/L		1.5314	25.163 ppb	1.5314	6.09%
Cu 324.752†	2302.0	33.067 µg/L		0.7942	33.067 ppb	0.7942	2.40%
Fe 238.204 Radial†	7635.2	97749 µg/L		455.3	97749 ppb	455.3	0.47%
K 766.490 Radial†	14188.5	6778.7 µg/L		32.42	6778.7 ppb	32.42	0.48%
Mg 279.077 IEC†	419.0	5626.4 µg/L		11.91	5626.4 ppb	11.91	0.21%
Mn 257.610†	827132.4	2460.7 µg/L		50.22	2460.7 ppb	50.22	2.04%
Mo 202.031†	69.1	10.390 µg/L		0.9236	10.390 ppb	0.9236	8.89%
Na 589.592 Radial†	5155.3	2712.0 µg/L		5.38	2712.0 ppb	5.38	0.20%

Ni 231.604†	368.3	21.323 µg/L	1.1748	21.323 ppb	1.1748	5.51%
P 214.914†	450.7	704.39 µg/L	36.642	704.39 ppb	36.642	5.20%
Pb 220.353†	221.8	60.641 µg/L	1.6315	60.641 ppb	1.6315	2.69%
S 181.975 Axial†	231.0	723.51 µg/L	21.956	723.51 ppb	21.956	3.03%
Sb 206.836†	-0.1	-0.4313 µg/L	3.04872	-0.4313 ppb	3.04872	706.86%
Se 196.026†	-90.5	221.85 µg/L	9.606	221.85 ppb	9.606	4.33%
SiO2†	441959.0	78323 µg/L	1331.9	78323 ppb	1331.9	1.70%
Si 251.611†	538227.4	36233 µg/L	610.7	36233 ppb	610.7	1.69%
Sn 189.927†	24.0	9.9284 µg/L	0.66078	9.9284 ppb	0.66078	6.66%
Sr 421.552†	14228.2	87.224 µg/L	0.2843	87.224 ppb	0.2843	0.33%
Ti 334.940†	1687526.8	3932.1 µg/L	94.62	3932.1 ppb	94.62	2.41%
Tl 190.801†	-36.6	21.977 µg/L	2.9053	21.977 ppb	2.9053	13.22%
U 409.014†	-1990.2	-188.86 µg/L	7.493	-188.86 ppb	7.493	3.97%
V 292.402†	6049.7	67.527 µg/L	2.4828	67.527 ppb	2.4828	3.68%
Zn 213.857†	19817.8	438.81 µg/L	13.230	438.81 ppb	13.230	3.01%

Sequence No.: 12

Sample ID: 1202049281|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 308

Date Collected: 3/19/2010 07:45:15

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049281|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	89087.5	89087.5	102 %		07:45:46
1	Al 396.153Radial†	106759.9	104875.0	51970 µg/L	51970 ppb	07:45:46
1	Ca 317.933Radial†	132505.0	130076.4	48908 µg/L	48908 ppb	07:45:46
1	Fe 238.204 Radial†	7385.2	7255.9	92904 µg/L	92904 ppb	07:46:06
1	K 766.490 Radial†	28540.4	27892.8	13326 µg/L	13326 ppb	07:45:46
1	Mg 279.077 IEC†	858.6	838.6	11380 µg/L	11380 ppb	07:46:06
1	Na 589.592 Radial†	18125.8	17677.9	9299.7 µg/L	9299.7 ppb	07:45:46
1	Sr 421.552†	117935.9	115923.1	710.65 µg/L	710.65 ppb	07:45:46
1	Sc 361.383	1963588.0	1963588.0	98.914 %		07:47:12
1	Y 371.029	1422081.9	1422081.9	104.73 %		07:47:12
1	Ag 328.068†	65919.7	66046.9	523.35 µg/L	523.35 ppb	07:47:18
1	As 188.979†	394.1	399.0	552.71 µg/L	552.71 ppb	07:47:38
1	B 249.677†	12975.2	12719.5	522.60 µg/L	522.60 ppb	07:47:18
1	Ba 233.527†	45404.5	45898.4	980.89 µg/L	980.89 ppb	07:47:18
1	Be 313.107†	928374.6	939469.6	539.63 µg/L	539.63 ppb	07:47:12
1	Cd 226.502†	22370.7	22780.6	523.13 µg/L	523.13 ppb	07:47:18
1	Co 228.616†	12350.6	12436.7	512.12 µg/L	512.12 ppb	07:47:38
1	Cr 267.716†	26004.9	26205.3	557.27 µg/L	557.27 ppb	07:47:18
1	Cu 324.752†	95398.1	92157.0	605.59 µg/L	605.59 ppb	07:47:18
1	Mn 257.610†	1049149.2	1060941.2	3154.1 µg/L	3154.1 ppb	07:47:12
1	Mo 202.031†	5463.3	5497.9	534.34 µg/L	534.34 ppb	07:47:38
1	Ni 231.604†	10087.7	9830.0	536.33 µg/L	536.33 ppb	07:47:38
1	P 214.914†	810.4	804.0	1270.0 µg/L	1270.0 ppb	07:47:38
1	Pb 220.353†	2306.4	2292.1	589.56 µg/L	589.56 ppb	07:47:38
1	S 181.975 Axial†	2247.8	2249.1	7044.6 µg/L	7044.6 ppb	07:47:38
1	Sb 206.836†	628.8	609.2	511.55 µg/L	511.55 ppb	07:47:38
1	Se 196.026†	521.5	502.6	745.63 µg/L	745.63 ppb	07:47:38
1	SiO2†	515666.0	518329.1	91858 µg/L	91858 ppb	07:47:12
1	Si 251.611†	625120.7	631269.6	42497 µg/L	42497 ppb	07:47:12
1	Sn 189.927†	1395.6	1409.4	536.46 µg/L	536.46 ppb	07:47:38
1	Ti 334.940†	1866964.1	1882564.8	4386.7 µg/L	4386.7 ppb	07:47:12
1	Tl 190.801†	476.4	515.9	551.25 µg/L	551.25 ppb	07:47:38
1	U 409.014†	4204.3	4267.2	358.19 µg/L	358.19 ppb	07:47:18
1	V 292.402†	54274.6	55032.1	593.88 µg/L	593.88 ppb	07:47:18
1	Zn 213.857†	42250.7	41801.1	927.90 µg/L	927.90 ppb	07:47:18
2	Sc RADIAL	88700.4	88700.4	101 %		07:46:12
2	Al 396.153Radial†	106146.8	104727.5	51896 µg/L	51896 ppb	07:46:12
2	Ca 317.933Radial†	131647.7	129798.0	48803 µg/L	48803 ppb	07:46:12
2	Fe 238.204 Radial†	7371.0	7273.6	93130 µg/L	93130 ppb	07:46:32
2	K 766.490 Radial†	28361.6	27838.7	13300 µg/L	13300 ppb	07:46:12
2	Mg 279.077 IEC†	861.6	845.2	11471 µg/L	11471 ppb	07:46:32
2	Na 589.592 Radial†	18150.9	17780.5	9353.7 µg/L	9353.7 ppb	07:46:12
2	Sr 421.552†	117800.9	116296.2	712.94 µg/L	712.94 ppb	07:46:12
2	Sc 361.383	1960111.8	1960111.8	98.739 %		07:47:46
2	Y 371.029	1419639.5	1419639.5	104.55 %		07:47:46
2	Ag 328.068†	65859.6	66104.2	523.82 µg/L	523.82 ppb	07:47:52
2	As 188.979†	383.5	389.0	538.39 µg/L	538.39 ppb	07:48:12
2	B 249.677†	12948.0	12715.2	522.30 µg/L	522.30 ppb	07:47:52
2	Ba 233.527†	45537.8	46114.8	985.51 µg/L	985.51 ppb	07:47:52
2	Be 313.107†	924616.2	937327.7	538.40 µg/L	538.40 ppb	07:47:46
2	Cd 226.502†	22344.6	22794.2	523.42 µg/L	523.42 ppb	07:47:52
2	Co 228.616†	12259.7	12366.7	509.21 µg/L	509.21 ppb	07:48:12
2	Cr 267.716†	26062.7	26310.6	559.50 µg/L	559.50 ppb	07:47:52
2	Cu 324.752†	95264.7	92193.0	605.86 µg/L	605.86 ppb	07:47:52
2	Mn 257.610†	1045952.1	1059584.4	3150.1 µg/L	3150.1 ppb	07:47:46
2	Mo 202.031†	5440.3	5484.3	533.05 µg/L	533.05 ppb	07:48:12
2	Ni 231.604†	10028.0	9787.7	534.03 µg/L	534.03 ppb	07:48:12
2	P 214.914†	811.2	806.3	1273.7 µg/L	1273.7 ppb	07:48:12
2	Pb 220.353†	2294.0	2283.8	587.42 µg/L	587.42 ppb	07:48:12

2	S 181.975 Axial†	2241.7	2246.9	7037.7 µg/L	7037.7 ppb	07:48:12
2	Sb 206.836†	623.4	604.9	507.89 µg/L	507.89 ppb	07:48:12
2	Se 196.026†	524.3	506.5	749.84 µg/L	749.84 ppb	07:48:12
2	SiO2†	513466.3	517025.8	91627 µg/L	91627 ppb	07:47:46
2	Si 251.611†	622400.7	629635.7	42387 µg/L	42387 ppb	07:47:46
2	Sn 189.927†	1379.6	1395.7	531.27 µg/L	531.27 ppb	07:48:12
2	Ti 334.940†	1859861.3	1878718.6	4377.8 µg/L	4377.8 ppb	07:47:46
2	Tl 190.801†	478.3	518.7	553.87 µg/L	553.87 ppb	07:48:12
2	U 409.014†	4232.5	4303.2	361.33 µg/L	361.33 ppb	07:47:52
2	V 292.402†	54398.8	55255.1	596.26 µg/L	596.26 ppb	07:47:52
2	Zn 213.857†	42354.0	41981.4	931.93 µg/L	931.93 ppb	07:47:52
3	Sc RADIAL	88969.4	88969.4	101 %		07:46:38
3	Al 396.153Radial†	106715.9	104971.0	52018 µg/L	52018 ppb	07:46:38
3	Ca 317.933Radial†	131331.5	129092.8	48538 µg/L	48538 ppb	07:46:38
3	Fe 238.204 Radial†	7379.3	7259.7	92952 µg/L	92952 ppb	07:46:58
3	K 766.490 Radial†	28277.4	27670.9	13220 µg/L	13220 ppb	07:46:38
3	Mg 279.077 IEC†	855.9	837.0	11358 µg/L	11358 ppb	07:46:58
3	Na 589.592 Radial†	18162.7	17737.9	9331.3 µg/L	9331.3 ppb	07:46:38
3	Sr 421.552†	117781.5	115925.0	710.66 µg/L	710.66 ppb	07:46:38
3	Sc 361.383	1963288.7	1963288.7	98.899 %		07:48:20
3	Y 371.029	1418413.6	1418413.6	104.46 %		07:48:20
3	Ag 328.068†	64491.6	64613.0	512.03 µg/L	512.03 ppb	07:48:25
3	As 188.979†	366.6	371.2	513.10 µg/L	513.10 ppb	07:48:46
3	B 249.677†	12620.0	12362.3	506.52 µg/L	506.52 ppb	07:48:25
3	Ba 233.527†	43415.9	43894.7	938.06 µg/L	938.06 ppb	07:48:25
3	Be 313.107†	896380.0	907261.9	521.14 µg/L	521.14 ppb	07:48:20
3	Cd 226.502†	21526.6	21930.6	503.19 µg/L	503.19 ppb	07:48:25
3	Co 228.616†	11315.7	11392.2	468.68 µg/L	468.68 ppb	07:48:46
3	Cr 267.716†	24562.0	24750.4	526.33 µg/L	526.33 ppb	07:48:25
3	Cu 324.752†	90805.6	87528.1	576.06 µg/L	576.06 ppb	07:48:25
3	Mn 257.610†	1017238.6	1028837.1	3058.8 µg/L	3058.8 ppb	07:48:20
3	Mo 202.031†	5033.1	5063.7	492.42 µg/L	492.42 ppb	07:48:46
3	Ni 231.604†	9280.4	9015.3	491.98 µg/L	491.98 ppb	07:48:46
3	P 214.914†	743.2	736.1	1155.6 µg/L	1155.6 ppb	07:48:46
3	Pb 220.353†	2170.3	2154.9	554.54 µg/L	554.54 ppb	07:48:46
3	S 181.975 Axial†	2127.1	2127.4	6663.3 µg/L	6663.3 ppb	07:48:46
3	Sb 206.836†	582.9	562.9	472.46 µg/L	472.46 ppb	07:48:46
3	Se 196.026†	502.2	483.3	727.98 µg/L	727.98 ppb	07:48:46
3	SiO2†	499622.8	502186.8	88997 µg/L	88997 ppb	07:48:20
3	Si 251.611†	605494.9	611521.7	41168 µg/L	41168 ppb	07:48:20
3	Sn 189.927†	1268.0	1280.6	487.79 µg/L	487.79 ppb	07:48:46
3	Ti 334.940†	1797893.2	1813012.9	4224.7 µg/L	4224.7 ppb	07:48:20
3	Tl 190.801†	454.7	494.0	528.63 µg/L	528.63 ppb	07:48:46
3	U 409.014†	4005.2	4066.4	340.61 µg/L	340.61 ppb	07:48:25
3	V 292.402†	51460.1	52194.6	563.31 µg/L	563.31 ppb	07:48:25
3	Zn 213.857†	40603.9	40142.5	890.99 µg/L	890.99 ppb	07:48:25

Mean Data: 1202049281|955816|1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1962329.5	98.851	%	0.0970			0.10%
Sc RADIAL	88919.1	101	%	0.2			0.22%
Y 371.029	1420045.0	104.58	%	0.138			0.13%
Ag 328.068†	65588.0	519.73	µg/L	6.677	519.73 ppb	6.677	1.28%
Al 396.153Radial†	104857.8	51961	µg/L	61.2	51961 ppb	61.2	0.12%
As 188.979†	386.4	534.74	µg/L	20.058	534.74 ppb	20.058	3.75%
B 249.677†	12599.0	517.14	µg/L	9.200	517.14 ppb	9.200	1.78%
Ba 233.527†	45302.7	968.15	µg/L	26.165	968.15 ppb	26.165	2.70%
Be 313.107†	928019.7	533.06	µg/L	10.341	533.06 ppb	10.341	1.94%
Ca 317.933Radial†	129655.7	48750	µg/L	190.6	48750 ppb	190.6	0.39%
Cd 226.502†	22501.8	516.58	µg/L	11.598	516.58 ppb	11.598	2.25%
Co 228.616†	12065.2	496.67	µg/L	24.283	496.67 ppb	24.283	4.89%
Cr 267.716†	25755.4	547.70	µg/L	18.542	547.70 ppb	18.542	3.39%
Cu 324.752†	90626.0	595.83	µg/L	17.129	595.83 ppb	17.129	2.87%
Fe 238.204 Radial†	7263.1	92995	µg/L	119.1	92995 ppb	119.1	0.13%
K 766.490 Radial†	27800.8	13282	µg/L	55.3	13282 ppb	55.3	0.42%
Mg 279.077 IEC†	840.3	11403	µg/L	60.0	11403 ppb	60.0	0.53%
Mn 257.610†	1049787.6	3121.0	µg/L	53.90	3121.0 ppb	53.90	1.73%
Mo 202.031†	5348.6	519.94	µg/L	23.837	519.94 ppb	23.837	4.58%
Na 589.592 Radial†	17732.1	9328.2	µg/L	27.12	9328.2 ppb	27.12	0.29%

Ni 231.604†	9544.3	520.78 µg/L	24.968	520.78 ppb	24.968	4.79%
P 214.914†	782.1	1233.1 µg/L	67.16	1233.1 ppb	67.16	5.45%
Pb 220.353†	2243.6	577.17 µg/L	19.631	577.17 ppb	19.631	3.40%
S 181.975 Axial†	2207.8	6915.2 µg/L	218.15	6915.2 ppb	218.15	3.15%
Sb 206.836†	592.4	497.30 µg/L	21.590	497.30 ppb	21.590	4.34%
Se 196.026†	497.4	741.15 µg/L	11.596	741.15 ppb	11.596	1.56%
SiO2†	512513.9	90827 µg/L	1589.2	90827 ppb	1589.2	1.75%
Si 251.611†	624142.3	42017 µg/L	737.8	42017 ppb	737.8	1.76%
Sn 189.927†	1361.9	518.51 µg/L	26.728	518.51 ppb	26.728	5.15%
Sr 421.552†	116048.1	711.42 µg/L	1.317	711.42 ppb	1.317	0.19%
Ti 334.940†	1858098.8	4329.7 µg/L	91.10	4329.7 ppb	91.10	2.10%
Tl 190.801†	509.5	544.58 µg/L	13.879	544.58 ppb	13.879	2.55%
U 409.014†	4212.3	353.38 µg/L	11.167	353.38 ppb	11.167	3.16%
V 292.402†	54160.6	584.48 µg/L	18.376	584.48 ppb	18.376	3.14%
Zn 213.857†	41308.3	916.94 µg/L	22.563	916.94 ppb	22.563	2.46%

Sequence No.: 13

Sample ID: 1202049282|955816|1

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 309

Date Collected: 3/19/2010 07:48:55

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049282|955816|1

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	88934.4	88934.4	101 %		07:49:26
1	Al 396.153Radial†	116947.1	115100.1	57038 µg/L	57038 ppb	07:49:26
1	Ca 317.933Radial†	50056.8	49009.4	18427 µg/L	18427 ppb	07:49:26
1	Fe 238.204 Radial†	7648.8	7528.3	96392 µg/L	96392 ppb	07:49:46
1	K 766.490 Radial†	28366.2	27769.4	13267 µg/L	13267 ppb	07:49:26
1	Mg 279.077 IEC†	889.4	870.4	11811 µg/L	11811 ppb	07:49:46
1	Na 589.592 Radial†	15333.5	14955.4	7867.5 µg/L	7867.5 ppb	07:49:26
1	Sr 421.552†	99502.1	97947.8	600.46 µg/L	600.46 ppb	07:49:26
1	Sc 361.383	1970234.5	1970234.5	99.249 %		07:50:52
1	Y 371.029	1425807.0	1425807.0	105.00 %		07:50:52
1	Ag 328.068†	64952.9	64847.9	514.28 µg/L	514.28 ppb	07:50:58
1	As 188.979†	386.9	390.4	543.70 µg/L	543.70 ppb	07:51:18
1	B 249.677†	12574.9	12271.9	500.71 µg/L	500.71 ppb	07:50:58
1	Ba 233.527†	44387.3	44718.7	955.69 µg/L	955.69 ppb	07:50:58
1	Be 313.107†	922717.6	930603.6	534.44 µg/L	534.44 ppb	07:50:52
1	Cd 226.502†	22128.8	22460.5	515.24 µg/L	515.24 ppb	07:50:58
1	Co 228.616†	12380.7	12424.9	511.18 µg/L	511.18 ppb	07:51:18
1	Cr 267.716†	25710.0	25819.6	549.06 µg/L	549.06 ppb	07:50:58
1	Cu 324.752†	93056.8	89472.6	589.11 µg/L	589.11 ppb	07:50:58
1	Mn 257.610†	884397.8	891365.2	2650.9 µg/L	2650.9 ppb	07:50:52
1	Mo 202.031†	5408.6	5424.1	527.36 µg/L	527.36 ppb	07:51:18
1	Ni 231.604†	10114.9	9823.0	536.00 µg/L	536.00 ppb	07:51:18
1	P 214.914†	726.7	716.9	1120.5 µg/L	1120.5 ppb	07:51:18
1	Pb 220.353†	2313.4	2291.3	589.83 µg/L	589.83 ppb	07:51:18
1	S 181.975 Axial†	1946.5	1937.9	6069.7 µg/L	6069.7 ppb	07:51:18
1	Sb 206.836†	625.5	603.8	507.40 µg/L	507.40 ppb	07:51:18
1	Se 196.026†	511.8	491.1	748.91 µg/L	748.91 ppb	07:51:18
1	SiO2†	473656.9	474243.4	84045 µg/L	84045 ppb	07:50:52
1	Si 251.611†	573948.9	577578.7	38882 µg/L	38882 ppb	07:50:52
1	Sn 189.927†	1411.5	1420.6	537.74 µg/L	537.74 ppb	07:51:18
1	Ti 334.940†	1962313.6	1972268.5	4595.3 µg/L	4595.3 ppb	07:50:52
1	Tl 190.801†	462.4	500.1	542.74 µg/L	542.74 ppb	07:51:18
1	U 409.014†	3938.2	3984.7	334.80 µg/L	334.80 ppb	07:50:58
1	V 292.402†	53991.4	54561.6	588.90 µg/L	588.90 ppb	07:50:58
1	Zn 213.857†	42016.4	41421.0	919.23 µg/L	919.23 ppb	07:50:58
2	Sc RADIAL	89453.4	89453.4	102 %		07:49:52
2	Al 396.153Radial†	117334.5	114810.9	56894 µg/L	56894 ppb	07:49:52
2	Ca 317.933Radial†	50419.4	49078.6	18453 µg/L	18453 ppb	07:49:52
2	Fe 238.204 Radial†	7646.5	7482.4	95803 µg/L	95803 ppb	07:50:12
2	K 766.490 Radial†	28690.2	27924.8	13341 µg/L	13341 ppb	07:49:52
2	Mg 279.077 IEC†	887.3	863.3	11715 µg/L	11715 ppb	07:50:12
2	Na 589.592 Radial†	15443.0	14975.1	7877.9 µg/L	7877.9 ppb	07:49:52
2	Sr 421.552†	100373.5	98232.8	602.20 µg/L	602.20 ppb	07:49:52
2	Sc 361.383	1964522.6	1964522.6	98.961 %		07:51:26
2	Y 371.029	1421811.1	1421811.1	104.71 %		07:51:26
2	Ag 328.068†	65353.8	65443.3	518.89 µg/L	518.89 ppb	07:51:32
2	As 188.979†	377.8	382.4	532.27 µg/L	532.27 ppb	07:51:52
2	B 249.677†	12653.7	12388.3	506.24 µg/L	506.24 ppb	07:51:32
2	Ba 233.527†	44485.6	44948.0	960.60 µg/L	960.60 ppb	07:51:32
2	Be 313.107†	920843.4	931412.8	534.91 µg/L	534.91 ppb	07:51:26
2	Cd 226.502†	22225.9	22623.5	519.12 µg/L	519.12 ppb	07:51:32
2	Co 228.616†	12296.7	12376.3	509.14 µg/L	509.14 ppb	07:51:52
2	Cr 267.716†	25871.8	26058.4	554.14 µg/L	554.14 ppb	07:51:32
2	Cu 324.752†	93754.1	90449.8	595.24 µg/L	595.24 ppb	07:51:32
2	Mn 257.610†	882011.0	891544.1	2651.4 µg/L	2651.4 ppb	07:51:26
2	Mo 202.031†	5377.2	5408.2	525.80 µg/L	525.80 ppb	07:51:52
2	Ni 231.604†	10047.3	9784.3	533.89 µg/L	533.89 ppb	07:51:52
2	P 214.914†	718.9	711.2	1110.4 µg/L	1110.4 ppb	07:51:52
2	Pb 220.353†	2320.9	2305.7	593.46 µg/L	593.46 ppb	07:51:52

2	S 181.975 Axial†	1935.2	1932.1	6051.7 µg/L	6051.7 ppb	07:51:52
2	Sb 206.836†	619.6	599.6	503.87 µg/L	503.87 ppb	07:51:52
2	Se 196.026†	537.4	518.5	772.38 µg/L	772.38 ppb	07:51:52
2	SiO2†	471381.4	473331.6	83883 µg/L	83883 ppb	07:51:26
2	Si 251.611†	571365.5	576649.6	38820 µg/L	38820 ppb	07:51:26
2	Sn 189.927†	1411.2	1424.5	539.20 µg/L	539.20 ppb	07:51:52
2	Ti 334.940†	1957549.3	1973202.9	4597.5 µg/L	4597.5 ppb	07:51:26
2	Tl 190.801†	465.9	505.0	547.37 µg/L	547.37 ppb	07:51:52
2	U 409.014†	3947.7	4005.8	336.74 µg/L	336.74 ppb	07:51:32
2	V 292.402†	54393.0	55125.6	594.87 µg/L	594.87 ppb	07:51:32
2	Zn 213.857†	42275.3	41805.7	927.88 µg/L	927.88 ppb	07:51:32
3	Sc RADIAL	89136.1	89136.1	102 %		07:50:18
3	Al 396.153Radial†	117800.1	115678.3	57325 µg/L	57325 ppb	07:50:18
3	Ca 317.933Radial†	50471.4	49305.6	18539 µg/L	18539 ppb	07:50:18
3	Fe 238.204 Radial†	7714.4	7575.8	96998 µg/L	96998 ppb	07:50:38
3	K 766.490 Radial†	28664.1	27999.2	13377 µg/L	13377 ppb	07:50:18
3	Mg 279.077 IEC†	886.0	865.1	11738 µg/L	11738 ppb	07:50:38
3	Na 589.592 Radial†	15505.8	15090.8	7938.7 µg/L	7938.7 ppb	07:50:18
3	Sr 421.552†	100489.9	98697.5	605.05 µg/L	605.05 ppb	07:50:18
3	Sc 361.383	1964327.6	1964327.6	98.952 %		07:52:00
3	Y 371.029	1417156.9	1417156.9	104.37 %		07:52:00
3	Ag 328.068†	63890.2	63970.7	507.35 µg/L	507.35 ppb	07:52:05
3	As 188.979†	351.9	356.2	494.79 µg/L	494.79 ppb	07:52:26
3	B 249.677†	12283.7	12015.7	488.86 µg/L	488.86 ppb	07:52:05
3	Ba 233.527†	42647.6	43095.1	920.99 µg/L	920.99 ppb	07:52:05
3	Be 313.107†	888193.0	898508.8	516.01 µg/L	516.01 ppb	07:52:00
3	Cd 226.502†	21362.1	21752.8	498.57 µg/L	498.57 ppb	07:52:05
3	Co 228.616†	11266.4	11336.3	465.90 µg/L	465.90 ppb	07:52:26
3	Cr 267.716†	24336.1	24509.0	521.20 µg/L	521.20 ppb	07:52:05
3	Cu 324.752†	89475.1	86134.9	567.93 µg/L	567.93 ppb	07:52:05
3	Mn 257.610†	854319.2	863647.4	2568.6 µg/L	2568.6 ppb	07:52:00
3	Mo 202.031†	4951.0	4978.1	484.31 µg/L	484.31 ppb	07:52:26
3	Ni 231.604†	9255.9	8985.5	490.42 µg/L	490.42 ppb	07:52:26
3	P 214.914†	662.5	654.2	1013.7 µg/L	1013.7 ppb	07:52:26
3	Pb 220.353†	2170.5	2153.9	554.77 µg/L	554.77 ppb	07:52:26
3	S 181.975 Axial†	1828.9	1824.8	5715.7 µg/L	5715.7 ppb	07:52:26
3	Sb 206.836†	577.8	557.5	468.27 µg/L	468.27 ppb	07:52:26
3	Se 196.026†	491.7	472.4	733.62 µg/L	733.62 ppb	07:52:26
3	SiO2†	458732.7	460596.2	81626 µg/L	81626 ppb	07:52:00
3	Si 251.611†	555665.7	560840.8	37756 µg/L	37756 ppb	07:52:00
3	Sn 189.927†	1295.4	1307.6	495.08 µg/L	495.08 ppb	07:52:26
3	Ti 334.940†	1887008.9	1902111.4	4431.8 µg/L	4431.8 ppb	07:52:00
3	Tl 190.801†	431.7	470.5	512.82 µg/L	512.82 ppb	07:52:26
3	U 409.014†	3772.4	3829.1	321.07 µg/L	321.07 ppb	07:52:05
3	V 292.402†	51427.0	52133.6	562.70 µg/L	562.70 ppb	07:52:05
3	Zn 213.857†	40579.5	40096.1	889.76 µg/L	889.76 ppb	07:52:05

Mean Data: 1202049282|955816|1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1966361.6	99.054 %	0.1690			0.17%
Sc RADIAL	89174.6	102 %	0.3			0.29%
Y 371.029	1421591.7	104.69 %	0.319			0.30%
Ag 328.068†	64754.0	513.51 µg/L	5.809	513.51 ppb	5.809	1.13%
Al 396.153Radial†	115196.5	57086 µg/L	219.4	57086 ppb	219.4	0.38%
As 188.979†	376.3	523.59 µg/L	25.583	523.59 ppb	25.583	4.89%
B 249.677†	12225.3	498.60 µg/L	8.879	498.60 ppb	8.879	1.78%
Ba 233.527†	44253.9	945.76 µg/L	21.595	945.76 ppb	21.595	2.28%
Be 313.107†	920175.1	528.45 µg/L	10.777	528.45 ppb	10.777	2.04%
Ca 317.933Radial†	49131.2	18473 µg/L	58.3	18473 ppb	58.3	0.32%
Cd 226.502†	22279.0	510.98 µg/L	10.921	510.98 ppb	10.921	2.14%
Co 228.616†	12045.8	495.41 µg/L	25.575	495.41 ppb	25.575	5.16%
Cr 267.716†	25462.3	541.47 µg/L	17.738	541.47 ppb	17.738	3.28%
Cu 324.752†	88685.8	584.09 µg/L	14.331	584.09 ppb	14.331	2.45%
Fe 238.204 Radial†	7528.8	96397 µg/L	597.5	96397 ppb	597.5	0.62%
K 766.490 Radial†	27897.8	13328 µg/L	56.0	13328 ppb	56.0	0.42%
Mg 279.077 IEC†	866.2	11755 µg/L	50.3	11755 ppb	50.3	0.43%
Mn 257.610†	882185.6	2623.6 µg/L	47.63	2623.6 ppb	47.63	1.82%
Mo 202.031†	5270.1	512.49 µg/L	24.412	512.49 ppb	24.412	4.76%
Na 589.592 Radial†	15007.1	7894.7 µg/L	38.47	7894.7 ppb	38.47	0.49%

Ni 231.604†	9530.9	520.10 µg/L	25.728	520.10 ppb	25.728	4.95%
P 214.914†	694.1	1081.6 µg/L	58.95	1081.6 ppb	58.95	5.45%
Pb 220.353†	2250.3	579.35 µg/L	21.363	579.35 ppb	21.363	3.69%
S 181.975 Axial†	1898.3	5945.7 µg/L	199.40	5945.7 ppb	199.40	3.35%
Sb 206.836†	587.0	493.18 µg/L	21.648	493.18 ppb	21.648	4.39%
Se 196.026†	494.0	751.64 µg/L	19.523	751.64 ppb	19.523	2.60%
SiO2†	469390.4	83185 µg/L	1352.1	83185 ppb	1352.1	1.63%
Si 251.611†	571689.7	38486 µg/L	633.3	38486 ppb	633.3	1.65%
Sn 189.927†	1384.2	524.01 µg/L	25.067	524.01 ppb	25.067	4.78%
Sr 421.552†	98292.7	602.57 µg/L	2.320	602.57 ppb	2.320	0.39%
Ti 334.940†	1949194.3	4541.5 µg/L	95.02	4541.5 ppb	95.02	2.09%
Tl 190.801†	491.9	534.31 µg/L	18.752	534.31 ppb	18.752	3.51%
U 409.014†	3939.9	330.87 µg/L	8.542	330.87 ppb	8.542	2.58%
V 292.402†	53940.3	582.16 µg/L	17.114	582.16 ppb	17.114	2.94%
Zn 213.857†	41107.6	912.29 µg/L	19.981	912.29 ppb	19.981	2.19%

Sequence No.: 14

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/19/2010 07:52:35

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: CCV

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	89022.7	89022.7	102 %		07:53:10
1	Al 396.153Radial†	10484.6	10121.2	5005.6 µg/L	5005.6 ppb	07:53:10
1	Ca 317.933Radial†	14073.1	13517.0	5082.3 µg/L	5082.3 ppb	07:53:10
1	Fe 238.204 Radial†	418.4	399.0	5119.0 µg/L	5119.0 ppb	07:53:30
1	K 766.490 Radial†	11173.3	10806.8	5163.0 µg/L	5163.0 ppb	07:53:10
1	Mg 279.077 IEC†	384.9	372.6	5100.1 µg/L	5100.1 ppb	07:53:30
1	Na 589.592 Radial†	19898.9	19437.3	10225 µg/L	10225 ppb	07:53:10
1	Sr 421.552†	84451.2	83025.4	508.98 µg/L	508.98 ppb	07:53:10
1	Sc 361.383	1988414.5	1988414.5	100.16 %		07:54:34
1	Y 371.029	1356436.5	1356436.5	99.895 %		07:54:34
1	Ag 328.068†	66612.4	65906.3	515.04 µg/L	515.04 ppb	07:54:39
1	As 188.979†	365.6	365.6	521.08 µg/L	521.08 ppb	07:55:00
1	B 249.677†	11763.6	11346.1	506.78 µg/L	506.78 ppb	07:54:39
1	Ba 233.527†	24047.1	24003.1	513.34 µg/L	513.34 ppb	07:54:39
1	Be 313.107†	893866.0	893299.2	514.50 µg/L	514.50 ppb	07:54:34
1	Cd 226.502†	21801.4	21929.8	513.12 µg/L	513.12 ppb	07:54:39
1	Co 228.616†	12431.9	12362.0	517.08 µg/L	517.08 ppb	07:54:39
1	Cr 267.716†	24476.2	24350.9	517.81 µg/L	517.81 ppb	07:54:39
1	Cu 324.752†	85307.6	80879.0	517.11 µg/L	517.11 ppb	07:54:39
1	Mn 257.610†	176068.2	176054.3	522.57 µg/L	522.57 ppb	07:54:34
1	Mo 202.031†	5534.3	5499.8	531.20 µg/L	531.20 ppb	07:55:00
1	Ni 231.604†	9864.2	9479.6	516.10 µg/L	516.10 ppb	07:54:39
1	P 214.914†	1523.8	1505.9	2544.3 µg/L	2544.3 ppb	07:55:00
1	Pb 220.353†	2082.8	2039.8	520.25 µg/L	520.25 ppb	07:55:00
1	S 181.975 Axial†	357.3	333.3	1043.9 µg/L	1043.9 ppb	07:55:00
1	Sb 206.836†	661.3	633.7	533.16 µg/L	533.16 ppb	07:55:00
1	Se 196.026†	577.4	551.9	521.07 µg/L	521.07 ppb	07:55:00
1	SiO2†	34063.6	31010.3	5495.6 µg/L	5495.6 ppb	07:54:39
1	Si 251.611†	39036.8	38259.8	2575.6 µg/L	2575.6 ppb	07:54:39
1	Sn 189.927†	1402.5	1398.7	528.54 µg/L	528.54 ppb	07:55:00
1	Ti 334.940†	224847.4	219585.1	511.37 µg/L	511.37 ppb	07:54:34
1	Tl 190.801†	510.9	544.3	527.60 µg/L	527.60 ppb	07:55:00
1	U 409.014†	5870.5	5877.5	514.24 µg/L	514.24 ppb	07:54:39
1	V 292.402†	48329.4	48411.6	520.61 µg/L	520.61 ppb	07:54:39
1	Zn 213.857†	24121.8	23168.7	515.30 µg/L	515.30 ppb	07:54:39
2	Sc RADIAL	88862.7	88862.7	101 %		07:53:36
2	Al 396.153Radial†	10427.5	10083.5	4987.0 µg/L	4987.0 ppb	07:53:36
2	Ca 317.933Radial†	13992.5	13462.4	5061.8 µg/L	5061.8 ppb	07:53:36
2	Fe 238.204 Radial†	420.3	401.6	5152.1 µg/L	5152.1 ppb	07:53:56
2	K 766.490 Radial†	11064.8	10719.6	5121.4 µg/L	5121.4 ppb	07:53:36
2	Mg 279.077 IEC†	388.9	377.2	5162.9 µg/L	5162.9 ppb	07:53:56
2	Na 589.592 Radial†	19861.9	19436.1	10225 µg/L	10225 ppb	07:53:36
2	Sr 421.552†	84056.4	82785.8	507.51 µg/L	507.51 ppb	07:53:36
2	Sc 361.383	1986641.2	1986641.2	100.08 %		07:55:07
2	Y 371.029	1353063.9	1353063.9	99.647 %		07:55:07
2	Ag 328.068†	66524.1	65877.4	514.81 µg/L	514.81 ppb	07:55:13
2	As 188.979†	357.2	357.5	509.52 µg/L	509.52 ppb	07:55:33
2	B 249.677†	11722.4	11315.5	505.39 µg/L	505.39 ppb	07:55:13
2	Ba 233.527†	23973.9	23951.4	512.24 µg/L	512.24 ppb	07:55:13
2	Be 313.107†	893291.8	893522.0	514.63 µg/L	514.63 ppb	07:55:07
2	Cd 226.502†	21901.4	22049.2	515.91 µg/L	515.91 ppb	07:55:13
2	Co 228.616†	12358.6	12299.8	514.47 µg/L	514.47 ppb	07:55:13
2	Cr 267.716†	24494.5	24391.0	518.66 µg/L	518.66 ppb	07:55:13
2	Cu 324.752†	85181.0	80828.5	516.79 µg/L	516.79 ppb	07:55:13
2	Mn 257.610†	175722.4	175865.7	522.01 µg/L	522.01 ppb	07:55:07
2	Mo 202.031†	5444.3	5414.7	522.98 µg/L	522.98 ppb	07:55:33
2	Ni 231.604†	9871.5	9495.7	516.98 µg/L	516.98 ppb	07:55:13
2	P 214.914†	1516.2	1499.7	2533.5 µg/L	2533.5 ppb	07:55:33
2	Pb 220.353†	2071.9	2030.8	517.94 µg/L	517.94 ppb	07:55:33

2	S 181.975 Axial†	351.6	327.9	1027.2 µg/L	1027.2 ppb	07:55:33
2	Sb 206.836†	637.2	610.2	513.35 µg/L	513.35 ppb	07:55:33
2	Se 196.026†	588.4	563.4	531.76 µg/L	531.76 ppb	07:55:33
2	SiO2†	34070.7	31047.7	5502.2 µg/L	5502.2 ppb	07:55:13
2	Si 251.611†	38948.9	38206.8	2572.1 µg/L	2572.1 ppb	07:55:13
2	Sn 189.927†	1383.1	1380.5	521.69 µg/L	521.69 ppb	07:55:33
2	Ti 334.940†	224782.4	219720.5	511.68 µg/L	511.68 ppb	07:55:07
2	Tl 190.801†	504.7	538.6	522.17 µg/L	522.17 ppb	07:55:33
2	U 409.014†	5826.8	5839.0	510.87 µg/L	510.87 ppb	07:55:13
2	V 292.402†	48095.8	48221.2	518.52 µg/L	518.52 ppb	07:55:13
2	Zn 213.857†	24075.4	23143.9	514.73 µg/L	514.73 ppb	07:55:13
3	Sc RADIAL	89882.9	89882.9	103 %		07:54:02
3	Al 396.153Radial†	10492.0	10029.6	4962.2 µg/L	4962.2 ppb	07:54:02
3	Ca 317.933Radial†	14171.7	13480.4	5068.5 µg/L	5068.5 ppb	07:54:02
3	Fe 238.204 Radial†	423.7	400.2	5132.9 µg/L	5132.9 ppb	07:54:22
3	K 766.490 Radial†	11217.0	10744.1	5133.1 µg/L	5133.1 ppb	07:54:02
3	Mg 279.077 IEC†	390.7	374.6	5126.5 µg/L	5126.5 ppb	07:54:22
3	Na 589.592 Radial†	20046.4	19393.6	10202 µg/L	10202 ppb	07:54:02
3	Sr 421.552†	84999.2	82764.0	507.37 µg/L	507.37 ppb	07:54:02
3	Sc 361.383	1990619.1	1990619.1	100.28 %		07:55:40
3	Y 371.029	1356873.3	1356873.3	99.927 %		07:55:40
3	Ag 328.068†	63022.5	62252.6	486.35 µg/L	486.35 ppb	07:55:46
3	As 188.979†	309.4	309.1	440.46 µg/L	440.46 ppb	07:56:07
3	B 249.677†	11007.6	10579.2	472.30 µg/L	472.30 ppb	07:55:46
3	Ba 233.527†	21984.5	21919.6	468.77 µg/L	468.77 ppb	07:55:46
3	Be 313.107†	835535.1	834140.6	480.43 µg/L	480.43 ppb	07:55:40
3	Cd 226.502†	19884.7	19994.3	467.77 µg/L	467.77 ppb	07:55:46
3	Co 228.616†	11161.8	11081.6	463.45 µg/L	463.45 ppb	07:55:46
3	Cr 267.716†	21655.5	21510.9	457.43 µg/L	457.43 ppb	07:55:46
3	Cu 324.752†	77727.7	73225.6	468.27 µg/L	468.27 ppb	07:55:46
3	Mn 257.610†	164771.4	164593.9	488.55 µg/L	488.55 ppb	07:55:40
3	Mo 202.031†	4535.3	4497.4	434.41 µg/L	434.41 ppb	07:56:07
3	Ni 231.604†	8914.9	8521.9	463.97 µg/L	463.97 ppb	07:55:46
3	P 214.914†	1282.9	1264.0	2131.3 µg/L	2131.3 ppb	07:56:07
3	Pb 220.353†	1802.1	1757.6	448.23 µg/L	448.23 ppb	07:56:07
3	S 181.975 Axial†	310.7	286.4	897.08 µg/L	897.08 ppb	07:56:07
3	Sb 206.836†	552.3	524.3	440.71 µg/L	440.71 ppb	07:56:07
3	Se 196.026†	514.6	488.6	462.77 µg/L	462.77 ppb	07:56:07
3	SiO2†	31943.2	28858.0	5114.2 µg/L	5114.2 ppb	07:55:46
3	Si 251.611†	36384.1	35571.2	2394.6 µg/L	2394.6 ppb	07:55:46
3	Sn 189.927†	1131.6	1127.0	425.97 µg/L	425.97 ppb	07:56:07
3	Ti 334.940†	209039.9	203572.4	474.05 µg/L	474.05 ppb	07:55:40
3	Tl 190.801†	444.9	477.9	463.55 µg/L	463.55 ppb	07:56:07
3	U 409.014†	5191.4	5193.8	454.30 µg/L	454.30 ppb	07:55:46
3	V 292.402†	43345.9	43388.3	466.26 µg/L	466.26 ppb	07:55:46
3	Zn 213.857†	21938.5	20964.7	466.24 µg/L	466.24 ppb	07:55:46

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1988558.3	100.17 %	0.100			0.10%
Sc RADIAL	89256.1	102 %	0.6			0.61%
Y 371.029	1355457.9	99.823 %	0.1535			0.15%
Ag 328.068†	64678.8	505.40 µg/L	16.499	505.40 ppb	16.499	3.26%
QC value within limits for Ag 328.068 Recovery = 101.08%						
Al 396.153Radial†	10078.1	4984.9 µg/L	21.79	4984.9 ppb	21.79	0.44%
QC value within limits for Al 396.153Radial Recovery = 99.70%						
As 188.979†	344.1	490.35 µg/L	43.595	490.35 ppb	43.595	8.89%
QC value within limits for As 188.979 Recovery = 98.07%						
B 249.677†	11080.2	494.82 µg/L	19.520	494.82 ppb	19.520	3.94%
QC value within limits for B 249.677 Recovery = 98.96%						
Ba 233.527†	23291.4	498.12 µg/L	25.421	498.12 ppb	25.421	5.10%
QC value within limits for Ba 233.527 Recovery = 99.62%						
Be 313.107†	873653.9	503.19 µg/L	19.708	503.19 ppb	19.708	3.92%
QC value within limits for Be 313.107 Recovery = 100.64%						
Ca 317.933Radial†	13486.6	5070.9 µg/L	10.45	5070.9 ppb	10.45	0.21%
QC value within limits for Ca 317.933Radial Recovery = 101.42%						
Cd 226.502†	21324.5	498.93 µg/L	27.023	498.93 ppb	27.023	5.42%
QC value within limits for Cd 226.502 Recovery = 99.79%						
Co 228.616†	11914.5	498.33 µg/L	30.235	498.33 ppb	30.235	6.07%

QC value within limits for Co 228.616 Recovery = 99.67%							
Cr 267.716†	23417.6	497.97 µg/L	35.112	497.97 ppb	35.112	7.05%	
QC value within limits for Cr 267.716 Recovery = 99.59%							
Cu 324.752†	78311.0	500.72 µg/L	28.107	500.72 ppb	28.107	5.61%	
QC value within limits for Cu 324.752 Recovery = 100.14%							
Fe 238.204 Radial†	400.2	5134.7 µg/L	16.63	5134.7 ppb	16.63	0.32%	
QC value within limits for Fe 238.204 Radial Recovery = 102.69%							
K 766.490 Radial†	10756.8	5139.2 µg/L	21.49	5139.2 ppb	21.49	0.42%	
QC value within limits for K 766.490 Radial Recovery = 102.78%							
Mg 279.077 IEC†	374.8	5129.8 µg/L	31.50	5129.8 ppb	31.50	0.61%	
QC value within limits for Mg 279.077 IEC Recovery = 102.60%							
Mn 257.610†	172171.3	511.04 µg/L	19.482	511.04 ppb	19.482	3.81%	
QC value within limits for Mn 257.610 Recovery = 102.21%							
Mo 202.031†	5137.3	496.20 µg/L	53.664	496.20 ppb	53.664	10.82%	
QC value within limits for Mo 202.031 Recovery = 99.24%							
Na 589.592 Radial†	19422.3	10217 µg/L	13.1	10217 ppb	13.1	0.13%	
QC value within limits for Na 589.592 Radial Recovery = 102.17%							
Ni 231.604†	9165.7	499.02 µg/L	30.354	499.02 ppb	30.354	6.08%	
QC value within limits for Ni 231.604 Recovery = 99.80%							
P 214.914†	1423.2	2403.0 µg/L	235.38	2403.0 ppb	235.38	9.80%	
QC value within limits for P 214.914 Recovery = 96.12%							
Pb 220.353†	1942.7	495.47 µg/L	40.933	495.47 ppb	40.933	8.26%	
QC value within limits for Pb 220.353 Recovery = 99.09%							
S 181.975 Axial†	315.9	989.38 µg/L	80.370	989.38 ppb	80.370	8.12%	
QC value within limits for S 181.975 Axial Recovery = 98.94%							
Sb 206.836†	589.4	495.74 µg/L	48.674	495.74 ppb	48.674	9.82%	
QC value within limits for Sb 206.836 Recovery = 99.15%							
Se 196.026†	534.6	505.20 µg/L	37.130	505.20 ppb	37.130	7.35%	
QC value within limits for Se 196.026 Recovery = 101.04%							
SiO2†	30305.3	5370.7 µg/L	222.15	5370.7 ppb	222.15	4.14%	
QC value within limits for SiO2 Recovery = 100.43%							
Si 251.611†	37345.9	2514.1 µg/L	103.48	2514.1 ppb	103.48	4.12%	
QC value within limits for Si 251.611 Recovery = 100.56%							
Sn 189.927†	1302.0	492.07 µg/L	57.340	492.07 ppb	57.340	11.65%	
QC value within limits for Sn 189.927 Recovery = 98.41%							
Sr 421.552†	82858.4	507.95 µg/L	0.889	507.95 ppb	0.889	0.18%	
QC value within limits for Sr 421.552 Recovery = 101.59%							
Ti 334.940†	214292.7	499.03 µg/L	21.635	499.03 ppb	21.635	4.34%	
QC value within limits for Ti 334.940 Recovery = 99.81%							
Tl 190.801†	520.3	504.44 µg/L	35.514	504.44 ppb	35.514	7.04%	
QC value within limits for Tl 190.801 Recovery = 100.89%							
U 409.014†	5636.8	493.14 µg/L	33.674	493.14 ppb	33.674	6.83%	
QC value within limits for U 409.014 Recovery = 98.63%							
V 292.402†	46673.7	501.80 µg/L	30.790	501.80 ppb	30.790	6.14%	
QC value within limits for V 292.402 Recovery = 100.36%							
Zn 213.857†	22425.8	498.76 µg/L	28.163	498.76 ppb	28.163	5.65%	
QC value within limits for Zn 213.857 Recovery = 99.75%							
All analyte(s) passed QC.							

Sequence No.: 15

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/19/2010 07:56:17

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	88487.4	88487.4	101 %		07:56:47
1	Al 396.153Radial†	236.9	28.7	14.217 µg/L	14.217 ppb	07:56:47
1	Ca 317.933Radial†	328.8	-19.1	-7.1706 µg/L	-7.1706 ppb	07:57:07
1	Fe 238.204 Radial†	13.9	0.7	8.4696 µg/L	8.4696 ppb	07:57:07
1	K 766.490 Radial†	198.3	-2.2	-1.0629 µg/L	-1.0629 ppb	07:56:47
1	Mg 279.077 IEC†	11.3	4.6	63.393 µg/L	63.393 ppb	07:57:07
1	Na 589.592 Radial†	181.9	17.4	9.1573 µg/L	9.1573 ppb	07:56:47
1	Sr 421.552†	173.3	13.6	0.0833 µg/L	0.0833 ppb	07:56:47
1	Sc 361.383	1962248.5	1962248.5	98.847 %		07:58:09
1	Y 371.029	1342652.3	1342652.3	98.880 %		07:58:09
1	Ag 328.068†	510.1	-80.4	-0.6238 µg/L	-0.6238 ppb	07:58:15
1	As 188.979†	-1.8	-1.2	-1.6962 µg/L	-1.6962 ppb	07:58:35
1	B 249.677†	439.8	46.8	2.0922 µg/L	2.0922 ppb	07:58:15
1	Ba 233.527†	-4.5	-9.0	-0.1931 µg/L	-0.1931 ppb	07:58:35
1	Be 313.107†	-1146.1	-255.0	-0.1423 µg/L	-0.1423 ppb	07:58:15
1	Cd 226.502†	-174.4	-12.1	-0.2838 µg/L	-0.2838 ppb	07:58:35
1	Co 228.616†	30.1	-19.0	-0.7694 µg/L	-0.7694 ppb	07:58:35
1	Cr 267.716†	84.5	0.5	0.0099 µg/L	0.0099 ppb	07:58:15
1	Cu 324.752†	4251.2	12.5	0.0815 µg/L	0.0815 ppb	07:58:15
1	Mn 257.610†	-659.3	-391.1	-1.1647 µg/L	-1.1647 ppb	07:58:35
1	Mo 202.031†	37.6	12.6	1.2160 µg/L	1.2160 ppb	07:58:35
1	Ni 231.604†	377.8	13.8	0.7542 µg/L	0.7542 ppb	07:58:35
1	P 214.914†	18.5	3.4	5.8440 µg/L	5.8440 ppb	07:58:35
1	Pb 220.353†	32.6	-6.6	-1.6820 µg/L	-1.6820 ppb	07:58:35
1	S 181.975 Axial†	22.0	-1.2	-3.6305 µg/L	-3.6305 ppb	07:58:35
1	Sb 206.836†	33.0	6.9	5.8058 µg/L	5.8058 ppb	07:58:35
1	Se 196.026†	22.7	-1.6	-1.4884 µg/L	-1.4884 ppb	07:58:35
1	SiO2†	2844.9	-119.2	-21.127 µg/L	-21.127 ppb	07:58:15
1	Si 251.611†	533.7	-172.9	-11.639 µg/L	-11.639 ppb	07:58:35
1	Sn 189.927†	12.8	11.4	4.3026 µg/L	4.3026 ppb	07:58:35
1	Ti 334.940†	-266.4	-5161.8	-12.034 µg/L	-12.034 ppb	07:58:15
1	Tl 190.801†	-43.1	-9.4	-9.1186 µg/L	-9.1186 ppb	07:58:35
1	U 409.014†	-17.1	-0.6	-0.0562 µg/L	-0.0562 ppb	07:58:15
1	V 292.402†	-165.5	-5.8	-0.0518 µg/L	-0.0518 ppb	07:58:15
1	Zn 213.857†	932.7	30.2	0.6697 µg/L	0.6697 ppb	07:58:35
2	Sc RADIAL	88589.9	88589.9	101 %		07:57:13
2	Al 396.153Radial†	198.5	-9.6	-4.7672 µg/L	-4.7672 ppb	07:57:13
2	Ca 317.933Radial†	330.9	-17.4	-6.5449 µg/L	-6.5449 ppb	07:57:33
2	Fe 238.204 Radial†	15.3	2.0	26.050 µg/L	26.050 ppb	07:57:33
2	K 766.490 Radial†	172.1	-28.4	-13.550 µg/L	-13.550 ppb	07:57:13
2	Mg 279.077 IEC†	7.1	0.5	6.5556 µg/L	6.5556 ppb	07:57:33
2	Na 589.592 Radial†	206.2	41.2	21.680 µg/L	21.680 ppb	07:57:13
2	Sr 421.552†	91.3	-67.8	-0.4154 µg/L	-0.4154 ppb	07:57:13
2	Sc 361.383	1964739.5	1964739.5	98.972 %		07:58:41
2	Y 371.029	1342043.1	1342043.1	98.835 %		07:58:41
2	Ag 328.068†	546.7	-44.1	-0.3393 µg/L	-0.3393 ppb	07:58:47
2	As 188.979†	-1.0	-0.4	-0.5664 µg/L	-0.5664 ppb	07:59:07
2	B 249.677†	426.1	32.4	1.4373 µg/L	1.4373 ppb	07:58:47
2	Ba 233.527†	-15.7	-20.3	-0.4342 µg/L	-0.4342 ppb	07:59:07
2	Be 313.107†	-1149.8	-257.2	-0.1435 µg/L	-0.1435 ppb	07:58:47
2	Cd 226.502†	-164.7	-2.1	-0.0517 µg/L	-0.0517 ppb	07:59:07
2	Co 228.616†	30.6	-18.5	-0.7494 µg/L	-0.7494 ppb	07:59:07
2	Cr 267.716†	74.9	-9.3	-0.1974 µg/L	-0.1974 ppb	07:58:47
2	Cu 324.752†	4200.3	-44.3	-0.2777 µg/L	-0.2777 ppb	07:58:47
2	Mn 257.610†	-649.3	-380.1	-1.1273 µg/L	-1.1273 ppb	07:59:07
2	Mo 202.031†	29.1	4.0	0.3865 µg/L	0.3865 ppb	07:59:07
2	Ni 231.604†	355.8	-8.9	-0.4830 µg/L	-0.4830 ppb	07:59:07
2	P 214.914†	11.5	-3.7	-6.2733 µg/L	-6.2733 ppb	07:59:07
2	Pb 220.353†	27.6	-11.6	-2.9684 µg/L	-2.9684 ppb	07:59:07

2	S 181.975 Axial†	18.6	-4.7	-14.611 µg/L	-14.611 ppb	07:59:07
2	Sb 206.836†	27.3	1.1	0.9594 µg/L	0.9594 ppb	07:59:07
2	Se 196.026†	29.3	5.0	4.7172 µg/L	4.7172 ppb	07:59:07
2	SiO2†	2805.6	-162.6	-28.808 µg/L	-28.808 ppb	07:58:47
2	Si 251.611†	543.6	-163.5	-11.008 µg/L	-11.008 ppb	07:59:07
2	Sn 189.927†	7.1	5.7	2.1367 µg/L	2.1367 ppb	07:59:07
2	Ti 334.940†	-409.5	-5306.0	-12.365 µg/L	-12.365 ppb	07:58:47
2	Tl 190.801†	-32.9	1.0	0.8234 µg/L	0.8234 ppb	07:59:07
2	U 409.014†	19.0	35.9	3.1425 µg/L	3.1425 ppb	07:58:47
2	V 292.402†	-147.6	12.5	0.1399 µg/L	0.1399 ppb	07:58:47
2	Zn 213.857†	925.9	22.2	0.4973 µg/L	0.4973 ppb	07:59:07
3	Sc RADIAL	88736.3	88736.3	101 %		07:57:39
3	Al 396.153Radial†	176.8	-31.3	-15.533 µg/L	-15.533 ppb	07:57:39
3	Ca 317.933Radial†	330.9	-18.0	-6.7653 µg/L	-6.7653 ppb	07:57:59
3	Fe 238.204 Radial†	15.2	1.8	23.500 µg/L	23.500 ppb	07:57:59
3	K 766.490 Radial†	145.4	-55.1	-26.312 µg/L	-26.312 ppb	07:57:39
3	Mg 279.077 IEC†	7.7	1.1	15.155 µg/L	15.155 ppb	07:57:59
3	Na 589.592 Radial†	166.5	1.6	0.8359 µg/L	0.8359 ppb	07:57:39
3	Sr 421.552†	155.3	-4.7	-0.0285 µg/L	-0.0285 ppb	07:57:39
3	Sc 361.383	1946503.9	1946503.9	98.054 %		07:59:13
3	Y 371.029	1329233.0	1329233.0	97.892 %		07:59:13
3	Ag 328.068†	543.1	-42.5	-0.3278 µg/L	-0.3278 ppb	07:59:19
3	As 188.979†	-0.7	-0.1	-0.1027 µg/L	-0.1027 ppb	07:59:39
3	B 249.677†	394.4	4.1	0.1700 µg/L	0.1700 ppb	07:59:19
3	Ba 233.527†	-3.5	-8.0	-0.1718 µg/L	-0.1718 ppb	07:59:39
3	Be 313.107†	-1090.9	-208.1	-0.1152 µg/L	-0.1152 ppb	07:59:19
3	Cd 226.502†	-170.2	-9.2	-0.2192 µg/L	-0.2192 ppb	07:59:39
3	Co 228.616†	34.1	-14.7	-0.5914 µg/L	-0.5914 ppb	07:59:39
3	Cr 267.716†	81.7	-1.6	-0.0343 µg/L	-0.0343 ppb	07:59:19
3	Cu 324.752†	4189.3	-15.7	-0.0961 µg/L	-0.0961 ppb	07:59:19
3	Mn 257.610†	-662.1	-399.3	-1.1850 µg/L	-1.1850 ppb	07:59:39
3	Mo 202.031†	24.1	-0.8	-0.0785 µg/L	-0.0785 ppb	07:59:39
3	Ni 231.604†	354.0	-7.4	-0.4041 µg/L	-0.4041 ppb	07:59:39
3	P 214.914†	13.5	-1.6	-2.7057 µg/L	-2.7057 ppb	07:59:39
3	Pb 220.353†	37.9	-0.9	-0.2259 µg/L	-0.2259 ppb	07:59:39
3	S 181.975 Axial†	25.8	2.9	9.0332 µg/L	9.0332 ppb	07:59:39
3	Sb 206.836†	28.1	2.2	1.8123 µg/L	1.8123 ppb	07:59:39
3	Se 196.026†	23.5	-0.6	-0.4766 µg/L	-0.4766 ppb	07:59:39
3	SiO2†	2845.2	-95.5	-16.931 µg/L	-16.931 ppb	07:59:19
3	Si 251.611†	538.7	-163.3	-10.996 µg/L	-10.996 ppb	07:59:39
3	Sn 189.927†	4.4	2.9	1.1078 µg/L	1.1078 ppb	07:59:39
3	Ti 334.940†	-340.6	-5239.6	-12.211 µg/L	-12.211 ppb	07:59:19
3	Tl 190.801†	-36.8	-3.3	-3.2622 µg/L	-3.2622 ppb	07:59:39
3	U 409.014†	-64.4	-49.0	-4.2975 µg/L	-4.2975 ppb	07:59:19
3	V 292.402†	-155.2	3.4	0.0322 µg/L	0.0322 ppb	07:59:19
3	Zn 213.857†	958.5	64.2	1.4374 µg/L	1.4374 ppb	07:59:39

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1957830.6	98.624 %	0.4981			0.51%
Sc RADIAL	88604.5	101 %	0.1			0.14%
Y 371.029	1337976.1	98.536 %	0.5581			0.57%
Ag 328.068†	-55.7	-0.4303 µg/L	0.16764	-0.4303 ppb	0.16764	38.96%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-4.1	-2.0277 µg/L	15.06285	-2.0277 ppb	15.06285	742.85%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-0.5	-0.7884 µg/L	0.81961	-0.7884 ppb	0.81961	103.96%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	27.7	1.2332 µg/L	0.97721	1.2332 ppb	0.97721	79.24%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-12.5	-0.2663 µg/L	0.14574	-0.2663 ppb	0.14574	54.72%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-240.1	-0.1337 µg/L	0.01598	-0.1337 ppb	0.01598	11.96%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-18.2	-6.8269 µg/L	0.31734	-6.8269 ppb	0.31734	4.65%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	-7.8	-0.1849 µg/L	0.11979	-0.1849 ppb	0.11979	64.78%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-17.4	-0.7034 µg/L	0.09750	-0.7034 ppb	0.09750	13.86%

QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-3.5	-0.0739 µg/L	0.10919	-0.0739 ppb	0.10919	147.70%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	-15.8	-0.0974 µg/L	0.17963	-0.0974 ppb	0.17963	184.40%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204 Radial†	1.5	19.340 µg/L	9.4998	19.340 ppb	9.4998	49.12%
QC value within limits for Fe 238.204 Radial Recovery = Not calculated						
K 766.490 Radial†	-28.6	-13.641 µg/L	12.6247	-13.641 ppb	12.6247	92.55%
QC value within limits for K 766.490 Radial Recovery = Not calculated						
Mg 279.077 IEC†	2.1	28.368 µg/L	30.6359	28.368 ppb	30.6359	107.99%
QC value within limits for Mg 279.077 IEC Recovery = Not calculated						
Mn 257.610†	-390.2	-1.1590 µg/L	0.02931	-1.1590 ppb	0.02931	2.53%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	5.3	0.5080 µg/L	0.65578	0.5080 ppb	0.65578	129.09%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 589.592 Radial†	20.1	10.558 µg/L	10.4926	10.558 ppb	10.4926	99.38%
QC value within limits for Na 589.592 Radial Recovery = Not calculated						
Ni 231.604†	-0.8	-0.0443 µg/L	0.69270	-0.0443 ppb	0.69270	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated						
P 214.914†	-0.6	-1.0450 µg/L	6.22699	-1.0450 ppb	6.22699	595.89%
QC value within limits for P 214.914 Recovery = Not calculated						
Pb 220.353†	-6.4	-1.6254 µg/L	1.37215	-1.6254 ppb	1.37215	84.42%
QC value within limits for Pb 220.353 Recovery = Not calculated						
S 181.975 Axial†	-1.0	-3.0694 µg/L	11.83208	-3.0694 ppb	11.83208	385.48%
QC value within limits for S 181.975 Axial Recovery = Not calculated						
Sb 206.836†	3.4	2.8592 µg/L	2.58726	2.8592 ppb	2.58726	90.49%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	0.9	0.9174 µg/L	3.32938	0.9174 ppb	3.32938	362.91%
QC value within limits for Se 196.026 Recovery = Not calculated						
SiO2†	-125.8	-22.289 µg/L	6.0232	-22.289 ppb	6.0232	27.02%
QC value within limits for SiO2 Recovery = Not calculated						
Si 251.611†	-166.6	-11.214 µg/L	0.3676	-11.214 ppb	0.3676	3.28%
QC value within limits for Si 251.611 Recovery = Not calculated						
Sn 189.927†	6.7	2.5157 µg/L	1.63077	2.5157 ppb	1.63077	64.82%
QC value within limits for Sn 189.927 Recovery = Not calculated						
Sr 421.552†	-19.6	-0.1202 µg/L	0.26171	-0.1202 ppb	0.26171	217.72%
QC value within limits for Sr 421.552 Recovery = Not calculated						
Ti 334.940†	-5235.8	-12.203 µg/L	0.1659	-12.203 ppb	0.1659	1.36%
QC value less than the lower limit for Ti 334.940 Recovery = Not calculated						
Tl 190.801†	-3.9	-3.8525 µg/L	4.99718	-3.8525 ppb	4.99718	129.71%
QC value within limits for Tl 190.801 Recovery = Not calculated						
U 409.014†	-4.6	-0.4037 µg/L	3.73217	-0.4037 ppb	3.73217	924.45%
QC value within limits for U 409.014 Recovery = Not calculated						
V 292.402†	3.4	0.0401 µg/L	0.09606	0.0401 ppb	0.09606	239.49%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	38.9	0.8681 µg/L	0.50048	0.8681 ppb	0.50048	57.65%
QC value within limits for Zn 213.857 Recovery = Not calculated						
QC Failed. Continue with analysis.						

Sequence No.: 16

Sample ID: 1202049280|955816|5

Analyst: HSC

Initial Sample Wt:

Dilution:

Autosampler Location: 310

Date Collected: 3/19/2010 07:59:49

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Replicate Data: 1202049280|955816|5

Repl#	Analyte	Net Intensity	Corrected Intensity	Calib. Conc. Units	Sample Conc. Units	Analysis Time
1	Sc RADIAL	87755.0	87755.0	100 %		08:00:23
1	Al 396.153Radial†	10635.1	10420.8	5165.0 µg/L	5165.0 ppb	08:00:23
1	Ca 317.933Radial†	5419.7	5070.5	1906.5 µg/L	1906.5 ppb	08:00:23
1	Fe 238.204 Radial†	1226.4	1212.3	15520 µg/L	15520 ppb	08:00:43
1	K 766.490 Radial†	2667.0	2466.2	1178.2 µg/L	1178.2 ppb	08:00:23
1	Mg 279.077 IEC†	73.3	66.7	895.79 µg/L	895.79 ppb	08:00:43
1	Na 589.592 Radial†	1196.4	1032.6	543.22 µg/L	543.22 ppb	08:00:23
1	Sr 421.552†	2374.2	2214.2	13.574 µg/L	13.574 ppb	08:00:23
1	Sc 361.383	1978722.7	1978722.7	99.677 %		08:01:46
1	Y 371.029	1359306.5	1359306.5	100.11 %		08:01:46
1	Ag 328.068†	440.2	-154.8	0.0673 µg/L	0.0673 ppb	08:01:52
1	As 188.979†	-1.7	-1.1	-3.7031 µg/L	-3.7031 ppb	08:02:12
1	B 249.677†	512.3	115.9	-2.8970 µg/L	-2.8970 ppb	08:02:12
1	Ba 233.527†	3352.7	3359.1	71.730 µg/L	71.730 ppb	08:02:12
1	Be 313.107†	868.9	1776.3	0.7890 µg/L	0.7890 ppb	08:01:52
1	Cd 226.502†	-80.4	83.7	0.2077 µg/L	0.2077 ppb	08:02:12
1	Co 228.616†	113.4	64.3	1.4075 µg/L	1.4075 ppb	08:02:12
1	Cr 267.716†	303.7	219.7	4.6762 µg/L	4.6762 ppb	08:02:12
1	Cu 324.752†	4580.2	306.8	4.8759 µg/L	4.8759 ppb	08:01:52
1	Mn 257.610†	156005.5	156787.5	466.27 µg/L	466.27 ppb	08:01:46
1	Mo 202.031†	24.8	-0.6	0.5356 µg/L	0.5356 ppb	08:02:12
1	Ni 231.604†	437.4	70.4	4.0378 µg/L	4.0378 ppb	08:02:12
1	P 214.914†	80.4	65.3	101.20 µg/L	101.20 ppb	08:02:12
1	Pb 220.353†	69.9	30.6	8.4621 µg/L	8.4621 ppb	08:02:12
1	S 181.975 Axial†	55.3	32.1	100.42 µg/L	100.42 ppb	08:02:12
1	Sb 206.836†	30.1	3.8	3.0576 µg/L	3.0576 ppb	08:02:12
1	Se 196.026†	2.5	-22.1	28.146 µg/L	28.146 ppb	08:02:12
1	SiO2†	81029.0	78294.6	13875 µg/L	13875 ppb	08:01:52
1	Si 251.611†	96278.3	95877.8	6454.5 µg/L	6454.5 ppb	08:01:52
1	Sn 189.927†	6.8	5.3	2.1068 µg/L	2.1068 ppb	08:02:12
1	Ti 334.940†	268096.0	264073.4	615.32 µg/L	615.32 ppb	08:01:46
1	Tl 190.801†	-36.9	-2.7	6.7260 µg/L	6.7260 ppb	08:02:12
1	U 409.014†	-349.5	-333.9	-31.549 µg/L	-31.549 ppb	08:01:52
1	V 292.402†	899.2	1063.8	11.810 µg/L	11.810 ppb	08:01:52
1	Zn 213.857†	3937.3	3036.7	67.209 µg/L	67.209 ppb	08:02:12
2	Sc RADIAL	87913.7	87913.7	100 %		08:00:49
2	Al 396.153Radial†	10558.6	10325.3	5117.7 µg/L	5117.7 ppb	08:00:49
2	Ca 317.933Radial†	5426.0	5067.0	1905.2 µg/L	1905.2 ppb	08:00:49
2	Fe 238.204 Radial†	1230.8	1214.5	15548 µg/L	15548 ppb	08:01:09
2	K 766.490 Radial†	2785.3	2579.3	1232.3 µg/L	1232.3 ppb	08:00:49
2	Mg 279.077 IEC†	75.3	68.5	920.75 µg/L	920.75 ppb	08:01:09
2	Na 589.592 Radial†	1163.7	997.8	524.89 µg/L	524.89 ppb	08:00:49
2	Sr 421.552†	2391.3	2227.0	13.652 µg/L	13.652 ppb	08:00:49
2	Sc 361.383	1962243.4	1962243.4	98.847 %		08:02:19
2	Y 371.029	1349618.8	1349618.8	99.393 %		08:02:19
2	Ag 328.068†	422.1	-169.4	-0.0479 µg/L	-0.0479 ppb	08:02:25
2	As 188.979†	-2.8	-2.3	-5.4190 µg/L	-5.4190 ppb	08:02:45
2	B 249.677†	494.1	101.8	-3.5449 µg/L	-3.5449 ppb	08:02:45
2	Ba 233.527†	3327.3	3361.7	71.785 µg/L	71.785 ppb	08:02:45
2	Be 313.107†	890.1	1805.0	0.8056 µg/L	0.8056 ppb	08:02:25
2	Cd 226.502†	-77.7	85.7	0.2521 µg/L	0.2521 ppb	08:02:45
2	Co 228.616†	118.8	70.7	1.6768 µg/L	1.6768 ppb	08:02:45
2	Cr 267.716†	283.8	202.2	4.3034 µg/L	4.3034 ppb	08:02:45
2	Cu 324.752†	4548.7	313.5	4.9237 µg/L	4.9237 ppb	08:02:25
2	Mn 257.610†	154782.1	156864.2	466.50 µg/L	466.50 ppb	08:02:19
2	Mo 202.031†	23.0	-2.1	0.3843 µg/L	0.3843 ppb	08:02:45
2	Ni 231.604†	431.9	68.6	3.9347 µg/L	3.9347 ppb	08:02:45
2	P 214.914†	76.4	61.9	95.295 µg/L	95.295 ppb	08:02:45
2	Pb 220.353†	68.1	29.3	8.1375 µg/L	8.1375 ppb	08:02:45

2	S 181.975 Axial†	50.5	27.7	86.845 µg/L	86.845 ppb	08:02:45
2	Sb 206.836†	31.7	5.6	4.6322 µg/L	4.6322 ppb	08:02:45
2	Se 196.026†	8.3	-16.1	33.689 µg/L	33.689 ppb	08:02:45
2	SiO2†	80908.6	78855.5	13975 µg/L	13975 ppb	08:02:25
2	Si 251.611†	96148.6	96557.8	6500.3 µg/L	6500.3 ppb	08:02:25
2	Sn 189.927†	-0.2	-1.8	-0.5440 µg/L	-0.5440 ppb	08:02:45
2	Ti 334.940†	265822.8	264032.6	615.22 µg/L	615.22 ppb	08:02:19
2	Tl 190.801†	-38.1	-4.3	5.1899 µg/L	5.1899 ppb	08:02:45
2	U 409.014†	-388.7	-376.6	-35.293 µg/L	-35.293 ppb	08:02:25
2	V 292.402†	833.0	1004.4	11.174 µg/L	11.174 ppb	08:02:25
2	Zn 213.857†	3893.6	3025.6	66.958 µg/L	66.958 ppb	08:02:45
3	Sc RADIAL	87367.1	87367.1	99.6 %		08:01:15
3	Al 396.153Radial†	10564.5	10397.1	5153.2 µg/L	5153.2 ppb	08:01:15
3	Ca 317.933Radial†	5414.3	5089.1	1913.5 µg/L	1913.5 ppb	08:01:15
3	Fe 238.204 Radial†	1229.0	1220.4	15624 µg/L	15624 ppb	08:01:35
3	K 766.490 Radial†	2755.5	2566.8	1226.3 µg/L	1226.3 ppb	08:01:15
3	Mg 279.077 IEC†	74.2	67.9	912.38 µg/L	912.38 ppb	08:01:35
3	Na 589.592 Radial†	1228.7	1070.3	563.07 µg/L	563.07 ppb	08:01:15
3	Sr 421.552†	2382.1	2232.6	13.687 µg/L	13.687 ppb	08:01:15
3	Sc 361.383	1964770.8	1964770.8	98.974 %		08:02:52
3	Y 371.029	1350136.7	1350136.7	99.431 %		08:02:52
3	Ag 328.068†	434.7	-157.2	0.0460 µg/L	0.0460 ppb	08:02:58
3	As 188.979†	4.5	5.1	5.1882 µg/L	5.1882 ppb	08:03:18
3	B 249.677†	487.0	93.9	-3.9370 µg/L	-3.9370 ppb	08:03:18
3	Ba 233.527†	2827.9	2852.7	60.917 µg/L	60.917 ppb	08:03:18
3	Be 313.107†	726.5	1638.5	0.7250 µg/L	0.7250 ppb	08:02:58
3	Cd 226.502†	-91.4	71.9	-0.0788 µg/L	-0.0788 ppb	08:03:18
3	Co 228.616†	105.6	57.3	1.1975 µg/L	1.1975 ppb	08:03:18
3	Cr 267.716†	252.4	170.1	3.6201 µg/L	3.6201 ppb	08:03:18
3	Cu 324.752†	4540.7	299.6	4.8490 µg/L	4.8490 ppb	08:02:58
3	Mn 257.610†	146377.0	148170.5	440.70 µg/L	440.70 ppb	08:02:52
3	Mo 202.031†	23.3	-1.9	0.4063 µg/L	0.4063 ppb	08:03:18
3	Ni 231.604†	421.7	57.6	3.3416 µg/L	3.3416 ppb	08:03:18
3	P 214.914†	62.2	47.5	70.448 µg/L	70.448 ppb	08:03:18
3	Pb 220.353†	71.9	33.0	9.0813 µg/L	9.0813 ppb	08:03:18
3	S 181.975 Axial†	51.4	28.5	89.231 µg/L	89.231 ppb	08:03:18
3	Sb 206.836†	23.5	-2.7	-2.3154 µg/L	-2.3154 ppb	08:03:18
3	Se 196.026†	7.2	-17.3	32.837 µg/L	32.837 ppb	08:03:18
3	SiO2†	75602.2	73388.8	13006 µg/L	13006 ppb	08:02:58
3	Si 251.611†	89638.5	89855.1	6049.0 µg/L	6049.0 ppb	08:02:58
3	Sn 189.927†	8.1	6.6	2.6222 µg/L	2.6222 ppb	08:03:18
3	Ti 334.940†	249040.5	246730.3	574.90 µg/L	574.90 ppb	08:02:52
3	Tl 190.801†	-37.9	-4.0	5.0638 µg/L	5.0638 ppb	08:03:18
3	U 409.014†	-256.2	-242.2	-23.524 µg/L	-23.524 ppb	08:02:58
3	V 292.402†	746.1	915.5	10.243 µg/L	10.243 ppb	08:02:58
3	Zn 213.857†	3456.4	2578.8	56.950 µg/L	56.950 ppb	08:03:18

Mean Data: 1202049280|955816|5

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1968579.0	99.166 %	%	0.4471			0.45%
Sc RADIAL	87678.6	100.0 %	%	0.32			0.32%
Y 371.029	1353020.7	99.643 %	%	0.4014			0.40%
Ag 328.068†	-160.5	0.0218 µg/L	µg/L	0.06131	0.0218 ppb	0.06131	281.64%
Al 396.153Radial†	10381.0	5145.3 µg/L	µg/L	24.64	5145.3 ppb	24.64	0.48%
As 188.979†	0.6	-1.3113 µg/L	µg/L	5.69374	-1.3113 ppb	5.69374	434.20%
B 249.677†	103.8	-3.4597 µg/L	µg/L	0.52524	-3.4597 ppb	0.52524	15.18%
Ba 233.527†	3191.2	68.144 µg/L	µg/L	6.2586	68.144 ppb	6.2586	9.18%
Be 313.107†	1739.9	0.7732 µg/L	µg/L	0.04253	0.7732 ppb	0.04253	5.50%
Ca 317.933Radial†	5075.6	1908.4 µg/L	µg/L	4.47	1908.4 ppb	4.47	0.23%
Cd 226.502†	80.4	0.1270 µg/L	µg/L	0.17959	0.1270 ppb	0.17959	141.45%
Co 228.616†	64.1	1.4273 µg/L	µg/L	0.24028	1.4273 ppb	0.24028	16.84%
Cr 267.716†	197.3	4.1999 µg/L	µg/L	0.53562	4.1999 ppb	0.53562	12.75%
Cu 324.752†	306.6	4.8828 µg/L	µg/L	0.03784	4.8828 ppb	0.03784	0.77%
Fe 238.204 Radial†	1215.7	15564 µg/L	µg/L	53.4	15564 ppb	53.4	0.34%
K 766.490 Radial†	2537.4	1212.3 µg/L	µg/L	29.63	1212.3 ppb	29.63	2.44%
Mg 279.077 IEC†	67.7	909.64 µg/L	µg/L	12.707	909.64 ppb	12.707	1.40%
Mn 257.610†	153940.7	457.82 µg/L	µg/L	14.831	457.82 ppb	14.831	3.24%
Mo 202.031†	-1.5	0.4421 µg/L	µg/L	0.08177	0.4421 ppb	0.08177	18.50%
Na 589.592 Radial†	1033.6	543.73 µg/L	µg/L	19.094	543.73 ppb	19.094	3.51%

Ni 231.604†	65.5	3.7714 µg/L	0.37579	3.7714 ppb	0.37579	9.96%
P 214.914†	58.3	88.982 µg/L	16.3205	88.982 ppb	16.3205	18.34%
Pb 220.353†	31.0	8.5603 µg/L	0.47952	8.5603 ppb	0.47952	5.60%
S 181.975 Axial†	29.4	92.165 µg/L	7.2474	92.165 ppb	7.2474	7.86%
Sb 206.836†	2.2	1.7915 µg/L	3.64273	1.7915 ppb	3.64273	203.34%
Se 196.026†	-18.5	31.557 µg/L	2.9847	31.557 ppb	2.9847	9.46%
SiO2†	76846.3	13619 µg/L	533.0	13619 ppb	533.0	3.91%
Si 251.611†	94096.9	6334.6 µg/L	248.36	6334.6 ppb	248.36	3.92%
Sn 189.927†	3.4	1.3950 µg/L	1.69890	1.3950 ppb	1.69890	121.79%
Sr 421.552†	2224.6	13.638 µg/L	0.0581	13.638 ppb	0.0581	0.43%
Ti 334.940†	258278.8	601.82 µg/L	23.306	601.82 ppb	23.306	3.87%
Tl 190.801†	-3.7	5.6599 µg/L	0.92544	5.6599 ppb	0.92544	16.35%
U 409.014†	-317.6	-30.122 µg/L	6.0127	-30.122 ppb	6.0127	19.96%
V 292.402†	994.6	11.076 µg/L	0.7886	11.076 ppb	0.7886	7.12%
Zn 213.857†	2880.4	63.706 µg/L	5.8519	63.706 ppb	5.8519	9.19%

Sequence No.: 24

Sample ID: CCV

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 7

Date Collected: 3/19/2010 08:29:00

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	89001.5	89001.5	101 %		08:29:33
1	Al 396.153Radial†	10625.3	10262.3	5075.2 µg/L	5075.2 ppb	08:29:33
1	Ca 317.933Radial†	14480.2	13921.3	5234.3 µg/L	5234.3 ppb	08:29:33
1	Fe 238.204 Radial†	441.1	421.4	5406.2 µg/L	5406.2 ppb	08:29:53
1	K 766.490 Radial†	11307.6	10941.8	5227.5 µg/L	5227.5 ppb	08:29:33
1	Mg 279.077 IEC†	399.7	387.3	5300.7 µg/L	5300.7 ppb	08:29:53
1	Na 589.592 Radial†	21081.6	20607.2	10841 µg/L	10841 ppb	08:29:33
1	Sr 421.552†	88056.3	86597.1	530.87 µg/L	530.87 ppb	08:29:33
1	Sc 361.383	1955804.6	1955804.6	98.522 %		08:30:57
1	Y 371.029	1334862.1	1334862.1	98.306 %		08:30:57
1	Ag 328.068†	67012.8	67421.6	526.91 µg/L	526.91 ppb	08:31:02
1	As 188.979†	372.3	378.5	539.49 µg/L	539.49 ppb	08:31:23
1	B 249.677†	11820.7	11599.9	518.04 µg/L	518.04 ppb	08:31:02
1	Ba 233.527†	24413.9	24775.7	529.86 µg/L	529.86 ppb	08:31:02
1	Be 313.107†	910077.9	924633.6	532.55 µg/L	532.55 ppb	08:30:57
1	Cd 226.502†	22086.0	22581.6	528.36 µg/L	528.36 ppb	08:31:02
1	Co 228.616†	12538.9	12677.5	530.26 µg/L	530.26 ppb	08:31:02
1	Cr 267.716†	24916.6	25205.3	535.98 µg/L	535.98 ppb	08:31:02
1	Cu 324.752†	86332.1	83338.9	532.86 µg/L	532.86 ppb	08:31:02
1	Mn 257.610†	179095.7	182058.0	540.39 µg/L	540.39 ppb	08:30:57
1	Mo 202.031†	5600.3	5658.9	546.57 µg/L	546.57 ppb	08:31:23
1	Ni 231.604†	9994.3	9775.8	532.23 µg/L	532.23 ppb	08:31:02
1	P 214.914†	1552.1	1560.1	2635.9 µg/L	2635.9 ppb	08:31:23
1	Pb 220.353†	2126.0	2118.3	540.26 µg/L	540.26 ppb	08:31:23
1	S 181.975 Axial†	359.8	341.8	1070.5 µg/L	1070.5 ppb	08:31:23
1	Sb 206.836†	668.1	651.7	548.21 µg/L	548.21 ppb	08:31:23
1	Se 196.026†	598.4	582.9	550.42 µg/L	550.42 ppb	08:31:23
1	SiO2†	34536.7	32057.5	5681.2 µg/L	5681.2 ppb	08:31:02
1	Si 251.611†	39554.0	39434.5	2654.7 µg/L	2654.7 ppb	08:31:02
1	Sn 189.927†	1434.5	1454.5	549.62 µg/L	549.62 ppb	08:31:23
1	Ti 334.940†	228860.1	227400.7	529.57 µg/L	529.57 ppb	08:30:57
1	Tl 190.801†	511.4	553.4	536.52 µg/L	536.52 ppb	08:31:23
1	U 409.014†	5955.6	6061.6	530.33 µg/L	530.33 ppb	08:31:02
1	V 292.402†	48841.4	49735.8	534.87 µg/L	534.87 ppb	08:31:02
1	Zn 213.857†	24461.8	23915.3	531.90 µg/L	531.90 ppb	08:31:02
2	Sc RADIAL	88818.0	88818.0	101 %		08:29:58
2	Al 396.153Radial†	10658.6	10316.8	5102.3 µg/L	5102.3 ppb	08:29:58
2	Ca 317.933Radial†	14397.2	13868.9	5214.6 µg/L	5214.6 ppb	08:29:58
2	Fe 238.204 Radial†	444.9	426.0	5465.7 µg/L	5465.7 ppb	08:30:19
2	K 766.490 Radial†	11280.2	10937.7	5225.6 µg/L	5225.6 ppb	08:29:58
2	Mg 279.077 IEC†	399.6	387.9	5309.9 µg/L	5309.9 ppb	08:30:19
2	Na 589.592 Radial†	21119.7	20687.8	10883 µg/L	10883 ppb	08:29:58
2	Sr 421.552†	88103.1	86822.6	532.26 µg/L	532.26 ppb	08:29:58
2	Sc 361.383	1939425.3	1939425.3	97.697 %		08:31:30
2	Y 371.029	1322947.1	1322947.1	97.429 %		08:31:30
2	Ag 328.068†	67327.3	68317.9	533.91 µg/L	533.91 ppb	08:31:36
2	As 188.979†	366.8	376.0	535.96 µg/L	535.96 ppb	08:31:56
2	B 249.677†	11863.7	11745.2	524.53 µg/L	524.53 ppb	08:31:36
2	Ba 233.527†	24410.1	24981.1	534.26 µg/L	534.26 ppb	08:31:36
2	Be 313.107†	903242.8	925438.7	533.02 µg/L	533.02 ppb	08:31:30
2	Cd 226.502†	22087.2	22772.2	532.81 µg/L	532.81 ppb	08:31:36
2	Co 228.616†	12548.8	12795.1	535.18 µg/L	535.18 ppb	08:31:36
2	Cr 267.716†	24896.0	25397.9	540.07 µg/L	540.07 ppb	08:31:36
2	Cu 324.752†	86334.0	84080.9	537.61 µg/L	537.61 ppb	08:31:36
2	Mn 257.610†	177716.8	182181.9	540.76 µg/L	540.76 ppb	08:31:30
2	Mo 202.031†	5514.1	5618.6	542.68 µg/L	542.68 ppb	08:31:56
2	Ni 231.604†	10003.8	9871.2	537.42 µg/L	537.42 ppb	08:31:36
2	P 214.914†	1540.6	1561.6	2638.0 µg/L	2638.0 ppb	08:31:56
2	Pb 220.353†	2099.1	2109.0	537.88 µg/L	537.88 ppb	08:31:56

2	S 181.975 Axial†	358.6	343.6	1076.2 µg/L	1076.2 ppb	08:31:56
2	Sb 206.836†	661.6	650.7	547.30 µg/L	547.30 ppb	08:31:56
2	Se 196.026†	597.9	587.5	554.85 µg/L	554.85 ppb	08:31:56
2	SiO2†	34724.6	32545.9	5767.7 µg/L	5767.7 ppb	08:31:36
2	Si 251.611†	39677.5	39900.0	2686.1 µg/L	2686.1 ppb	08:31:36
2	Sn 189.927†	1406.1	1437.8	543.31 µg/L	543.31 ppb	08:31:56
2	Ti 334.940†	227113.0	227574.3	529.97 µg/L	529.97 ppb	08:31:30
2	Tl 190.801†	508.7	554.9	538.01 µg/L	538.01 ppb	08:31:56
2	U 409.014†	5942.9	6099.7	533.66 µg/L	533.66 ppb	08:31:36
2	V 292.402†	49029.9	50347.3	541.35 µg/L	541.35 ppb	08:31:36
2	Zn 213.857†	24453.2	24116.3	536.37 µg/L	536.37 ppb	08:31:36
3	Sc RADIAL	89250.9	89250.9	102 %		08:30:25
3	Al 396.153Radial†	10658.1	10265.3	5078.6 µg/L	5078.6 ppb	08:30:25
3	Ca 317.933Radial†	14450.7	13852.5	5208.4 µg/L	5208.4 ppb	08:30:25
3	Fe 238.204 Radial†	445.8	424.9	5449.8 µg/L	5449.8 ppb	08:30:45
3	K 766.490 Radial†	11261.0	10864.8	5190.8 µg/L	5190.8 ppb	08:30:25
3	Mg 279.077 IEC†	401.3	387.8	5305.9 µg/L	5305.9 ppb	08:30:45
3	Na 589.592 Radial†	21223.6	20688.7	10884 µg/L	10884 ppb	08:30:25
3	Sr 421.552†	88468.6	86759.9	531.87 µg/L	531.87 ppb	08:30:25
3	Sc 361.383	1939206.5	1939206.5	97.686 %		08:32:03
3	Y 371.029	1320379.3	1320379.3	97.240 %		08:32:03
3	Ag 328.068†	63462.4	64369.2	502.91 µg/L	502.91 ppb	08:32:09
3	As 188.979†	316.4	324.5	462.32 µg/L	462.32 ppb	08:32:30
3	B 249.677†	11144.5	11010.3	491.49 µg/L	491.49 ppb	08:32:09
3	Ba 233.527†	22259.6	22782.4	487.22 µg/L	487.22 ppb	08:32:09
3	Be 313.107†	841369.9	862204.4	496.60 µg/L	496.60 ppb	08:32:03
3	Cd 226.502†	20168.1	20810.2	486.85 µg/L	486.85 ppb	08:32:09
3	Co 228.616†	11341.6	11560.8	483.50 µg/L	483.50 ppb	08:32:09
3	Cr 267.716†	21923.4	22357.7	475.43 µg/L	475.43 ppb	08:32:09
3	Cu 324.752†	78440.0	76009.8	486.10 µg/L	486.10 ppb	08:32:09
3	Mn 257.610†	166423.7	170641.8	506.51 µg/L	506.51 ppb	08:32:03
3	Mo 202.031†	4602.2	4685.8	452.62 µg/L	452.62 ppb	08:32:30
3	Ni 231.604†	9048.8	8894.7	484.27 µg/L	484.27 ppb	08:32:09
3	P 214.914†	1317.2	1333.1	2248.3 µg/L	2248.3 ppb	08:32:30
3	Pb 220.353†	1800.8	1803.9	460.04 µg/L	460.04 ppb	08:32:30
3	S 181.975 Axial†	315.1	299.2	937.04 µg/L	937.04 ppb	08:32:30
3	Sb 206.836†	565.1	552.1	463.99 µg/L	463.99 ppb	08:32:30
3	Se 196.026†	517.1	504.8	478.56 µg/L	478.56 ppb	08:32:30
3	SiO2†	32395.3	30165.4	5345.9 µg/L	5345.9 ppb	08:32:09
3	Si 251.611†	36789.3	36948.0	2487.3 µg/L	2487.3 ppb	08:32:09
3	Sn 189.927†	1149.8	1175.5	444.31 µg/L	444.31 ppb	08:32:30
3	Ti 334.940†	210574.7	210670.4	490.58 µg/L	490.58 ppb	08:32:03
3	Tl 190.801†	452.3	497.2	482.29 µg/L	482.29 ppb	08:32:30
3	U 409.014†	5232.7	5373.3	469.99 µg/L	469.99 ppb	08:32:09
3	V 292.402†	43966.0	45169.2	485.40 µg/L	485.40 ppb	08:32:09
3	Zn 213.857†	22226.3	21839.4	485.69 µg/L	485.69 ppb	08:32:09

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1944812.1	97.968 %	0.4796			0.49%
Sc RADIAL	89023.4	102 %	0.2			0.24%
Y 371.029	1326062.8	97.658 %	0.5691			0.58%
Ag 328.068†	66702.9	521.24 µg/L	16.256	521.24 ppb	16.256	3.12%
QC value within limits for Ag 328.068 Recovery = 104.25%						
Al 396.153Radial†	10281.4	5085.4 µg/L	14.75	5085.4 ppb	14.75	0.29%
QC value within limits for Al 396.153Radial Recovery = 101.71%						
As 188.979†	359.7	512.59 µg/L	43.571	512.59 ppb	43.571	8.50%
QC value within limits for As 188.979 Recovery = 102.52%						
B 249.677†	11451.8	511.35 µg/L	17.504	511.35 ppb	17.504	3.42%
QC value within limits for B 249.677 Recovery = 102.27%						
Ba 233.527†	24179.7	517.11 µg/L	25.981	517.11 ppb	25.981	5.02%
QC value within limits for Ba 233.527 Recovery = 103.42%						
Be 313.107†	904092.2	520.72 µg/L	20.894	520.72 ppb	20.894	4.01%
QC value within limits for Be 313.107 Recovery = 104.14%						
Ca 317.933Radial†	13880.9	5219.1 µg/L	13.52	5219.1 ppb	13.52	0.26%
QC value within limits for Ca 317.933Radial Recovery = 104.38%						
Cd 226.502†	22054.7	516.01 µg/L	25.349	516.01 ppb	25.349	4.91%
QC value within limits for Cd 226.502 Recovery = 103.20%						
Co 228.616†	12344.5	516.32 µg/L	28.526	516.32 ppb	28.526	5.52%

QC value within limits for Co 228.616 Recovery = 103.26%							
Cr 267.716†	24320.3	517.16 µg/L	36.197	517.16 ppb	36.197	7.00%	
QC value within limits for Cr 267.716 Recovery = 103.43%							
Cu 324.752†	81143.2	518.86 µg/L	28.469	518.86 ppb	28.469	5.49%	
QC value within limits for Cu 324.752 Recovery = 103.77%							
Fe 238.204 Radial†	424.1	5440.6 µg/L	30.80	5440.6 ppb	30.80	0.57%	
QC value within limits for Fe 238.204 Radial Recovery = 108.81%							
K 766.490 Radial†	10914.8	5214.6 µg/L	20.69	5214.6 ppb	20.69	0.40%	
QC value within limits for K 766.490 Radial Recovery = 104.29%							
Mg 279.077 IEC†	387.6	5305.5 µg/L	4.64	5305.5 ppb	4.64	0.09%	
QC value within limits for Mg 279.077 IEC Recovery = 106.11%							
Mn 257.610†	178293.9	529.22 µg/L	19.672	529.22 ppb	19.672	3.72%	
QC value within limits for Mn 257.610 Recovery = 105.84%							
Mo 202.031†	5321.1	513.95 µg/L	53.154	513.95 ppb	53.154	10.34%	
QC value within limits for Mo 202.031 Recovery = 102.79%							
Na 589.592 Radial†	20661.2	10869 µg/L	24.6	10869 ppb	24.6	0.23%	
QC value within limits for Na 589.592 Radial Recovery = 108.69%							
Ni 231.604†	9513.9	517.97 µg/L	29.306	517.97 ppb	29.306	5.66%	
QC value within limits for Ni 231.604 Recovery = 103.59%							
P 214.914†	1484.9	2507.4 µg/L	224.38	2507.4 ppb	224.38	8.95%	
QC value within limits for P 214.914 Recovery = 100.30%							
Pb 220.353†	2010.4	512.73 µg/L	45.642	512.73 ppb	45.642	8.90%	
QC value within limits for Pb 220.353 Recovery = 102.55%							
S 181.975 Axial†	328.2	1027.9 µg/L	78.75	1027.9 ppb	78.75	7.66%	
QC value within limits for S 181.975 Axial Recovery = 102.79%							
Sb 206.836†	618.1	519.84 µg/L	48.363	519.84 ppb	48.363	9.30%	
QC value within limits for Sb 206.836 Recovery = 103.97%							
Se 196.026†	558.4	527.94 µg/L	42.825	527.94 ppb	42.825	8.11%	
QC value within limits for Se 196.026 Recovery = 105.59%							
SiO2†	31589.6	5598.3 µg/L	222.83	5598.3 ppb	222.83	3.98%	
QC value within limits for SiO2 Recovery = 104.69%							
Si 251.611†	38760.9	2609.4 µg/L	106.84	2609.4 ppb	106.84	4.09%	
QC value within limits for Si 251.611 Recovery = 104.37%							
Sn 189.927†	1355.9	512.41 µg/L	59.067	512.41 ppb	59.067	11.53%	
QC value within limits for Sn 189.927 Recovery = 102.48%							
Sr 421.552†	86726.5	531.67 µg/L	0.714	531.67 ppb	0.714	0.13%	
QC value within limits for Sr 421.552 Recovery = 106.33%							
Ti 334.940†	221881.8	516.71 µg/L	22.627	516.71 ppb	22.627	4.38%	
QC value within limits for Ti 334.940 Recovery = 103.34%							
Tl 190.801†	535.2	518.94 µg/L	31.747	518.94 ppb	31.747	6.12%	
QC value within limits for Tl 190.801 Recovery = 103.79%							
U 409.014†	5844.9	511.33 µg/L	35.840	511.33 ppb	35.840	7.01%	
QC value within limits for U 409.014 Recovery = 102.27%							
V 292.402†	48417.4	520.54 µg/L	30.604	520.54 ppb	30.604	5.88%	
QC value within limits for V 292.402 Recovery = 104.11%							
Zn 213.857†	23290.3	517.98 µg/L	28.060	517.98 ppb	28.060	5.42%	
QC value within limits for Zn 213.857 Recovery = 103.60%							
All analyte(s) passed QC.							

Sequence No.: 25

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 3/19/2010 08:32:40

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	87632.5	87632.5	99.9 %		08:33:10
1	Al 396.153Radial†	208.7	2.8	1.4016 µg/L	1.4016 ppb	08:33:10
1	Ca 317.933Radial†	339.0	-5.7	-2.1593 µg/L	-2.1593 ppb	08:33:31
1	Fe 238.204 Radial†	14.1	0.9	11.714 µg/L	11.714 ppb	08:33:31
1	K 766.490 Radial†	201.7	3.0	1.4513 µg/L	1.4513 ppb	08:33:10
1	Mg 279.077 IEC†	6.0	-0.5	-7.4466 µg/L	-7.4466 ppb	08:33:31
1	Na 589.592 Radial†	184.4	21.6	11.375 µg/L	11.375 ppb	08:33:10
1	Sr 421.552†	131.6	-26.4	-0.1620 µg/L	-0.1620 ppb	08:33:10
1	Sc 361.383	1941690.9	1941690.9	97.811 %		08:34:32
1	Y 371.029	1327485.8	1327485.8	97.763 %		08:34:32
1	Ag 328.068†	534.6	-49.9	-0.3875 µg/L	-0.3875 ppb	08:34:38
1	As 188.979†	-2.3	-1.8	-2.5263 µg/L	-2.5263 ppb	08:34:59
1	B 249.677†	394.8	5.5	0.2380 µg/L	0.2380 ppb	08:34:59
1	Ba 233.527†	-6.6	-11.2	-0.2391 µg/L	-0.2391 ppb	08:34:59
1	Be 313.107†	-1145.5	-266.7	-0.1490 µg/L	-0.1490 ppb	08:34:38
1	Cd 226.502†	-177.5	-17.1	-0.4022 µg/L	-0.4022 ppb	08:34:59
1	Co 228.616†	32.0	-16.8	-0.6764 µg/L	-0.6764 ppb	08:34:59
1	Cr 267.716†	75.0	-8.3	-0.1773 µg/L	-0.1773 ppb	08:34:59
1	Cu 324.752†	4211.6	17.6	0.1143 µg/L	0.1143 ppb	08:34:38
1	Mn 257.610†	-626.3	-364.4	-1.0806 µg/L	-1.0806 ppb	08:34:59
1	Mo 202.031†	21.2	-3.7	-0.3597 µg/L	-0.3597 ppb	08:34:59
1	Ni 231.604†	361.0	0.6	0.0360 µg/L	0.0360 ppb	08:34:59
1	P 214.914†	16.3	1.3	2.2830 µg/L	2.2830 ppb	08:34:59
1	Pb 220.353†	40.0	1.3	0.3405 µg/L	0.3405 ppb	08:34:59
1	S 181.975 Axial†	22.3	-0.6	-1.9643 µg/L	-1.9643 ppb	08:34:59
1	Sb 206.836†	28.8	3.0	2.5404 µg/L	2.5404 ppb	08:34:59
1	Se 196.026†	20.9	-3.1	-2.8571 µg/L	-2.8571 ppb	08:34:59
1	SiO2†	2805.7	-128.8	-22.823 µg/L	-22.823 ppb	08:34:59
1	Si 251.611†	583.9	-115.8	-7.7967 µg/L	-7.7967 ppb	08:34:59
1	Sn 189.927†	6.1	4.7	1.7673 µg/L	1.7673 ppb	08:34:59
1	Ti 334.940†	-337.6	-5237.4	-12.204 µg/L	-12.204 ppb	08:34:38
1	Tl 190.801†	-36.3	-2.9	-2.8886 µg/L	-2.8886 ppb	08:34:59
1	U 409.014†	-21.5	-5.3	-0.4703 µg/L	-0.4703 ppb	08:34:38
1	V 292.402†	-173.1	-15.3	-0.1655 µg/L	-0.1655 ppb	08:34:38
1	Zn 213.857†	939.3	46.9	1.0509 µg/L	1.0509 ppb	08:34:59
2	Sc RADIAL	86276.5	86276.5	98.4 %		08:33:36
2	Al 396.153Radial†	195.4	-7.4	-3.6861 µg/L	-3.6861 ppb	08:33:36
2	Ca 317.933Radial†	329.3	-10.3	-3.8559 µg/L	-3.8559 ppb	08:33:56
2	Fe 238.204 Radial†	14.6	1.7	21.420 µg/L	21.420 ppb	08:33:56
2	K 766.490 Radial†	167.7	-28.3	-13.524 µg/L	-13.524 ppb	08:33:36
2	Mg 279.077 IEC†	7.1	0.7	9.7062 µg/L	9.7062 ppb	08:33:56
2	Na 589.592 Radial†	151.5	-8.9	-4.6879 µg/L	-4.6879 ppb	08:33:36
2	Sr 421.552†	117.4	-38.8	-0.2381 µg/L	-0.2381 ppb	08:33:36
2	Sc 361.383	1953401.6	1953401.6	98.401 %		08:35:05
2	Y 371.029	1331914.5	1331914.5	98.089 %		08:35:05
2	Ag 328.068†	558.5	-28.8	-0.2194 µg/L	-0.2194 ppb	08:35:10
2	As 188.979†	-2.3	-1.7	-2.4310 µg/L	-2.4310 ppb	08:35:31
2	B 249.677†	393.5	1.8	0.0688 µg/L	0.0688 ppb	08:35:31
2	Ba 233.527†	-2.7	-7.2	-0.1532 µg/L	-0.1532 ppb	08:35:31
2	Be 313.107†	-1153.9	-268.2	-0.1498 µg/L	-0.1498 ppb	08:35:10
2	Cd 226.502†	-162.6	-0.9	-0.0247 µg/L	-0.0247 ppb	08:35:31
2	Co 228.616†	36.6	-12.2	-0.4871 µg/L	-0.4871 ppb	08:35:31
2	Cr 267.716†	75.5	-8.2	-0.1749 µg/L	-0.1749 ppb	08:35:31
2	Cu 324.752†	4177.3	-43.0	-0.2706 µg/L	-0.2706 ppb	08:35:10
2	Mn 257.610†	-642.3	-376.9	-1.1181 µg/L	-1.1181 ppb	08:35:31
2	Mo 202.031†	23.3	-1.8	-0.1709 µg/L	-0.1709 ppb	08:35:31
2	Ni 231.604†	359.2	-3.4	-0.1833 µg/L	-0.1833 ppb	08:35:31
2	P 214.914†	12.3	-2.9	-4.8874 µg/L	-4.8874 ppb	08:35:31
2	Pb 220.353†	46.7	7.9	1.9983 µg/L	1.9983 ppb	08:35:31

2	S 181.975 Axial†	24.5	1.4	4.5415 µg/L	4.5415 ppb	08:35:31
2	Sb 206.836†	35.7	9.9	8.2545 µg/L	8.2545 ppb	08:35:31
2	Se 196.026†	17.2	-7.0	-6.4179 µg/L	-6.4179 ppb	08:35:31
2	SiO2†	2826.0	-125.3	-22.212 µg/L	-22.212 ppb	08:35:31
2	Si 251.611†	594.6	-108.6	-7.3076 µg/L	-7.3076 ppb	08:35:31
2	Sn 189.927†	4.0	2.5	0.9586 µg/L	0.9586 ppb	08:35:31
2	Ti 334.940†	-417.8	-5316.8	-12.390 µg/L	-12.390 ppb	08:35:10
2	Tl 190.801†	-35.0	-1.3	-1.3917 µg/L	-1.3917 ppb	08:35:31
2	U 409.014†	9.1	25.9	2.2700 µg/L	2.2700 ppb	08:35:10
2	V 292.402†	-123.7	36.0	0.3844 µg/L	0.3844 ppb	08:35:10
2	Zn 213.857†	939.5	41.4	0.9270 µg/L	0.9270 ppb	08:35:31
3	Sc RADIAL	86794.0	86794.0	99.0 %		08:34:02
3	Al 396.153Radial†	196.6	-7.4	-3.6886 µg/L	-3.6886 ppb	08:34:02
3	Ca 317.933Radial†	334.7	-6.8	-2.5392 µg/L	-2.5392 ppb	08:34:22
3	Fe 238.204 Radial†	12.6	-0.4	-5.4044 µg/L	-5.4044 ppb	08:34:22
3	K 766.490 Radial†	185.5	-11.4	-5.4241 µg/L	-5.4241 ppb	08:34:02
3	Mg 279.077 IEC†	11.9	5.5	74.797 µg/L	74.797 ppb	08:34:22
3	Na 589.592 Radial†	164.8	3.6	1.9166 µg/L	1.9166 ppb	08:34:02
3	Sr 421.552†	124.8	-32.0	-0.1963 µg/L	-0.1963 ppb	08:34:02
3	Sc 361.383	1947159.8	1947159.8	98.087 %		08:35:37
3	Y 371.029	1330157.0	1330157.0	97.960 %		08:35:37
3	Ag 328.068†	561.0	-24.5	-0.1965 µg/L	-0.1965 ppb	08:35:42
3	As 188.979†	-4.2	-3.7	-5.2257 µg/L	-5.2257 ppb	08:36:03
3	B 249.677†	394.9	4.4	0.2016 µg/L	0.2016 ppb	08:36:03
3	Ba 233.527†	-10.0	-14.6	-0.3136 µg/L	-0.3136 ppb	08:36:03
3	Be 313.107†	-1043.5	-159.3	-0.0871 µg/L	-0.0871 ppb	08:35:42
3	Cd 226.502†	-166.4	-5.3	-0.1237 µg/L	-0.1237 ppb	08:36:03
3	Co 228.616†	37.5	-11.3	-0.4463 µg/L	-0.4463 ppb	08:36:03
3	Cr 267.716†	81.1	-2.3	-0.0494 µg/L	-0.0494 ppb	08:36:03
3	Cu 324.752†	4119.0	-88.9	-0.5685 µg/L	-0.5685 ppb	08:35:42
3	Mn 257.610†	-644.3	-381.0	-1.1363 µg/L	-1.1363 ppb	08:36:03
3	Mo 202.031†	29.4	4.5	0.4353 µg/L	0.4353 ppb	08:36:03
3	Ni 231.604†	370.9	9.7	0.5301 µg/L	0.5301 ppb	08:36:03
3	P 214.914†	14.1	-0.9	-1.5230 µg/L	-1.5230 ppb	08:36:03
3	Pb 220.353†	29.2	-9.8	-2.4917 µg/L	-2.4917 ppb	08:36:03
3	S 181.975 Axial†	22.9	-0.1	-0.3275 µg/L	-0.3275 ppb	08:36:03
3	Sb 206.836†	29.7	3.8	3.1787 µg/L	3.1787 ppb	08:36:03
3	Se 196.026†	27.2	3.2	2.8890 µg/L	2.8890 ppb	08:36:03
3	SiO2†	2830.1	-111.9	-19.833 µg/L	-19.833 ppb	08:36:03
3	Si 251.611†	590.8	-110.5	-7.4356 µg/L	-7.4356 ppb	08:36:03
3	Sn 189.927†	0.7	-0.8	-0.3076 µg/L	-0.3076 ppb	08:36:03
3	Ti 334.940†	-362.2	-5261.5	-12.267 µg/L	-12.267 ppb	08:35:42
3	Tl 190.801†	-39.2	-5.7	-5.5683 µg/L	-5.5683 ppb	08:36:03
3	U 409.014†	-20.4	-4.1	-0.3596 µg/L	-0.3596 ppb	08:35:42
3	V 292.402†	-240.3	-83.3	-0.8832 µg/L	-0.8832 ppb	08:35:42
3	Zn 213.857†	961.3	66.7	1.4876 µg/L	1.4876 ppb	08:36:03

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Sc 361.383	1947417.5	98.100 %	0.2952			0.30%
Sc RADIAL	86901.0	99.1 %	0.78			0.79%
Y 371.029	1329852.5	97.937 %	0.1642			0.17%
Ag 328.068†	-34.4	-0.2678 µg/L	0.10429	-0.2678 ppb	0.10429	38.94%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 396.153Radial†	-4.0	-1.9910 µg/L	2.93810	-1.9910 ppb	2.93810	147.57%
QC value within limits for Al 396.153Radial Recovery = Not calculated						
As 188.979†	-2.4	-3.3943 µg/L	1.58671	-3.3943 ppb	1.58671	46.75%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.677†	3.9	0.1695 µg/L	0.08905	0.1695 ppb	0.08905	52.55%
QC value within limits for B 249.677 Recovery = Not calculated						
Ba 233.527†	-11.0	-0.2353 µg/L	0.08025	-0.2353 ppb	0.08025	34.11%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-231.4	-0.1286 µg/L	0.03595	-0.1286 ppb	0.03595	27.95%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933Radial†	-7.6	-2.8515 µg/L	0.89040	-2.8515 ppb	0.89040	31.23%
QC value within limits for Ca 317.933Radial Recovery = Not calculated						
Cd 226.502†	-7.8	-0.1836 µg/L	0.19574	-0.1836 ppb	0.19574	106.63%
QC value within limits for Cd 226.502 Recovery = Not calculated						
Co 228.616†	-13.4	-0.5366 µg/L	0.12280	-0.5366 ppb	0.12280	22.88%

QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-6.3	-0.1339 µg/L	0.07315	-0.1339 ppb	0.07315	54.64%	
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-38.1	-0.2416 µg/L	0.34233	-0.2416 ppb	0.34233	141.68%	
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204 Radial†	0.7	9.2430 µg/L	13.58171	9.2430 ppb	13.58171	146.94%	
QC value within limits for Fe 238.204 Radial Recovery = Not calculated							
K 766.490 Radial†	-12.2	-5.8322 µg/L	7.49591	-5.8322 ppb	7.49591	128.53%	
QC value within limits for K 766.490 Radial Recovery = Not calculated							
Mg 279.077 IEC†	1.9	25.686 µg/L	43.3879	25.686 ppb	43.3879	168.92%	
QC value within limits for Mg 279.077 IEC Recovery = Not calculated							
Mn 257.610†	-374.1	-1.1117 µg/L	0.02841	-1.1117 ppb	0.02841	2.56%	
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-0.3	-0.0318 µg/L	0.41539	-0.0318 ppb	0.41539	>999.9%	
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 589.592 Radial†	5.5	2.8680 µg/L	8.07369	2.8680 ppb	8.07369	281.51%	
QC value within limits for Na 589.592 Radial Recovery = Not calculated							
Ni 231.604†	2.3	0.1276 µg/L	0.36543	0.1276 ppb	0.36543	286.37%	
QC value within limits for Ni 231.604 Recovery = Not calculated							
P 214.914†	-0.8	-1.3758 µg/L	3.58748	-1.3758 ppb	3.58748	260.76%	
QC value within limits for P 214.914 Recovery = Not calculated							
Pb 220.353†	-0.2	-0.0510 µg/L	2.27046	-0.0510 ppb	2.27046	>999.9%	
QC value within limits for Pb 220.353 Recovery = Not calculated							
S 181.975 Axial†	0.2	0.7499 µg/L	3.38408	0.7499 ppb	3.38408	451.26%	
QC value within limits for S 181.975 Axial Recovery = Not calculated							
Sb 206.836†	5.6	4.6579 µg/L	3.13106	4.6579 ppb	3.13106	67.22%	
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-2.3	-2.1286 µg/L	4.69602	-2.1286 ppb	4.69602	220.61%	
QC value within limits for Se 196.026 Recovery = Not calculated							
SiO2†	-122.0	-21.622 µg/L	1.5799	-21.622 ppb	1.5799	7.31%	
QC value within limits for SiO2 Recovery = Not calculated							
Si 251.611†	-111.6	-7.5133 µg/L	0.25362	-7.5133 ppb	0.25362	3.38%	
QC value within limits for Si 251.611 Recovery = Not calculated							
Sn 189.927†	2.1	0.8061 µg/L	1.04583	0.8061 ppb	1.04583	129.74%	
QC value within limits for Sn 189.927 Recovery = Not calculated							
Sr 421.552†	-32.4	-0.1988 µg/L	0.03809	-0.1988 ppb	0.03809	19.16%	
QC value within limits for Sr 421.552 Recovery = Not calculated							
Ti 334.940†	-5271.9	-12.287 µg/L	0.0949	-12.287 ppb	0.0949	0.77%	
QC value less than the lower limit for Ti 334.940 Recovery = Not calculated							
Tl 190.801†	-3.3	-3.2829 µg/L	2.11605	-3.2829 ppb	2.11605	64.46%	
QC value within limits for Tl 190.801 Recovery = Not calculated							
U 409.014†	5.5	0.4800 µg/L	1.55117	0.4800 ppb	1.55117	323.14%	
QC value within limits for U 409.014 Recovery = Not calculated							
V 292.402†	-20.9	-0.2214 µg/L	0.63565	-0.2214 ppb	0.63565	287.04%	
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	51.7	1.1551 µg/L	0.29447	1.1551 ppb	0.29447	25.49%	
QC value within limits for Zn 213.857 Recovery = Not calculated							
QC Failed. Continue with analysis.							

ICPMS #5 Daily Performance Report

Sample ID: Sample

Sample Date/Time: Thursday, March 18, 2010 13:32:09

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.859

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	5223.8	5223.755	95.191	1.8
Mg	24.0	73610.0	73609.967	583.600	0.8
Co	58.9	110755.1	110755.084	517.527	0.5
Rh	102.9	220456.5	220456.498	1763.983	0.8
In	114.9	299028.0	299027.951	2320.120	0.8
Pb	208.0	348201.8	348201.830	2481.134	0.7
[> Ba	137.9	307265.7	307265.711	1608.255	0.5
[Ba++	69.0	4313.6	0.014	0.000	1.4
[> Ce	139.9	369035.2	369035.153	2658.374	0.7
[CeO	155.9	8816.0	0.024	0.001	2.8
Bkgd	220.0	15.7	15.700	2.080	13.2

Current Optimization File Data

Current Value	Description
0.89	Nebulizer Gas Flow
6.75	Lens Voltage
1450.00	ICP RF Power
-1812.50	Analog Stage Voltage
1300.00	Pulse Stage Voltage
200.00	Discriminator Threshold
-6.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	15	7.3	5888.2
Co	59	15	8.0	113356.0
In	115	15	9.0	306684.3

ICPMS #5 Instrument Tuning Report

File Name: 100318c.tun
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	588	2072	0.607
Be	9.0	9.0	2047	2088	0.590
Mg	24.0	24.0	5687	2100	0.592
Mg	25.0	25.0	5939	2100	0.551
Mg	26.0	26.0	6183	2100	0.587
Co	58.9	58.9	14169	2125	0.590
Rh	102.9	102.9	24874	2180	0.582
In	114.9	114.9	27789	2200	0.585
Ce	139.9	139.9	33872	2220	0.595
Pb	206.0	206.0	49948	2305	0.589
Pb	207.0	207.0	50171	2240	0.662
Pb	208.0	208.0	50439	2280	0.700
U	238.1	238.1	57731	2295	0.704

ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Friday, March 19, 2010 04:18:43

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\VanI soil.mth

Dataset File: C:\elandata\Dataset\100318\Blank.283

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		ug/L		15	
Sc	45		ug/L		246371	
Ni	60		ug/L		111	
Ge	74		ug/L		302531	
As	75		ug/L		-487	
Se	77		ug/L		4374	
Se	82		ug/L		-1	
Kr	83		ug/L		86	
Lu	175		ug/L		447396	
Tl	205		ug/L		4933	

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Simple Linear	
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9997

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45					
Ni	60					
Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175					
Tl	205					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Blank

Report Date/Time: Friday, March 19, 2010 04:19:23

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ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Friday, March 19, 2010 04:22:20

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\Standard 1.284

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	10.000	ug/L	1.212	4150	0.016
| > Sc	45		ug/L		258039	258039.383
[Ni	60	10.000	ug/L	1.850	10856	0.042
[> Ge	74		ug/L		319960	319960.459
| As	75	10.000	ug/L	1.956	8262	0.027
| Se	77		ug/L		3788	-0.003
| Se	82	10.000	ug/L	7.884	1012	0.003
[Kr	83		ug/L		82	-0.000
[> Lu	175		ug/L		474657	474657.373
[Tl	205	10.000	ug/L	0.743	208473	0.428

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9					
| > Sc	45					
[Ni	60					
[> Ge	74					
| As	75					
| Se	77					
| Se	82					
[Kr	83					
[> Lu	175					
[Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 1

Report Date/Time: Friday, March 19, 2010 04:22:57

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ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Friday, March 19, 2010 04:25:55

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\Standard 2.285

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	99.925	ug/L	3.684	42403	0.149
[> Sc	45		ug/L		284877	284876.932
[Ni	60	99.962	ug/L	2.252	114320	0.401
[> Ge	74		ug/L		352412	352411.579
[As	75	99.972	ug/L	1.728	93430	0.267
[Se	77		ug/L		11270	0.018
[Se	82	99.963	ug/L	1.395	10766	0.031
[Kr	83		ug/L		111	0.000
[> Lu	175		ug/L		513892	513892.001
[Tl	205	99.834	ug/L	10.337	1888131	3.666

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9					
[> Sc	45					
[Ni	60					
[> Ge	74					
[As	75					
[Se	77					
[Se	82					
[Kr	83					
[> Lu	175					
[Tl	205					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: Standard 2

Report Date/Time: Friday, March 19, 2010 04:26:33

Page 1

ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Friday, March 19, 2010 04:29:30

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 1.286

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	52.485	ug/L	2.530	20817	0.078
|> Sc	45		ug/L		265895	265895.409
[Ni	60	54.145	ug/L	0.921	57868	0.217
[> Ge	74		ug/L		334164	334163.732
| As	75	54.219	ug/L	2.857	47821	0.145
| Se	77		ug/L		7039	0.007
| Se	82	54.099	ug/L	2.315	5523	0.017
[Kr	83		ug/L		89	-0.000
[> Lu	175		ug/L		491633	491633.170
[Tl	205	54.535	ug/L	0.512	990011	2.003

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9	104.970					
|> Sc	45		107.9				
[Ni	60	108.290					
[> Ge	74		110.5				
| As	75	108.439					
| Se	77						
| Se	82	108.198					
[Kr	83						
[> Lu	175		109.9				
[Tl	205	109.071					

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: Friday, March 19, 2010 04:30:08

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ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Friday, March 19, 2010 04:33:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 2.287

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.020	ug/L	93.115	22	0.000
|>	Sc	45		ug/L		242433	242432.648
[	Ni	60	0.020	ug/L	43.307	129	0.000
[>	Ge	74		ug/L		300987	300986.731
|	As	75	-0.034	ug/L	251.050	-512	-0.000
|	Se	77		ug/L		4042	-0.001
|	Se	82	0.233	ug/L	30.319	21	0.000
[	Kr	83		ug/L		82	-0.000
[>	Lu	175		ug/L		442338	442338.121
[	Tl	205	0.259	ug/L	13.455	9064	0.009

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[	Be	9						
|>	Sc	45		98.4				
[	Ni	60						
[>	Ge	74		99.5				
|	As	75						
|	Se	77						
|	Se	82						
[	Kr	83						
[>	Lu	175		98.9				
[	Tl	205						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 2

Report Date/Time: Friday, March 19, 2010 04:33:48

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ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Friday, March 19, 2010 04:36:46

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 3.288

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	0.588	ug/L	5.263	223	0.001
[> Sc	45		ug/L		237614	237613.714
[Ni	60	2.589	ug/L	6.065	2573	0.010
[> Ge	74		ug/L		295062	295062.452
| As	75	6.675	ug/L	4.974	4781	0.018
| Se	77		ug/L		4475	0.001
| Se	82	6.114	ug/L	0.736	551	0.002
[Kr	83		ug/L		85	0.000
[> Lu	175		ug/L		434058	434057.743
[Tl	205	1.354	ug/L	1.277	26361	0.050

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[Be	9	117.510					
[> Sc	45		96.4				
[Ni	60	129.445					
[> Ge	74		97.5				
| As	75	133.494					
| Se	77						
| Se	82	122.283					
[Kr	83						
[> Lu	175		97.0				
[Tl	205	135.365					

QC Out Of Limits

Measurement Type	Analyte	MassOut of Limits Message
QC Std 3	As	75CRDL is out of limits
QC Std 3	Tl	205CRDL is out of limits

QC Action

QC Action Line: Continue

Sample ID: QC Std 3

Report Date/Time: Friday, March 19, 2010 04:37:24

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ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Friday, March 19, 2010 04:40:22

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\anl soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 4.289

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	0.088	ug/L	9.826	51	0.000
[> Sc	45		ug/L		266374	266373.925
[Ni	60	3.389	ug/L	3.287	3741	0.014
[> Ge	74		ug/L		344219	344219.455
[As	75	0.268	ug/L	184.390	-302	0.001
[Se	77		ug/L		4074	-0.003
[Se	82	-1.058	ug/L	10.375	-112	-0.000
[Kr	83		ug/L		267	0.000
[> Lu	175		ug/L		500226	500225.814
[Tl	205	-0.104	ug/L	14.009	3598	-0.004

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9						
[> Sc	45		108.1				
[Ni	60	102.377					
[> Ge	74		113.8				
[As	75						
[Se	77						
[Se	82						
[Kr	83						
[> Lu	175		111.8				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 4

Report Date/Time: Friday, March 19, 2010 04:41:01

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ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Friday, March 19, 2010 04:43:59

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 5.290

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	20.927	ug/L	0.898	7176	0.031
[>	Sc	45		ug/L		229600	229599.584
[	Ni	60	25.817	ug/L	1.907	23877	0.104
[>	Ge	74		ug/L		300222	300222.112
[	As	75	21.910	ug/L	1.637	17066	0.058
[	Se	77		ug/L		4922	0.002
[	Se	82	19.532	ug/L	4.470	1791	0.006
[	Kr	83		ug/L		272	0.001
[>	Lu	175		ug/L		444179	444178.809
[	Tl	205	22.693	ug/L	3.041	374982	0.833

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9	104.637				
[>	Sc	45		93.2			
[	Ni	60	110.754				
[>	Ge	74		99.2			
[	As	75	109.549				
[	Se	77					
[	Se	82	97.662				
[	Kr	83					
[>	Lu	175		99.3			
[	Tl	205	113.466				

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 5

Report Date/Time: Friday, March 19, 2010 04:44:38

Page 1

ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Friday, March 19, 2010 04:47:37

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 6.291

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	54.904	ug/L	1.879	19972	0.082
[> Sc	45		ug/L		243864	243864.015
[Ni	60	55.007	ug/L	1.930	53913	0.221
[> Ge	74		ug/L		314416	314415.854
[As	75	52.241	ug/L	3.088	43312	0.139
[Se	77		ug/L		6378	0.006
[Se	82	51.778	ug/L	1.945	4973	0.016
[Kr	83		ug/L		83	-0.000
[> Lu	175		ug/L		466394	466394.329
[Tl	205	54.668	ug/L	1.667	941485	2.007

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9	109.808					
[> Sc	45		99.0				
[Ni	60	110.015					
[> Ge	74		103.9				
[As	75	104.482					
[Se	77						
[Se	82	103.555					
[Kr	83						
[> Lu	175		104.2				
[Tl	205	109.335					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 6	Ni	60	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

Sample ID: QC Std 6

Report Date/Time: Friday, March 19, 2010 04:48:15

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ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Friday, March 19, 2010 04:51:15

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 7.292

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.015	ug/L	35.589	20	0.000
| >	Sc	45		ug/L		240498	240497.635
[	Ni	60	0.033	ug/L	46.887	140	0.000
[>	Ge	74		ug/L		300954	300953.671
|	As	75	0.106	ug/L	294.011	-395	0.000
|	Se	77		ug/L		4310	-0.000
|	Se	82	0.180	ug/L	59.392	16	0.000
[	Kr	83		ug/L		81	-0.000
[>	Lu	175		ug/L		438963	438963.119
[	Tl	205	0.211	ug/L	7.059	8242	0.008

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Be	9						
| >	Sc	45		97.6				
[	Ni	60						
[>	Ge	74		99.5				
|	As	75						
|	Se	77						
|	Se	82						
[	Kr	83						
[>	Lu	175		98.1				
[	Tl	205						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 7

Report Date/Time: Friday, March 19, 2010 04:51:55

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ICPMS#5 - Summary Report

Sample ID: 1202049284

Sample Date/Time: Friday, March 19, 2010 04:54:53

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049284.293

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	-0.016	ug/L	52.930	10	-0.000
|> Sc	45		ug/L		256132	256131.844
[Ni	60	0.237	ug/L	16.175	358	0.001
[> Ge	74		ug/L		315746	315745.962
| As	75	0.362	ug/L	49.310	-205	0.001
| Se	77		ug/L		3490	-0.003
| Se	82	0.180	ug/L	42.445	17	0.000
[Kr	83		ug/L		77	-0.000
[> Lu	175		ug/L		480284	480283.590
[Tl	205	0.024	ug/L	63.625	5727	0.001

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
[Be	9					
|> Sc	45		104.0			
[Ni	60					
[> Ge	74		104.4			
| As	75					
| Se	77					
| Se	82					
[Kr	83					
[> Lu	175		107.4			
[Tl	205					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049284

Report Date/Time: Friday, March 19, 2010 04:55:31

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ICPMS#5 - Summary Report

Sample ID: 1202049289

Sample Date/Time: Friday, March 19, 2010 04:58:29

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 955818|40|skj

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049289.294

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	21.330	ug/L	0.869	8329	0.032
|> Sc	45		ug/L		261434	261434.485
[Ni	60	39.248	ug/L	1.676	41280	0.157
[> Ge	74		ug/L		322011	322010.925
| As	75	28.390	ug/L	4.576	23875	0.076
| Se	77		ug/L		9631	0.015
| Se	82	74.459	ug/L	2.421	7326	0.023
[Kr	83		ug/L		87	-0.000
[> Lu	175		ug/L		471174	471174.408
[Tl	205	36.369	ug/L	0.341	634459	1.336

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9						
|> Sc	45		106.1				
[Ni	60						
[> Ge	74		106.4				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
[> Lu	175		105.3				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049289

Report Date/Time: Friday, March 19, 2010 04:59:07

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ICPMS#5 - Summary Report

Sample ID: 247551001

Sample Date/Time: Friday, March 19, 2010 05:05:41

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\247551001.296

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	2.917	ug/L	3.298	1296	0.004
| > Sc	45		ug/L		294016	294016.181
[Ni	60	8.388	ug/L	2.491	10022	0.034
[> Ge	74		ug/L		313055	313055.212
| As	75	3.369	ug/L	2.346	2310	0.009
| Se	77		ug/L		2915	-0.005
| Se	82	0.491	ug/L	2.207	46	0.000
[Kr	83		ug/L		168	0.000
[> Lu	175		ug/L		517290	517290.147
[Tl	205	0.070	ug/L	14.992	7029	0.003

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9						
| > Sc	45		119.3				
[Ni	60						
[> Ge	74		103.5				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
[> Lu	175		115.6				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 247551001

Report Date/Time: Friday, March 19, 2010 05:06:19

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ICPMS#5 - Summary Report

Sample ID: 247551002

Sample Date/Time: Friday, March 19, 2010 05:09:18

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 955818[2]skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\247551002.297

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	2.813	ug/L	3.183	1216	0.004
|> Sc	45		ug/L		285835	285834.748
[Ni	60	22.467	ug/L	2.374	25883	0.090
|> Ge	74		ug/L		286689	286689.306
| As	75	7.082	ug/L	2.773	4957	0.019
| Se	77		ug/L		2424	-0.006
| Se	82	0.425	ug/L	26.712	37	0.000
[Kr	83		ug/L		157	0.000
|> Lu	175		ug/L		466660	466659.637
[Tl	205	0.214	ug/L	5.307	8822	0.008

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9					
|> Sc	45		116.0			
[Ni	60					
|> Ge	74		94.8			
| As	75					
| Se	77					
| Se	82					
[Kr	83					
|> Lu	175		104.3			
[Tl	205					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 247551002

Report Date/Time: Friday, March 19, 2010 05:09:56

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ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Friday, March 19, 2010 05:12:55

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 8.298

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	56.140	ug/L	0.648	19377	0.084
[>	Sc	45		ug/L		231385	231385.065
[	Ni	60	55.541	ug/L	2.884	51626	0.223
[>	Ge	74		ug/L		300362	300361.626
|	As	75	51.580	ug/L	2.527	40843	0.138
|	Se	77		ug/L		5851	0.005
|	Se	82	50.978	ug/L	5.443	4675	0.016
[	Kr	83		ug/L		80	-0.000
[>	Lu	175		ug/L		450220	450220.126
[	Tl	205	55.154	ug/L	0.402	916824	2.025

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
[	Be	9	112.281					
[>	Sc	45		93.9				
[	Ni	60	111.082					
[>	Ge	74		99.3				
|	As	75	103.160					
|	Se	77						
|	Se	82	101.957					
[	Kr	83						
[>	Lu	175		100.6				
[	Tl	205	110.308					

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Be	9	CCV is out of limits (+/- 10%)
QC Std 8	Ni	60	CCV is out of limits (+/- 10%)
QC Std 8	Tl	205	CCV is out of limits (+/- 10%)

QC Action

Sample ID: QC Std 8

Report Date/Time: Friday, March 19, 2010 05:13:33

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QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Friday, March 19, 2010 05:16:33

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 9.299

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	-0.010	ug/L	43.882	11	-0.000
|> Sc	45		ug/L		235278	235277.936
[Ni	60	0.010	ug/L	209.961	115	0.000
[> Ge	74		ug/L		294917	294917.269
| As	75	0.480	ug/L	74.389	-98	0.001
| Se	77		ug/L		3840	-0.001
| Se	82	0.212	ug/L	42.967	18	0.000
[Kr	83		ug/L		71	-0.000
[> Lu	175		ug/L		439670	439669.717
[Tl	205	0.081	ug/L	8.012	6156	0.003

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[Be	9						
|> Sc	45		95.5				
[Ni	60						
[> Ge	74		97.5				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
[> Lu	175		98.3				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: QC Std 9

Report Date/Time: Friday, March 19, 2010 05:17:13

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ICPMS#5 - Summary Report

Sample ID: 1202049285

Sample Date/Time: Friday, March 19, 2010 05:23:49

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049285.301

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	2.068	ug/L	1.911	854	0.003
|> Sc	45		ug/L		271670	271670.259
[Ni	60	12.504	ug/L	2.369	13744	0.050
[> Ge	74		ug/L		286599	286599.350
| As	75	5.583	ug/L	4.036	3808	0.015
| Se	77		ug/L		2290	-0.006
| Se	82	0.535	ug/L	34.283	46	0.000
[Kr	83		ug/L		123	0.000
[> Lu	175		ug/L		460775	460775.172
[Tl	205	0.348	ug/L	7.369	10966	0.013

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9						
|> Sc	45		110.3				
[Ni	60						
[> Ge	74		94.7				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
[> Lu	175		103.0				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049285

Report Date/Time: Friday, March 19, 2010 05:24:28

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ICPMS#5 - Summary Report

Sample ID: 1202049287

Sample Date/Time: Friday, March 19, 2010 05:27:26

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049287.302

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	23.709	ug/L	0.862	9686	0.035
Sc	45		ug/L		273603	273603.252
Ni	60	32.911	ug/L	1.759	36244	0.132
Ge	74		ug/L		281429	281429.210
As	75	40.996	ug/L	1.169	30334	0.109
Se	77		ug/L		2757	-0.005
Se	82	7.482	ug/L	2.584	643	0.002
Kr	83		ug/L		150	0.000
Lu	175		ug/L		460792	460792.456
Tl	205	52.692	ug/L	0.769	896653	1.935

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
Sc	45		111.1			
Ni	60					
Ge	74		93.0			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		103.0			
Tl	205					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049287

Report Date/Time: Friday, March 19, 2010 05:28:04

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ICPMS#5 - Summary Report

Sample ID: 1202049288

Sample Date/Time: Friday, March 19, 2010 05:31:03

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049288.303

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	24.671	ug/L	2.603	9626	0.037
[> Sc	45		ug/L		261312	261312.002
[Ni	60	33.793	ug/L	1.511	35540	0.136
[> Ge	74		ug/L		264226	264225.672
| As	75	43.133	ug/L	2.893	29978	0.115
| Se	77		ug/L		2580	-0.005
| Se	82	7.990	ug/L	5.451	644	0.002
[Kr	83		ug/L		158	0.000
[> Lu	175		ug/L		439504	439503.708
[Tl	205	53.684	ug/L	2.654	871202	1.971

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[Be	9						
[> Sc	45		106.1				
[Ni	60						
[> Ge	74		87.3				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
[> Lu	175		98.2				
[Tl	205						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049288

Report Date/Time: Friday, March 19, 2010 05:31:41

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ICPMS#5 - Summary Report

Sample ID: 1202049286

Sample Date/Time: Friday, March 19, 2010 05:34:39

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 955818|10|skj

Method File: c:\elandata\Method\lanl soil.mth

Dataset File: C:\elandata\Dataset\100318\1202049286.304

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.565	ug/L	4.679	187	0.001
|>	Sc	45		ug/L		207007	207007.346
[	Ni	60	2.622	ug/L	0.080	2271	0.011
[>	Ge	74		ug/L		252658	252657.935
|	As	75	1.315	ug/L	13.325	478	0.004
|	Se	77		ug/L		2596	-0.004
|	Se	82	0.301	ug/L	30.769	23	0.000
[	Kr	83		ug/L		80	0.000
[>	Lu	175		ug/L		386054	386053.752
[	Tl	205	0.059	ug/L	23.803	5087	0.002

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
|>	Sc	45		84.0			
[	Ni	60					
[>	Ge	74		83.5			
|	As	75					
|	Se	77					
|	Se	82					
[	Kr	83					
[>	Lu	175		86.3			
[	Tl	205					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

QC Action

QC Action Line: No QC out of limits detected

Sample ID: 1202049286

Report Date/Time: Friday, March 19, 2010 05:35:17

Page 1

ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Friday, March 19, 2010 05:41:53

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 8.306

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	56.185	ug/L	0.666	18787	0.084
[> Sc	45		ug/L		224162	224161.614
[Ni	60	54.539	ug/L	2.489	49142	0.219
[> Ge	74		ug/L		287480	287480.167
[As	75	51.101	ug/L	0.824	38736	0.136
[Se	77		ug/L		5519	0.005
[Se	82	51.772	ug/L	2.615	4548	0.016
[Kr	83		ug/L		73	-0.000
[> Lu	175		ug/L		431294	431293.899
[Tl	205	54.534	ug/L	2.520	868246	2.003

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	0.9999

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9	112.371				
[> Sc	45		91.0			
[Ni	60	109.079				
[> Ge	74		95.0			
[As	75	102.201				
[Se	77					
[Se	82	103.545				
[Kr	83					
[> Lu	175		96.4			
[Tl	205	109.067				

QC Out Of Limits

Measurement Type	Analyte	Mass	Out of Limits Message
QC Std 8	Be	9	CCV is out of limits (+/- 10%)

QC Action

QC Action Line: Continue

Sample ID: QC Std 8

Report Date/Time: Friday, March 19, 2010 05:42:31

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ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Friday, March 19, 2010 05:45:31

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil.mth

Dataset File: C:\elandata\Dataset\100318\QC Std 9.307

Concentration Results

	Analyte	Mass	Conc.	Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.008		ug/L	214.317	15	0.000
|>	Sc	45			ug/L		204999	204999.138
[	Ni	60	0.032		ug/L	42.694	119	0.000
[>	Ge	74			ug/L		258763	258762.676
|	As	75	0.483		ug/L	48.130	-82	0.001
|	Se	77			ug/L		3243	-0.002
|	Se	82	0.123		ug/L	83.679	9	0.000
[	Kr	83			ug/L		71	-0.000
[>	Lu	175			ug/L		383140	383139.850
[	Tl	205	0.114		ug/L	7.683	5826	0.004

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	0.9999

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[	Be	9						
|>	Sc	45		83.2				
[	Ni	60						
[>	Ge	74		85.5				
|	As	75						
|	Se	77						
|	Se	82						
[	Kr	83						
[>	Lu	175		85.6				
[	Tl	205						

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 9

Report Date/Time: Friday, March 19, 2010 05:46:11

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ICPMS #5 Daily Performance Report

Sample ID: Sample

Sample Date/Time: Friday, March 19, 2010 12:25:36

Sample Description:

Method File: c:\elandata\Method\Daily2.mth

Dataset File: c:\elandata\Dataset\default\Sample.870

Tuning File: c:\elandata\Tuning\default2.tun

Optimization File: c:\elandata\Optimize\default.dac

Dual Detector Mode: Pulse

Acq. Dead Time(ns): 35

Current Dead Time (ns): 35

Number of Replicates: 5

Summary

Analyte	Mass	Meas. Intens. Mean	Net Intens. Mean	Net Intens. SD	Net Intens. RSD
Be	9.0	4041.4	4041.372	81.851	2.0
Mg	24.0	49145.2	49145.195	475.507	1.0
Co	58.9	89688.7	89688.666	431.875	0.5
Rh	102.9	173073.4	173073.356	1536.684	0.9
In	114.9	232515.0	232514.964	989.136	0.4
Pb	208.0	284730.8	284730.796	1789.725	0.6
[> Ba	137.9	226885.0	226885.033	2712.734	1.2
[Ba++	69.0	3216.2	0.014	0.000	1.4
[> Ce	139.9	274553.1	274553.116	2327.444	0.8
[CeO	155.9	6290.7	0.023	0.000	1.2
Bkgd	220.0	20.8	20.800	3.054	14.7

Current Optimization File Data

Current Value	Description
0.89	Nebulizer Gas Flow
6.75	Lens Voltage
1450.00	ICP RF Power
-1812.50	Analog Stage Voltage
1300.00	Pulse Stage Voltage
200.00	Discriminator Threshold
-6.00	AC Rod Offset

Current Autolens Data

Analyte	Mass	Num of Pts	DAC Value	Maximum Intensity
Be	9	15	6.8	4773.1
Co	59	15	7.5	77698.4
In	115	15	8.5	221915.7

ICPMS #5 Instrument Tuning Report

File Name: 100319.tun
File Path: C:\elandata\Tuning

Analyte	Exact Mass	Meas. Mass	Mass DAC	Res. DAC	Meas. Pk. Width
He	3.0	3.0	589	2072	0.570
Be	9.0	9.0	2050	2088	0.577
Mg	24.0	24.0	5685	2100	0.538
Mg	25.0	25.0	5937	2100	0.527
Mg	26.0	26.0	6182	2100	0.563
Co	58.9	59.0	14191	2125	0.568
Rh	102.9	102.9	24879	2180	0.563
In	114.9	114.9	27794	2200	0.564
Ce	139.9	139.9	33865	2220	0.573
Pb	206.0	206.0	49948	2305	0.549
Pb	207.0	207.0	50171	2240	0.633
Pb	208.0	208.0	50439	2280	0.676
U	238.1	238.0	57724	2295	0.667

ICPMS#5 - Summary Report

Sample ID: Blank

Sample Date/Time: Friday, March 19, 2010 17:06:15

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\Blank.070

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9		ug/L		15	
> Sc	45		ug/L		712936	
Li	60		ug/L		54	
> Ge	74		ug/L		401298	
As	75		ug/L		160	
Se	77		ug/L		3519	
Se	82		ug/L		0	
Kr	83		ug/L		100	
> Lu	175		ug/L		572532	
Tl	205		ug/L		1120	
Pb	208		ug/L		420	
U	238		ug/L		104	

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	
Pb	208Linear Thru Zero	
U	238Linear Thru Zero	

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
> Sc	45					
Li	60					
> Ge	74					
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175					
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: Blank

Report Date/Time: Friday, March 19, 2010 17:07:07

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 1

Sample Date/Time: Friday, March 19, 2010 17:09:34

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\Vanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\Standard 1.071

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	10.000	ug/L	2.034	4578	0.006
Sc	45		ug/L		730974	730974.155
Ni	60	10.000	ug/L	3.395	14635	0.020
Ge	74		ug/L		405973	405972.686
As	75	10.000	ug/L	3.819	10813	0.026
Se	77		ug/L		4680	0.003
Se	82	10.000	ug/L	3.766	1225	0.003
Kr	83		ug/L		93	-0.000
Lu	175		ug/L		578129	578128.836
Tl	205	10.000	ug/L	1.564	250163	0.431
Pb	208	10.000	ug/L	0.564	441403	0.763
U	238	10.000	ug/L	1.516	538048	0.930

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
Sc	45						
Ni	60						
Ge	74						
As	75						
Se	77						
Se	82						
Kr	83						
Lu	175						
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

Sample ID: Standard 1

Report Date/Time: Friday, March 19, 2010 17:10:24

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: Standard 2

Sample Date/Time: Friday, March 19, 2010 17:12:51

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\Standard 2.072

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	99.981	ug/L	0.639	45240	0.061
Sc	45		ug/L		738592	738591.735
Ni	60	99.990	ug/L	1.247	145947	0.198
Ge	74		ug/L		415031	415031.285
As	75	100.021	ug/L	1.516	111433	0.268
Se	77		ug/L		13189	0.023
Se	82	99.949	ug/L	2.007	11909	0.029
Kr	83		ug/L		114	0.000
Lu	175		ug/L		566993	566992.718
Tl	205	99.939	ug/L	2.346	2301369	4.057
Pb	208	99.964	ug/L	1.656	4171609	7.358
U	238	99.939	ug/L	2.158	4966515	8.761

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
Sc	45						
Ni	60						
Ge	74						
As	75						
Se	77						
Se	82						
Kr	83						
Lu	175						
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte

MassOut of Limits Message

Sample ID: Standard 2

Report Date/Time: Friday, March 19, 2010 17:13:41

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 1

Sample Date/Time: Friday, March 19, 2010 17:16:09

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\anal soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 1.073

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	49.143	ug/L	1.203	22587	0.030
|>	Sc	45		ug/L		750048	750048.377
[	Ni	60	50.995	ug/L	1.614	75609	0.101
|>	Ge	74		ug/L		417676	417675.698
|	As	75	51.020	ug/L	1.953	57279	0.137
|	Se	77		ug/L		8951	0.013
|	Se	82	50.210	ug/L	2.013	6020	0.014
[	Kr	83		ug/L		126	0.000
|>	Lu	175		ug/L		583437	583437.116
|	Tl	205	49.349	ug/L	3.230	1169941	2.003
|	Pb	208	49.582	ug/L	1.488	2129557	3.649
[	U	238	50.519	ug/L	1.469	2583788	4.429

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[	Be	9	98.286					
|>	Sc	45		105.2				
[	Ni	60	101.990					
|>	Ge	74		104.1				
|	As	75	102.040					
|	Se	77						
|	Se	82	100.420					
[	Kr	83						
|>	Lu	175		101.9				
|	Tl	205						
|	Pb	208						
[	U	238	101.038					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 1

Report Date/Time: Friday, March 19, 2010 17:16:59

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 2

Sample Date/Time: Friday, March 19, 2010 17:19:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 2.074

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.012	ug/L	88.965	22	0.000
> Sc	45		ug/L		757170	757170.156
Ni	60	0.004	ug/L	157.276	63	0.000
> Ge	74		ug/L		419485	419484.566
As	75	-0.200	ug/L	48.808	-57	-0.001
Se	77		ug/L		4157	0.001
Se	82	0.252	ug/L	52.770	31	0.000
Kr	83		ug/L		96	-0.000
> Lu	175		ug/L		576749	576749.402
Tl	205	0.194	ug/L	7.282	5681	0.008
Pb	208	0.002	ug/L	16.342	514	0.000
U	238	0.004	ug/L	9.432	285	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		106.2				
Ni	60						
> Ge	74		104.5				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		100.7				
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 2

Report Date/Time: Friday, March 19, 2010 17:20:21

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 3

Sample Date/Time: Friday, March 19, 2010 17:22:49

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 3.075

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.555	ug/L	2.718	269	0.000
> Sc	45		ug/L		744074	744074.146
Ni	60	2.270	ug/L	0.901	3393	0.004
> Ge	74		ug/L		423926	423925.904
As	75	5.537	ug/L	3.633	6460	0.015
Se	77		ug/L		4695	0.002
Se	82	5.575	ug/L	9.312	679	0.002
Kr	83		ug/L		108	0.000
> Lu	175		ug/L		584022	584022.168
Tl	205	1.209	ug/L	2.147	29813	0.049
Pb	208	2.315	ug/L	1.167	99935	0.170
U	238	0.271	ug/L	1.275	13968	0.024

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9	111.038				
> Sc	45		104.4			
Ni	60	113.520				
> Ge	74		105.6			
As	75	110.739				
Se	77					
Se	82	111.501				
Kr	83					
> Lu	175		102.0			
Tl	205					
Pb	208					
U	238	135.372				

QC Out of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 3

Report Date/Time: Friday, March 19, 2010 17:23:40

Page 1

QC Std 3

U

238CRDL is out of limits

QC Action

QC Action Line: Continue

ICPMS#5 - Summary Report

Sample ID: QC Std 4

Sample Date/Time: Friday, March 19, 2010 17:26:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 4.076

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.097	ug/L	22.395	58	0.000
Sc	45		ug/L		724407	724407.468
Ni	60	3.078	ug/L	2.817	4458	0.006
Ge	74		ug/L		397149	397149.239
As	75	-0.259	ug/L	68.529	-117	-0.001
Se	77		ug/L		6804	0.008
Se	82	-0.803	ug/L	50.218	-91	-0.000
Kr	83		ug/L		287	0.000
Lu	175		ug/L		543181	543180.987
Tl	205	0.036	ug/L	5.268	1857	0.001
Pb	208	0.213	ug/L	0.756	8927	0.016
U	238	0.001	ug/L	21.291	170	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
Sc	45		101.6			
Ni	60	92.983				
Ge	74		99.0			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		94.9			
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte

MassOut of Limits Message

Sample ID: QC Std 4

Report Date/Time: Friday, March 19, 2010 17:26:59

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 5

Sample Date/Time: Friday, March 19, 2010 17:29:27

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 5.077

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	19.298	ug/L	0.823	8143	0.012
> Sc	45		ug/L		687812	687812.054
Ni	60	22.823	ug/L	1.476	31063	0.045
> Ge	74		ug/L		383781	383780.557
As	75	21.579	ug/L	2.269	22351	0.058
Se	77		ug/L		8056	0.012
Se	82	20.779	ug/L	3.847	2289	0.006
Kr	83		ug/L		289	0.001
> Lu	175		ug/L		534139	534139.443
Tl	205	19.980	ug/L	1.297	434300	0.811
Pb	208	20.161	ug/L	0.386	793019	1.484
U	238	22.310	ug/L	0.650	1044728	1.956

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	96.488					
> Sc	45		96.5				
Ni	60	97.910					
> Ge	74		95.6				
As	75	107.896					
Se	77						
Se	82	103.895					
Kr	83						
> Lu	175		93.3				
Tl	205						
Pb	208						
U	238	111.552					

QC Out Of Limits

Measurement Type Analyte

MassOut of Limits Message

Sample ID: QC Std 5

Report Date/Time: Friday, March 19, 2010 17:30:18

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 6

Sample Date/Time: Friday, March 19, 2010 17:32:47

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 6.078

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	48.184	ug/L	0.962	21595	0.030
> Sc	45		ug/L		731350	731350.016
Ni	60	49.618	ug/L	1.216	71735	0.098
> Ge	74		ug/L		406196	406195.948
As	75	49.942	ug/L	0.397	54537	0.134
Se	77		ug/L		9836	0.015
Se	82	50.443	ug/L	0.615	5882	0.014
Kr	83		ug/L		117	0.000
> Lu	175		ug/L		567087	567087.145
Tl	205	49.068	ug/L	0.996	1130764	1.992
Pb	208	49.382	ug/L	0.719	2061536	3.635
U	238	50.522	ug/L	0.978	2511478	4.429

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9	96.369					
> Sc	45		102.6				
Ni	60	99.236					
> Ge	74		101.2				
As	75	99.885					
Se	77						
Se	82	100.886					
Kr	83						
> Lu	175		99.0				
Tl	205						
Pb	208						
U	238	101.045					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 6

Report Date/Time: Friday, March 19, 2010 17:33:38

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 7

Sample Date/Time: Friday, March 19, 2010 17:36:08

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 7.079

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.010	ug/L	69.633	20	0.000
> Sc	45		ug/L		747740	747739.549
Ni	60	0.006	ug/L	76.465	65	0.000
> Ge	74		ug/L		416454	416453.540
As	75	-0.294	ug/L	25.896	-162	-0.001
Se	77		ug/L		5582	0.005
Se	82	0.116	ug/L	45.773	14	0.000
Kr	83		ug/L		110	0.000
> Lu	175		ug/L		565901	565900.943
Tl	205	0.180	ug/L	4.878	5233	0.007
Pb	208	0.002	ug/L	23.295	511	0.000
U	238	0.003	ug/L	9.958	244	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
Be	9						
> Sc	45		104.9				
Ni	60						
> Ge	74		103.8				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		98.8				
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 7

Report Date/Time: Friday, March 19, 2010 17:37:00

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Friday, March 19, 2010 17:39:29

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\ani soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 8.080

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	47.986	ug/L	1.585	21966	0.029
[> Sc	45		ug/L		746918	746917.656
[Ni	60	50.757	ug/L	0.571	74948	0.100
[> Ge	74		ug/L		420633	420633.154
| As	75	49.655	ug/L	4.082	56129	0.133
| Se	77		ug/L		9938	0.015
| Se	82	50.329	ug/L	4.731	6074	0.014
[Kr	83		ug/L		113	0.000
[> Lu	175		ug/L		579122	579122.023
| Tl	205	48.394	ug/L	2.089	1138928	1.965
| Pb	208	48.823	ug/L	0.794	2081487	3.594
[U	238	50.462	ug/L	0.998	2561899	4.424

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9	95.973				
[> Sc	45		104.8			
[Ni	60	101.513				
[> Ge	74		104.8			
| As	75	99.310				
| Se	77					
| Se	82	100.657				
[Kr	83					
[> Lu	175		101.2			
| Tl	205					
| Pb	208					
[U	238	100.923				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 8

Report Date/Time: Friday, March 19, 2010 17:40:20

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Friday, March 19, 2010 17:42:50

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 9.081

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.007	ug/L	69.351	19	0.000
Sc	45		ug/L		761164	761164.092
Ni	60	0.001	ug/L	1399.331	58	0.000
Ge	74		ug/L		421430	421429.721
As	75	-0.209	ug/L	115.299	-69	-0.001
Se	77		ug/L		5616	0.005
Se	82	0.143	ug/L	92.402	18	0.000
Kr	83		ug/L		104	-0.000
Lu	175		ug/L		578104	578103.730
Tl	205	0.187	ug/L	9.425	5512	0.008
Pb	208	0.003	ug/L	22.386	550	0.000
U	238	0.003	ug/L	22.582	269	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
Sc	45		106.8				
Ni	60						
Ge	74		105.0				
As	75						
Se	77						
Se	82						
Kr	83						
Lu	175		101.0				
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 9

Report Date/Time: Friday, March 19, 2010 17:43:42

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049284

Sample Date/Time: Friday, March 19, 2010 17:49:33

Sample Type:

Sample Description: LANL 6020 MB

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049284.083

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.015	ug/L	60.556	20	0.000
> Sc	45		ug/L		675468	675467.616
Ni	60	0.256	ug/L	5.507	392	0.001
> Ge	74		ug/L		380051	380050.972
As	75	0.064	ug/L	104.385	216	0.000
Se	77		ug/L		4199	0.002
Se	82	0.203	ug/L	83.992	23	0.000
Kr	83		ug/L		93	-0.000
> Lu	175		ug/L		543842	543841.770
Tl	205	0.038	ug/L	6.805	1901	0.002
Pb	208	0.014	ug/L	5.523	967	0.001
U	238	0.001	ug/L	16.013	139	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		94.7			
Ni	60					
> Ge	74		94.7			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		95.0			
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 1202049284

Report Date/Time: Friday, March 19, 2010 17:50:24

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049289

Sample Date/Time: Friday, March 19, 2010 17:52:53

Sample Type:

Sample Description: LANL 6020 LCS

Number of Replicates: 3

Batch ID: 955818|40|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049289.084

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	21.328	ug/L	0.168	9387	0.013
| > Sc	45		ug/L		717509	717508.841
[Ni	60	37.338	ug/L	0.303	52978	0.074
[> Ge	74		ug/L		396976	396976.351
| As	75	28.213	ug/L	2.108	30177	0.076
| Se	77		ug/L		11204	0.019
| Se	82	79.077	ug/L	1.827	9011	0.023
[Kr	83		ug/L		99	0.000
[> Lu	175		ug/L		551169	551168.550
| Tl	205	33.609	ug/L	1.371	753029	1.364
| Pb	208	23.842	ug/L	1.618	967499	1.755
[U	238	0.548	ug/L	1.378	26591	0.048

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[Be	9					
| > Sc	45		100.6			
[Ni	60					
[> Ge	74		98.9			
| As	75					
| Se	77					
| Se	82					
[Kr	83					
[> Lu	175		96.3			
| Tl	205					
| Pb	208					
[U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 1202049289

Report Date/Time: Friday, March 19, 2010 17:53:44

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Friday, March 19, 2010 17:59:33

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 8.086

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	49.822	ug/L	0.501	21142	0.031
|>	Sc	45		ug/L		692436	692436.400
[	Ni	60	51.068	ug/L	0.263	69907	0.101
|>	Ge	74		ug/L		393206	393206.143
|	As	75	48.555	ug/L	2.027	51338	0.130
|	Se	77		ug/L		8894	0.014
|	Se	82	50.536	ug/L	0.463	5704	0.015
[	Kr	83		ug/L		107	0.000
|>	Lu	175		ug/L		546667	546666.883
|	Tl	205	49.848	ug/L	1.148	1107275	2.024
|	Pb	208	50.567	ug/L	0.094	2035030	3.722
[	U	238	50.867	ug/L	0.536	2437770	4.459

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Be	9	99.645					
|>	Sc	45		97.1				
[	Ni	60	102.135					
|>	Ge	74		98.0				
|	As	75	97.109					
|	Se	77						
|	Se	82	101.072					
[	Kr	83						
|>	Lu	175		95.5				
|	Tl	205						
|	Pb	208						
[	U	238	101.734					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 8

Report Date/Time: Friday, March 19, 2010 18:00:24

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Friday, March 19, 2010 18:02:54

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 9.087

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.012	ug/L	96.261	19	0.000
> Sc	45		ug/L		688545	688545.333
Ni	60	0.001	ug/L	1168.903	53	0.000
> Ge	74		ug/L		396002	396001.656
As	75	0.098	ug/L	480.531	264	0.000
Se	77		ug/L		4802	0.003
Se	82	0.108	ug/L	55.103	13	0.000
Kr	83		ug/L		103	0.000
> Lu	175		ug/L		556362	556361.831
Tl	205	0.176	ug/L	5.371	5059	0.007
Pb	208	0.002	ug/L	36.008	500	0.000
U	238	0.003	ug/L	12.486	263	0.000

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel. % Difference
Be	9					
> Sc	45		96.6			
Ni	60					
> Ge	74		98.7			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		97.2			
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 9

Report Date/Time: Friday, March 19, 2010 18:03:46

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 247551001

Sample Date/Time: Friday, March 19, 2010 18:06:15

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\Vanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\247551001.088

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	3.161	ug/L	1.645	1422	0.002
> Sc	45		ug/L		726998	726998.005
Ni	60	9.184	ug/L	2.247	13245	0.018
> Ge	74		ug/L		365492	365492.272
As	75	3.498	ug/L	5.723	3571	0.009
Se	77		ug/L		3281	0.000
Se	82	0.649	ug/L	35.689	68	0.000
Kr	83		ug/L		219	0.000
> Lu	175		ug/L		592166	592165.723
Tl	205	0.243	ug/L	2.572	6997	0.010
Pb	208	24.421	ug/L	2.415	1064523	1.797
U	238	5.205	ug/L	2.060	270231	0.456

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recovery	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		102.0				
Ni	60						
> Ge	74		91.1				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		103.4				
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 247551001

Report Date/Time: Friday, March 19, 2010 18:07:06

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 247551002

Sample Date/Time: Friday, March 19, 2010 18:09:35

Sample Type:

Sample Description: LANL 6020

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\247551002.089

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	3.183	ug/L	4.199	1388	0.002
Sc	45		ug/L		704682	704681.823
Ni	60	24.482	ug/L	0.560	34133	0.048
Ge	74		ug/L		358119	358119.442
As	75	6.670	ug/L	2.584	6544	0.018
Se	77		ug/L		2819	-0.001
Se	82	0.381	ug/L	11.485	40	0.000
Kr	83		ug/L		200	0.000
Lu	175		ug/L		570703	570702.680
Tl	205	0.376	ug/L	2.815	9840	0.015
Pb	208	33.060	ug/L	1.566	1388866	2.433
U	238	8.598	ug/L	0.639	430230	0.754

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dif	Duplicate Rel. % Difference
Be	9					
Sc	45		98.8			
Ni	60					
Ge	74		89.2			
As	75					
Se	77					
Se	82					
Kr	83					
Lu	175		99.7			
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 247551002

Report Date/Time: Friday, March 19, 2010 18:10:26

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049285

Sample Date/Time: Friday, March 19, 2010 18:16:15

Sample Type:

Sample Description: LANL 6020 DUP

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049285.091

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	2.355	ug/L	10.038	1022	0.001
> Sc	45		ug/L		699355	699354.544
Ni	60	13.552	ug/L	0.567	18776	0.027
> Ge	74		ug/L		352910	352909.911
As	75	5.706	ug/L	1.135	5538	0.015
Se	77		ug/L		2583	-0.001
Se	82	0.449	ug/L	68.180	46	0.000
Kr	83		ug/L		186	0.000
> Lu	175		ug/L		566092	566092.297
Tl	205	0.495	ug/L	3.625	12472	0.020
Pb	208	27.131	ug/L	1.838	1130821	1.997
U	238	3.308	ug/L	0.050	164271	0.290

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
Be	9					
> Sc	45		98.1			
Ni	60					
> Ge	74		87.9			
As	75					
Se	77					
Se	82					
Kr	83					
> Lu	175		98.9			
Tl	205					
Pb	208					
U	238					

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

Sample ID: 1202049285

Report Date/Time: Friday, March 19, 2010 18:17:06

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049287

Sample Date/Time: Friday, March 19, 2010 18:19:35

Sample Type:

Sample Description: LANL 6020 MS

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049287.092

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	26.727	ug/L	1.353	11506	0.016
| >	Sc	45		ug/L		702085	702085.062
[	Ni	60	36.374	ug/L	2.681	50488	0.072
[>	Ge	74		ug/L		358568	358568.052
|	As	75	43.474	ug/L	3.485	41913	0.117
|	Se	77		ug/L		3207	0.000
|	Se	82	9.163	ug/L	5.011	943	0.003
[	Kr	83		ug/L		193	0.000
[>	Lu	175		ug/L		566202	566202.434
|	Tl	205	49.265	ug/L	1.978	1133287	2.000
|	Pb	208	123.498	ug/L	0.782	5146667	9.090
[	U	238	30.346	ug/L	1.908	1505957	2.660

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel. % Difference
[	Be	9				
| >	Sc	45	98.5			
[	Ni	60				
[>	Ge	74	89.4			
|	As	75				
|	Se	77				
|	Se	82				
[	Kr	83				
[>	Lu	175	98.9			
|	Tl	205				
|	Pb	208				
[	U	238				

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 1202049287

Report Date/Time: Friday, March 19, 2010 18:20:26

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049288

Sample Date/Time: Friday, March 19, 2010 18:22:55

Sample Type:

Sample Description: LANL 6020 MSD

Number of Replicates: 3

Batch ID: 955818|2|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049288.093

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[Be	9	26.076	ug/L	2.992	11346	0.016
| > Sc	45		ug/L		709738	709737.710
[Ni	60	35.604	ug/L	1.606	49971	0.070
| > Ge	74		ug/L		360237	360237.152
| As	75	42.135	ug/L	1.046	40826	0.113
| Se	77		ug/L		3147	-0.000
| Se	82	9.186	ug/L	2.769	950	0.003
[Kr	83		ug/L		194	0.000
| > Lu	175		ug/L		569289	569288.917
| Tl	205	48.576	ug/L	1.224	1123768	1.972
| Pb	208	120.824	ug/L	1.085	5063077	8.893
[U	238	31.634	ug/L	1.383	1578710	2.773

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Di	Duplicate Rel.	% Difference
[Be	9						
| > Sc	45		99.6				
[Ni	60						
| > Ge	74		89.8				
| As	75						
| Se	77						
| Se	82						
[Kr	83						
| > Lu	175		99.4				
| Tl	205						
| Pb	208						
[U	238						

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 1202049288

Report Date/Time: Friday, March 19, 2010 18:23:46

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: 1202049286

Sample Date/Time: Friday, March 19, 2010 18:26:16

Sample Type:

Sample Description: LANL 6020 SDILT

Number of Replicates: 3

Batch ID: 955818|10|skj

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\1202049286.094

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	0.456	ug/L	4.998	195	0.000
|>	Sc	45		ug/L		649105	649105.033
[	Ni	60	2.332	ug/L	3.521	3039	0.005
|>	Ge	74		ug/L		354546	354545.567
|	As	75	1.019	ug/L	19.443	1110	0.003
|	Se	77		ug/L		2978	-0.000
|	Se	82	0.141	ug/L	81.397	15	0.000
[	Kr	83		ug/L		107	0.000
|>	Lu	175		ug/L		537112	537112.279
|	Tl	205	0.272	ug/L	1.524	6983	0.011
|	Pb	208	4.885	ug/L	0.338	193502	0.360
[	U	238	1.378	ug/L	1.064	64987	0.121

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel. % Difference
[	Be	9					
|>	Sc	45		91.0			
[	Ni	60					
|>	Ge	74		88.3			
|	As	75					
|	Se	77					
|	Se	82					
[	Kr	83					
|>	Lu	175		93.8			
|	Tl	205					
|	Pb	208					
[	U	238					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: 1202049286

Report Date/Time: Friday, March 19, 2010 18:27:07

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 8

Sample Date/Time: Friday, March 19, 2010 18:29:36

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 8.095

Concentration Results

	Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
[	Be	9	51.729	ug/L	0.872	20433	0.032
[>	Sc	45		ug/L		644602	644601.795
[	Ni	60	49.741	ug/L	1.847	63377	0.098
[>	Ge	74		ug/L		365420	365419.673
[	As	75	49.286	ug/L	1.002	48420	0.132
[	Se	77		ug/L		7543	0.012
[	Se	82	51.029	ug/L	1.920	5354	0.015
[	Kr	83		ug/L		99	0.000
[>	Lu	175		ug/L		535276	535276.204
[	Tl	205	50.057	ug/L	1.498	1088875	2.032
[	Pb	208	50.202	ug/L	0.739	1978251	3.695
[	U	238	51.781	ug/L	1.436	2429742	4.539

Calibration

Analyte	MassCurve Type	Correlation Coefficient
Be	9Linear Thru Zero	1.0000
Sc	45Linear Thru Zero	
Ni	60Linear Thru Zero	1.0000
Ge	74Linear Thru Zero	
As	75Linear Thru Zero	1.0000
Se	77Linear Thru Zero	
Se	82Linear Thru Zero	1.0000
Kr	83Linear Thru Zero	
Lu	175Linear Thru Zero	
Tl	205Linear Thru Zero	1.0000
Pb	208Linear Thru Zero	1.0000
U	238Linear Thru Zero	1.0000

QC Calculated Values

	Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
[	Be	9	103.459					
[>	Sc	45		90.4				
[	Ni	60	99.482					
[>	Ge	74		91.1				
[	As	75	98.573					
[	Se	77						
[	Se	82	102.059					
[	Kr	83						
[>	Lu	175		93.5				
[	Tl	205						
[	Pb	208						
[	U	238	103.562					

QC Out Of Limits

Measurement Type Analyte MassOut of Limits Message

Sample ID: QC Std 8

Report Date/Time: Friday, March 19, 2010 18:30:27

Page 1

QC Action

QC Action Line: No QC out of limits detected

ICPMS#5 - Summary Report

Sample ID: QC Std 9

Sample Date/Time: Friday, March 19, 2010 18:32:57

Sample Type:

Sample Description:

Number of Replicates: 3

Batch ID:

Method File: c:\elandata\Method\lanl soil rerun.mth

Dataset File: C:\elandata\Dataset\100319\QC Std 9.096

Concentration Results

Analyte	Mass	Conc. Mean	Report Unit	Conc. RSD	Meas. Intens. Mean	Net Intens. Mean
Be	9	0.009	ug/L	152.150	17	0.000
> Sc	45		ug/L		648647	648647.184
Ni	60	0.004	ug/L	261.109	54	0.000
> Ge	74		ug/L		375758	375758.413
As	75	-0.081	ug/L	440.112	66	-0.000
Se	77		ug/L		3679	0.001
Se	82	-0.028	ug/L	779.098	-3	-0.000
Kr	83		ug/L		106	0.000
> Lu	175		ug/L		531573	531572.666
Tl	205	0.187	ug/L	4.319	5080	0.008
Pb	208	0.004	ug/L	14.878	541	0.000
U	238	0.004	ug/L	18.945	276	0.000

Calibration

Analyte	Mass	Curve Type	Correlation Coefficient
Be	9	Linear Thru Zero	1.0000
Sc	45	Linear Thru Zero	
Ni	60	Linear Thru Zero	1.0000
Ge	74	Linear Thru Zero	
As	75	Linear Thru Zero	1.0000
Se	77	Linear Thru Zero	
Se	82	Linear Thru Zero	1.0000
Kr	83	Linear Thru Zero	
Lu	175	Linear Thru Zero	
Tl	205	Linear Thru Zero	1.0000
Pb	208	Linear Thru Zero	1.0000
U	238	Linear Thru Zero	1.0000

QC Calculated Values

Analyte	Mass	QC Std % Recovery	Int Std % Recovery	Spike % Recov	Dilution % Dil	Duplicate Rel.	% Difference
Be	9						
> Sc	45		91.0				
Ni	60						
> Ge	74		93.6				
As	75						
Se	77						
Se	82						
Kr	83						
> Lu	175		92.8				
Tl	205						
Pb	208						
U	238						

QC Out Of Limits

Measurement Type Analyte Mass Out of Limits Message

Sample ID: QC Std 9

Report Date/Time: Friday, March 19, 2010 18:33:49

Page 1

QC Action

QC Action Line: No QC out of limits detected

=====
Analysis Begun

Logged In Analyst: Administrator Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550 Autosampler Model: S10

Sample Information File: C:\data-AA\Administrator\Sample Information\030810S1.SIF
Batch ID:
Results Data Set: 030810S1
Results Library: C:\data-AA\Administrator\Results\Results.mdb

=====
Method Loaded

Method Name: SOIL Method Last Saved: 1/4/2010 13:53:20
Method Description: 7471A, ILM04 ANALYST JXL

Sequence No.: 1 Autosampler Location: 1
Sample ID: Calib Blank Date Collected: 3/8/2010 09:08:29
Analyst: 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]	0.0005	0.0034	0.0005	09:09:19	Yes
2		[0.00]	0.0002	-0.0008	0.0002	09:09:49	Yes
Mean:		[0.00]	0.0004				
SD:		0.00	0.0002				
%RSD:		0.00	58.13				

Auto-zero performed.

Sequence No.: 2 Autosampler Location: 2
Sample ID: S0.2 Date Collected: 3/8/2010 09:10:08
Analyst: 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]	0.0023	0.0101	0.0027	09:10:58	Yes
2		[0.2]	0.0020	0.0074	0.0024	09:11:28	Yes
Mean:		[0.2]	0.0022				
SD:		0.0	0.0002				
%RSD:		0.0	9.02				

Standard number 1 applied. [0.2]
Correlation Coef.: 1.000000 Slope: 0.01091 Intercept: 0.00000

Sequence No.: 3 Autosampler Location: 3
Sample ID: S0.5 Date Collected: 3/8/2010 09:11:47
Analyst: 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]	0.0060	0.0258	0.0064	09:12:38	Yes
2		[0.5]	0.0060	0.0252	0.0064	09:13:07	Yes
Mean:		[0.5]	0.0060				
SD:		0.0	0.0000				
%RSD:		0.0	0.04				

Standard number 2 applied. [0.5]
Correlation Coef.: 0.999167 Slope: 0.01204 Intercept: -0.00009

Sequence No.: 4 Autosampler Location: 4
Sample ID: S2.0 Date Collected: 3/8/2010 09:13:27
Analyst: Data Type: Original

Replicate Data: S2.0

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[2.0]	0.0249	0.1095	0.0253	09:14:18	Yes
2		[2.0]	0.0248	0.1097	0.0252	09:14:48	Yes
Mean:		[2.0]	0.0249				
SD:		0.0	0.0000				
%RSD:		0.0	0.10				

Standard number 3 applied. [2.0]

Correlation Coef.: 0.999923 Slope: 0.01251 Intercept: -0.00018

Sequence No.: 5

Autosampler Location: 5

Sample ID: S5.0

Date Collected: 3/8/2010 09:15:08

Analyst:

Data Type: Original

Replicate Data: S5.0

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[5.0]	0.0607	0.2659	0.0611	09:15:59	Yes
2		[5.0]	0.0608	0.2652	0.0611	09:16:29	Yes
Mean:		[5.0]	0.0607				
SD:		0.0	0.0000				
%RSD:		0.0	0.05				

Standard number 4 applied. [5.0]

Correlation Coef.: 0.999931 Slope: 0.01219 Intercept: -0.00001

Sequence No.: 6

Autosampler Location: 6

Sample ID: S10.0

Date Collected: 3/8/2010 09:16:49

Analyst:

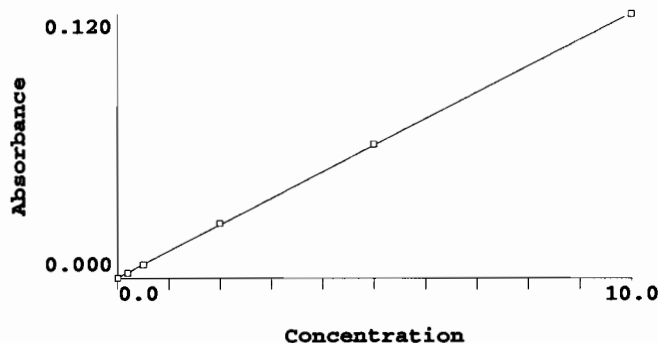
Data Type: Original

Replicate Data: S10.0

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1		[10.0]	0.1209	0.5312	0.1212	09:17:40	Yes
2		[10.0]	0.1196	0.5255	0.1199	09:18:10	Yes
Mean:		[10.0]	0.1202				
SD:		0.0	0.0009				
%RSD:		0.0	0.76				

Standard number 5 applied. [10.0]

Correlation Coef.: 0.999961 Slope: 0.01204 Intercept: 0.00016



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	-0.013	0.00	58.1
S0.2	0.0022	0.2	0.168	0.00	9.0
S0.5	0.0060	0.5	0.485	0.00	0.0
S2.0	0.0249	2.0	2.053	0.00	0.1

S5.0	0.0607	5.0	5.033	0.00	0.1
S10.0	0.1202	10.0	9.974	0.00	0.8

Correlation Coef.: 0.999961 Slope: 0.01204 Intercept: 0.00016

Sequence No.: 7
Sample ID: ICV
Analyst:

Autosampler Location: 9
Date Collected: 3/8/2010 09:18:29
Data Type: Original

Replicate Data: ICV

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.227	5.227	0.0631	0.2766	0.0634	09:19:19	Yes
2	5.168	5.168	0.0624	0.2730	0.0627	09:19:49	Yes
Mean:	5.198	5.198	0.0627				
SD:	0.042	0.042	0.0005				
%RSD:	0.800	0.800	0.80				

QC value within limits for Hg 253.7 Recovery = 103.95%
All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICB
Analyst:

Autosampler Location: 10
Date Collected: 3/8/2010 09:20:09
Data Type: Original

Replicate Data: ICB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	-0.0000	0.0001	0.0003	09:21:00	Yes
2	-0.022	-0.022	-0.0001	-0.0004	0.0003	09:21:30	Yes
Mean:	-0.019	-0.019	-0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	16.88	16.88	51.71				

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: 3/8/2010 09:21:50
Data Type: Original

Replicate Data: CRDL

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.192	0.192	0.0025	0.0115	0.0028	09:22:41	Yes
2	0.191	0.191	0.0025	0.0114	0.0028	09:23:11	Yes
Mean:	0.192	0.192	0.0025				
SD:	0.001	0.001	0.0000				
%RSD:	0.407	0.407	0.38				

QC value within limits for Hg 253.7 Recovery = 95.92%
All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV
Analyst:

Autosampler Location: 7
Date Collected: 3/8/2010 09:23:31
Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.175	5.175	0.0624	0.2740	0.0628	09:24:21	Yes
2	5.178	5.178	0.0625	0.2737	0.0629	09:24:51	Yes
Mean:	5.176	5.176	0.0625				
SD:	0.002	0.002	0.0000				
%RSD:	0.043	0.043	0.04				

QC value within limits for Hg 253.7 Recovery = 103.53%
All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB
Analyst:

Autosampler Location: 8
Date Collected: 3/8/2010 09:25:10
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.017	-0.017	-0.0000	0.0006	0.0003	09:26:01	Yes
2	-0.021	-0.021	-0.0001	0.0001	0.0003	09:26:31	Yes
Mean:	-0.019	-0.019	-0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	16.17	16.17	52.61				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 12
Sample ID: 1202056019|958678|1
Analyst: JXL

Autosampler Location: 12
Date Collected: 3/8/2010 09:26:50
Data Type: Original

Replicate Data: 1202056019|958678|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.022	-0.022	-0.0001	-0.0003	0.0003	09:27:41	Yes
2	-0.010	-0.010	0.0000	0.0013	0.0004	09:28:11	Yes
Mean:	-0.016	-0.016	-0.0000				
SD:	0.009	0.009	0.0001				
%RSD:	53.16	53.16	296.29				

Sequence No.: 13
Sample ID: 1202056020|958678|10
Analyst: JXL

Autosampler Location: 13
Date Collected: 3/8/2010 09:28:31
Data Type: Original

Replicate Data: 1202056020|958678|10

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	3.733	3.733	0.0451	0.1992	0.0455	09:29:24	Yes
2	3.742	3.742	0.0452	0.1979	0.0456	09:29:53	Yes
Mean:	3.738	3.738	0.0452				
SD:	0.006	0.006	0.0001				
%RSD:	0.163	0.163	0.16				

Sequence No.: 14
Sample ID: 247539001|958678|1
Analyst: JXL

Autosampler Location: 14
Date Collected: 3/8/2010 09:30:14
Data Type: Original

Replicate Data: 247539001|958678|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.033	0.033	0.0006	0.0032	0.0009	09:31:04	Yes
2	0.029	0.029	0.0005	0.0028	0.0009	09:31:34	Yes
Mean:	0.031	0.031	0.0005				
SD:	0.003	0.003	0.0000				
%RSD:	8.928	8.928	6.29				

Sequence No.: 15
Sample ID: 1202056021|958678|1
Analyst: JXL

Autosampler Location: 15
Date Collected: 3/8/2010 09:31:53
Data Type: Original

Replicate Data: 1202056021|958678|1

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
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Replicate Data: 247539003|958678|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.107	0.107	0.0014	0.0080	0.0018	09:41:02	Yes
2	0.097	0.097	0.0013	0.0065	0.0017	09:41:32	Yes
Mean:	0.102	0.102	0.0014				
SD:	0.007	0.007	0.0001				
%RSD:	6.950	6.950	6.16				

Sequence No.: 21

Autosampler Location: 21

Sample ID: 247539004|958678|1

Date Collected: 3/8/2010 09:41:51

Analyst: JXL

Data Type: Original

Replicate Data: 247539004|958678|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.111	0.111	0.0015	0.0075	0.0019	09:42:42	Yes
2	0.116	0.116	0.0016	0.0084	0.0019	09:43:12	Yes
Mean:	0.113	0.113	0.0015				
SD:	0.004	0.004	0.0000				
%RSD:	3.327	3.327	2.98				

Sequence No.: 22

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/8/2010 09:43:32

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.320	5.320	0.0642	0.2780	0.0646	09:44:22	Yes
2	5.284	5.284	0.0638	0.2751	0.0641	09:44:52	Yes
Mean:	5.302	5.302	0.0640				
SD:	0.025	0.025	0.0003				
%RSD:	0.480	0.480	0.48				

QC value within limits for Hg 253.7 Recovery = 106.05%
All analyte(s) passed QC.

Sequence No.: 23

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/8/2010 09:45:11

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.026	-0.026	-0.0002	-0.0003	0.0002	09:46:01	Yes
2	-0.017	-0.017	-0.0000	0.0007	0.0003	09:46:31	Yes
Mean:	-0.022	-0.022	-0.0001				
SD:	0.007	0.007	0.0001				
%RSD:	31.30	31.30	79.37				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 24

Autosampler Location: 22

Sample ID: 247539005|958678|1

Date Collected: 3/8/2010 09:46:51

Analyst: JXL

Data Type: Original

Replicate Data: 247539005|958678|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.210	0.210	0.0027	0.0134	0.0031	09:47:42	Yes
2	0.205	0.205	0.0026	0.0124	0.0030	09:48:12	Yes

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.018	0.018	0.0004	0.0033	0.0007	09:56:08	Yes
2	0.022	0.022	0.0004	0.0041	0.0008	09:56:38	Yes
Mean:	0.020	0.020	0.0004				
SD:	0.003	0.003	0.0000				
%RSD:	14.52	14.52	8.71				

Sequence No.: 30
Sample ID: 247539011|958678|1
Analyst: JXL
Autosampler Location: 28
Date Collected: 3/8/2010 09:56:57
Data Type: Original

Replicate Data: 247539011|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.413	1.413	0.0172	0.0772	0.0175	09:57:48	Yes
2	1.412	1.412	0.0172	0.0760	0.0175	09:58:18	Yes
Mean:	1.413	1.413	0.0172				
SD:	0.000	0.000	0.0000				
%RSD:	0.020	0.020	0.02				

Sequence No.: 31
Sample ID: 247542001|958678|1
Analyst: JXL
Autosampler Location: 29
Date Collected: 3/8/2010 09:58:37
Data Type: Original

Replicate Data: 247542001|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.257	0.257	0.0033	0.0180	0.0036	09:59:28	Yes
2	0.237	0.237	0.0030	0.0154	0.0034	09:59:58	Yes
Mean:	0.247	0.247	0.0031				
SD:	0.014	0.014	0.0002				
%RSD:	5.704	5.704	5.42				

Sequence No.: 32
Sample ID: 247542002|958678|1
Analyst: JXL
Autosampler Location: 30
Date Collected: 3/8/2010 10:00:17
Data Type: Original

Replicate Data: 247542002|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.141	0.141	0.0019	0.0110	0.0022	10:01:08	Yes
2	0.131	0.131	0.0017	0.0093	0.0021	10:01:37	Yes
Mean:	0.136	0.136	0.0018				
SD:	0.007	0.007	0.0001				
%RSD:	5.121	5.121	4.67				

Sequence No.: 33
Sample ID: 247543001|958678|1
Analyst: JXL
Autosampler Location: 31
Date Collected: 3/8/2010 10:01:57
Data Type: Original

Replicate Data: 247543001|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.144	0.144	0.0019	0.0096	0.0023	10:02:47	Yes
2	0.145	0.145	0.0019	0.0096	0.0023	10:03:17	Yes
Mean:	0.145	0.145	0.0019				
SD:	0.001	0.001	0.0000				
%RSD:	0.432	0.432	0.40				

Sequence No.: 34
Sample ID: CCV
Autosampler Location: 7
Date Collected: 3/8/2010 10:03:36

Analyst:

Data Type: Original

Replicate Data: CCV

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.404	5.404	0.0652	0.2837	0.0656	10:04:27	Yes
2	5.395	5.395	0.0651	0.2816	0.0655	10:04:57	Yes
Mean:	5.399	5.399	0.0652				
SD:	0.006	0.006	0.0001				
%RSD:	0.120	0.120	0.12				

QC value within limits for Hg 253.7 Recovery = 107.99%
All analyte(s) passed QC.

=====

Sequence No.: 35

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/8/2010 10:05:16

Analyst:

Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.020	-0.020	-0.0001	0.0005	0.0003	10:06:06	Yes
2	-0.018	-0.018	-0.0001	0.0008	0.0003	10:06:36	Yes
Mean:	-0.019	-0.019	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	8.088	8.088	25.37				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

=====

Sequence No.: 36

Autosampler Location: 32

Sample ID: 247543002|958678|1

Date Collected: 3/8/2010 10:06:55

Analyst: JXL

Data Type: Original

Replicate Data: 247543002|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.056	0.056	0.0008	0.0051	0.0012	10:07:46	Yes
2	0.062	0.062	0.0009	0.0053	0.0013	10:08:16	Yes
Mean:	0.059	0.059	0.0009				
SD:	0.004	0.004	0.0001				
%RSD:	7.214	7.214	5.91				

=====

Sequence No.: 37

Autosampler Location: 33

Sample ID: 247543003|958678|1

Date Collected: 3/8/2010 10:08:35

Analyst: JXL

Data Type: Original

Replicate Data: 247543003|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.046	0.046	0.0007	0.0047	0.0011	10:09:26	Yes
2	0.045	0.045	0.0007	0.0048	0.0011	10:09:56	Yes
Mean:	0.045	0.045	0.0007				
SD:	0.001	0.001	0.0000				
%RSD:	1.588	1.588	1.23				

=====

Sequence No.: 38

Autosampler Location: 34

Sample ID: 247543004|958678|1

Date Collected: 3/8/2010 10:10:16

Analyst: JXL

Data Type: Original

Replicate Data: 247543004|958678|1

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.081	0.081	0.0011	0.0070	0.0015	10:11:07	Yes

2	0.095	0.095	0.0013	0.0091	0.0017	10:11:37	Yes
Mean:	0.088	0.088	0.0012				
SD:	0.010	0.010	0.0001				
%RSD:	11.05	11.05	9.61				

Sequence No.: 39

Sample ID: 1202056041|958689|1

Analyst: JXL

Autosampler Location: 35

Date Collected: 3/8/2010 10:11:56

Data Type: Original

Replicate Data: 1202056041|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.010	-0.010	0.0000	0.0030	0.0004	10:12:48	Yes
2	-0.004	-0.004	0.0001	0.0041	0.0005	10:13:18	Yes
Mean:	-0.007	-0.007	0.0001				
SD:	0.004	0.004	0.0001				
%RSD:	61.15	61.15	67.64				

Sequence No.: 40

Sample ID: 1202056042|958689|10

Analyst: JXL

Autosampler Location: 36

Date Collected: 3/8/2010 10:13:38

Data Type: Original

Replicate Data: 1202056042|958689|10

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	3.675	3.675	0.0444	0.1933	0.0448	10:14:30	Yes
2	3.657	3.657	0.0442	0.1909	0.0445	10:15:00	Yes
Mean:	3.666	3.666	0.0443				
SD:	0.013	0.013	0.0002				
%RSD:	0.346	0.346	0.34				

Sequence No.: 41

Sample ID: 247546001|958689|1

Analyst: JXL

Autosampler Location: 37

Date Collected: 3/8/2010 10:15:20

Data Type: Original

Replicate Data: 247546001|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.156	0.156	0.0020	0.0100	0.0024	10:16:12	Yes
2	0.152	0.152	0.0020	0.0100	0.0024	10:16:42	Yes
Mean:	0.154	0.154	0.0020				
SD:	0.003	0.003	0.0000				
%RSD:	1.802	1.802	1.66				

Sequence No.: 42

Sample ID: 1202056043|958689|1

Analyst: JXL

Autosampler Location: 38

Date Collected: 3/8/2010 10:17:02

Data Type: Original

Replicate Data: 1202056043|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.111	0.111	0.0015	0.0085	0.0019	10:17:53	Yes
2	0.095	0.095	0.0013	0.0068	0.0017	10:18:23	Yes
Mean:	0.103	0.103	0.0014				
SD:	0.011	0.011	0.0001				
%RSD:	10.90	10.90	9.67				

Sequence No.: 43

Sample ID: 1202056044|958689|1

Analyst: JXL

Autosampler Location: 39

Date Collected: 3/8/2010 10:18:43

Data Type: Original

Replicate Data: 1202056044|958689|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.345	2.345	0.0284	0.1251	0.0288	10:19:34	Yes
2	2.337	2.337	0.0283	0.1236	0.0287	10:20:04	Yes
Mean:	2.341	2.341	0.0283				
SD:	0.006	0.006	0.0001				
%RSD:	0.242	0.242	0.24				

Sequence No.: 44

Autosampler Location: 40

Sample ID: 1202056051|958689|1

Date Collected: 3/8/2010 10:20:23

Analyst: JXL

Data Type: Original

Replicate Data: 1202056051|958689|1

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	2.398	2.398	0.0290	0.1280	0.0294	10:21:14	Yes
2	2.397	2.397	0.0290	0.1287	0.0294	10:21:44	Yes
Mean:	2.398	2.398	0.0290				
SD:	0.000	0.000	0.0000				
%RSD:	0.013	0.013	0.01				

Sequence No.: 45

Autosampler Location: 41

Sample ID: 1202056050|958689|5

Date Collected: 3/8/2010 10:22:04

Analyst: JXL

Data Type: Original

Replicate Data: 1202056050|958689|5

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.023	0.023	0.0004	0.0037	0.0008	10:22:55	Yes
2	0.020	0.020	0.0004	0.0035	0.0008	10:23:25	Yes
Mean:	0.021	0.021	0.0004				
SD:	0.003	0.003	0.0000				
%RSD:	12.05	12.05	7.48				

Sequence No.: 46

Autosampler Location: 7

Sample ID: CCV

Date Collected: 3/8/2010 10:23:44

Analyst:

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.108	5.108	0.0616	0.2685	0.0620	10:24:35	Yes
2	5.093	5.093	0.0615	0.2684	0.0618	10:25:05	Yes
Mean:	5.101	5.101	0.0616				
SD:	0.010	0.010	0.0001				
%RSD:	0.202	0.202	0.20				

QC value within limits for Hg 253.7 Recovery = 102.01%
All analyte(s) passed QC.

Sequence No.: 47

Autosampler Location: 8

Sample ID: CCB

Date Collected: 3/8/2010 10:25:24

Analyst:

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StndConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.013	-0.013	0.0000	0.0015	0.0004	10:26:14	Yes
2	-0.011	-0.011	0.0000	0.0021	0.0004	10:26:44	Yes
Mean:	-0.012	-0.012	0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	7.968	7.968	83.24				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 48
Sample ID: 247546002|958689|1
Analyst: JXL

Autosampler Location: 42
Date Collected: 3/8/2010 10:27:04
Data Type: Original

Replicate Data: 247546002|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.524	0.524	0.0065	0.0303	0.0068	10:27:55	Yes
2	0.520	0.520	0.0064	0.0301	0.0068	10:28:25	Yes
Mean:	0.522	0.522	0.0064				
SD:	0.002	0.002	0.0000				
%RSD:	0.413	0.413	0.40				

Sequence No.: 49
Sample ID: 247546003|958689|1
Analyst: JXL

Autosampler Location: 43
Date Collected: 3/8/2010 10:28:44
Data Type: Original

Replicate Data: 247546003|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.312	0.312	0.0039	0.0187	0.0043	10:29:36	Yes
2	0.308	0.308	0.0039	0.0187	0.0042	10:30:05	Yes
Mean:	0.310	0.310	0.0039				
SD:	0.003	0.003	0.0000				
%RSD:	0.934	0.934	0.90				

Sequence No.: 50
Sample ID: 247546004|958689|1
Analyst: JXL

Autosampler Location: 44
Date Collected: 3/8/2010 10:30:25
Data Type: Original

Replicate Data: 247546004|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.220	0.220	0.0028	0.0138	0.0032	10:31:15	Yes
2	0.216	0.216	0.0028	0.0135	0.0031	10:31:45	Yes
Mean:	0.218	0.218	0.0028				
SD:	0.003	0.003	0.0000				
%RSD:	1.513	1.513	1.43				

Sequence No.: 51
Sample ID: 247550001|958689|1
Analyst: JXL

Autosampler Location: 45
Date Collected: 3/8/2010 10:32:05
Data Type: Original

Replicate Data: 247550001|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.164	0.164	0.0021	0.0108	0.0025	10:32:56	Yes
2	0.169	0.169	0.0022	0.0117	0.0026	10:33:26	Yes
Mean:	0.166	0.166	0.0022				
SD:	0.004	0.004	0.0000				
%RSD:	2.197	2.197	2.04				

Sequence No.: 52
Sample ID: 247551001|958689|1
Analyst: JXL

Autosampler Location: 46
Date Collected: 3/8/2010 10:33:45
Data Type: Original

Replicate Data: 247551001|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored

1	0.111	0.111	0.0015	0.0083	0.0019	10:34:36	Yes
2	0.110	0.110	0.0015	0.0080	0.0018	10:35:06	Yes
Mean:	0.110	0.110	0.0015				
SD:	0.000	0.000	0.0000				
%RSD:	0.301	0.301	0.27				

Sequence No.: 53

Autosampler Location: 47

Sample ID: 247551002|958689|1

Date Collected: 3/8/2010 10:35:26

Analyst: JXL

Data Type: Original

Replicate Data: 247551002|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	0.238	0.238	0.0030	0.0149	0.0034	10:36:17	Yes
2	0.226	0.226	0.0029	0.0135	0.0032	10:36:47	Yes
Mean:	0.232	0.232	0.0029				
SD:	0.009	0.009	0.0001				
%RSD:	3.775	3.775	3.57				

Sequence No.: 54

Autosampler Location: 48

Sample ID: 247552002|958689|1

Date Collected: 3/8/2010 10:37:07

Analyst: JXL

Data Type: Original

Replicate Data: 247552002|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.006	-0.006	0.0001	0.0019	0.0005	10:37:59	Yes
2	-0.009	-0.009	0.0000	0.0019	0.0004	10:38:29	Yes
Mean:	-0.007	-0.007	0.0001				
SD:	0.003	0.003	0.0000				
%RSD:	34.69	34.69	45.26				

Sequence No.: 55

Autosampler Location: 49

Sample ID: 247770001|958689|1

Date Collected: 3/8/2010 10:38:49

Analyst: JXL

Data Type: Original

Replicate Data: 247770001|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.009	-0.009	0.0001	0.0020	0.0004	10:39:41	Yes
2	-0.015	-0.015	-0.0000	0.0005	0.0003	10:40:11	Yes
Mean:	-0.012	-0.012	0.0000				
SD:	0.004	0.004	0.0001				
%RSD:	36.73	36.73	266.48				

Sequence No.: 56

Autosampler Location: 50

Sample ID: 247770002|958689|1

Date Collected: 3/8/2010 10:40:31

Analyst: JXL

Data Type: Original

Replicate Data: 247770002|958689|1

Repl	SampleConc	StdConc	BlkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.025	-0.025	-0.0001	0.0006	0.0002	10:41:22	Yes
2	-0.019	-0.019	-0.0001	0.0007	0.0003	10:41:52	Yes
Mean:	-0.022	-0.022	-0.0001				
SD:	0.005	0.005	0.0001				
%RSD:	20.93	20.93	51.34				

Sequence No.: 57

Autosampler Location: 51

Sample ID: 247770003|958689|1

Date Collected: 3/8/2010 10:42:12

Analyst: JXL

Data Type: Original

Replicate Data: 247770003|958689|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.019	-0.019	-0.0001	0.0010	0.0003	10:43:02	Yes
2	-0.015	-0.015	-0.0000	0.0019	0.0003	10:43:32	Yes
Mean:	-0.017	-0.017	-0.0000				
SD:	0.003	0.003	0.0000				
%RSD:	15.47	15.47	69.20				

Sequence No.: 58

Sample ID: CCV

Analyst:

Autosampler Location: 7

Date Collected: 3/8/2010 10:43:52

Data Type: Original

Replicate Data: CCV

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	5.183	5.183	0.0626	0.2692	0.0629	10:44:42	Yes
2	5.170	5.170	0.0624	0.2687	0.0628	10:45:12	Yes
Mean:	5.177	5.177	0.0625				
SD:	0.009	0.009	0.0001				
%RSD:	0.180	0.180	0.18				

QC value within limits for Hg 253.7 Recovery = 103.54%
All analyte(s) passed QC.

Sequence No.: 59

Sample ID: CCB

Analyst:

Autosampler Location: 8

Date Collected: 3/8/2010 10:45:31

Data Type: Original

Replicate Data: CCB

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.016	-0.016	-0.0000	0.0009	0.0003	10:46:21	Yes
2	-0.018	-0.018	-0.0001	0.0007	0.0003	10:46:51	Yes
Mean:	-0.017	-0.017	-0.0000				
SD:	0.001	0.001	0.0000				
%RSD:	8.223	8.223	37.77				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 60

Sample ID: 247770004|958689|1

Analyst: JXL

Autosampler Location: 52

Date Collected: 3/8/2010 10:47:11

Data Type: Original

Replicate Data: 247770004|958689|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.019	-0.019	-0.0001	0.0009	0.0003	10:48:01	Yes
2	-0.023	-0.023	-0.0001	0.0002	0.0002	10:48:31	Yes
Mean:	-0.021	-0.021	-0.0001				
SD:	0.002	0.002	0.0000				
%RSD:	11.38	11.38	29.91				

Sequence No.: 61

Sample ID: 247770005|958689|1

Analyst: JXL

Autosampler Location: 53

Date Collected: 3/8/2010 10:48:51

Data Type: Original

Replicate Data: 247770005|958689|1

Repl	SampleConc	StndConc	BlnkCorr	Peak	Peak	Time	Peak
#	ug/L	ug/L	Signal	Area	Height		Stored
1	-0.025	-0.025	-0.0001	0.0006	0.0002	10:49:42	Yes
2	-0.017	-0.017	-0.0000	0.0015	0.0003	10:50:12	Yes
Mean:	-0.021	-0.021	-0.0001				

Miscellaneous

Prep Logbook

Acid Digestion of Sediments, Sludges, and Soils

Batch ID: 955817.0
Analyst: Anthony Green
Method: SW846 3050B

Verified by:

Lab SOP: GL-MA-E-009 REV# 19
Instrument: BAL-001

Sample ID	Run Date	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check
1202049284 MB	25-FEB-2010 07:00:00	0.545	50	91.74312	
1202049289 LCS	25-FEB-2010 07:00:00	0.521	50	95.96929	
247550001	25-FEB-2010 07:00:00	0.536	50	93.28358	
247551001	25-FEB-2010 07:00:00	0.512	50	97.65625	
247551002	25-FEB-2010 07:00:00	0.549	50	91.07468	
247561001	25-FEB-2010 07:00:00	0.503	50	99.40358	
1202049285 DUP (247561001)	25-FEB-2010 07:00:00	0.512	50	97.65625	
1202049286 SDILT (247561001)	25-FEB-2010 07:00:00	0.503	50	99.40358	
1202049287 MS (247561001)	25-FEB-2010 07:00:00	0.507	50	98.61933	
1202049288 MSD (247561001)	25-FEB-2010 07:00:00	0.505	50	99.0099	
247561002	25-FEB-2010 07:00:00	0.502	50	99.60159	
247561003	25-FEB-2010 07:00:00	0.53	50	94.33962	
247561004	25-FEB-2010 07:00:00	0.507	50	98.61933	
247561005	25-FEB-2010 07:00:00	0.521	50	95.96929	
247561006	25-FEB-2010 07:00:00	0.506	50	98.81423	
247561007	25-FEB-2010 07:00:00	0.546	50	91.57509	
247561008	25-FEB-2010 07:00:00	0.518	50	96.5251	

Type	Sample Id	Description	Serial Number	Spike Amt	Units	Comments:
LCS	1202049289	Metals Soil LCS SRM ICPMS	U1062540-MS	.521	g	
MS	1202049287	ICP-MS Spike for soil products.	U1090827-A	.5	mL	Sample 247561001 consist of gray, rocky soil.
MS	1202049287	ICP-MS Spike for Soil Products	U1090827-B	.5	mL	
MSD	1202049288	ICP-MS Spike for soil products.	U1090827-A	.5	mL	
MSD	1202049288	ICP-MS Spike for Soil Products	U1090827-B	.5	mL	
REGNT All		Hydrogen Peroxide 30%	1250038-02	1.5	mL	
REGNT All		Nitric Acid CONC.	1274969	5	mL	

Prep Logbook

Acid Digestion of Sediments, Sludges, and Soils

Batch ID: 955815.0
Analyst: Anthony Green
Method: SW846 3050B
Lab SOP: GL-MA-E-009 REV# 19
Instrument: BAL-001

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202049283	Metals Soil LCS SRM ICP/Hg	U1062540-1	.509	g
MS	1202049281	Metals Spike Mix I	U1100205-01	.25	mL
MS	1202049281	Metals Spike Mix II	U1100205-06	.25	mL
MSD	1202049282	Metals Spike Mix I	U1100205-01	.25	mL
MSD	1202049282	Metals Spike Mix II	U1100205-06	.25	mL

Verified by:

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202049278 MB	25-FEB-2010 08:00:00	Soil	0.502	50	99.60159	
1202049283 LCS	25-FEB-2010 08:00:00	Soil	0.509	50	98.23183	
247550001	25-FEB-2010 08:00:00	Soil	0.54	50	92.59259	
247551001	25-FEB-2010 08:00:00	Soil	0.508	50	98.4252	
247551002	25-FEB-2010 08:00:00	Soil	0.513	50	97.46589	
247561001	25-FEB-2010 08:00:00	Soil	0.524	50	95.41985	
1202049279 DUP (247561001)	25-FEB-2010 08:00:00	Soil	0.533	50	93.80863	
1202049280 SDILT (247561001)	25-FEB-2010 08:00:00	Soil	0.524	50	95.41985	
1202049281 MS (247561001)	25-FEB-2010 08:00:00	Soil	0.517	50	96.7118	
1202049282 MSD (247561001)	25-FEB-2010 08:00:00	Soil	0.513	50	97.46589	
247561002	25-FEB-2010 08:00:00	Soil	0.535	50	93.45794	
247561003	25-FEB-2010 08:00:00	Soil	0.509	50	98.23183	
247561004	25-FEB-2010 08:00:00	Soil	0.532	50	93.98496	
247561005	25-FEB-2010 08:00:00	Soil	0.522	50	95.78544	
247561006	25-FEB-2010 08:00:00	Soil	0.534	50	93.63296	
247561007	25-FEB-2010 08:00:00	Soil	0.515	50	97.08738	
247561008	25-FEB-2010 08:00:00	Soil	0.511	50	97.84736	

Reagent/Solvent Lot ID	Description	Amount	Comments:
1265209	HYDROCHLORIC ACID	10 mL	Sample 247561001 consist of gray, rocky soil.
1274969	Nitric Acid CONC.	1.25 mL	

Prep Logbook

Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer

Batch ID: 958687.0
Analyst: Tara Griffin
Method: SW846 7471A Prep
Lab SOP: GL-MA-E-010 REV# 23
Instrument: BAL-002

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202056042	Metals LCS Soil SRM	UT031809A	.203	g
MS	1202056044	Mercury soil working intermediate standard for MS	WHG100306-14	.3	mL
MSD	1202056051	Mercury soil working intermediate standard for MS	WHG100306-14	.3	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202056041 MB	06-MAR-2010 14:10:00	Soil	0.514	30	58.36576	
1202056042 LCS	06-MAR-2010 14:10:00	Soil	0.203	30	147.78325	
247546001	06-MAR-2010 14:10:00	Soil	0.549	30	54.64481	
1202056043 DUP (247546001)	06-MAR-2010 14:10:00	Soil	0.5	30	60	
1202056044 MS (247546001)	06-MAR-2010 14:10:00	Soil	0.553	30	54.24955	
1202056051 MSD (247546001)	06-MAR-2010 14:10:00	Soil	0.541	30	55.45287	
1202056050 SDILT (247546001)	06-MAR-2010 14:10:00	Soil	0.549	30	54.64481	
247546002	06-MAR-2010 14:10:00	Soil	0.513	30	58.47953	
247546003	06-MAR-2010 14:10:00	Soil	0.562	30	53.38078	
247546004	06-MAR-2010 14:10:00	Soil	0.53	30	56.60377	
247550001	06-MAR-2010 14:10:00	Soil	0.535	30	56.07477	
247551001	06-MAR-2010 14:10:00	Soil	0.559	30	53.66726	
247551002	06-MAR-2010 14:10:00	Soil	0.542	30	55.35055	
247552002	06-MAR-2010 14:10:00	Soil	0.512	30	58.59375	
247770001	06-MAR-2010 14:10:00	Soil	0.545	30	55.04587	
247770002	06-MAR-2010 14:10:00	Soil	0.593	30	50.59022	
247770003	06-MAR-2010 14:10:00	Soil	0.58	30	51.72414	
247770004	06-MAR-2010 14:10:00	Soil	0.55	30	54.54545	
247770005	06-MAR-2010 14:10:00	Soil	0.561	30	53.47594	
247770006	06-MAR-2010 14:10:00	Soil	0.576	30	52.08333	
247770007	06-MAR-2010 14:10:00	Soil	0.554	30	54.15162	
247770008	06-MAR-2010 14:10:00	Soil	0.59	30	50.84746	
247770009	06-MAR-2010 14:10:00	Soil	0.537	30	55.86592	
247770010	06-MAR-2010 14:10:00	Soil	0.505	30	59.40594	
247770011	06-MAR-2010 14:10:00	Soil	0.529	30	56.71078	

Reagent/Solvent Lot ID **Description** **Amount**
 Analytical Logbook version 1 11-04-2002 **GEL Laboratories LLC**

Prep Logbook

Batch ID: 958687.0
Analyst: Tara Griffin
Method: SW846 7471A Prep
Lab SOP: GL-MA-E-010 REV# 23
Instrument: BAL-002

Verified by: _____
Type Sample Id Description Serial Number Spike Amount Spike Units
LCS 1202056042 Metals LCS Soil SRM U1031809A .203 g
MS 1202056044 Mercury soil working intermediate standard for MS WHG100306-14 .3 mL
MSD 1202056051 Mercury soil working intermediate standard for MS WHG100306-14 .3 mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1255532-C	Hg reducing agent	2 mL				
1274391-I	NITRIC ACID	.375 mL				
1277235-A	Hydrochloric Acid Conc.	1.125 mL				
1277238-C	5% KMnO4 solution	7.5 mL				
WHG100306-07	Mercury Working Standard 1st Source	CAL S 30 uL				
WHG100306-08	0.2/CRA	Mercury Working Standard 1st Source	CAL S 75 uL			
WHG100306-09	0.5	Mercury Working 1st Source	CAL S 300 uL			
WHG100306-10	Mercury Working 1st Source	CAL S 5.0/CCV 750 uL				
WHG100306-11	Mercury Working 1st Source	CAL S 10.0 1.5 mL				
WHG100306-12	Mercury Working 2nd Source	S 5.0/ICV 750 uL				

Comments:
Sample 247546001 is a gray-brown soil with rocks.
Digestion Start Date: 06-MAR-10 14:10
Digestion End Date: 06-MAR-10 14:40

DATA EXCEPTION REPORT

Mo.Day Yr. 19-MAR-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: ICP	Test / Method: SW846 3050B/6010B	Matrix Type: Solid	Client Code: LANL
Batch ID: 955816	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 247550(10-1967),247551(10-1969),247561(10-1951-1)

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 1202049281MS

2. Failed RPD for DUP:

QC 1202049279DUP

3. Failed RPD for MS/MSD, or PS/PSD:

QC 1202049282MSD

4. Failed Recovery for MSD/PSD:

QC 1202049282MSD

1. The matrix spike recovery failed outside of the control limits for calcium, magnesium, potassium, and sodium due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.

2. The sample and sample duplicate % RPD failed outside the control limits for calcium, iron, and zinc 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 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 calcium, 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:

Christopher Louviere 19-MAR-10

Data Validator/Group Leader:

Louise Smith 19-MAR-10

DATA EXCEPTION REPORT

Mo.Day Yr. 20-MAR-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: 955818	Sample Numbers: See Below		
Potentially affected work order(s)(SDG): 247550(10-1967),247551(10-1969),247561(10-1951-1)			
Application Issues: Failed Recovery for MS/PS Failed RPD for DUP			
Specification and Requirements Exception Description:		DER Disposition:	
1. Failed Recovery for MS/PS: QC 1202049287MS		The matrix spike recovery failed outside of the control limits for Se due to possible matrix interferences and/or non-homogeneity. Per GEL's accredited methods and SOPs, a corrective action is not required and the data is qualified and reported.	
2. Failed RPD for DUP: QC 1202049285DUP		The sample and sample duplicate % RPD failed outside the control limits for 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 22-MAR-10

Data Validator/Group Leader:
Jamie Johnson 22-MAR-10

Standard Logbook

Serial ID: UHG1167639-01 **Opened:** 13-AUG-09 **Amount :** 125 mL
Name: MHGSTOCK1 **Received:** 13-AUG-09 **Catalog Number :** PLHG4-2Y
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 15-37HG
Employee: Bryan Davis **Solvent :** 10% HNO3
Supplier: Spex
Description: Mercury Source Standard #1 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	1000 mg/L		

Serial ID: UHG1167641-02 **Opened:** 13-AUG-09 **Amount :** 100 mL
Name: MHGSTOCK2 **Received:** 13-AUG-09 **Catalog Number :** AHG1KN-100
Type: Source Material **Expires:** 13-AUG-10 **Lot Number :** 4905530
Employee: Bryan Davis **Solvent :** 3% HNO3
Supplier: Ricca Chemical Company
Description: Mercury Source Standard #2 1,000 mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Mercury	999.7 mg/L		

Serial ID: UI031809A **Opened:** 18-MAR-09 **Catalog Number :** 540
Name: METALSOILSRM **Received:** 18-MAR-09 **Lot Number :** D061-540
Type: Source Material **Expires:** 10-OCT-10
Employee: Jamie Johnson
Supplier: ERA
Description: Metals LCS Soil SRM
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	10600 mg/kg	Antimony	126 mg/kg
Arsenic	225 mg/kg	Barium	565 mg/kg
Beryllium	162 mg/kg	Boron	107 mg/kg
Cadmium	69.1 mg/kg	Calcium	10000 mg/kg
Chromium	124 mg/kg	Cobalt	115 mg/kg
Copper	66.7 mg/kg	Iron	17600 mg/kg
Lead	223 mg/kg	Magnesium	4260 mg/kg
Manganese	368 mg/kg	Mercury	5.15 mg/kg
Molybdenum	107 mg/kg	Nickel	172 mg/kg
Potassium	4090 mg/kg	Selenium	147 mg/kg
Silver	35.2 mg/kg	Sodium	538 mg/kg
Strontium	117 mg/kg	Thallium	173 mg/kg
Tin	164 mg/kg	Titanium	381 mg/kg
Vanadium	93.9 mg/kg	Zinc	349 mg/kg

Standard Logbook

Serial ID: 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: UI090421-40 **Opened:** 09-OCT-09 **Amount :** 250 mL
Name: TRACE ICP Na-1000SOUR **Received:** 21-APR-09 **Catalog Number :** HP100052-1
Type: Source Material **Expires:** 09-OCT-10 **Lot Number :** 0830227
Employee: Helen Camello **Solvent :** 1%HNO3
Supplier: ENVIRONMENTAL EXPRESS
Description: Sodium 1000 +/- 3 ug/mL in 1% HNO3
Comments: None

Analyte	Concentration	Analyte	Concentration
Sodium	1000 ug/mL		

Serial ID: UI090612-02 **Opened:** 12-JUN-09 **Catalog Number :** 060074-06-01
Name: ICPMS Tungsten - 10mg/L **Received:** 12-JUN-09 **Lot Number :** 1016377
Type: Source Material **Expires:** 12-JUN-10 **Solvent :** 2% HNO3
Employee: Paul Boyd
Supplier: O2SI
Description: ICPMS Tungsten standard SPIKE - 10mg/L
Comments: None

Analyte	Concentration	Analyte	Concentration
Tungsten	10 mg/L		

Serial ID: UI090701-09 **Opened:** 01-JUL-09 **Amount :** 250 mL
Name: ICP-MS CRDL Master #1 **Received:** 01-JUL-09 **Catalog Number :** 160044-09-02
Type: Source Material **Expires:** 01-JUL-10 **Lot Number :** 1016477
Employee: Paul Boyd **Solvent :** +/- 0.5% IN 2% HNO3
Supplier: 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
Iron	25 mg/L	Lead	2 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
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
Tin	5 mg/L	Titanium	2.5 mg/L

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Uranium	25 mg/L	Vanadium	2.5 mg/L
Zinc	5 mg/L		

Serial ID: UI090827-A **Opened:** 27-AUG-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 27-AUG-09 **Lot Number :** 1015749
Type: Source Material **Expires:** 27-AUG-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for soil products.
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	200 mg/L	Arsenic	8 mg/L
Barium	5 mg/L	Beryllium	5 mg/L
Boron	10 mg/L	Cadmium	1 mg/L
Calcium	200 mg/L	Chromium	5 mg/L
Cobalt	5 mg/L	Copper	5 mg/L
Iron	200 mg/L	Lead	20 mg/L
Lithium	5 mg/L	Magnesium	200 mg/L
Manganese	5 mg/L	Nickel	5 mg/L
Phosphorus, Total as P	200 mg/L	Potassium	200 mg/L
Selenium	2 mg/L	Sodium	200 mg/L
Strontium	5 mg/L	Thallium	10 mg/L
Thorium	5 mg/L	Uranium	5 mg/L
Uranium-235	.036 mg/L	Uranium-238	4.964 mg/L
Vanadium	5 mg/L	Zinc	5 mg/L

Serial ID: UI090827-B **Opened:** 27-AUG-09 **Catalog Number :** 160067-03
Name: ICP-MS DOE SOIL SPIKE **Received:** 27-AUG-09 **Lot Number :** 1015749
Type: Source Material **Expires:** 27-AUG-10
Employee: Francena Armstrong
Supplier: 02si
Description: ICP-MS Spike for Soil Products
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	5 mg/L
Silicon	200 mg/L	Silver	5 mg/L
Tin	5 mg/L	Zirconium	5 mg/L

Standard Logbook

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
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

Standard Logbook

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
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: ENVIRONMENTAL EXPRESS
Description: SILICON 1000mg/L H2O/tr HF
Comments: None

Analyte	Concentration	Analyte	Concentration
Silica	2139 mg/L	Silicon	1000 mg/L

Standard Logbook

Serial ID: UI091217-12 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master B **Received:** 17-DEC-09 **Catalog Number :** 160033-02
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1018212
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	2 mg/L	Barium	2 mg/L
Beryllium	2 mg/L	Boron	2 mg/L
Cadmium	2 mg/L	Chromium	2 mg/L
Cobalt	2 mg/L	Copper	2 mg/L
Lead	2 mg/L	Lithium	2 mg/L
Manganese	2 mg/L	Nickel	2 mg/L
Selenium	2 mg/L	Strontium	2 mg/L
Thallium	2 mg/L	Thorium	2 mg/L
Uranium	2 mg/L	Vanadium	2 mg/L
Zinc	2 mg/L		

Serial ID: UI091217-13 **Opened:** 17-DEC-09 **Amount :** 250 mL
Name: ICP-MS ICSAB Master C **Received:** 17-DEC-09 **Catalog Number :** 160033-03
Type: Source Material **Expires:** 17-DEC-10 **Lot Number :** 1016926
Employee: Paul Boyd **Solvent :** +/- 0.5% in 2% HNO3
Supplier: 02SI
Description: ICPMS ICSAB Master C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	2 mg/L	Silver	2 mg/L
Tin	2 mg/L	Tungsten	2 mg/L
Zirconium	2 mg/L		

Serial ID: UI100205-01 **Opened:** 05-FEB-10 **Lot Number :** 1018514
Name: METALSPIKE-1 **Received:** 05-FEB-10
Type: Source Material **Expires:** 05-FEB-11
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

Standard Logbook

Analyte	Concentration	Analyte	Concentration
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: UI100205-06 **Opened:** 05-FEB-10 **Lot Number :** 1018515
Name: METALSPIKE-2 **Received:** 05-FEB-10
Type: Source Material **Expires:** 05-FEB-11
Employee: Francena Armstrong
Supplier: OS2I
Description: Metals Spike Mix II
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	100 ug/mL	Chromium	100 ug/mL
Copper	100 ug/mL	Manganese	100 ug/mL
Molybdenum	100 ug/mL	Nickel	100 ug/mL
Selenium	100 ug/mL	Silica	2141 ug/mL
Silicon	1000 ug/mL	Sulfur	1000 ug/mL
Thallium	100 ug/mL	Tin	100 ug/mL
Titanium	100 ug/mL	Uranium	100 ug/mL
Uranium-235	.72 ug/mL	Uranium-238	99.28 ug/mL
Vanadium	100 ug/mL	Zinc	100 ug/mL

Serial ID: UI100219-11 **Opened:** 19-FEB-10 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 19-FEB-10 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 19-FEB-11 **Lot Number :** 1018321
Employee: Paul Boyd **Solvent :** 2% HNO3
Supplier: 02SI
Description: ICP-MS ICSA Master A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Standard Logbook

Serial ID: UI100312-40 **Opened:** 14-MAR-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD-A **Received:** 12-MAR-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 14-MAR-11 **Lot Number :** 1018981
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: UI100312-41 **Opened:** 14-MAR-10 **Amount :** 500 mL
Name: ICP HIGH RANGE STD B **Received:** 12-MAR-10 **Catalog Number :** 160211-05-03
Type: Source Material **Expires:** 14-MAR-11 **Lot Number :** 1018981
Employee: Helen Camello **Solvent :** +/-0.5%in2%HNO3
Supplier: 02SI
Description: ICP HIGH RANGE STD SOLUTION B
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	500000 ug/L	Calcium	500000 ug/L
Iron	500000 ug/L	Magnesium	500000 ug/L
Sodium	500000 ug/L	Uranium	15000 ug/L

Serial ID: UI100317-06 **Opened:** 17-MAR-10 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master A **Received:** 17-MAR-10 **Catalog Number :** 160055-01
Type: Source Material **Expires:** 17-MAR-11 **Lot Number :** 1019161
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

Standard Logbook

Analyte	Concentration	Analyte	Concentration
Iron	2000 mg/L	Magnesium	2000 mg/L
Phosphorous	2000 mg/L	Potassium	2000 mg/L
Sodium	2000 mg/L		

Serial ID: UI100317-07 **Opened:** 17-MAR-10 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master B **Received:** 17-MAR-10 **Catalog Number :** 160054-02
Type: Source Material **Expires:** 17-MAR-11 **Lot Number :** 1019162
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln B - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	20 mg/L	Barium	20 mg/L
Beryllium	20 mg/L	Boron	40 mg/L
Cadmium	20 mg/L	Chromium	20 mg/L
Cobalt	20 mg/L	Copper	20 mg/L
Lead	20 mg/L	Lithium	20 mg/L
Manganese	20 mg/L	Nickel	20 mg/L
Selenium	20 mg/L	Strontium	20 mg/L
Thallium	20 mg/L	Thorium	20 mg/L
Uranium	20 mg/L	Vanadium	20 mg/L
Zinc	20 mg/L		

Serial ID: UI100317-08 **Opened:** 17-MAR-10 **Amount :** 250 mL
Name: ICP-MS ICV/CCV Master C **Received:** 17-MAR-10 **Catalog Number :** 160054-03
Type: Source Material **Expires:** 17-MAR-11 **Lot Number :** 1019163
Employee: Paul Boyd **Solvent :** +/- 0.5% in 5% HNO3 100 cm2
Supplier: 02SI
Description: ICPMS ICV/CCV Soln C - 10ppm
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	20 mg/L	Molybdenum	20 mg/L
Silver	20 mg/L	Tin	20 mg/L
Titanium	20 mg/L	Tungsten	20 mg/L
Zirconium	20 mg/L		

Serial ID: UI100318-11 **Opened:** 18-MAR-10 **Amount :** 1000 mL
Name: ICP-MS ICSA Master A **Received:** 18-MAR-10 **Catalog Number :** 160013-01-01L
Type: Source Material **Expires:** 18-MAR-11 **Lot Number :** 1018321
Employee: Paul Boyd **Solvent :** 2% HNO3
Supplier: 02SI
Description: ICP-MS ICSA Master A

Standard Logbook

Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Carbon	2000 mg/L	Chloride	10000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Molybdenum	20 mg/L	Phosphorous	1000 mg/L
Potassium	1000 mg/L	Sodium	1000 mg/L
Sulfur	1000 mg/L	Titanium	20 mg/L

Serial ID: UMS100226-01 Opened: 26-FEB-10 Amount : 250 mL
Name: ICPMSCaSPIKEB Received: 26-FEB-10 Catalog Number : ZGEL-100-250
Type: Source Material Expires: 26-FEB-11 Lot Number : 21-104JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution B
Comments: None

Analyte	Concentration	Analyte	Concentration
Arsenic	10 mg/L	Barium	10 mg/L
Beryllium	10 mg/L	Boron	20 mg/L
Cadmium	10 mg/L	Chromium	10 mg/L
Cobalt	10 mg/L	Copper	10 mg/L
Lead	10 mg/L	Lithium	10 mg/L
Manganese	10 mg/L	Nickel	10 mg/L
Selenium	10 mg/L	Silver	10 mg/L
Strontium	10 mg/L	Thallium	10 mg/L
Thorium	10 mg/L	Uranium	10 mg/L
Vanadium	10 mg/L	Zinc	10 mg/L

Serial ID: UMS100226-02 Opened: 26-FEB-10 Catalog Number : ZGEL-102-250
Name: ICPMSCaSPIKEA Received: 26-FEB-10 Lot Number : 21-103JB
Type: Source Material Expires: 26-FEB-11
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution A
Comments: None

Analyte	Concentration	Analyte	Concentration
Aluminum	1000 mg/L	Calcium	1000 mg/L
Iron	1000 mg/L	Magnesium	1000 mg/L
Phosphorous	1000 mg/L	Potassium	1000 mg/L
Sodium	1000 mg/L		

Standard Logbook

Serial ID: UMS100226-03 **Opened:** 26-FEB-10 **Amount :** 250 ml
Name: ICPMSCaSPIKEC **Received:** 26-FEB-10 **Catalog Number :** ZGEL-101-250
Type: Source Material **Expires:** 26-FEB-11 **Lot Number :** 21-102JB
Employee: Paul Boyd
Supplier: SPEX
Description: ICPMS Calibration Standard Solution C
Comments: None

Analyte	Concentration	Analyte	Concentration
Antimony	10 mg/L	Molybdenum	10 mg/L
Tin	10 mg/L	Titanium	10 mg/L
Zirconium	10 mg/L		

Serial ID: IHG100306-01 **Opened:** 06-MAR-10 **Instrument Id :** Mercury
Name: MHGINTER1 **Received:** 06-MAR-10 **Pipet Id :** Minou1
Type: Intermediate **Expires:** 07-MAR-10 **Solvent :** 1mL HNO3 + TypeI H2O
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 1st Source 200 ug/L
Comments: Prepare fresh daily

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: IHG100306-02 **Opened:** 06-MAR-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Intermediate **Expires:** 07-MAR-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: IHG100315-02 **Opened:** 15-MAR-10 **Pipet Id :** Minou1
Name: MHGINTER2 **Received:** 15-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Intermediate **Expires:** 16-MAR-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Intermediate 2nd Source 200 ug/L
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167641-02	Mercury	999.7 mg/L	.05 mL	250 mL	200 ug/L

Standard Logbook

Serial ID: WHG100306-07 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.2CRA **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.2/CRA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-01	Mercury	200 ug/L	30 uL	30 mL	.2 ug/L

Serial ID: WHG100306-08 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS0.5 **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working Standard 1st Source CAL S 0.5
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-01	Mercury	200 ug/L	75 uL	30 mL	.5 ug/L

Serial ID: WHG100306-09 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS2.0 **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 2.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-01	Mercury	200 ug/L	300 uL	30 mL	2 ug/L

Serial ID: WHG100306-10 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS5.0CCV **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 1st Source CAL S 5.0/CCV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-01	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Standard Logbook

Serial ID: WHG100306-11 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKCALS10.0 **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin
Supplier: GEL
Description: Mercury Working 1st Source CAL S 10.0
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-01	Mercury	200 ug/L	1.5 mL	30 mL	10 ug/L

Serial ID: WHG100306-12 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKS5.0ICV **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 2nd Source S 5.0/ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100306-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Serial ID: WHG100306-14 **Opened:** 06-MAR-10 **Pipet Id :** Hg1289245
Name: MHGSOILMSSPIKE **Received:** 06-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 13-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury soil working intermediate standard for MS
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UHG1167639-01	Mercury	1000 mg/L	.05 mL	250 mL	200 ug/L

Serial ID: WHG100315-12 **Opened:** 15-MAR-10 **Pipet Id :** Hg1289245
Name: MHGWORKS5.0ICV **Received:** 15-MAR-10 **Solvent :** 2% HNO3-1274391
Type: Working **Expires:** 22-MAR-10
Employee: Tara Griffin **Verified:** 20-JUL-07
Supplier: GEL
Description: Mercury Working 2nd Source S 5.0/ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
IHG100315-02	Mercury	200 ug/L	750 uL	30 mL	5 ug/L

Standard Logbook

Serial ID: WI100319-43 **Opened:** 19-MAR-10 **Balance Id :** 216
Name: TRACE ICP 0.5/CCV STD. **Received:** 02-NOV-09 **Pipet Id :** 3581809
Type: Working **Expires:** 20-MAR-10 **Solvent :** 3%HCL and 1%HNO3 --1285629
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.
UI090421-40	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
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

Standard Logbook

Serial ID: WI100319-46 **Opened:** 19-MAR-10 **Balance Id :** 216
Name: ICP TRACE ICV **Received:** 25-SEP-09 **Pipet Id :** 3581809
Type: Working **Expires:** 20-MAR-10 **Solvent :** 3%HCL AND 1%HNO3-1285629
Employee: Helen Camello
Supplier: GEL
Description: Initial Calibration Verification ICP Trace Metals
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090925-40	Aluminum	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Arsenic	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Barium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Boron	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cadmium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Calcium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Chromium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Cobalt	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Copper	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Iron	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-40	Lead	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-40	Phosphorous	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Potassium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Selenium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Sodium	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-40	Strontium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Antimony	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Beryllium	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Magnesium	1000 mg/L	2.5 mL	500 mL	5000 ug/L
UI090925-41	Manganese	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Molybdenum	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Nickel	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Silver	50 mg/L	2.5 mL	500 mL	250 ug/L
UI090925-41	Sulfur	500 mg/L	2.5 mL	500 mL	2500 ug/L
UI090925-41	Thallium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Tin	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Titanium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Uranium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Vanadium	100 mg/L	2.5 mL	500 mL	500 ug/L
UI090925-41	Zinc	100 mg/L	2.5 mL	500 mL	500 ug/L
UI091102-42	Silica	2139 mg/L	2.5 mL	500 mL	10695 ug/L
UI091102-42	Silicon	1000 mg/L	2.5 mL	500 mL	5000 ug/L

Standard Logbook

Serial ID: WI100319-47 **Opened:** 19-MAR-10 **Balance Id :** 216
Name: PQL Working Standard **Received:** 30-JUN-09 **Pipet Id :** 3581809
Type: Working **Expires:** 20-MAR-10 **Solvent :** 3%HCL &1%HNO3-1285629
Employee: Helen Camello
Supplier: 02si
Description: PQL Working Standard
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-40	Aluminum	100 mg/L	2 mL	1000 mL	200 ug/L
UI090701-40	Antimony	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Arsenic	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Barium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Beryllium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Boron	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Cadmium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Calcium	100 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Chromium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Cobalt	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Copper	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Iron	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Lead	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Magnesium	150 mg/L	2 mL	1000 mL	300 ug/L
UI090701-40	Manganese	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Molybdenum	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Nickel	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Phosphorous	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Potassium	75 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Selenium	15 mg/L	2 mL	1000 mL	15 ug/L
UI090701-40	Silicon	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Silver	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sodium	150 mg/L	2 mL	1000 mL	150 ug/L
UI090701-40	Strontium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Sulfur	50 mg/L	2 mL	1000 mL	100 ug/L
UI090701-40	Thallium	10 mg/L	2 mL	1000 mL	20 ug/L
UI090701-40	Tin	5 mg/L	2 mL	1000 mL	10 ug/L
UI090701-40	Titanium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Uranium	25 mg/L	2 mL	1000 mL	50 ug/L
UI090701-40	Vanadium	2.5 mg/L	2 mL	1000 mL	5 ug/L
UI090701-40	Zinc	5 mg/L	2 mL	1000 mL	10 ug/L

Serial ID: WMS100318-04 **Opened:** 18-MAR-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 18-MAR-10 **Balance Id :** 4025216
Type: Working **Expires:** 19-MAR-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1285348
Supplier: GEL

Standard Logbook

Description: ICPMS Calibration Standard (100 ppb)

Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090612-02	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS100226-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS100226-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100318-04A **Opened:** 18-MAR-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 18-MAR-10 **Pipet Id :** 3541598
Type: Working **Expires:** 19-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100318-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100318-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100318-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100318-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l
WMS100318-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: WMS100318-05 **Opened:** 18-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICV **Received:** 18-MAR-10 **Pipet Id :** 3541598
Type: Working **Expires:** 19-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICV
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI100317-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI100317-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Serial ID: WMS100318-06 **Opened:** 18-MAR-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 18-MAR-10 **Pipet Id :** 3820544
Type: Working **Expires:** 19-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
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

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Serial ID: WMS100318-07 **Opened:** 18-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 18-MAR-10 **Lot Number :** 1010773
Type: Working **Expires:** 19-MAR-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1285348
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100219-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100219-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100219-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100318-08 **Opened:** 18-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 18-MAR-10 **Pipet Id :** 1758088
Type: Working **Expires:** 19-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100219-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100219-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100219-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100219-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100319-04 **Opened:** 19-MAR-10 **Amount :** 50 mL
Name: ICPMS Cal Standard 100 **Received:** 19-MAR-10 **Balance Id :** 4025216
Type: Working **Expires:** 20-MAR-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl-1285348
Supplier: GEL
Description: ICPMS Calibration Standard (100 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090612-02	Tungsten	10 mg/L	.5 mL	50 mL	100 ug/L
UMS100226-01	Arsenic	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Barium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Beryllium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Boron	20 mg/L	.5 mL	50 mL	200 ug/l
UMS100226-01	Cadmium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Chromium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Cobalt	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Copper	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lead	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Lithium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Manganese	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Nickel	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Selenium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Silver	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Strontium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thallium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Thorium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Uranium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Vanadium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-01	Zinc	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-02	Aluminum	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Calcium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Iron	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Magnesium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Phosphorous	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Potassium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-02	Sodium	1000 mg/L	.5 mL	50 mL	10000 ug/l
UMS100226-03	Antimony	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Molybdenum	10 mg/L	.5 mL	50 mL	100 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UMS100226-03	Tin	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Titanium	10 mg/L	.5 mL	50 mL	100 ug/l
UMS100226-03	Zirconium	10 mg/L	.5 mL	50 mL	100 ug/l

Serial ID: WMS100319-04A **Opened:** 19-MAR-10 **Balance Id :** 4025216
Name: ICPMS Cal Standard 10 **Received:** 19-MAR-10 **Pipet Id :** 3541598
Type: Working **Expires:** 20-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS Calibration Standard (10 ppb)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100319-04	Aluminum	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Antimony	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Arsenic	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Barium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Beryllium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Boron	200 ug/l	5 mL	50 mL	20 ug/l
WMS100319-04	Cadmium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Calcium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Chromium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Cobalt	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Copper	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Iron	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Lead	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Lithium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Magnesium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Manganese	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Molybdenum	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Nickel	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Phosphorous	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Potassium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Selenium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Silver	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Sodium	10000 ug/l	5 mL	50 mL	1000 ug/l
WMS100319-04	Strontium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Thallium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Thorium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Tin	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Titanium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Tungsten	100 ug/L	5 mL	50 mL	10 ug/L
WMS100319-04	Uranium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Vanadium	100 ug/l	5 mL	50 mL	10 ug/l
WMS100319-04	Zinc	100 ug/l	5 mL	50 mL	10 ug/l

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
WMS100319-04	Zirconium	100 ug/l	5 mL	50 mL	10 ug/l

Serial ID: <u>WMS100319-05</u>	Opened: <u>19-MAR-10</u>	Balance Id : <u>40245216</u>
Name: <u>ICPMS ICV</u>	Received: <u>19-MAR-10</u>	Pipet Id : <u>3541598</u>
Type: <u>Working</u>	Expires: <u>20-MAR-10</u>	Solvent : <u>2%HNO3/1%HCl - 1285348</u>
Employee: <u>Paul Boyd</u>		
Supplier: <u>GEL</u>		
Description: <u>ICPMS ICV</u>		
Comments: <u>None</u>		

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100317-06	Aluminum	2020 mg/L	.125 mL	50 mL	5050 ug/L
UI100317-06	Calcium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Iron	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Magnesium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Phosphorous	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Potassium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-06	Sodium	2000 mg/L	.125 mL	50 mL	5000 ug/L
UI100317-07	Arsenic	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Barium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Beryllium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Boron	40 mg/L	.125 mL	50 mL	100 ug/L
UI100317-07	Cadmium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Chromium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Cobalt	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Copper	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lead	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Lithium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Manganese	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Nickel	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Selenium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Strontium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thallium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Thorium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Uranium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Vanadium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-07	Zinc	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Antimony	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Molybdenum	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Silver	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tin	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Titanium	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Tungsten	20 mg/L	.125 mL	50 mL	50 ug/L
UI100317-08	Zirconium	20 mg/L	.125 mL	50 mL	50 ug/L

Standard Logbook

Serial ID: WMS100319-06 **Opened:** 19-MAR-10 **Balance Id :** 40245216
Name: ICPMS CRDL **Received:** 19-MAR-10 **Pipet Id :** 3820544
Type: Working **Expires:** 20-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS CRDL
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI090701-09	Aluminum	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Arsenic	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Barium	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Beryllium	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-09	Boron	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Cadmium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Calcium	100 mg/L	.05 mL	50 mL	100 ug/L
UI090701-09	Chromium	3 mg/L	.05 mL	50 mL	3 ug/L
UI090701-09	Cobalt	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Copper	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Iron	25 mg/L	.05 mL	50 mL	25 ug/L
UI090701-09	Lead	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Lithium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Magnesium	15 mg/L	.05 mL	50 mL	15 ug/L
UI090701-09	Manganese	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Nickel	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-09	Phosphorous	50 mg/L	.05 mL	50 mL	50 ug/L
UI090701-09	Potassium	300 mg/L	.05 mL	50 mL	300 ug/L
UI090701-09	Selenium	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-09	Sodium	250 mg/L	.05 mL	50 mL	250 ug/L
UI090701-09	Strontium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Thallium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Thorium	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-09	Uranium	.2 mg/L	.05 mL	50 mL	.2 ug/L
UI090701-09	Vanadium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-09	Zinc	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Antimony	2 mg/L	.05 mL	50 mL	2 ug/L
UI090701-10	Molybdenum	.5 mg/L	.05 mL	50 mL	.5 ug/L
UI090701-10	Silver	1 mg/L	.05 mL	50 mL	1 ug/L
UI090701-10	Tin	2 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Titanium	10 mg/L	.05 mL	50 mL	10 ug/L
UI090701-10	Tungsten	5 mg/L	.05 mL	50 mL	5 ug/L
UI090701-10	Zirconium	2 mg/L	.05 mL	50 mL	2 ug/L

Standard Logbook

Serial ID: WMS100319-07 **Opened:** 19-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSA **Received:** 19-MAR-10 **Lot Number :** 1010773
Type: Working **Expires:** 20-MAR-10 **Pipet Id :** 3541598
Employee: Paul Boyd **Solvent :** 2%HNO3/1%HCl - 1285348
Supplier: GEL
Description: ICPMS ICSA
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: WMS100319-08 **Opened:** 19-MAR-10 **Balance Id :** 40245216
Name: ICPMS ICSAB **Received:** 19-MAR-10 **Pipet Id :** 1758088
Type: Working **Expires:** 20-MAR-10 **Solvent :** 2%HNO3/1%HCl - 1285348
Employee: Paul Boyd
Supplier: GEL
Description: ICPMS ICSAB
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Arsenic	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Barium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Beryllium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Boron	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Cadmium	2 mg/L	.5 mL	50 mL	20.2 ug/L
UI091217-12	Chromium	2 mg/L	.5 mL	50 mL	22.2 ug/L
UI091217-12	Cobalt	2 mg/L	.5 mL	50 mL	20.4 ug/L
UI091217-12	Copper	2 mg/L	.5 mL	50 mL	23.4 ug/L
UI091217-12	Lead	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Lithium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Manganese	2 mg/L	.5 mL	50 mL	22.7 ug/L
UI091217-12	Nickel	2 mg/L	.5 mL	50 mL	22.4 ug/L
UI091217-12	Selenium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Strontium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thallium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Thorium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Uranium	2 mg/L	.5 mL	50 mL	20 ug/L

Standard Logbook

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
UI091217-12	Vanadium	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-12	Zinc	2 mg/L	.5 mL	50 mL	27 ug/L
UI091217-13	Antimony	2 mg/L	.5 mL	50 mL	20.5 ug/L
UI091217-13	Silver	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tin	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Tungsten	2 mg/L	.5 mL	50 mL	20 ug/L
UI091217-13	Zirconium	2 mg/L	.5 mL	50 mL	20 ug/L
UI100318-11	Aluminum	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Calcium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Chloride	10000 mg/L	5 mL	50 mL	1000000 ug/L
UI100318-11	Iron	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Magnesium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Molybdenum	20 mg/L	5 mL	50 mL	2000 ug/L
UI100318-11	Phosphorous	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Potassium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sodium	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Sulfur	1000 mg/L	5 mL	50 mL	100000 ug/L
UI100318-11	Titanium	20 mg/L	5 mL	50 mL	2000 ug/L

Serial ID: 100202 **Opened:** 02-FEB-10 **Lot Number :** 200930201
Name: I-HCL **Received:** 02-FEB-10
Type: Reagent/Solvent **Expires:** 02-FEB-11
Employee: Francena Armstrong
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1100721TCLP **Opened:** 16-APR-09 **Lot Number :** H02026 L
Name: I-HNO3 **Received:** 02-APR-09
Type: Reagent/Solvent **Expires:** 02-APR-10
Employee: Clifford Postell
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1156689-A **Opened:** 20-JUL-09 **Lot Number :** 41226920
Name: B-KMnO4(VWR)-MER **Received:** 20-JUL-09
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin **Verified:** 07-AUG-07
Supplier: VWR
Description: Potassium Permanganate
Comments: None

Standard Logbook

Serial ID: 1228372-A **Opened:** 12-NOV-09 **Lot Number :** 49215936
Name: B-NH2OH.HCl-MER **Received:** 12-NOV-09
Type: Reagent/Solvent **Expires:** 12-NOV-10
Employee: Tara Griffin
Supplier: Fisher Scientific
Description: Hydroxylamine Hydrochloride
Comments: None

Serial ID: 1250038-02 **Opened:** 04-JAN-10 **Lot Number :** ZU74081198 mL
Name: B-H2O2 **Received:** 04-JAN-10
Type: Reagent/Solvent **Expires:** 04-JAN-11
Employee: Bryan Davis
Supplier: EM SCIENCE
Description: Hydrogen Peroxide 30%
Comments: None

Serial ID: 1255532-C **Opened:** 15-JAN-10 **Balance Id :** BAL-002
Name: B-NaCl.NH2OH.HCl-MER **Received:** 15-JAN-10
Type: Reagent/Solvent **Expires:** 15-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: Hg reducing agent
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1228372-A	B-NH2OH.HCl-MER	N/A	120 g	1000 mL	N/A

Serial ID: 1265209 **Opened:** 04-FEB-10 **Lot Number :** J02039
Name: I-HCL **Received:** 04-FEB-10 **Preservative Id :** 5 none
Type: Reagent/Solvent **Expires:** 04-FEB-11
Employee: Bryan Davis
Supplier: J.T. BAKER
Description: HYDROCHLORIC ACID
Comments: None

Serial ID: 1274391-1 **Opened:** 24-FEB-10 **Instrument Id :** MERCURY
Name: B-HNO3-MER **Received:** 24-FEB-10 **Lot Number :** H44025
Type: Reagent/Solvent **Expires:** 24-FEB-11
Employee: Tara Griffin
Supplier: Mallinckrodt Chemicals
Description: NITRIC ACID
Comments: None

Standard Logbook

Serial ID: 1274969 **Opened:** 24-FEB-10 **Lot Number :** J 04043 L
Name: I-HNO3 **Received:** 24-FEB-10
Type: Reagent/Solvent **Expires:** 24-FEB-11
Employee: Francena Armstrong
Supplier: BAKER
Description: Nitric Acid CONC.
Comments: None

Serial ID: 1277235-A **Opened:** 01-MAR-10 **Lot Number :** J02039
Name: B-HCl-MER **Received:** 01-MAR-10
Type: Reagent/Solvent **Expires:** 01-MAR-11
Employee: Tara Griffin
Supplier: J T Baker
Description: Hydrochloric Acid Conc.
Comments: None

Serial ID: 1277238-C **Opened:** 01-MAR-10 **Balance Id :** BAL-002
Name: B-KMnO4-MER **Received:** 01-MAR-10
Type: Reagent/Solvent **Expires:** 20-JUL-10
Employee: Tara Griffin
Supplier: GEL
Description: 5% KMnO4 solution
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
1156689-A	B-KMnO4(VWR)-MER	Crystals	50 g	1000 mL	3%

Serial ID: 1285348 **Opened:** 15-MAR-10 **Solvent :** Type I Water
Name: B-2%HNO3/1%HCl-ICPMS **Received:** 15-MAR-10
Type: Reagent/Solvent **Expires:** 22-MAR-10
Employee: Paul Boyd
Supplier: GEL
Description: 2%HNO3/1%HCl Solution (Type I Water)
Comments: None

Parent Material	Analyte	Parent Conc.	Aliquot	Final Vol.	Final Conc.
100202	I-HCL	36.5-38.0	90 mL	9 l	N/A
1100721TCLP	I-HNO3	69.0-70.0	180 mL	9 l	N/A

General Chemistry Analysis

Case Narrative

**General Chemistry Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1969**

Method/Analysis Information

Product: pH
Analytical Batch: 956095 **Method:** SW9045C pH

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9045C/9045D:

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202050068	247539001(CAPU-10-12530) Sample Duplicate (DUP)
1202050069	247551001(RE15-10-8349) Sample Duplicate (DUP)
1202050070	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-008 REV# 17.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Electrode analysis was performed on a PerpHect pH Meter Orion 370.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Quality Control (QC) Information

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

The following samples were selected for QC analysis: 247539001 (CAPU-10-12530) and 247551001 (RE15-10-8349).

Duplicate Relative Percent Difference (RPD) Statement

The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times

The following samples from this sample group were received by the lab outside of the method specified holding time: 1202050068 (CAPU-10-12530), 1202050069 (RE15-10-8349), 247551001 (RE15-10-8349) and 247551002 (RE15-10-8348).

Sample Re-analysis

The samples in this SDG did not require re-analysis.

Miscellaneous Information

Data Exception (DER) Documentation

A DER was not required for this SDG.

Additional Comments

Additional comments were not required for this SDG.

Electronic Packaging Comment

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

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Method/Analysis Information

Product: Cyanide, Total

Analytical Batch: 955989 **Method:** SW9012A Cyanide and Total

Prep Batch : 955988 **Method:** SSW846 9010B Prep

Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 9012A:

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202049747	Method Blank (MB)
1202049748	247249003(RE46-10-12665) Sample Duplicate (DUP)
1202049749	247249004(RE46-10-12663) Sample Duplicate (DUP)
1202049750	247249003(RE46-10-12665) Matrix Spike (MS)
1202049751	247249004(RE46-10-12663) Matrix Spike (MS)
1202049752	247249003(RE46-10-12665) Matrix Spike Duplicate (MSD)
1202049753	247249004(RE46-10-12663) Matrix Spike Duplicate (MSD)
1202049754	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 12.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule

The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

The following samples were selected for QC analysis: 247249003 (RE46-10-12665) and 247249004 (RE46-10-12663).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The MS/PS recoveries for this sample set were within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement

The spike duplicate recovery for the following sample was outside of the required acceptance limits due to sample non-homogeneity. 1202049753 (RE46-10-12663). The spike duplicate recovery falls outside of the client specified acceptance limits. Since both the spike recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported. 1202049752 (RE46-10-12665).

MS/MSD Relative Percent Difference (RPD) Statement

The relative percent difference (RPD) between the Spike and Spike Duplicate was outside of the required acceptance limits due to the heterogeneous matrix of the sample. 1202049751 (RE46-10-12663) and 1202049753 (RE46-10-12663).

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: 1202049754 (LCS).

Sample Re-analysis

The samples in this SDG did not require re-analysis.

Miscellaneous Information

Data Exception (DER) Documentation

The following DER was generated for this SDG: 799166 1202049751 (RE46-10-12663), 1202049752 (RE46-10-12665) and 1202049753 (RE46-10-12663).

Additional Comments

Additional comments were not required for this SDG.

Electronic Packaging Comment

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

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

Method/Analysis Information

Product: Ion Chromatography

Analytical Batch: 957881 **Method:** EPA 300.0 Nitrate in Soil

Prep Batch : 957878 **Method:** EPA 300.0 PREP

Sample Analysis

The following samples were analyzed using the analytical protocol as established in EPA 300.0:

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202054065	Method Blank (MB)
1202054066	247546004(RE46-10-13380) Sample Duplicate (DUP)
1202054067	247822006(CAPU-10-12538) Sample Duplicate (DUP)
1202054068	247546004(RE46-10-13380) Matrix Spike (MS)
1202054069	247822006(CAPU-10-12538) Matrix Spike (MS)
1202054070	247546004(RE46-10-13380) Matrix Spike Duplicate (MSD)
1202054071	247822006(CAPU-10-12538) Matrix Spike Duplicate (MSD)
1202054072	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-086 REV# 17.

Preparation/Analytical Method Verification

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

Calibration Information

The Ion Chromatography analysis was performed on a Dionex ICS-3000 Ion Chromatograph.

Initial Calibration

All initial calibration requirements have been met for this SDG.

Continuing Calibration Blanks

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

Calibration Verification Information (CCV)

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

Y Intercept Rule

The absolute value of the intercept is less than 3 times the MDL.

Quality Control (QC) Information**Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

Laboratory Control Sample (LCS) Recovery

The LCS spike recovery met the acceptance limits.

Quality Control (QC) Designation

The following samples were selected for QC analysis: 247546004 (RE46-10-13380) and 247822006 (CAPU-10-12538).

Matrix Spike (MS)/Post Spike (PS) Recovery Statement

The MS/PS recoveries for this sample set were within the required acceptance limits.

Matrix Spike Duplicate (MSD) Recovery Statement

The MSD recoveries for this sample set were within the required acceptance limits.

MS/MSD Relative Percent Difference (RPD) Statement

The RPDs between the spike and spike duplicate met the acceptance limits.

Duplicate Relative Percent Difference (RPD) Statement

The RPD between the sample and its duplicate met the acceptance limits.

Technical Information

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

Holding Times

All samples in this SDG met the specified holding time.

Sample Dilutions

The samples in this SDG did not require dilutions.

Sample Re-analysis

The samples in this SDG did not require re-analysis.

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

A DER was not required for this SDG.

Manual Integrations

The following sample from this sample group had to be manually integrated due to errors in the instrument software peak integration: 1202054066 (RE46-10-13380).

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: 18Mar10

Sample Data Summary

GEL LABORATORIES LLC

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Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1969 GEL Work Order: 247551

The Qualifiers in this report are defined as follows:

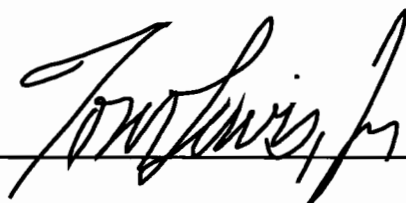
- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

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 Davis, Jr.", is written over a horizontal line.

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: March 17, 2010

Client SDG: 10-1969

Client Sample ID: RE15-10-8349
Sample ID: 247551001
Matrix: R
Collect Date: 15-FEB-10 12:00
Receive Date: 20-FEB-10
Collector: Client
Moisture: 6.91%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Electrode Analysis											
<i>SW9045C pH "As Received"</i>											
pH at Temp 20.4C	H	9.03	0.010	0.100	SU	1	TXT1	02/22/10	1447	956095	1
Flow Injection Analysis											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	73.0	269	ug/kg	1	AXC2	03/01/10	1532	955989	2
Ion Chromatography											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		1.21	0.322	1.07	mg/kg	1	MAR1	03/10/10	1529	957881	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	03/10/10	1030	957878
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/26/10	1540	955988

The following Analytical Methods were performed

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

GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: March 17, 2010

Client SDG: 10-1969

Client Sample ID: RE15-10-8348
Sample ID: 247551002
Matrix: R
Collect Date: 15-FEB-10 12:00
Receive Date: 20-FEB-10
Collector: Client
Moisture: 3.67%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Electrode Analysis											
<i>SW9045C pH "As Received"</i>											
pH at Temp 20.3C	H	6.63	0.010	0.100	SU	1	TXT1	02/22/10	1452	956095	1
Flow Injection Analysis											
<i>SW9012A Cyanide, Total "Dry Weight Corrected"</i>											
Cyanide, Total	U	ND	66.6	245	ug/kg	1	AXC2	03/01/10	1533	955989	2
Ion Chromatography											
<i>EPA 300.0 Nitrate in Soil "Dry Weight Corrected"</i>											
Nitrate-N		1.10	0.311	1.04	mg/kg	1	MAR103/10/10	1557	957881		3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 300.0 PREP	EPA 300.0 Total Anions in Soil	MAR1	03/10/10	1030	957878
SW846 9010B Prep	SW846 9010B Prep	AXS5	02/26/10	1540	955988

The following Analytical Methods were performed

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

Quality Control Summary

GEL LABORATORIES LLC

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QC Summary

Report Date: March 17, 2010

Page 1 of 3

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

Contact: Ms. Joylene Valdez

Workorder: 247551

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Electrode Analysis											
Batch	956095										
QC1202050068	247539001	DUP									
pH		H	8.66	H	8.64	SU	0.231	(0%-10%)	TXT1	02/22/10	14:18
QC1202050069	247551001	DUP									
pH		H	9.03	H	9.18	SU	1.65	(0%-10%)		02/22/10	14:49
QC1202050070	LCS										
pH	7.00				6.95	SU		99.3	(95%-105%)		02/22/10 14:15
Flow Injection Analysis											
Batch	955989										
QC1202049748	247249003	DUP									
Cyanide, Total		U	ND	U	ND	ug/kg	N/A		AXC2	03/01/10	15:17
QC1202049749	247249004	DUP									
Cyanide, Total		U	ND	U	ND	ug/kg	N/A			03/01/10	15:29
QC1202049754	LCS										
Cyanide, Total	67900				43300	ug/kg		63.7	(32%-157%)		03/01/10 15:15
QC1202049747	MB										
Cyanide, Total				U	250	ug/kg				03/01/10	15:14
QC1202049750	247249003	MS									
Cyanide, Total	5860	U	ND		4500	ug/kg		76.8	(26%-158%)		03/01/10 15:18
QC1202049751	247249004	MS									
Cyanide, Total	5160	U	ND		4530	ug/kg		87.8	(26%-158%)		03/01/10 15:30
QC1202049752	247249003	MSD									
Cyanide, Total	5050	U	ND		3460	ug/kg	26.0	68.6	(0%-30%)		03/01/10 15:28
QC1202049753	247249004	MSD									
Cyanide, Total	4720	U	ND		3340	ug/kg	30.3*	70.8	(0%-30%)		03/01/10 15:31
Ion Chromatography											
Batch	957881										
QC1202054066	247546004	DUP									
Nitrate-N			1.28		1.26	mg/kg	1.53 ^	(+/-1.22)	GXM3	03/10/10	14:02
QC1202054067	247822006	DUP									
Nitrate-N			9.71		9.76	mg/kg	0.512	(0%-20%)	MAR1	03/11/10	19:33
QC1202054072	LCS										
Nitrate-N	50.0				51.8	mg/kg		104	(90%-110%)	GXM3	03/10/10 13:04
QC1202054065	MB										
Nitrate-N				U	1.00	mg/kg				03/10/10	12:35
QC1202054068	247546004	MS									
Nitrate-N	61.1		1.28		61.7	mg/kg		98.9	(90%-110%)		03/10/10 14:31
QC1202054069	247822006	MS									
Nitrate-N	56.7		9.71		63.5	mg/kg		94.9	(90%-110%)	MAR1	03/11/10 20:01
QC1202054070	247546004	MSD									
Nitrate-N	61.1		1.28		62.6	mg/kg	1.39	100	(0%-20%)	GXM3	03/10/10 15:00
QC1202054071	247822006	MSD									
Nitrate-N	56.7		9.71		63.4	mg/kg	0.100	94.8	(0%-20%)	MAR1	03/11/10 20:30

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QC Summary

Workorder: 247551

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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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
- JNX Non Calibrated Compound
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- UJ Compound cannot be extracted
- UJ 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

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QC Summary

Workorder: 247551

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Paramname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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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: 17-MAR-2010 09:02

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1969

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	01-MAR-2010 15:09:23	OM_3-1-2010_15-01-18	141	150	94	(90%-110%)	Yes
CCV	01-MAR-2010 15:23:41	OM_3-1-2010_15-01-18	99.6	100	99.6	(90%-110%)	Yes
CCV	01-MAR-2010 15:36:07	OM_3-1-2010_15-01-18	100	100	100	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	01-MAR-2010 15:11:14	OM_3-1-2010_15-01-18	-2.43	10	Yes
CCB	01-MAR-2010 15:25:32	OM_3-1-2010_15-01-18	-2.55	10	Yes
CCB	01-MAR-2010 15:37:57	OM_3-1-2010_15-01-18	-2.04	10	Yes

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Report Run On: 17-MAR-2010 09:02

GEL Laboratories LLC

Contract: LANL01004

SDG #: 10-1969

Ion Chromatography

Method: EPA 300.0

Concentration Units:mg/L

Instrument: Dionex ICS-3000 Ion Chromatograph

Parmname: Nitrate-N

Sample Type	Run Date	Data File	Result	Nominal	Recovery	Limits	Within Limits
ICV	10-MAR-2010 11:37:00	100310	5.1832	5	104	(90%-110%)	Yes
CCV	10-MAR-2010 17:24:00	100310	7.8416	7.5	105	(90%-110%)	Yes
ICV	11-MAR-2010 18:06:00	100311	4.5323	5	90.6	(90%-110%)	Yes
CCV	11-MAR-2010 20:59:00	100311	4.5121	5	90.2	(90%-110%)	Yes

Sample Type	Run Date	Data File	Result	Limits	Within Limits
ICB	10-MAR-2010 12:06:00	100310	0	0.1	Yes
CCB	10-MAR-2010 17:53:00	100310	0	0.1	Yes
ICB	11-MAR-2010 18:35:00	100311	0	0.1	Yes
CCB	11-MAR-2010 21:28:00	100311	0	0.1	Yes

Cyanide, Total

Prep Logbook

Cyanide Sample Distillation

Batch ID:	955988.0	Verified by:		Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
Analyst:	Alan Stanley			LCS	1202049754	Total Cyanide Solid LCS	URF1200957-01	.25	g
Method:	SW846 9010B Prep			MS	1202049750	Secondary source standard for CN and phenol. Used to spike LCS.	URF1269274-02	.025	mL
Lab SOP:	GL-GC-E-067 REV# 13			MS	1202049751	MS, ICV Secondary source standard for CN and phenol. Used to spike LCS.	URF1269274-02	.025	mL
Instrument:	Sartorius Balance B-001			MSD	1202049752	MS, ICV Secondary source standard for CN and phenol. Used to spike LCS.	URF1269274-02	.025	mL
				MSD	1202049753	MS, ICV Secondary source standard for CN and phenol. Used to spike LCS.	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202049747 MB	26-FEB-2010 15:40:00	Soil	0.5	25	50	>12
1202049754 LCS	26-FEB-2010 15:40:00	Soil	0.25	25	100	>12
247249003	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
1202049748 DUP (247249003)	26-FEB-2010 15:40:00	Soil	0.56	25	44.64286	>12
1202049750 MS (247249003)	26-FEB-2010 15:40:00	Soil	0.5	25	50	>12
1202049752 MSD (247249003)	26-FEB-2010 15:40:00	Soil	0.58	25	43.10345	>12
247249004	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
1202049749 DUP (247249004)	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
1202049751 MS (247249004)	26-FEB-2010 15:40:00	Soil	0.53	25	47.16981	>12
1202049753 MSD (247249004)	26-FEB-2010 15:40:00	Soil	0.58	25	43.10345	>12
247249005	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
247255001	26-FEB-2010 15:40:00	Soil	0.53	25	47.16981	>12
247255002	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
247255003	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
247255004	26-FEB-2010 15:40:00	Soil	0.58	25	43.10345	>12
247255005	26-FEB-2010 15:40:00	Soil	0.52	25	48.07692	>12
247551001	26-FEB-2010 15:40:00	Soil	0.5	25	50	>12
247551002	26-FEB-2010 15:40:00	Soil	0.53	25	47.16981	>12
247561001	26-FEB-2010 15:40:00	Soil	0.52	25	48.07692	>12
247561002	26-FEB-2010 15:40:00	Soil	0.51	25	49.01961	>12
247561003	26-FEB-2010 15:40:00	Soil	0.52	25	48.07692	>12

Analytical Logbook version 1 11-04-2002

GEL Laboratories LLC

Prep Logbook

Batch ID: 955988.0
Analyst: Alan Stanley
Method: SW846 9010B Prep
Lab SOP: GL-GC-E-067 REV# 13
Instrument: Sartorius Balance B-001

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202049754	Total Cyanide Solid LCS	URF1200957-01	.25	g
MS	1202049750	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MS	1202049751	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202049752	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL
MSD	1202049753	Secondary source standard for CN and phenol. Used to spike LCS, MS, ICV	URF1269274-02	.025	mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
247561004	26-FEB-2010 15:40:00	Soil	0.52	25	48.07692	>12
247561005	26-FEB-2010 15:40:00	Soil	0.54	25	46.2963	>12
247561006	26-FEB-2010 15:40:00	Soil	0.57	25	43.85965	>12
247561007	26-FEB-2010 15:40:00	Soil	0.57	25	43.85965	>12
247561008	26-FEB-2010 15:40:00	Soil	0.55	25	45.45455	>12
247566001	26-FEB-2010 15:40:00	Soil	0.53	25	47.16981	>12
247566002	26-FEB-2010 15:40:00	Soil	0.54	25	46.2963	>12

Comments:

Reagent/Solvent Lot ID	Description	Amount
1260189-C	50% H2SO4 CN Prep	2.5 mL
1270661-C	Bismuth Nitrate Solution	1.25 mL
1270663-C	0.8N H3NO3S	1.25 mL
1270669-C	51% MgCl2 Soln	1 mL
1273851-C	0.25N Sodium Hydroxide Solution	25 mL
WCN100226-07	150 ppb CN Distilled ICV Standard	.0375 mL

This is runlog Lachat1

Sample ID	Batch	Dilution	Analyst	Runtime	Dataset
200 ppb		1	axc2	3/1/2010 15:02:14	OM_3-1-2010_15-01-18
150 ppb		1	axc2	3/1/2010 15:03:06	OM_3-1-2010_15-01-18
100 ppb		1	axc2	3/1/2010 15:03:59	OM_3-1-2010_15-01-18
50 ppb		1	axc2	3/1/2010 15:04:51	OM_3-1-2010_15-01-18
10 ppb		1	axc2	3/1/2010 15:05:45	OM_3-1-2010_15-01-18
CRDL 5.0 ppb		1	axc2	3/1/2010 15:06:39	OM_3-1-2010_15-01-18
ICAL-00		1	axc2	3/1/2010 15:07:33	OM_3-1-2010_15-01-18
ICV		1	axc2	3/1/2010 15:09:23	OM_3-1-2010_15-01-18
ICB		1	axc2	3/1/2010 15:11:14	OM_3-1-2010_15-01-18
CRDL		1	axc2	3/1/2010 15:13:04	OM_3-1-2010_15-01-18
1202049747	955989	1	axc2	3/1/2010 15:14:53	OM_3-1-2010_15-01-18
1202049754	955989	25	axc2	3/1/2010 15:15:47	OM_3-1-2010_15-01-18
247249003	955989	1	axc2	3/1/2010 15:16:40	OM_3-1-2010_15-01-18
1202049748	955989	1	axc2	3/1/2010 15:17:33	OM_3-1-2010_15-01-18
1202049750	955989	1	axc2	3/1/2010 15:18:26	OM_3-1-2010_15-01-18
247249005	955989	1	axc2	3/1/2010 15:19:19	OM_3-1-2010_15-01-18
247255001	955989	1	axc2	3/1/2010 15:20:12	OM_3-1-2010_15-01-18
247255002	955989	1	axc2	3/1/2010 15:21:04	OM_3-1-2010_15-01-18
247255003	955989	1	axc2	3/1/2010 15:21:57	OM_3-1-2010_15-01-18
247255004	955989	1	axc2	3/1/2010 15:22:48	OM_3-1-2010_15-01-18
CCV		1	axc2	3/1/2010 15:23:41	OM_3-1-2010_15-01-18
CCB		1	axc2	3/1/2010 15:25:32	OM_3-1-2010_15-01-18
247255005	955989	1	axc2	3/1/2010 15:27:20	OM_3-1-2010_15-01-18
1202049752	955989	1	axc2	3/1/2010 15:28:12	OM_3-1-2010_15-01-18
247249004	955989	1	axc2	3/1/2010 15:29:04	OM_3-1-2010_15-01-18
1202049749	955989	1	axc2	3/1/2010 15:29:56	OM_3-1-2010_15-01-18
1202049751	955989	1	axc2	3/1/2010 15:30:47	OM_3-1-2010_15-01-18
1202049753	955989	1	axc2	3/1/2010 15:31:41	OM_3-1-2010_15-01-18
247551001	955989	1	axc2	3/1/2010 15:32:34	OM_3-1-2010_15-01-18
247551002	955989	1	axc2	3/1/2010 15:33:28	OM_3-1-2010_15-01-18
247561001	955989	1	axc2	3/1/2010 15:34:21	OM_3-1-2010_15-01-18
247561002	955989	1	axc2	3/1/2010 15:35:14	OM_3-1-2010_15-01-18
CCV		1	axc2	3/1/2010 15:36:07	OM_3-1-2010_15-01-18
CCB		1	axc2	3/1/2010 15:37:57	OM_3-1-2010_15-01-18
247561003	955989	1	axc2	3/1/2010 15:39:45	OM_3-1-2010_15-01-18
247561004	955989	1	axc2	3/1/2010 15:40:38	OM_3-1-2010_15-01-18
247561005	955989	1	axc2	3/1/2010 15:41:31	OM_3-1-2010_15-01-18
247561006	955989	1	axc2	3/1/2010 15:42:24	OM_3-1-2010_15-01-18
247561007	955989	1	axc2	3/1/2010 15:43:16	OM_3-1-2010_15-01-18
247561008	955989	1	axc2	3/1/2010 15:44:09	OM_3-1-2010_15-01-18
247566001	955989	1	axc2	3/1/2010 15:45:01	OM_3-1-2010_15-01-18
247566002	955989	1	axc2	3/1/2010 15:45:53	OM_3-1-2010_15-01-18
1202053271*	957571	1	axc2	3/1/2010 15:46:45	OM_3-1-2010_15-01-18
1202053278*	957571	25	axc2	3/1/2010 15:47:36	OM_3-1-2010_15-01-18
CCV		1	axc2	3/1/2010 15:48:29	OM_3-1-2010_15-01-18
CCB		1	axc2	3/1/2010 15:50:19	OM_3-1-2010_15-01-18

Original Run Filename: OM_3-1-2010_15-01-18.OMN created 3/1/2010 15:01:18
 Original Run Author's Signature: [axc2]
 Current Run Filename: OM_3-1-2010_15-01-18.OMN last modified 3/1/2010 15:51:23
 Current Run Author's Signature: [axc2]
 Description: GL-GC-E-095 EPA 335.1, 335.3, 335.4, 9012A, CLP335.2-M
 Liquid LCS nominal 50 ug/L

Sample	Rep.	Cup No.	Channel 1 TCYANIDE		Detection Time	ADF	MDF	Description
			Conc. (ug/L)	Area (Vs)				
WCN100301-01	1	S1	200	9.76	3/1/2010@15:02:14			200 ppb
WCN100301-02	1	S2	150	7.39	3/1/2010@15:03:06			150 ppb
WCN100301-03	1	S3	100	5.05	3/1/2010@15:03:59			100 ppb
WCN100301-04	1	S4	50.0	2.61	3/1/2010@15:04:51			50 ppb
WCN100301-05	1	S5	10.0	0.590	3/1/2010@15:05:45			10 ppb
WCN100301-06	1	S6	5.00	0.355	3/1/2010@15:06:39			CRDL 5.0 ppb
WCN100301-08	1	S7	0.00	0.0241	3/1/2010@15:07:33			0.0 ppb
DQM Test: Minimum Correlation Coefficient								
Result:			0.99987 > 0.99500					
Message			Pass					
Action			Continue					
WCN100301-07	1	S8	141	6.98	3/1/2010@15:09:23			ICV
Known Conc:			150					
DQM Test: > + Percent Relative Difference								
Result:			-5.8 < 10.0					
Message			ICV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-5.8 < 10.0					
Message			ICV Passed					
Action			Continue					
Calibration:			Table/Fig. 1					
WCN100301-08	1	S7	-2.43	-0.00669	3/1/2010@15:11:14			ICB/CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.43 < 5.01					
Message			ICB/CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.43 > -5.01					
Message			ICB/CCB Passed					
Action			Continue					
WCN100301-06	1	S6	4.96	0.352	3/1/2010@15:13:04			CRDL
Known Conc:			5.00					
DQM Test: > + Concentration Limit								
Result:			4.96 < 7.50					
Message			CRDL Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			4.96 > 2.50					
Message			Pass					
Action			None					
1202049747|955989|MB	1	1	-2.01	0.0137	3/1/2010@15:14:53			
1202049754|LCS	1	2	17.3	0.951	3/1/2010@15:15:47		25.00	
247249003	1	3	-0.926	0.0663	3/1/2010@15:16:40			
1202049748|DUP	1	4	-0.937	0.0658	3/1/2010@15:17:33			
1202049750|MS	1	5	76.8	3.84	3/1/2010@15:18:26			
247249005	1	6	-1.75	0.0263	3/1/2010@15:19:19			
247255001	1	7	-2.29	2.58e-4	3/1/2010@15:20:12			
247255002	1	8	-1.30	0.0480	3/1/2010@15:21:04			
247255003	1	9	-2.17	0.00566	3/1/2010@15:21:57			
247255004	1	10	-2.23	0.00274	3/1/2010@15:22:48			
WCN100301-03	1	S3	99.6	4.95	3/1/2010@15:23:41			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			-0.4 < 10.0					

Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			-0.4 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100301-08	1	S7	-2.55	-0.0127	3/1/2010@15:25:32			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.55 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.55 > -5.00					
Message			CCB Passed					
Action			Continue					
247249005	1	11	-1.76	0.0257	3/1/2010@15:27:20			
1202049752||MSD	1	12	68.6	3.44	3/1/2010@15:28:12			
247249004	1	13	-1.51	0.0380	3/1/2010@15:29:04			
1202049749||DUP	1	14	-1.76	0.0258	3/1/2010@15:29:56			
1202049751||MS	1	15	87.8	4.37	3/1/2010@15:30:47			
1202049753||MSD	1	16	70.8	3.55	3/1/2010@15:31:41			
247551001	1	17	0.630	0.142	3/1/2010@15:32:34			
247551002	1	18	-0.415	0.0911	3/1/2010@15:33:28			
247561001	1	19	-2.62	-0.0162	3/1/2010@15:34:21			
247561002	1	20	-1.62	0.0327	3/1/2010@15:35:14			
WCN100301-03	1	S3	100	4.97	3/1/2010@15:36:07			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			0.1 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			0.1 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100301-08	1	S7	-2.04	0.0123	3/1/2010@15:37:57			CCB
Known Conc:			0.00					
DQM Test: > + Concentration Limit								
Result:			-2.04 < 5.00					
Message			CCB Passed					
Action			Continue					
DQM Test: < - Concentration Limit								
Result:			-2.04 > -5.00					
Message			CCB Passed					
Action			Continue					
247561003	1	21	-1.50	0.0386	3/1/2010@15:39:45			
247561004	1	22	-1.60	0.0335	3/1/2010@15:40:38			
247561005	1	23	-0.892	0.0680	3/1/2010@15:41:31			
247561006	1	24	-1.54	0.0364	3/1/2010@15:42:24			
247561007	1	25	-1.61	0.0329	3/1/2010@15:43:16			
247561008	1	26	-2.31	-9.36e-4	3/1/2010@15:44:09			
247566001	1	27	-2.29	-3.83e-6	3/1/2010@15:45:01			
247566002	1	28	-1.64	0.0316	3/1/2010@15:45:53			
1202053271|957571|MB	1	29	-2.29	1.95e-4	3/1/2010@15:46:45			
1202053278||LCS	1	30	12.8	0.732	3/1/2010@15:47:36		25.00	
WCN100301-03	1	S3	100	4.97	3/1/2010@15:48:29			CCV
Known Conc:			100					
DQM Test: > + Percent Relative Difference								
Result:			0.0 < 10.0					
Message			CCV Passed					
Action			Continue					
DQM Test: < - Percent Relative Difference								
Result:			0.0 < 10.0					
Message			CCV Passed					
Action			Continue					
WCN100301-08	1	S7	-2.29	2.06e-4	3/1/2010@15:50:19			CCB
Known Conc:			0.00					

DQM Test: > + Concentration Limit					
Result:	-2.29 < 5.00				
Message	CCB Passed				
Action	Continue				
DQM Test: < - Concentration Limit					
Result:	-2.29 > -5.00				
Message	CCB Passed				
Action	Continue				

Analyte Properties Table for OM_3-1-2010_15-01-18.OMN

Property	Channel 1 TCYANIDE
Concentration Units	ug/L
Calibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	True
% of High Standard	100
Quik Chem Method	10-204-00-1-A
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	22
Peak Base Width	39

Channel 1: Current View

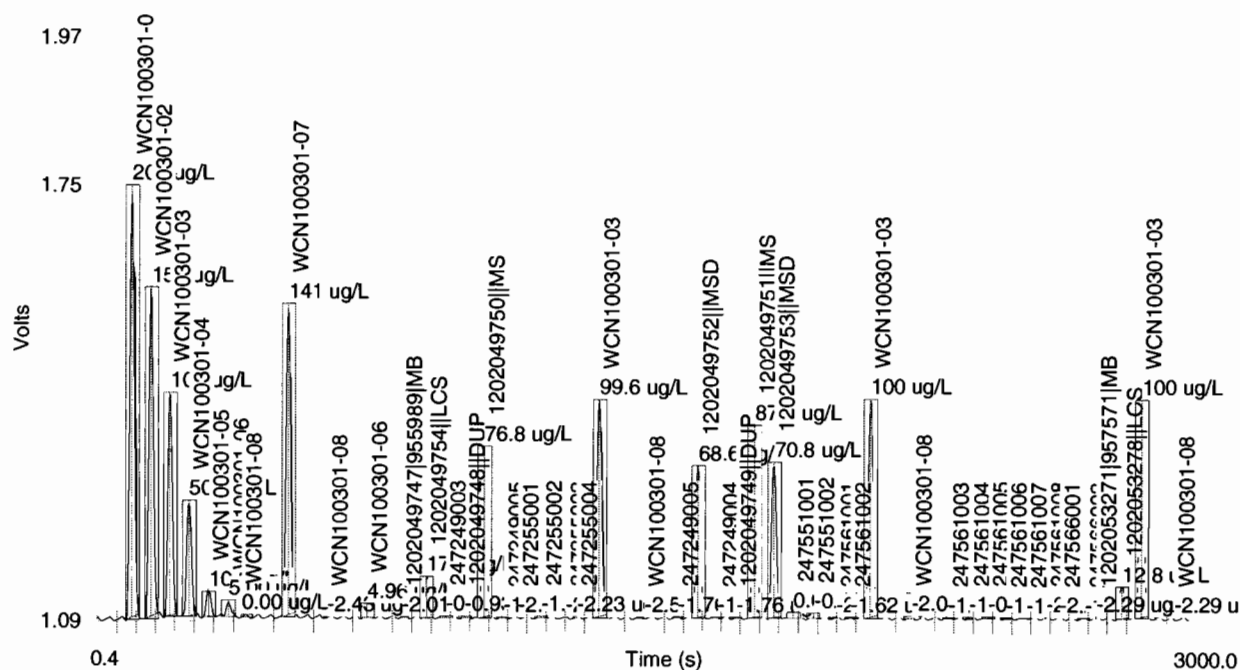
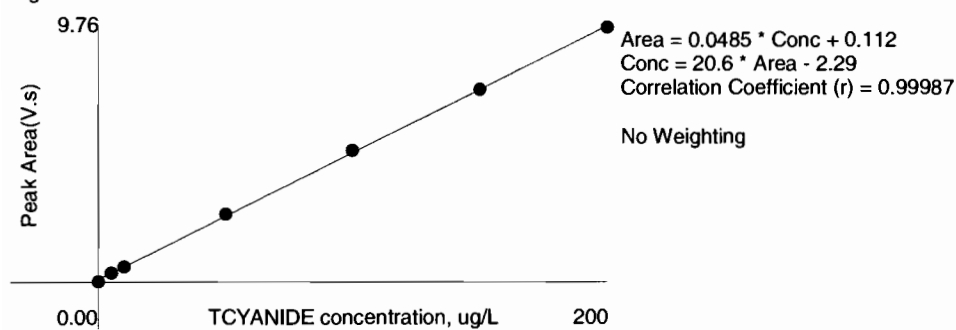


Table 1: TCYANIDE

	Conc. (ug/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	200	1	9.76	0.656	0.6	3/1/2010	15:03:17
2	150	1	7.39	0.500	0.0	3/1/2010	15:04:09
3	100	1	5.05	0.339	-1.7	3/1/2010	15:05:02
4	50.0	1	2.61	0.176	-2.9	3/1/2010	15:05:55
5	10.0	1	0.590	0.0382	1.4	3/1/2010	15:06:48
6	5.00	1	0.355	0.0255	0.1	3/1/2010	15:07:42
7	0.00	1	0.0241	0.00423		3/1/2010	15:08:36

Figure 1: TCYANIDE



Ion Chromatography

Prep Logbook

Ion Chromatography (IC)

Batch ID:	957878.0	Verified by:	
Analyst:	Mary Sherwood		
Method:	EPA 300.0 PREP		
Lab SOP:	GL-GC-E-086 REV# 17		
Instrument:	Sartorius Balance B-001		
		Type	Sample Id
			Description
		LCS	1202054072
			GEL-ANION-4C Spiking Solution
		MS	1202054068
			GEL-ANION-4C Spiking Solution
		MS	1202054069
			GEL-ANION-4C Spiking Solution
		MSD	1202054070
			GEL-ANION-4C Spiking Solution
		MSD	1202054071
			GEL-ANION-4C Spiking Solution
			Serial Number
			UIC100224SPK
			UIC100224SPK
			UIC100224SPK
			UIC100224SPK
			UIC100224SPK
			UIC100224SPK
			Spike Amount
			.8
			.8
			.8
			.8
			.8
			.8
			Spike Units
			mL
			mL
			mL
			mL
			mL
			mL

Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202054065 MB	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054072 LCS	10-MAR-2010 10:30:00	Soil	4	40	10	
247546004	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054066 DUP (247546004)	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054068 MS (247546004)	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054070 MSD (247546004)	10-MAR-2010 10:30:00	Soil	4	40	10	
247551001	10-MAR-2010 10:30:00	Soil	4	40	10	
247551002	10-MAR-2010 10:30:00	Soil	4	40	10	
247790002	10-MAR-2010 10:30:00	Soil	4	40	10	
247790003	10-MAR-2010 10:30:00	Soil	4	40	10	
247794001	10-MAR-2010 10:30:00	Soil	4	40	10	
247794002	10-MAR-2010 10:30:00	Soil	4	40	10	
247794003	10-MAR-2010 10:30:00	Soil	4	40	10	
247794004	10-MAR-2010 10:30:00	Soil	4	40	10	
247794005	10-MAR-2010 10:30:00	Soil	4	40	10	
247822001	10-MAR-2010 10:30:00	Soil	4	40	10	
247822002	10-MAR-2010 10:30:00	Soil	4	40	10	
247822003	10-MAR-2010 10:30:00	Soil	4	40	10	
247822004	10-MAR-2010 10:30:00	Soil	4	40	10	
247822005	10-MAR-2010 10:30:00	Soil	4	40	10	
247822006	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054067 DUP (247822006)	10-MAR-2010 10:30:00	Soil	4	40	10	
1202054069 MS (247822006)	10-MAR-2010 10:30:00	Soil	4	40	10	

Prep Logbook

Batch ID: 957878.0

Analyst: Mary Sherwood

Method: EPA 300.0 PREP

Lab SOP: GL-GC-E-086 REV# 17

Instrument: Sartorius Balance B-001

Verified by:

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1202054072	GEL-ANION-4C Spiking Solution	UIC100224SPK	.8	mL
MS	1202054068	GEL-ANION-4C Spiking Solution	UIC100224SPK	.8	mL
MS	1202054069	GEL-ANION-4C Spiking Solution	UIC100224SPK	.8	mL
MSD	1202054070	GEL-ANION-4C Spiking Solution	UIC100224SPK	.8	mL
MSD	1202054071	GEL-ANION-4C Spiking Solution	UIC100224SPK	.8	mL

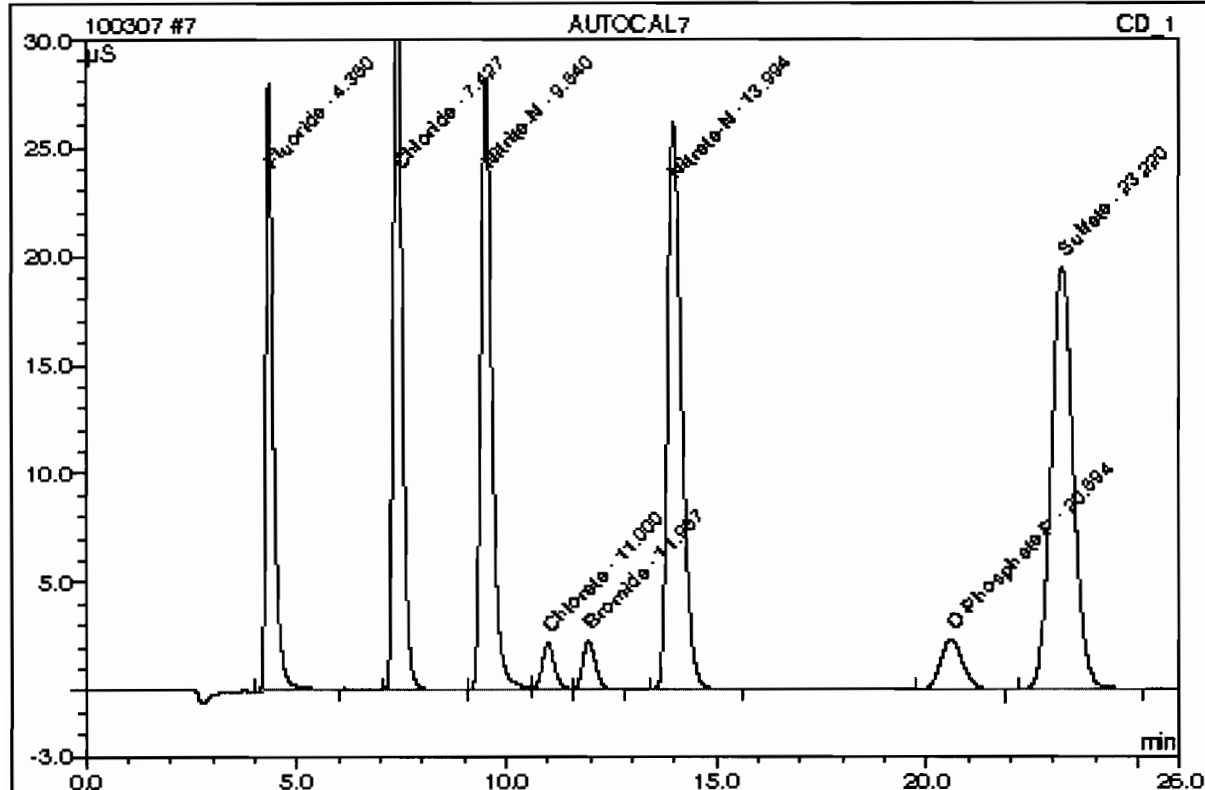
Sample ID	Run Date	Matrix	Initial Weight (g)	Final Volume (mL)	Prep Factor (mL/g)	pH Check 1
1202054071 MSD (247822006)	10-MAR-2010 10:30:00	Soil	4	40	10	
Reagent/Solvent Lot ID	Description	Amount	Comments:			

This is runlog for Sequence 100308.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
ICAL-07	02/26/10 14:11		1	100308	MAR1
ICAL-06	02/26/10 14:40		1	100308	MAR1
ICAL-05	02/26/10 15:09		1	100308	MAR1
ICAL-04	02/26/10 15:38		1	100308	MAR1
ICAL-03	02/26/10 16:07		1	100308	MAR1
ICAL-02	02/26/10 16:36		1	100308	MAR1
ICAL-01	02/26/10 17:04		1	100308	MAR1

7 AUTOCAL7

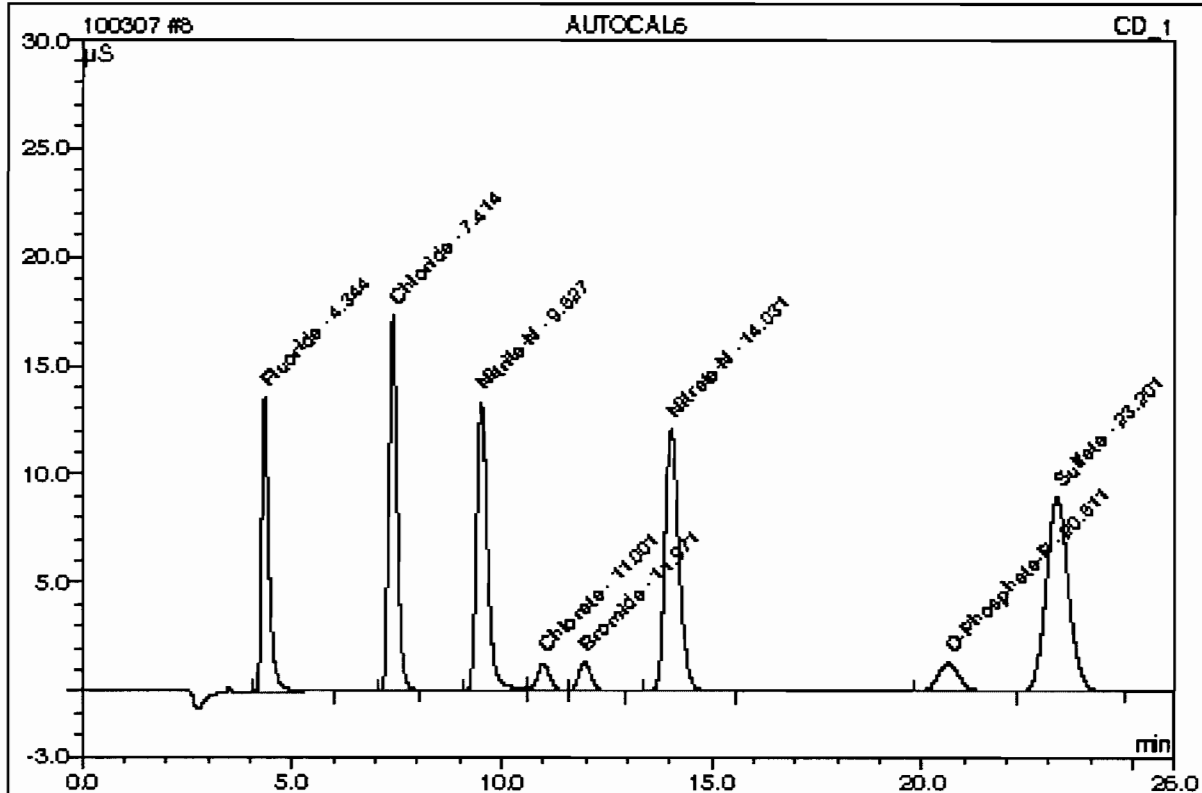
Sample Name:	AUTOCAL7	Injection Volume:	1.0
Vial Number:	3	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 14:11	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.35	Fluoride	10.0000	10.0855		5.77442	12.08
2	7.43	Chloride	20.0000	20.3596		8.66452	18.13
3	9.54	Nitrite-N	10.0000	10.0634		8.38569	17.54
4	11.00	Chlorate	5.0000	5.0096		0.72891	1.52
5	11.97	Bromide	5.0000	4.9733		0.76569	1.60
6	13.99	Nitrate-N	10.0000	10.1518		10.17864	21.30
7	20.59	O-Phosphate-P	5.0000	5.0713		1.40399	2.94
8	23.22	Sulfate	40.0000	40.4933		11.89615	24.89
Total:				106.2078	0.000	47.798	100.00

8 AUTOCAL6

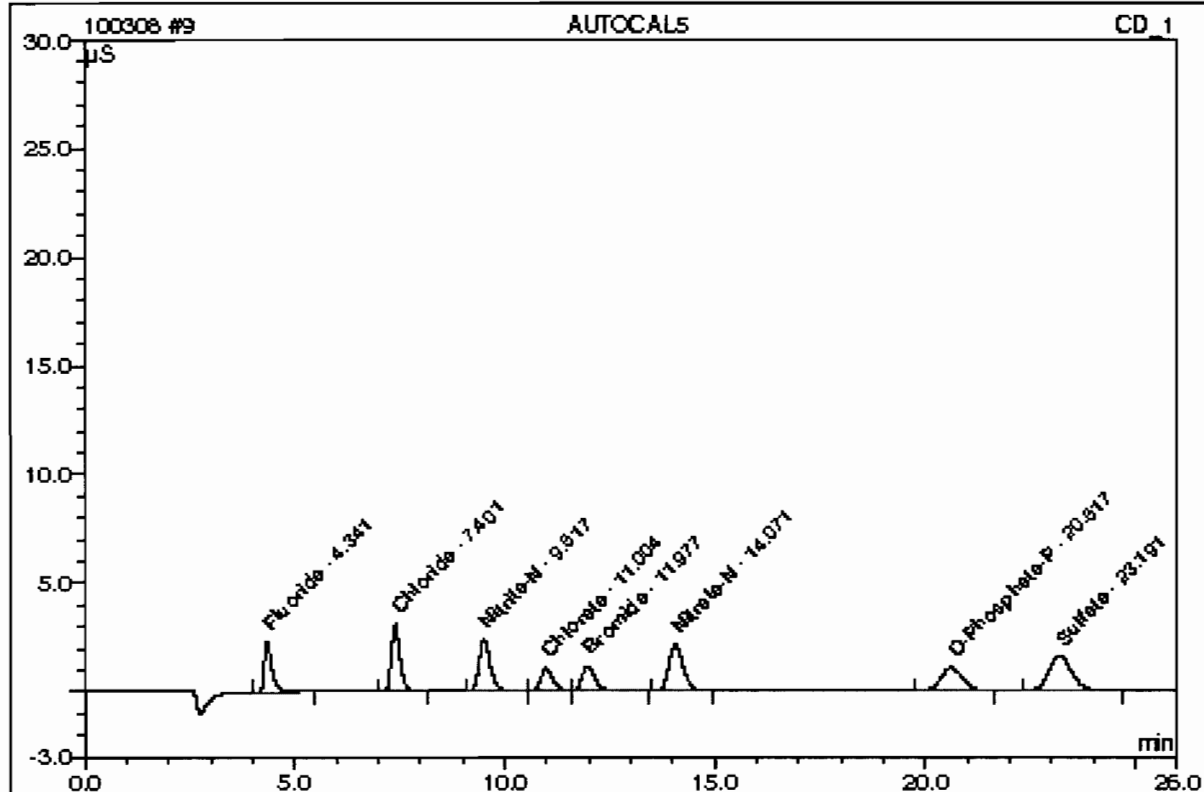
Sample Name:	AUTOCAL6	Injection Volume:	1.0
Vial Number:	4	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 14:40	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel.Area %
1	4.34	Fluoride	5.0000	4.8384		2.75186	12.16
2	7.41	Chloride	10.0000	9.2955		3.91334	17.29
3	9.53	Nitrate-N	5.0000	4.8861		4.04396	17.86
4	11.00	Chlorate	3.0000	3.0997		0.44848	1.98
5	11.97	Bromide	3.0000	2.9841		0.45913	2.03
6	14.03	Nitrate-N	5.0000	4.7080		4.67150	20.63
7	20.61	O-Phosphate-P	3.0000	2.9561		0.80102	3.54
8	23.20	Sulfate	20.0000	19.0431		5.55000	24.51
Total:				51.8110	0.000	22.639	100.00

9 AUTOCAL5

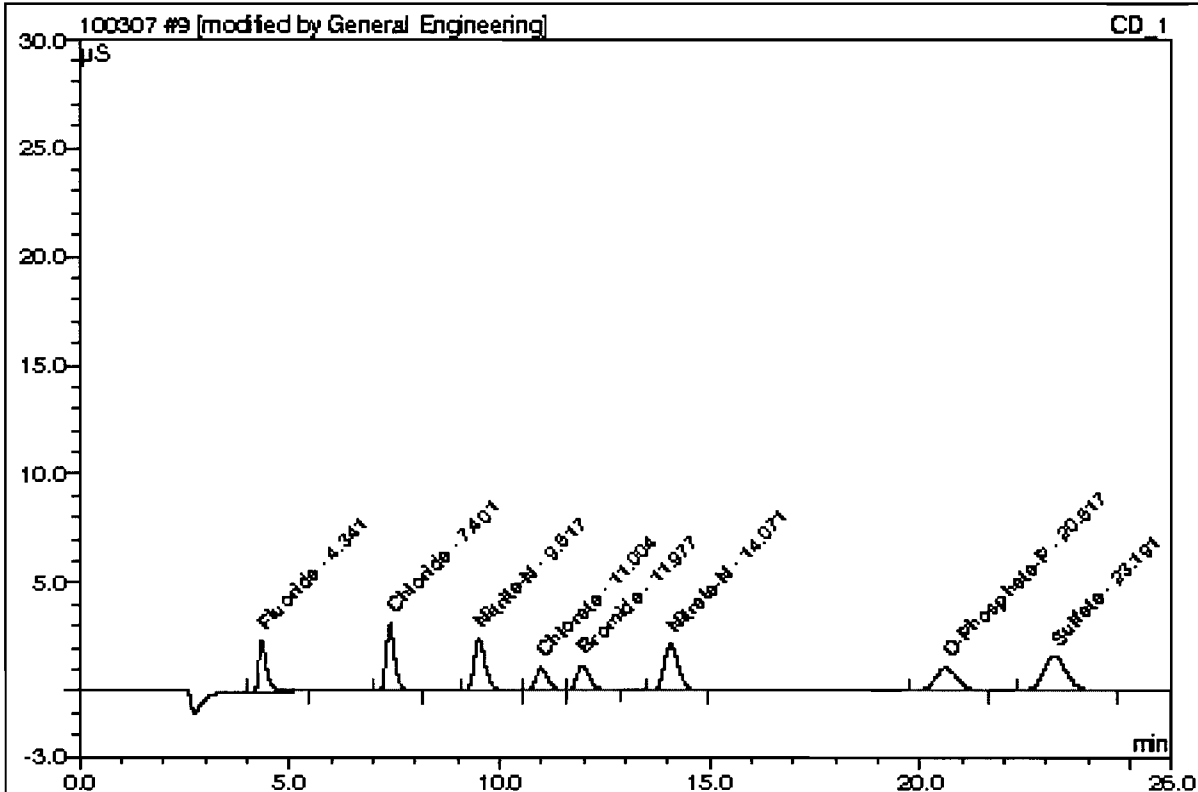
Sample Name:	AUTOCAL5	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 15:09	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.34	Fluoride	1.0000	0.9456		0.50946	9.66
2	7.40	Chloride	2.0000	1.8831		0.73030	13.85
3	9.52	Nitrite-N	1.0000	0.9352		0.73136	13.87
4	11.00	Chlorate	2.5000	2.4073		0.34799	6.60
5	11.98	Bromide	2.5000	2.6793		0.41530	7.88
6	14.07	Nitrate-N	1.0000	0.9238		0.84323	15.99
7	20.62	O-Phosphate-P	2.5000	2.4571		0.65802	12.48
8	23.19	Sulfate	4.0000	3.7265		1.03648	19.66
Total:				15.9578	0.000	5.272	100.00

9 AUTOCAL5

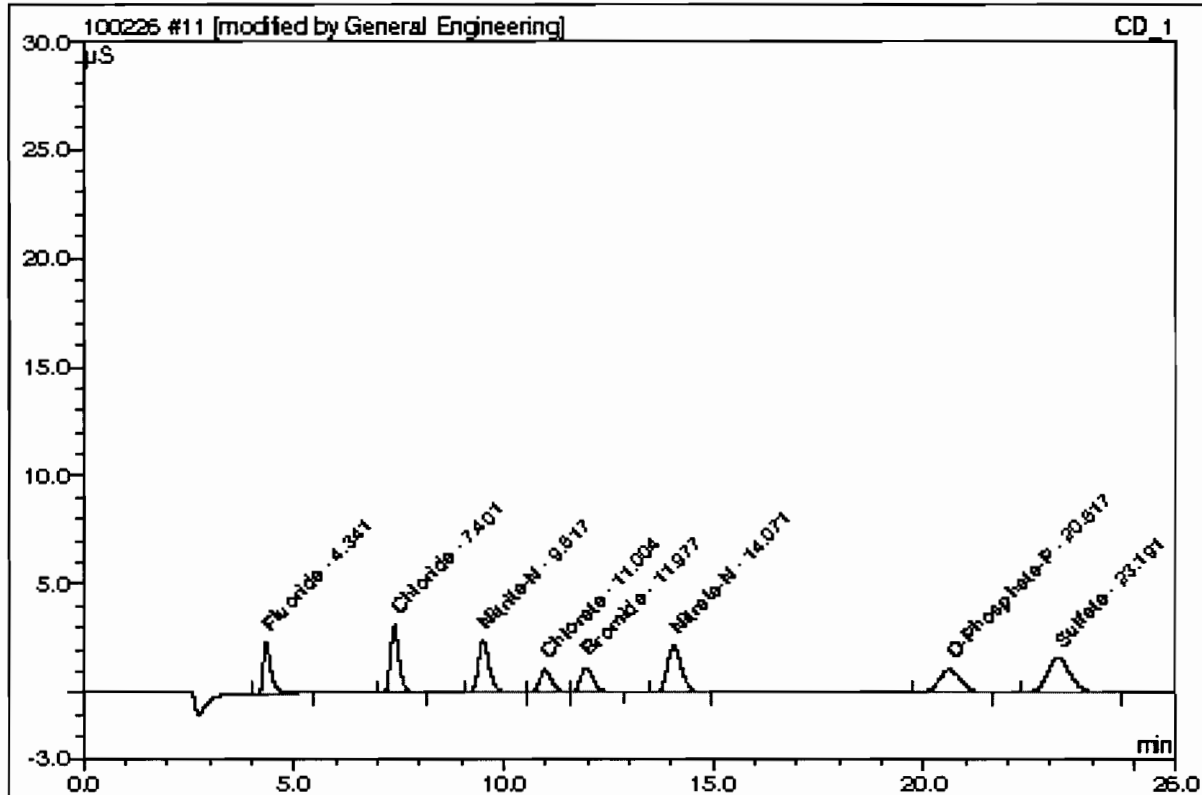
Sample Name:	AUTOCAL5	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 15:09	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel.Area %
1	4.34	Fluoride	1.0000	0.9456		0.50946	9.72
2	7.40	Chloride	2.0000	1.8831		0.73030	13.93
3	9.52	Nitrite-N	1.0000	0.9315		0.72762	13.88
4	11.00	Chlorate	2.5000	2.3673		0.34093	6.50
5	11.98	Bromide	2.5000	2.5838		0.39739	7.58
6	14.07	Nitrate-N	1.0000	0.9238		0.84323	16.08
7	20.62	O-Phosphate-P	2.5000	2.4544		0.65802	12.55
8	23.19	Sulfate	4.0000	3.7873		1.03648	19.77
Total:				15.8767	0.000	5.243	100.00

11 AUTOCAL5

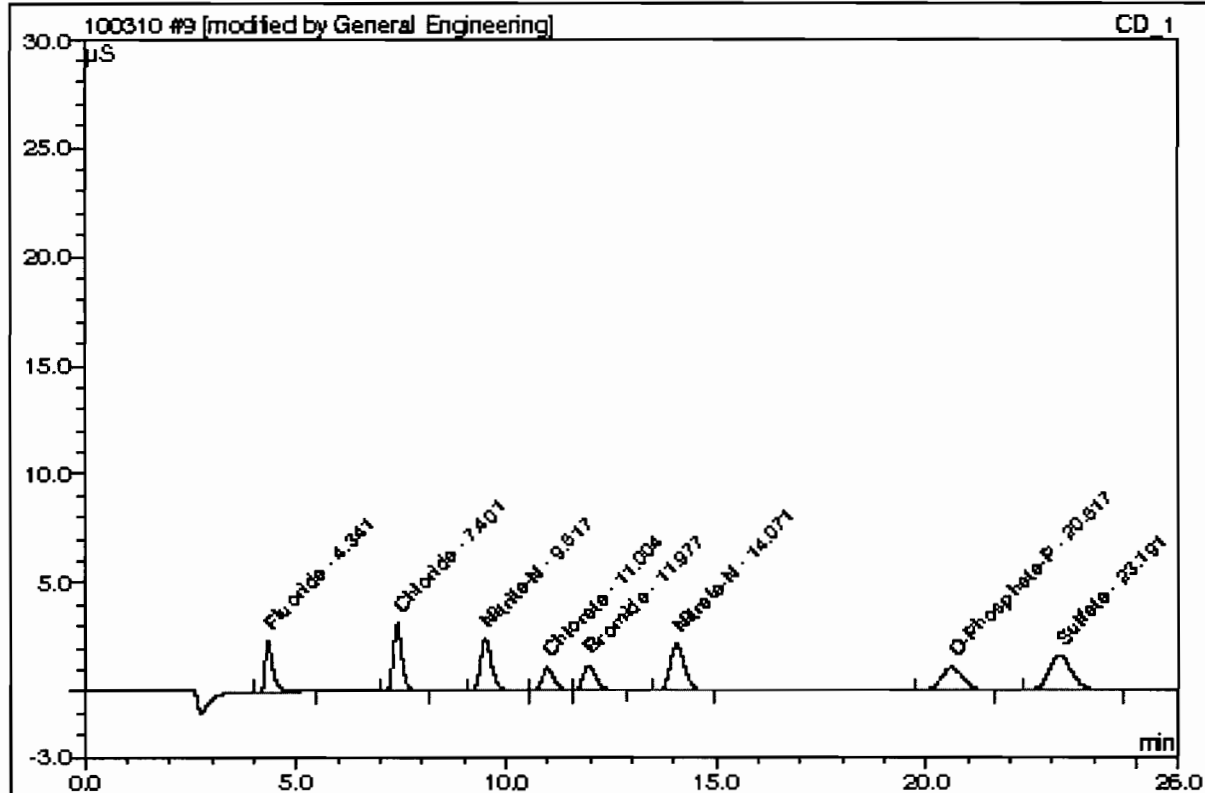
Sample Name:	AUTOCAL5	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 15:09	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;0056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area $\mu\text{S} \cdot \text{min}$	Rel. Area %
1	4.34	Fluoride	1.0000	0.9456		0.50946	9.72
2	7.40	Chloride	2.0000	1.8831		0.73030	13.93
3	9.52	Nitrate-N	1.0000	0.9315		0.72762	13.88
4	11.00	Chlorate	2.5000	2.3673		0.34093	6.50
5	11.98	Bromide	2.5000	2.5838		0.39739	7.58
6	14.07	Nitrate-N	1.0000	0.9238		0.84323	16.08
7	20.62	O-Phosphate-P	2.5000	2.4544		0.65802	12.55
8	23.19	Sulfate	4.0000	3.7873		1.03648	19.77
Total:				15.8767	0.000	5.243	100.00

9 AUTOCAL5

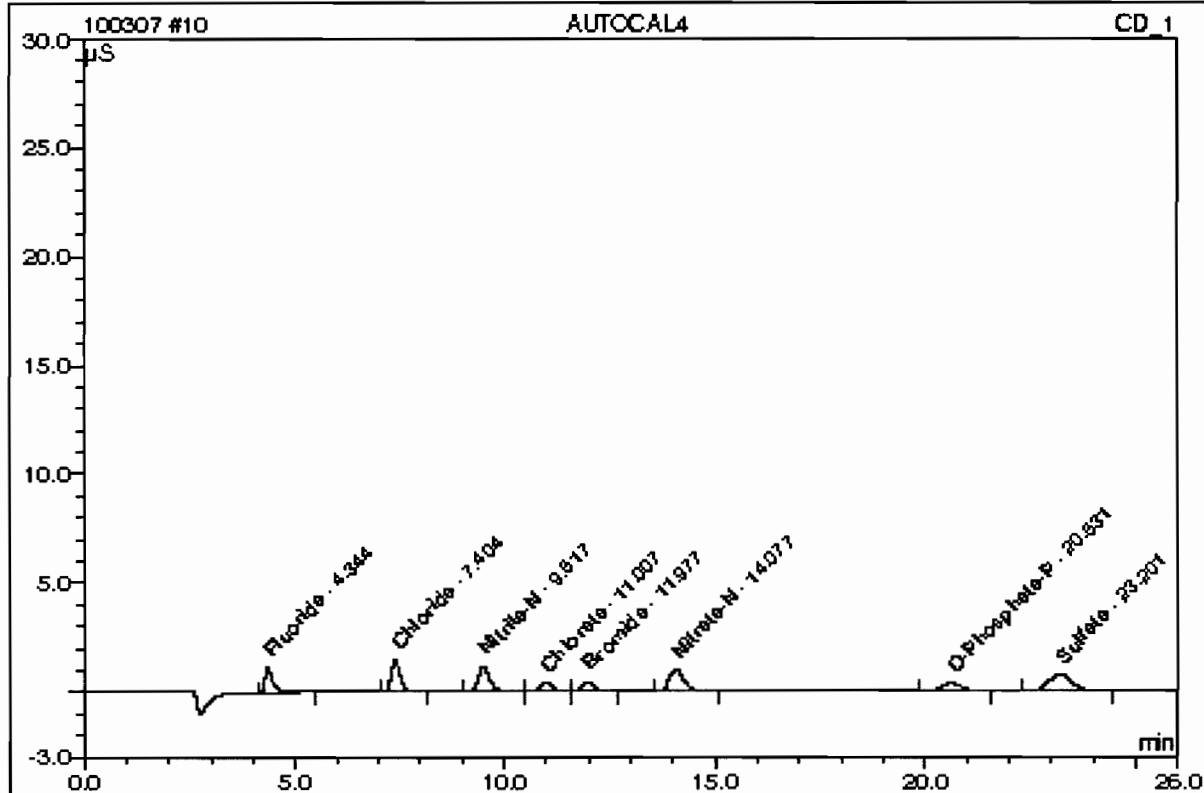
Sample Name:	AUTOCAL5	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 15:09	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel. Area %
1	4.34	Fluoride	1.0000	0.9456		0.50946	9.72
2	7.40	Chloride	2.0000	1.8831		0.73030	13.93
3	9.52	Nitrate-N	1.0000	0.9315		0.72762	13.88
4	11.00	Chlorate	2.5000	2.3673		0.34093	6.50
5	11.98	Bromide	2.5000	2.5838		0.39739	7.58
6	14.07	Nitrate-N	1.0000	0.9238		0.84323	16.08
7	20.62	O-Phosphate-P	2.5000	2.4544		0.65802	12.55
8	23.19	Sulfate	4.0000	3.7873		1.03648	19.77
Total:				15.8767	0.000	5.243	100.00

10 AUTOCAL4

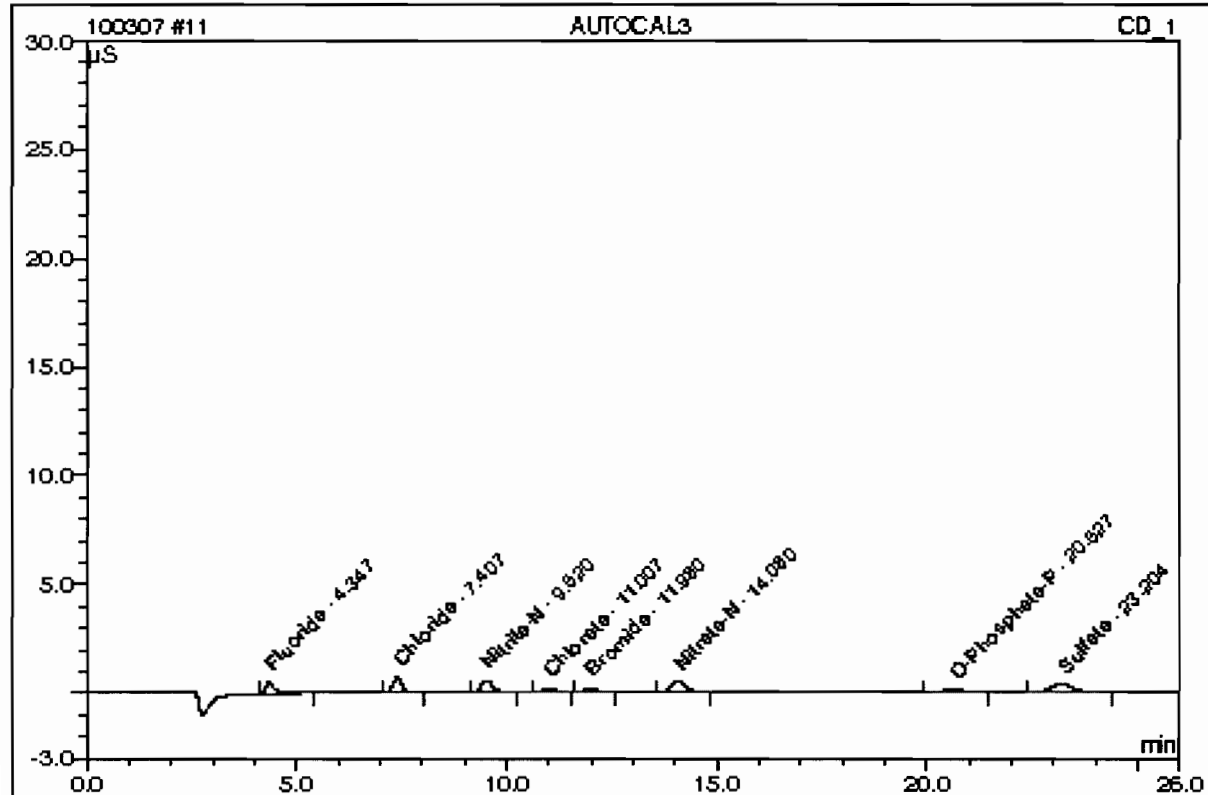
Sample Name:	AUTOCAL4	Injection Volume:	1.0
Vial Number:	6	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 15:38	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.34	Fluoride	0.5000	0.4893		0.24663	10.36
2	7.40	Chloride	1.0000	0.9971		0.34985	14.69
3	9.52	Nitrite-N	0.5000	0.4896		0.35700	14.99
4	11.01	Chlorate	1.0000	0.9843		0.13787	5.79
5	11.98	Bromide	1.0000	0.9852		0.15086	6.34
6	14.08	Nitrate-N	0.5000	0.4953		0.40975	17.21
7	20.63	O-Phosphate-P	1.0000	0.9197		0.22053	9.26
8	23.20	Sulfate	2.0000	2.0029		0.50858	21.36
Total:				7.3634	0.000	2.381	100.00

11 AUTOCAL3

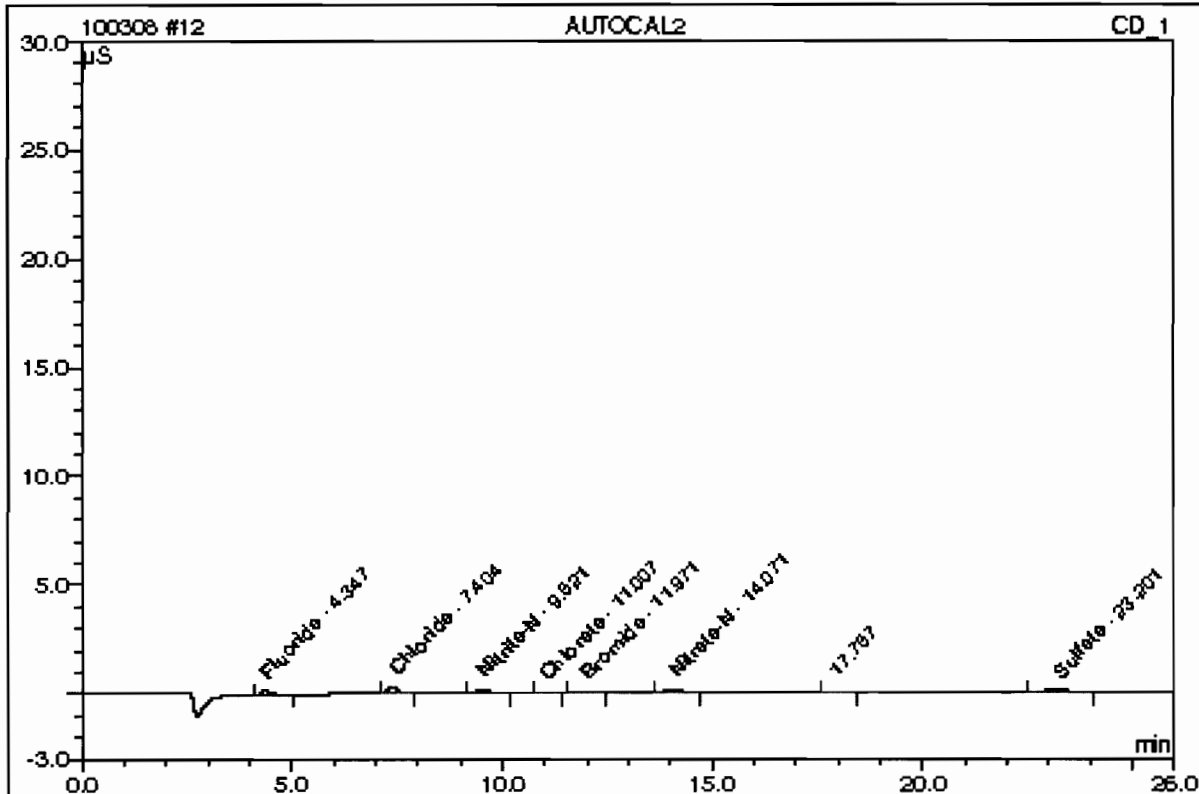
Sample Name:	AUTOCAL3	Injection Volume:	1.0
Vial Number:	7	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 16:07	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.35	Fluoride	0.2500	0.2826		0.12755	10.86
2	7.41	Chloride	0.5000	0.6142		0.18541	15.79
3	9.52	Nitrate-N	0.2500	0.2703		0.17315	14.75
4	11.01	Chlorate	0.5000	0.5046		0.06743	5.74
5	11.98	Bromide	0.5000	0.4768		0.07246	6.17
6	14.08	Nitrate-N	0.2500	0.2969		0.20912	17.81
7	20.63	O-Phosphate-P	0.5000	0.4301		0.08097	6.90
8	23.20	Sulfate	1.0000	1.1562		0.25806	21.98
Total:				4.0318	0.000	1.174	100.00

12 AUTOCAL2

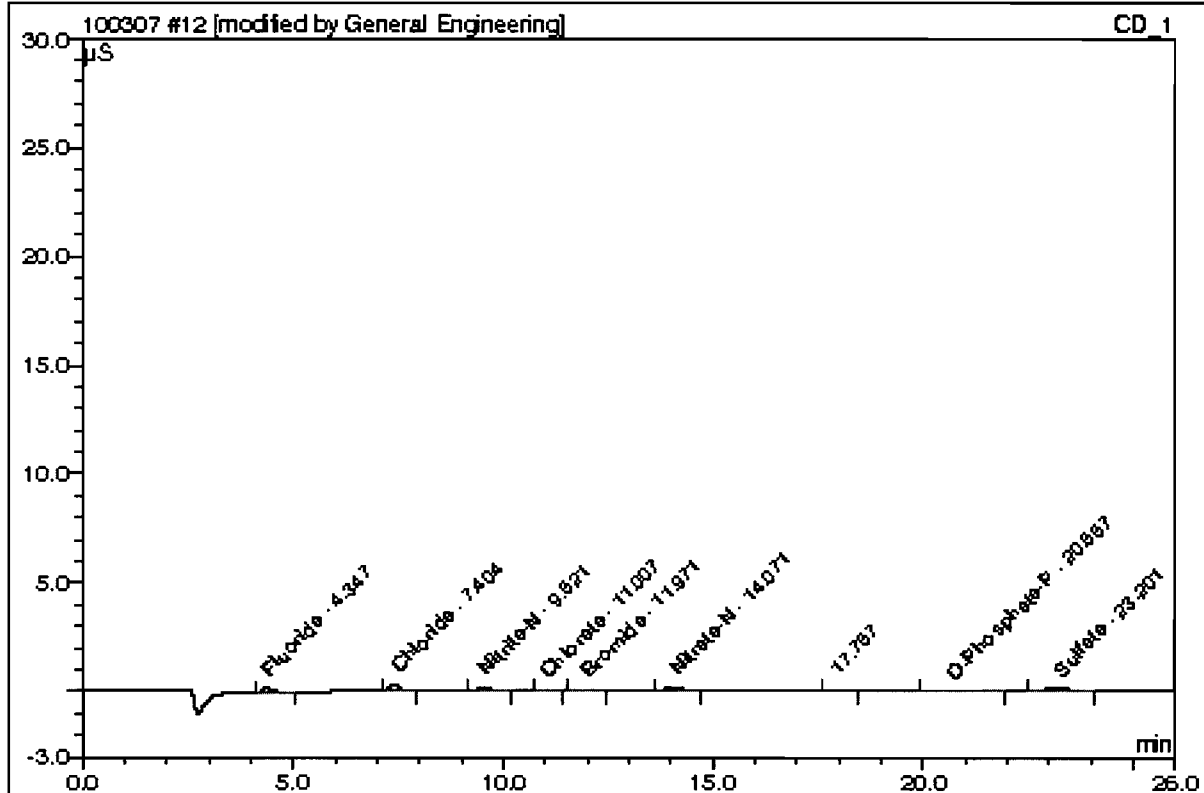
Sample Name:	AUTOCAL2	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 16:36	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.35	Fluoride	0.1000	0.1475		0.04972	10.74
2	7.40	Chloride	0.2000	0.3681		0.07973	17.22
3	9.52	Nitrite-N	0.1000	0.1444		0.06824	14.74
4	11.01	Chlorate	0.2000	0.1849		0.02108	4.55
5	11.97	Bromide	0.2000	0.1801		0.02821	6.10
6	14.07	Nitrate-N	0.1000	0.1840		0.09485	20.49
n.a.	n.a.	O-Phosphate-P	0.2000	n.a.	n.a.	n.a.	n.a.
8	23.20	Sulfate	0.4000	0.5652		0.10336	22.33
Total:				1.7742	0.000	0.445	96.18

12 AUTOCAL2

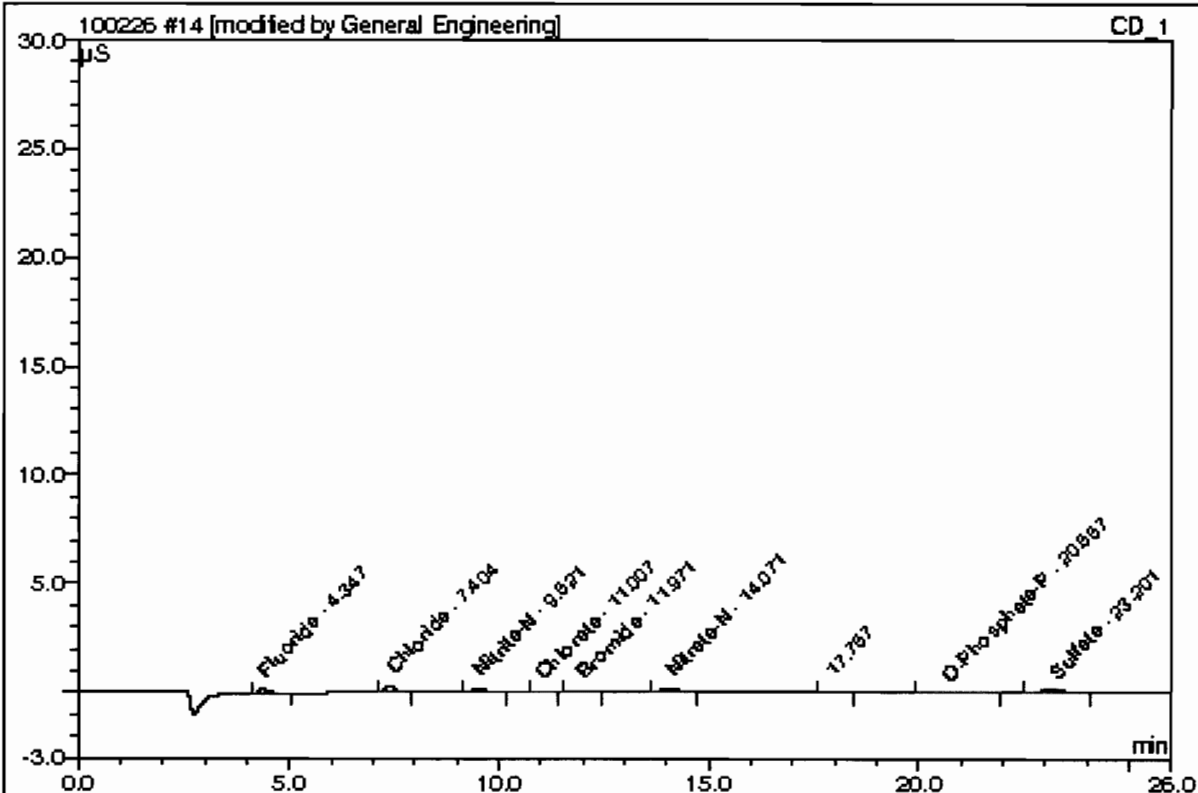
Sample Name:	AUTOCAL2	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 16:36	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.35	Fluoride	0.1000	0.1475		0.04972	10.26
2	7.40	Chloride	0.2000	0.3681		0.07973	16.45
3	9.52	Nitrite-N	0.1000	0.1452		0.06824	14.08
4	11.01	Chlorate	0.2000	0.1890		0.02108	4.35
5	11.97	Bromide	0.2000	0.1899		0.02821	5.82
6	14.07	Nitrate-N	0.1000	0.1840		0.09485	19.57
8	20.66	O-Phosphate-P	0.2000	0.2223		0.02173	4.48
9	23.20	Sulfate	0.4000	0.6333		0.10336	21.33
Total:				2.0793	0.000	0.467	96.35

14 AUTOCAL2

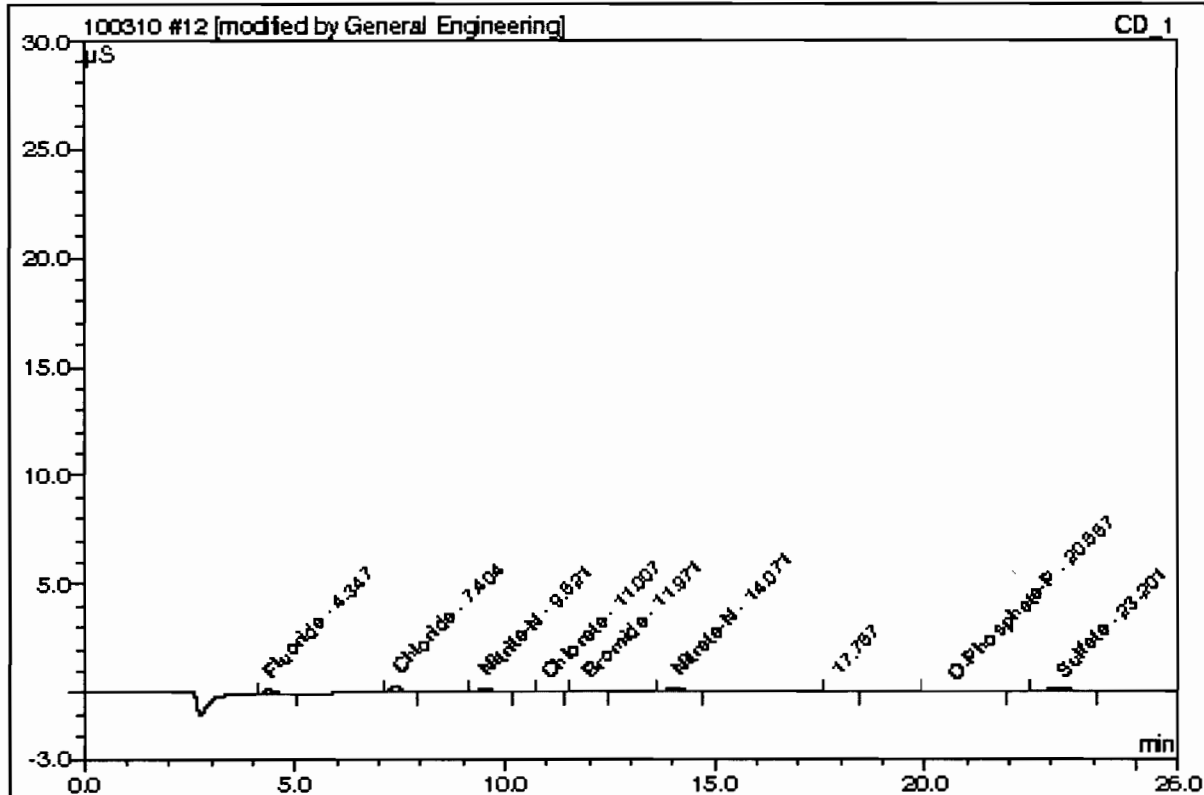
Sample Name:	AUTOCAL2	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 16:36	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.35	Fluoride	0.1000	0.1475		0.04972	10.26
2	7.40	Chloride	0.2000	0.3681		0.07973	16.45
3	9.52	Nitrite-N	0.1000	0.1452		0.06824	14.08
4	11.01	Chlorate	0.2000	0.1890		0.02108	4.35
5	11.97	Bromide	0.2000	0.1899		0.02821	5.82
6	14.07	Nitrate-N	0.1000	0.1840		0.09485	19.57
8	20.66	O-Phosphate-P	0.2000	0.2223		0.02173	4.48
9	23.20	Sulfate	0.4000	0.6333		0.10336	21.33
Total:				2.0793	0.000	0.467	96.35

12 AUTOCAL2

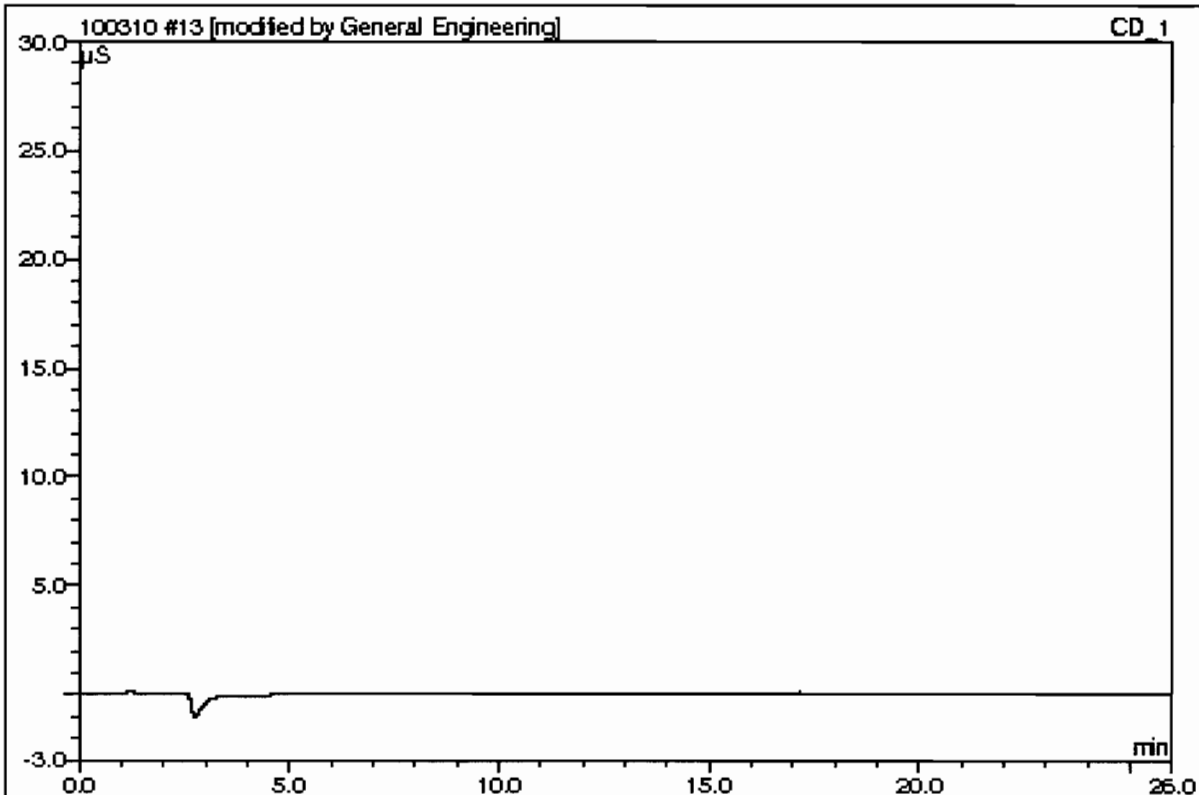
Sample Name:	AUTOCAL2	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 16:36	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.35	Fluoride	0.1000	0.1475		0.04972	10.26
2	7.40	Chloride	0.2000	0.3681		0.07973	16.45
3	9.52	Nitrite-N	0.1000	0.1452		0.06824	14.08
4	11.01	Chlorate	0.2000	0.1890		0.02108	4.35
5	11.97	Bromide	0.2000	0.1899		0.02821	5.82
6	14.07	Nitrate-N	0.1000	0.1840		0.09485	19.57
8	20.66	O-Phosphate-P	0.2000	0.2223		0.02173	4.48
9	23.20	Sulfate	0.4000	0.6333		0.10336	21.33
Total:				2.0793	0.000	0.467	96.35

13 AUTOCAL1

Sample Name:	AUTOCAL1	Injection Volume:	1.0
Vial Number:	9	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 17:04	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056

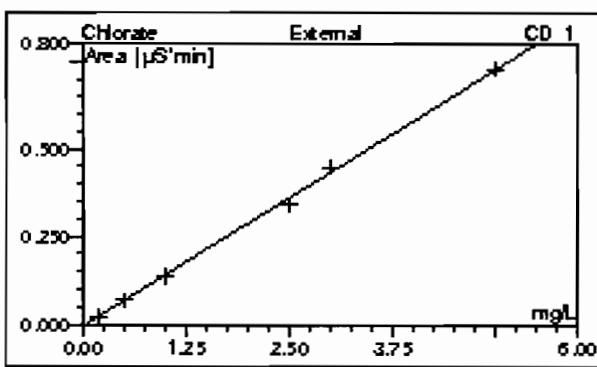
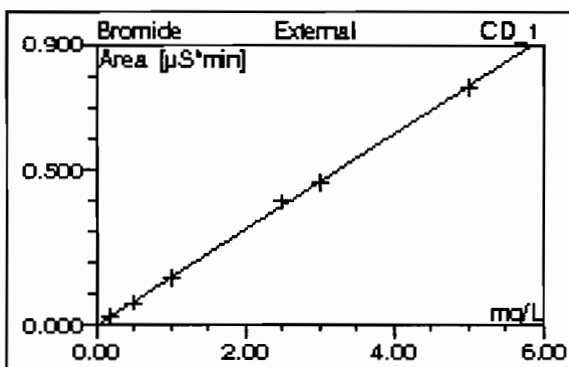
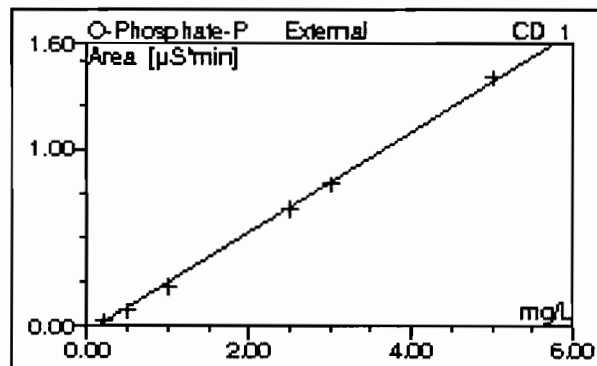
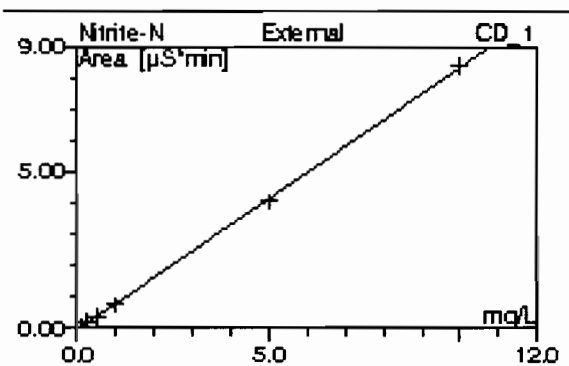
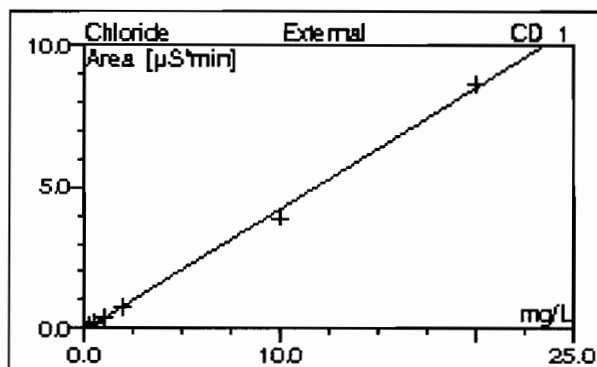
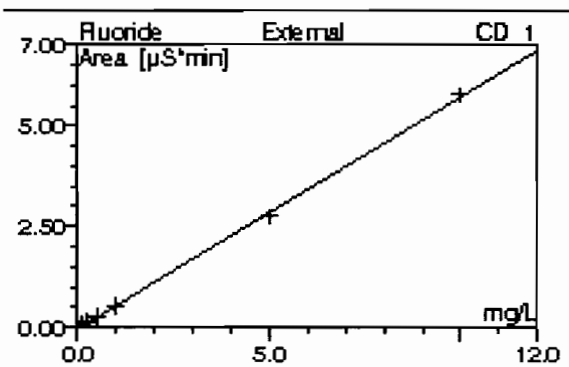


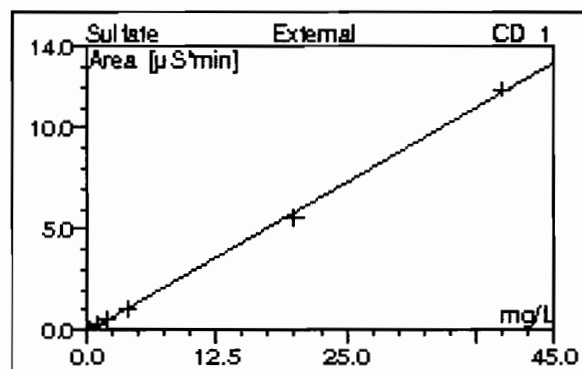
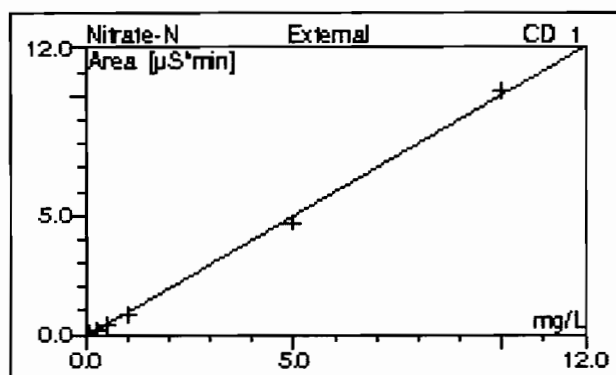
No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

13 AUTOCAL1

Sample Name: AUTOCAL1
Vial Number: 9
Sample Type: standard
Control Program: AS23
Quantif. Method: 100225an
Recording Time: 2/26/2010 17:04
Run Time (min): 26.00

Injection Volume: 1.0
Channel: CD_1
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000
Analyst: MAR1
Column: AS23-002712; GL GCED86;300;9056

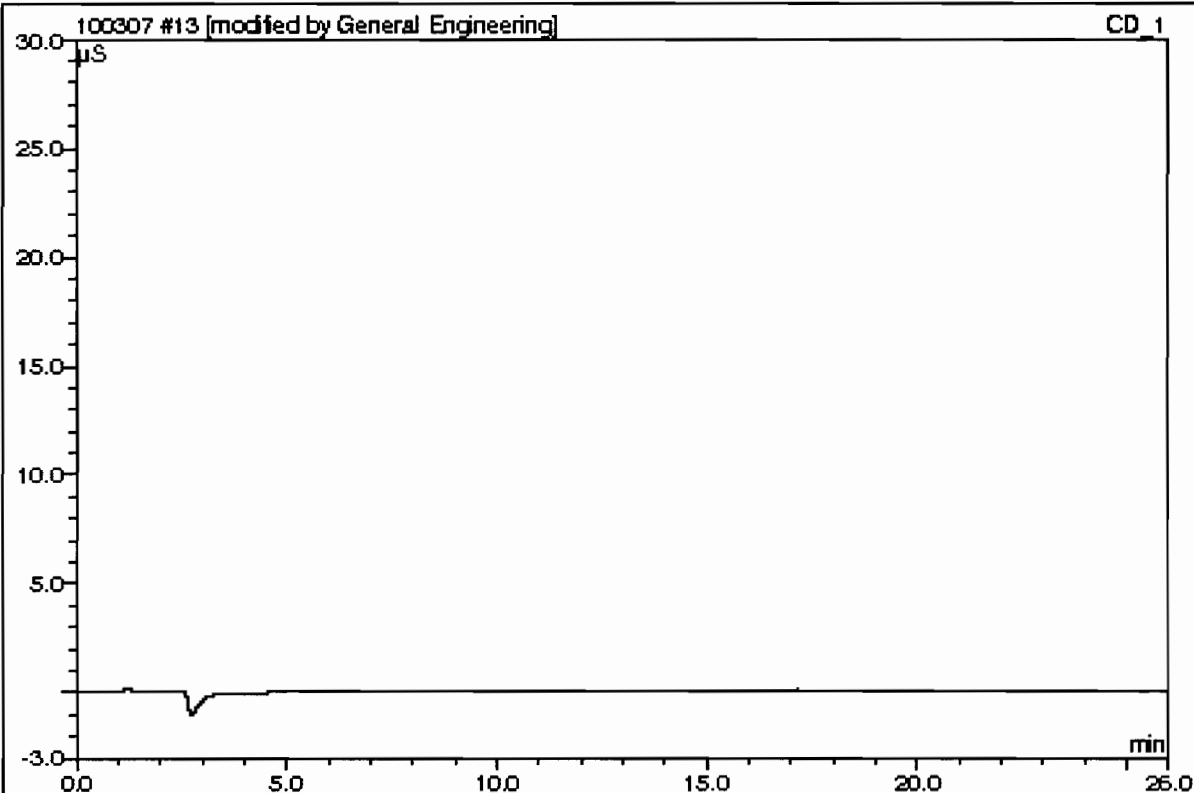




No. CD_1	Ret.Time CD_1 min	Peak Name CD_1	Cal.Type CD_1	Coeff.Det. CD_1 %	Offset CD_1	Slope CD_1	Curve CD_1
n.a.	n.a.	Fluoride	OLO#	99.9498	-0.0352	0.5760	0.0000
n.a.	n.a.	Chloride	OLO#	99.7865	-0.0783	0.4294	0.0000
n.a.	n.a.	Nitrite-N	OLO#	99.9694	-0.0536	0.8366	0.0000
n.a.	n.a.	Chlorate	OLO#	99.8345	-0.0067	0.1468	0.0000
n.a.	n.a.	Bromide	OLO#	99.9472	-0.0011	0.1542	0.0000
n.a.	n.a.	Nitrate-N	OLO#	99.8450	-0.0913	1.0116	0.0000
n.a.	n.a.	O-Phosphate-P	OLO#	99.8794	-0.0416	0.2851	0.0000
n.a.	n.a.	Sulfate	OLO#	99.8991	-0.0840	0.2959	0.0000
Average:				99.8889	-0.0490	0.4672	0.0000

13 AUTOCAL1

Sample Name:	AUTOCAL1	Injection Volume:	1.0
Vial Number:	9	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 17:04	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



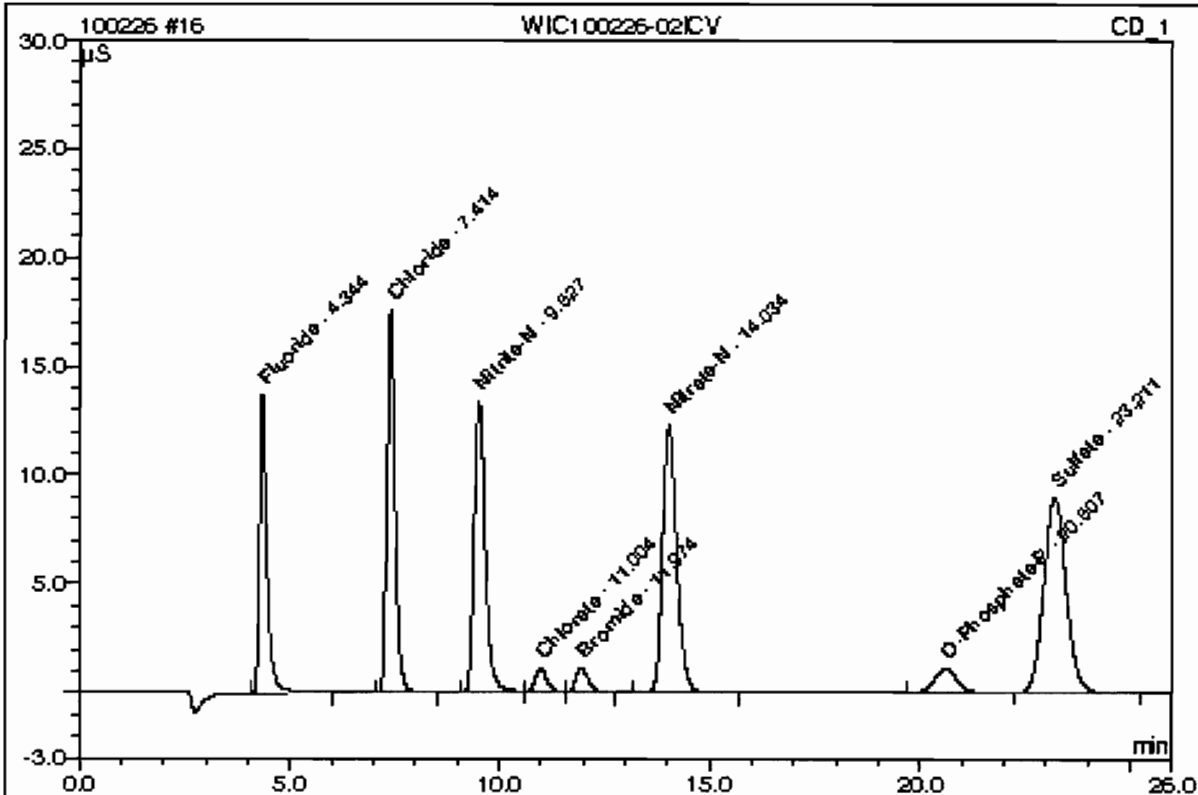
No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area $\mu\text{S} \cdot \text{min}$	Rel. Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 100226.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	02/26/10 13:14		1	100226	MAR1
BLK	02/26/10 13:42		1	100226	MAR1
ICAL-07	02/26/10 14:11		1	100226	MAR1
ICAL-06	02/26/10 14:40		1	100226	MAR1
ICAL-05	02/26/10 15:09		1	100226	MAR1
ICAL-04	02/26/10 15:38		1	100226	MAR1
ICAL-03	02/26/10 16:07		1	100226	MAR1
ICAL-02	02/26/10 16:36		1	100226	MAR1
ICAL-01	02/26/10 17:04		1	100226	MAR1
ICV	02/26/10 17:33		1	100226	MAR1
ICB	02/26/10 18:02		1	100226	MAR1
1202055176	02/26/10 18:31	958323	1	100226	MAR1
1202055181	02/26/10 18:59	958323	1	100226	MAR1
248133001	02/26/10 19:28	958323	1	100226	MAR1
1202055177	02/26/10 19:57	958323	1	100226	MAR1
1202055179	02/26/10 20:26	958323	1	100226	MAR1
248133002	02/26/10 20:55	958323	1	100226	MAR1
248133003	02/26/10 21:24	958323	1	100226	MAR1
248133005	02/26/10 21:53	958323	1	100226	MAR1
248133006	02/26/10 22:22	958323	1	100226	MAR1
248133007	02/26/10 22:50	958323	1	100226	MAR1
CVH	02/26/10 23:19		1	100226	MAR1
CCB	02/26/10 23:48		1	100226	MAR1

16 WIC100226-02ICV

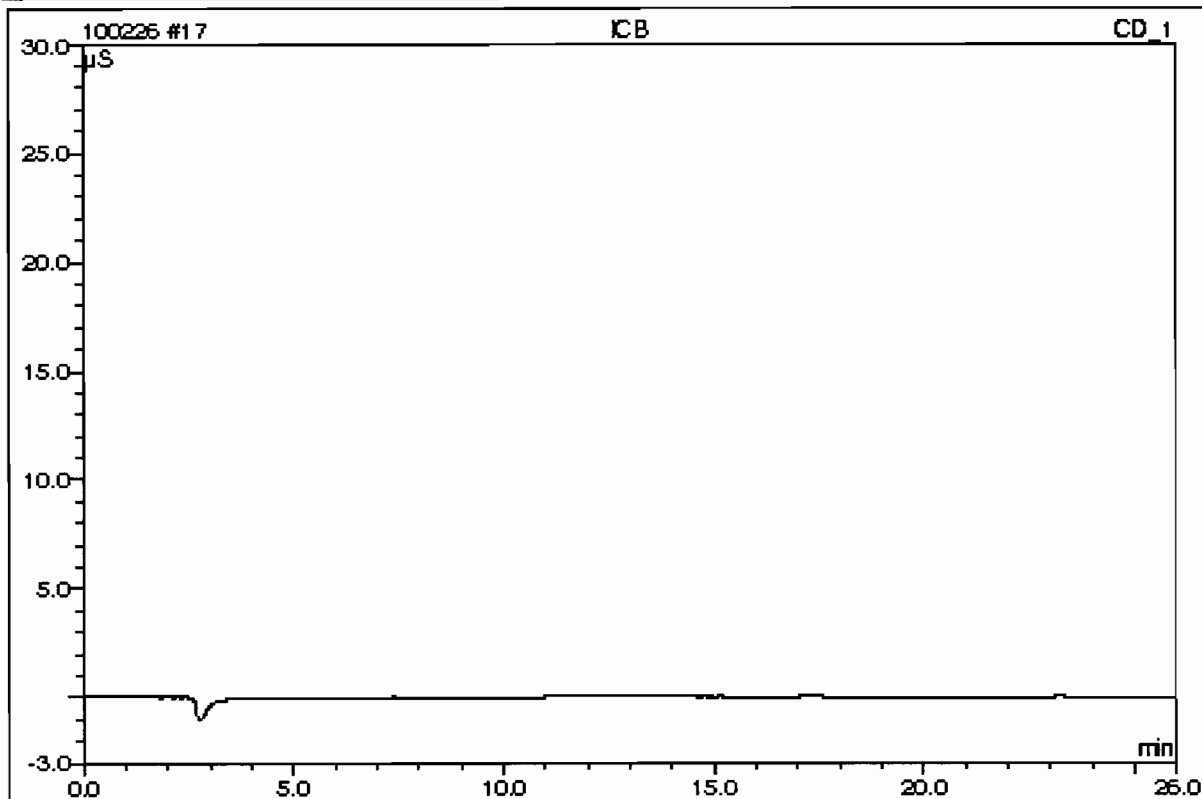
Sample Name:	WIC100226-02ICV	Injection Volume:	1.0
Vial Number:	10	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 17:33	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel. Area %
1	4.34	Fluoride	n.a.	4.8533		2.76044	12.27
2	7.41	Chloride	n.a.	9.4181		3.96602	17.63
3	9.53	Nitrate-N	n.a.	4.8245		3.99229	17.75
4	11.00	Chlorate	n.a.	2.4815		0.35771	1.59
5	11.97	Bromide	n.a.	2.4889		0.36276	1.70
6	14.03	Nitrate-N	n.a.	4.7766		4.74087	21.07
7	20.61	O-Phosphate-P	n.a.	2.7182		0.73321	3.26
8	23.21	Sulfate	n.a.	19.0842		5.56215	24.73
Total:				50.6453	0.000	22.495	100.00

17 ICB

Sample Name:	ICB	Injection Volume:	1.0
Vial Number:	11	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	2/26/2010 18:02	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



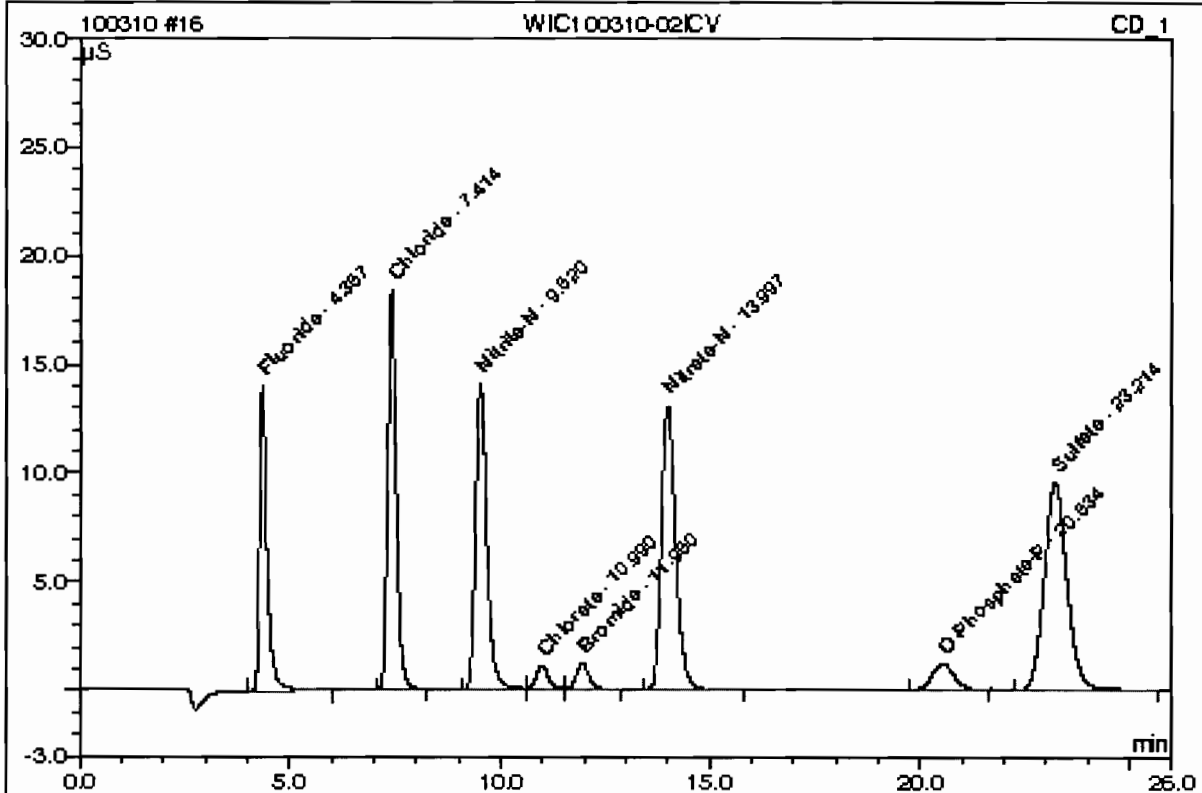
No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 100310.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	03/10/10 10:40		1	100310	MAR1
BLK	03/10/10 11:08		1	100310	MAR1
ICV	03/10/10 11:37		1	100310	MAR1
ICB	03/10/10 12:06		1	100310	MAR1
1202054065	03/10/10 12:35	957881	1	100310	GXM3
1202054072	03/10/10 13:04	957881	1	100310	GXM3
247546004	03/10/10 13:33	957881	1	100310	GXM3
1202054066	03/10/10 14:02	957881	1	100310	GXM3
1202054068	03/10/10 14:31	957881	1	100310	GXM3
1202054070	03/10/10 15:00	957881	1	100310	GXM3
247551001	03/10/10 15:29	957881	1	100310	MAR1
247551002	03/10/10 15:57	957881	1	100310	MAR1
247790002	03/10/10 16:26	957881	1	100310	MAR1
247790003	03/10/10 16:55	957881	1	100310	MAR1
CVH	03/10/10 17:24		1	100310	MAR1
CCB	03/10/10 17:53		1	100310	MAR1
247794001	03/10/10 18:22	957881	1	100310	MAR1
247794002	03/10/10 18:51	957881	1	100310	MAR1
247794003	03/10/10 19:20	957881	1	100310	MAR1
247794004	03/10/10 19:49	957881	1	100310	MAR1
247794005	03/10/10 20:18	957881	1	100310	MAR1
247822001	03/10/10 20:46	957881	1	100310	MAR1
247822002	03/10/10 21:15	957881	1	100310	MAR1
247822003	03/10/10 21:44	957881	1	100310	MAR1
247822004	03/10/10 22:13	957881	1	100310	MAR1
247822005	03/10/10 22:42	957881	1	100310	MAR1
CCV	03/10/10 23:11		1	100310	MAR1
CCB	03/10/10 23:40		1	100310	MAR1

16 WIC100310-02ICV

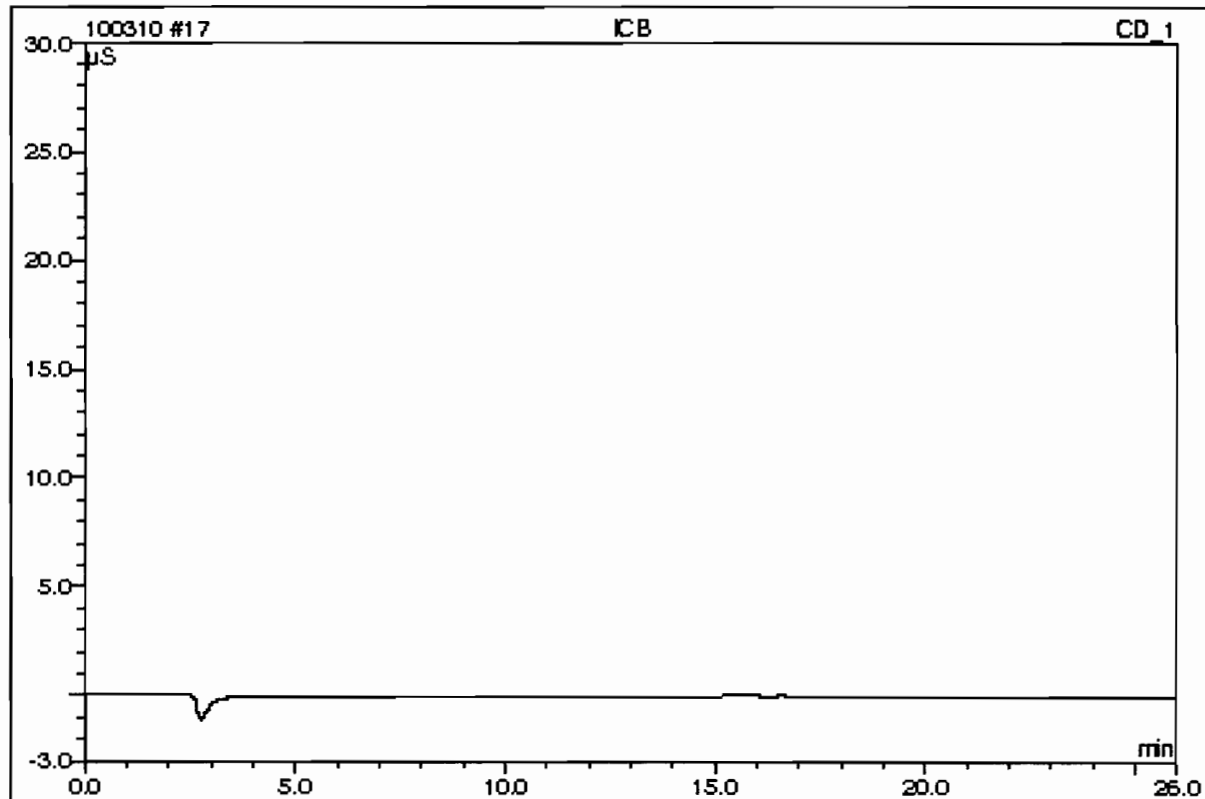
Sample Name:	WIC100310-02ICV	Injection Volume:	1.0
Vial Number:	3	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 11:37	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.36	Fluoride	n.a.	5.2152		2.96892	12.18
2	7.41	Chloride	n.a.	10.1363		4.27442	17.53
3	9.52	Nitrite-N	n.a.	5.1895		4.29844	17.63
4	10.99	Chlorate	n.a.	2.6073		0.37617	1.54
5	11.95	Bromide	n.a.	2.8530		0.43891	1.80
6	14.00	Nitrate-N	n.a.	5.1832		5.15223	21.13
7	20.53	O-Phosphate-P	n.a.	2.8401		0.76797	3.15
8	23.21	Sulfate	n.a.	20.9195		6.10515	25.04
Total:				54.9442	0.000	24.382	100.00

17 ICB

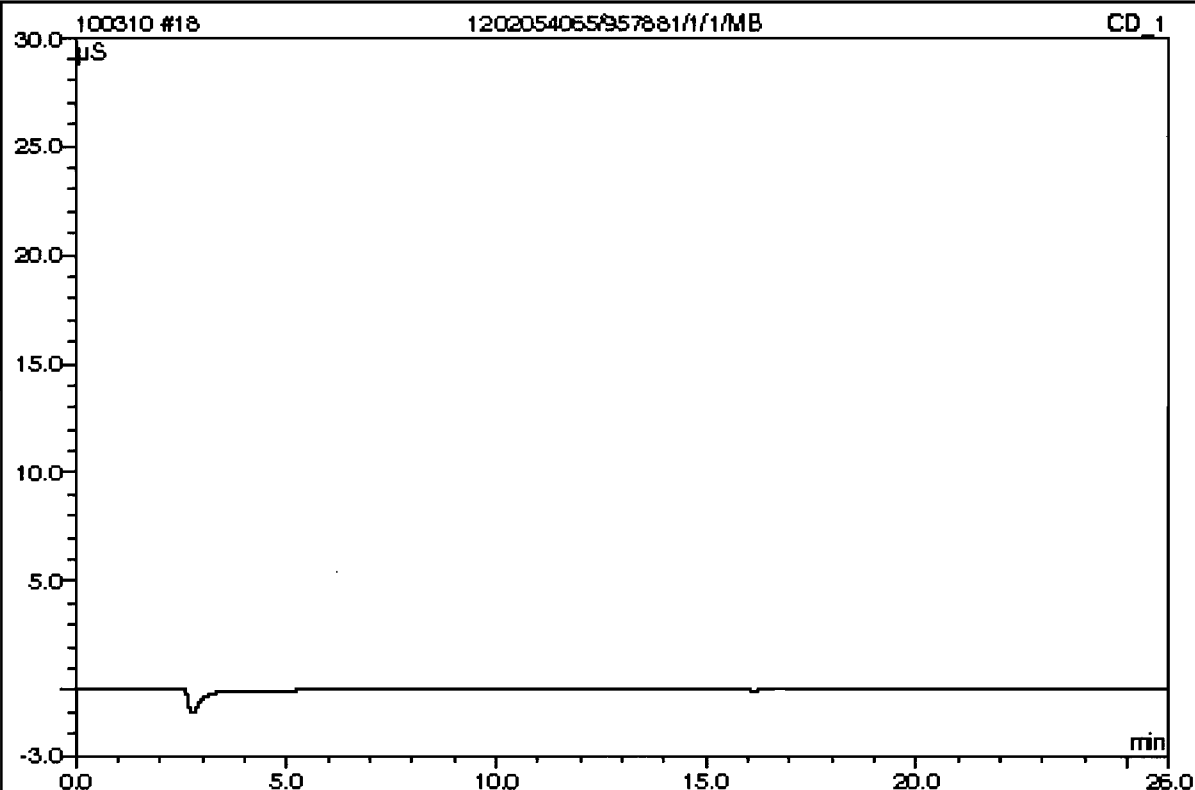
Sample Name:	ICB	Injection Volume:	1.0
Vial Number:	4	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 12:06	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GLGCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
Total:				0.0000	0.000	0.000	0.00

18 1202054065/957881/1/1/MB

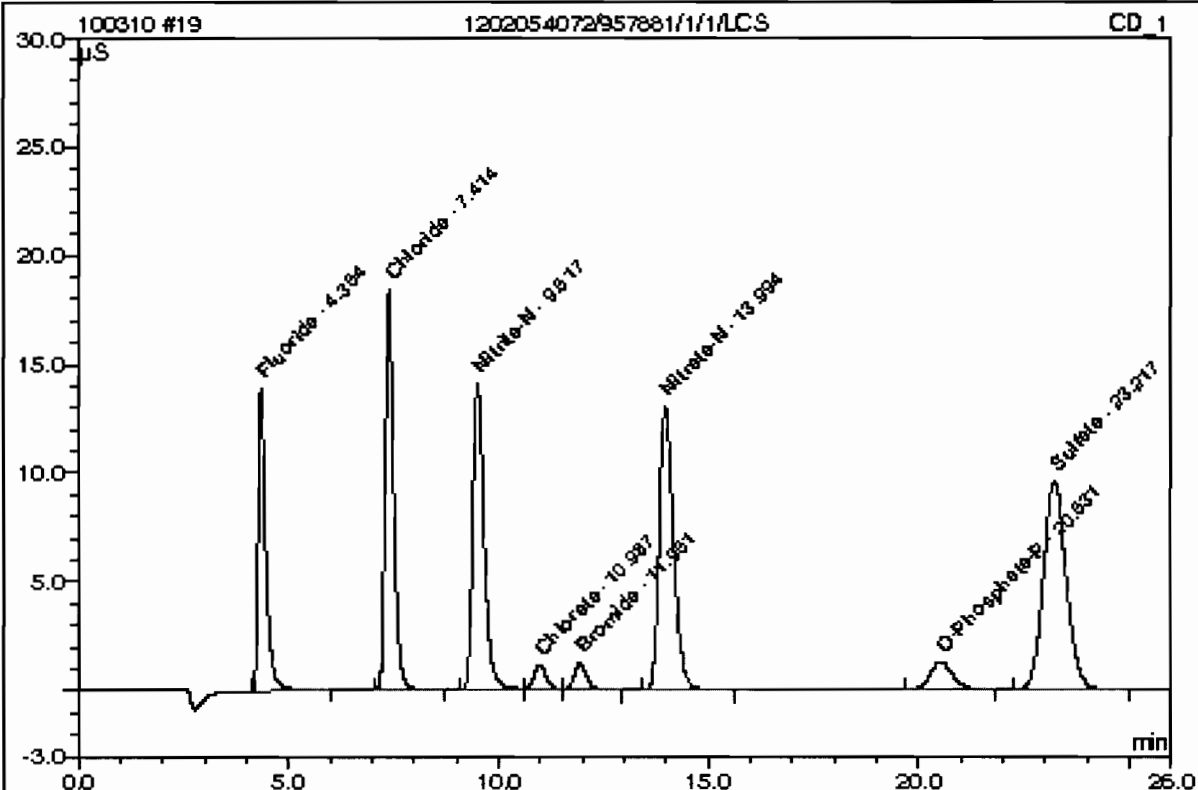
Sample Name:	1202054065/957881/1/1/MB	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 12:35	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

19 1202054072/957881/1/1/LCS

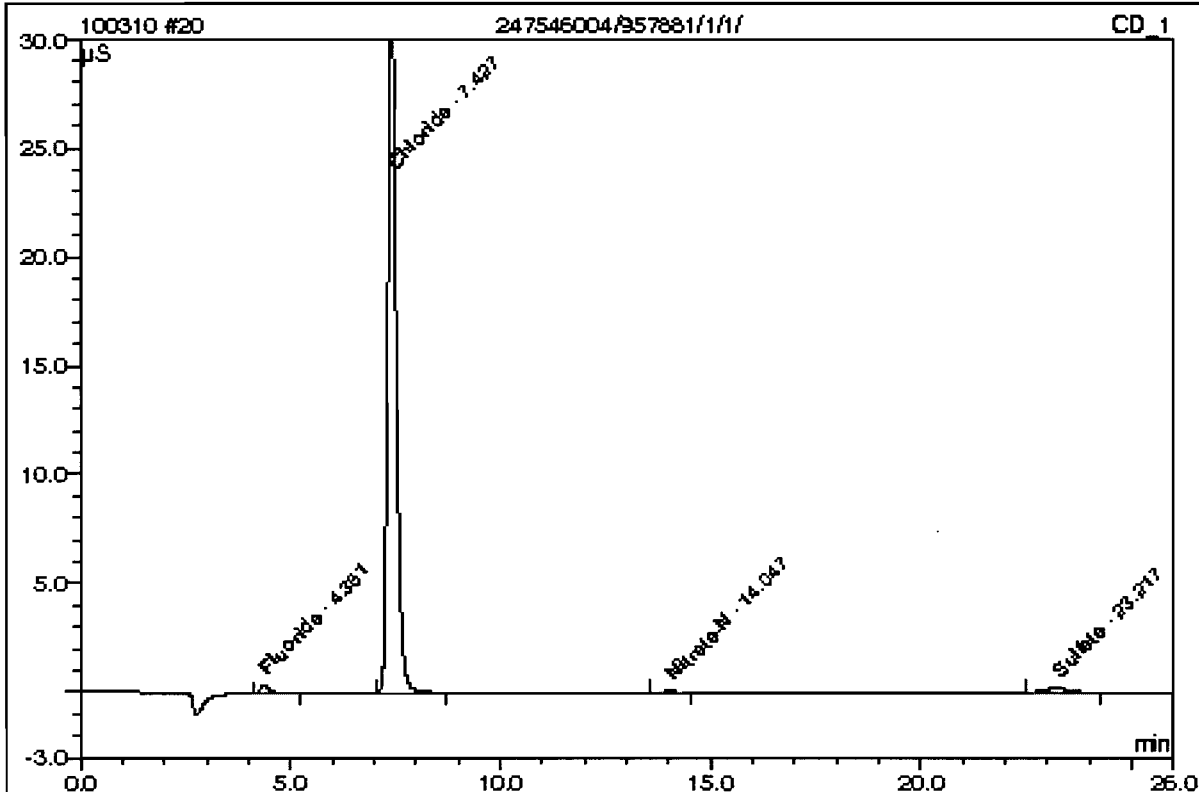
Sample Name:	1202054072/957881/1/1/LCS	Injection Volume:	1.0
Vial Number:	6	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 13:04	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.35	Fluoride	n.a.	5.1956		2.95761	12.15
2	7.41	Chloride	n.a.	10.2070		4.30476	17.68
3	9.52	Nitrite-N	n.a.	5.2151		4.31991	17.74
4	10.99	Chlorate	n.a.	2.6718		0.38565	1.58
5	11.95	Bromide	n.a.	2.7158		0.41774	1.72
6	13.99	Nitrate-N	n.a.	5.1788		5.14778	21.14
7	20.53	O-Phosphate-P	n.a.	2.8617		0.77413	3.18
8	23.22	Sulfate	n.a.	20.6913		6.03764	24.80
Total:				54.7372	0.000	24.345	100.00

20 247546004/957881/1/1/

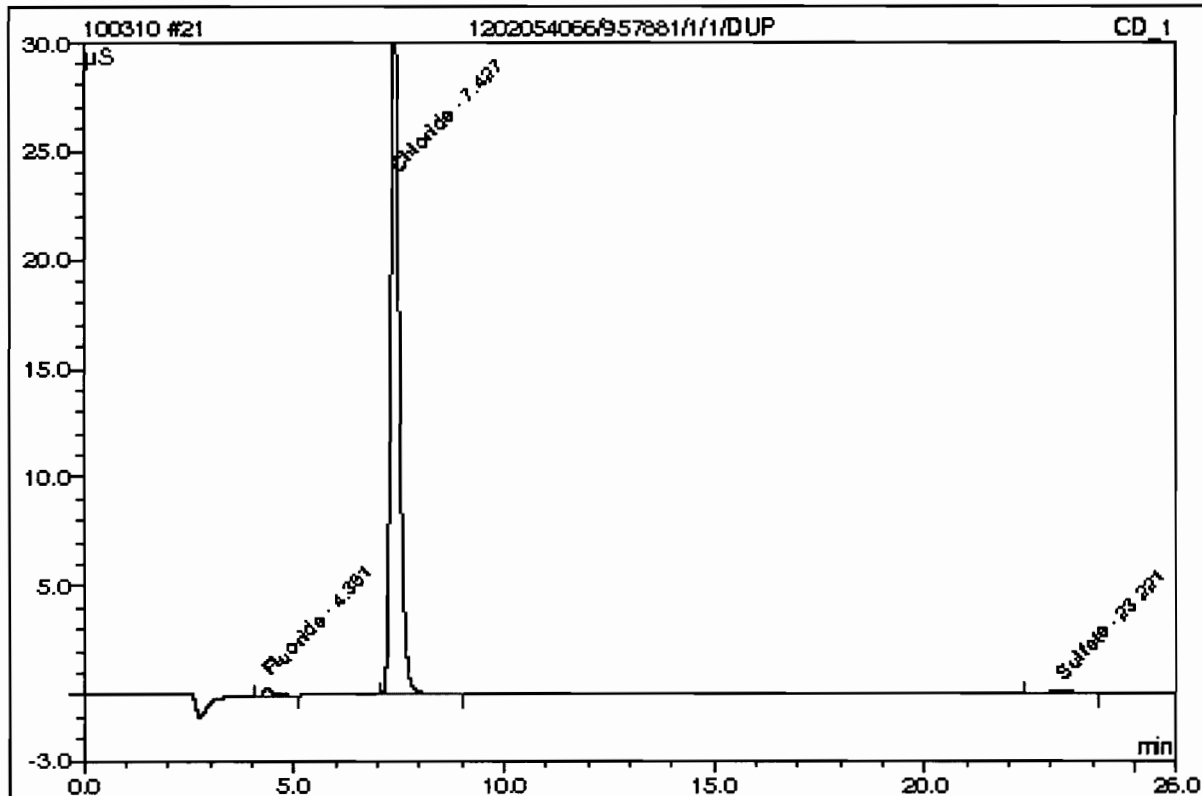
Sample Name:	247546004/957881/1/1/	Injection Volume:	1.0
Vial Number:	7	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 13:33	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.36	Fluoride	n.a.	0.2159		0.08916	1.16
2	7.43	Chloride	n.a.	17.6481		7.50014	97.19
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	14.05	Nitrate-N	n.a.	0.1051		0.01505	0.19
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	23.22	Sulfate	n.a.	0.6646		0.11264	1.46
Total:				18.6337	0.000	7.717	100.00

21 1202054066/957881/1/1/DUP

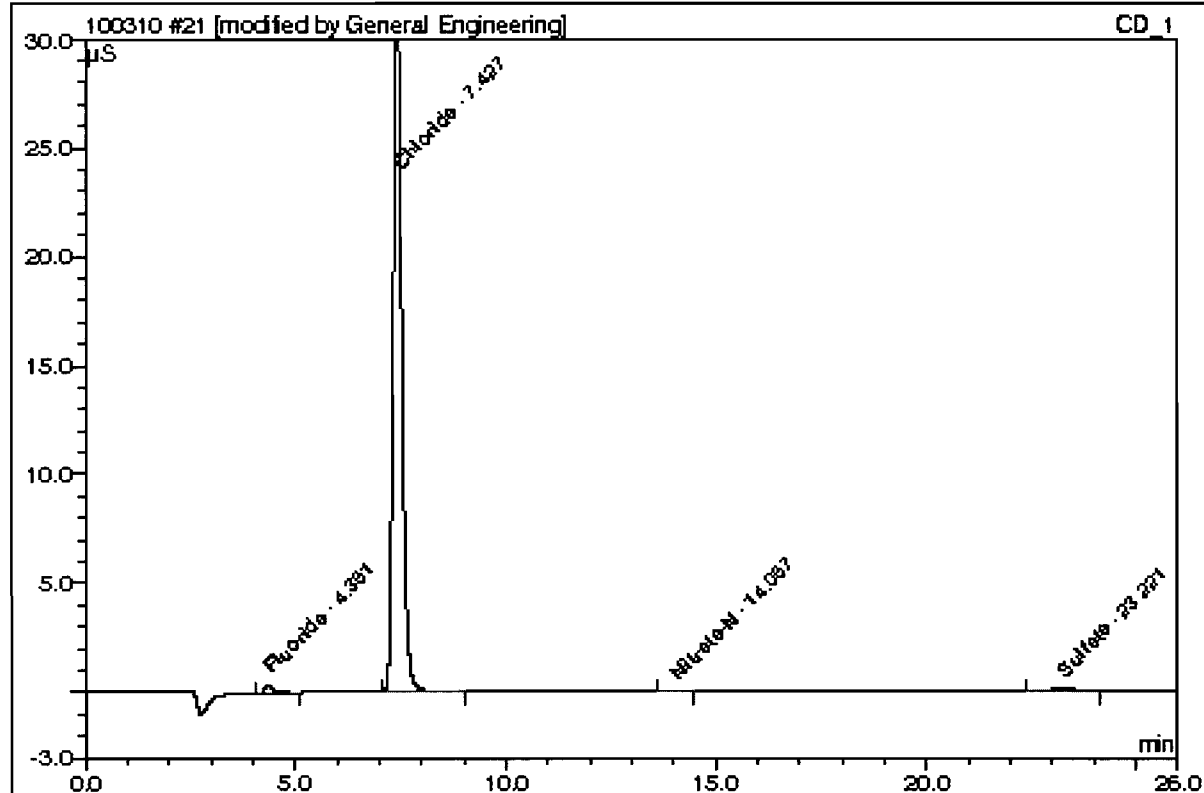
Sample Name:	1202054066/957881/1/1/DUP	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 14:02	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.36	Fluoride	n.a.	0.2135		0.08773	1.12
2	7.43	Chloride	n.a.	17.9332		7.62259	97.47
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
3	23.22	Sulfate	n.a.	0.6567		0.11029	1.41
Total:				18.8034	0.000	7.821	100.00

21 1202054066/957881/1/1/DUP

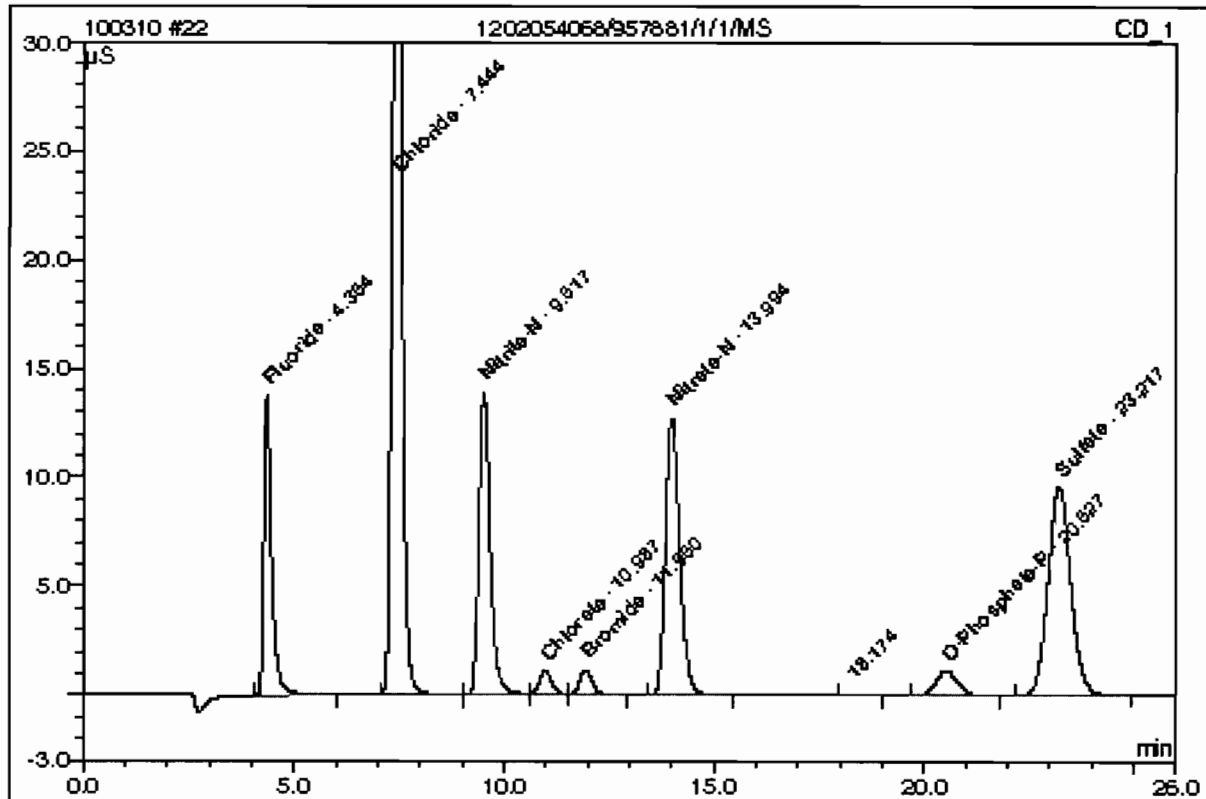
Sample Name:	1202054066/957881/1/1/DUP	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 14:02	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.36	Fluoride	n.a.	0.2135		0.08773	1.12
2	7.43	Chloride	n.a.	17.9332		7.62259	97.30
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	14.06	Nitrate-N	n.a.	0.1035		0.01341	0.17
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	23.22	Sulfate	n.a.	0.6567		0.11029	1.41
Total:				18.9069	0.000	7.834	100.00

22 1202054068/957881/1/1/MS

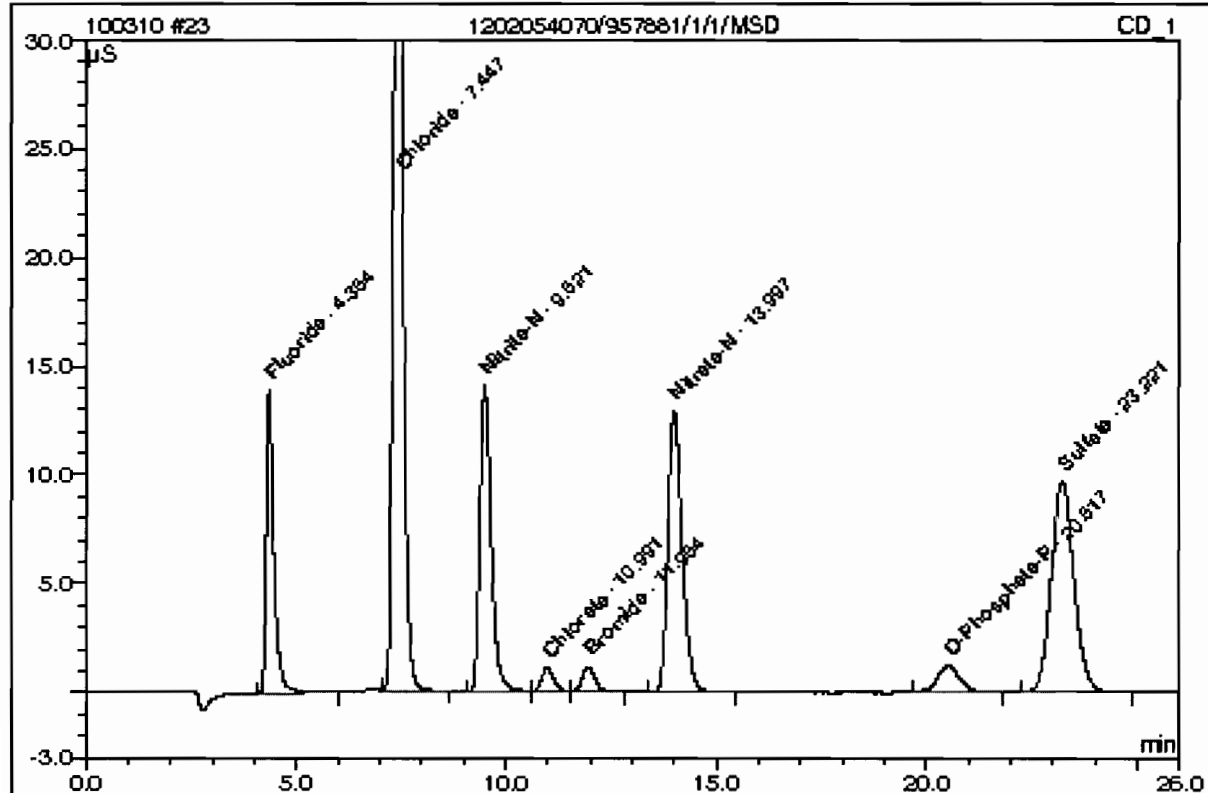
Sample Name:	1202054068/957881/1/1/MS	Injection Volume:	1.0
Vial Number:	9	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 14:31	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.35	Fluoride	n.a.	5.2028		2.96177	9.06
2	7.44	Chloride	n.a.	30.1685		12.87667	39.38
3	9.52	Nitrite-N	n.a.	5.1519		4.26687	13.05
4	10.99	Chlorate	n.a.	2.6707		0.38548	1.18
5	11.95	Bromide	n.a.	2.6694		0.41060	1.26
6	13.99	Nitrate-N	n.a.	5.0508		5.01825	15.35
8	20.53	O-Phosphate-P	n.a.	2.6336		0.70910	2.17
9	23.22	Sulfate	n.a.	20.7415		6.05247	18.51
Total:				74.2891	0.000	32.681	99.95

23 1202054070/957881/1/1/MSD

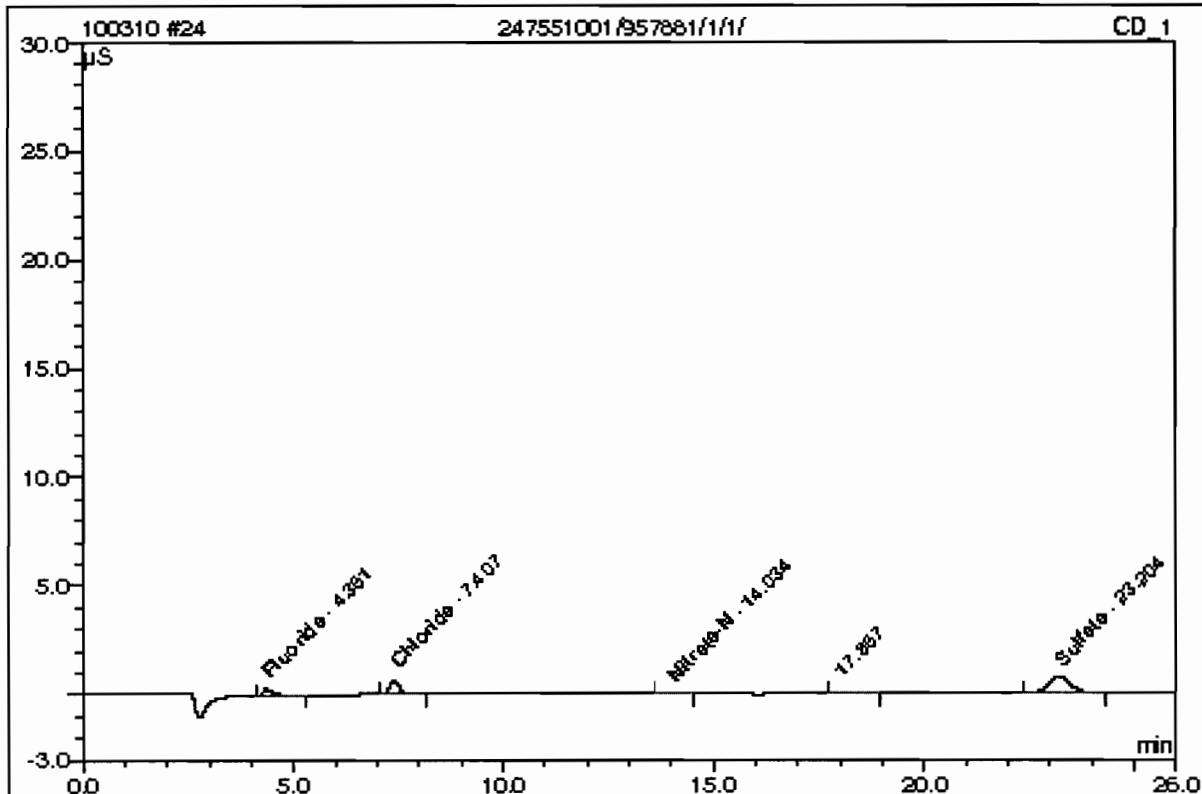
Sample Name:	1202054070/957881/1/1/MSD	Injection Volume:	1.0
Vial Number:	10	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 15:00	Analyst:	GXM3
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9058



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area μS*min	Rel. Area %
1	4.35	Fluoride	n.a.	5.2608		2.99521	9.05
2	7.45	Chloride	n.a.	30.5554		13.04285	39.41
3	9.52	Nitrate-N	n.a.	5.1947		4.30275	13.00
4	10.99	Chlorate	n.a.	2.6083		0.37632	1.14
5	11.95	Bromide	n.a.	2.6340		0.40514	1.22
6	14.00	Nitrate-N	n.a.	5.1217		5.09001	15.38
7	20.52	O-Phosphate-P	n.a.	2.8533		0.77173	2.33
8	23.22	Sulfate	n.a.	20.9331		6.10915	18.46
Total:				75.1614	0.000	33.093	100.00

24 247551001/957881/1/1/

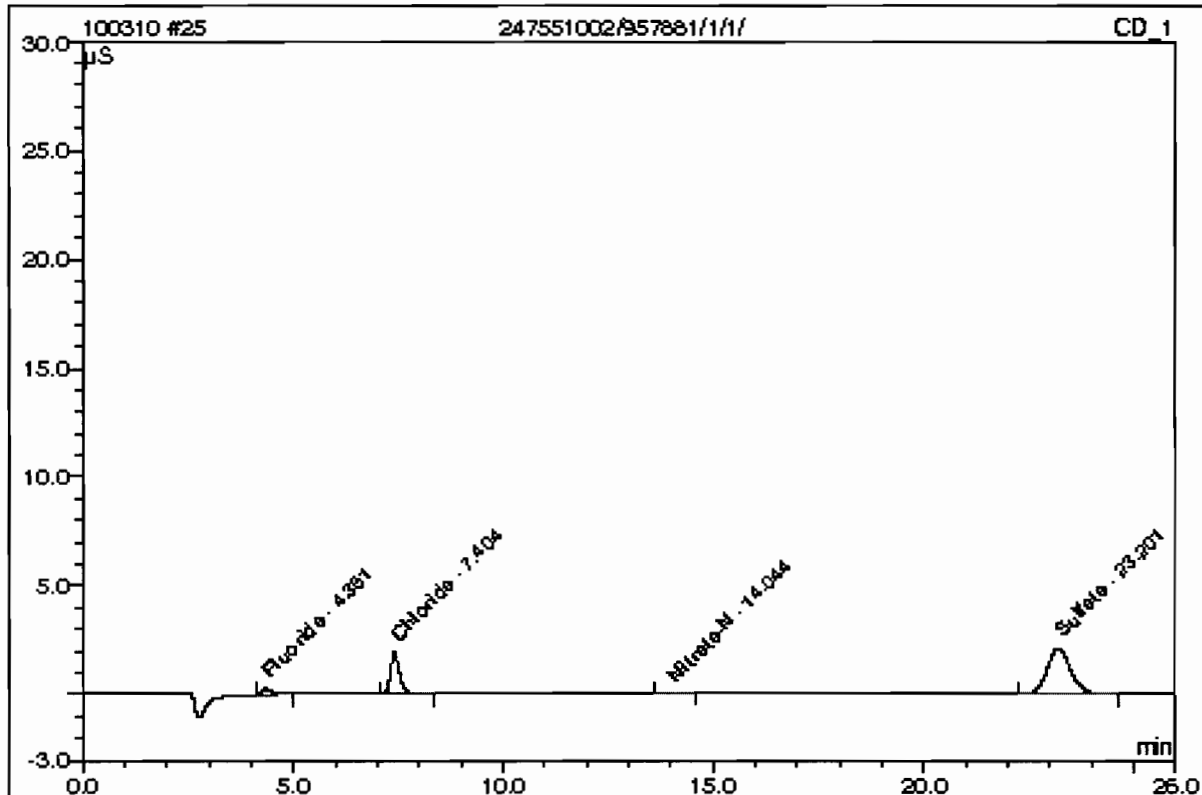
Sample Name:	247551001/957881/1/1/	Injection Volume:	1.0
Vial Number:	11	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 15:29	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.36	Fluoride	n.a.	0.1899		0.07413	9.12
2	7.41	Chloride	n.a.	0.5891		0.17462	21.49
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	14.03	Nitrate-N	n.a.	0.1122		0.02223	2.74
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
5	23.20	Sulfate	n.a.	1.9928		0.50559	62.21
Total:				2.8840	0.000	0.777	95.55

25 247551002/957881/1/1/

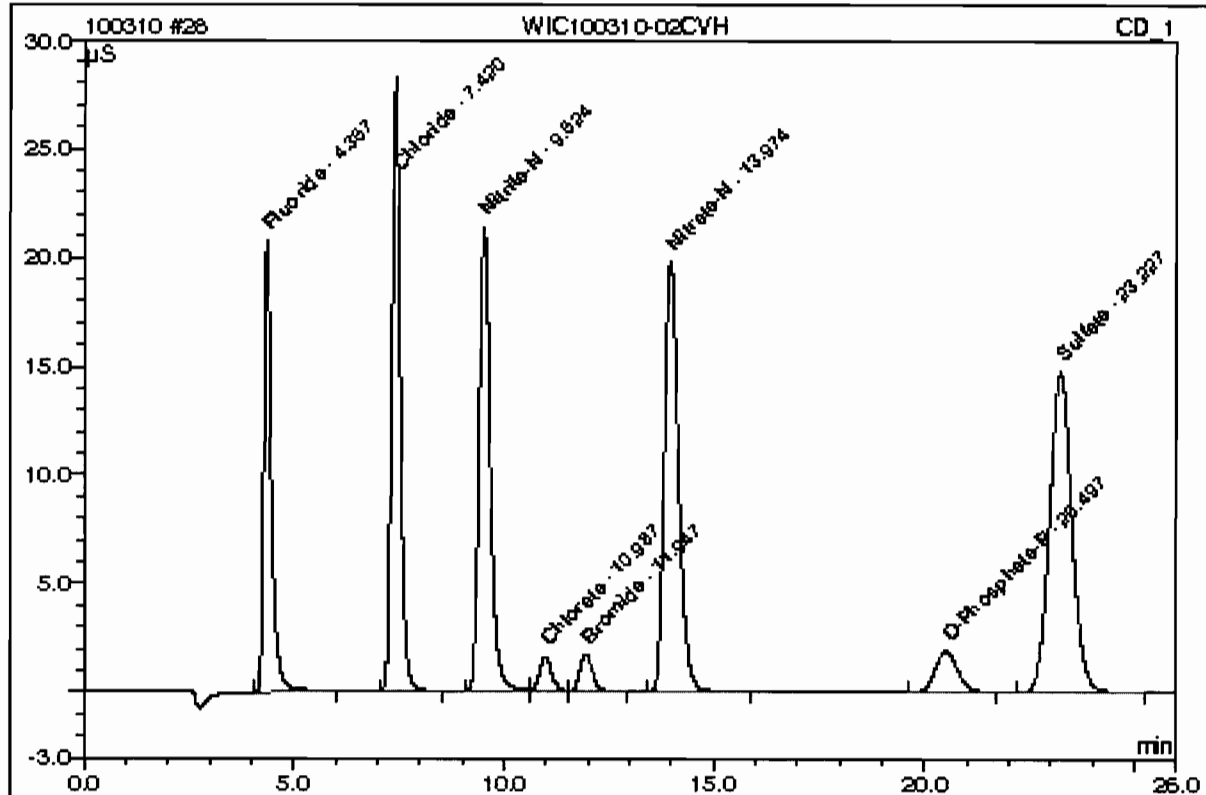
Sample Name:	247551002/957881/1/1/	Injection Volume:	1.0
Vial Number:	12	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 15:57	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.36	Fluoride	n.a.	0.1732		0.06454	3.37
2	7.40	Chloride	n.a.	1.2671		0.46579	24.31
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	14.04	Nitrate-N	n.a.	0.1060		0.01592	0.83
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
4	23.20	Sulfate	n.a.	4.9150		1.37013	71.50
Total:				6.4613	0.000	1.916	100.00

28 WIC100310-02CVH

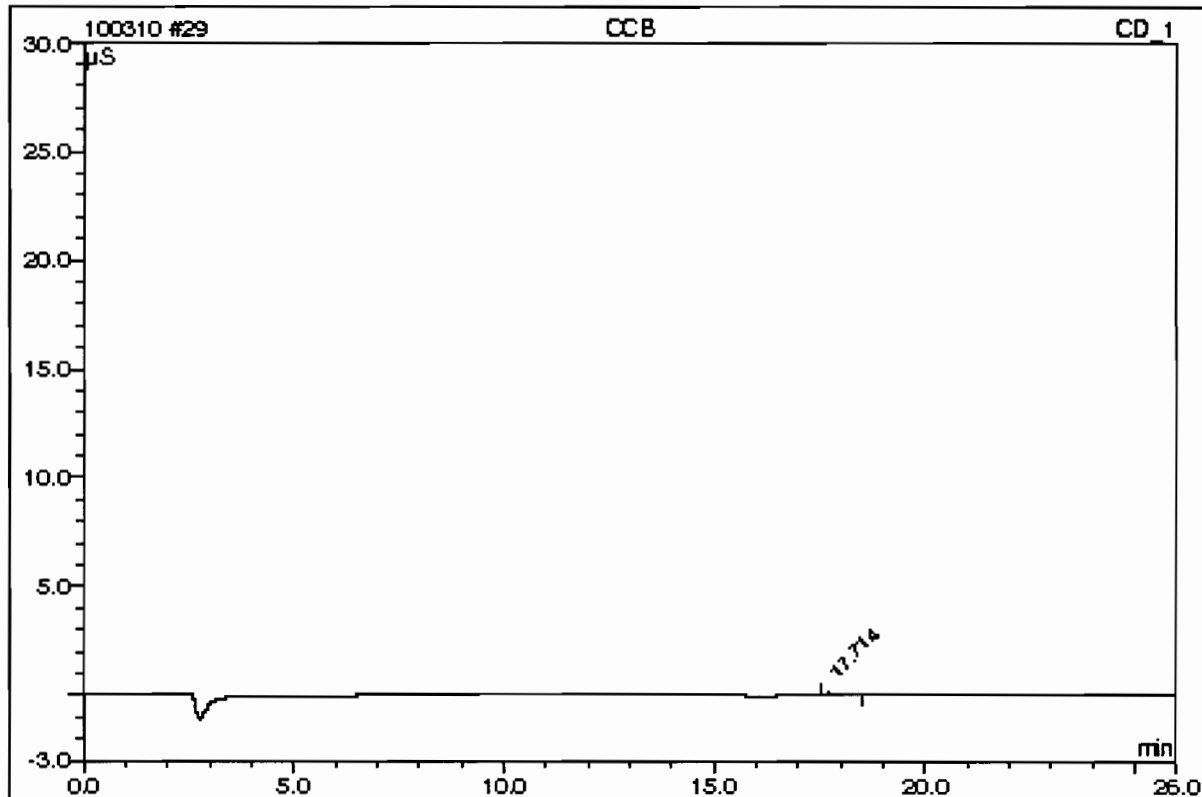
Sample Name:	WIC100310-02CVH	Injection Volume:	1.0
Vial Number:	15	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 17:24	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.36	Fluoride	n.a.	7.7556		4.43230	12.00
2	7.42	Chloride	n.a.	15.5459		6.59740	17.86
3	9.52	Nitrate-N	n.a.	7.8454		6.52566	17.66
4	10.99	Chlorate	n.a.	3.8324		0.55605	1.51
5	11.95	Bromide	n.a.	3.9159		0.60282	1.63
6	13.97	Nitrate-N	n.a.	7.8416		7.84154	21.23
7	20.50	O-Phosphate-P	n.a.	4.2024		1.15629	3.13
8	23.23	Sulfate	n.a.	31.4879		9.23186	24.99
Total:				82.4270	0.000	36.944	100.00

29 CCB

Sample Name:	CCB	Injection Volume:	1.0
Vial Number:	16	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100225an	Sample Amount:	1.0000
Recording Time:	3/10/2010 17:53	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056



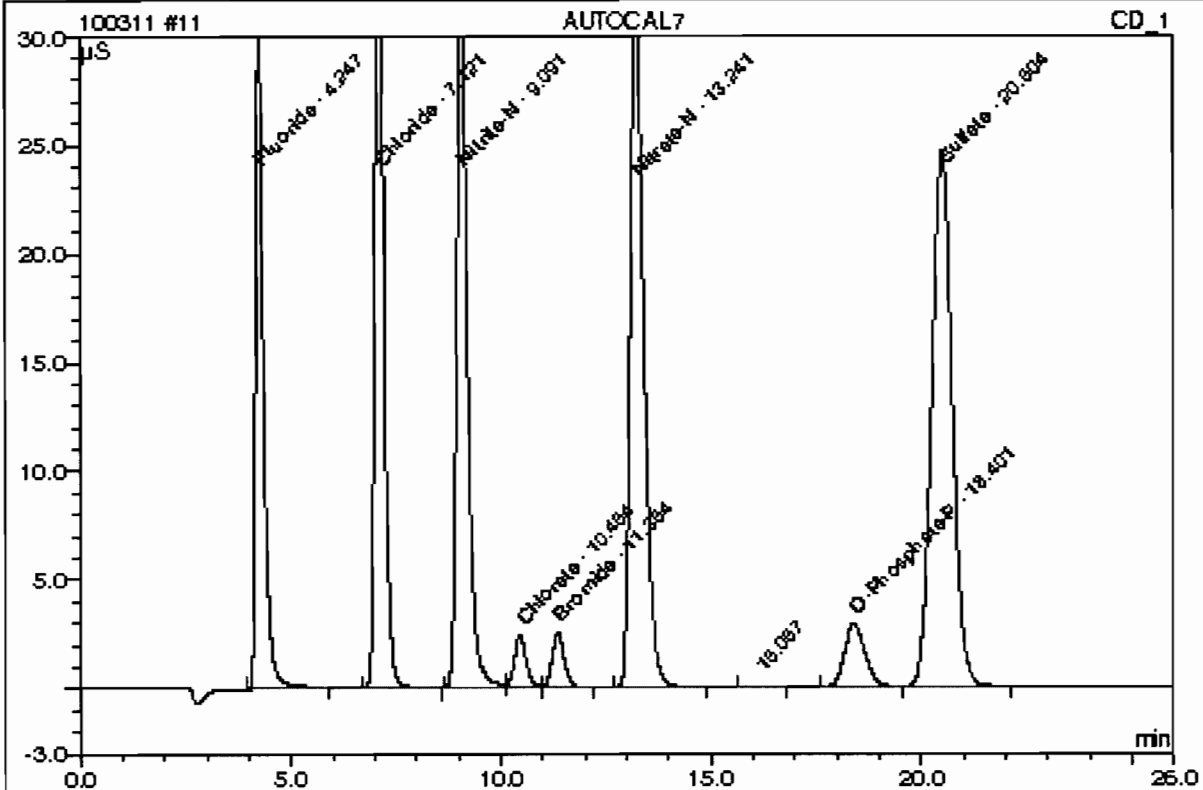
No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	<u>n.a.</u>	n.a.
Total:				0.0000	0.000	0.000	0.00

This is runlog for Sequence 100311.seq for IC6

Sample ID	Run Time	Batch	Dilution	Dataset	Analyst
BLK	03/11/10 09:28		1	100311	MAR1
BLK	03/11/10 10:25		1	100311	MAR1
BLK	03/11/10 10:54		1	100311	MAR1
ICAL-07	03/11/10 11:23		1	100311	MAR1
ICAL-06	03/11/10 11:52		1	100311	MAR1
ICAL-05	03/11/10 12:21		1	100311	MAR1
ICAL-04	03/11/10 12:49		1	100311	MAR1
ICAL-03	03/11/10 13:18		1	100311	MAR1
ICAL-02	03/11/10 15:10		1	100311	MAR1
ICAL-01	03/11/10 17:37		1	100311	MAR1
ICV	03/11/10 18:06		1	100311	MAR1
ICB	03/11/10 18:35		1	100311	MAR1
247822006	03/11/10 19:04	957881	1	100311	MAR1
1202054067	03/11/10 19:33	957881	1	100311	MAR1
1202054069	03/11/10 20:01	957881	1	100311	MAR1
1202054071	03/11/10 20:30	957881	1	100311	MAR1
CCV	03/11/10 20:59		1	100311	MAR1
CCB	03/11/10 21:28		1	100311	MAR1
LOSALAMOS-1	03/11/10 21:57		1	100311	MAR1
LOSALAMOS-2	03/11/10 22:26		1	100311	MAR1
LOSALAMOS-3	03/11/10 22:55		1	100311	MAR1
LOSALAMOS-4	03/11/10 23:24		1	100311	MAR1
LOSALAMOS-5	03/11/10 23:53		1	100311	MAR1

11 AUTOCAL7

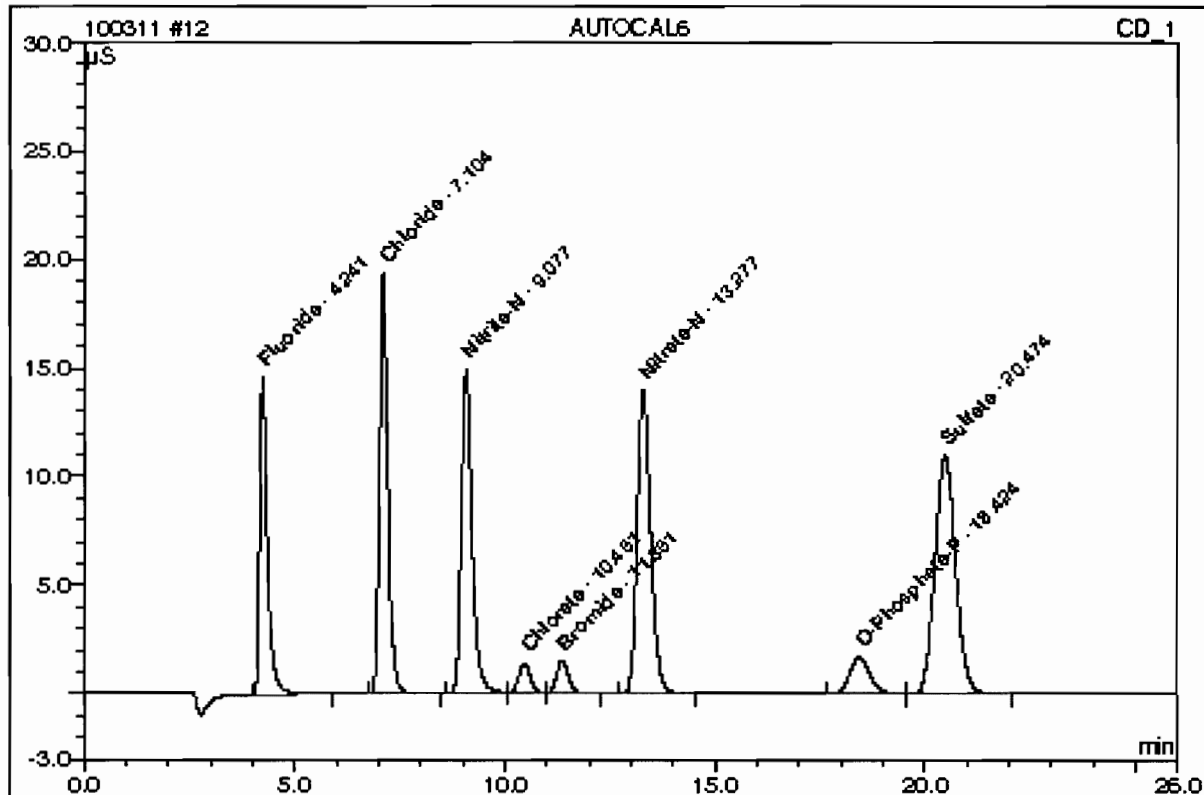
Sample Name:	AUTOCAL7	Injection Volume:	1.0
Vial Number:	5	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 11:23	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.25	Fluoride	10.0000	10.0146		6.46105	11.84
2	7.12	Chloride	20.0000	20.0364		9.90618	18.15
3	9.09	Nitrate-N	10.0000	10.0156		9.47937	17.36
4	10.45	Chlorate	5.0000	5.0000		0.79276	1.45
5	11.35	Bromide	5.0000	5.1708		0.84275	1.54
6	13.24	Nitrate-N	10.0000	10.0000		11.71709	21.46
8	18.40	O-Phosphate-P	5.0000	5.0030		1.63876	3.00
9	20.50	Sulfate	40.0000	40.1381		13.73387	25.16
Total:				105.3786	0.000	54.572	99.97

12 AUTOCAL6

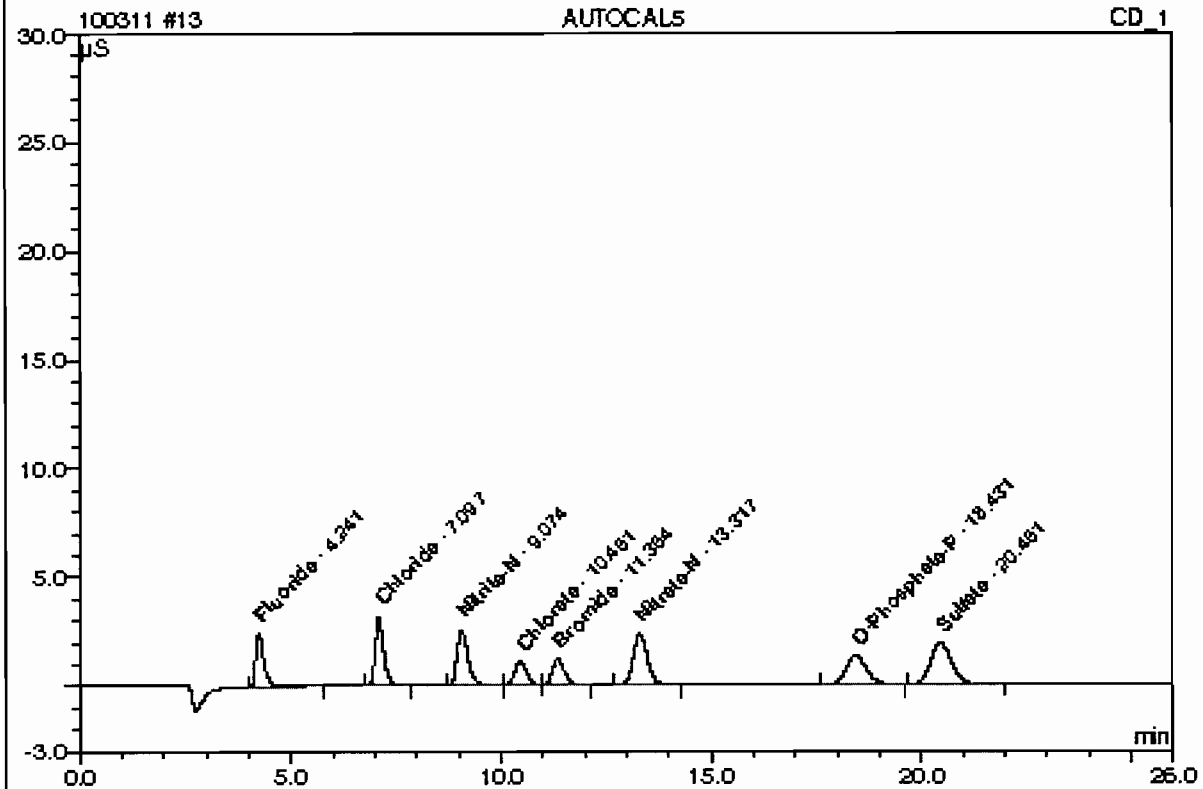
Sample Name:	AUTOCAL6	Injection Volume:	1.0
Vial Number:	6	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 11:52	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	5.0000	4.7911		3.03900	12.01
2	7.10	Chloride	10.0000	9.1952		4.40744	17.41
3	9.08	Nitrite-N	5.0000	4.7841		4.44578	17.56
4	10.46	Chlorate	3.0000	2.9821		0.47134	1.86
5	11.36	Bromide	3.0000	3.0524		0.50958	2.01
6	13.28	Nitrate-N	5.0000	4.6474		5.23885	20.70
7	18.42	O-Phosphate-P	3.0000	2.9723		0.95993	3.79
8	20.47	Sulfate	20.0000	18.8589		6.24121	24.66
Total:				51.2835	0.000	25.313	100.00

13 AUTOCAL5

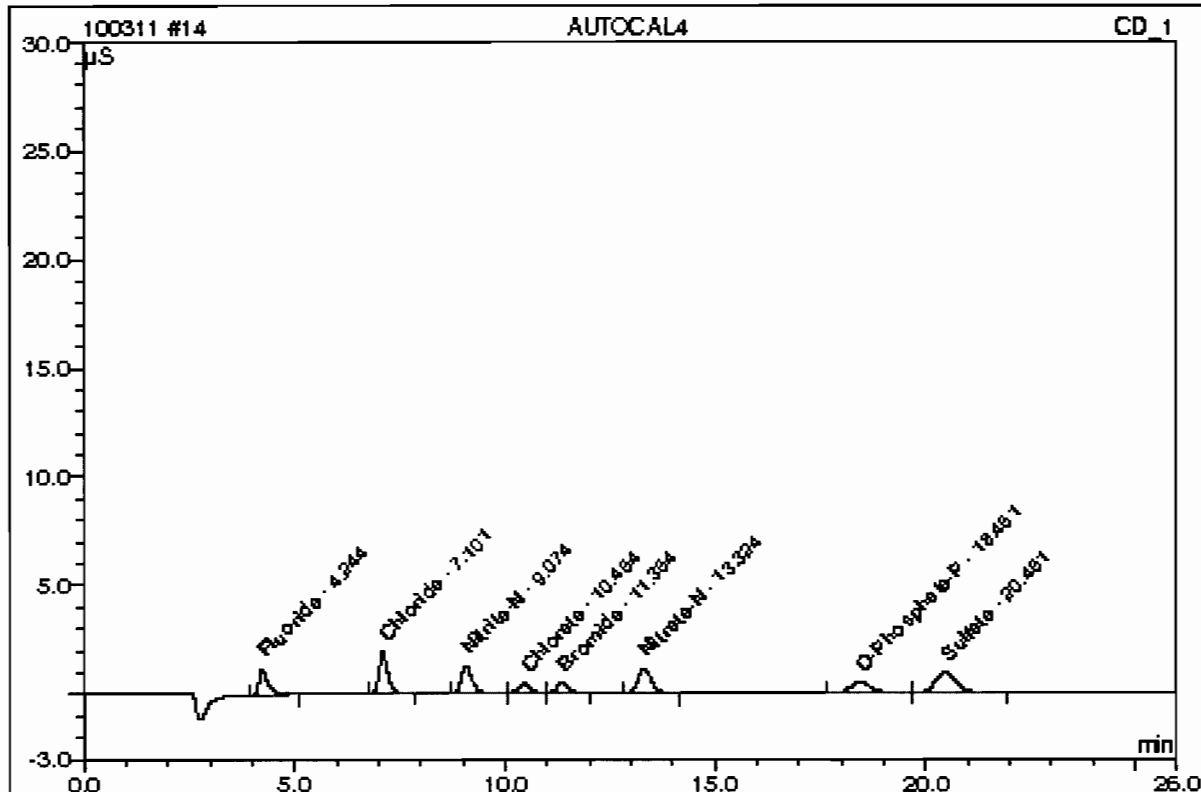
Sample Name:	AUTOCAL5	Injection Volume:	1.0
Vial Number:	7	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 12:21	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.24	Fluoride	1.0000	0.9360		0.55400	9.66
2	7.10	Chloride	2.0000	1.7966		0.76155	13.28
3	9.07	Nitrate-N	1.0000	0.9334		0.60029	13.96
4	10.46	Chlorate	2.5000	2.3962		0.37297	6.51
5	11.36	Bromide	2.5000	2.4819		0.41426	7.23
6	13.32	Nitrate-N	1.0000	0.9765		0.91953	16.04
7	18.43	O-Phosphate-P	2.5000	2.4518		0.78316	13.66
8	20.46	Sulfate	4.0000	3.8881		1.12776	19.67
Total:				15.8606	0.000	5.734	100.00

14 AUTOCAL4

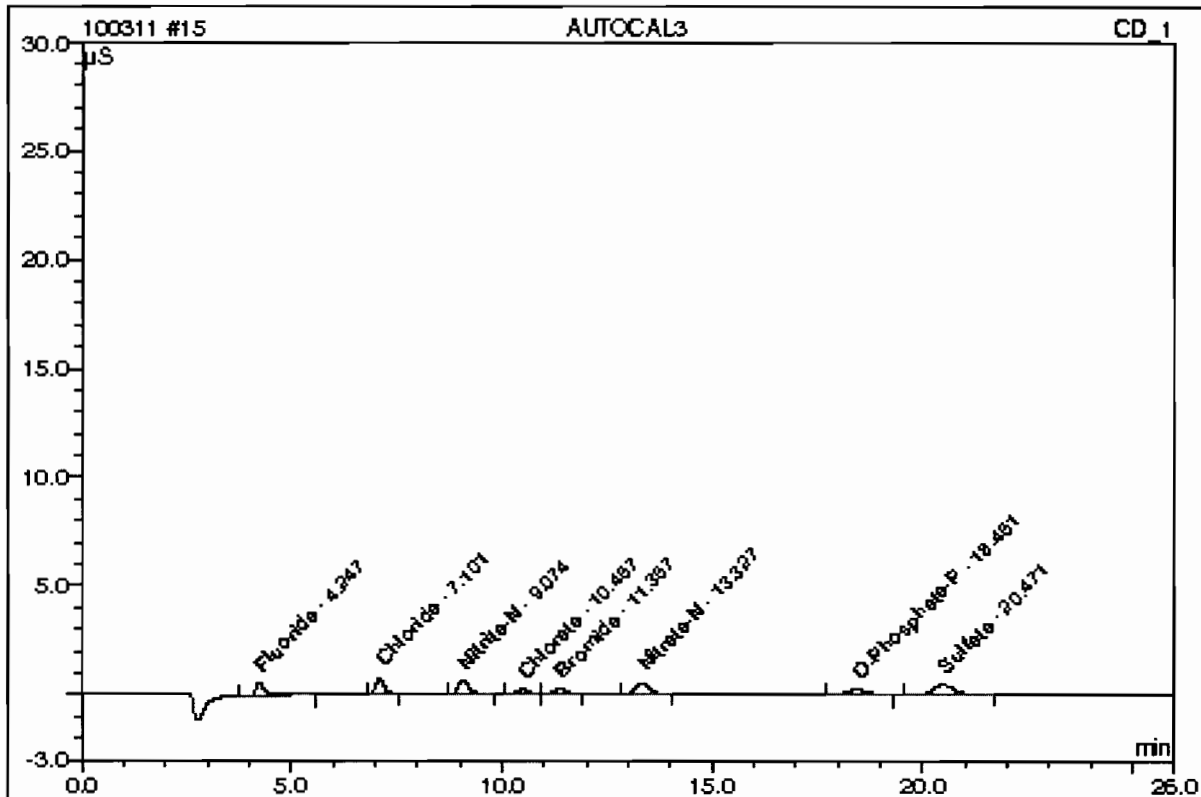
Sample Name:	AUTOCAL4	Injection Volume:	1.0
Vial Number:	8	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 12:49	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC E086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	0.5000	0.5214		0.28453	10.32
2	7.10	Chloride	1.0000	1.1416		0.44169	16.02
3	9.07	Nitrite-N	0.5000	0.5056		0.39138	14.20
4	10.46	Chlorate	1.0000	1.0244		0.15709	5.70
5	11.36	Bromide	1.0000	0.9896		0.16148	5.86
6	13.32	Nitrate-N	0.5000	0.5447		0.43595	15.81
7	18.45	O-Phosphate-P	1.0000	1.0073		0.30542	11.08
8	20.46	Sulfate	2.0000	2.1856		0.57944	21.02
Total:				7.9202	0.000	2.757	100.00

15 AUTOCAL3

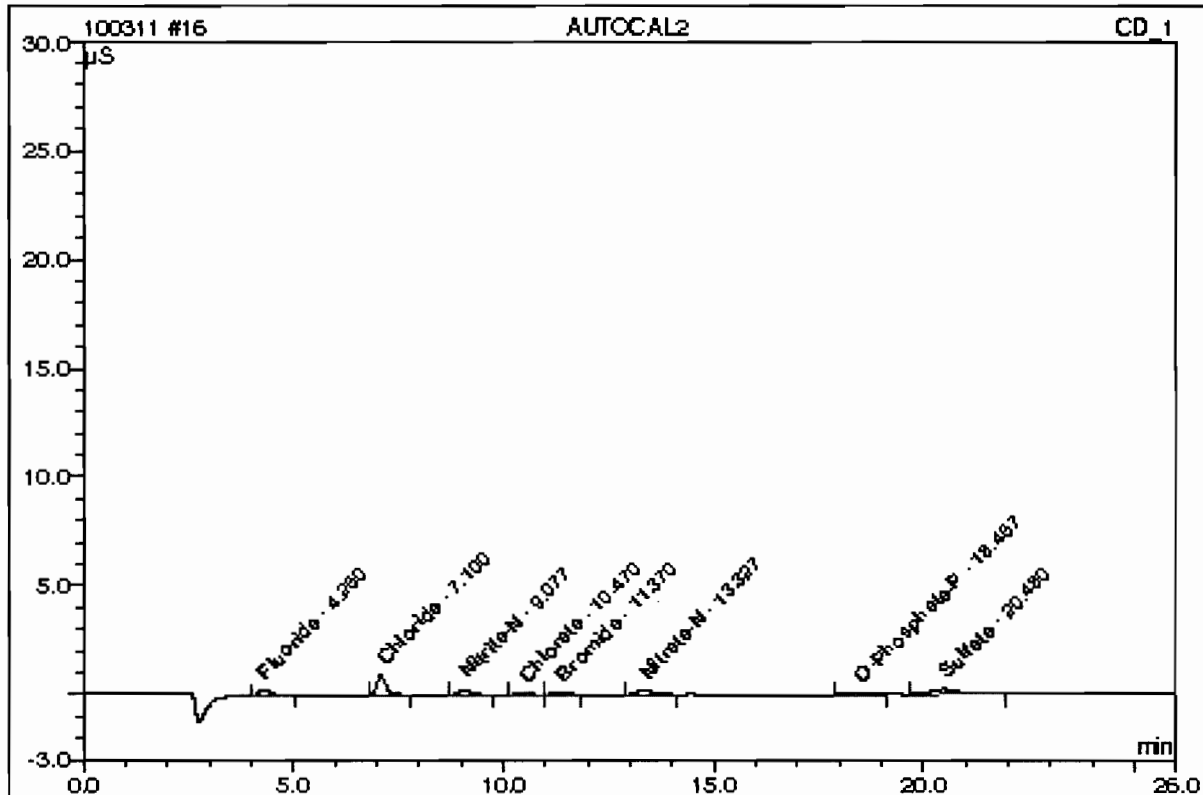
Sample Name:	AUTOCAL3	Injection Volume:	1.0
Vial Number:	9	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 13:18	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;0056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.25	Fluoride	0.2500	0.3104		0.14910	11.33
2	7.10	Chloride	0.5000	0.6474		0.18906	14.37
3	9.07	Nitrite-N	0.2500	0.2998		0.19182	14.58
4	10.47	Chlorate	0.5000	0.4997		0.07407	5.63
5	11.37	Bromide	0.5000	0.5007		0.08111	6.16
6	13.33	Nitrate-N	0.2500	0.3268		0.20999	15.96
7	18.46	O-Phosphate-P	0.5000	0.4714		0.13346	10.14
8	20.47	Sulfate	1.0000	1.2891		0.28737	21.84
Total:				4.3452	0.000	1.316	100.00

16 AUTOCAL2

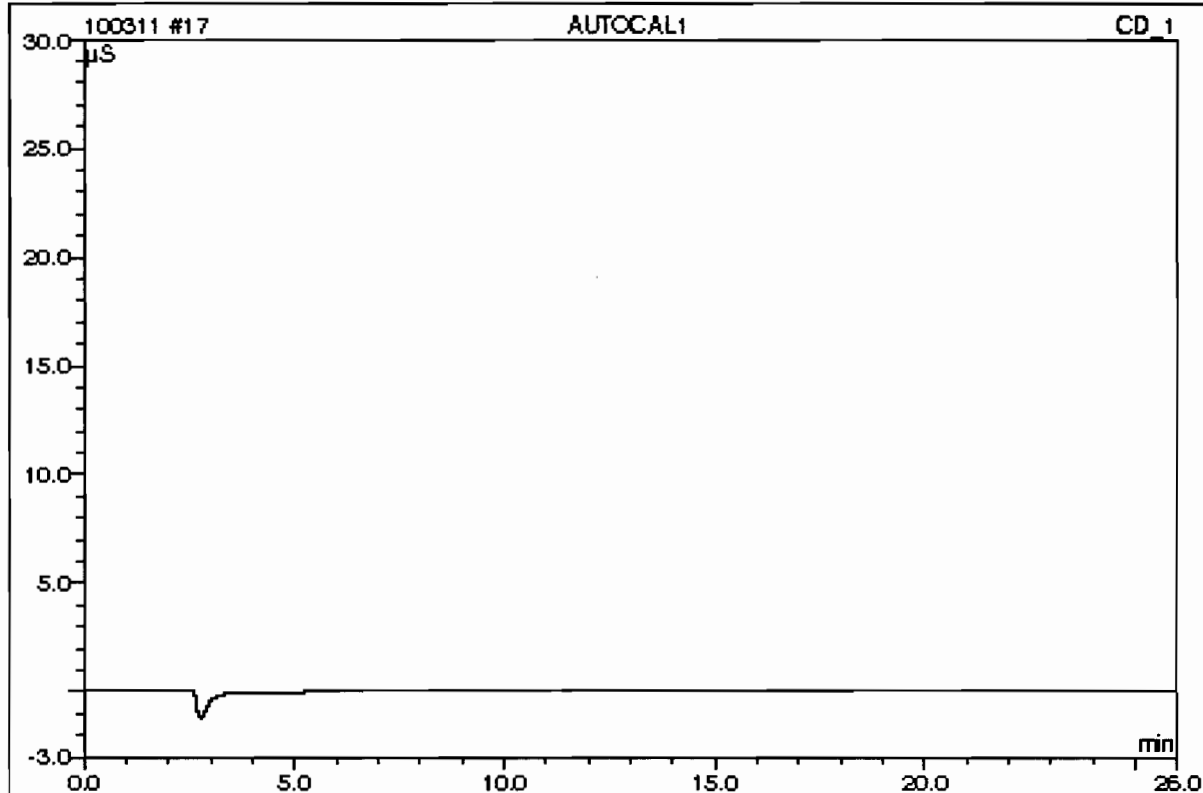
Sample Name:	AUTOCAL2	Injection Volume:	1.0
Vial Number:	10	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 15:10	Analysis:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.25	Fluoride	0.1000	0.1773		0.07602	10.36
2	7.10	Chloride	0.2000	0.6011		0.21547	29.37
3	9.08	Nitrite-N	0.1000	0.1634		0.07798	10.63
4	10.47	Chlorate	0.2000	0.2072		0.02820	3.84
5	11.37	Bromide	0.2000	0.2037		0.03107	4.23
6	13.33	Nitrate-N	0.1000	0.1962		0.08609	11.73
7	18.47	O-Phosphate-P	0.2000	0.1970		0.04275	5.83
8	20.48	Sulfate	0.4000	0.8498		0.17615	24.01
Total:				2.5956	0.000	0.734	100.00

17 AUTOCAL1

Sample Name:	AUTOCAL1	Injection Volume:	1.0
Vial Number:	11	Channel:	CD_1
Sample Type:	standard	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 17:37	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056

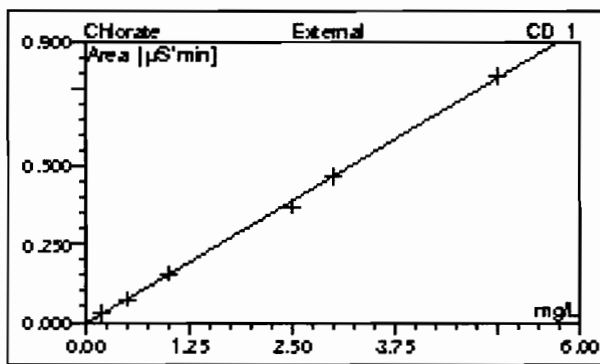
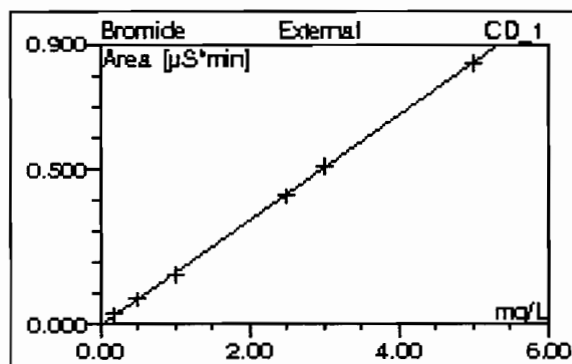
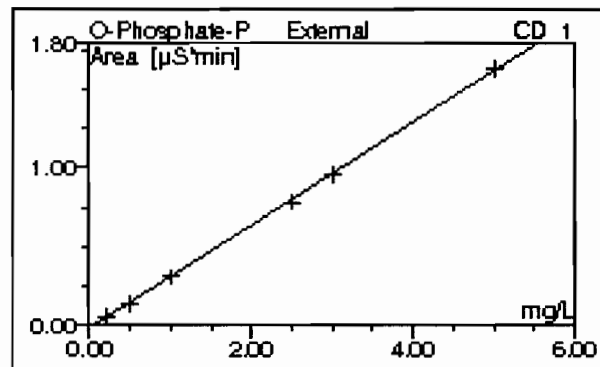
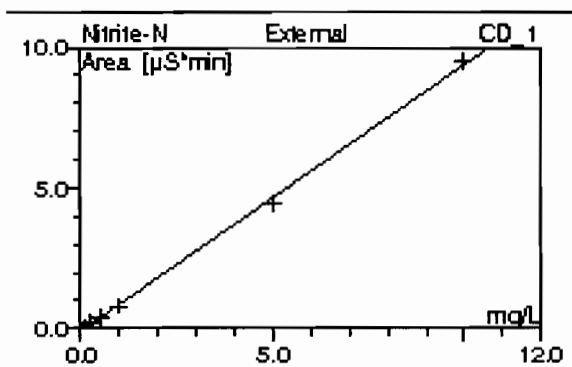
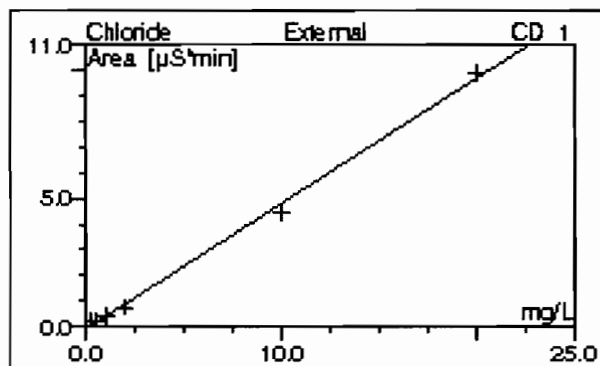
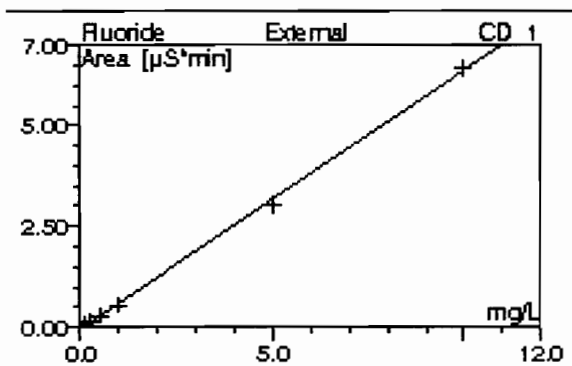


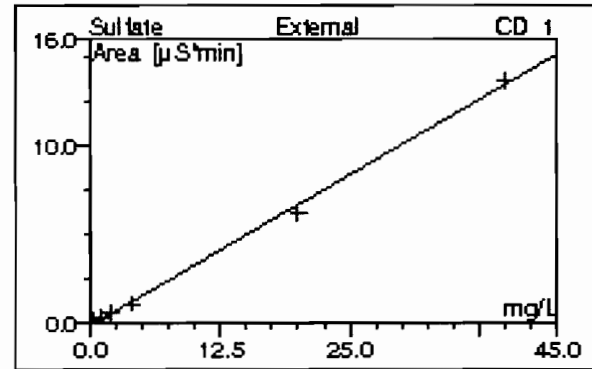
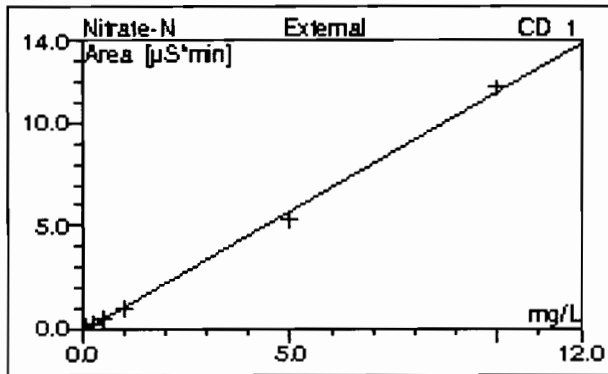
No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	0.0000	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	0.0000	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

17 AUTOCAL1

Sample Name: AUTOCAL1
Vial Number: 11
Sample Type: standard
Control Program: AS23
Quantif. Method: 100311an
Recording Time: 3/11/2010 17:37
Run Time (min): 26.00

Injection Volume: 1.0
Channel: CD_1
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000
Analyst: MAR1
Column: AS23-002712; GL GC BD86;300;9056

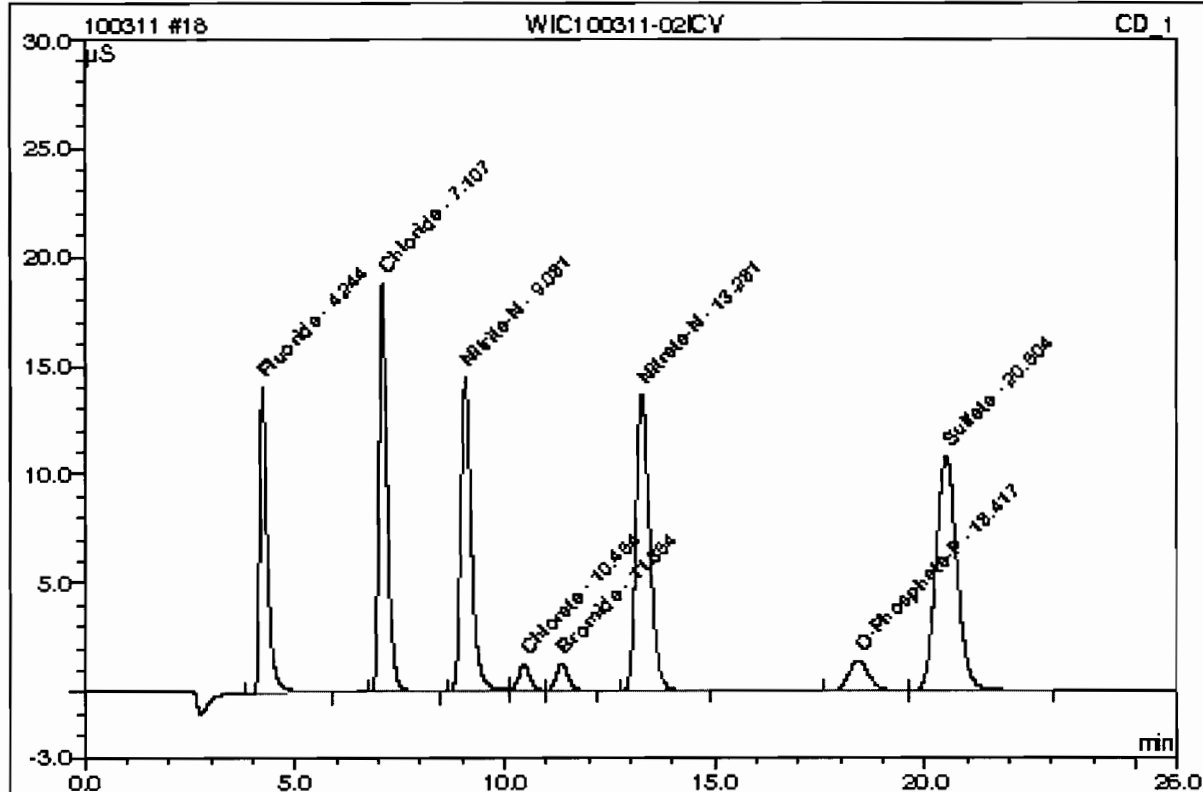




No. CD_1	Ret.Time CD_1 min	Peak Name CD_1	Cal.Type CD_1	Coeff.Det. CD_1 %	Offset CD_1	Slope CD_1	Curve CD_1
n.a.	n.a.	Fluoride	OLO#	99.9098	-0.0379	0.6427	0.0000
n.a.	n.a.	Chloride	OLO#	99.6532	-0.0783	0.4887	0.0000
n.a.	n.a.	Nitrite-N	OLO#	99.9132	-0.0764	0.9449	0.0000
n.a.	n.a.	Chlorate	OLO#	99.9105	-0.0045	0.1580	0.0000
n.a.	n.a.	Bromide	OLO#	99.9841	-0.0034	0.1692	0.0000
n.a.	n.a.	Nitrate-N	OLO#	99.7526	-0.1422	1.1634	0.0000
n.a.	n.a.	O-Phosphate-P	OLO#	99.9648	-0.0221	0.3294	0.0000
n.a.	n.a.	Sulfate	OLO#	99.7960	-0.1130	0.3403	0.0000
Average:				99.8605	-0.0597	0.5296	0.0000

18 WIC100311-02ICV

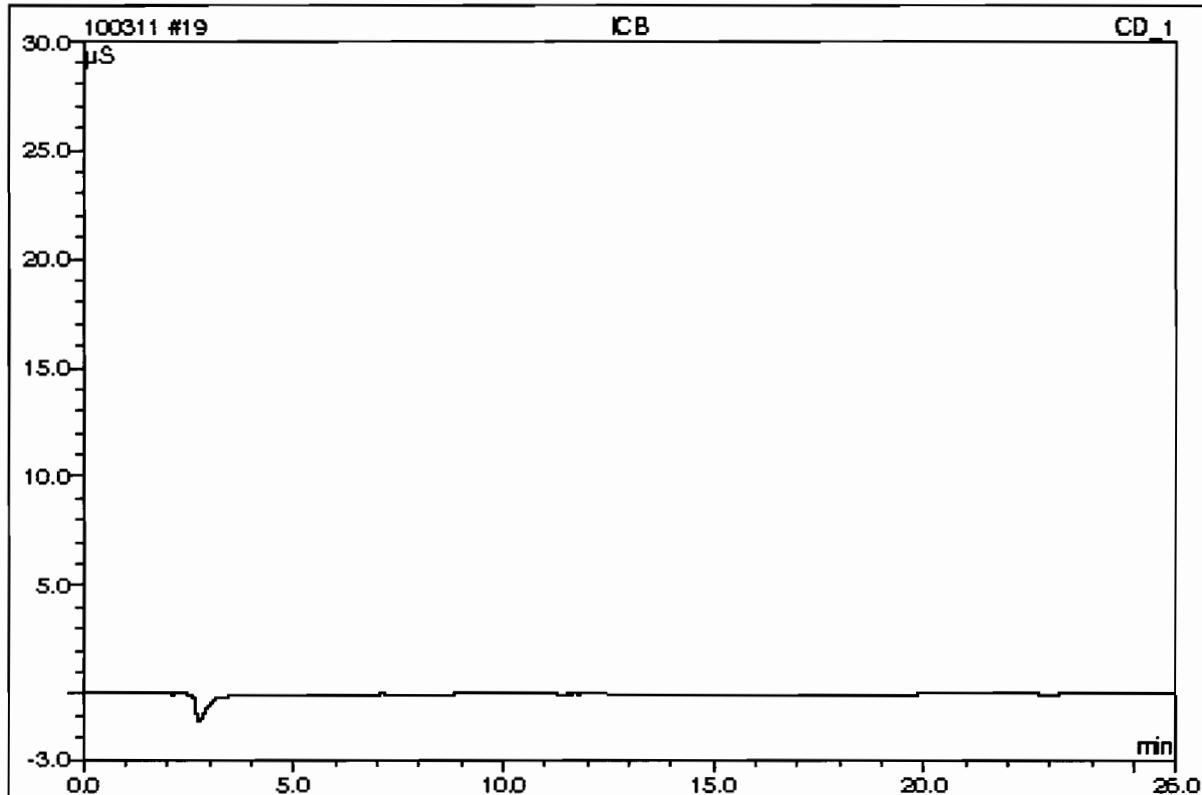
Sample Name:	WIC100311-02ICV	Injection Volume:	1.0
Vial Number:	12	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 18:06	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;0056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.24	Fluoride	n.a.	4.6408		2.94463	12.05
2	7.11	Chloride	n.a.	8.9307		4.28622	17.54
3	9.08	Nitrite-N	n.a.	4.6443		4.31196	17.65
4	10.46	Chlorate	n.a.	2.5443		0.39759	1.63
5	11.36	Bromide	n.a.	2.4922		0.41825	1.71
6	13.28	Nitrate-N	n.a.	4.5323		5.13052	21.00
7	18.42	O-Phosphate-P	n.a.	2.4519		0.78547	3.21
8	20.50	Sulfate	n.a.	18.4235		6.15671	25.20
Total:				48.6601	0.000	24.431	100.00

19 ICB

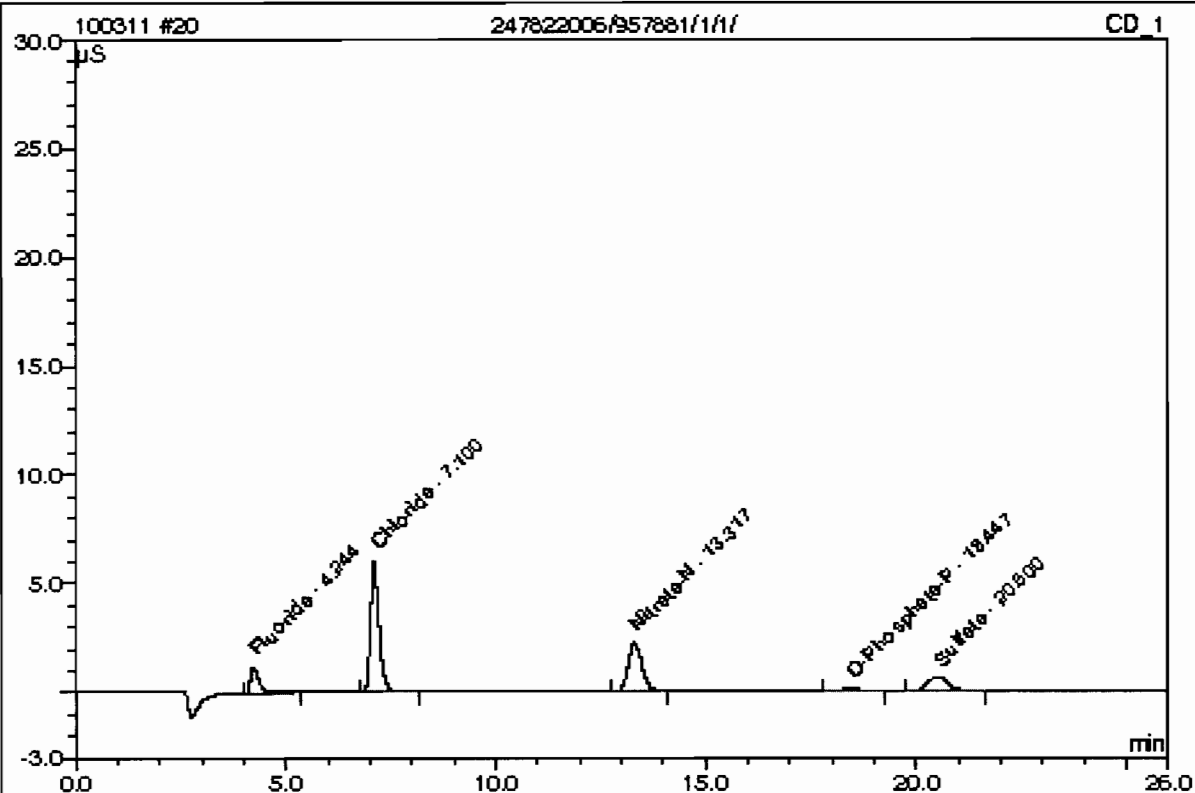
Sample Name:	ICB	Injection Volume:	1.0
Vial Number:	13	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 18:35	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCE086;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

20 247822006/957881/1/1/

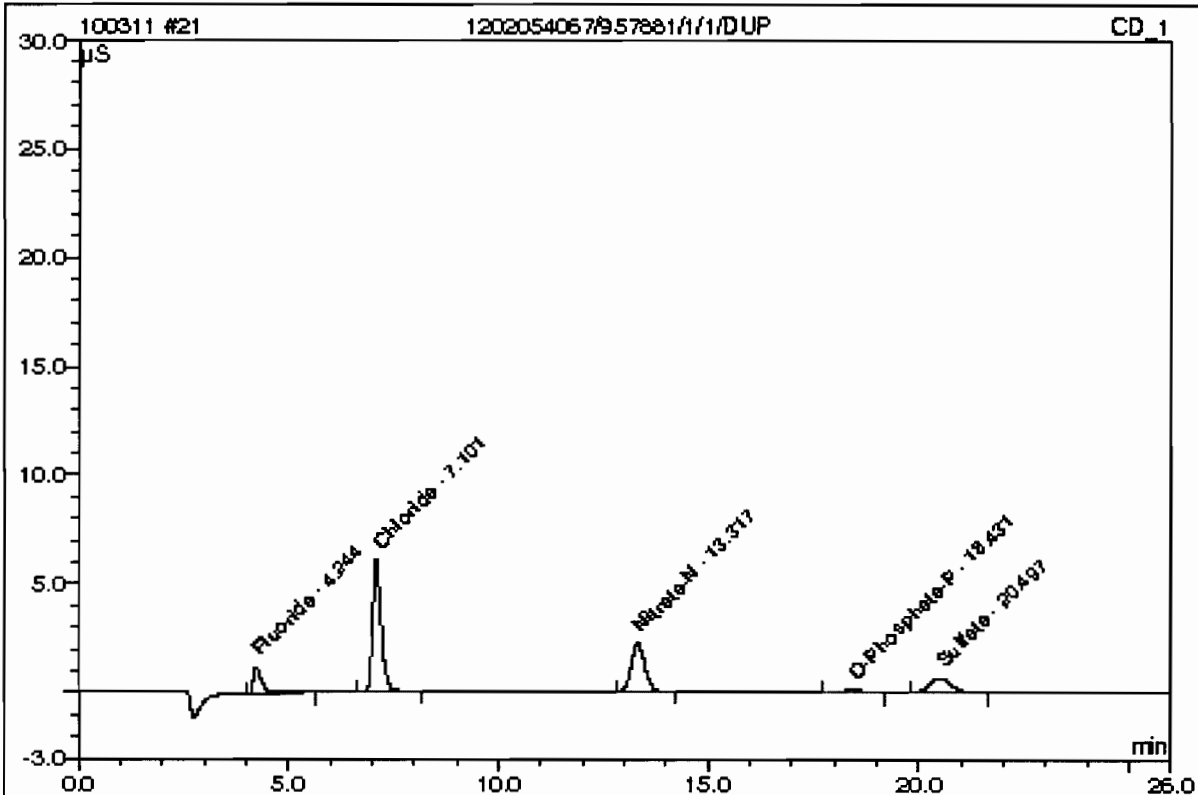
Sample Name:	247822006/957881/1/1/	Injection Volume:	1.0
Vial Number:	14	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 19:04	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GC ED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	n.a.	0.4933		0.27912	9.19
2	7.10	Chloride	n.a.	3.0819		1.42786	46.99
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.32	Nitrate-N	n.a.	0.8573		0.85521	28.14
4	18.45	O-Phosphate-P	n.a.	0.2944		0.07484	2.46
5	20.50	Sulfate	n.a.	1.5122		0.40159	13.22
Total:				6.2392	0.000	3.039	100.00

21 1202054067/957881/1/1/DUP

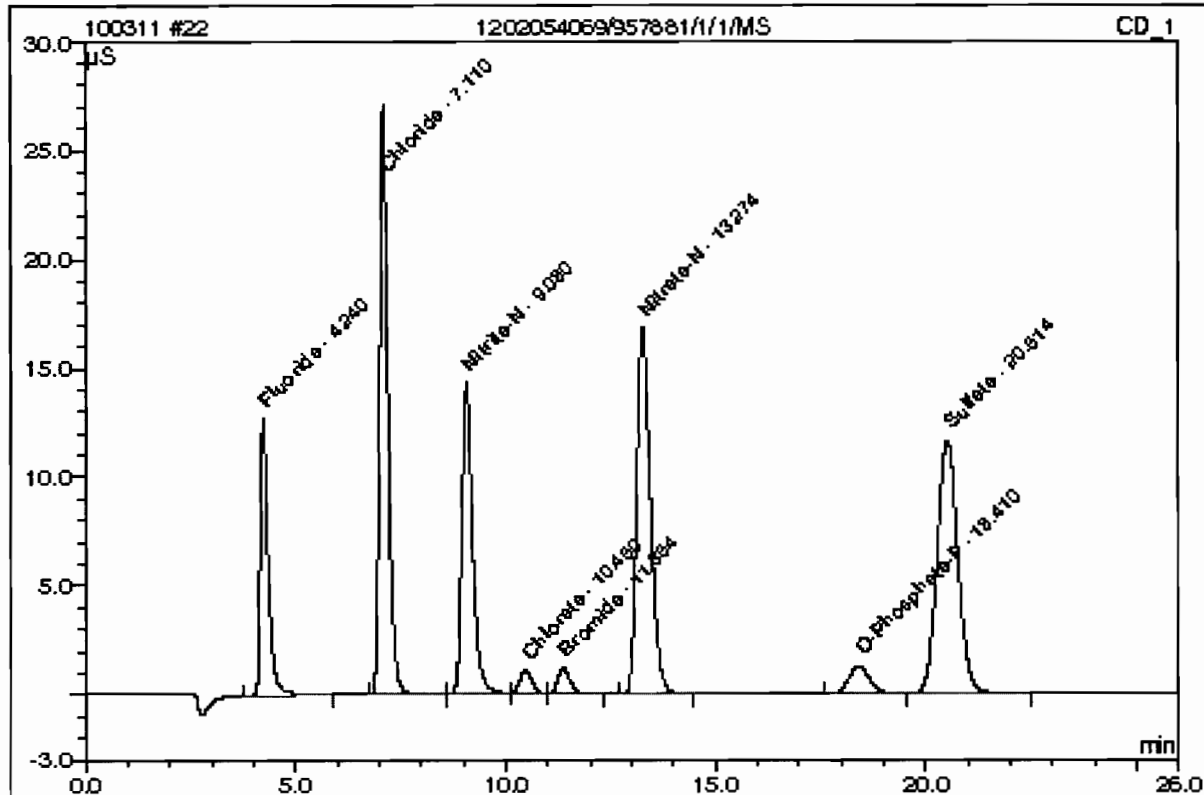
Sample Name:	1202054067/957881/1/1/DUP	Injection Volume:	1.0
Vial Number:	15	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 19:33	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret.Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel.Area %
1	4.24	Fluoride	n.a.	0.5075		0.28624	9.35
2	7.10	Chloride	n.a.	3.1402		1.45637	47.24
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
3	13.32	Nitrate-N	n.a.	0.8617		0.86029	27.90
4	18.43	O-Phosphate-P	n.a.	0.3018		0.07728	2.51
5	20.50	Sulfate	n.a.	1.5103		0.40093	13.00
Total:				6.3215	0.000	3.083	100.00

22 1202054069/957881/1/1/MS

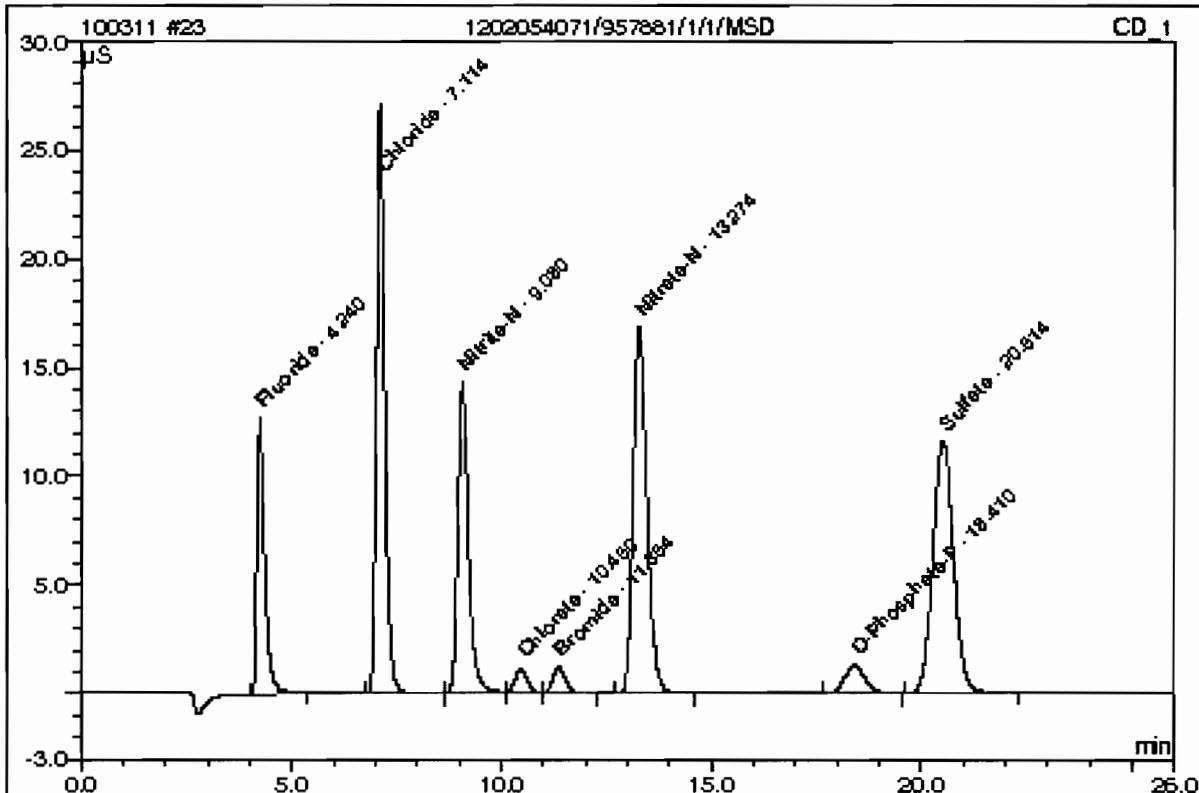
Sample Name:	1202054069/957881/1/1/MS	Injection Volume:	1.0
Vial Number:	16	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 20:01	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	n.a.	4.2573		2.69817	9.75
2	7.11	Chloride	n.a.	12.7716		6.16330	22.28
3	9.08	Nitrite-N	n.a.	4.6211		4.29010	15.51
4	10.46	Chlorate	n.a.	2.5038		0.39119	1.41
5	11.36	Bromide	n.a.	2.4729		0.41497	1.50
6	13.27	Nitrate-N	n.a.	5.6025		6.37558	23.05
7	18.41	O-Phosphate-P	n.a.	2.3099		0.73668	2.67
8	20.51	Sulfate	n.a.	19.6997		6.59102	23.83
Total:				54.2389	0.000	27.663	100.00

23 1202054071/957881/1/1/MSD

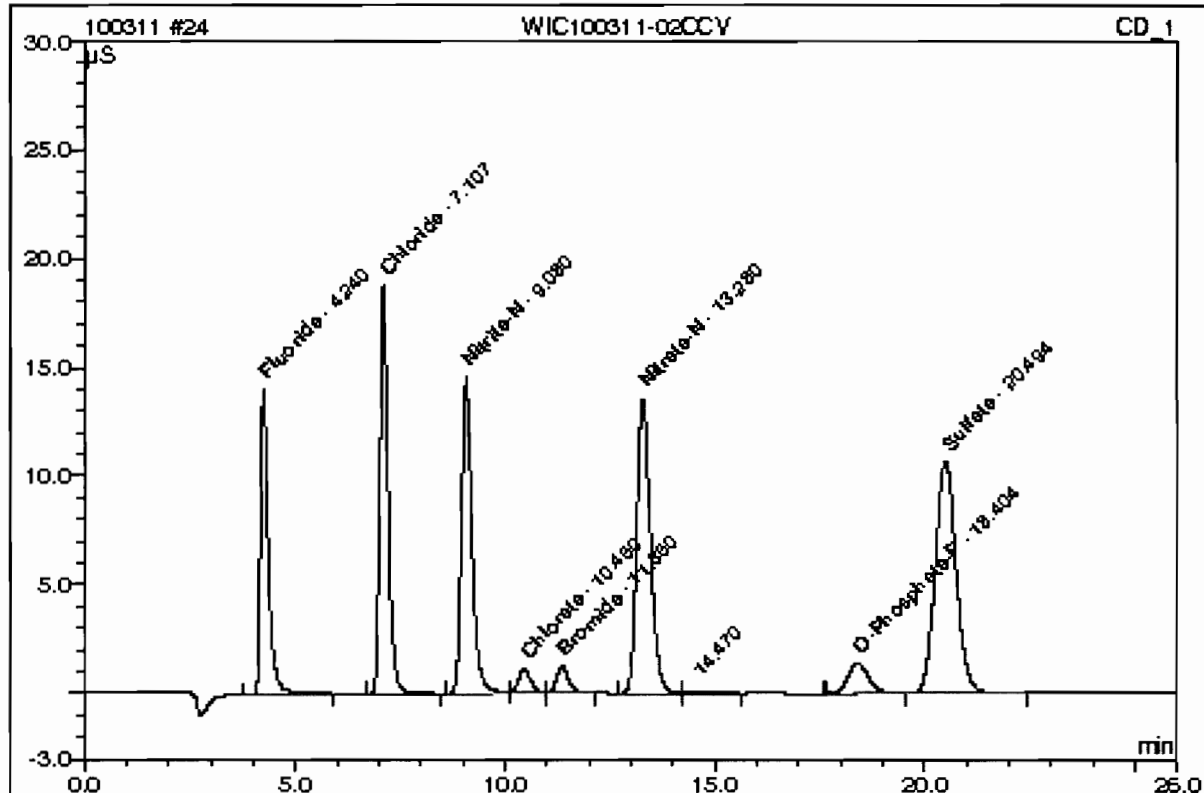
Sample Name:	1202054071/957881/1/1/MSD	Injection Volume:	1.0
Vial Number:	17	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 20:30	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	n.a.	4.1821		2.64984	9.60
2	7.11	Chloride	n.a.	12.7900		6.17230	22.36
3	9.08	Nitrite-N	n.a.	4.6346		4.30279	15.58
4	10.48	Chlorate	n.a.	2.4926		0.38941	1.41
5	11.36	Bromide	n.a.	2.4940		0.41854	1.52
6	13.27	Nitrate-N	n.a.	5.5969		6.36911	23.07
7	18.41	O-Phosphate-P	n.a.	2.3234		0.74313	2.69
8	20.51	Sulfate	n.a.	19.6201		6.56392	23.77
Total:				54.1336	0.000	27.609	100.00

24 WIC100311-02CCV

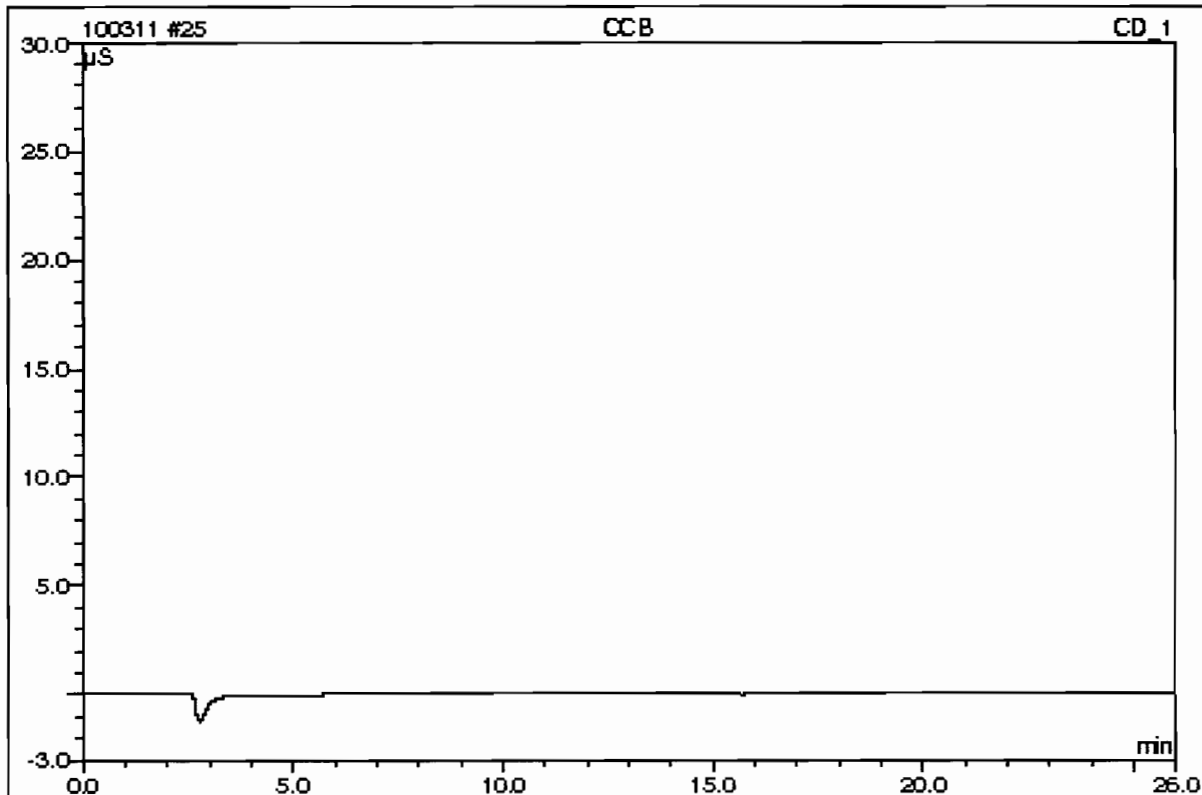
Sample Name:	WIC100311-02CCV	Injection Volume:	1.0
Vial Number:	18	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 20:59	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;9056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
1	4.24	Fluoride	n.a.	4.6553		2.95394	12.08
2	7.11	Chloride	n.a.	8.9289		4.28532	17.52
3	9.08	Nitrite-N	n.a.	4.6698		4.33605	17.73
4	10.46	Chlorate	n.a.	2.4483		0.38242	1.56
5	11.36	Bromide	n.a.	2.4634		0.41336	1.69
6	13.28	Nitrate-N	n.a.	4.5121		5.10710	20.88
8	18.40	O-Phosphate-P	n.a.	2.5128		0.80552	3.29
9	20.49	Sulfate	n.a.	18.3164		6.12025	25.02
Total:				48.5069	0.000	24.404	99.77

25 CCB

Sample Name:	CCB	Injection Volume:	1.0
Vial Number:	19	Channel:	CD_1
Sample Type:	unknown	Dilution Factor:	1.0000
Control Program:	AS23	Sample Weight:	1.0000
Quantif. Method:	100311an	Sample Amount:	1.0000
Recording Time:	3/11/2010 21:28	Analyst:	MAR1
Run Time (min):	26.00	Column:	AS23-001528; GL GCED86;300;Ø056



No.	Ret. Time min	Peak Name	Concentration mg/L	Amount mg/L	Modified?	Area µS*min	Rel. Area %
n.a.	n.a.	Fluoride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chloride	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrite-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Chlorate	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Bromide	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Nitrate-N	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	O-Phosphate-P	n.a.	n.a.	n.a.	n.a.	n.a.
n.a.	n.a.	Sulfate	n.a.	n.a.	n.a.	n.a.	n.a.
Total:				0.0000	0.000	0.000	0.00

pH

pH / Corrosivity LogBook

Analyst: TXT1
 Batch: 956095
 Lab SOP: GL-GC-E-008 REV# 17
 Description: pH
 Method: SW846 9045C/9045D

Type: CCV LCS
 Sample Id: 240 1202050070
 Serial Number: IMM091029-PH IMM100209-01
 Description: PH 7 BUFFER FOR PH LCS BUFFER SOLUTION

Sample id	Parent Sample Id	Matrix	Start Time	Stop Time	Run Date	Parname	Initial W(g)	Final Vol(mL)	Ph	Temp	Ne(mg/L)	Recovery(%)	Rpd(%)
1202050070 LCS		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:15	pH	20	20	6.95	20.5°C	7	99.286	
1202050070 LCS		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:15	pH 2	20	20	6.95	20.5°C	7	99.286	
247539001		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:16	pH	20	20	8.66	21.0°C			
247539001		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:16	pH 2	20	20	8.66	21.1°C			
1202050068 DUP	247539001	Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:18	pH	20	20	8.64	20.9°C			.231
1202050068 DUP	247539001	Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:18	pH 2	20	20	8.64	21.0°C			.231
247539002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:20	pH	20	20	7.49	20.9°C			
247539002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:20	pH 2	20	20	7.45	21.0°C			
247539003		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:22	pH	20	20	7.38	20.8°C			
247539003		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:22	pH 2	20	20	7.36	20.8°C			
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:23	pH	20	20	6.97	20.3°C	7	99.571	
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:23	pH 2	20	20	6.97	20.3°C	7	99.571	
247539004		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:25	pH	20	20	7.31	20.8°C			
247539004		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:25	pH 2	20	20	7.31	20.8°C			
247539005		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:26	pH	20	20	7.47	20.8°C			
247539005		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:26	pH 2	20	20	7.47	20.9°C			
247539006		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:27	pH	20	20	11.68	20.7°C			
247539006		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:27	pH 2	20	20	11.69	20.7°C			
247539007		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:29	pH	20	20	8.02	20.6°C			
247539007		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:29	pH 2	20	20	8.01	20.7°C			
247539008		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:32	pH	20	20	8.25	20.6°C			
247539008		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:32	pH 2	20	20	8.25	20.6°C			

GEL Laboratories LLC

Page# _____

pH / Corrosivity LogBook

Analyst: TXT1
 Batch: 956095
 Lab SOP: GL-GC-E-008 REV# 17
 Description: pH
 Method: SW846 9045C/9045D

Type: CCV
 Sample Id: 240
 Serial Number: IMM091029-PH
 Description: PH 7 BUFFER FOR PH
 LCS
 1202050070
 IMM100209-01
 LCS BUFFER SOLUTION

Sample id	Parent Sample Id	Matrix	Start Time	Stop Time	Run Date	Parname	Initial Wt(g)	Final Vol(mL)	Ph	Temp	Nc(mg/L)	Recovery(%)	Rpd(%)
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:33	pH	20	20	7.01	20.3°C	7	100.143	
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:33	pH 2	20	20	7.01	20.3°C	7	100.143	
247539009		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:41	pH	20	20	7.92	20.4°C			
247539009		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:41	pH 2	20	20	7.91	20.4°C			
247539010		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:43	pH	20	20	7.02	20.7°C			
247539010		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:43	pH 2	20	20	7.01	20.7°C			
247539011		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:46	pH	20	20	6.35	20.5°C			
247539011		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:46	pH 2	20	20	6.34	20.5°C			
247551001		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:47	pH	20	20	9.03	20.4°C			
247551001		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:47	pH 2	20	20	9.03	20.4°C			
1202050069 DUP	247551001	Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:49	pH	20	20	9.18	20.3°C			1.647
1202050069 DUP	247551001	Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:49	pH 2	20	20	9.18	20.3°C			1.647
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:50	pH	20	20	7.01	20.1°C	7	100.143	
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:50	pH 2	20	20	7	20.1°C	7	100	
247551002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:52	pH	20	20	6.63	20.3°C			
247551002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:52	pH 2	20	20	6.61	20.3°C			
247552002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:54	pH	20	20	8.89	20.6°C			
247552002		Soil	22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:54	pH 2	20	20	8.88	20.6°C			
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:55	pH	20	20	7.01	20.0°C	7	100.143	
CCV			22-FEB-2010 10:30:00	22-FEB-2010 10:35:00	22-FEB-10 14:55	pH 2	20	20	7	20.0°C	7	100	

Comments:

GEL Laboratories LLC

Page#

pH / Corrosivity LogBook

Calibration Information:

Run Date: 22-FEB-10 10:31
Instrument: PHX370
Analyst: LXA1

Standard	Observed	Theoretical	C	%Recovery
10:31 IMM100222-PH1	4.01	4	SU 19.8	100.25
10:31 IMM100222-PH-7	7	7	SU 19.8	100
10:31 UPH100222-a	10.05	10	SU 19.8	100.5
10:31 UPH100222-PH2	2.02	2	SU 19.8	101
10:31 100222-a	12.1	12	SU 19.8	100.83
10:31 IMM100222-01a	7.01	7	SU 19.8	100.14

Miscellaneous

DATA EXCEPTION REPORT

Mo. Day Yr. 04-MAR-10	Division: Industrial	Quality Criteria: Specifications	Type: Process
Instrument Type: LACHAT Flow Injection Analyzer	Test / Method: SW846 9012A	Matrix Type: Solid	Client Code: LANL
Batch ID: 955989	Sample Numbers: See Below		

Potentially affected work order(s)(SDG): 247249(10-1877),247255(10-1879),247551(10-1969),247561(10-1951-1),247566(10-1957)

Application Issues:

Failed RPD for MS/MSD, or PS/PSD

Failed Recovery for MSD/PSD

Specification and Requirements Exception Description:	DER Disposition:
1. Failed RPD for MS/MSD, or PS/PSD: QC 1202049751MS 1202049753MSD	1. The relative percent difference between the matrix spike and the matrix spike duplicate falls outside of the required acceptance limits due to the heterogeneous matrix of the sample.
2. Failed recovery for MSD: QC 1202049752MSD	2. The spike duplicate recovery falls outside of the client specified acceptance limits. Since both the spike recovery and the RPD between the spike and spike duplicate fall within acceptance limits, the data is reported.
3. Failed recovery for MSD: QC 1202049753MSD	3. The spike duplicate recovery was outside of the required acceptance limits due to sample non-homogeneity.

Originator's Name:

Ashley Earl 04-MAR-10

Data Validator/Group Leader:

Elzbieta Szulc 08-MAR-10

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1969**

Method/Analysis Information

Procedure: Dry Weight-Percent Moisture

Analytical Method: Dry Soil Prep

Analytical Batch Number: 955937

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202049602	247539001(CAPU-10-12530) 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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

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: 247539001 (CAPU-10-12530). The QC was from LANL work order 247539.

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:	961200
Prep Batch Number:	955937

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202061744	Method Blank (MB)
1202061745	247797001(RE15-10-8317) Sample Duplicate (DUP)
1202061746	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202061744 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247797001 (RE15-10-8317). The QC was from LANL work order 247797.

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

Samples 247551001 (RE15-10-8349) and 247551002 (RE15-10-8348) were recounted due to a negative result greater than three times the error. Second counts being reported.

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: 961201
Prep Batch Number: 955937

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202061750	Method Blank (MB)
1202061751	247797001(RE15-10-8317) Sample Duplicate (DUP)
1202061752	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202061750 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247797001 (RE15-10-8317). The QC was from LANL work order 247797.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The Pu-238 blank result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

Sample 247551002 (RE15-10-8348) was given additional clean-up steps and recounted in order to remove suspected interferences.

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 Pu-238 blank result is greater than the decision level but less than the MDC.

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:	961204
Prep Batch Number:	955937

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202061756	Method Blank (MB)
1202061757	247797001(RE15-10-8317) Sample Duplicate (DUP)
1202061758	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 solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

Aliquot for sample 1202061756 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 247797001 (RE15-10-8317). The QC was from LANL work order 247797.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-233/234 blank result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

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: 956158
Prep Batch Number: 955937

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202050254	Method Blank (MB)
1202050255	247551001(RE15-10-8349) Sample Duplicate (DUP)
1202050256	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# 19.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in April 2009, July 2009, November 2009 and February 2010.

Standards Information

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

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: 247551001 (RE15-10-8349). The QC was from LANL work order 247551.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

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

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	247551001	RE15-10-8349
			247551002	RE15-10-8348
			1202050255	RE15-10-8349(247551001DUP)
		Cadmium-109	247551001	RE15-10-8349
			247551002	RE15-10-8348
			1202050255	RE15-10-8349(247551001DUP)
		Radium-224	247551001	RE15-10-8349
			247551002	RE15-10-8348
			1202050255	RE15-10-8349(247551001DUP)
UI	Data rejected due to low abundance.	Cesium-134	247551001	RE15-10-8349
		Strontium-85	247551001	RE15-10-8349
			247551002	RE15-10-8348

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 956742

Sample ID	Client ID
247551001	RE15-10-8349
247551002	RE15-10-8348
1202051381	Method Blank (MB)
1202051382	247360001(RE36-10-7427) Sample Duplicate (DUP)
1202051383	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in July 2009, August 2009 and September 2009.

Standards Information

Standard solutions for these analysis are NIST traceable or verified with a NIST traceable standard and used before the expiration dates.

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: 247360001 (RE36-10-7427). The QC was from LANL work order 247360.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank 1202051381 (MB) result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Sample Re-prep/Re-analysis

Samples 1202051381 (MB), 1202051382 (RE36-10-7427), 247551001 (RE15-10-8349) and 247551002 (RE15-10-8348) were recounted due to high MDAs. Sample 1202051382 (RE36-10-7427) was recounted due to high relative percent difference/relative error ratio. Sample 247551002 (RE15-10-8348) was recounted due to the quench number being outside the calibration range. Recount is being reported. Samples were recounted due to a detector lock out condition. Recount is being reported. Samples 247551001 (RE15-10-8349) and 247551002 (RE15-10-8348) were recounted to verify sample results. Sample 1202051381 (MB) was recounted due to the quench number being outside the calibration range. Sample was then recounted due to a negative result greater than three times the error. Final count being reported.

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 1202051381 (MB) result is greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Certification Statement

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

Review Validation:

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

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

Reviewer/Date: _____

Sham Iqbal 3/19/2010

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: 10-1969 GEL Work Order: 247551

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: March 19, 2010

Client Sample ID: RE15-10-8349
Sample ID: 247551001
Matrix: R
Collect Date: 15-FEB-10
Receive Date: 20-FEB-10
Collector: Client
Moisture: 6.91%

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	-0.000275	0.0225	+/-0.00154	0.050	pCi/g		AYB1	03/17/10	0728	961200	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0205	0.0242	+/-0.00847	0.050	pCi/g		AYB1	03/17/10	0856	961201	3
Plutonium-239/240	U	0.0148	0.0205	+/-0.00665	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.958	0.101	+/-0.0906	0.100	pCi/g		AYB1	03/17/10	1834	961204	4
Uranium-235/236		0.0621	0.0619	+/-0.0172	0.100	pCi/g						
Uranium-238		1.45	0.0712	+/-0.127	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0243	0.299	+/-0.0934	0.200	pCi/g		MXR1	03/04/10	1640	956158	5
Bismuth-211	UI	3.98	0.265	+/-0.217		pCi/g						
Bismuth-214		1.20	0.092	+/-0.0859	0.200	pCi/g						
Cadmium-109	UI	2.44	1.25	+/-0.503		pCi/g						
Cerium-139	U	1.74E-05	0.0432	+/-0.0122	0.050	pCi/g						
Cesium-134	UI	0.0938	0.0757	+/-0.035	0.100	pCi/g						
Cesium-137	U	0.00361	0.0494	+/-0.0144	0.100	pCi/g						
Cobalt-60	U	0.0165	0.0514	+/-0.0149	0.100	pCi/g						
Europium-152	U	-0.0216	0.127	+/-0.0449	0.200	pCi/g						
Lanthanum-140	U	0.00915	0.133	+/-0.0395		pCi/g						
Lead-212		1.79	0.0791	+/-0.0805	0.100	pCi/g						
Lead-214		1.44	0.0963	+/-0.0883	0.100	pCi/g						
Mercury-203	U	0.039	0.0573	+/-0.0183	0.100	pCi/g						
Potassium-40		32.6	0.376	+/-1.43	1.00	pCi/g						
Radium-223	U	0.184	0.853	+/-0.288		pCi/g						
Radium-224	UI	4.79	0.847	+/-0.521		pCi/g						
Radium-226		1.20	0.092	+/-0.0859		pCi/g						
Radium-228		1.88	0.179	+/-0.180	0.500	pCi/g						
Ruthenium-106	U	0.0371	0.421	+/-0.127	0.800	pCi/g						

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: March 19, 2010

Client Sample ID:
Sample ID:

RE15-10-8349
247551001

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Sodium-22	U	0.00545	0.0605	+/-0.0181	0.080	pCi/g						
Strontium-85	UI	0.0643	0.0567	+/-0.0173		pCi/g						
Thallium-208		0.510	0.0475	+/-0.0398	0.080	pCi/g						
Thorium-227	U	-0.121	0.348	+/-0.105		pCi/g						
Thorium-231	U	0.184	0.853	+/-0.288		pCi/g						
Thorium-234	U	2.35	2.37	+/-1.12	2.00	pCi/g						
Tin-113	U	-0.0198	0.0585	+/-0.0175	0.100	pCi/g						
Uranium-235	U	-0.0268	0.303	+/-0.0931	0.500	pCi/g						
Yttrium-88	U	0.0287	0.0517	+/-0.0142	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		246	217	+/-73.3	250	pCi/L	KXK2	03/11/10	1437	956742	6	
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The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	84.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.6	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

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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: March 19, 2010

Client Sample ID: RE15-10-8349
Sample ID: 247551001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E Organics--Concentration of the target analyte exceeds the instrument calibration range
F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
JNX Non Calibrated Compound
M M if above MDC and less than LLD
M Matrix Related Failure
N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC).
Quantitation is based on nearest internal standard response factor
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
UJ Compound cannot be extracted
UJ 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.

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Address : PO Box 1663
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 19, 2010

Client Sample ID: RE15-10-8348
Sample ID: 247551002
Matrix: R
Collect Date: 15-FEB-10
Receive Date: 20-FEB-10
Collector: Client
Moisture: 3.67%

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	0.00155	0.0307	+/-0.00266	0.050	pCi/g		AYB1	03/18/10	1439	961200	2
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0047	0.0289	+/-0.00708	0.050	pCi/g		AYB1	03/18/10	2059	961201	3
Plutonium-239/240	U	0.00397	0.0245	+/-0.00434	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.886	0.0988	+/-0.0847	0.100	pCi/g		AYB1	03/17/10	1834	961204	5
Uranium-235/236		0.0693	0.0603	+/-0.020	0.100	pCi/g						
Uranium-238		0.960	0.0694	+/-0.0903	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.357	0.501	+/-0.149	0.200	pCi/g		MXR1	03/04/10	1850	956158	6
Bismuth-211	UI	4.11	0.428	+/-0.323		pCi/g						
Bismuth-214		1.42	0.124	+/-0.109	0.200	pCi/g						
Cadmium-109	UI	2.40	1.71	+/-0.708		pCi/g						
Cerium-139	U	-0.00729	0.0641	+/-0.0191	0.050	pCi/g						
Cesium-134	U	0.0968	0.107	+/-0.0323	0.100	pCi/g						
Cesium-137	U	-0.00652	0.0753	+/-0.0222	0.100	pCi/g						
Cobalt-60	U	0.0116	0.0735	+/-0.0219	0.100	pCi/g						
Europium-152	U	-0.00242	0.202	+/-0.0719	0.200	pCi/g						
Lanthanum-140	U	0.031	0.180	+/-0.0602		pCi/g						
Lead-212		1.97	0.116	+/-0.137	0.100	pCi/g						
Lead-214		1.49	0.156	+/-0.124	0.100	pCi/g						
Mercury-203	U	0.0647	0.0886	+/-0.0244	0.100	pCi/g						
Potassium-40		37.3	0.583	+/-2.10	1.00	pCi/g						
Radium-223	U	0.172	1.42	+/-0.471		pCi/g						
Radium-224	UI	4.71	1.24	+/-0.794		pCi/g						
Radium-226		1.42	0.124	+/-0.109		pCi/g						
Radium-228		2.22	0.248	+/-0.214	0.500	pCi/g						
Ruthenium-106	U	0.0994	0.610	+/-0.181	0.800	pCi/g						
Sodium-22	U	0.0094	0.0889	+/-0.0268	0.080	pCi/g						

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

Report Date: March 19, 2010

Client Sample ID: RE15-10-8348
Sample ID: 247551002

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.107	0.0928	+/-0.0283		pCi/g						
Thallium-208		0.568	0.0675	+/-0.051	0.080	pCi/g						
Thorium-227	U	-0.147	0.521	+/-0.153		pCi/g						
Thorium-231	U	0.172	1.42	+/-0.471		pCi/g						
Thorium-234	U	1.01	4.21	+/-1.19	2.00	pCi/g						
Tin-113	U	-0.0215	0.0931	+/-0.028	0.100	pCi/g						
Uranium-235	U	0.0298	0.453	+/-0.133	0.500	pCi/g						
Yttrium-88	U	0.00194	0.0671	+/-0.0203	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		321	209	+/-75.4	250	pCi/L	KXK2	03/11/10	1509	956742	7	
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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, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.1	(50%-105%)
Plutonium-236 Tracer	ISOPU "Dry Weight Corrected"	77.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	82.0	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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< Result is 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.

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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: March 19, 2010

Client Sample ID: RE15-10-8348
Sample ID: 247551002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

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JNX Non Calibrated Compound

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M Matrix Related Failure

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Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

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P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

UJ Compound cannot be extracted

UJ 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

GEL LABORATORIES LLC

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QC Summary

Report Date: March 19, 2010

Page 1 of 7

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 247551

Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	961200										
QC1202061745	247797001	DUP									
Americium-241		U	-0.000211	U	0.00567	pCi/g	0.459	(0-1)	AYB1	03/16/1007:39	
		TPU:	+/-0.00315		+/-0.00326						
		Yield:	84.7		87.4						
QC1202061746	LCS										
Americium-241		33.2			32.4	pCi/g	97.9	(75%-125%)		03/16/1007:38	
		TPU:			+/-2.34						
		Yield:			101						
QC1202061744	MB										
Americium-241				U	-0.0133	pCi/g				03/16/1007:39	
		TPU:			+/-0.0048						
		Yield:			77.7						
Batch	961201										
QC1202061751	247797001	DUP									
Plutonium-238		U	0.000845	U	0.00458	pCi/g	0.151	(0-1)	AYB1	03/17/1007:28	
		TPU:	+/-0.00256		+/-0.00982						
		Yield:	81.2		77.4						
Plutonium-239/240		U	0.00302	U	0.00178	pCi/g	0.0551	(0-1)			
		TPU:	+/-0.00336		+/-0.00793						
		Yield:	81.2		77.4						
QC1202061752	LCS										
Plutonium-238					6.23	pCi/g		(75%-125%)			
		TPU:			+/-0.574						
		Yield:			90.4						
Plutonium-239/240		41.8			43.0	pCi/g	103	(75%-125%)			
		TPU:			+/-3.09						
		Yield:			90.4						
QC1202061750	MB										
Plutonium-238				U	0.0265	pCi/g					
		TPU:			+/-0.00881						
		Yield:			92.7						
Plutonium-239/240				U	0.00419	pCi/g					
		TPU:			+/-0.00561						
		Yield:			92.7						
Batch	961204										
QC1202061757	247797001	DUP									
Uranium-233/234			0.862		0.869	pCi/g	0.0215	(0-1)	AYB1	03/17/1013:28	
		TPU:	+/-0.0897		+/-0.0915						
		Yield:	57.8		73.3						
Uranium-235/236		U	0.0455	U	0.0789	pCi/g	0.427	(0-1)			
		TPU:	+/-0.0164		+/-0.0226						
		Yield:	57.8		73.3						
Uranium-238			0.769		0.829	pCi/g	0.177	(0-1)			
		TPU:	+/-0.0827		+/-0.0878						

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QC Summary

Workorder: 247551

Page 2 of 7

Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	961204										
QC1202061758	LCS	Yield:	57.8	73.3							
Uranium-233/234				6.03	pCi/g					03/17/1013:28	
		TPU:		+/-0.564							
		Yield:		93.5							
Uranium-235/236				0.302	pCi/g						
		TPU:		+/-0.0839							
		Yield:		93.5							
Uranium-238	5.75			5.86	pCi/g		102	(75%-125%)			
		TPU:		+/-0.551							
		Yield:		93.5							
QC1202061756	MB										
Uranium-233/234			U	0.00877	pCi/g					03/17/1013:28	
		TPU:		+/-0.00476							
		Yield:		95.5							
Uranium-235/236			U	0.00446	pCi/g						
		TPU:		+/-0.00317							
		Yield:		95.5							
Uranium-238			U	0.00	pCi/g						
		TPU:		+/-0.00361							
		Yield:		95.5							
Rad Gamma Spec											
Batch	956158										
QC1202050255	247551001	DUP									
Americium-241		U	0.0243	U	0.0256	pCi/g	0.00514	(0-1)	MXR1	03/04/1018:52	
		TPU:	+/-0.0934		+/-0.0252						
Bismuth-211		UI	3.98	UI	4.78	pCi/g	0.742	(0-1)			
		TPU:	+/-0.217		+/-0.323						
Bismuth-214			1.20		1.35	pCi/g	0.379	(0-1)			
		TPU:	+/-0.0859		+/-0.115						
Cadmium-109		UI	2.44	UI	3.53	pCi/g	0.620	(0-1)			
		TPU:	+/-0.503		+/-0.375						
Cerium-139		U	1.74E-05	U	-0.00809	pCi/g	0.170	(0-1)			
		TPU:	+/-0.0122		+/-0.0117						
Cesium-134		UI	0.0938	U	0.107	pCi/g	0.0943	(0-1)			
		TPU:	+/-0.035		+/-0.0333						
Cesium-137		U	0.00361	U	-0.0572	pCi/g	0.776	(0-1)			
		TPU:	+/-0.0144		+/-0.0248						
Cobalt-60		U	0.0165	U	0.00179	pCi/g	0.189	(0-1)			
		TPU:	+/-0.0149		+/-0.0239						
Europium-152		U	-0.0216	U	-0.0473	pCi/g	0.140	(0-1)			
		TPU:	+/-0.0449		+/-0.0465						
Lanthanum-140		U	0.00915	U	-0.0386	pCi/g	0.241	(0-1)			
		TPU:	+/-0.0395		+/-0.0593						
Lead-212			1.79		1.97	pCi/g	0.471	(0-1)			
		TPU:	+/-0.0805		+/-0.115						
Lead-214			1.44		1.73	pCi/g	0.677	(0-1)			
		TPU:	+/-0.0883		+/-0.127						
Mercury-203		U	0.039	U	0.0252	pCi/g	0.182	(0-1)			
		TPU:	+/-0.0183		+/-0.0197						

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QC Summary

Workorder: 247551

Page 3 of 7

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	956158										
Potassium-40		32.6		30.5	pCi/g	0.325		(0-1)			
	TPU:	+/-1.43		+/-1.73							
Radium-223	U	0.184	U	0.0306	pCi/g	0.118		(0-1)			
	TPU:	+/-0.288		+/-0.359							
Radium-224	UI	4.79	UI	4.57	pCi/g	0.101		(0-1)			
	TPU:	+/-0.521		+/-0.573							
Radium-226		1.20		1.35	pCi/g	0.379		(0-1)			
	TPU:	+/-0.0859		+/-0.115							
Radium-228		1.88		2.43	pCi/g	0.640		(0-1)			
	TPU:	+/-0.180		+/-0.245							
Ruthenium-106	U	0.0371	U	0.246	pCi/g	0.337		(0-1)			
	TPU:	+/-0.127		+/-0.183							
Sodium-22	U	0.00545	U	0.00919	pCi/g	0.038		(0-1)			
	TPU:	+/-0.0181		+/-0.0311							
Strontium-85	UI	0.0643	U	0.00388	pCi/g	0.780		(0-1)			
	TPU:	+/-0.0173		+/-0.0214							
Thallium-208		0.510		0.551	pCi/g	0.226		(0-1)			
	TPU:	+/-0.0398		+/-0.0517							
Thorium-227	U	-0.121	U	-0.111	pCi/g	0.0224		(0-1)			
	TPU:	+/-0.105		+/-0.122							
Thorium-231	U	0.184	U	0.0306	pCi/g	0.118		(0-1)			
	TPU:	+/-0.288		+/-0.359							
Thorium-234	U	2.35		1.21	pCi/g	0.351		(0-1)			
	TPU:	+/-1.12		+/-0.490							
Tin-113	U	-0.0198	U	-0.00431	pCi/g	0.187		(0-1)			
	TPU:	+/-0.0175		+/-0.0242							
Uranium-235	U	-0.0268	U	0.171	pCi/g	0.551		(0-1)			
	TPU:	+/-0.0931		+/-0.086							
Yttrium-88	U	0.0287	U	0.00873	pCi/g	0.276		(0-1)			
	TPU:	+/-0.0142		+/-0.0221							
QC1202050256	LCS										
Americium-241	15.9			13.8	pCi/g		86.5 (75%-125%)			03/04/10	18:53
	TPU:			+/-0.616							
Bismuth-211				2.03	pCi/g						
	TPU:			+/-0.356							
Bismuth-214				0.657	pCi/g						
	TPU:			+/-0.100							
Cadmium-109				30.8	pCi/g						
	TPU:			+/-1.89							
Cerium-139			U	0.00141	pCi/g						
	TPU:			+/-0.0186							
Cesium-134				0.151	pCi/g						
	TPU:			+/-0.0398							
Cesium-137	5.55			6.00	pCi/g		108 (75%-125%)				
	TPU:			+/-0.314							
Cobalt-60	6.36			6.37	pCi/g		100 (75%-125%)				
	TPU:			+/-0.307							
Europium-152			U	0.0216	pCi/g						
	TPU:			+/-0.0732							
Lanthanum-140			U	-0.0452	pCi/g						
	TPU:			+/-0.0335							

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QC Summary

Workorder: 247551

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	956158								
Lead-212			1.07	pCi/g					
	TPU:		+/-0.0995						
Lead-214			0.735	pCi/g					
	TPU:		+/-0.131						
Mercury-203		U	0.0271	pCi/g					
	TPU:		+/-0.0263						
Potassium-40			1.18	pCi/g					
	TPU:		+/-0.284						
Radium-223		U	-0.426	pCi/g					
	TPU:		+/-0.526						
Radium-224			4.01	pCi/g					
	TPU:		+/-0.874						
Radium-226			0.657	pCi/g					
	TPU:		+/-0.100						
Radium-228			1.24	pCi/g					
	TPU:		+/-0.264						
Ruthenium-106		U	-0.506	pCi/g					
	TPU:		+/-0.265						
Sodium-22		U	0.00773	pCi/g					
	TPU:		+/-0.0214						
Strontium-85		U	-0.0856	pCi/g					
	TPU:		+/-0.0325						
Thallium-208			0.406	pCi/g					
	TPU:		+/-0.054						
Thorium-227		U	0.0826	pCi/g					
	TPU:		+/-0.188						
Thorium-231		U	-0.426	pCi/g					
	TPU:		+/-0.526						
Thorium-234		U	1.01	pCi/g					
	TPU:		+/-0.748						
Tin-113		U	0.0131	pCi/g					
	TPU:		+/-0.0365						
Uranium-235		U	0.0693	pCi/g					
	TPU:		+/-0.118						
Yttrium-88		U	-0.0248	pCi/g					
	TPU:		+/-0.0237						
QC1202050254	MB								
Americium-241		U	0.00339	pCi/g					03/04/1018:51
	TPU:		+/-0.0411						
Bismuth-211		U	-0.033	pCi/g					
	TPU:		+/-0.0519						
Bismuth-214		U	-0.0289	pCi/g					
	TPU:		+/-0.0204						
Cadmium-109		U	-0.0313	pCi/g					
	TPU:		+/-0.162						
Cerium-139		U	0.00328	pCi/g					
	TPU:		+/-0.00586						
Cesium-134		U	0.00373	pCi/g					
	TPU:		+/-0.00933						
Cesium-137		U	-0.00395	pCi/g					
	TPU:		+/-0.00658						

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QC Summary

Workorder: 247551

Page 5 of 7

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	956158										
Cobalt-60			U	0.00212	pCi/g						
	TPU:			+/-0.00876							
Europium-152			U	0.0136	pCi/g						
	TPU:			+/-0.0202							
Lanthanum-140			U	0.0129	pCi/g						
	TPU:			+/-0.0126							
Lead-212			U	-0.0223	pCi/g						
	TPU:			+/-0.0137							
Lead-214			U	0.00556	pCi/g						
	TPU:			+/-0.0187							
Mercury-203			U	0.00437	pCi/g						
	TPU:			+/-0.00691							
Potassium-40			U	-0.0195	pCi/g						
	TPU:			+/-0.0871							
Radium-223			U	0.114	pCi/g						
	TPU:			+/-0.145							
Radium-224			U	-0.275	pCi/g						
	TPU:			+/-0.143							
Radium-226			U	-0.0289	pCi/g						
	TPU:			+/-0.0204							
Radium-228			U	0.0431	pCi/g						
	TPU:			+/-0.0356							
Ruthenium-106			U	-0.00279	pCi/g						
	TPU:			+/-0.0698							
Sodium-22			U	-0.00399	pCi/g						
	TPU:			+/-0.00711							
Strontium-85			U	-0.0277	pCi/g						
	TPU:			+/-0.0122							
Thallium-208			U	-0.00297	pCi/g						
	TPU:			+/-0.00891							
Thorium-227			U	0.0413	pCi/g						
	TPU:			+/-0.0555							
Thorium-231			U	0.114	pCi/g						
	TPU:			+/-0.145							
Thorium-234			U	-0.29	pCi/g						
	TPU:			+/-0.375							
Tin-113			U	0.00799	pCi/g						
	TPU:			+/-0.00826							
Uranium-235			U	-0.0208	pCi/g						
	TPU:			+/-0.0436							
Yttrium-88			U	-0.000409	pCi/g						
	TPU:			+/-0.00975							
Rad Liquid Scintillation											
Batch	956742										
QC1202051382	247360001	DUP									
Tritium			U	109	U	56.0	pCi/L	0.213	(0-1) KXK2	03/11/1016:14	
			TPU:	+/-64.6		+/-60.8					
QC1202051383	LCS										
Tritium			5540			5850	pCi/L	106 (80%-120%)		03/09/1010:40	
			TPU:			+/-533					

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QC Summary

Workorder: 247551

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	956742								
QC1202051381	MB								
Tritium		U	118	pCi/L					03/11/1018:49
	TPU:		+/-52.2						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- E Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- E Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- JNX Non Calibrated Compound
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- UJ Compound cannot be extracted
- UJ 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

GEL LABORATORIES LLC

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QC Summary

Workorder: 247551

Page 7 of 7

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
----------	-----	-------------	----	-------	-----	------	-------	-------	------	------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the 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# 961200 Product: Am Date: 3/18/10

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 REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature] 3/18/10

Secondary Review Performed By: [Signature] 3/19/10

LANL

3/9 - 3/19/10 Page 1053 of 1389

Am/Cm Que Sheet

12-MAR-10

Batch #: 961200

Analyst: AYB1

First Client Due Date: 20-MAR-10

Internal Due Date: 09-MAR-10

Comments:

Tracer(s): Am243/Cm244

Tracer Code: 44596-255

Expiration Date: 5/11/10

Vol: 0.1

LCS Isotope(s): Am241/Cm244

LCS Code(s):

Expiration Date: 5/11/10

Vol(s): 1.25

Spike Isotope(s): Am241/Cm244

Spike Code(s):

Expiration Date: 5/11/10

Vol(s): 1.25

Prep Date: 3/1/10

Initials: ATB

Pipet ID: 2974058

Balance ID: 5041072

Witness: WDA 3/11/10

Wet/Dry: 1.25

Aliquot (g/l/n): 1.25

Am/Cm: 227

Det #: 228

Pos. 229

Collection Date 230

Client 231

Matrix 232

Hazard Code 233

Min 234

Type 235

Sample ID 236

Client Description 237

RE46-10-13324 238

RE46-10-13323 239

RE46-10-13361 240

RE46-10-13380 241

RE15-10-8349 242

RE15-10-8348 243

RE15-10-8317 244

RE15-10-8319 245

RE15-10-8316 246

RE15-10-8326 247

RE15-10-8318 248

RE11-10-1859 249

RE11-10-1860 250

RE11-10-1872 251

RE11-10-1857 252

RE11-10-1856 253

RE11-10-1858 254

RE11-10-1871 255

MB for batch 961200 256

RE15-10-8317(247797001DUP) 257

LCS for batch 961200 258

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Choose SOP Used: GL-RAD-A-011
GL-RAD-A-036

GEL Laboratories LLC, Radiochemistry Division

Solid Sample Dissolution by LEACH or DIGESTION
Circle One

Data Reviewed By: 3/17/10

Blank Correction Report

Batch ID 961200

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202061745	DUP	Americium-241	1.26 g	0.00567	0.00326	0.0208	-0.1055556	pCi/g	NO
1202061746	LCS	Americium-241	0.106 g	32.4	2.34	0.218	-0.12547170	pCi/g	NO
1202061744	MB	Americium-241	1.00 g	-0.0133	0.0048	0.0296	-0.0133	pCi/g	NO
247549001	RE46-10-13324	Americium-241	1.26 g	-0.00181	0.00148	0.0217	-0.1055556	pCi/g	NO
247549002	RE46-10-13323	Americium-241	1.25 g	0.00279	0.00208	0.0226	-0.01064	pCi/g	NO
247549003	RE46-10-13361	Americium-241	1.26 g	0.00232	0.0018	0.0202	-0.1055556	pCi/g	NO
247549004	RE46-10-13380	Americium-241	1.25 g	-0.00289	0.00184	0.0218	-0.01064	pCi/g	NO
247551001	RE15-10-8349	Americium-241	1.26 g	-0.000275	0.00154	0.0225	-0.1055556	pCi/g	NO
247551002	RE15-10-8348	Americium-241	1.26 g	0.00155	0.00266	0.0307	-0.1055556	pCi/g	NO
247797001	RE15-10-8317	Americium-241	1.26 g	-0.000211	0.00315	0.021	-0.1055556	pCi/g	NO
247797002	RE15-10-8319	Americium-241	1.26 g	0.00125	0.00154	0.0225	-0.1055556	pCi/g	NO
247797003	RE15-10-8316	Americium-241	1.25 g	-0.00608	0.00259	0.0217	-0.01064	pCi/g	NO
247797004	RE15-10-8326	Americium-241	1.26 g	0.000554	0.00256	0.0222	-0.1055556	pCi/g	NO
247797005	RE15-10-8318	Americium-241	1.25 g	-0.000327	0.0015	0.022	-0.01064	pCi/g	NO
248239001	RE11-10-1859	Americium-241	1.25 g	-0.00141	0.00183	0.0217	-0.01064	pCi/g	NO
248239002	RE11-10-1860	Americium-241	1.26 g	-0.00182	0.00155	0.0227	-0.1055556	pCi/g	NO
248239003	RE11-10-1872	Americium-241	1.26 g	0.000152	0.0019	0.0226	-0.1055556	pCi/g	NO
248239004	RE11-10-1857	Americium-241	1.25 g	0.000959	0.00315	0.0221	-0.01064	pCi/g	NO
248239005	RE11-10-1856	Americium-241	1.26 g	0.00308	0.00272	0.0219	-0.1055556	pCi/g	NO
248239006	RE11-10-1858	Americium-241	1.26 g	-0.00245	0.00208	0.0213	-0.1055556	pCi/g	NO
248239007	RE11-10-1871	Americium-241	1.26 g	0.0158	0.00493	0.0216	-0.1055556	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S0247551001_AM
SAMPLE QTY : 1.260 G
SAMPLE DATE : 15-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 88.788

CHAMBER : 043
DETECTOR S/N : 76543
AVERAGE %EFFICIENCY : 36.4208
COUNT DATE : 17-MAR-2010 07:28:17
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B043.CNF;1115
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W043.CNF;288
CAL DATE : 5-MAR-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.5896E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

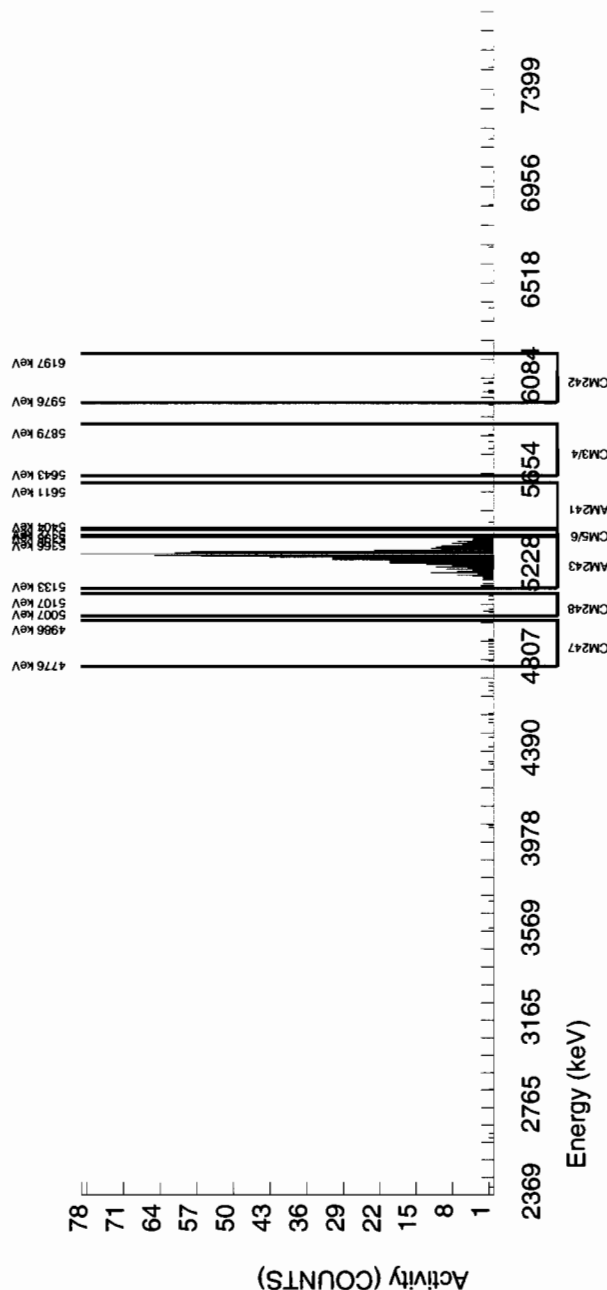
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5435.407	4.918	1.000	-0.179	0.000	2.7707	99.94000	-2.75E-04	1.54E-03	9.18E-03	2.25E-02	1.54E-03
AM243	5270.000	5279.833	28.609	679.000	677.560	1.440	1.2000	99.78000	1.04E+00	7.80E-02	3.98E-03	1.21E-02	4.01E-02
CM-242	6102.000	6046.796	44.266	7.000	7.000	0.000	4.0092	100.0000	1.22E-02	4.69E-03	1.33E-02	3.07E-02	4.63E-03
CM-3/4	5795.020	5803.957	63.940	3.000	3.000	0.000	4.8510	100.0000	4.62E-03	2.68E-03	1.61E-02	3.63E-02	2.67E-03
CM-5/6	5386.000	5376.945	0.000	2.000	2.000	0.000	6.1294	86.09000	3.57E-03	2.53E-03	2.36E-02	5.20E-02	2.52E-03
CM-247	4946.000	4901.131	7.224	10.000	8.560	1.440	6.3427	79.30000	1.66E-02	6.52E-03	2.65E-02	5.82E-02	6.43E-03
CM-248	5078.600	5050.921	7.224	8.000	8.000	0.000	11.0244	91.00000	1.35E-02	4.85E-03	4.01E-02	8.48E-02	4.77E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S0247551002_AM
SAMPLE QTY : 1.257 G
SAMPLE DATE : 15-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 82.086

CHAMBER : 248
DETECTOR S/N : 79441
AVERAGE %EFFICIENCY : 40.4154
COUNT DATE : 18-MAR-2010 14:39:52
ELAPSED LIVE TIME(SEC) : 29149.05

LIB FILE : ENV_ALPHA_AM
BKG FILE : B248.CNF:92
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W248.CNF:31
CAL DATE : 28-FEB-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.3941E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

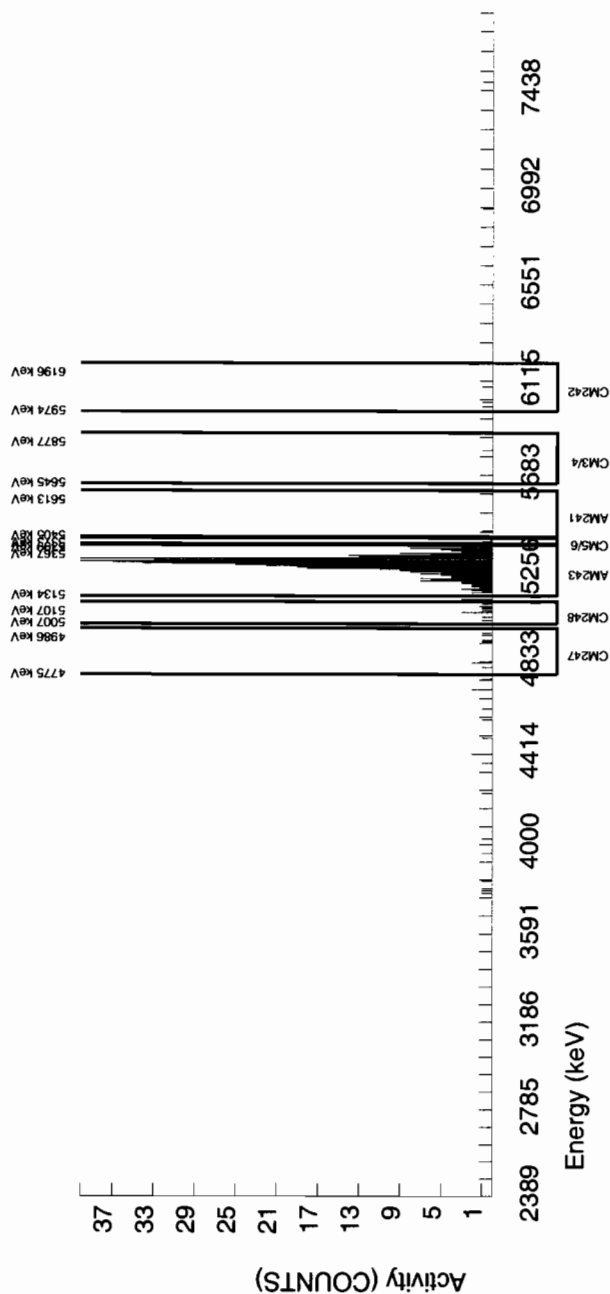
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5426.074	24.608	2.000	0.698	0.486	2.7707	99.94000	1.55E-03	2.66E-03	1.24E-02	3.07E-02	2.65E-03
AM243	5270.000	5286.249	41.033	470.000	469.028	0.972	0.9857	99.78000	1.05E+00	8.68E-02	4.40E-03	1.48E-02	4.83E-02
CM-242	6102.000	6039.042	88.588	3.000	3.000	0.000	4.0092	100.0000	7.64E-03	4.44E-03	1.79E-02	4.18E-02	4.41E-03
CM-3/4	5795.020	5801.379	4.922	1.000	-1.429	2.429	4.8510	100.0000	-3.19E-03	3.30E-03	2.16E-02	4.93E-02	3.29E-03
CM-5/6	5386.000	5382.735	5.716	8.000	8.000	0.000	6.1294	86.09000	2.07E-02	7.44E-03	3.17E-02	7.05E-02	7.31E-03
CM-247	4946.000	4900.488	4.922	8.000	7.514	0.486	6.3427	79.30000	2.11E-02	8.18E-03	3.57E-02	7.89E-02	8.05E-03
CM-248	5078.600	5071.127	6.101	10.000	10.000	0.000	11.0244	91.00000	2.44E-02	7.91E-03	5.40E-02	1.15E-01	7.73E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S0247797001_AM
SAMPLE QTY : 1.256 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 84.688

CHAMBER : 237
DETECTOR S/N : 79430
AVERAGE %EFFICIENCY : 41.0426
COUNT DATE : 16-MAR-2010 07:38:48
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B237.CNF:89
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W237.CNF:30
CAL DATE : 28-FEB-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.4700E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/g

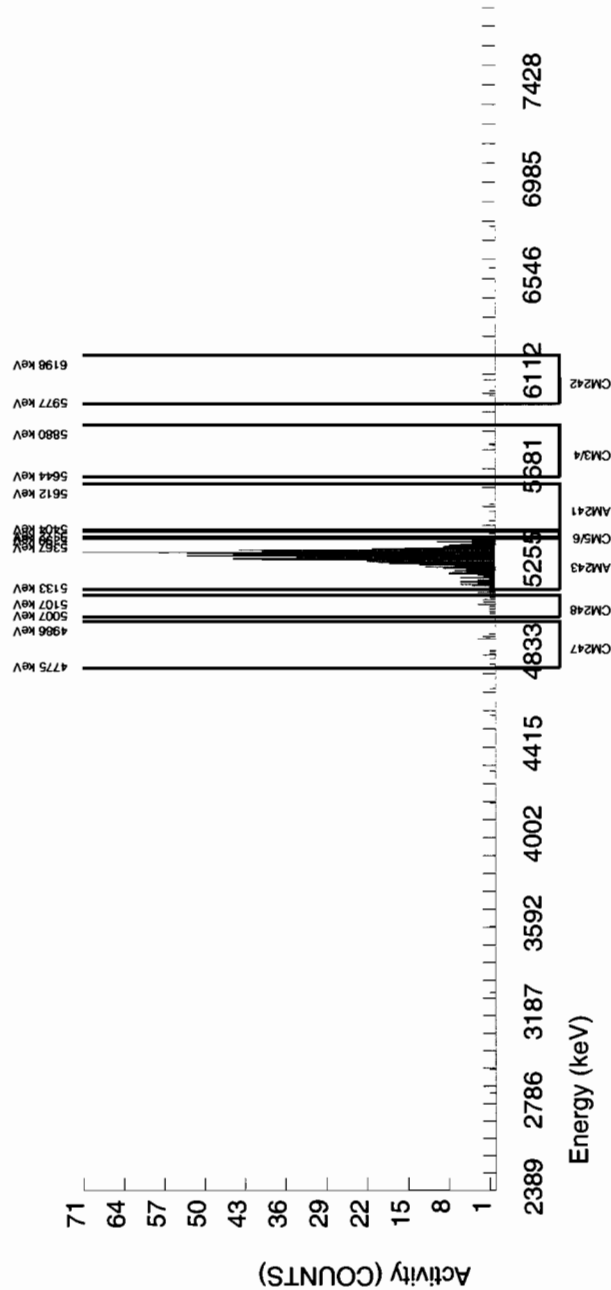
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/g

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
AM-241	5479.150	5469.102	0.000	4.000	-0.147	2.880	2.7707	99.94000	-2.11E-04	3.15E-03	8.57E-03	2.10E-02	3.14E-03
AM243	5270.000	5283.353	47.363	729.000	728.280	0.720	0.8485	99.78000	1.05E+00	7.66E-02	2.63E-03	9.15E-03	3.88E-02
CM-242	6102.000	6060.450	4.935	4.000	4.000	0.000	4.0092	100.0000	6.45E-03	3.25E-03	1.24E-02	2.87E-02	3.22E-03
CM-3/4	5795.020	5796.647	9.252	2.000	2.000	0.000	4.8510	100.0000	2.87E-03	2.04E-03	1.50E-02	3.39E-02	2.03E-03
CM-5/6	5386.000	5377.298	0.000	6.000	6.000	0.000	6.1294	86.09000	9.99E-03	4.13E-03	2.20E-02	4.85E-02	4.08E-03
CM-247	4946.000	4868.362	4.935	10.000	10.000	0.000	6.3427	79.30000	1.81E-02	5.89E-03	2.47E-02	5.44E-02	5.71E-03
CM-248	5078.600	5074.572	0.000	14.000	13.280	0.720	11.0244	91.00000	2.09E-02	6.14E-03	3.75E-02	7.92E-02	6.00E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S1202061744_AM
SAMPLE QTY : 1.000 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 77.708

CHAMBER : 253
DETECTOR S/N : 79446
AVERAGE %EFFICIENCY : 39.9556
COUNT DATE : 16-MAR-2010 07:39:28
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B253.CNF:91
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W253.CNF:30
CAL DATE : 28-FEB-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9165E+00 dpm
RESULTS : 2.2664E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3150E+01 pCi/g

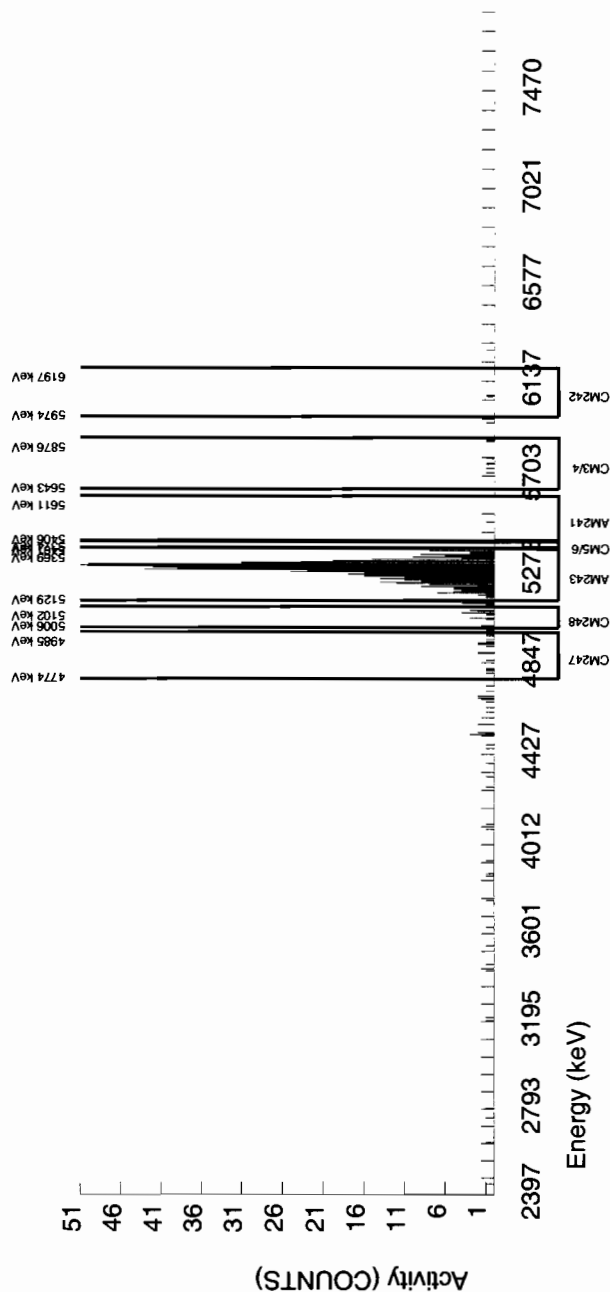
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3150E+01 pCi/g

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
AM-241	5479.150	5497.710	4.926	1.000	-6.612	6.480	2.7707	99.94000	-1.33E-02	4.80E-03	1.21E-02	2.96E-02	4.80E-03
AM243	5270.000	5277.490	37.739	652.000	650.560	1.440	1.2000	99.78000	1.31E+00	9.92E-02	5.23E-03	1.59E-02	5.16E-02
CM-242	6102.000	6040.755	0.000	3.000	3.000	0.000	4.0092	100.0000	6.19E-03	3.60E-03	1.74E-02	4.03E-02	3.57E-03
CM-3/4	5795.020	5789.049	137.938	7.000	-5.960	12.960	4.8510	100.0000	-1.20E-02	8.15E-03	2.11E-02	4.76E-02	8.15E-03
CM-5/6	5386.000	5377.852	0.000	6.000	6.000	0.000	6.1294	86.09000	1.40E-02	5.80E-03	3.10E-02	6.82E-02	5.73E-03
CM-247	4946.000	4912.012	0.000	20.000	6.320	13.680	6.3427	79.30000	1.61E-02	1.39E-02	3.48E-02	7.64E-02	1.39E-02
CM-248	5078.600	5063.972	38.538	20.000	20.000	0.000	11.0244	91.00000	4.43E-02	1.03E-02	5.27E-02	1.11E-01	9.90E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S1202061745_AM
SAMPLE QTY : 1.260 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 87.411

CHAMBER : 254
DETECTOR S/N : 79447
AVERAGE %EFFICIENCY : 40.1306
COUNT DATE : 16-MAR-2010 07:39:31
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B254.CNF:89
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W254.CNF:30
CAL DATE : 28-FEB-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.5494E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

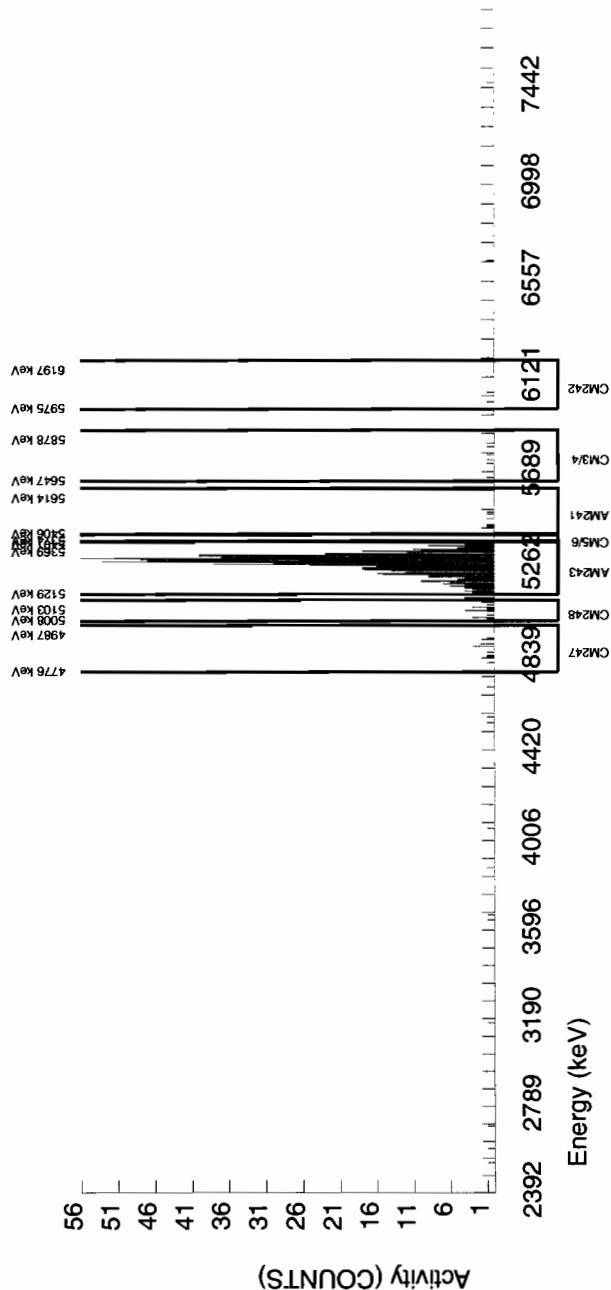
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5473.466	68.479	6.000	4.001	0.720	2.7707	99.94000	5.67E-03	3.26E-03	8.47E-03	2.08E-02	3.24E-03
AM243	5270.000	5276.364	46.576	735.000	4.001	0.000	0.0000	99.78000	1.04E+00	7.62E-02	0.00E+00	3.84E-03	3.85E-02
CM-242	6102.000	6023.712	69.096	4.000	4.000	0.000	4.0092	100.0000	6.37E-03	3.21E-03	1.22E-02	2.83E-02	3.18E-03
CM-3/4	5795.020	5758.457	148.063	6.000	6.000	0.000	4.8510	100.0000	8.52E-03	3.52E-03	1.48E-02	3.35E-02	3.48E-03
CM-5/6	5386.000	5376.905	0.000	7.000	7.000	0.000	6.1294	86.09000	1.15E-02	4.41E-03	2.17E-02	4.79E-02	4.35E-03
CM-247	4946.000	4872.351	13.572	12.000	10.560	1.440	6.3427	79.30000	1.88E-02	6.55E-03	2.44E-02	5.37E-02	6.44E-03
CM-248	5078.600	5063.371	48.532	19.000	19.000	0.000	11.0244	91.00000	2.96E-02	7.03E-03	3.70E-02	7.82E-02	6.78E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961200
SAMPLE ID : S1202061746_AM
SAMPLE QTY : 0.106 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 100.775

CHAMBER : 233
DETECTOR S/N : 79426
AVERAGE %EFFICIENCY : 39.4029
COUNT DATE : 16-MAR-2010 07:38:36
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_AM
BKG FILE : B233.CNF:90
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W233.CNF:31
CAL DATE : 2-MAR-2010

TRACER
ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9165E+00 dpm
RESULTS : 2.9391E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3150E+01 pCi/G

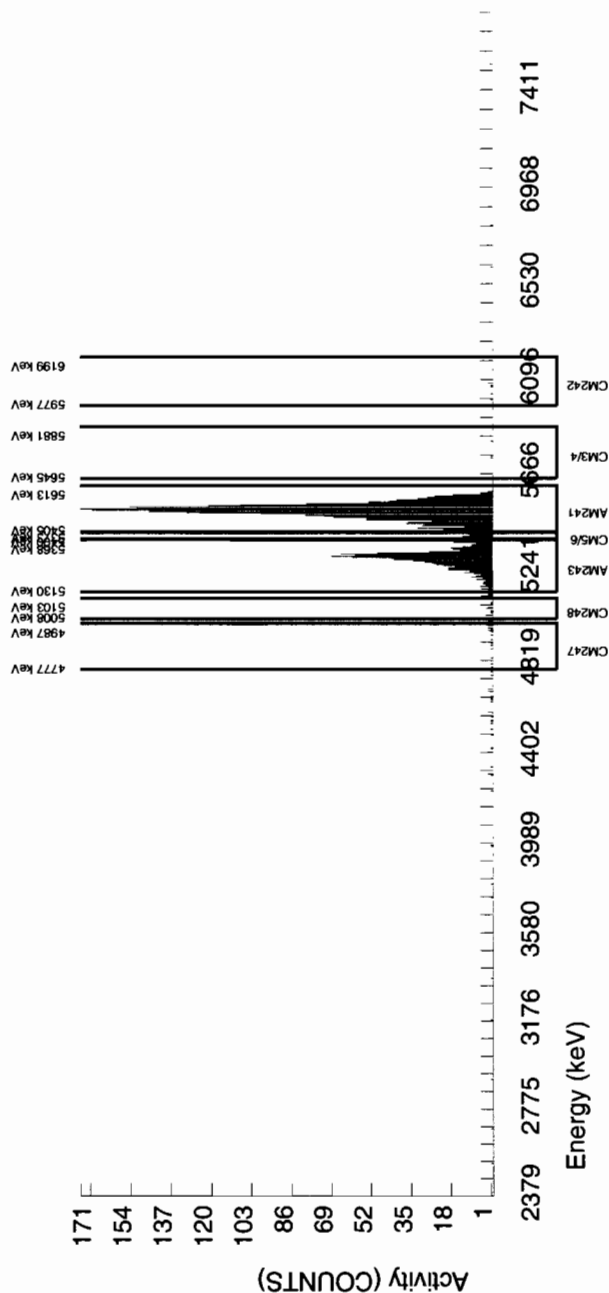
LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3150E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5503.848	45.463	2183.000	2181.552	0.000	2.7707	99.94000	3.24E+01	2.34E+00	8.89E-02	2.18E-01	6.95E-01
AM243	5270.000	5284.250	37.412	832.000	832.000	0.000	0.0000	99.78000	1.24E+01	9.55E-01	0.00E+00	4.04E-02	4.30E-01
CM-242	6102.000	6059.966	4.925	6.000	6.000	0.000	4.0092	100.0000	9.13E-02	3.78E-02	1.29E-01	2.97E-01	3.73E-02
CM-3/4	5795.020	5767.838	78.804	4.000	4.000	0.000	4.8510	100.0000	5.95E-02	3.00E-02	1.58E-01	3.51E-01	2.97E-02
CM-5/6	5386.000	5388.001	0.000	52.000	52.000	0.000	6.1294	86.09000	8.98E-01	1.39E-01	2.28E-01	5.03E-01	1.25E-01
CM-247	4946.000	4906.682	27.089	19.000	17.560	1.440	6.3427	79.30000	3.29E-01	8.69E-02	2.56E-01	5.64E-01	8.39E-02
CM-248	5078.600	5046.002	0.000	18.000	18.000	0.000	11.0244	91.00000	2.94E-01	7.22E-02	3.88E-01	8.21E-01	6.93E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



Radiochemistry Batch Checklist, Rev10

Batch: 9161201 Product: PU Date: 3/19/10

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.	✓		Case narrative
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stated.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.	✓		DER 806560
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.	✓		DER 806560
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

RADcheckdistrev10, revised 1/13/2010

Primary Review Performed By: Denise Green 3/19/10Secondary Review Performed By: Paul An 3/19/10

3/20

LANC

P

Plutonium Que Sheet

04-MAR-10

Batch #: 961201

Analyst: AYB1

First Client Due Date: 20-MAR-10

Internal Due Date: 09-MAR-10

Tracer Isotope(s): Pu-238 Tracer Code: 1430 C

Expiration Date: 3/4/11

Vol: 0.1

LCS Isotope(s): Pu-239/Pu-238 LCS Code: MA

Expiration Date: MA

Vol: MA

Spike Isotope(s): Pu-239/Pu-238 Spike Code: MA

Expiration Date: MA

Vol: MA

Prep Date: 3/11/10 Initials: AYB Pipet ID: 2971058 Balance ID: 50110272

Witness: MDA 3/11/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot (g/l/f)	Pu Det #
247549001-1	RE46-10-13324	SAMPLE	.05 pC/g		SOIL	LANL010	18-FEB-10	1	1	1.259	71	83
247549002-1	RE46-10-13323	SAMPLE	.05 pC/g		SOIL	LANL010	18-FEB-10	2	2	1.251		84
247549003-1	RE46-10-13361	SAMPLE	.05 pC/g		SOIL	LANL010	18-FEB-10	3	3	1.256		85
247549004-1	RE46-10-13380	SAMPLE	.05 pC/g		SOIL	LANL010	18-FEB-10	4	4	1.252		86
247551001-1	RE15-10-8349	SAMPLE	.05 pC/g		SOIL	LANL010	15-FEB-10	5	5	1.260		87
247551002-1	RE15-10-8348	SAMPLE	.05 pC/g		SOIL	LANL010	15-FEB-10	6	6	1.257	78	88
247797001-1	RE15-10-8317	SAMPLE	.05 pC/g		SOIL	LANL010	17-FEB-10	7	7	1.256	73	89
247797002-1	RE15-10-8319	SAMPLE	.05 pC/g		SOIL	LANL010	17-FEB-10	8	8	1.256		20
247797003-1	RE15-10-8316	SAMPLE	.05 pC/g		SOIL	LANL010	17-FEB-10	9	9	1.258		22
247797004-1	RE15-10-8326	SAMPLE	.05 pC/g		SOIL	LANL010	17-FEB-10	10	10	1.259	74	23
247797005-1	RE15-10-8318	SAMPLE	.05 pC/g		SOIL	LANL010	17-FEB-10	11	11	1.250		24
248239001-1	RE11-10-1859	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	12	12	1.254	107	25
248239002-1	RE11-10-1860	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	13	13	1.256		26
248239003-1	RE11-10-1872	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	14	14	1.255		27
248239004-1	RE11-10-1857	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	15	15	1.254		28
248239005-1	RE11-10-1856	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	16	16	1.250	108	29
248239006-1	RE11-10-1858	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	17	17	1.260		30
248239007-1	RE11-10-1871	SAMPLE	.05 pC/g		SOIL	LANL010	23-FEB-10	18	18	1.259	109	31
1202061750-1	MB for batch 961201	MB	.05 pC/g		QC ACCOUNT	QC ACCOUNT		19	19	1.00	46	
1202061751-1	RE15-10-8317(247797001DUP)	DUP	.05 pC/g		QC ACCOUNT	QC ACCOUNT	17-FEB-10	20	20	1.260	48	
1202061752-1	LCS for batch 961201	LCS	.05 pC/g		QC ACCOUNT	QC ACCOUNT		21	21	0.106	45	

ARM 0244-B EXP: 4/30/20

Choose SOP Used: GL-RAD-A-01, GL-RAD-A-036, RAD-A-043

Solid Sample Dissolution by: LEACH or DIGESTION Circle One

Data Reviewed By:

3/19/10

GEL Laboratories LLC, Radiochemistry Division

DATA EXCEPTION REPORT

Mo. Day Yr. 19-MAR-10	Division: Radiochemistry	Quality Criteria: SOP	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, Pu-11-RC Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 961201	Sample Numbers: see below		
Potentially affected work order(s)(SDG): 247549(10-1966),247551(10-1969),247797(10-1984),248239(10-2133)			
Application Issues: Other			
Specification and Requirements Exception Description:		DER Disposition:	
1. Samples 247549004 and 948239003 did not achieve 400 tracer counts due to shortened count time to minimize tailing from the Pu-236 tracer into the Pu-238 region off interest.		1. The client tracer yield recovery requirements and requested detection limits were met. Reporting results.	

Originator's Name:

Denise Green

19-MAR-10

Data Validator/Group Leader:

Jessica Downey

19-MAR-10

Blank Correction Report

Batch ID 961201

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202061751	DUP	Plutonium-238	1.26 g	0.00458	0.00982	0.0312	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00178	0.00793	0.0264	.003325397	pCi/g	YES
1202061752	LCS	Plutonium-238	0.106 g	6.23	0.574	0.311	.25	pCi/g	NO
		Plutonium-239/240	0.106 g	43.0	3.09	0.264	.039528302	pCi/g	NO
1202061750	MB	Plutonium-238	1.00 g	0.0265	0.00881	0.0312	.0265	pCi/g	YES
		Plutonium-239/240	1.00 g	0.00419	0.00561	0.0264	.00419	pCi/g	YES
247549001	RE46-10-13324	Plutonium-238	1.26 g	-0.000259	0.00671	0.0278	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00298	0.00332	0.0235	.003325397	pCi/g	YES
247549002	RE46-10-13323	Plutonium-238	1.25 g	0.0177	0.00634	0.0276	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0122	0.00556	0.0234	.003352	pCi/g	YES
247549003	RE46-10-13361	Plutonium-238	1.26 g	0.00844	0.00496	0.0299	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00479	0.0034	0.0254	.003325397	pCi/g	YES
247549004	RE46-10-13380	Plutonium-238	1.25 g	0.0214	0.00827	0.0355	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0142	0.00642	0.0301	.003352	pCi/g	YES
247551001	RE15-10-8349	Plutonium-238	1.26 g	0.0205	0.00847	0.0242	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0148	0.00665	0.0205	.003325397	pCi/g	YES
247551002	RE15-10-8348	Plutonium-238	1.26 g	0.0047	0.00708	0.0289	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00397	0.00434	0.0245	.003325397	pCi/g	YES
247797001	RE15-10-8317	Plutonium-238	1.26 g	0.000845	0.00258	0.0282	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00302	0.00336	0.0238	.003325397	pCi/g	YES
247797002	RE15-10-8319	Plutonium-238	1.26 g	0.020	0.0105	0.0304	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	7.75E-05	0.00295	0.0258	.003325397	pCi/g	YES
247797003	RE15-10-8316	Plutonium-238	1.25 g	0.020	0.0112	0.0323	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0194	0.00751	0.0274	.003352	pCi/g	NO
247797004	RE15-10-8326	Plutonium-238	1.26 g	0.00397	0.00433	0.0289	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.000866	0.00262	0.0245	.003325397	pCi/g	YES
247797005	RE15-10-8318	Plutonium-238	1.25 g	0.0136	0.0102	0.0326	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0144	0.00657	0.0276	.003352	pCi/g	YES
248239001	RE11-10-1859	Plutonium-238	1.25 g	0.000845	0.00258	0.0282	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00303	0.00337	0.0239	.003352	pCi/g	YES
248239002	RE11-10-1860	Plutonium-238	1.26 g	0.0243	0.00766	0.0257	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	-0.00031	0.00365	0.0217	.003325397	pCi/g	YES
248239003	RE11-10-1872	Plutonium-238	1.26 g	0.0291	0.0105	0.0343	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00417	0.0041	0.0291	.003325397	pCi/g	YES
248239004	RE11-10-1857	Plutonium-238	1.25 g	0.0222	0.00757	0.0291	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0234	0.00801	0.0247	.003352	pCi/g	NO
248239005	RE11-10-1856	Plutonium-238	1.25 g	0.00469	0.00333	0.0304	.0212	pCi/g	YES
		Plutonium-239/240	1.25 g	-0.00197	0.00342	0.0257	.003352	pCi/g	YES
248239006	RE11-10-1858	Plutonium-238	1.26 g	0.0151	0.00623	0.0314	.021031746	pCi/g	YES

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
248239006	RE11-10-1858	Plutonium-239/240	1.26 g	0.00382	0.00376	0.0266	.003325397	pCi/g	YES
248239007	RE11-10-1871	Plutonium-238	1.26 g	0.0187	0.0067	0.0302	.021031746	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0498	0.0115	0.0255	.003325397	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S0247551001_PU
SAMPLE QTY : 1.260 G
SAMPLE DATE : 18-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 84.418

CHAMBER : 087
DETECTOR S/N : 78199
AVERAGE %EFFICIENCY : 32.3127
COUNT DATE : 17-MAR-2010 08:56:47
ELAPSED LIVE TIME(SEC) : 43200.00

LIB FILE : ENV_ALPHA_PU
BKG FILE : B087.CNF;1039
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W087.CNF;278
CAL DATE : 12-MAR-2010

TRACER ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 3.0300E+00 dpm
RESULTS : 2.5579E+00 dpm

MS/MSD ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

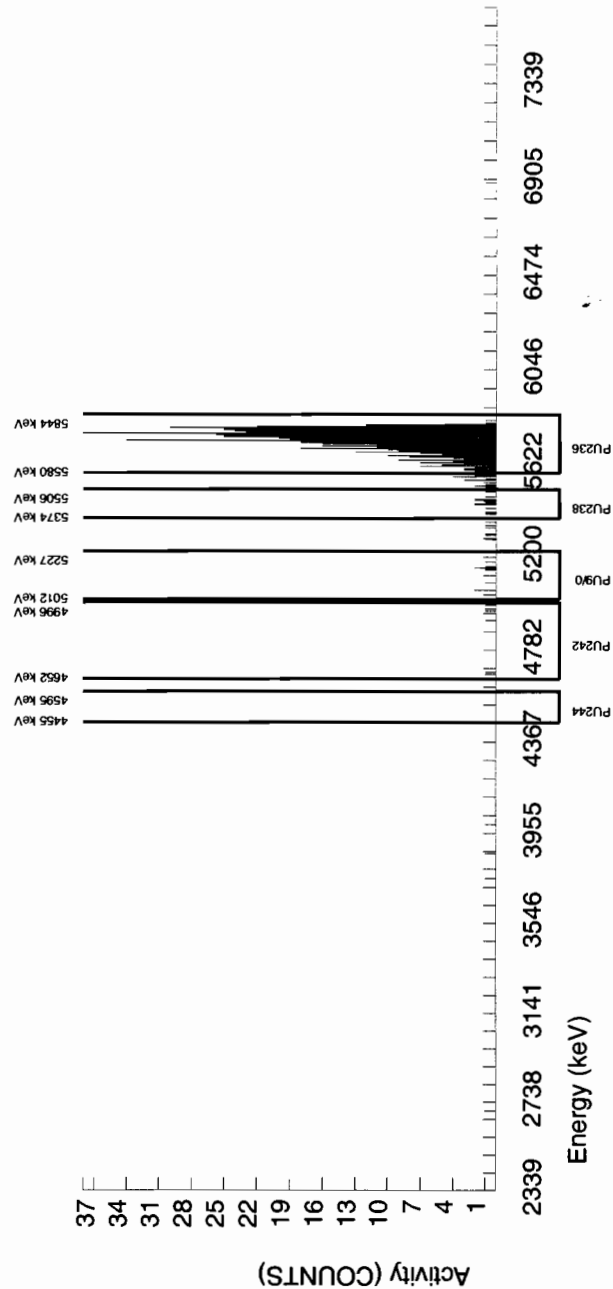
LCS/LCSD ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5732.337	65.797	585.000	584.280	0.720	0.8485	100.0000	1.08E+00	7.79E-02	3.33E-03	1.16E-02	4.49E-02
PU-238	5499.000	5439.271	0.000	17.000	11.240	5.760	2.4495	99.900000	2.05E-02	8.47E-03	9.63E-03	2.42E-02	8.38E-03
PU-9/0	5155.000	5128.459	101.922	11.000	8.120	2.880	1.9732	99.900000	1.48E-02	6.65E-03	7.76E-03	2.05E-02	6.59E-03
PU-242	4890.000	4869.946	303.279	6.000	3.840	2.160	*****	100.0000	6.99E-03	5.02E-03	4.89E-01	9.84E-01	5.00E-03
PU-244	4589.000	4524.985	0.000	0.000	-1.440	1.440	6.4609	99.900000	-2.62E-03	2.60E-03	2.54E-02	5.57E-02	2.60E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S0247551002_PU
SAMPLE QTY : 1.257 G
SAMPLE DATE : 15-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 77.829

CHAMBER : 072
DETECTOR S/N : 45-149AA3
AVERAGE %EFFICIENCY : 33.6853
COUNT DATE : 18-MAR-2010 20:59:49
ELAPSED LIVE TIME(SEC) : 36725.56

LIB FILE : ENV_ALPHA_PU
BKG FILE : B072.CNF;1108
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W072.CNF;279
CAL DATE : 12-MAR-2010

TRACER
ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 3.0361E+00 dpm
RESULTS : 2.3630E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

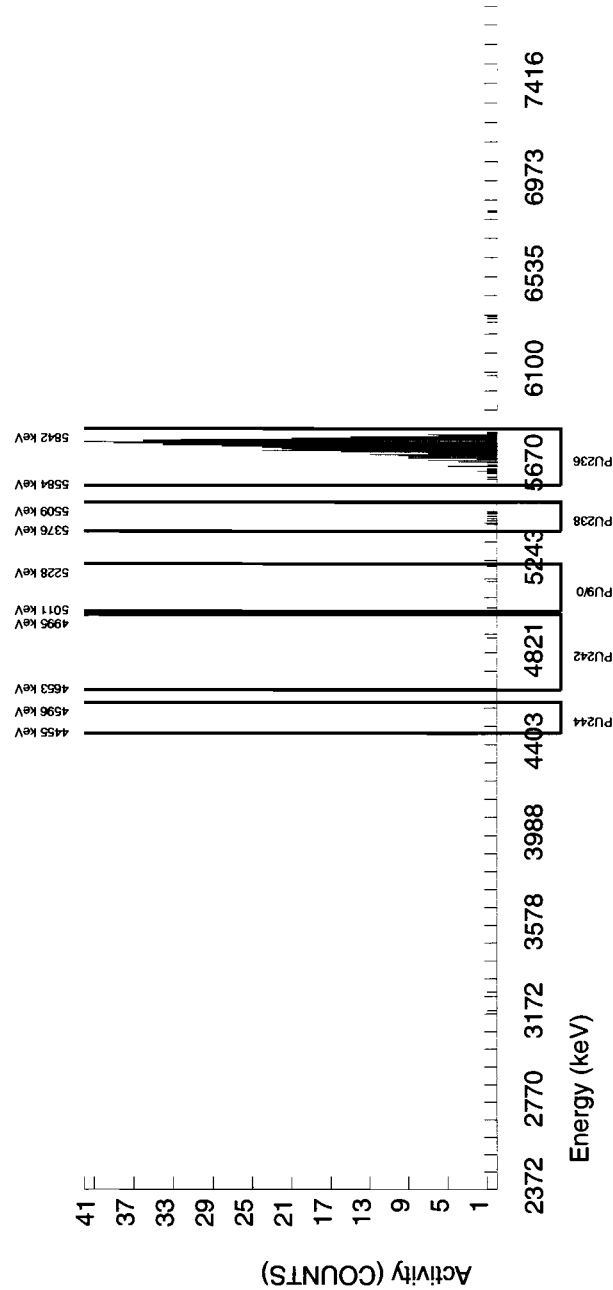
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5766.695	56.256	480.000	476.940	3.060	1.7494	100.0000	1.09E+00	8.41E-02	8.16E-03	2.24E-02	5.01E-02
PU-238	5499.000	5447.777	59.417	7.000	2.103	4.897	2.4495	99.900000	4.70E-03	7.08E-03	1.14E-02	2.89E-02	7.07E-03
PU-9/0	5155.000	5135.725	183.204	3.000	1.776	1.224	1.9732	99.900000	3.97E-03	4.34E-03	9.21E-03	2.45E-02	4.33E-03
PU242	4890.000	4894.715	4.951	1.000	-4.509	5.509	*****	100.0000	-1.01E-02	4.67E-03	5.81E-01	1.17E+00	4.67E-03
PU-244	4589.000	4525.226	0.000	0.000	-1.836	1.836	6.4609	99.900000	-4.10E-03	3.26E-03	3.02E-02	6.64E-02	3.26E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S0247797001_PU
SAMPLE QTY : 1.256 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 81.183

CHAMBER : 073
DETECTOR S/N : 78775
AVERAGE %EFFICIENCY : 33.1763
COUNT DATE : 18-MAR-2010 20:59:49
ELAPSED LIVE TIME(SEC) : 36727.53

LIB FILE : ENV_ALPHA_PU
BKG FILE : B073.CNF;1110
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W073.CNF;287
CAL DATE : 12-MAR-2010

TRACER
ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 3.0321E+00 dpm
RESULTS : 2.4615E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

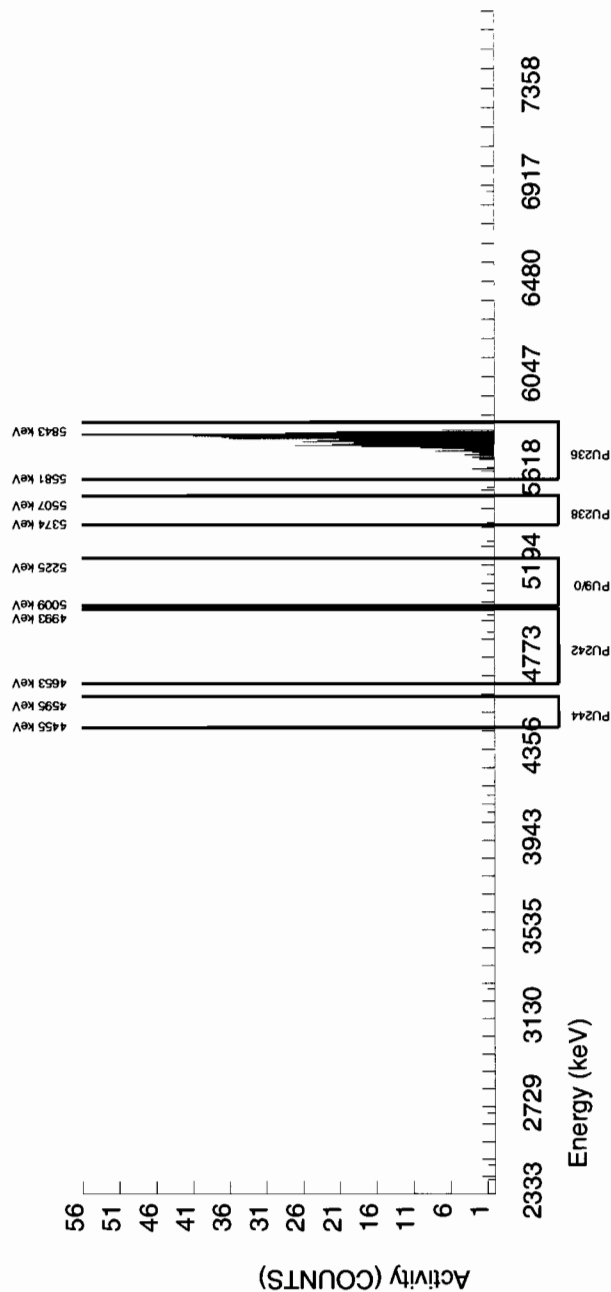
LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5768.294	26.813	490.000	490.000	0.000	0.0000	100.0000	1.09E+00	8.29E-02	0.00E+00	5.90E-03	4.91E-02
PU-238	5499.000	5389.579	4.931	1.000	0.388	0.612	2.4495	99.900000	8.45E-04	2.56E-03	1.11E-02	2.82E-02	2.55E-03
PU-9/0	5155.000	5119.669	73.970	2.000	1.388	0.612	1.9732	99.900000	3.02E-03	3.36E-03	8.97E-03	2.38E-02	3.36E-03
PU242	4890.000	4932.760	78.901	2.000	-1.673	3.673	*****	100.0000	-3.64E-03	4.49E-03	5.66E-01	1.14E+00	4.48E-03
PU-244	4589.000	4524.877	0.000	0.000	0.000	0.000	6.4609	99.900000	0.00E+00	2.18E-03	2.94E-02	6.47E-02	2.18E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S1202061750_PU
SAMPLE QTY : 1.000 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 92.652

LIB FILE : ENV_ALPHA_PU
BKG FILE : B046.CNF;1125
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W046.CNF;291
CAL DATE : 5-MAR-2010

TRACER ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 2.9881E+00 dpm
RESULTS : 2.7686E+00 dpm

LCS/LCSD ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

MS/MSD ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

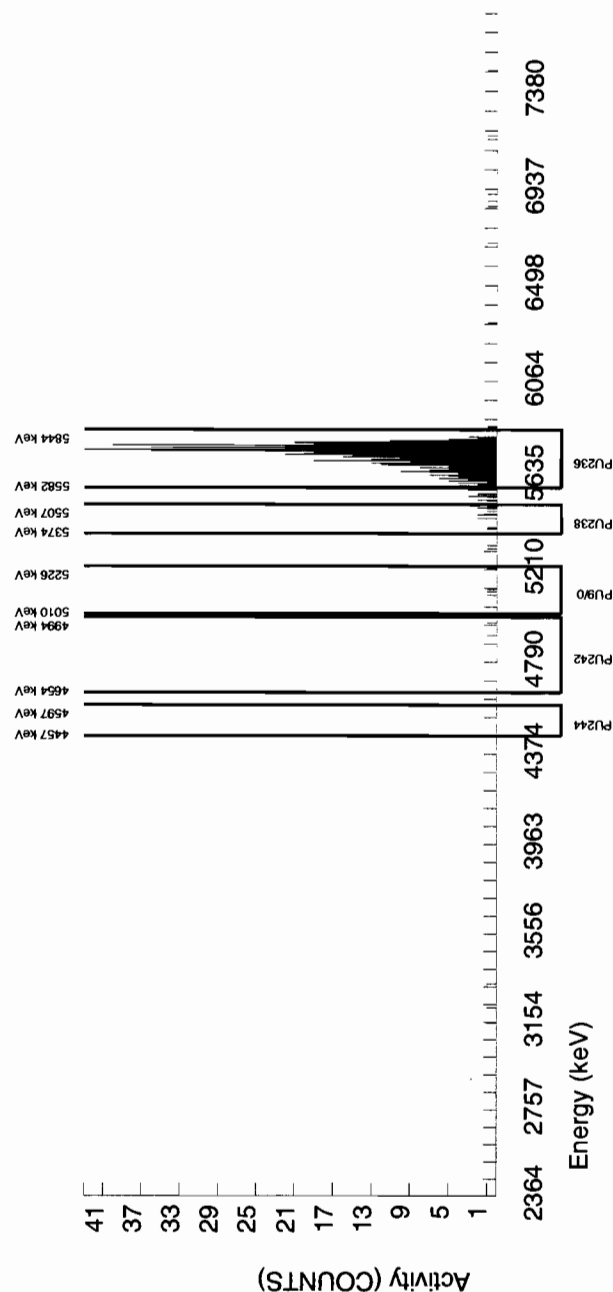
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5734.530	43.299	553.000	550.720	2.280	1.5100	100.0000	1.35E+00	9.89E-02	7.57E-03	2.17E-02	5.75E-02
PU-238	5499.000	5467.047	51.262	12.000	10.860	1.140	2.4495	99.900000	2.65E-02	8.81E-03	1.23E-02	3.12E-02	8.67E-03
PU-9/0	5155.000	5140.104	117.170	4.000	1.720	2.280	1.9732	99.900000	4.19E-03	5.61E-03	9.91E-03	2.64E-02	5.61E-03
PU242	4890.000	4944.193	58.585	2.000	0.290	1.710	*****	100.0000	7.06E-04	4.20E-03	6.25E-01	1.26E+00	4.20E-03
PU-244	4589.000	4526.790	0.000	0.000	-0.570	0.570	6.4609	99.900000	-1.39E-03	2.81E-03	3.24E-02	7.15E-02	2.80E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S1202061751_PU
SAMPLE QTY : 1.260 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 77.408

CHAMBER : 048
DETECTOR S/N : 42483
AVERAGE %EFFICIENCY : 33.2770
COUNT DATE : 17-MAR-2010 07:28:17
ELAPSED LIVE TIME(SEC) : 34202.81

LIB FILE : ENV_ALPHA_PU
BKG FILE : B048.CNF;1121
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W048.CNF;318
CAL DATE : 5-MAR-2010

TRACER
ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 3.0321E+00 dpm
RESULTS : 2.3471E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

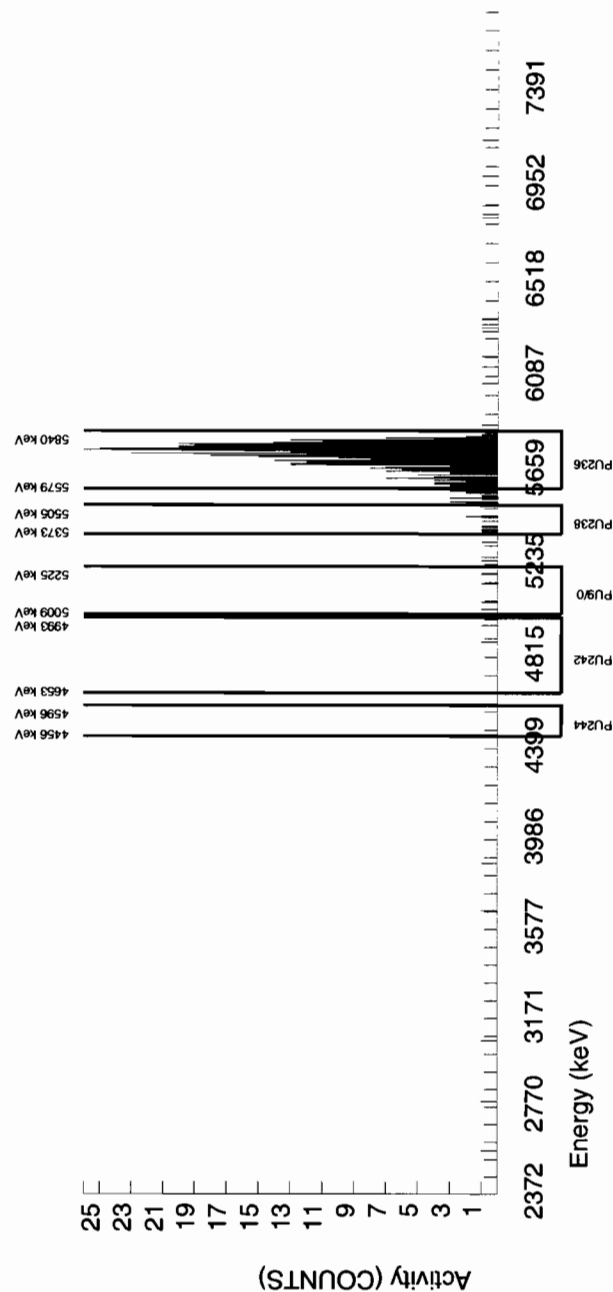
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5733.764	77.501	446.000	436.879	9.121	3.0201	100.0000	1.08E+00	8.72E-02	1.52E-02	3.69E-02	5.27E-02
PU-238	5499.000	5422.227	9.906	11.000	1.879	9.121	2.4495	99.900000	4.58E-03	9.82E-03	1.23E-02	3.12E-02	9.81E-03
PU-9/0	5155.000	5096.906	177.690	7.000	0.729	6.271	1.9732	99.900000	1.78E-03	7.93E-03	9.91E-03	2.64E-02	7.93E-03
PU242	4890.000	4925.159	74.295	2.000	0.290	1.710	*****	100.0000	7.06E-04	4.20E-03	6.25E-01	1.26E+00	4.20E-03
PU-244	4589.000	4525.932	0.000	0.000	0.000	0.000	6.4609	99.900000	0.00E+00	2.44E-03	3.25E-02	7.15E-02	2.44E-03

NOTES:

* BKG Sg calculated via blank population.

(Sg updated 8-MAR-2010)

* BKG Sg of PU-236 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961201
SAMPLE ID : S1202061752_PU
SAMPLE QTY : 0.106 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 90.357

CHAMBER : 045
DETECTOR S/N : 78783
AVERAGE %EFFICIENCY : 33.9687
COUNT DATE : 17-MAR-2010 07:28:17
ELAPSED LIVE TIME(SEC) : 34194.18

LIB FILE : ENV_ALPHA_PU
BKG FILE : B045.CNF;1114
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W045.CNF;300
CAL DATE : 5-MAR-2010

TRACER
ID : 1430-C
NUCLIDE : PU-236
NOMINAL : 2.9881E+00 dpm
RESULTS : 2.7000E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

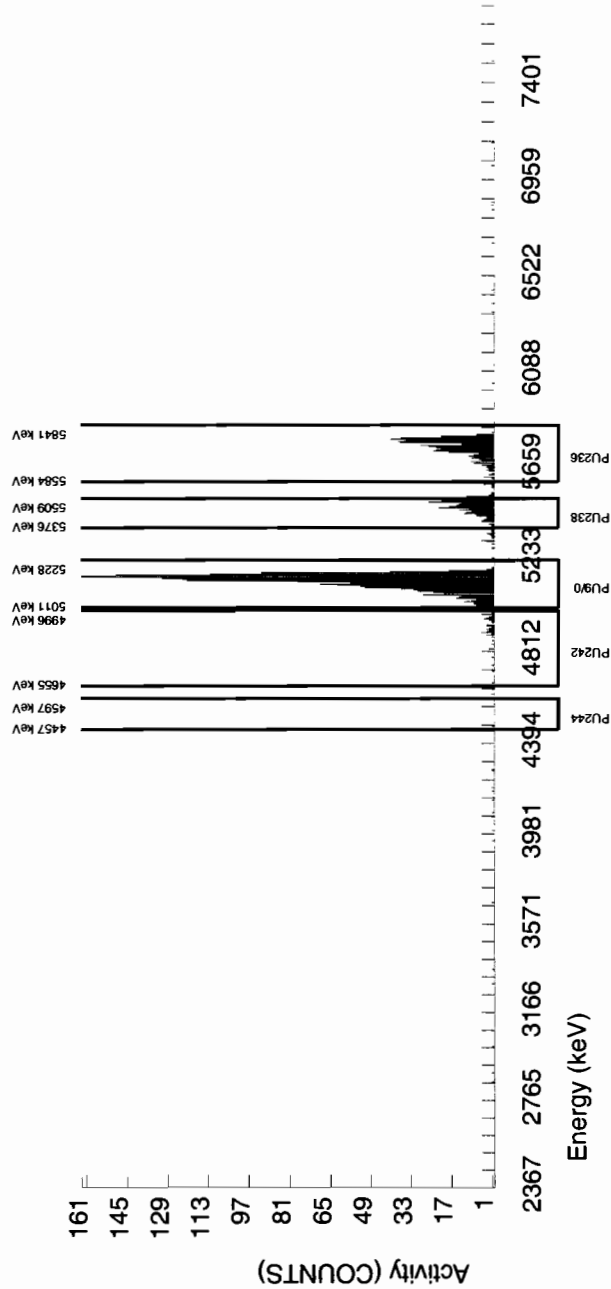
LCS/LCSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5748.433	67.271	521.000	520.430	0.570	0.7549	100.0000	1.27E+01	1.02E+00	3.78E-02	1.41E-01	5.57E-01
PU-238	5499.000	5472.456	0.000	256.000	256.000	0.000	2.4495	99.90000	6.23E+00	5.74E-01	1.23E-01	3.11E-01	3.89E-01
PU-9/0	5155.000	5135.736	39.358	1770.000	1769.430	0.570	1.9732	99.90000	4.30E+01	3.09E+00	9.89E-02	2.64E-01	1.02E+00
PU242	4890.000	4921.010	0.000	55.000	53.860	1.140	*****	100.0000	1.31E+00	2.02E-01	6.24E+00	1.25E+01	1.81E-01
PU-244	4589.000	4477.349	4.942	1.000	1.000	0.000	6.4609	99.90000	2.43E-02	2.44E-02	3.24E-01	7.14E-01	2.43E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of PU-236 calculated as sqrt(BKG AREA).



Radiochemistry Batch Checklist, Rev10

Batch# 961204 Product: U Date: 3/18/10

Critera:	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.	✓		case narrative
(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

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: S. [Signature] 3/18/10

Secondary Review Performed By: [Signature] 3/18/10

LANL

pu

Uranium Que Sheet

04-MAR-10

Batch #: 961204 Analyst: AYB1 First Client Due Date: 20-MAR-10 Internal Due Date: 09-MAR-10
Tracer Isotope: U-232 U-236 Tracer Code: 1203-14 Expiration Date: 12/9/10 Vol: 0.1
LCS Isotope: U-238 LCS Code: - Expiration Date: - Vol: -
Spike Isotope: U-238 Spike Code: - Expiration Date: - Vol: -
Prep Date: 3/4/10 Initials: AYB Pipet ID: 297058 Balance ID: 5010212

Witness: MDA 3/11/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	U Det #
247549001-1	RE46-10-13324	SAMPLE		.1 pCi/g	SOIL	LANL010	18-FEB-10	1	1	0.507	1
247549002-1	RE46-10-13323	SAMPLE		.1 pCi/g	SOIL	LANL010	18-FEB-10	2	2	0.506	2
247549003-1	RE46-10-13361	SAMPLE		.1 pCi/g	SOIL	LANL010	18-FEB-10	3	3	0.513	3
247549004-1	RE46-10-13380	SAMPLE		.1 pCi/g	SOIL	LANL010	18-FEB-10	4	4	0.506	4
247551001-1	RE15-10-8349	SAMPLE		.1 pCi/g	SOIL	LANL010	15-FEB-10	5	5	0.504	5
247551002-1	RE15-10-8348	SAMPLE		.1 pCi/g	SOIL	LANL010	15-FEB-10	6	6	0.509	6
247797001-1	RE15-10-8317	SAMPLE		.1 pCi/g	SOIL	LANL010	17-FEB-10	7	7	0.506	7
247797002-1	RE15-10-8319	SAMPLE		.1 pCi/g	SOIL	LANL010	17-FEB-10	8	8	0.514	8
247797003-1	RE15-10-8316	SAMPLE		.1 pCi/g	SOIL	LANL010	17-FEB-10	9	9	0.505	9
247797004-1	RE15-10-8326	SAMPLE		.1 pCi/g	SOIL	LANL010	17-FEB-10	10	10	0.508	10
247797005-1	RE15-10-8318	SAMPLE		.1 pCi/g	SOIL	LANL010	17-FEB-10	11	11	0.509	11
248239001-1	RE11-10-1859	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	12	12	0.517	12
248239002-1	RE11-10-1860	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	13	13	0.520	13
248239003-1	RE11-10-1872	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	14	14	0.505	14
248239004-1	RE11-10-1857	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	15	15	0.500	15
248239005-1	RE11-10-1856	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	16	16	0.514	16
248239006-1	RE11-10-1858	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	17	17	0.515	17
248239007-1	RE11-10-1871	SAMPLE		.1 pCi/g	SOIL	LANL010	23-FEB-10	18	18	0.503	18
1202061756-1	MB for batch 961204	MB		.1 pCi/g	SOIL	QC ACCOUNT		19	19	0.503	19
1202061757-1	RE15-10-8317(247797001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	17-FEB-10	20	20	0.505	20
1202061758-1	LCS for batch 961204	LCS		.1 pCi/g	SOIL	QC ACCOUNT		21	21	0.108	21

* SEM 0244-A exp. 10/31/20 MB 3/11/10

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Data Reviewed By: 3/18/10

Blank Correction Report

Batch ID 961204

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202061757	DUP	Uranium-233/234	0.505 g	0.869	0.0915	0.138	.017366337	pCi/g	NO
		Uranium-235/236	0.505 g	0.0789	0.0226	0.0845	.008831683	pCi/g	NO
		Uranium-238	0.505 g	0.829	0.0878	0.0973	0	pCi/g	NO
1202061758	LCS	Uranium-233/234	0.108 g	6.03	0.564	0.492	.081203704	pCi/g	NO
		Uranium-235/236	0.108 g	0.302	0.0839	0.300	.041296296	pCi/g	NO
		Uranium-238	0.108 g	5.86	0.551	0.346	0	pCi/g	NO
1202061756	MB	Uranium-233/234	1.00 g	0.00877	0.00476	0.0509	.00877	pCi/g	YES
		Uranium-235/236	1.00 g	0.00446	0.00317	0.0311	.00446	pCi/g	YES
		Uranium-238	1.00 g	0.00	0.00361	0.0358	0	pCi/g	NO
247549001	RE46-10-13324	Uranium-233/234	0.507 g	0.887	0.0869	0.108	.017297830	pCi/g	NO
		Uranium-235/236	0.507 g	0.0617	0.0177	0.0662	.008796844	pCi/g	NO
		Uranium-238	0.507 g	0.880	0.0865	0.0761	0	pCi/g	NO
247549002	RE46-10-13323	Uranium-233/234	0.506 g	1.05	0.106	0.135	.017332016	pCi/g	NO
		Uranium-235/236	0.506 g	0.0531	0.0181	0.0822	.008814229	pCi/g	NO
		Uranium-238	0.506 g	1.06	0.106	0.0945	0	pCi/g	NO
247549003	RE46-10-13361	Uranium-233/234	0.513 g	0.928	0.0908	0.111	.017095517	pCi/g	NO
		Uranium-235/236	0.513 g	0.0826	0.022	0.0677	.008693957	pCi/g	NO
		Uranium-238	0.513 g	1.05	0.0999	0.0779	0	pCi/g	NO
247549004	RE46-10-13380	Uranium-233/234	0.506 g	0.841	0.078	0.0843	.017332016	pCi/g	NO
		Uranium-235/236	0.506 g	0.0295	0.014	0.0515	.008814229	pCi/g	YES
		Uranium-238	0.506 g	0.720	0.0681	0.0592	0	pCi/g	NO
247551001	RE15-10-8349	Uranium-233/234	0.504 g	0.958	0.0906	0.101	.017400794	pCi/g	NO
		Uranium-235/236	0.504 g	0.0621	0.0172	0.0619	.008849206	pCi/g	NO
		Uranium-238	0.504 g	1.45	0.127	0.0712	0	pCi/g	NO
247551002	RE15-10-8348	Uranium-233/234	0.509 g	0.886	0.0847	0.0988	.017229862	pCi/g	NO
		Uranium-235/236	0.509 g	0.0693	0.020	0.0603	.008762279	pCi/g	NO
		Uranium-238	0.509 g	0.960	0.0903	0.0694	0	pCi/g	NO
247797001	RE15-10-8317	Uranium-233/234	0.506 g	0.862	0.0897	0.130	.017332016	pCi/g	NO
		Uranium-235/236	0.506 g	0.0455	0.0164	0.0793	.008614229	pCi/g	NO
		Uranium-238	0.506 g	0.769	0.0827	0.0913	0	pCi/g	NO
247797002	RE15-10-8319	Uranium-233/234	0.514 g	0.815	0.0744	0.0775	.017062257	pCi/g	NO
		Uranium-235/236	0.514 g	0.051	0.016	0.0473	.008677043	pCi/g	NO
		Uranium-238	0.514 g	0.899	0.0805	0.0545	0	pCi/g	NO
247797003	RE15-10-8316	Uranium-233/234	0.505 g	0.948	0.0883	0.0929	.017366337	pCi/g	NO
		Uranium-235/236	0.505 g	0.0448	0.0161	0.0568	.008831683	pCi/g	NO
		Uranium-238	0.505 g	0.867	0.0819	0.0653	0	pCi/g	NO
247797004	RE15-10-8326	Uranium-233/234	0.503 g	0.824	0.088	0.136	.017435388	pCi/g	NO
		Uranium-235/236	0.503 g	0.0655	0.0203	0.0829	.008866799	pCi/g	NO
		Uranium-238	0.503 g	0.939	0.0974	0.0954	0	pCi/g	NO
247797005	RE15-10-8318	Uranium-233/234	0.509 g	0.822	0.0861	0.116	.017229862	pCi/g	NO
		Uranium-235/236	0.509 g	0.0675	0.0201	0.0718	.008762279	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
247797005	RE15-10-8318	Uranium-238	0.509 g	0.809	0.0853	0.0821	0	pCi/g	NO
248239001	RE11-10-1859	Uranium-233/234	0.517 g	0.771	0.093	0.164	.016963250	pCi/g	NO
		Uranium-235/236	0.517 g	0.0238	0.0139	0.101	.008626692	pCi/g	YES
		Uranium-238	0.517 g	0.760	0.0918	0.116	0	pCi/g	NO
248239002	RE11-10-1860	Uranium-233/234	0.520 g	0.717	0.0869	0.159	.016865385	pCi/g	NO
		Uranium-235/236	0.520 g	0.0569	0.0227	0.0982	.008576923	pCi/g	NO
		Uranium-238	0.520 g	0.853	0.0978	0.112	0	pCi/g	NO
248239003	RE11-10-1872	Uranium-233/234	0.505 g	1.50	0.156	0.181	.017366337	pCi/g	NO
		Uranium-235/236	0.505 g	0.0892	0.0324	0.112	.008831683	pCi/g	NO
		Uranium-238	0.505 g	1.84	0.183	0.128	0	pCi/g	NO
248239004	RE11-10-1857	Uranium-233/234	0.500 g	2.76	0.242	0.143	.01754	pCi/g	NO
		Uranium-235/236	0.500 g	0.131	0.0316	0.0881	.00892	pCi/g	NO
		Uranium-238	0.500 g	3.06	0.265	0.101	0	pCi/g	NO
248239005	RE11-10-1856	Uranium-233/234	0.514 g	0.832	0.0996	0.175	.017062257	pCi/g	NO
		Uranium-235/236	0.514 g	0.0151	0.0164	0.108	.008677043	pCi/g	YES
		Uranium-238	0.514 g	0.809	0.0976	0.123	0	pCi/g	NO
248239006	RE11-10-1858	Uranium-233/234	0.515 g	0.899	0.101	0.157	.017029126	pCi/g	NO
		Uranium-235/236	0.515 g	0.053	0.0205	0.0968	.008660194	pCi/g	NO
		Uranium-238	0.515 g	1.02	0.111	0.111	0	pCi/g	NO
248239007	RE11-10-1871	Uranium-233/234	0.503 g	2.69	0.229	0.124	.017435388	pCi/g	NO
		Uranium-235/236	0.503 g	0.163	0.0351	0.0767	.008866799	pCi/g	NO
		Uranium-238	0.503 g	3.02	0.254	0.0877	0	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S0247551001_UU
SAMPLE QTY : 0.504 G
SAMPLE DATE : 15-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 77.614

CHAMBER : 006
DETECTOR S/N : 79455
AVERAGE %EFFICIENCY : 32.0671
COUNT DATE : 17-MAR-2010 18:34:41
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B006.CNF;1126
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W006.CNF;363
CAL DATE : 4-MAR-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5039E+00 dpm
RESULTS : 3.4957E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

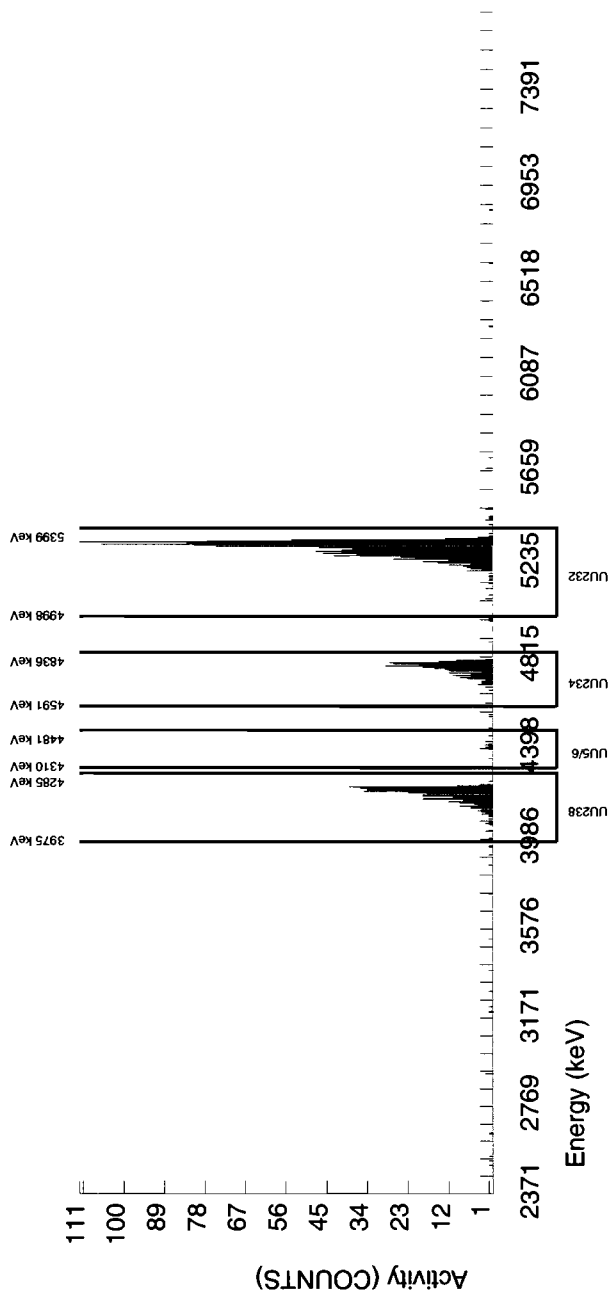
LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5308.729	32.193	1121.000	1120.000	1.000	1.0000	100.0000	4.03E+00	3.13E-01	8.35E-03	2.64E-02	1.20E-01
U-3/4	4763.020	4764.634	32.678	269.000	266.866	1.000	5.4790	100.0000	9.58E-01	9.06E-02	4.58E-02	1.01E-01	5.89E-02
U-235	4391.000	4401.041	32.192	14.000	14.000	0.000	2.4127	80.90000	6.21E-02	1.72E-02	2.49E-02	6.19E-02	1.66E-02
U-238	4184.730	4189.143	30.027	405.000	405.000	0.000	3.6781	100.0000	1.45E+00	1.27E-01	3.07E-02	7.12E-02	7.23E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S0247551002_UU
SAMPLE QTY : 0.509 G
SAMPLE DATE : 15-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 82.000

CHAMBER : 007
DETECTOR S/N : 67607
AVERAGE %EFFICIENCY : 30.8124
COUNT DATE : 17-MAR-2010 18:34:42
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B007.CNF;1121
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W007.CNF;314
CAL DATE : 4-MAR-2010

TRACER ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5039E+00 dpm
RESULTS : 3.6932E+00 dpm

MS/MSD ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

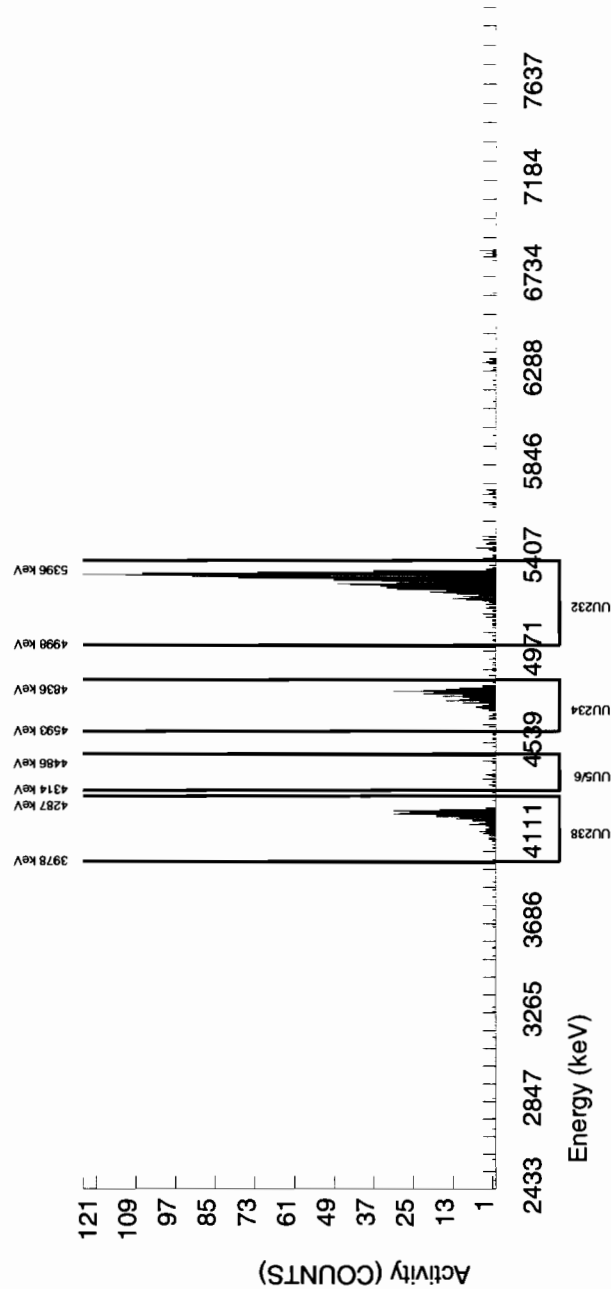
LCS/LCSD ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5305.925	30.008	1156.000	1137.000	19.000	4.3589	100.0000	3.99E+00	3.11E-01	3.55E-02	8.05E-02	1.20E-01
U-3/4	4763.020	4763.111	30.946	255.000	252.848	1.000	5.4790	100.0000	8.86E-01	8.47E-02	4.46E-02	9.88E-02	5.59E-02
U-235	4391.000	4393.709	52.674	18.000	16.000	2.000	2.4127	80.90000	6.93E-02	2.00E-02	2.43E-02	6.03E-02	1.94E-02
U-238	4184.730	4194.054	33.253	275.000	274.000	1.000	3.6781	100.0000	9.60E-01	9.03E-02	3.00E-02	6.94E-02	5.82E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S0247797001_UU
SAMPLE QTY : 0.506 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 57.790

CHAMBER : 008
DETECTOR S/N : 78788
AVERAGE %EFFICIENCY : 33.4538
COUNT DATE : 17-MAR-2010 18:34:42
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B008.CNF:1123
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W008.CNF:345
CAL DATE : 4-MAR-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5037E+00 dpm
RESULTS : 2.6027E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/g

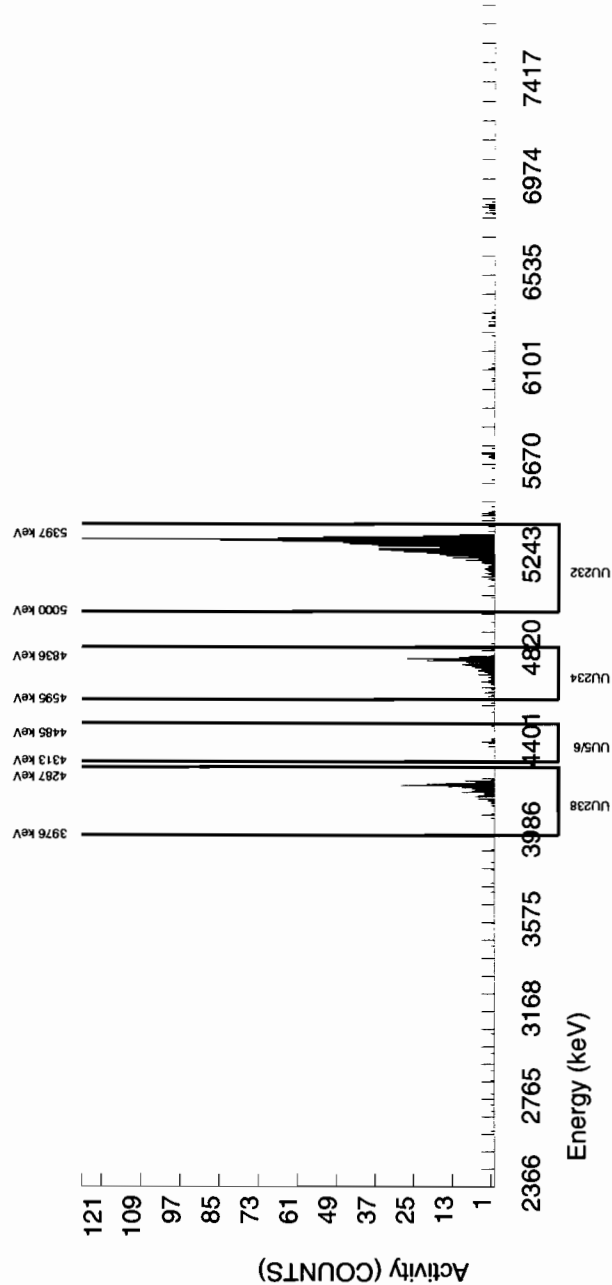
LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/g

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
U232	5302.100	5307.536	17.078	878.000	870.000	8.000	2.8284	100.0000	4.01E+00	3.26E-01	3.03E-02	7.31E-02	1.37E-01
U-3/4	4763.020	4757.727	17.097	189.000	187.119	1.000	5.4790	100.0000	8.62E-01	8.97E-02	5.87E-02	1.30E-01	6.33E-02
U-235	4391.000	4413.111	19.854	8.000	8.000	0.000	2.4127	80.90000	4.55E-02	1.64E-02	3.19E-02	7.93E-02	1.61E-02
U-238	4184.730	4195.104	15.505	169.000	167.000	2.000	3.6781	100.0000	7.69E-01	8.27E-02	3.94E-02	9.13E-02	6.02E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S1202061756_UU
SAMPLE QTY : 1.000 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 95.452

CHAMBER : 129
DETECTOR S/N : 76227
AVERAGE %EFFICIENCY : 26.1672
COUNT DATE : 17-MAR-2010 13:28:29
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B129.CNF:459
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W129.CNF:130
CAL DATE : 18-FEB-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5010E+00 dpm
RESULTS : 4.2963E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

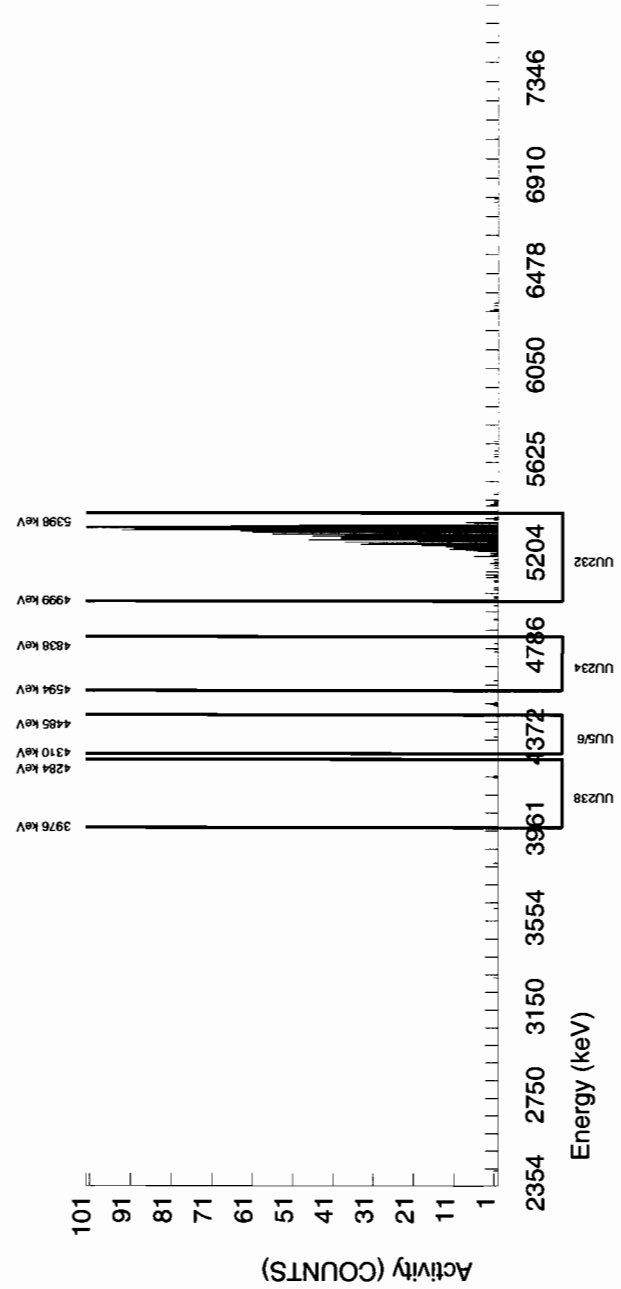
LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.934	38.623	1124.000	1124.000	0.000	0.0000	100.0000	2.03E+00	1.55E-01	0.00E+00	4.89E-03	6.05E-02
U-3/4	4763.020	4714.521	0.000	7.000	4.862	1.000	5.4790	100.0000	8.77E-03	4.76E-03	2.30E-02	5.09E-02	4.72E-03
U-235	4391.000	4410.237	39.462	2.000	2.000	0.000	2.4127	80.90000	4.46E-03	3.17E-03	1.25E-02	3.11E-02	3.15E-03
U-238	4184.730	4211.996	14.798	2.000	0.000	2.000	3.6781	100.0000	0.00E+00	3.61E-03	1.54E-02	3.58E-02	3.61E-03

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S1202061757_UU
SAMPLE QTY : 0.505 G
SAMPLE DATE : 17-FEB-2010 00:00:00
ANALYST : AYB1
% YIELD : 73.332

CHAMBER : 130
DETECTOR S/N : 76228
AVERAGE %EFFICIENCY : 24.7879
COUNT DATE : 17-MAR-2010 13:28:31
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B130.CNF;459
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W130.CNF;132
CAL DATE : 18-FEB-2010

TRACER
ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5037E+00 dpm
RESULTS : 3.3026E+00 dpm

MS/MSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

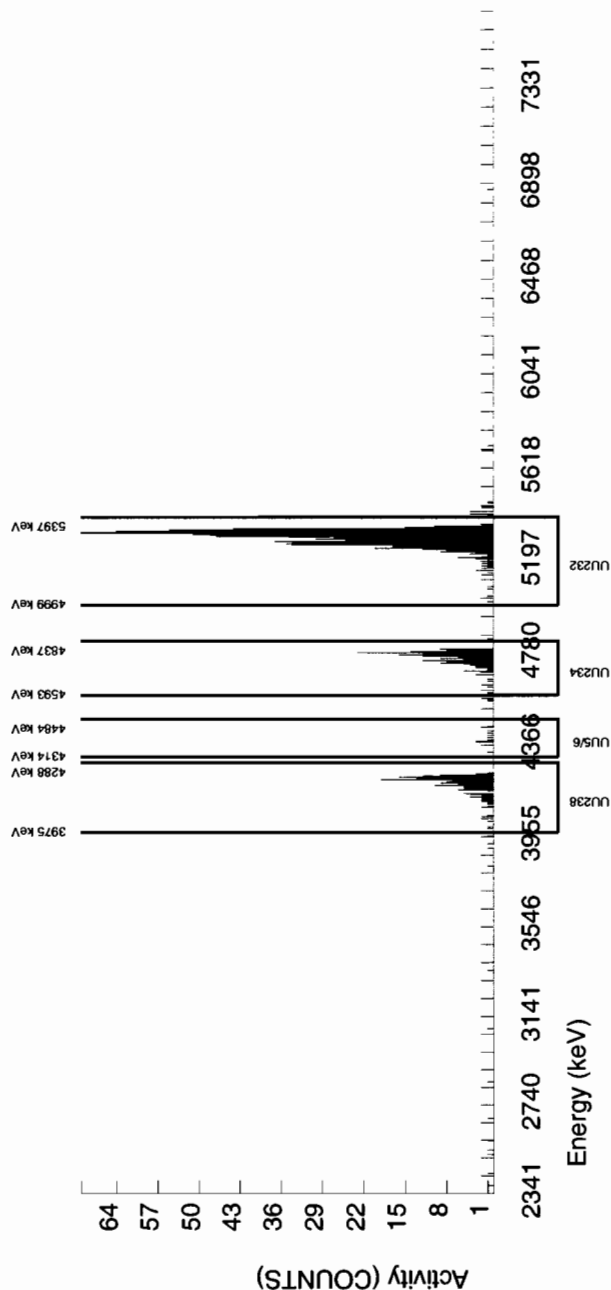
LCS/LCSD
ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.153	57.296	824.000	818.000	6.000	2.4495	100.0000	4.02E+00	3.25E-01	2.80E-02	6.92E-02	1.41E-01
U-3/4	4763.020	4764.101	42.383	180.000	177.171	2.000	5.4790	100.0000	8.69E-01	9.15E-02	6.25E-02	1.38E-01	6.60E-02
U-235	4391.000	4401.428	10.395	13.000	13.000	0.000	2.4127	80.90000	7.89E-02	2.26E-02	3.40E-02	8.45E-02	2.19E-02
U-238	4184.730	4191.298	44.022	169.000	169.000	0.000	3.6781	100.0000	8.29E-01	8.78E-02	4.20E-02	9.73E-02	6.38E-02

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 961204
SAMPLE ID : S1202061758_UU
SAMPLE QTY : 0.108 G
SAMPLE DATE : 11-MAR-2010 00:00:00
ANALYST : AYB1
% YIELD : 93.536

CHAMBER : 131
DETECTOR S/N : 80008
AVERAGE %EFFICIENCY : 25.5629
COUNT DATE : 17-MAR-2010 13:28:33
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE : ENV_ALPHA_UU
BKG FILE : B131.CNF:457
BKG DATE : 14-MAR-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE : W131.CNF:134
CAL DATE : 18-FEB-2010

TRACER ID : 1283-H
NUCLIDE : U232
NOMINAL : 4.5010E+00 dpm
RESULTS : 4.2100E+00 dpm

MS/MSD ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/g

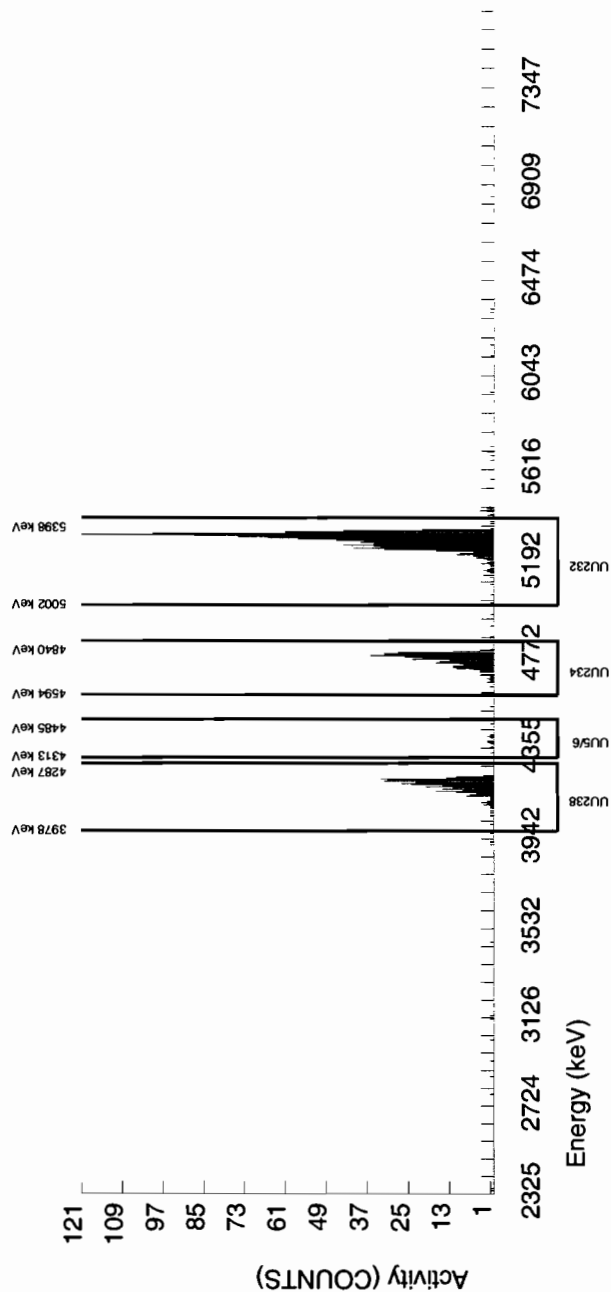
LCS/LCSD ID : 0244-A
NUCLIDE : U-238
NOMINAL : 5.7500E+00 pCi/g

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
U232	5302.100	5304.314	27.971	1078.000	1076.000	2.000	1.4142	100.0000	1.88E+01	1.55E+00	5.74E-02	1.62E-01	5.73E-01
U-3/4	4763.020	4759.739	35.459	347.000	345.910	0.000	5.4790	100.0000	6.03E+00	5.64E-01	2.22E-01	4.92E-01	3.24E-01
U-235	4391.000	4401.522	34.116	14.000	14.000	0.000	2.4127	80.90000	3.02E-01	8.39E-02	1.21E-01	3.00E-01	8.07E-02
U-238	4184.730	4189.964	40.458	336.000	336.000	0.000	3.6781	100.0000	5.86E+00	5.51E-01	1.49E-01	3.46E-01	3.20E-01

NOTES:

- * BKG Sg calculated via blank population.
(Sg updated 8-MAR-2010)
- * BKG Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



Radiochemistry Batch Checklist, Rev10

Batch# 0456158 Product: RS Date: 3/6/10

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 RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.			
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly stasured.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			NA
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature] 3/6/10

Secondary Review Performed By: [Signature] 3/9/10

LANL
3/20/10

I.G. - 3/2/10

Gamma Spec Que Sheet

02/22/2010

Batch #: 956158 Analyst: MXR1 First Client Due Date: 03/09/2010 Internal Due Date: 03/09/2010
 Gamma Spike Isotope: Mixed Gamma Spike Code: 0/4 Vol: 0/4 Nominal Concentration: 0/4
 Gamma LCS Isotope: Mixed Gamma LCS Code: 1032 - A Expiration Date: 12/2/10 Vol: 1.0 mL Nominal Concentration: 15.9 (5-137-5.554)
 Initials: BF Prep Date: 2/23/10 Library: Solid Witness: 0/4 0640-4303

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (if Applicable)
247539001-1	CAPU-10-12530	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	141.06	2	2/23/10
247539002-1	CAPU-10-12549	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	131.71	5	
247539003-1	CAPU-10-12527	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	140.03	10	
247539004-1	CAPU-10-12522	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	132.17	6	
247539005-1	CAPU-10-12529	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	135.32	1	
247539006-1	CAPU-10-12524	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	133.39	21	
247539007-1	CAPU-10-12526	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	145.13	20	
247539008-1	CAPU-10-12525	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	131.54	7	
247539009-1	CAPU-10-12523	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	131.46	11	
247539010-1	CAPU-10-12521	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	145.78	15	
247539011-1	CAPU-10-12520	SAMPLE	LANL010	SOIL	17-FEB-10 12:00:00	CG	116.11	18	
247549001-1	RE46-10-13324	SAMPLE	LANL010	SOIL	18-FEB-10 12:00:00	U	132.15	15	
247549002-1	RE46-10-13323	SAMPLE	LANL010	SOIL	18-FEB-10 12:00:00	U	127.37	2	
247549003-1	RE46-10-13361	SAMPLE	LANL010	SOIL	18-FEB-10 12:00:00	U	127.00	10	
247549004-1	RE46-10-13380	SAMPLE	LANL010	SOIL	18-FEB-10 12:00:00	U	135.59	5	
247551001-1	RE15-10-8349	SAMPLE	LANL010	SOIL	15-FEB-10 12:00:00	U	136.88	18	
247551002-1	RE15-10-8348	SAMPLE	LANL010	SOIL	15-FEB-10 12:00:00	U	142.37	15	
1202050254-1	MB	MB	QC ACCOUNT	SOIL	2/23/10	U	143.78	18	
1202050255-1	DUP RE15-10-8349(247551001)	DUP	QC ACCOUNT	SOIL	15-FEB-10 12:00:00	U	136.88	21	
1202050256-1	LCS	LCS	QC ACCOUNT	SOIL	2/23/10	U	155.44	11	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Heelan 3/6/10

Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
956158	247539001	SAMPLE	04-MAR-10		Americium-241	0.02905	0.3329	0.200
					Cerium-139	-0.01179	0.05421	0.050
					Sodium-22	-0.03646	0.08043	0.080
					Thorium-234	2.399	3.144	2.00
956158	247539002	SAMPLE	04-MAR-10		Cerium-139	-0.01122	0.06005	0.050
					Cesium-134	0.1027	0.1104	0.100
					Sodium-22	-0.04508	0.08127	0.080
956158	247539003	SAMPLE	04-MAR-10		Americium-241	-0.1448	0.4159	0.200
					Cerium-139	-0.00752	0.0507	0.050
					Thorium-234	1.209	3.436	2.00
956158	247539004	SAMPLE	04-MAR-10		Americium-241	-0.08868	0.3467	0.200
					Cerium-139	0.00315	0.06003	0.050
					Europium-152	0.01723	0.2147	0.200
					Sodium-22	-0.03284	0.09922	0.080
					Thorium-234	2.74	3.158	2.00
956158	247539005	SAMPLE	04-MAR-10		Americium-241	0.04305	0.3319	0.200
					Cerium-139	-0.0069	0.05884	0.050
					Sodium-22	0.03405	0.0844	0.080
					Thorium-234	1.425	2.901	2.00
956158	247539006	SAMPLE	04-MAR-10		Sodium-22	-0.00287	0.08129	0.080
956158	247539007	SAMPLE	04-MAR-10					
956158	247539008	SAMPLE	04-MAR-10		Americium-241	0.07159	0.2007	0.200
					Cerium-139	-0.01097	0.05308	0.050
					Cesium-134	0.08204	0.102	0.100
					Sodium-22	-0.01712	0.08259	0.080
956158	247539009	SAMPLE	04-MAR-10		Americium-241	0.01191	0.2022	0.200
956158	247539010	SAMPLE	04-MAR-10		Americium-241	-0.1216	0.537	0.200
					Cerium-139	0.01424	0.06595	0.050
					Thorium-234	0.6074	4.257	2.00
956158	247539011	SAMPLE	04-MAR-10		Americium-241	-0.1064	0.317	0.200
					Thorium-234	0.5112	2.84	2.00
956158	247549001	SAMPLE	04-MAR-10		Americium-241	-0.3046	0.5256	0.200
					Cerium-139	0.02597	0.06495	0.050
					Cesium-134	0.0995	0.1145	0.100
					Europium-152	-0.03548	0.2043	0.200
					Sodium-22	0.01314	0.09775	0.080
					Thorium-234	-0.5917	4.267	2.00
956158	247549002	SAMPLE	04-MAR-10		Americium-241	0.2182	0.3369	0.200
					Cerium-139	-0.05094	0.05354	0.050
					Sodium-22	-0.01698	0.08097	0.080
956158	247549003	SAMPLE	04-MAR-10		Americium-241	-0.09712	0.3908	0.200
					Cerium-139	-0.00171	0.05098	0.050
					Thorium-234	1.259	3.293	2.00
956158	247549004	SAMPLE	04-MAR-10		Cerium-139	0.02366	0.05533	0.050

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
956158	247549004	SAMPLE	04-MAR-10		Cesium-134	0.08836	0.1089	0.100
					Sodium-22	0.0094	0.09094	0.080
956158	247551001	SAMPLE	04-MAR-10		Americium-241	0.02434	0.2993	0.200
					Thorium-234	2.348	2.372	2.00
956158	247551002	SAMPLE	04-MAR-10		Americium-241	-0.3573	0.5013	0.200
					Cerium-139	-0.00729	0.06408	0.050
					Cesium-134	0.09675	0.1071	0.100
					Europium-152	-0.00242	0.2017	0.200
					Sodium-22	0.0094	0.08886	0.080
					Thorium-234	1.014	4.211	2.00
956158	1202050254	MB	04-MAR-10					
956158	1202050255	DUP	04-MAR-10		Cesium-134	0.1067	0.1134	0.100
					Sodium-22	0.00919	0.1023	0.080
956158	1202050256	LCS	04-MAR-10		Cerium-139	0.00141	0.06657	0.050
					Europium-152	0.02164	0.2468	0.200
					Ruthenium-106	-0.5061	0.8287	0.800
					Thorium-234	1.01	2.537	2.00
					Tin-113	0.01309	0.1304	0.100

GEL QUALS

Batch ID: 956158

Report run on: March 6, 2010 7:23 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247539001-1 04-MAR-2010 13:15	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.201			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.881			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1421		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.484			
247539002-1 04-MAR-2010 13:16	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.099			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		5.753			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.993			
247539003-1 04-MAR-2010 13:17	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.534			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.019			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1057		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.859			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1322			
247539004-1 04-MAR-2010 13:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.515			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		5.298			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1535		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.479			
247539005-1 04-MAR-2010 13:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.765			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.677			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1239		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.649			

GEL QUALS

Batch ID: 956158

Report run on: March 6, 2010 7:23 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247539005-1 04-MAR-2010 13:18	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1114			
247539006-1 04-MAR-2010 13:19	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.092			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.551			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.351			
247539007-1 04-MAR-2010 13:20	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.145			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.703			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08596		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.11			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08884			
247539008-1 04-MAR-2010 14:23	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.062			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.125			
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.29			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08783			
247539009-1 04-MAR-2010 14:24	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.235			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.789			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1137		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.984			
247539010-1 04-MAR-2010 14:25	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.968			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.678			

GEL QUALS

Batch ID: 956158

Report run on: March 6, 2010 7:23 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247539010-1 04-MAR-2010 14:25	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1675		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.938			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1147			
247539011-1 04-MAR-2010 14:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.073			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.756			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09798		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.288			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1076			
247549001-1 04-MAR-2010 16:34	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.74			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.352			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.768			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1257			
247551001-1 04-MAR-2010 16:40	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.977			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.444			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09382		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.791			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.06425			
247549002-1 04-MAR-2010 16:52	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.443			
	Cadmium-109	UI	UI	UI	Data rejected due to low abundance.		2.711			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1102		.1	.1

GEL QUALS

Batch ID: 956158

Report run on: March 6, 2010 7:23 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
247549002-1 04-MAR-2010 16:52	Radium-224	UI	UI	UI	Data rejected due to interference.		4.684			
247549003-1 04-MAR-2010 18:13	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.549			
	Bismuth-214	UI	UI	UI	Data rejected due to low abundance.		1.097		.2	.2
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		5.148			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1242		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.622			
	Radium-226	UI	UI	UI	Data rejected due to low abundance.		1.097			
	Strontium-85	UI	UI	UI	Data rejected due to interference.		.1899			
247549004-1 04-MAR-2010 18:50	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.437			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.708			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.134			
247551002-1 04-MAR-2010 18:50	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.105			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.401			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.707			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1068			
1202050255-1 DUP 04-MAR-2010 18:52	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.778			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.532			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.571			

Gamma Review Report based on Result > MDA for Batch:956158

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247539001	17-FEB-10 12:00	04-MAR-10 13:15	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>MM</i>	2.089	0.2135	pCi/g	0.2598	N	910.7 3	1.457	IDENTIFIED 7.973	<input type="checkbox"/>	
Annihilation Rad.	0.1706	0.04052	pCi/g	0.04836	N	510.4 1	1.926	IDENTIFIED 23.22	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	5.201	0.3944	pCi/g	0.3557	Y	351.5 2	1.223	IDENTIFIED 4.93	<input checked="" type="checkbox"/> <i>UT</i>	
Bismuth-212 HE	2.203	0.4716	pCi/g	1.35	N	0 4 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 <i>V</i>	1.513	0.1215	pCi/g	0.126	0.200	608.9 2	1.517	IDENTIFIED 6.025	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	3.881	0.5951	pCi/g	1.354	Y	86.92 3	1.118	IDENTIFIED 14.51	<input checked="" type="checkbox"/> <i>UT</i>	
Cerium-143	935.2	146.1	pCi/g	0	N	0 4 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134 <i>LA</i>	0.1421	0.04642	pCi/g	0.1082	0.100	0 4 0		FAIL_ABUND 0	<input checked="" type="checkbox"/> <i>UI</i>	Data rejected due to low abundance.
Gross Gamma	11.55	1.572	pCi/g	3.277	N	0			<input type="checkbox"/>	
Iodine-135 HE	3.11E+14	3.28E+15	pCi/g	0	N	0 4 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212 <i>V</i>	2.157	0.1515	pCi/g	0.103	0.100	238.3 2	1.12	IDENTIFIED 3.089	<input type="checkbox"/>	
Lead-214 <i>V</i>	1.888	0.1523	pCi/g	0.1294	0.100	351.5 2	1.223	IDENTIFIED 4.93	<input type="checkbox"/>	
Neptunium-237 <i>MM</i>	1.132	0.2103	pCi/g	0.3698	N	86.92 3	1.118	IDENTIFIED 14.51	<input type="checkbox"/>	
Potassium-40 <i>V</i>	36.75	2.007	pCi/g	0.6037	1.00	1460 1	2.091	IDENTIFIED 2.689	<input type="checkbox"/>	
Radium-224 <i>INT</i>	5.484	0.7192	pCi/g	1.104	Y	241.3 1	1.565	IDENTIFIED 11.71	<input checked="" type="checkbox"/> <i>UT</i>	
Radium-226 <i>V</i>	1.513	0.1215	pCi/g	0.126	Y	608.9 2	1.517	IDENTIFIED 6.025	<input type="checkbox"/>	
Radium-228 <i>V</i>	2.089	0.2135	pCi/g	0.2598	0.500	910.7 3	1.457	IDENTIFIED 7.973	<input type="checkbox"/>	
Thallium-208 <i>V</i>	0.6383	0.05432	pCi/g	0.06869	0.080	582.8 1	1.302	IDENTIFIED 6.883	<input type="checkbox"/>	
Thorium-228 <i>MM</i>	2.157	0.1515	pCi/g	0.103	N	238.3 2	1.12	IDENTIFIED 3.089	<input type="checkbox"/>	
Thorium-232 <i>MM</i>	2.089	0.2135	pCi/g	0.2598	N	910.7 3	1.457	IDENTIFIED 7.973	<input type="checkbox"/>	
Tin-126 <i>MM</i>	0.3794	0.05817	pCi/g	0.1331	N	86.92 3	1.118	IDENTIFIED 14.51	<input type="checkbox"/>	
Total Uranium	7.204	2.56E-06	ug/g	4.6803	N	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
247539002	17-FEB-10 12:00	04-MAR-10 13:16	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>MM</i>	2.427	0.2567	pCi/g	0.2866	N	910.1 3	1.715	IDENTIFIED 8.454	<input type="checkbox"/>	
Annihilation Rad.	0.2002	0.03769	pCi/g	0.05661	N	510.2 1	1.804	IDENTIFIED 18.55	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	5.099	0.3354	pCi/g	0.4039	Y	351.3 2	1.292	IDENTIFIED 5.255	<input checked="" type="checkbox"/> <i>UT</i>	
Bismuth-212 HE	2.175	0.5591	pCi/g	1.381	N	0 6 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 <i>V</i>	1.572	0.1157	pCi/g	0.1508	0.200	608.5 2	1.508	IDENTIFIED 6.027	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	5.753	0.5113	pCi/g	1.076	Y	86.73 3	1.417	IDENTIFIED 8.028	<input checked="" type="checkbox"/> <i>UT</i>	
Cerium-143	1552	220.1	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-135 HE	0.4297	0.1089	pCi/g	0.3556	N	0 6 0		NOT_IDENTI 0	<input type="checkbox"/>	
Gross Gamma	12.23	1.401	pCi/g	4.572	N	0			<input type="checkbox"/>	
Iodine-133 HE	2851	3397	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-210 HE	1.67	0.4637	pCi/g	1.022	N	45.77 1	1.008	IDENTIFIED 27.5	<input type="checkbox"/>	
Lead-212 <i>V</i>	2.064	0.1283	pCi/g	0.1076	0.100	238.1 2	1.2	IDENTIFIED 3.055	<input type="checkbox"/>	
Lead-214 <i>V</i>	1.85	0.132	pCi/g	0.1469	0.100	351.3 2	1.292	IDENTIFIED 5.255	<input type="checkbox"/>	
Neptunium-237 <i>MM</i>	1.678	0.2306	pCi/g	0.3124	N	86.73 3	1.417	IDENTIFIED 8.028	<input type="checkbox"/>	
Niobium-95m <i>LA</i>	1.857	0.14	pCi/g	0.4111	N	0 6 0		NOT_IDENTI 0	<input type="checkbox"/>	
Potassium-40 <i>V</i>	38.2	1.589	pCi/g	0.5041	1.00	1459 1	1.812	IDENTIFIED 2.764	<input type="checkbox"/>	
Radium-224 <i>INT</i>	5.993	0.7319	pCi/g	1.153	Y	241.1 1	1.859	IDENTIFIED 11.19	<input checked="" type="checkbox"/> <i>UT</i>	
Radium-226 <i>V</i>	1.572	0.1157	pCi/g	0.1508	Y	608.5 2	1.508	IDENTIFIED 6.027	<input type="checkbox"/>	
Radium-228 <i>V</i>	2.427	0.2567	pCi/g	0.2866	0.500	910.1 3	1.715	IDENTIFIED 8.454	<input type="checkbox"/>	
Sodium-24 HE	26720	4.77E+05	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208 <i>V</i>	0.6031	0.04967	pCi/g	0.07439	0.080	582.5 1	1.577	IDENTIFIED 7.373	<input type="checkbox"/>	
Thorium-228 <i>MM</i>	2.064	0.1283	pCi/g	0.1076	N	238.1 2	1.2	IDENTIFIED 3.055	<input type="checkbox"/>	
Thorium-232 <i>MM</i>	2.427	0.2567	pCi/g	0.2866	N	910.1 3	1.715	IDENTIFIED 8.454	<input type="checkbox"/>	
Tin-126 <i>MM</i>	0.5624	0.04998	pCi/g	0.105	N	86.73 3	1.417	IDENTIFIED 8.028	<input type="checkbox"/>	

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
247539009	17-FEB-10 12:00	04-MAR-10 14:24	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	2.313	0.1993	pCi/g	0.1987	N	911.5	3	1.435	IDENTIFIED	5.93	
Annihilation Rad.	0.2068	0.03639	pCi/g	0.04445	N	511.1	1	1.373	IDENTIFIED	16.77	
Bismuth-211	5.235	0.4386	pCi/g	0.3064	Y	352	2	1.139	IDENTIFIED	5.192	U
Bismuth-212	2.223	0.4368	pCi/g	0.7985	N	727.9	1	1.458	IDENTIFIED	18.51	
Bismuth-214	1.568	0.1239	pCi/g	0.1133	0.200	609.4	2	1.282	IDENTIFIED	5.504	
Cadmium-109	4.789	0.5268	pCi/g	1.018	Y	87.18	3	1.142	IDENTIFIED	9.95	U
Cerium-143	385.2	84.88	pCi/g	0	N	0	3	0	SHORT_HLIF	0	
Cesium-134	0.1137	0.03317	pCi/g	0.09623	0.100	0	3	0	FAIL_ABUND	0	U Data rejected due to low abundance.
Europium-155	0.2823	0.06855	pCi/g	0.1549	N	105	1	1.62	IDENTIFIED	23.89	
Gross Gamma	12.26	1.509	pCi/g	3.636	N	0					
Lead-212	2.211	0.1663	pCi/g	0.08631	0.100	238.7	2	0.9561	IDENTIFIED	2.706	
Lead-214	1.9	0.1676	pCi/g	0.1114	0.100	352	2	1.139	IDENTIFIED	5.192	
Neptunium-237	1.397	0.2123	pCi/g	0.3003	N	87.18	3	1.142	IDENTIFIED	9.95	
Potassium-40	38.28	1.906	pCi/g	0.4647	1.00	1461	1	1.886	IDENTIFIED	2.471	
Radium-224	5.984	0.7755	pCi/g	0.9253	Y	241.7	1	1.825	IDENTIFIED	11.08	U
Radium-226	1.568	0.1239	pCi/g	0.1133	Y	609.4	2	1.282	IDENTIFIED	5.504	
Radium-228	2.313	0.1993	pCi/g	0.1987	0.500	911.5	3	1.435	IDENTIFIED	5.93	
Sodium-24	1.30E+05	3.56E+05	pCi/g	0	N	0	3	0	SHORT_HLIF	0	
Thallium-208	0.6495	0.05532	pCi/g	0.05789	0.080	583.4	1	1.429	IDENTIFIED	6.592	
Thorium-228	2.211	0.1663	pCi/g	0.08631	N	238.7	2	0.9561	IDENTIFIED	2.706	
Thorium-232	2.313	0.1993	pCi/g	0.1987	N	911.5	3	1.435	IDENTIFIED	5.93	
Tin-126	0.4681	0.05149	pCi/g	0.09982	N	87.18	3	1.142	IDENTIFIED	9.95	
Total Uranium	4.8999	2.52E-06	ug/g	2.5209	N	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	
247539010	17-FEB-10 12:00	04-MAR-10 14:25	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	2.158	0.2288	pCi/g	0.2841	N	910.9	3	1.729	IDENTIFIED	8.698	
Annihilation Rad.	0.1795	0.04035	pCi/g	0.05598	N	510.9	1	2.222	IDENTIFIED	22.05	
Bismuth-211	4.968	0.355	pCi/g	0.4367	Y	351.9	2	1.438	IDENTIFIED	5.134	U
Bismuth-212	2.324	0.5435	pCi/g	1.424	N	0	8	0	FAIL_ABUND	0	
Bismuth-214	1.47	0.1186	pCi/g	0.1474	0.200	609.3	2	1.677	IDENTIFIED	6.351	
Cadmium-109	2.678	0.468	pCi/g	2.117	Y	87.25	3	1.08	IDENTIFIED	16.35	U
Cerium-143	1090	166.7	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Cesium-134	0.1675	0.03491	pCi/g	0.1139	0.100	0	8	0	FAIL_ABUND	0	U Data rejected due to low abundance.
Gross Gamma	11.19	1.471	pCi/g	3.996	N	0					
Iodine-133	2467	3657	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Iodine-135	2.21E+15	4.26E+15	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Lead-212	2.222	0.1525	pCi/g	0.121	0.100	238.7	2	1.593	IDENTIFIED	3.383	
Lead-214	1.803	0.1381	pCi/g	0.1598	0.100	351.9	2	1.438	IDENTIFIED	5.134	
Neptunium-237	0.781	0.1592	pCi/g	0.5676	N	87.25	3	1.08	IDENTIFIED	16.35	
Niobium-95m	0.6421	0.09839	pCi/g	0.3228	N	0	8	0	NOT_IDENTI	0	
Potassium-40	37.96	2.169	pCi/g	0.6446	1.00	1461	1	2.055	IDENTIFIED	2.919	
Radium-224	4.938	0.6829	pCi/g	1.296	Y	241.9	1	1.686	IDENTIFIED	12.68	U
Radium-226	1.47	0.1186	pCi/g	0.1474	Y	609.3	2	1.677	IDENTIFIED	6.351	
Radium-228	2.158	0.2288	pCi/g	0.2841	0.500	910.9	3	1.729	IDENTIFIED	8.698	
Sodium-24	5.65E+05	4.69E+05	pCi/g	0	N	0	8	0	SHORT_HLIF	0	
Strontium-85	0.1147	0.02586	pCi/g	0.08703	Y	0	8	0	NOT_IDENTI	0	U Data rejected due to low abundance.
Thallium-208	0.6816	0.05007	pCi/g	0.06746	0.080	583.1	1	1.72	IDENTIFIED	5.75	
Thorium-228	2.222	0.1525	pCi/g	0.121	N	238.7	2	1.593	IDENTIFIED	3.383	
Thorium-232	2.158	0.2288	pCi/g	0.2841	N	910.9	3	1.729	IDENTIFIED	8.698	
Tin-126	0.2617	0.04575	pCi/g	0.2066	N	87.25	3	1.08	IDENTIFIED	16.35	

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
247539011	17-FEB-10 12:00	04-MAR-10 14:26	15.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	2.07	0.2068	pCi/g	0.2258	N	910.8	3	1.978	IDENTIFIED	7.343	<input type="checkbox"/>
Annihilation Rad.	0.1886	0.03671	pCi/g	0.039	N	510.6	1	2.204	IDENTIFIED	19.18	<input type="checkbox"/>
Bismuth-211	5.073	0.273	pCi/g	0.2941	Y	351.9	2	1.403	IDENTIFIED	4.318	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Bismuth-212	2.462	0.4181	pCi/g	1.112	N	0	6	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	1.498	0.1026	pCi/g	0.1013	0.200	609.1	2	1.55	IDENTIFIED	5.172	<input type="checkbox"/>
Cadmium-109	3.756	0.5731	pCi/g	1.325	Y	87.48	3	1.212	IDENTIFIED	14.55	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Cerium-143	911.8	127.4	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	0.09798	0.02265	pCi/g	0.0826	0.100	0	6	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma	11.89	1.364	pCi/g	2.713	N	0	0	0			<input type="checkbox"/>
Iodine-135	1.73E+15	3.05E+15	pCi/g	0	N	0	6	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	2.19	0.09778	pCi/g	0.09043	0.100	238.7	2	1.172	IDENTIFIED	2.633	<input type="checkbox"/>
Lead-214	1.841	0.1113	pCi/g	0.1069	0.100	351.9	2	1.403	IDENTIFIED	4.318	<input type="checkbox"/>
Neptunium-237	1.096	0.2028	pCi/g	0.3951	N	87.48	3	1.212	IDENTIFIED	14.55	<input type="checkbox"/>
Niobium-95	0.08084	0.02206	pCi/g	0.07907	N	0	6	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40	37.53	1.65	pCi/g	0.4389	1.00	1460	1	2.13	IDENTIFIED	2.219	<input type="checkbox"/>
Radium-224	5.288	0.638	pCi/g	0.9679	Y	241.6	1	1.767	IDENTIFIED	11.74	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Radium-226	1.498	0.1026	pCi/g	0.1013	Y	609.1	2	1.55	IDENTIFIED	5.172	<input type="checkbox"/>
Radium-228	2.07	0.2068	pCi/g	0.2258	0.500	910.8	3	1.978	IDENTIFIED	7.343	<input type="checkbox"/>
Strontium-85	0.1076	0.02069	pCi/g	0.06897	Y	0	6	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	0.6658	0.04544	pCi/g	0.05441	0.080	583	1	1.62	IDENTIFIED	5.592	<input type="checkbox"/>
Thorium-228	2.19	0.09778	pCi/g	0.09043	N	238.7	2	1.172	IDENTIFIED	2.633	<input type="checkbox"/>
Thorium-232	2.07	0.2068	pCi/g	0.2258	N	910.8	3	1.978	IDENTIFIED	7.343	<input type="checkbox"/>
Tin-126	0.3672	0.05602	pCi/g	0.1303	N	87.48	3	1.212	IDENTIFIED	14.55	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
247549001	18-FEB-10 12:00	04-MAR-10 16:34	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	1.916	0.222	pCi/g	0.2549	N	911.1	3	1.832	IDENTIFIED	9.88	<input type="checkbox"/>
Annihilation Rad.	0.1206	0.04461	pCi/g	0.06269	N	510.9	1	1.993	IDENTIFIED	36.75	<input type="checkbox"/>
Bismuth-211	4.74	0.3435	pCi/g	0.4234	Y	352	2	1.453	IDENTIFIED	5.276	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Bismuth-212	2.587	0.7754	pCi/g	1.471	N	0	5	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	1.369	0.1095	pCi/g	0.1516	0.200	609.3	2	1.449	IDENTIFIED	6.257	<input type="checkbox"/>
Cadmium-109	2.352	0.8628	pCi/g	1.777	Y	87.47	3	1.582	IDENTIFIED	36.15	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Cerium-143	518.3	89.91	pCi/g	0	N	0	5	0	SHORT_HLIF	0	<input type="checkbox"/>
Gross Gamma	10.79	1.603	pCi/g	4.036	N	0	0	0			<input type="checkbox"/>
Iodine-135	3.13E+14	4.49E+14	pCi/g	0	N	0	5	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	1.987	0.1384	pCi/g	0.1174	0.100	238.7	2	1.378	IDENTIFIED	3.584	<input type="checkbox"/>
Lead-214	1.72	0.1334	pCi/g	0.1525	0.100	352	2	1.453	IDENTIFIED	5.276	<input type="checkbox"/>
Neptunium-237	0.687	0.2621	pCi/g	0.5618	N	87.47	3	1.582	IDENTIFIED	36.15	<input type="checkbox"/>
Niobium-95m	0.4371	0.09596	pCi/g	0.3121	N	0	5	0	NOT_IDENTI	0	<input type="checkbox"/>
Potassium-40	38.22	2.211	pCi/g	0.6969	1.00	1460	1	2.154	IDENTIFIED	3.052	<input type="checkbox"/>
Radium-224	4.768	0.7977	pCi/g	1.258	Y	241.7	1	1.829	IDENTIFIED	15.79	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Radium-226	1.369	0.1095	pCi/g	0.1516	Y	609.3	2	1.449	IDENTIFIED	6.257	<input type="checkbox"/>
Radium-228	1.916	0.222	pCi/g	0.2549	0.500	911.1	3	1.832	IDENTIFIED	9.88	<input type="checkbox"/>
Strontium-85	0.1257	0.02995	pCi/g	0.09833	Y	0	5	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208	0.5806	0.05238	pCi/g	0.0706	0.080	583.2	1	1.739	IDENTIFIED	7.777	<input type="checkbox"/>
Thorium-228	1.987	0.1384	pCi/g	0.1174	N	238.7	2	1.378	IDENTIFIED	3.584	<input type="checkbox"/>
Thorium-232	1.916	0.222	pCi/g	0.2549	N	911.1	3	1.832	IDENTIFIED	9.88	<input type="checkbox"/>
Tin-126	0.2302	0.08445	pCi/g	0.1752	N	87.47	3	1.582	IDENTIFIED	36.15	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247549002	18-FEB-10 12:00	04-MAR-10 16:52	14.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
247549004	18-FEB-10 12:00	04-MAR-10 18:50	14.3	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.902	0.2375	pCi/g	0.2252	N	910.1 3	1.67	IDENTIFIED 10.75	<input type="checkbox"/>	
Annihilation Rad.	0.172	0.04223	pCi/g	0.05283	N	510.5 1	1.911	IDENTIFIED 24.35	<input type="checkbox"/>	
Bismuth-211	3.437	0.269	pCi/g	0.3843	Y	351.5 2	1.421	IDENTIFIED 6.756	<input checked="" type="checkbox"/>	UJ
Bismuth-212	2.957	0.4962	pCi/g	1.421	N	0 7 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	1.191	0.1102	pCi/g	0.14	0.200	608.5 2	1.49	IDENTIFIED 8.23	<input type="checkbox"/>	
Cadmium-109	2.708	0.3839	pCi/g	1.206	Y	86.76 3	1.022	IDENTIFIED 13.65	<input checked="" type="checkbox"/>	UJ
Cerium-143	897.5	130.1	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-135	0.4636	0.1083	pCi/g	0.356	N	0 7 0		NOT_IDENTI 0	<input type="checkbox"/>	
Gross Gamma	10.87	1.58	pCi/g	4.652	N	0			<input type="checkbox"/>	
Iodine-133	966.5	1922	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	1.838	0.1164	pCi/g	0.1097	0.100	238.1 2	1.252	IDENTIFIED 3.281	<input type="checkbox"/>	
Lead-214	1.247	0.1035	pCi/g	0.1375	0.100	351.5 2	1.421	IDENTIFIED 6.756	<input type="checkbox"/>	
Neptunium-237	0.7909	0.1394	pCi/g	0.3508	N	86.76 3	1.022	IDENTIFIED 13.65	<input type="checkbox"/>	
Niobium-95m	1.341	0.1219	pCi/g	0.3719	N	0 7 0		NOT_IDENTI 0	<input type="checkbox"/>	
Potassium-40	38.61	1.595	pCi/g	0.4832	1.00	1459 1	2.015	IDENTIFIED 2.72	<input type="checkbox"/>	
Radium-224	5.134	0.6733	pCi/g	1.176	Y	241.1 1	1.86	IDENTIFIED 12.17	<input checked="" type="checkbox"/>	UJ
Radium-226	1.191	0.1102	pCi/g	0.14	Y	608.5 2	1.49	IDENTIFIED 8.23	<input type="checkbox"/>	
Radium-228	1.902	0.2375	pCi/g	0.2252	0.500	910.1 3	1.67	IDENTIFIED 10.75	<input type="checkbox"/>	
Sodium-24	1.73E+05	1.61E+05	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Technetium-99m	1.36E+15	2.12E+15	pCi/g	0	N	0 7 0		SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	0.5758	0.05234	pCi/g	0.06365	0.080	582.4 1	1.452	IDENTIFIED 8.315	<input type="checkbox"/>	
Thorium-228	1.838	0.1164	pCi/g	0.1097	N	238.1 2	1.252	IDENTIFIED 3.281	<input type="checkbox"/>	
Thorium-232	1.902	0.2375	pCi/g	0.2252	N	910.1 3	1.67	IDENTIFIED 10.75	<input type="checkbox"/>	
Thorium-234	1.923	0.5334	pCi/g	1.162	2.00	62.66 2	1.659	IDENTIFIED 26.21	<input type="checkbox"/>	
Tin-126	0.2651	0.03757	pCi/g	0.1179	N	86.76 3	1.022	IDENTIFIED 13.65	<input type="checkbox"/>	
Total Uranium	5.6566	1.59E-06	ug/g	1.732	N	0			<input type="checkbox"/>	
Uranium-238	1.923	0.5334	pCi/g	1.162	N	62.66 2	1.659	IDENTIFIED 26.21	<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
247551001	15-FEB-10 12:00	04-MAR-10 16:40	17.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.884	0.1801	pCi/g	0.1793	N	910.7 3	1.913	IDENTIFIED 6.738	<input type="checkbox"/>	
Annihilation Rad.	0.1199	0.02522	pCi/g	0.03576	N	510.8 1	1.879	IDENTIFIED 20.78	<input type="checkbox"/>	
Bismuth-211	3.977	0.2172	pCi/g	0.2649	Y	351.9 2	1.242	IDENTIFIED 4.42	<input checked="" type="checkbox"/>	UJ
Bismuth-212	2.107	0.3422	pCi/g	0.6136	N	726.8 1	2.019	IDENTIFIED 15.01	<input type="checkbox"/>	
Bismuth-214	1.202	0.0859	pCi/g	0.09195	0.200	609.1 2	1.593	IDENTIFIED 5.558	<input type="checkbox"/>	
Cadmium-109	2.444	0.5025	pCi/g	1.246	Y	87.4 3	1.104	IDENTIFIED 20.04	<input checked="" type="checkbox"/>	UJ
Cerium-143	1926	282.9	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	0.09382	0.03496	pCi/g	0.07572	0.100	0 6 0		FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-135	0.2542	0.07099	pCi/g	0.2309	N	0 6 0		NOT_IDENTI 0	<input type="checkbox"/>	
Gross Gamma	9.878	1.302	pCi/g	2.732	N	0			<input type="checkbox"/>	
Iodine-133	19890	12080	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212	1.787	0.08052	pCi/g	0.07912	0.100	238.7 2	1.193	IDENTIFIED 2.704	<input type="checkbox"/>	
Lead-214	1.443	0.08832	pCi/g	0.09631	0.100	351.9 2	1.242	IDENTIFIED 4.42	<input type="checkbox"/>	
Neptunium-237	0.7105	0.164	pCi/g	0.3707	N	87.4 3	1.104	IDENTIFIED 20.04	<input type="checkbox"/>	
Potassium-40	32.6	1.434	pCi/g	0.3761	1.00	1460 1	2.317	IDENTIFIED 2.226	<input type="checkbox"/>	
Radium-224	4.791	0.5208	pCi/g	0.8468	Y	241.7 1	1.707	IDENTIFIED 10.51	<input checked="" type="checkbox"/>	UJ
Radium-226	1.202	0.0859	pCi/g	0.09195	Y	609.1 2	1.593	IDENTIFIED 5.558	<input type="checkbox"/>	
Radium-228	1.884	0.1801	pCi/g	0.1793	0.500	910.7 3	1.913	IDENTIFIED 6.738	<input type="checkbox"/>	
Sodium-24	2.76E+06	3.18E+06	pCi/g	0	N	0 6 0		SHORT_HLIF 0	<input type="checkbox"/>	
Strontium-85	0.06425	0.01731	pCi/g	0.05674	Y	0 6 0		NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	0.5101	0.03978	pCi/g	0.04753	0.080	583 1	1.645	IDENTIFIED 6.745	<input type="checkbox"/>	
Thorium-228	1.787	0.08052	pCi/g	0.07912	N	238.7 2	1.193	IDENTIFIED 2.704	<input type="checkbox"/>	

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parmname	Result	Uncertainty	Units	DL	RDL
956158	247551002	SAMPLE	04-MAR-10	Thallium-208	0.5684	0.05099	pCi/g	0.03376	0.000
956158	1202050254	MB	04-MAR-10	Iodine-133	5.115	17.47	pCi/g	0	N
				Sodium-24	239.2	438.9	pCi/g	0	N
				Technetium-99m	1.58E+09	3.42E+09	pCi/g	0	N
956158	1202050255	DUP	04-MAR-10	Bismuth-211	4.778	0.3229	pCi/g	0.1455	Y
				Bismuth-214	1.354	0.1145	pCi/g	0.05928	0.200
				Cadmium-109	3.532	0.3746	pCi/g	0.371	Y
				Cerium-143	1367	269.1	pCi/g	0	N
				Cesium-134	0.1067	0.03332	pCi/g	0.05676	0.100
				Gross Gamma	10.25	1.397	pCi/g	1.892	N
				Iodine-133	30110	18210	pCi/g	0	N
				Lead-212	1.971	0.1149	pCi/g	0.04444	0.100
				Lead-214	1.734	0.1266	pCi/g	0.05295	0.100
				Molybdenum-99	24.18	13.18	pCi/g	23.32	N
				Potassium-40	30.54	1.733	pCi/g	0.3553	1.00
				Radium-224	4.571	0.5732	pCi/g	0.4776	Y
				Radium-226	1.354	0.1145	pCi/g	0.05928	Y
				Radium-228	2.428	0.245	pCi/g	0.1439	0.500
				Thallium-208	0.5514	0.05167	pCi/g	0.03689	0.080
				Thorium-234	1.214	0.4901	pCi/g	0.4224	2.00
				Uranium-235	0.1706	0.08604	pCi/g	0.1451	0.500
956158	1202050256	LCS	04-MAR-10	Americium-241	13.75	0.6155	pCi/g	0.1919	0.200
				Barium-137m	5.681	0.2972	pCi/g	0.05796	N
				Bismuth-211	2.025	0.3557	pCi/g	0.2863	Y
				Bismuth-214	0.6574	0.1003	pCi/g	0.08779	0.200
				Cadmium-109	30.76	1.89	pCi/g	0.8119	Y
				Cerium-143	15.51	7.386	pCi/g	11.68	N
				Cesium-134	0.1514	0.03977	pCi/g	0.07427	0.100
				Cesium-137	6.002	0.3144	pCi/g	0.06123	0.100
				Cobalt-60	6.369	0.3065	pCi/g	0.04624	0.100
				Gross Gamma	26.91	2.308	pCi/g	1.583	N
				Iodine-133	73.41	69.36	pCi/g	0	N
				Lead-212	1.07	0.09952	pCi/g	0.07379	0.100
				Lead-214	0.7351	0.1307	pCi/g	0.1041	0.100
				Neptunium-237	9.044	1.099	pCi/g	0.2707	N
				Potassium-40	1.184	0.2844	pCi/g	0.2623	1.00
				Radium-224	4.008	0.8738	pCi/g	0.791	Y

ME
3/12/10

ME
3/16/10

VAX/VMS Nuclide Identification Report Generated 4-MAR-2010 18:41:24.06

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551001.CNF;1
Sample date        : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 16:40:58.
Sample ID          : G247551001 Sample quantity   : 1.36880E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.88 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials  : MXR1
Abundance limit    : 75.00000 Sensitivity        : 5.00000
Batch ID           : 956158 Detector SN#         :
Matrix Spike ID    : LCS ID                        : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.56*	99	614	1.12	126.25	122	9	1.38E-02	47.0	
2	2	74.97*	433	541	1.18	149.05	143	15	6.02E-02	10.4	1.48E+00
3	2	77.29*	735	435	1.04	153.70	143	15	1.02E-01	6.0	
4	3	87.40	207	636	1.10	173.90	169	25	2.88E-02	20.0	3.30E+00
5	3	90.23	137	465	0.96	179.56	169	25	1.91E-02	25.9	
6	3	93.01*	306	459	1.21	185.12	169	25	4.25E-02	14.2	
7	0	153.53	72	346	1.45	306.12	304	8	9.94E-03	46.7	
8	0	186.03*	319	501	1.22	371.09	365	12	4.43E-02	15.5	
9	0	209.21	138	345	1.47	417.43	414	8	1.92E-02	24.7	
10	3	238.69*	1930	250	1.19	476.38	470	18	2.68E-01	2.7	9.18E-01
11	3	241.67*	483	281	1.71	482.34	470	18	6.71E-02	10.5	
12	0	269.80	226	270	1.62	538.57	532	12	3.14E-02	16.0	
13	0	277.65	61	311	0.65	554.27	549	10	8.54E-03	55.4	
14	2	295.30*	567	208	1.35	589.57	582	25	7.88E-02	6.1	2.00E+00
15	2	300.18	180	201	1.71	599.33	582	25	2.50E-02	17.6	
16	0	327.61	124	188	0.73	654.17	650	8	1.73E-02	21.1	
17	0	338.29*	392	289	1.50	675.52	670	13	5.45E-02	10.4	
18	0	351.86*	1021	234	1.24	702.65	697	12	1.42E-01	4.4	
19	0	463.39	142	191	1.39	925.64	920	14	1.97E-02	22.4	
20	0	510.79*	188	194	1.88	1020.42	1013	16	2.62E-02	20.8	
21	0	582.97*	622	217	1.64	1164.74	1156	16	8.64E-02	6.7	
22	0	609.09*	760	192	1.59	1216.95	1209	16	1.06E-01	5.6	
23	0	726.80*	171	105	2.02	1452.33	1446	13	2.38E-02	15.0	
24	0	767.85	57	83	0.76	1534.41	1531	9	7.95E-03	31.3	
25	0	794.45	81	155	2.02	1587.59	1581	17	1.12E-02	36.9	
26	0	858.78	65	175	1.59	1716.23	1711	19	8.97E-03	50.3	
27	0	910.72*	493	121	1.91	1820.08	1812	15	6.85E-02	6.7	
28	0	934.22	42	62	0.96	1867.07	1862	10	5.89E-03	38.0	
29	0	968.67*	241	171	1.81	1935.96	1930	12	3.34E-02	13.0	
30	0	1120.09	181	132	1.98	2238.75	2229	18	2.51E-02	16.8	
31	0	1237.80	74	97	1.57	2474.14	2468	12	1.02E-02	29.3	
32	0	1376.34	72	43	2.30	2751.18	2740	19	9.99E-03	24.8	
33	0	1459.87*	2399	66	2.32	2918.22	2906	22	3.33E-01	2.2	
34	0	1619.65	36	17	3.41	3237.75	3232	13	5.03E-03	28.4	
35	0	1763.51*	145	12	2.04	3525.47	3517	16	2.01E-02	10.4	
36	0	1847.54	29	15	2.08	3693.53	3687	11	4.05E-03	32.4	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551001.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-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 16:40:58
Sample ID         : G247551001 Sample quantity : 136.88 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.88 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	3.260E+01	2.869E+00	3.751E-01	2.846E-02	86.903
CD-109	+	88.03	*	2.444E+00	1.005E+00	1.179E+00	1.090E-01	2.073
SN-126	+	64.28		9.050E-01	8.604E-01	8.377E-01	1.238E-01	1.080
	+	86.94		9.900E-01	5.710E-01	4.850E-01	2.011E-01	2.041
	+	87.57	*	2.381E-01	9.792E-02	1.156E-01	1.065E-02	2.060
TL-208	+	277.37		4.084E-01	4.545E-01	4.809E-01	5.159E-02	0.849
	+	583.19	*	5.101E-01	7.955E-02	4.656E-02	3.644E-03	10.957
		860.56		5.873E-01	2.511E-01	4.538E-01	5.075E-02	1.294
BI-211		72.87		2.191E+00	3.388E+00	5.149E+00	4.252E-01	0.425
	+	351.06	*	3.977E+00	4.345E-01	2.570E-01	1.650E-02	15.476
BI-212	+	727.33	*	2.107E+00	6.844E-01	6.035E-01	7.497E-02	3.492
		785.37		2.106E+00	2.482E+00	4.228E+00	3.996E-01	0.498
	+	1620.50		3.817E+00	2.183E+00	2.359E+00	1.595E-01	1.618
PB-212	+	74.82		2.344E+00	5.720E-01	5.412E-01	6.939E-02	4.331
	+	77.11		2.242E+00	3.286E-01	3.063E-01	2.596E-02	7.320
	+	238.63	*	1.787E+00	1.610E-01	7.620E-02	5.493E-03	23.453
	+	300.09		2.501E+00	9.057E-01	9.827E-01	8.207E-02	2.545
BI-214	+	609.32	*	1.202E+00	1.718E-01	9.014E-02	8.100E-03	13.335
	+	1120.29		1.426E+00	4.972E-01	3.687E-01	3.551E-02	3.866
	+	1764.49		1.532E+00	3.333E-01	2.622E-01	1.594E-02	5.845
PB-214	+	74.82		4.154E+00	9.865E-01	9.592E-01	1.105E-01	4.331
	+	77.11		3.952E+00	6.647E-01	5.399E-01	6.385E-02	7.320
	+	242.00		2.710E+00	6.097E-01	4.626E-01	3.719E-02	5.857
	+	295.22		1.399E+00	2.095E-01	1.740E-01	1.510E-02	8.041
	+	351.93	*	1.443E+00	1.766E-01	9.343E-02	7.908E-03	15.447
RA-224	+	240.99	*	4.791E+00	1.042E+00	8.157E-01	4.544E-02	5.874
RA-226	+	609.32	*	1.202E+00	1.718E-01	9.014E-02	8.100E-03	13.335
	+	1120.29		1.426E+00	4.972E-01	3.687E-01	3.551E-02	3.866
	+	1764.49		1.532E+00	3.333E-01	2.622E-01	1.594E-02	5.845
AC-228	+	338.32		1.710E+00	7.894E-01	2.989E-01	1.232E-01	5.722
	+	911.20	*	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639
	+	968.97		1.583E+00	5.701E-01	3.914E-01	9.765E-02	4.043
RA-228	+	338.32		1.710E+00	7.894E-01	2.989E-01	1.232E-01	5.722
	+	911.20	*	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	+	968.97		1.583E+00	5.701E-01	3.914E-01	9.765E-02	4.043
	+	74.82		2.344E+00	5.253E-01	5.412E-01	4.564E-02	4.331
	+	77.11		2.242E+00	3.286E-01	3.063E-01	2.596E-02	7.320
	+	238.63	*	1.787E+00	1.610E-01	7.620E-02	5.493E-03	23.453
TH-232	+	300.09		2.501E+00	1.759E+00	9.827E-01	5.982E-01	2.545
	+	338.32		1.710E+00	3.685E-01	2.989E-01	1.729E-02	5.722
	+	911.20	*	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639
	+	968.97		1.583E+00	5.701E-01	3.914E-01	9.765E-02	4.043
TH-234	+	63.29	*	2.348E+00	2.246E+00	2.230E+00	4.016E-01	1.053
	+	92.59		2.847E+00	1.024E+00	9.510E-01	2.095E-01	2.994
U-235	+	89.96		1.615E+00	9.278E-01	1.195E+00	2.952E-01	1.352
	+	93.35		2.151E+00	7.867E-01	7.128E-01	1.639E-01	3.017
		143.76	*	-2.680E-02	1.862E-01	2.888E-01	4.504E-02	-0.093
		163.33		8.749E-02	3.553E-01	5.993E-01	9.952E-02	0.146
NP-237	+	185.72		2.002E-01	6.288E-02	5.250E-02	2.792E-03	3.813
		205.31		4.103E-02	4.323E-01	6.326E-01	1.067E-01	0.065
	+	86.48	*	7.105E-01	3.280E-01	3.504E-01	8.013E-02	2.028
		95.86		-6.657E-01	9.033E-01	1.245E+00	2.960E-01	-0.535
U-238	+	63.29	*	2.348E+00	2.246E+00	2.230E+00	4.016E-01	1.053
	+	92.59		2.847E+00	8.442E-01	9.510E-01	8.053E-02	2.994
ANH-511	+	511.00	*	1.199E-01	5.044E-02	3.494E-02	2.307E-03	3.431

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-4.657E-02	2.408E-01	3.924E-01	2.843E-02	-0.119
NA-22		1274.54	*	5.452E-03	3.626E-02	6.019E-02	4.095E-03	0.091
NA-24		1368.63	*	2.759E+00	3.626E-02	Half-Life too short		
SC-46		889.28	*	-2.816E-02	3.223E-02	4.904E-02	5.470E-03	-0.574
	+	1120.55		2.453E-01	8.396E-02	1.041E-01	7.192E-03	2.356
V-48		944.13		-5.158E-01	7.970E-01	1.196E+00	1.266E-01	-0.431
		983.53	*	-2.751E-02	5.724E-02	8.880E-02	8.782E-03	-0.310
		1312.11		0.000E+00	6.891E-02	1.128E-01	8.220E-03	0.000
CR-51		320.08	*	1.454E-01	3.148E-01	5.185E-01	3.333E-02	0.280
MN-54		834.85	*	-3.340E-02	3.262E-02	4.999E-02	5.121E-03	-0.668
CO-56		846.77	*	-1.761E-02	3.220E-02	5.078E-02	5.302E-03	-0.347
		1037.84		3.354E-02	2.382E-01	4.026E-01	3.726E-02	0.083
	+	1238.28		1.642E-01	9.698E-02	1.417E-01	9.444E-03	1.159
CO-57		1771.35		2.620E-02	1.839E-01	2.650E-01	1.601E-02	0.099
		122.06	*	9.399E-03	2.245E-02	3.661E-02	2.168E-03	0.257
		136.47		-5.062E-02	1.844E-01	2.904E-01	1.897E-02	-0.174
CO-58		810.76	*	-4.629E-03	3.021E-02	4.925E-02	4.862E-03	-0.094
FE-59		1099.45	*	1.304E-03	7.149E-02	1.192E-01	9.806E-03	0.011
CO-60		1291.59		1.189E-02	1.066E-01	1.762E-01	1.481E-02	0.067
		1173.23		-3.352E-03	3.668E-02	6.034E-02	3.335E-03	-0.056
		1332.49	*	1.647E-02	2.981E-02	5.116E-02	3.865E-03	0.322
ZN-65		1115.54	*	7.799E-02	8.802E-02	1.348E-01	9.497E-03	0.578
SE-75		121.12		-1.073E-02	1.195E-01	1.912E-01	1.754E-02	-0.056

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		136.00		1.305E-02	3.548E-02	5.733E-02	3.267E-03	0.228
		264.66	*	5.792E-03	3.888E-02	5.624E-02	3.217E-03	0.103
		279.54		6.388E-02	1.002E-01	1.484E-01	9.180E-03	0.430
		400.66		-4.773E-03	2.011E-01	3.361E-01	3.051E-02	-0.014
SR-85		514.00	*	6.425E-02	3.462E-02	5.544E-02	3.673E-03	1.159
Y-88		898.04		-3.369E-02	3.746E-02	5.592E-02	6.339E-03	-0.602
		1836.06	*	2.872E-02	2.837E-02	5.177E-02	2.949E-03	0.555
Y-91		1204.77	*	-2.588E+00	1.972E+01	3.231E+01	1.910E+00	-0.080
NB-94		702.65	*	1.342E-02	2.638E-02	4.526E-02	3.713E-03	0.296
		871.09		-1.459E-02	2.464E-02	3.731E-02	4.047E-03	-0.391
NB-95		765.81	*	5.350E-02	3.912E-02	6.169E-02	5.643E-03	0.867
NB-95M		235.69	*	1.661E-01	1.205E-01	1.854E-01	1.365E-02	0.896
ZR-95		724.19		1.819E-01	9.154E-02	1.486E-01	1.375E-02	1.224
		756.73	*	2.299E-02	5.756E-02	9.776E-02	9.654E-03	0.235
MO-99		140.51		-6.681E+00	3.441E+01	5.356E+01	1.222E+01	-0.125
		181.07		2.505E+00	2.702E+01	4.019E+01	7.040E+00	0.062
		366.42		1.647E+02	1.274E+02	2.269E+02	1.311E+01	0.726
		739.50	*	-7.410E+00	1.614E+01	2.596E+01	4.109E+00	-0.285
		777.92		-4.835E+01	4.458E+01	6.761E+01	6.312E+00	-0.715
TC-99M		140.51	*	-2.123E+12	4.458E+01	Half-Life too short		
RU-103		497.08	*	-7.883E-03	3.025E-02	4.889E-02	6.244E-03	-0.161
	+	610.33		1.287E+01	2.473E+00	2.348E+00	3.683E-01	5.480
RH-106		621.93	*	3.710E-02	2.538E-01	4.129E-01	5.150E-02	0.090
		1050.41		-6.384E-01	2.069E+00	3.387E+00	2.894E-01	-0.189
RU-106		621.93	*	3.710E-02	2.538E-01	4.129E-01	3.039E-02	0.090
		1050.41		-6.384E-01	2.069E+00	3.387E+00	2.894E-01	-0.189
AG-108M		433.94	*	-6.517E-03	2.304E-02	3.773E-02	2.432E-03	-0.173
		614.28		2.059E-02	3.067E-02	4.524E-02	3.456E-03	0.455
		722.91		2.622E-02	3.274E-02	5.011E-02	4.400E-03	0.523
AG-110M		657.76	*	-2.374E-02	2.667E-02	4.226E-02	3.333E-03	-0.562
		677.62		1.695E-01	2.410E-01	4.194E-01	3.405E-02	0.404
		706.68		-9.848E-02	1.716E-01	2.764E-01	2.356E-02	-0.356
		763.94		1.435E-01	1.351E-01	2.108E-01	1.969E-02	0.681
		884.68		-1.100E-02	3.836E-02	6.134E-02	6.927E-03	-0.179
		937.49		4.384E-02	1.027E-01	1.492E-01	1.634E-02	0.294
		1384.29		1.544E-01	1.336E-01	2.160E-01	1.671E-02	0.715
		1505.03		4.965E-02	2.247E-01	3.831E-01	2.750E-02	0.130
SN-113		391.69	*	-1.984E-02	3.495E-02	5.690E-02	3.490E-03	-0.349
CD-115		260.90		8.015E+01	2.173E+02	3.613E+02	2.039E+01	0.222
		492.35		6.815E+01	5.466E+01	9.617E+01	6.226E+00	0.709
		527.90	*	3.883E+00	1.697E+01	2.814E+01	1.891E+00	0.138
SN-117M		156.02		-8.960E-01	2.147E+00	3.149E+00	1.682E-01	-0.285
		158.56	*	2.145E-04	5.281E-02	7.906E-02	4.202E-03	0.003
TE-123M		159.00	*	3.694E-03	2.384E-02	3.780E-02	2.040E-03	0.098
SB-124		602.73		7.584E-03	3.857E-02	5.463E-02	3.951E-03	0.139
		645.85		-1.936E-01	3.873E-01	5.995E-01	4.845E-02	-0.323
		722.78		2.408E-01	3.351E-01	5.099E-01	4.436E-02	0.472
		1690.97	*	-4.341E-02	4.331E-02	5.658E-02	3.919E-03	-0.767
SB-125		427.87	*	-1.218E-02	6.916E-02	1.140E-01	7.116E-03	-0.107

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	463.37		8.115E-01	3.675E-01	4.291E-01	3.062E-02	1.891
		600.60		1.316E-01	1.593E-01	2.552E-01	2.034E-02	0.516
		635.95		-1.151E-01	2.120E-01	3.278E-01	2.705E-02	-0.351
TE-125M		109.28	*	-9.327E-01	9.280E+00	1.494E+01	1.341E+00	-0.062
I-126		388.63		-9.345E-03	1.426E-01	2.384E-01	1.370E-02	-0.039
		666.33	*	4.497E-02	1.870E-01	3.179E-01	2.444E-02	0.141
		753.82		7.694E-01	1.574E+00	2.687E+00	2.409E-01	0.286
SB-126		414.70		5.596E-02	6.667E-02	1.156E-01	6.840E-03	0.484
		666.50		1.209E-02	6.432E-02	1.090E-01	8.383E-03	0.111
		695.00		4.783E-02	6.609E-02	1.149E-01	9.299E-03	0.416
		697.00		-2.933E-01	2.414E-01	3.727E-01	3.027E-02	-0.787
		720.70	*	1.110E-01	1.369E-01	2.105E-01	1.782E-02	0.527
		856.80		5.346E-01	4.719E-01	7.329E-01	7.773E-02	0.729
SB-127		252.40		1.235E+00	5.154E+00	8.502E+00	3.502E+00	0.145
		473.00		1.234E+00	1.651E+00	2.839E+00	3.402E-01	0.435
		685.70	*	5.083E-01	1.450E+00	2.474E+00	2.854E-01	0.205
		783.70		5.739E+00	4.011E+00	7.086E+00	9.557E-01	0.810
I-131		80.19		3.073E+00	5.335E+00	8.054E+00	7.035E-01	0.382
		284.31		-1.700E-01	1.380E+00	2.230E+00	1.423E-01	-0.076
		364.49	*	5.356E-02	1.069E-01	1.843E-01	1.193E-02	0.291
		636.99		-1.628E-01	1.438E+00	2.294E+00	1.845E-01	-0.071
TE-132		49.72		2.118E+00	3.614E+01	6.113E+01	6.726E+00	0.035
		111.76		1.658E+01	4.917E+01	7.937E+01	8.058E+00	0.209
		116.30		-1.525E+00	4.067E+01	6.537E+01	6.515E+00	-0.023
		228.16	*	-7.899E-01	1.002E+00	1.565E+00	2.322E-01	-0.505
BA-133		81.00		3.585E-03	9.297E-02	1.371E-01	2.135E-02	0.026
	+	276.40		3.776E-01	4.210E-01	5.121E-01	6.421E-02	0.737
		302.85		2.126E-02	1.234E-01	1.765E-01	2.008E-02	0.120
		356.01	*	-1.129E-02	3.834E-02	5.208E-02	5.868E-03	-0.217
		383.85		-1.407E-01	2.140E-01	3.459E-01	3.681E-02	-0.407
I-133		529.87	*	1.989E-02	2.140E-01	Half-Life	too short	
		875.33		-2.319E-02	2.140E-01	Half-Life	too short	
		1298.22		-8.733E-02	2.140E-01	Half-Life	too short	
CS-134		563.25		-1.291E-01	2.812E-01	4.439E-01	3.137E-02	-0.291
		569.33		2.101E-01	1.607E-01	2.755E-01	1.970E-02	0.763
		604.72		-7.043E-03	3.337E-02	4.571E-02	3.323E-03	-0.154
	+	795.86	*	9.382E-02	6.992E-02	7.461E-02	7.216E-03	1.257
		801.95		-3.562E-01	3.960E-01	5.192E-01	5.066E-02	-0.686
		1365.19		-1.864E-01	1.073E+00	1.560E+00	1.242E-01	-0.119
CS-135		268.22	*	2.542E-01	1.420E-01	2.229E-01	1.685E-02	1.140
I-135		546.56		2.137E+12	1.420E-01	Half-Life	too short	
		836.80		4.111E+12	1.420E-01	Half-Life	too short	
		1038.76		9.520E+11	1.420E-01	Half-Life	too short	
		1131.51		-5.511E+11	1.420E-01	Half-Life	too short	
		1260.41	*	-4.081E+11	1.420E-01	Half-Life	too short	
		1457.56		3.060E+14	1.420E-01	Half-Life	too short	
		1678.03		1.127E+12	1.420E-01	Half-Life	too short	
		1791.20		6.962E+11	1.420E-01	Half-Life	too short	
CS-136	+	153.25		1.041E+00	9.758E-01	1.340E+00	1.038E-01	0.777

---- Non-Identified Nuclides ----

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		176.60		9.618E-02	4.556E-01	7.720E-01	5.125E-02	0.125
		273.65		2.127E-01	6.756E-01	7.187E-01	4.847E-02	0.296
		340.55		5.764E-01	1.615E-01	2.673E-01	1.675E-02	2.156
		818.51		5.659E-02	6.429E-02	1.118E-01	1.116E-02	0.506
		1048.07	*	3.189E-03	9.449E-02	1.584E-01	1.419E-02	0.020
		1235.36		9.166E-01	6.751E-01	1.040E+00	1.059E-01	0.881
BA-137M		661.66	*	3.413E-03	2.719E-02	4.594E-02	3.502E-03	0.074
CS-137		661.66	*	3.605E-03	2.872E-02	4.853E-02	3.709E-03	0.074
CE-139		165.86	*	1.736E-05	2.448E-02	4.137E-02	2.171E-03	0.000
BA-140		162.66		-3.947E-02	7.320E-01	1.223E+00	7.557E-02	-0.032
		304.85		6.395E-01	1.325E+00	1.918E+00	5.478E-01	0.333
		423.72		2.798E-01	1.647E+00	2.763E+00	8.927E-01	0.101
		537.26	*	1.762E-01	2.362E-01	3.909E-01	1.309E-01	0.451
LA-140	+	328.76		7.534E-01	3.218E-01	5.142E-01	3.338E-02	1.465
		487.02		-2.654E-02	1.185E-01	1.925E-01	1.373E-02	-0.138
		815.77		-5.130E-02	2.850E-01	4.636E-01	5.017E-02	-0.111
		1596.21	*	9.152E-03	7.902E-02	1.327E-01	9.109E-03	0.069
CE-141		145.44	*	4.413E-02	5.817E-02	9.486E-02	5.416E-03	0.465
CE-143		57.36		-6.322E-04	5.817E-02	Half-Life too short		
		293.27	*	1.926E-03	5.817E-02	Half-Life too short		
		664.57		8.025E-04	5.817E-02	Half-Life too short		
		721.93		2.138E-03	5.817E-02	Half-Life too short		
CE-144		80.12		1.365E+00	2.423E+00	3.657E+00	3.166E-01	0.373
		133.52	*	2.602E-03	1.737E-01	2.771E-01	3.833E-02	0.009
PM-144		476.78		-2.382E-02	4.764E-02	7.616E-02	5.591E-03	-0.313
		618.01		-1.466E-02	2.608E-02	3.922E-02	2.987E-03	-0.374
		696.49	*	-2.304E-02	2.719E-02	4.306E-02	3.496E-03	-0.535
PR-144		696.51	*	-1.723E+00	2.037E+00	3.227E+00	2.618E-01	-0.534
		1489.16		-5.841E+00	9.504E+00	1.414E+01	1.022E+00	-0.413
PM-146		453.88	*	-5.911E-03	3.273E-02	5.367E-02	4.688E-03	-0.110
		633.25		-8.089E-02	1.069E+00	1.711E+00	6.492E-01	-0.047
		735.93		7.693E-02	1.137E-01	1.935E-01	5.427E-02	0.398
		747.24		7.024E-03	7.393E-02	1.235E-01	1.819E-02	0.057
ND-147	+	91.11		5.962E-01	3.145E-01	5.133E-01	4.831E-02	1.162
		319.41		1.485E+00	3.021E+00	4.987E+00	2.881E-01	0.298
		531.02	*	2.289E-01	4.895E-01	8.212E-01	1.146E-01	0.279
PM-149		285.90	*	1.484E+01	1.364E+02	2.228E+02	3.152E+01	0.067
EU-152		121.78		1.491E-02	6.444E-02	1.043E-01	8.010E-03	0.143
		244.70		2.481E-01	2.729E-01	4.152E-01	2.319E-02	0.598
		344.28	*	-2.162E-02	8.970E-02	1.229E-01	8.016E-03	-0.176
		778.90		-1.959E-01	1.889E-01	2.876E-01	2.689E-02	-0.681
		964.08		4.156E-01	3.183E-01	4.805E-01	4.922E-02	0.865
		1085.87		-1.367E-01	3.136E-01	5.067E-01	3.926E-02	-0.270
		1112.07		-1.232E-01	2.951E-01	4.024E-01	2.864E-02	-0.306
		1408.01		1.296E-01	1.597E-01	2.771E-01	2.058E-02	0.468
GD-153		69.67		2.091E-01	1.982E+00	2.922E+00	2.372E-01	0.072
		97.43	*	-7.308E-02	8.770E-02	1.211E-01	9.471E-03	-0.603
		103.18		-8.802E-02	1.030E-01	1.613E-01	1.164E-02	-0.546
EU-154		123.07		2.628E-02	4.522E-02	7.410E-02	6.997E-03	0.355

---- Non-Identified Nuclides ----

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EU-155	+	723.31		1.609E-01	1.521E-01	2.365E-01	2.221E-02	0.680
		873.19		-8.188E-02	1.972E-01	3.112E-01	4.239E-02	-0.263
		996.26		-4.042E-01	3.056E-01	4.295E-01	7.732E-02	-0.941
		1004.73		-1.754E-02	1.786E-01	2.865E-01	3.522E-02	-0.061
		1274.44	*	-5.611E-03	1.038E-01	1.698E-01	1.709E-02	-0.033
		86.55		2.890E-01	1.189E-01	1.769E-01	1.630E-02	1.633
		105.31	*	6.206E-02	9.845E-02	1.630E-01	1.164E-02	0.381
		86.79		7.815E-01	3.214E-01	4.769E-01	4.363E-02	1.639
		197.04		-2.590E-01	4.509E-01	7.366E-01	3.956E-02	-0.352
		215.65		-2.739E-01	6.413E-01	1.047E+00	5.717E-02	-0.261
TB-160	+	298.57		2.387E-01	9.812E-02	1.733E-01	9.956E-03	1.377
		879.36	*	-1.933E-02	1.084E-01	1.749E-01	1.921E-02	-0.111
		962.29		9.125E-02	5.608E-01	7.853E-01	8.068E-02	0.116
		966.15		1.531E+00	3.054E-01	4.901E-01	5.002E-02	3.124
		1177.93		-1.503E-01	3.094E-01	4.956E-01	2.767E-02	-0.303
		1271.85		-1.968E-01	6.066E-01	9.723E-01	6.570E-02	-0.202
		80.57		8.883E-02	2.651E-01	3.962E-01	3.442E-02	0.224
		184.41		9.709E-02	3.358E-02	5.502E-02	2.923E-03	1.765
		280.46		3.210E-02	7.321E-02	1.073E-01	6.121E-03	0.299
		410.95		1.552E-01	1.975E-01	3.414E-01	2.010E-02	0.455
HO-166M	+	711.68	*	9.989E-03	4.875E-02	8.101E-02	6.753E-03	0.123
		752.31		-1.792E-02	2.159E-01	3.564E-01	3.187E-02	-0.050
		810.29		-7.690E-03	4.517E-02	7.356E-02	7.243E-03	-0.105
		67.75		-5.858E-02	1.309E-01	1.912E-01	1.537E-02	-0.306
		100.11		6.654E-02	1.726E-01	2.714E-01	2.040E-02	0.245
		152.43		3.867E-01	3.619E-01	5.006E-01	2.693E-02	0.772
		222.11		-1.366E-01	3.004E-01	4.889E-01	2.684E-02	-0.279
		1121.30		6.765E-01	2.315E-01	2.820E-01	1.942E-02	2.399
		1189.05		1.363E-01	2.637E-01	4.496E-01	2.571E-02	0.303
		1221.41	*	-3.491E-03	1.657E-01	2.729E-01	1.669E-02	-0.013
IR-192	+	1231.02		1.464E-01	4.760E-01	6.873E-01	4.287E-02	0.213
		295.96		1.055E+00	1.427E-01	2.435E-01	1.420E-02	4.332
		308.46		-2.789E-02	7.968E-02	1.264E-01	7.367E-03	-0.221
		316.51	*	3.814E-03	2.801E-02	4.548E-02	2.638E-03	0.084
		468.07		-2.606E-02	5.716E-02	7.862E-02	5.610E-03	-0.331
HG-203	+	70.83		-3.819E-02	1.543E+00	2.260E+00	3.575E-01	-0.017
		72.87		5.626E-01	8.730E-01	1.322E+00	2.028E-01	0.425
		279.20	*	3.895E-02	3.654E-02	5.537E-02	3.338E-03	0.703
BI-207	+	72.81		1.015E-01	1.945E-01	2.943E-01	2.429E-02	0.345
		74.97		6.756E-01	1.512E-01	2.213E-01	1.850E-02	3.053
		569.70		2.925E-02	2.495E-02	4.250E-02	2.978E-03	0.688
		1063.66	*	-1.162E-02	4.303E-02	7.056E-02	5.824E-03	-0.165
PB-210	+	1770.23		1.511E-01	3.528E-01	5.399E-01	3.266E-02	0.280
		46.54	*	3.598E+00	4.731E+00	8.208E+00	6.293E-01	0.438
PB-211	+	404.85	*	-2.059E-01	5.995E-01	9.725E-01	4.666E-01	-0.212
		427.09		-5.671E-01	1.168E+00	1.843E+00	8.451E-01	-0.308
RN-219	+	832.01		-1.691E-01	8.157E-01	1.315E+00	6.859E-01	-0.129
		271.23		9.034E-01	2.975E-01	3.527E-01	2.802E-02	2.562
		401.81	*	1.669E-01	3.246E-01	5.548E-01	7.459E-02	0.301

---- Non-Identified Nuclides ----

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RA-223		81.07		2.326E-03	2.102E-01	3.096E-01	2.700E-02	0.008
		83.79		3.979E-02	1.296E-01	1.928E-01	1.719E-02	0.206
		94.87		2.178E-01	4.313E-01	7.140E-01	5.814E-02	0.305
		144.24		2.764E-02	6.202E-01	9.688E-01	6.737E-02	0.029
	+	154.21		4.235E-01	3.967E-01	5.336E-01	3.524E-02	0.794
	+	269.46		7.019E-01	2.282E-01	2.860E-01	1.696E-02	2.454
		323.87	*	1.835E-01	5.757E-01	8.259E-01	1.331E-01	0.222
	+	338.28		6.787E+00	1.571E+00	1.979E+00	2.026E-01	3.430
	AC-227	79.69		2.905E-01	1.218E+00	1.814E+00	3.127E-01	0.160
		235.96		4.725E-01	1.542E-01	2.473E-01	1.970E-02	1.910
TH-227		256.23	*	-1.211E-01	2.103E-01	3.355E-01	3.399E-02	-0.361
	+	299.98		2.751E+00	1.015E+00	1.327E+00	1.455E-01	2.073
		304.50		7.412E-01	1.414E+00	2.065E+00	3.146E-01	0.359
		334.37		-1.076E+00	1.586E+00	2.102E+00	2.988E-01	-0.512
		79.80		8.177E-01	1.596E+00	2.392E+00	5.211E-01	0.342
TH-229		235.96		4.725E-01	1.533E-01	2.473E-01	1.778E-02	1.910
		256.23	*	-1.211E-01	2.105E-01	3.355E-01	4.005E-02	-0.361
	+	299.98		2.751E+00	1.015E+00	1.327E+00	1.455E-01	2.073
		304.50		7.412E-01	1.414E+00	2.065E+00	3.146E-01	0.359
		334.37		-1.076E+00	1.586E+00	2.102E+00	2.988E-01	-0.512
TH-229		85.43		3.893E-01	2.184E-01	3.392E-01	3.066E-02	1.148
	+	88.47		3.671E-01	1.510E-01	2.144E-01	1.964E-02	1.712
		193.51	*	1.454E-01	4.124E-01	6.986E-01	3.740E-02	0.208
PA-231		210.85		1.237E+00	8.596E-01	1.337E+00	7.269E-02	0.925
		283.69	*	-3.708E-01	1.188E+00	1.833E+00	2.397E-01	-0.202
TH-231	+	301.36		1.767E+00	6.489E-01	8.420E-01	8.685E-02	2.099
		81.07		2.326E-03	2.102E-01	3.096E-01	2.700E-02	0.008
PA-233		83.79		3.979E-02	1.296E-01	1.928E-01	1.719E-02	0.206
		94.87		2.178E-01	4.313E-01	7.140E-01	5.814E-02	0.305
		144.24		2.764E-02	6.202E-01	9.688E-01	6.737E-02	0.029
	+	154.21		4.235E-01	3.967E-01	5.336E-01	3.524E-02	0.794
	+	269.46		7.019E-01	2.282E-01	2.860E-01	1.696E-02	2.454
		323.87	*	1.835E-01	5.757E-01	8.259E-01	1.331E-01	0.222
	+	338.28		6.787E+00	1.571E+00	1.979E+00	2.026E-01	3.430
	+	300.13		1.245E+00	4.691E-01	6.005E-01	8.025E-02	2.073
		311.90	*	-9.530E-03	5.136E-02	8.209E-02	5.030E-03	-0.116
		340.48		2.356E+00	8.173E-01	1.040E+00	2.413E-01	2.266
PA-234		94.67		1.959E-01	1.618E-01	2.710E-01	3.277E-02	0.723
		98.44		3.933E-02	9.513E-02	1.365E-01	7.594E-02	0.288
		111.00		-1.054E-01	1.739E-01	2.706E-01	2.903E-02	-0.390
		131.20		-1.010E-01	9.592E-02	1.466E-01	8.346E-03	-0.689
		569.50		2.696E-01	2.221E-01	3.790E-01	2.655E-02	0.711
		733.00		-1.340E-01	3.386E-01	4.652E-01	1.033E-01	-0.288
		880.51		-2.663E-02	2.102E-01	3.406E-01	3.748E-02	-0.078
		883.24		6.782E-02	2.233E-01	3.656E-01	2.471E-01	0.186
		926.50		3.603E-02	1.458E-01	2.240E-01	5.854E-02	0.161
		946.00	*	-6.282E-02	2.468E-01	3.828E-01	7.551E-02	-0.164
PA-234M		949.00		1.416E-01	3.731E-01	6.215E-01	6.527E-02	0.228
	+	766.42		1.535E+01	1.239E+01	1.617E+01	8.218E+00	0.949

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	1001.03	*		4.435E+00	3.772E+00	6.397E+00	6.901E-01	0.693
	99.53			7.804E-02	1.688E-01	2.488E-01	1.886E-02	0.314
	103.37			-6.965E-02	9.272E-02	1.459E-01	1.050E-02	-0.477
	106.12			1.699E-02	7.893E-02	1.288E-01	8.953E-03	0.132
	117.23	*		5.016E-02	3.489E-01	5.645E-01	3.487E-02	0.089
	228.18			-1.488E-01	1.882E-01	2.956E-01	1.631E-02	-0.503
AM-241	+	277.60		1.867E-01	2.071E-01	2.490E-01	1.418E-02	0.750
		59.54	*	2.434E-02	1.868E-01	2.811E-01	2.332E-02	0.087
CM-247	+	278.00		7.927E-01	8.794E-01	1.049E+00	5.977E-02	0.756
		287.50		1.264E-01	9.848E-01	1.555E+00	8.896E-02	0.081
CF-249		402.40	*	2.278E-02	2.958E-02	5.120E-02	2.981E-03	0.445
		252.80		2.553E-01	7.856E-01	1.306E+00	7.338E-02	0.195
		333.37		-2.629E-02	1.793E-01	2.304E-01	1.332E-02	-0.114
		388.16	*	1.059E-02	3.049E-02	5.199E-02	2.988E-03	0.204
CF-251		177.52	*	4.015E-02	1.071E-01	1.824E-01	9.640E-03	0.220
		227.38		1.376E-02	2.965E-01	4.911E-01	2.707E-02	0.028
		285.41		-7.870E-02	1.695E+00	2.749E+00	1.571E-01	-0.029

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]G247551001      *
* Acquisition date   : 4-MAR-2010 16:40:58 Detector SN#      :              *
* Detector ID        : GAM18                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.88             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247551001             Analyst initials: MXR1          *
* Batch Number       : 956158                 Sample Quantity : 1.3688E+02 GRAM  *
* Recovery           : 1.00000                Carrier Weight   : 0.00000        *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope       :
* MSD DPM            : 0.000                  MSD Isotope     :
* LCS DPM            : 0.000                  LCS Isotope      :
* LCSD DPM           : 0.000                  LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.260E+01	2.811E+00	3.761E-01	0.000E+00
CD-109	2.444E+00	9.848E-01	1.246E+00	0.000E+00
SN-126	2.381E-01	9.596E-02	1.222E-01	0.000E+00
TL-208	5.101E-01	7.796E-02	4.753E-02	0.000E+00
BI-211	3.977E+00	4.258E-01	2.649E-01	0.000E+00
BI-212	2.107E+00	6.707E-01	6.136E-01	0.000E+00
PB-212	1.787E+00	1.578E-01	7.912E-02	0.000E+00
BI-214	1.202E+00	1.684E-01	9.195E-02	0.000E+00
PB-214	1.443E+00	1.731E-01	9.631E-02	0.000E+00
RA-224	4.791E+00	1.021E+00	8.468E-01	0.000E+00
RA-226	1.202E+00	1.684E-01	9.195E-02	0.000E+00
AC-228	1.884E+00	3.529E-01	1.793E-01	0.000E+00
RA-228	1.884E+00	3.529E-01	1.793E-01	0.000E+00
TH-228	1.787E+00	1.578E-01	7.912E-02	0.000E+00
TH-232	1.884E+00	3.529E-01	1.793E-01	0.000E+00
TH-234	2.348E+00	2.201E+00	2.372E+00	0.000E+00
U-235	-2.680E-02	1.825E-01	3.027E-01	0.000E+00
NP-237	7.105E-01	3.214E-01	3.707E-01	0.000E+00
U-238	2.348E+00	2.201E+00	2.372E+00	0.000E+00
ANH-511	1.199E-01	4.943E-02	3.576E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-4.657E-02	2.359E-01	4.022E-01	0.000E+00 NOT IDENT.
NA-22	5.452E-03	3.553E-02	6.052E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	6.237E+06	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-2.816E-02	3.159E-02	4.966E-02	0.000E+00 FAIL ABUN
V-48	-2.751E-02	5.609E-02	8.974E-02	0.000E+00 NOT IDENT.
CR-51	1.454E-01	3.085E-01	5.354E-01	0.000E+00 NOT IDENT.
MN-54	-3.340E-02	3.197E-02	5.069E-02	0.000E+00 NOT IDENT.

CO-56	-1.761E-02	3.156E-02	5.148E-02	0.000E+00	FAIL ABUN
CO-57	9.399E-03	2.200E-02	3.848E-02	0.000E+00	NOT IDENT.
CO-58	-4.629E-03	2.960E-02	4.996E-02	0.000E+00	NOT IDENT.
FE-59	1.304E-03	7.006E-02	1.202E-01	0.000E+00	NOT IDENT.
CO-60	1.647E-02	2.922E-02	5.140E-02	0.000E+00	NOT IDENT.
ZN-65	7.799E-02	8.626E-02	1.359E-01	0.000E+00	NOT IDENT.
SE-75	5.792E-03	3.810E-02	5.828E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.393E-02	5.674E-02	0.000E+00	NOT IDENT.
Y-88	2.872E-02	2.780E-02	5.168E-02	0.000E+00	NOT IDENT.
Y-91	-2.588E+00	1.933E+01	3.252E+01	0.000E+00	NOT IDENT.
NB-94	1.342E-02	2.586E-02	4.605E-02	0.000E+00	NOT IDENT.
NB-95	5.350E-02	3.834E-02	6.266E-02	0.000E+00	NOT IDENT.
NB-95M	1.661E-01	1.181E-01	1.926E-01	0.000E+00	NOT IDENT.
ZR-95	2.299E-02	5.641E-02	9.931E-02	0.000E+00	NOT IDENT.
MO-99	-7.410E+00	1.582E+01	2.638E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.073E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-7.883E-03	2.965E-02	5.007E-02	0.000E+00	FAIL ABUN
RH-106	3.710E-02	2.487E-01	4.210E-01	0.000E+00	NOT IDENT.
RU-106	3.710E-02	2.487E-01	4.210E-01	0.000E+00	NOT IDENT.
AG-108M	-6.517E-03	2.258E-02	3.874E-02	0.000E+00	NOT IDENT.
AG-110M	-2.374E-02	2.613E-02	4.305E-02	0.000E+00	NOT IDENT.
SN-113	-1.984E-02	3.425E-02	5.854E-02	0.000E+00	NOT IDENT.
CD-115	3.883E+00	1.663E+01	2.878E+01	0.000E+00	NOT IDENT.
SN-117M	2.145E-04	5.175E-02	8.271E-02	0.000E+00	NOT IDENT.
TE-123M	3.694E-03	2.336E-02	3.955E-02	0.000E+00	NOT IDENT.
SB-124	-4.341E-02	4.244E-02	5.657E-02	0.000E+00	NOT IDENT.
SB-125	-1.218E-02	6.778E-02	1.171E-01	0.000E+00	FAIL ABUN
TE-125M	-9.327E-01	9.095E+00	1.574E+01	0.000E+00	NOT IDENT.
I-126	4.497E-02	1.833E-01	3.238E-01	0.000E+00	NOT IDENT.
SB-126	1.110E-01	1.341E-01	2.140E-01	0.000E+00	NOT IDENT.
SB-127	5.083E-01	1.421E+00	2.518E+00	0.000E+00	NOT IDENT.
I-131	5.356E-02	1.048E-01	1.899E-01	0.000E+00	NOT IDENT.
TE-132	-7.899E-01	9.824E-01	1.626E+00	0.000E+00	NOT IDENT.
BA-133	-1.129E-02	3.757E-02	5.368E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.367E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.852E-02	7.572E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.391E-01	2.309E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.073E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.189E-03	9.260E-02	1.599E-01	0.000E+00	FAIL ABUN
BA-137M	3.413E-03	2.664E-02	4.679E-02	0.000E+00	NOT IDENT.
CS-137	3.605E-03	2.815E-02	4.943E-02	0.000E+00	NOT IDENT.
CE-139	1.736E-05	2.400E-02	4.324E-02	0.000E+00	NOT IDENT.
BA-140	1.762E-01	2.315E-01	3.998E-01	0.000E+00	NOT IDENT.
LA-140	9.152E-03	7.744E-02	1.329E-01	0.000E+00	FAIL ABUN
CE-141	4.413E-02	5.700E-02	9.939E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.545E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.602E-03	1.702E-01	2.908E-01	0.000E+00	NOT IDENT.
PM-144	-2.304E-02	2.664E-02	4.381E-02	0.000E+00	NOT IDENT.
PR-144	-1.723E+00	1.996E+00	3.283E+00	0.000E+00	NOT IDENT.
PM-146	-5.911E-03	3.207E-02	5.506E-02	0.000E+00	NOT IDENT.
ND-147	2.289E-01	4.797E-01	8.399E-01	0.000E+00	FAIL ABUN
PM-149	1.484E+01	1.336E+02	2.305E+02	0.000E+00	NOT IDENT.
EU-152	-2.162E-02	8.790E-02	1.268E-01	0.000E+00	NOT IDENT.
GD-153	-7.308E-02	8.595E-02	1.279E-01	0.000E+00	NOT IDENT.
EU-154	-5.611E-03	1.017E-01	1.708E-01	0.000E+00	NOT IDENT.
EU-155	6.206E-02	9.648E-02	1.717E-01	0.000E+00	FAIL ABUN
TB-160	-1.933E-02	1.062E-01	1.771E-01	0.000E+00	FAIL ABUN
HO-166M	9.989E-03	4.777E-02	8.239E-02	0.000E+00	NOT IDENT.
TA-182	-3.491E-03	1.624E-01	2.746E-01	0.000E+00	FAIL ABUN
IR-192	3.814E-03	2.745E-02	4.697E-02	0.000E+00	FAIL ABUN
HG-203	3.895E-02	3.581E-02	5.733E-02	0.000E+00	NOT IDENT.
BI-207	-1.162E-02	4.217E-02	7.120E-02	0.000E+00	FAIL ABUN
PB-210	3.598E+00	4.636E+00	8.778E+00	0.000E+00	NOT IDENT.
PB-211	-2.059E-01	5.875E-01	9.998E-01	0.000E+00	NOT IDENT.
RN-219	1.669E-01	3.181E-01	5.704E-01	0.000E+00	FAIL ABUN
RA-223	1.835E-01	5.641E-01	8.527E-01	0.000E+00	FAIL ABUN
AC-227	-1.211E-01	2.061E-01	3.479E-01	0.000E+00	FAIL ABUN
TH-227	-1.211E-01	2.062E-01	3.479E-01	0.000E+00	FAIL ABUN
TH-229	1.454E-01	4.042E-01	7.282E-01	0.000E+00	FAIL ABUN
PA-231	-3.708E-01	1.165E+00	1.897E+00	0.000E+00	FAIL ABUN
TH-231	1.835E-01	5.641E-01	8.527E-01	0.000E+00	FAIL ABUN
PA-233	-9.530E-03	5.033E-02	8.482E-02	0.000E+00	FAIL ABUN
PA-234	-6.282E-02	2.419E-01	3.872E-01	0.000E+00	NOT IDENT.
PA-234M	4.435E+00	3.696E+00	6.463E+00	0.000E+00	FAIL ABUN
NP-239	5.016E-02	3.419E-01	5.939E-01	0.000E+00	FAIL ABUN
AM-241	2.434E-02	1.831E-01	2.993E-01	0.000E+00	NOT IDENT.
CM-247	2.278E-02	2.898E-02	5.265E-02	0.000E+00	FAIL ABUN
CF-249	1.059E-02	2.988E-02	5.349E-02	0.000E+00	NOT IDENT.

CF-251

4.015E-02

1.050E-01

1.904E-01

0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551001.CNF;1
Sample date        : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 16:40:58.
Sample ID          : G247551001 Sample quantity : 1.36880E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.88 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 956158 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	2399	10.66*	1.894E+00	3.260E+01	3.260E+01	8.80
CD-109	88.03	207	3.70*	6.457E+00	2.381E+00	2.444E+00	41.12
SN-126	64.28	99	9.60	3.126E+00	9.050E-01	9.050E-01	95.07
	86.94	207	8.90	6.457E+00	9.900E-01	9.900E-01	57.68
	87.57	207	37.00*	6.457E+00	2.381E-01	2.381E-01	41.12
TL-208	277.37	61	6.60	6.255E+00	4.084E-01	4.084E-01	111.30
	583.19	622	85.00*	3.934E+00	5.101E-01	5.101E-01	15.59
	860.56	-----	12.50	2.914E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	4.622E+00	-----	Line Not Found	-----
	351.06	1021	12.92*	5.452E+00	3.977E+00	3.977E+00	10.93
BI-212	727.33	171	6.67*	3.339E+00	2.107E+00	2.107E+00	32.48
	785.37	-----	1.10	3.140E+00	-----	Line Not Found	-----
	1620.50	36	1.47	1.771E+00	3.817E+00	3.817E+00	57.19
PB-212	74.82	433	10.28	4.932E+00	2.344E+00	2.344E+00	24.41
	77.11	735	17.10	5.259E+00	2.242E+00	2.242E+00	14.66
	238.63	1930	43.60*	6.793E+00	1.787E+00	1.787E+00	9.01
	300.09	180	3.30	5.983E+00	2.501E+00	2.501E+00	36.22
BI-214	609.32	760	45.49*	3.813E+00	1.202E+00	1.202E+00	14.29
	1120.29	181	14.92	2.334E+00	1.425E+00	1.426E+00	34.88
	1764.49	145	15.30	1.695E+00	1.532E+00	1.532E+00	21.75
PB-214	74.82	433	5.80	4.932E+00	4.154E+00	4.154E+00	23.75
	77.11	735	9.70	5.259E+00	3.952E+00	3.952E+00	16.82
	242.00	483	7.25	6.748E+00	2.710E+00	2.710E+00	22.50
	295.22	567	18.42	6.040E+00	1.399E+00	1.399E+00	14.98
	351.93	1021	35.60*	5.452E+00	1.443E+00	1.443E+00	12.24
RA-224	240.99	483	4.10*	6.748E+00	4.791E+00	4.791E+00	21.74
RA-226	609.32	760	45.49*	3.813E+00	1.202E+00	1.202E+00	14.29
	1120.29	181	14.92	2.334E+00	1.425E+00	1.426E+00	34.88
	1764.49	145	15.30	1.695E+00	1.532E+00	1.532E+00	21.75
AC-228	338.32	392	11.27	5.580E+00	1.710E+00	1.710E+00	46.16
	911.20	493	25.80*	2.780E+00	1.884E+00	1.884E+00	19.11
	968.97	241	15.80	2.640E+00	1.583E+00	1.583E+00	36.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	338.32	392	11.27	5.580E+00	1.710E+00	1.710E+00	46.16
	911.20	493	25.80*	2.780E+00	1.884E+00	1.884E+00	19.11
	968.97	241	15.80	2.640E+00	1.583E+00	1.583E+00	36.02
TH-228	74.82	433	10.28	4.932E+00	2.344E+00	2.344E+00	22.41
	77.11	735	17.10	5.259E+00	2.242E+00	2.242E+00	14.66
	238.63	1930	43.60*	6.793E+00	1.787E+00	1.787E+00	9.01
TH-232	300.09	180	3.30	5.983E+00	2.501E+00	2.501E+00	70.34
	338.32	392	11.27	5.580E+00	1.710E+00	1.710E+00	21.55
	911.20	493	25.80*	2.780E+00	1.884E+00	1.884E+00	19.11
TH-234	968.97	241	15.80	2.640E+00	1.583E+00	1.583E+00	36.02
	63.29	99	3.70*	3.126E+00	2.348E+00	2.348E+00	95.63
	92.59	306	4.23	6.963E+00	2.847E+00	2.847E+00	35.95
U-235	89.96	137	3.47	6.726E+00	1.615E+00	1.615E+00	57.46
	93.35	306	5.60	6.963E+00	2.151E+00	2.151E+00	36.58
	143.76	-----	10.96*	8.222E+00	-----	Line Not Found	-----
	163.33	-----	5.08	8.005E+00	-----	Line Not Found	-----
	185.72	319	57.20	7.647E+00	2.002E-01	2.002E-01	31.41
	205.31	-----	5.01	7.323E+00	-----	Line Not Found	-----
NP-237	86.48	207	12.40*	6.457E+00	7.105E-01	7.105E-01	46.16
	95.86	-----	2.68	7.180E+00	-----	Line Not Found	-----
	63.29	99	3.70*	3.126E+00	2.348E+00	2.348E+00	95.63
U-238	92.59	306	4.23	6.963E+00	2.847E+00	2.847E+00	29.65
	511.00	188	100.00*	4.310E+00	1.199E-01	1.199E-01	42.08

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 5
Number of lines tentatively identified by NID 31 86.11%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.260E+01	3.260E+01	0.287E+01	8.80	
CD-109	461.40D	1.03	2.381E+00	2.444E+00	1.005E+00	41.12	
SN-126	2.30E+05Y	1.00	2.381E-01	2.381E-01	0.979E-01	41.12	
TL-208	1.41E+10Y	1.00	5.101E-01	5.101E-01	0.796E-01	15.59	
BI-211	7.04E+08Y	1.00	3.977E+00	3.977E+00	0.434E+00	10.93	
BI-212	1.41E+10Y	1.00	2.107E+00	2.107E+00	0.684E+00	32.48	
PB-212	1.41E+10Y	1.00	1.787E+00	1.787E+00	0.161E+00	9.01	
BI-214	1600.00Y	1.00	1.202E+00	1.202E+00	0.172E+00	14.29	
PB-214	1600.00Y	1.00	1.443E+00	1.443E+00	0.177E+00	12.24	
RA-224	1.41E+10Y	1.00	4.791E+00	4.791E+00	1.042E+00	21.74	
RA-226	1600.00Y	1.00	1.202E+00	1.202E+00	0.172E+00	14.29	
AC-228	1.41E+10Y	1.00	1.884E+00	1.884E+00	0.360E+00	19.11	
RA-228	1.41E+10Y	1.00	1.884E+00	1.884E+00	0.360E+00	19.11	
TH-228	1.41E+10Y	1.00	1.787E+00	1.787E+00	0.161E+00	9.01	
TH-232	1.41E+10Y	1.00	1.884E+00	1.884E+00	0.360E+00	19.11	
TH-234	4.47E+09Y	1.00	2.348E+00	2.348E+00	2.246E+00	95.63	
U-235	7.04E+08Y	1.00	2.002E-01	2.002E-01	0.629E-01	31.41	K
NP-237	2.14E+06Y	1.00	7.105E-01	7.105E-01	3.280E-01	46.16	
U-238	4.47E+09Y	1.00	2.348E+00	2.348E+00	2.246E+00	95.63	
ANH-511	1.00E+09Y	1.00	1.199E-01	1.199E-01	0.504E-01	42.08	

Total Activity : 6.540E+01 6.546E+01

Grand Total Activity : 6.540E+01 6.546E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	153.53	72	346	1.45	306.12	304	8	9.94E-03	93.4	8.13E+00	T
0	209.21	138	345	1.47	417.43	414	8	1.92E-02	49.5	7.26E+00	
0	269.80	226	270	1.62	538.57	532	12	3.14E-02	32.0	6.36E+00	T
0	327.61	124	188	0.73	654.17	650	8	1.73E-02	42.2	5.69E+00	T
0	463.39	142	191	1.39	925.64	920	14	1.97E-02	44.7	4.60E+00	T
0	767.85	57	83	0.76	1534.41	1531	9	7.95E-03	62.7	3.20E+00	T
0	794.45	81	155	2.02	1587.59	1581	17	1.12E-02	73.9	3.11E+00	T
0	858.78	65	175	1.59	1716.23	1711	19	8.97E-03	****	2.92E+00	
0	934.22	42	62	0.96	1867.07	1862	10	5.89E-03	76.1	2.72E+00	
0	1237.80	74	97	1.57	2474.14	2468	12	1.02E-02	58.7	2.15E+00	T
0	1376.34	72	43	2.30	2751.18	2740	19	9.99E-03	49.6	1.98E+00	
0	1847.54	29	15	2.08	3693.53	3687	11	4.05E-03	64.9	1.66E+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]G247551001.CNF;1
* Acquisition date   : 4-MAR-2010 16:40:58.  Detector SN#           :
* Detector ID        : GAM18                      Sensitivity        : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.88             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G247551001             Analyst initials: MXR1
* Batch Number       : 956158                 Sample Quantity : 1.36880E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope           :
* MSD ID             :                      MSD Isotope           :
* LCS ID             : 1032-A                 LCS Isotope           :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.260E+01	2.869E+00	3.751E-01	2.846E-02	86.903
CD-109	2.444E+00	1.005E+00	1.179E+00	1.090E-01	2.073
SN-126	2.381E-01	9.792E-02	1.156E-01	1.065E-02	2.060
TL-208	5.101E-01	7.955E-02	4.656E-02	3.644E-03	10.957
BI-211	3.977E+00	4.345E-01	2.570E-01	1.650E-02	15.476
BI-212	2.107E+00	6.844E-01	6.035E-01	7.497E-02	3.492
PB-212	1.787E+00	1.610E-01	7.620E-02	5.493E-03	23.453
BI-214	1.202E+00	1.718E-01	9.014E-02	8.100E-03	13.335
PB-214	1.443E+00	1.766E-01	9.343E-02	7.908E-03	15.447
RA-224	4.791E+00	1.042E+00	8.157E-01	4.544E-02	5.874
RA-226	1.202E+00	1.718E-01	9.014E-02	8.100E-03	13.335
AC-228	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639
RA-228	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639
TH-228	1.787E+00	1.610E-01	7.620E-02	5.493E-03	23.453
TH-232	1.884E+00	3.601E-01	1.771E-01	2.399E-02	10.639
TH-234	2.348E+00	2.246E+00	2.230E+00	4.016E-01	1.053
U-235	2.002E-01	6.288E-02	2.888E-01	4.504E-02	0.693
NP-237	7.105E-01	3.280E-01	3.504E-01	8.013E-02	2.028

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	2.348E+00	2.246E+00	2.230E+00	4.016E-01	1.053
ANH-511	1.199E-01	5.044E-02	3.494E-02	2.307E-03	3.431

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.657E-02		2.408E-01	3.924E-01	2.843E-02	-0.119
NA-22	5.452E-03		3.626E-02	6.019E-02	4.095E-03	0.091
NA-24	2.759E+00		3.182E+00	Half-Life too short		
SC-46	-2.816E-02		3.223E-02	4.904E-02	5.470E-03	-0.574
V-48	-2.751E-02		5.724E-02	8.880E-02	8.782E-03	-0.310
CR-51	1.454E-01		3.148E-01	5.185E-01	3.333E-02	0.280
MN-54	-3.340E-02		3.262E-02	4.999E-02	5.121E-03	-0.668
CO-56	-1.761E-02		3.220E-02	5.078E-02	5.302E-03	-0.347
CO-57	9.399E-03		2.245E-02	3.661E-02	2.168E-03	0.257
CO-58	-4.629E-03		3.021E-02	4.925E-02	4.862E-03	-0.094
FE-59	1.304E-03		7.149E-02	1.192E-01	9.806E-03	0.011
CO-60	1.647E-02		2.981E-02	5.116E-02	3.865E-03	0.322
ZN-65	7.799E-02		8.802E-02	1.348E-01	9.497E-03	0.578
SE-75	5.792E-03		3.888E-02	5.624E-02	3.217E-03	0.103
SR-85	6.425E-02		3.462E-02	5.544E-02	3.673E-03	1.159
Y-88	2.872E-02		2.837E-02	5.177E-02	2.949E-03	0.555
Y-91	-2.588E+00		1.972E+01	3.231E+01	1.910E+00	-0.080
NB-94	1.342E-02		2.638E-02	4.526E-02	3.713E-03	0.296
NB-95	5.350E-02		3.912E-02	6.169E-02	5.643E-03	0.867
NB-95M	1.661E-01		1.205E-01	1.854E-01	1.365E-02	0.896
ZR-95	2.299E-02		5.756E-02	9.776E-02	9.654E-03	0.235
MO-99	-7.410E+00		1.614E+01	2.596E+01	4.109E+00	-0.285
TC-99M	-2.123E+12		5.473E+12	Half-Life too short		
RU-103	-7.883E-03		3.025E-02	4.889E-02	6.244E-03	-0.161
RH-106	3.710E-02		2.538E-01	4.129E-01	5.150E-02	0.090
RU-106	3.710E-02		2.538E-01	4.129E-01	3.039E-02	0.090
AG-108M	-6.517E-03		2.304E-02	3.773E-02	2.432E-03	-0.173
AG-110M	-2.374E-02		2.667E-02	4.226E-02	3.333E-03	-0.562
SN-113	-1.984E-02		3.495E-02	5.690E-02	3.490E-03	-0.349
CD-115	3.883E+00		1.697E+01	2.814E+01	1.891E+00	0.138
SN-117M	2.145E-04		5.281E-02	7.906E-02	4.202E-03	0.003
TE-123M	3.694E-03		2.384E-02	3.780E-02	2.040E-03	0.098
SB-124	-4.341E-02		4.331E-02	5.658E-02	3.919E-03	-0.767
SB-125	-1.218E-02		6.916E-02	1.140E-01	7.116E-03	-0.107
TE-125M	-9.327E-01		9.280E+00	1.494E+01	1.341E+00	-0.062
I-126	4.497E-02		1.870E-01	3.179E-01	2.444E-02	0.141
SB-126	1.110E-01		1.369E-01	2.105E-01	1.782E-02	0.527
SB-127	5.083E-01		1.450E+00	2.474E+00	2.854E-01	0.205
I-131	5.356E-02		1.069E-01	1.843E-01	1.193E-02	0.291
TE-132	-7.899E-01		1.002E+00	1.565E+00	2.322E-01	-0.505
BA-133	-1.129E-02		3.834E-02	5.208E-02	5.868E-03	-0.217

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	1.989E-02		1.208E-02	Half-Life too short		
CS-134	9.382E-02	+	6.992E-02	7.461E-02	7.216E-03	1.257
CS-135	2.542E-01		1.420E-01	2.229E-01	1.685E-02	1.140
I-135	-4.081E+11		5.475E+11	Half-Life too short		
CS-136	3.189E-03		9.449E-02	1.584E-01	1.419E-02	0.020
BA-137M	3.413E-03		2.719E-02	4.594E-02	3.502E-03	0.074
CS-137	3.605E-03		2.872E-02	4.853E-02	3.709E-03	0.074
CE-139	1.736E-05		2.448E-02	4.137E-02	2.171E-03	0.000
BA-140	1.762E-01		2.362E-01	3.909E-01	1.309E-01	0.451
LA-140	9.152E-03		7.902E-02	1.327E-01	9.109E-03	0.069
CE-141	4.413E-02		5.817E-02	9.486E-02	5.416E-03	0.465
CE-143	1.926E-03		2.829E-04	Half-Life too short		
CE-144	2.602E-03		1.737E-01	2.771E-01	3.833E-02	0.009
PM-144	-2.304E-02		2.719E-02	4.306E-02	3.496E-03	-0.535
PR-144	-1.723E+00		2.037E+00	3.227E+00	2.618E-01	-0.534
PM-146	-5.911E-03		3.273E-02	5.367E-02	4.688E-03	-0.110
ND-147	2.289E-01		4.895E-01	8.212E-01	1.146E-01	0.279
PM-149	1.484E+01		1.364E+02	2.228E+02	3.152E+01	0.067
EU-152	-2.162E-02		8.970E-02	1.229E-01	8.016E-03	-0.176
GD-153	-7.308E-02		8.770E-02	1.211E-01	9.471E-03	-0.603
EU-154	-5.611E-03		1.038E-01	1.698E-01	1.709E-02	-0.033
EU-155	6.206E-02		9.845E-02	1.630E-01	1.164E-02	0.381
TB-160	-1.933E-02		1.084E-01	1.749E-01	1.921E-02	-0.111
HO-166M	9.989E-03		4.875E-02	8.101E-02	6.753E-03	0.123
TA-182	-3.491E-03		1.657E-01	2.729E-01	1.669E-02	-0.013
IR-192	3.814E-03		2.801E-02	4.548E-02	2.638E-03	0.084
HG-203	3.895E-02		3.654E-02	5.537E-02	3.338E-03	0.703
BI-207	-1.162E-02		4.303E-02	7.056E-02	5.824E-03	-0.165
PB-210	3.598E+00		4.731E+00	8.208E+00	6.293E-01	0.438
PB-211	-2.059E-01		5.995E-01	9.725E-01	4.666E-01	-0.212
RN-219	1.669E-01		3.246E-01	5.548E-01	7.459E-02	0.301
RA-223	1.835E-01		5.757E-01	8.259E-01	1.331E-01	0.222
AC-227	-1.211E-01		2.103E-01	3.355E-01	3.399E-02	-0.361
TH-227	-1.211E-01		2.105E-01	3.355E-01	4.005E-02	-0.361
TH-229	1.454E-01		4.124E-01	6.986E-01	3.740E-02	0.208
PA-231	-3.708E-01		1.188E+00	1.833E+00	2.397E-01	-0.202
TH-231	1.835E-01		5.757E-01	8.259E-01	1.331E-01	0.222
PA-233	-9.530E-03		5.136E-02	8.209E-02	5.030E-03	-0.116
PA-234	-6.282E-02		2.468E-01	3.828E-01	7.551E-02	-0.164
PA-234M	4.435E+00		3.772E+00	6.397E+00	6.901E-01	0.693
NP-239	5.016E-02		3.489E-01	5.645E-01	3.487E-02	0.089
AM-241	2.434E-02		1.868E-01	2.811E-01	2.332E-02	0.087
CM-247	2.278E-02		2.958E-02	5.120E-02	2.981E-03	0.445
CF-249	1.059E-02		3.049E-02	5.199E-02	2.988E-03	0.204
CF-251	4.015E-02		1.071E-01	1.824E-01	9.640E-03	0.220

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G247551001          *
* Acquisition date   : 4-MAR-2010 16:40:58 Detector SN#      :              *
* Detector ID        : GAM18                      Sensitivity   : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500        *
* Elapsed live time: 0 02:00:00.00                Abundance limit : 75.000        *
* Elapsed real time: 0 02:00:01.88                Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G247551001                Analyst initials: MXR1        *
* Batch Number       : 956158                     Sample Quantity : 1.3688E+02 GRAM *
* Recovery           : 1.00000                    Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope      :              *
* MSD DPM             : 0.000                      MSD Isotope   :              *
* LCS DPM             : 0.000                      LCS Isotope    :              *
* LCSD DPM            : 0.000                      LCSD Isotope   :              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.260E+01	2.811E+00	1.882E-01	1.434E+00
CD-109	2.444E+00	9.848E-01	6.236E-01	5.025E-01
SN-126	2.381E-01	9.596E-02	6.116E-02	4.896E-02
TL-208	5.101E-01	7.796E-02	2.378E-02	3.978E-02
BI-211	3.977E+00	4.258E-01	1.325E-01	2.172E-01
BI-212	2.107E+00	6.707E-01	3.070E-01	3.422E-01
PB-212	1.787E+00	1.578E-01	3.958E-02	8.052E-02
BI-214	1.202E+00	1.684E-01	4.600E-02	8.590E-02
PB-214	1.443E+00	1.731E-01	4.818E-02	8.832E-02
RA-224	4.791E+00	1.021E+00	4.237E-01	5.208E-01
RA-226	1.202E+00	1.684E-01	4.600E-02	8.590E-02
AC-228	1.884E+00	3.529E-01	8.969E-02	1.801E-01
RA-228	1.884E+00	3.529E-01	8.969E-02	1.801E-01
TH-228	1.787E+00	1.578E-01	3.958E-02	8.052E-02
TH-232	1.884E+00	3.529E-01	8.969E-02	1.801E-01
TH-234	2.348E+00	2.201E+00	1.186E+00	1.123E+00
U-235	-2.680E-02	1.825E-01	1.514E-01	9.310E-02
NP-237	7.105E-01	3.214E-01	1.854E-01	1.640E-01
U-238	2.348E+00	2.201E+00	1.186E+00	1.123E+00
ANH-511	1.199E-01	4.943E-02	1.789E-02	2.522E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-4.657E-02	2.359E-01	2.012E-01	1.204E-01 NOT IDENT.
NA-22	5.452E-03	3.553E-02	3.028E-02	1.813E-02 NOT IDENT.
NA-24	2.759E+06	6.237E+06	0.000E+00	3.182E+06 SHORT HLIF
SC-46	-2.816E-02	3.159E-02	2.485E-02	1.612E-02 FAIL ABUN
V-48	-2.751E-02	5.609E-02	4.490E-02	2.862E-02 NOT IDENT.
CR-51	1.454E-01	3.085E-01	2.679E-01	1.574E-01 NOT IDENT.
MN-54	-3.340E-02	3.197E-02	2.536E-02	1.631E-02 NOT IDENT.

CO-56	-1.761E-02	3.156E-02	2.575E-02	1.610E-02	FAIL ABUN
CO-57	9.399E-03	2.200E-02	1.925E-02	1.122E-02	NOT IDENT.
CO-58	-4.629E-03	2.960E-02	2.499E-02	1.510E-02	NOT IDENT.
FE-59	1.304E-03	7.006E-02	6.014E-02	3.575E-02	NOT IDENT.
CO-60	1.647E-02	2.922E-02	2.571E-02	1.491E-02	NOT IDENT.
ZN-65	7.799E-02	8.626E-02	6.801E-02	4.401E-02	NOT IDENT.
SE-75	5.792E-03	3.810E-02	2.916E-02	1.944E-02	NOT IDENT.
SR-85	6.425E-02	3.393E-02	2.839E-02	1.731E-02	NOT IDENT.
Y-88	2.872E-02	2.780E-02	2.586E-02	1.418E-02	NOT IDENT.
Y-91	-2.588E+00	1.933E+01	1.627E+01	9.861E+00	NOT IDENT.
NB-94	1.342E-02	2.586E-02	2.304E-02	1.319E-02	NOT IDENT.
NB-95	5.350E-02	3.834E-02	3.135E-02	1.956E-02	NOT IDENT.
NB-95M	1.661E-01	1.181E-01	9.635E-02	6.024E-02	NOT IDENT.
ZR-95	2.299E-02	5.641E-02	4.968E-02	2.878E-02	NOT IDENT.
MO-99	-7.410E+00	1.582E+01	1.320E+01	8.070E+00	NOT IDENT.
TC-99M	-2.123E+18	1.073E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-7.883E-03	2.965E-02	2.505E-02	1.513E-02	FAIL ABUN
RH-106	3.710E-02	2.487E-01	2.106E-01	1.269E-01	NOT IDENT.
RU-106	3.710E-02	2.487E-01	2.106E-01	1.269E-01	NOT IDENT.
AG-108M	-6.517E-03	2.258E-02	1.938E-02	1.152E-02	NOT IDENT.
AG-110M	-2.374E-02	2.613E-02	2.154E-02	1.333E-02	NOT IDENT.
SN-113	-1.984E-02	3.425E-02	2.929E-02	1.748E-02	NOT IDENT.
CD-115	3.883E+00	1.663E+01	1.440E+01	8.486E+00	NOT IDENT.
SN-117M	2.145E-04	5.175E-02	4.138E-02	2.641E-02	NOT IDENT.
TE-123M	3.694E-03	2.336E-02	1.978E-02	1.192E-02	NOT IDENT.
SB-124	-4.341E-02	4.244E-02	2.830E-02	2.165E-02	NOT IDENT.
SB-125	-1.218E-02	6.778E-02	5.858E-02	3.458E-02	FAIL ABUN
TE-125M	-9.327E-01	9.095E+00	7.874E+00	4.640E+00	NOT IDENT.
I-126	4.497E-02	1.833E-01	1.620E-01	9.352E-02	NOT IDENT.
SB-126	1.110E-01	1.341E-01	1.071E-01	6.843E-02	NOT IDENT.
SB-127	5.083E-01	1.421E+00	1.260E+00	7.248E-01	NOT IDENT.
I-131	5.356E-02	1.048E-01	9.500E-02	5.347E-02	NOT IDENT.
TE-132	-7.899E-01	9.824E-01	8.136E-01	5.012E-01	NOT IDENT.
BA-133	-1.129E-02	3.757E-02	2.685E-02	1.917E-02	FAIL ABUN
I-133	1.989E+04	2.367E+04	0.000E+00	1.208E+04	SHORT HLIF
CS-134	9.382E-02	6.852E-02	3.788E-02	3.496E-02	FAIL ABUN
CS-135	2.542E-01	1.391E-01	1.155E-01	7.099E-02	NOT IDENT.
I-135	-4.081E+17	1.073E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.189E-03	9.260E-02	7.998E-02	4.724E-02	FAIL ABUN
BA-137M	3.413E-03	2.664E-02	2.341E-02	1.359E-02	NOT IDENT.
CS-137	3.605E-03	2.815E-02	2.473E-02	1.436E-02	NOT IDENT.
CE-139	1.736E-05	2.400E-02	2.163E-02	1.224E-02	NOT IDENT.
BA-140	1.762E-01	2.315E-01	2.000E-01	1.181E-01	NOT IDENT.
LA-140	9.152E-03	7.744E-02	6.648E-02	3.951E-02	FAIL ABUN
CE-141	4.413E-02	5.700E-02	4.973E-02	2.908E-02	NOT IDENT.
CE-143	1.926E+03	5.545E+02	0.000E+00	2.829E+02	SHORT HLIF
CE-144	2.602E-03	1.702E-01	1.455E-01	8.683E-02	NOT IDENT.
PM-144	-2.304E-02	2.664E-02	2.192E-02	1.359E-02	NOT IDENT.
PR-144	-1.723E+00	1.996E+00	1.642E+00	1.019E+00	NOT IDENT.
PM-146	-5.911E-03	3.207E-02	2.754E-02	1.636E-02	NOT IDENT.
ND-147	2.289E-01	4.797E-01	4.202E-01	2.447E-01	FAIL ABUN
PM-149	1.484E+01	1.336E+02	1.153E+02	6.818E+01	NOT IDENT.
EU-152	-2.162E-02	8.790E-02	6.342E-02	4.485E-02	NOT IDENT.
GD-153	-7.308E-02	8.595E-02	6.396E-02	4.385E-02	NOT IDENT.
EU-154	-5.611E-03	1.017E-01	8.543E-02	5.191E-02	NOT IDENT.
EU-155	6.206E-02	9.648E-02	8.593E-02	4.923E-02	FAIL ABUN
TB-160	-1.933E-02	1.062E-01	8.861E-02	5.418E-02	FAIL ABUN
HO-166M	9.989E-03	4.777E-02	4.122E-02	2.437E-02	NOT IDENT.
TA-182	-3.491E-03	1.624E-01	1.374E-01	8.286E-02	FAIL ABUN
IR-192	3.814E-03	2.745E-02	2.350E-02	1.401E-02	FAIL ABUN
HG-203	3.895E-02	3.581E-02	2.868E-02	1.827E-02	NOT IDENT.
BI-207	-1.162E-02	4.217E-02	3.562E-02	2.151E-02	FAIL ABUN
PB-210	3.598E+00	4.636E+00	4.391E+00	2.365E+00	NOT IDENT.
PB-211	-2.059E-01	5.875E-01	5.002E-01	2.997E-01	NOT IDENT.
RN-219	1.669E-01	3.181E-01	2.854E-01	1.623E-01	FAIL ABUN
RA-223	1.835E-01	5.641E-01	4.266E-01	2.878E-01	FAIL ABUN
AC-227	-1.211E-01	2.061E-01	1.741E-01	1.052E-01	FAIL ABUN
TH-227	-1.211E-01	2.062E-01	1.741E-01	1.052E-01	FAIL ABUN
TH-229	1.454E-01	4.042E-01	3.643E-01	2.062E-01	FAIL ABUN
PA-231	-3.708E-01	1.165E+00	9.492E-01	5.941E-01	FAIL ABUN
TH-231	1.835E-01	5.641E-01	4.266E-01	2.878E-01	FAIL ABUN
PA-233	-9.530E-03	5.033E-02	4.243E-02	2.568E-02	FAIL ABUN
PA-234	-6.282E-02	2.419E-01	1.937E-01	1.234E-01	NOT IDENT.
PA-234M	4.435E+00	3.696E+00	3.234E+00	1.886E+00	FAIL ABUN
NP-239	5.016E-02	3.419E-01	2.971E-01	1.745E-01	FAIL ABUN
AM-241	2.434E-02	1.831E-01	1.498E-01	9.342E-02	NOT IDENT.
CM-247	2.278E-02	2.898E-02	2.634E-02	1.479E-02	FAIL ABUN
CF-249	1.059E-02	2.988E-02	2.676E-02	1.525E-02	NOT IDENT.

CF-251

4.015E-02

1.050E-01

9.528E-02

5.355E-02 NOT IDENT.

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*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD       *
*               CHARLESTON , SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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ENERGY	MDA COUNTS
46.54	309.2811
49.72	309.7293
57.36	0.0000
59.54	361.8268
63.29	397.1821
63.29	397.1821
64.28	418.8511
67.75	458.0855
69.67	459.4444
70.83	469.8064
72.81	481.4271
72.87	481.5152
72.87	481.5152
74.82	458.9095
74.82	458.9095
74.82	458.9095
74.97	459.1147
77.11	462.0201
77.11	462.0201
77.11	462.0201
79.69	422.7954
79.80	406.5466
80.12	406.9173
80.19	406.9965
80.57	425.3452
81.00	437.8145
81.07	437.9017
81.07	437.9017
83.79	492.4260
83.79	492.4260
85.43	467.4063
86.48	470.2482
86.55	470.3381
86.79	470.6361
86.94	470.8276
87.57	471.6200
88.03	472.1971
88.47	472.7458
89.96	474.5976
91.11	476.0167
92.59	477.8307
92.59	477.8307
93.35	478.7555
94.67	480.3543
94.87	480.5956
94.87	480.5956
95.86	399.4155
97.43	413.4519
98.44	367.5533
99.53	376.3696
100.11	383.1786
103.18	423.9598
103.37	418.8745
105.31	391.1016
106.12	412.0112
109.28	416.0627
111.00	426.2629
111.76	400.0956
116.30	379.1049
117.23	348.2991
121.12	368.7373
121.78	353.8597
122.06	347.4685
123.07	339.3815
131.20	436.8378
133.52	363.4341
136.00	362.9144

136.47	384.7412
140.51	410.4932
140.51	0.0000
143.76	415.2667
144.24	404.1497
144.24	404.1497
145.44	372.8188
152.43	368.7639
153.25	355.6434
154.21	346.2458
154.21	346.2458
156.02	330.6265
158.56	322.1780
159.00	321.7103
162.66	343.2629
163.33	341.8682
165.86	359.3930
176.60	351.9972
177.52	351.5942
181.07	350.2348
184.41	372.6438
185.72	324.6799
193.51	312.5878
197.04	349.8298
205.31	318.8375
210.85	359.5311
215.65	363.7939
222.11	356.2425
227.38	330.3438
228.16	354.1536
228.18	354.1619
235.69	333.4428
235.96	331.9753
235.96	331.9753
238.63	313.2516
238.63	313.2516
240.99	314.1629
242.00	314.5511
244.70	228.5015
252.40	270.1285
252.80	269.2489
256.23	294.6344
256.23	294.6344
260.90	260.6055
264.66	220.8351
268.22	223.3707
269.46	232.3142
269.46	232.3142
271.23	244.4494
273.65	231.3384
276.40	255.2467
277.37	242.6586
277.60	242.7193
278.00	220.8268
279.20	236.0785
279.54	236.1651
280.46	214.7617
283.69	242.2413
284.31	227.7763
285.41	226.9997
285.90	220.8391
287.50	218.0706
293.27	0.0000
295.22	230.4208
295.96	230.6005
298.57	231.2258
299.98	231.5618
299.98	231.5618
300.09	231.5884
300.09	231.5884
300.13	231.5951
301.36	231.8878
302.85	218.1813
304.50	199.7655
304.50	199.7655
304.85	201.5449
308.46	232.4962
311.90	218.2461

316.51	206.2862
319.41	199.2931
320.08	208.0928
323.87	203.6417
323.87	203.6417
328.76	223.8375
333.37	228.3315
334.37	237.3376
334.37	237.3376
338.28	217.2543
338.28	217.2543
338.32	217.2633
338.32	217.2633
338.32	217.2633
340.48	194.4954
340.55	194.5061
344.28	211.1465
351.06	201.9707
351.93	202.1281
356.01	200.8535
364.49	182.4954
366.42	162.8943
383.85	180.0463
388.16	177.9313
388.63	186.3026
391.69	199.7209
400.66	190.9488
401.81	188.3307
402.40	180.9585
404.85	222.4393
410.95	189.7178
414.70	168.6166
423.72	163.1711
427.09	169.3042
427.87	168.4525
433.94	174.9736
453.88	166.9232
463.37	127.0356
468.07	148.7081
473.00	113.1526
476.78	146.9975
477.60	140.1730
487.02	151.0314
492.35	115.6842
497.08	136.0681
511.00	139.3653
514.00	141.6654
527.90	135.8087
529.87	0.0000
531.02	126.8729
537.26	123.2725
546.56	0.0000
563.25	148.2541
569.33	118.4155
569.50	121.5706
569.70	121.5876
583.19	148.9898
600.60	150.7851
602.73	165.6676
604.72	183.6909
609.32	150.2026
609.32	150.2026
610.33	130.6105
614.28	120.1453
618.01	140.1658
621.93	131.8321
621.93	131.8321
633.25	115.2672
635.95	129.5955
636.99	118.7743
645.85	124.8267
657.76	143.2666
661.66	130.6809
661.66	130.6809
664.57	0.0000
666.33	127.3142
666.50	127.3254
677.62	114.1514

685.70	114.6318
695.00	116.1188
696.49	153.6933
696.51	153.6966
697.00	164.0447
702.65	130.6745
706.68	151.6647
711.68	126.5465
720.70	100.8257
721.93	0.0000
722.78	113.9551
722.91	113.9624
723.31	115.6127
724.19	123.8075
727.33	110.9459
733.00	127.6178
735.93	105.1347
739.50	124.4643
747.24	111.4758
752.31	123.3073
753.82	111.8275
756.73	112.9486
763.94	94.6528
765.81	113.0187
766.42	114.7144
777.92	116.0294
778.90	114.1317
783.70	95.8088
785.37	104.5992
795.86	109.1256
801.95	135.1981
810.29	105.8789
810.76	102.9336
815.77	107.1321
818.51	89.3848
832.01	124.8881
834.85	162.0560
836.80	0.0000
846.77	117.6475
856.80	88.2913
860.56	90.0230
871.09	86.4533
873.19	83.3864
875.33	0.0000
879.36	94.8164
880.51	90.7817
883.24	87.8214
884.68	98.0918
889.28	114.6592
898.04	127.4032
911.20	99.1660
911.20	99.1660
911.20	99.1660
926.50	87.3052
937.49	93.0548
944.13	105.7077
946.00	99.5014
949.00	102.7652
962.29	139.1328
964.08	144.6540
966.15	132.1037
968.97	163.7982
968.97	163.7982
968.97	163.7982
983.53	86.0740
996.26	122.7911
1001.03	79.1549
1004.73	108.1838
1037.84	87.3546
1038.76	0.0000
1048.07	97.0067
1050.41	106.4217
1050.41	106.4217
1063.66	108.8026
1085.87	106.8164
1099.45	91.1719
1112.07	116.8433
1115.54	110.2954

1120.29	101.3862
1120.29	101.3862
1120.55	101.3973
1121.30	113.8618
1131.51	0.0000
1173.23	113.8865
1177.93	127.7104
1189.05	114.4700
1204.77	143.5609
1221.41	128.4992
1231.02	131.8589
1235.36	142.4640
1238.28	134.1478
1260.41	0.0000
1271.85	99.3902
1274.44	96.4520
1274.54	91.4316
1291.59	86.8518
1298.22	0.0000
1312.11	71.1230
1332.49	53.1498
1365.19	56.3329
1368.63	0.0000
1384.29	36.3062
1408.01	59.5188
1457.56	0.0000
1460.82	35.2203
1489.16	41.6225
1505.03	47.8250
1596.21	46.0635
1620.50	23.1694
1678.03	0.0000
1690.97	19.6356
1764.49	28.4028
1764.49	28.4028
1770.23	17.7745
1771.35	19.5573
1791.20	0.0000
1836.06	20.5604

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247551001

Total Uranium Activity	6.9733E+00	ug/g
Total Uranium Counting Unc.	6.5474E+00	ug/g
Total Uranium Tpu	3.3405E-06	ug/g
Total Uranium Mda	3.5304E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 956158          SAMPLE ID   : G247551001   *
*  ANALYST       : MXR1            DETECTOR    : GAM18        *
*  SAMPLE DATE   : 15-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00 *
*  ANALYSIS DATE: 4-MAR-2010 16:40:58.05  SAMPLE ALQT: 136.880 GRAM *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.878E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.302E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.732E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.329E+00

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VAX/VMS Nuclide Identification Report Generated 4-MAR-2010 20:51:13.89

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551002.CNF;1
Sample date   : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:50:29.
Sample ID    : G247551002 Sample quantity : 1.42370E+02 GRAM
Detector name : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 956158 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	2	74.98*	365	591	1.60	148.88	143	15	5.07E-02	14.5	2.84E+00
2	2	77.25*	517	492	1.26	153.42	143	15	7.18E-02	8.9	
3	0	87.53	146	540	1.25	173.99	169	8	2.03E-02	28.8	
4	3	90.03	75	362	1.23	178.99	176	13	1.05E-02	37.6	3.30E+00
5	3	93.13*	183	502	1.32	185.19	176	13	2.54E-02	24.0	
6	0	186.04*	191	458	1.18	370.99	366	11	2.65E-02	23.6	
7	0	209.81	103	322	1.05	418.53	414	9	1.43E-02	32.9	
8	2	238.78*	1341	251	1.28	476.46	471	18	1.86E-01	3.5	1.68E+00
9	2	241.77*	298	278	1.85	482.45	471	18	4.15E-02	15.9	
10	0	269.91	125	222	1.67	538.73	534	11	1.73E-02	24.8	
11	0	295.24*	389	220	1.42	589.38	583	11	5.40E-02	9.1	
12	0	300.31	85	154	1.94	599.52	596	8	1.18E-02	27.7	
13	0	328.50	54	245	0.94	655.91	651	10	7.51E-03	56.1	
14	0	338.47	339	207	1.63	675.84	670	14	4.71E-02	10.5	
15	0	351.97*	632	206	1.50	702.84	697	11	8.78E-02	6.1	
16	0	462.58	89	135	1.39	924.07	917	12	1.24E-02	28.2	
17	0	510.79*	110	177	1.81	1020.49	1014	15	1.53E-02	31.0	
18	0	583.25*	401	119	1.67	1165.42	1160	12	5.57E-02	7.7	
19	0	609.32*	520	84	1.68	1217.56	1210	13	7.22E-02	5.8	
20	0	727.61*	98	103	1.74	1454.15	1447	16	1.36E-02	25.8	
21	0	794.28	66	68	2.30	1587.52	1580	13	9.13E-03	28.7	
22	0	911.08*	324	51	1.89	1821.15	1815	15	4.50E-02	7.5	
23	2	964.64	70	49	2.42	1928.28	1918	24	9.66E-03	26.9	9.89E-01
24	2	968.81*	216	31	1.83	1936.63	1918	24	3.00E-02	8.8	
25	0	1120.31*	94	85	1.27	2239.69	2234	13	1.31E-02	23.3	
26	0	1460.44*	1459	24	2.17	2920.15	2911	19	2.03E-01	2.7	
27	7	1587.24	33	8	3.05	3173.83	3168	22	4.61E-03	24.8	9.72E-01
28	7	1592.61	19	10	2.82	3184.56	3168	22	2.61E-03	37.4	
29	0	1764.19	94	11	1.45	3527.86	3520	14	1.31E-02	12.6	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551002.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-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:50:29
Sample ID         : G247551002 Sample quantity : 142.37 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.82	*	3.734E+01	4.203E+00	5.801E-01	5.701E-02	64.358
CD-109	+	88.03	*	2.401E+00	1.415E+00	1.607E+00	1.995E-01	1.494
SN-126		64.28		2.875E-01	8.696E-01	1.438E+00	2.435E-01	0.200
	+	86.94		9.724E-01	6.952E-01	7.600E-01	3.213E-01	1.280
	+	87.57	*	2.339E-01	1.379E-01	1.577E-01	1.952E-02	1.483
TL-208		277.37		-2.476E-03	4.877E-01	7.931E-01	1.121E-01	-0.003
	+	583.19	*	5.684E-01	1.020E-01	6.583E-02	6.021E-03	8.634
		860.56		7.472E-01	3.712E-01	6.813E-01	6.661E-02	1.097
BI-211		72.87		1.331E+01	5.449E+00	8.358E+00	9.573E-01	1.593
	+	351.06	*	4.105E+00	6.450E-01	4.127E-01	4.110E-02	9.948
PB-212	+	74.82		2.886E+00	9.427E-01	8.172E-01	1.231E-01	3.531
	+	77.11		2.278E+00	4.846E-01	4.558E-01	5.284E-02	4.997
	+	238.63	*	1.971E+00	2.738E-01	1.107E-01	1.322E-02	17.808
	+	300.09		1.931E+00	1.096E+00	1.443E+00	1.757E-01	1.338
BI-214	+	609.32	*	1.422E+00	2.174E-01	1.210E-01	1.206E-02	11.752
	+	1120.29		1.354E+00	6.477E-01	5.947E-01	6.440E-02	2.277
	+	1764.49		1.898E+00	5.078E-01	2.770E-01	2.429E-02	6.854
PB-214	+	74.82		5.115E+00	1.646E+00	1.449E+00	2.024E-01	3.531
	+	77.11		4.015E+00	9.163E-01	8.036E-01	1.143E-01	4.997
	+	242.00		2.662E+00	9.111E-01	6.728E-01	8.381E-02	3.956
	+	295.22		1.568E+00	3.462E-01	2.861E-01	3.566E-02	5.481
	+	351.93	*	1.490E+00	2.481E-01	1.507E-01	1.713E-02	9.886
RA-224	+	240.99	*	4.707E+00	1.588E+00	1.186E+00	1.308E-01	3.969
RA-226	+	609.32	*	1.422E+00	2.174E-01	1.210E-01	1.206E-02	11.752
	+	1120.29		1.354E+00	6.477E-01	5.947E-01	6.440E-02	2.277
	+	1764.49		1.898E+00	5.078E-01	2.770E-01	2.429E-02	6.854
AC-228	+	338.32		2.458E+00	1.154E+00	4.673E-01	1.962E-01	5.261
	+	911.20	*	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
	+	968.97		2.556E+00	7.735E-01	4.267E-01	1.048E-01	5.990
RA-228	+	338.32		2.458E+00	1.154E+00	4.673E-01	1.962E-01	5.261
	+	911.20	*	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
	+	968.97		2.556E+00	7.735E-01	4.267E-01	1.048E-01	5.990
TH-228	+	74.82		2.886E+00	9.006E-01	8.172E-01	9.450E-02	3.531
	+	77.11		2.278E+00	4.846E-01	4.558E-01	5.284E-02	4.997

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	238.63	*	1.971E+00	2.738E-01	1.107E-01	1.322E-02	17.808
	+	300.09		1.931E+00	1.599E+00	1.443E+00	8.876E-01	1.338
TH-232	+	338.32		2.458E+00	5.705E-01	4.673E-01	4.607E-02	5.261
	+	911.20	*	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
	+	968.97		2.556E+00	7.735E-01	4.267E-01	1.048E-01	5.990
U-235	+	89.96		1.233E+00	9.821E-01	1.620E+00	4.215E-01	0.761
	+	93.35		1.777E+00	9.549E-01	8.892E-01	2.163E-01	1.998
		143.76	*	2.976E-02	2.665E-01	4.290E-01	7.633E-02	0.069
		163.33		-6.603E-01	5.852E-01	8.639E-01	1.640E-01	-0.764
	+	185.72		1.813E-01	8.785E-02	8.722E-02	9.440E-03	2.079
		205.31		-3.260E-01	7.287E-01	9.836E-01	1.905E-01	-0.331
NP-237	+	86.48	*	6.980E-01	4.367E-01	5.247E-01	1.275E-01	1.330
		95.86		-6.661E-01	1.387E+00	1.929E+00	4.830E-01	-0.345
ANH-511	+	511.00	*	1.204E-01	7.545E-02	5.489E-02	4.743E-03	2.193

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	2.638E-01	3.950E-01	6.703E-01	6.230E-02	0.393
NA-22		1274.54	*	9.396E-03	5.367E-02	8.819E-02	8.011E-03	0.107
NA-24		1368.63	*	-9.753E+00	5.367E-02	Half-Life too short		
SC-46		889.28	*	-1.510E-02	5.034E-02	8.115E-02	7.541E-03	-0.186
	+	1120.55		2.332E-01	1.104E-01	1.573E-01	1.337E-02	1.483
V-48		944.13		-4.031E-01	1.159E+00	1.850E+00	1.711E-01	-0.218
		983.53	*	-5.927E-02	9.757E-02	1.517E-01	1.387E-02	-0.391
		1312.11		3.980E-02	1.011E-01	1.701E-01	1.603E-02	0.234
CR-51		320.08	*	4.276E-01	4.817E-01	8.303E-01	8.811E-02	0.515
MN-54		834.85	*	3.026E-02	4.591E-02	7.946E-02	7.211E-03	0.381
CO-56		846.77	*	-4.122E-03	4.612E-02	7.583E-02	6.920E-03	-0.054
		1037.84		-2.215E-01	3.939E-01	6.121E-01	5.740E-02	-0.362
		1238.28		2.091E-01	1.286E-01	2.275E-01	2.045E-02	0.919
		1771.35		-1.135E+00	4.115E-01	3.804E-01	3.324E-02	-2.984
CO-57		122.06	*	-5.892E-03	3.175E-02	5.123E-02	5.160E-03	-0.115
		136.47		-5.688E-02	2.650E-01	4.255E-01	4.521E-02	-0.134
CO-58		810.76	*	-7.546E-02	4.708E-02	6.688E-02	6.013E-03	-1.128
FE-59		1099.45	*	-3.440E-02	1.209E-01	1.923E-01	1.794E-02	-0.179
		1291.59		4.810E-02	1.523E-01	2.538E-01	2.622E-02	0.190
CO-60		1173.23		-3.834E-02	5.947E-02	9.137E-02	7.437E-03	-0.420
		1332.49	*	1.157E-02	4.388E-02	7.297E-02	7.015E-03	0.159
ZN-65		1115.54	*	-6.893E-02	1.422E-01	1.873E-01	1.600E-02	-0.368
SE-75		121.12		-1.536E-02	1.646E-01	2.666E-01	3.265E-02	-0.058
		136.00		-1.805E-02	5.153E-02	8.233E-02	8.335E-03	-0.219
		264.66	*	2.100E-02	6.291E-02	9.340E-02	1.024E-02	0.225
		279.54		1.534E-01	1.332E-01	2.317E-01	2.565E-02	0.662
		400.66		-1.985E-01	3.091E-01	4.878E-01	5.344E-02	-0.407
SR-85		514.00	*	1.068E-01	5.659E-02	9.028E-02	7.799E-03	1.183
Y-88		898.04		-3.097E-02	5.118E-02	8.015E-02	7.505E-03	-0.386
		1836.06	*	1.943E-03	4.063E-02	6.718E-02	5.658E-03	0.029

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	1204.77	*		2.190E+01	2.982E+01	5.093E+01	4.294E+00	0.430
NB-94	702.65	*		-2.282E-02	3.982E-02	6.398E-02	5.402E-03	-0.357
	871.09			7.287E-03	4.084E-02	6.849E-02	6.317E-03	0.106
NB-95	765.81	*		1.775E-02	5.249E-02	8.930E-02	7.824E-03	0.199
NB-95M	235.69	*		4.134E-01	1.947E-01	3.041E-01	3.664E-02	1.359
ZR-95	724.19			1.564E-01	1.202E-01	1.941E-01	1.802E-02	0.806
	756.73	*		5.435E-02	8.852E-02	1.535E-01	1.476E-02	0.354
MO-99	140.51			-4.278E+01	5.080E+01	7.731E+01	1.881E+01	-0.553
	181.07			1.992E+01	4.539E+01	6.476E+01	1.287E+01	0.308
	366.42			-1.114E+02	2.051E+02	3.278E+02	3.004E+01	-0.340
	739.50	*		2.482E+00	2.584E+01	4.339E+01	6.841E+00	0.057
	777.92			-7.406E+01	7.448E+01	1.141E+02	1.007E+01	-0.649
TC-99M	140.51	*		-1.704E+13	7.448E+01	Half-Life too short		
RU-103	497.08	*		1.690E-02	4.792E-02	7.977E-02	1.115E-02	0.212
	610.33			1.525E+01	3.046E+00	3.334E+00	5.419E-01	4.575
RH-106	621.93	*		9.943E-02	3.628E-01	5.957E-01	7.813E-02	0.167
	1050.41			-7.930E-01	3.054E+00	4.876E+00	4.333E-01	-0.163
RU-106	621.93	*		9.943E-02	3.626E-01	5.957E-01	5.006E-02	0.167
	1050.41			-7.930E-01	3.054E+00	4.876E+00	4.333E-01	-0.163
AG-108M	433.94	*		-8.265E-03	3.683E-02	5.952E-02	5.260E-03	-0.139
	614.28			-1.872E-02	4.560E-02	6.025E-02	5.256E-03	-0.311
	722.91			9.389E-03	4.495E-02	6.623E-02	5.846E-03	0.142
AG-110M	657.76	*		-5.949E-03	4.189E-02	6.967E-02	5.929E-03	-0.085
	677.62			7.965E-02	3.474E-01	5.917E-01	5.068E-02	0.135
	706.68			9.331E-02	2.527E-01	4.295E-01	3.744E-02	0.217
	763.94			-3.118E-01	2.006E-01	2.942E-01	2.644E-02	-1.060
	884.68			-3.191E-02	5.840E-02	9.186E-02	8.757E-03	-0.347
	937.49			4.491E-02	1.401E-01	2.364E-01	2.258E-02	0.190
	1384.29			-1.252E-01	1.896E-01	2.923E-01	2.877E-02	-0.428
	1505.03			-2.194E-01	3.048E-01	4.531E-01	4.330E-02	-0.484
SN-113	391.69	*		-2.154E-02	5.598E-02	9.010E-02	7.825E-03	-0.239
CD-115	260.90			1.718E+02	3.336E+02	5.696E+02	6.241E+01	0.302
	492.35			-8.554E+01	9.016E+01	1.366E+02	1.180E+01	-0.626
	527.90	*		-4.304E+00	2.513E+01	4.024E+01	3.473E+00	-0.107
SN-117M	156.02			1.653E+00	3.286E+00	5.389E+00	5.616E-01	0.307
	158.56	*		5.353E-02	8.062E-02	1.328E-01	1.392E-02	0.403
TE-123M	159.00	*		3.477E-02	3.758E-02	6.235E-02	6.570E-03	0.558
SB-124	602.73			-1.661E-04	5.369E-02	7.452E-02	6.316E-03	-0.002
	645.85			-2.777E-02	5.915E-01	9.459E-01	8.337E-02	-0.029
	722.78			9.668E-02	4.629E-01	6.821E-01	5.966E-02	0.142
	1690.97	*		8.112E-03	8.270E-02	1.388E-01	1.308E-02	0.058
SB-125	427.87	*		5.993E-02	1.146E-01	1.932E-01	1.681E-02	0.310
	463.37			8.664E-01	4.944E-01	6.143E-01	5.691E-02	1.410
	600.60			1.260E-01	2.263E-01	3.583E-01	3.270E-02	0.352
	635.95			-3.085E-01	3.298E-01	4.884E-01	4.428E-02	-0.632
TE-125M	109.28	*		-2.563E+01	1.308E+01	1.920E+01	2.282E+00	-1.335
I-126	388.63			1.572E-01	2.241E-01	3.827E-01	3.257E-02	0.411
	666.33	*		2.062E-01	2.934E-01	5.132E-01	4.232E-02	0.402
	753.82			2.091E+00	2.460E+00	4.325E+00	3.764E-01	0.484

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126	414.70			-3.840E-02	1.035E-01	1.660E-01	1.411E-02	-0.231
	666.50			7.835E-02	1.018E-01	1.787E-01	1.474E-02	0.439
	695.00			-2.863E-03	1.008E-01	1.683E-01	1.414E-02	-0.017
	697.00			2.442E-01	3.577E-01	6.241E-01	5.250E-02	0.391
	720.70	*		-1.914E-02	1.977E-01	2.816E-01	2.404E-02	-0.068
SB-127	856.80			-9.612E-01	6.891E-01	1.011E+00	9.271E-02	-0.950
	252.40			5.210E+00	7.897E+00	1.308E+01	5.529E+00	0.398
	473.00			2.328E-01	2.848E+00	4.670E+00	6.240E-01	0.050
	685.70	*		4.032E-01	2.169E+00	3.680E+00	4.356E-01	0.110
	783.70			8.269E+00	6.330E+00	1.130E+01	1.482E+00	0.732
I-131	80.19			-4.044E+00	8.877E+00	1.253E+01	1.480E+00	-0.323
	284.31			-1.991E+00	2.259E+00	3.599E+00	4.005E-01	-0.553
	364.49	*		-5.306E-02	1.701E-01	2.759E-01	2.667E-02	-0.192
TE-132	636.99			-1.328E+00	2.259E+00	3.453E+00	3.061E-01	-0.385
	49.72			-7.249E-01	8.640E+01	1.436E+02	2.252E+01	-0.005
	111.76			7.597E+01	6.462E+01	1.087E+02	1.396E+01	0.699
BA-133	116.30			-3.132E+01	5.680E+01	9.027E+01	1.153E+01	-0.347
	228.16	*		-1.086E-01	1.460E+00	2.449E+00	4.326E-01	-0.044
	81.00			-1.336E-01	1.655E-01	2.110E-01	3.691E-02	-0.633
	276.40			1.036E-01	4.813E-01	7.397E-01	1.151E-01	0.140
	302.85			7.534E-02	1.942E-01	2.875E-01	4.138E-02	0.262
I-133	356.01	*		-8.905E-04	5.889E-02	8.429E-02	1.139E-02	-0.011
	383.85			-2.281E-02	3.643E-01	5.981E-01	7.447E-02	-0.038
	529.87	*		-1.769E-02	3.643E-01	Half-Life	too short	
	875.33			4.344E-01	3.643E-01	Half-Life	too short	
	1298.22			-1.844E+00	3.643E-01	Half-Life	too short	
CS-134	563.25			-1.289E-02	4.338E-01	7.000E-01	6.064E-02	-0.018
	569.33			1.384E-01	2.645E-01	4.269E-01	3.708E-02	0.324
	604.72			-1.430E-02	4.448E-02	5.961E-02	5.061E-03	-0.240
	795.86	*		9.675E-02	6.464E-02	1.052E-01	9.432E-03	0.919
	801.95			-2.710E-01	5.180E-01	7.871E-01	7.066E-02	-0.344
CS-135	1365.19			2.217E-01	1.368E+00	2.331E+00	2.329E-01	0.095
I-135	268.22	*		1.268E-01	2.187E-01	3.284E-01	3.941E-02	0.386
	546.56			6.609E+12	2.187E-01	Half-Life	too short	
	836.80			6.236E+12	2.187E-01	Half-Life	too short	
	1038.76			-5.395E+12	2.187E-01	Half-Life	too short	
	1131.51			-1.189E+12	2.187E-01	Half-Life	too short	
CS-136	1260.41	*		6.446E+11	2.187E-01	Half-Life	too short	
	1457.56			3.263E+14	2.187E-01	Half-Life	too short	
	1678.03			2.920E+12	2.187E-01	Half-Life	too short	
	1791.20			-4.435E+12	2.187E-01	Half-Life	too short	
	153.25			3.419E-01	1.226E+00	1.997E+00	2.350E-01	0.171
BA-137M	176.60			-7.158E-02	7.170E-01	1.146E+00	1.316E-01	-0.062
	273.65			-6.603E-01	8.276E-01	1.138E+00	1.304E-01	-0.580
	340.55			9.002E-01	2.666E-01	4.335E-01	4.378E-02	2.077
	818.51			2.207E-02	9.696E-02	1.637E-01	1.476E-02	0.135
	1048.07	*		-8.035E-03	1.412E-01	2.298E-01	2.126E-02	-0.035
BA-137M	1235.36			1.187E+00	9.201E-01	1.599E+00	1.892E-01	0.743
	661.66	*		-6.170E-03	4.197E-02	6.975E-02	5.734E-03	-0.088

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-137		661.66	*	-6.518E-03	4.434E-02	7.368E-02	6.071E-03	-0.088
CE-139		165.86	*	-7.293E-03	3.815E-02	6.090E-02	6.500E-03	-0.120
BA-140		162.66		-8.659E-01	1.198E+00	1.838E+00	2.034E-01	-0.471
		304.85		1.884E+00	1.998E+00	2.968E+00	8.866E-01	0.635
		423.72		-1.257E+00	2.726E+00	4.297E+00	1.413E+00	-0.293
		537.26	*	-5.405E-02	3.406E-01	5.447E-01	1.847E-01	-0.099
LA-140	+	328.76		5.466E-01	6.155E-01	8.047E-01	8.439E-02	0.679
		487.02		1.841E-01	1.823E-01	3.154E-01	2.892E-02	0.584
		815.77		6.146E-01	4.320E-01	7.863E-01	7.835E-02	0.782
		1596.21	*	3.097E-02	1.204E-01	1.798E-01	1.685E-02	0.172
CE-141		145.44	*	8.062E-02	8.443E-02	1.405E-01	1.452E-02	0.574
CE-143		57.36		-1.273E-03	8.443E-02	Half-Life	too short	
		293.27	*	2.594E-03	8.443E-02	Half-Life	too short	
		664.57		1.636E-03	8.443E-02	Half-Life	too short	
		721.93		4.575E-05	8.443E-02	Half-Life	too short	
CE-144		80.12		-1.460E+00	4.012E+00	5.691E+00	6.689E-01	-0.257
		133.52	*	2.508E-02	2.594E-01	4.218E-01	6.807E-02	0.059
PM-144		476.78		2.784E-02	7.592E-02	1.267E-01	1.188E-02	0.220
		618.01		-1.898E-03	3.827E-02	6.135E-02	5.317E-03	-0.031
		696.49	*	1.799E-02	4.017E-02	6.917E-02	5.820E-03	0.260
PR-144		696.51	*	1.467E+00	3.005E+00	5.187E+00	4.362E-01	0.283
		1489.16		-9.428E+00	1.268E+01	1.842E+01	1.764E+00	-0.512
PM-146		453.88	*	-7.396E-03	5.295E-02	8.341E-02	8.820E-03	-0.089
		633.25		6.201E-01	1.678E+00	2.747E+00	1.048E+00	0.226
		735.93		-1.363E-02	2.028E-01	3.017E-01	8.455E-02	-0.045
		747.24		-1.496E-02	1.097E-01	1.810E-01	2.645E-02	-0.083
ND-147	+	91.11		4.578E-01	3.494E-01	7.545E-01	9.343E-02	0.607
		319.41		-1.401E+00	4.738E+00	7.747E+00	7.936E-01	-0.181
		531.02	*	1.164E-01	7.418E-01	1.216E+00	1.819E-01	0.096
PM-149		285.90	*	1.505E+02	2.298E+02	3.918E+02	6.591E+01	0.384
EU-152		121.78		-2.899E-02	9.078E-02	1.456E-01	1.629E-02	-0.199
		244.70		7.684E-01	4.234E-01	6.734E-01	7.423E-02	1.141
		344.28	*	-2.421E-03	1.439E-01	1.946E-01	1.980E-02	-0.012
		778.90		-3.026E-01	3.076E-01	4.714E-01	4.159E-02	-0.642
	+	964.08		8.862E-01	4.829E-01	6.542E-01	6.016E-02	1.355
		1085.87		1.869E-01	4.473E-01	7.579E-01	6.599E-02	0.247
		1112.07		-2.917E-02	4.216E-01	6.505E-01	5.566E-02	-0.045
		1408.01		6.641E-02	2.257E-01	3.880E-01	3.738E-02	0.171
GD-153		69.67		-1.444E+00	2.993E+00	4.231E+00	4.829E-01	-0.341
		97.43	*	-9.401E-03	1.259E-01	1.798E-01	1.984E-02	-0.052
		103.18		-1.815E-01	1.510E-01	2.343E-01	2.477E-02	-0.775
EU-154		123.07		9.929E-03	6.439E-02	1.052E-01	1.313E-02	0.094
		723.31		3.816E-02	2.097E-01	3.080E-01	2.904E-02	0.124
		873.19		1.518E-02	3.372E-01	5.596E-01	6.909E-02	0.027
		996.26		-4.817E-01	4.532E-01	6.615E-01	1.172E-01	-0.728
		1004.73		2.216E-01	2.489E-01	4.369E-01	5.232E-02	0.507
		1274.44	*	4.555E-02	1.509E-01	2.508E-01	2.941E-02	0.182
EU-155	+	86.55		2.839E-01	1.674E-01	2.424E-01	2.990E-02	1.171
		105.31	*	1.476E-01	1.374E-01	2.312E-01	2.435E-02	0.638

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	86.79		7.683E-01	4.529E-01	6.493E-01	7.983E-02	1.183
		197.04		7.147E-02	7.253E-01	1.164E+00	1.270E-01	0.061
		215.65		1.271E-01	9.989E-01	1.600E+00	1.760E-01	0.079
		298.57		2.178E-01	2.459E-01	2.627E-01	2.779E-02	0.829
		879.36	*	2.907E-03	1.602E-01	2.652E-01	2.454E-02	0.011
		962.29		1.113E+00	6.504E-01	1.187E+00	1.092E-01	0.938
		966.15		1.739E+00	3.624E-01	6.760E-01	6.213E-02	2.573
		1177.93		4.988E-02	4.610E-01	7.555E-01	6.182E-02	0.066
		1271.85		-3.305E-01	9.605E-01	1.502E+00	1.359E-01	-0.220
		80.57		-2.811E-01	4.323E-01	6.040E-01	7.116E-02	-0.465
HO-166M		184.41		1.404E-01	5.533E-02	8.357E-02	9.037E-03	1.680
		280.46		-6.576E-02	1.045E-01	1.690E-01	1.825E-02	-0.389
		410.95		3.306E-01	3.088E-01	5.337E-01	4.530E-02	0.619
		711.68	*	-4.065E-02	6.833E-02	1.091E-01	9.265E-03	-0.373
		752.31		6.534E-02	3.222E-01	5.447E-01	4.737E-02	0.120
		810.29		-9.624E-02	6.832E-02	9.912E-02	8.889E-03	-0.971
		67.75		-7.012E-02	1.814E-01	2.932E-01	3.346E-02	-0.239
		100.11		2.984E-01	2.365E-01	3.996E-01	4.313E-02	0.747
TA-182		152.43		2.058E-01	4.413E-01	7.239E-01	7.486E-02	0.284
		222.11		2.014E-02	4.336E-01	7.313E-01	8.059E-02	0.028
	+	1121.30		6.429E-01	3.045E-01	4.339E-01	3.688E-02	1.482
		1189.05		-1.722E-02	3.929E-01	6.354E-01	5.264E-02	-0.027
		1221.41	*	2.155E-02	2.763E-01	4.503E-01	3.865E-02	0.048
		1231.02		-6.283E-01	6.950E-01	1.049E+00	9.093E-02	-0.599
IR-192	+	295.96		1.183E+00	2.500E-01	3.457E-01	3.687E-02	3.423
		308.46		-2.337E-02	1.163E-01	1.913E-01	2.003E-02	-0.122
		316.51	*	-6.944E-03	4.345E-02	7.158E-02	7.381E-03	-0.097
		468.07		5.243E-02	8.945E-02	1.330E-01	1.230E-02	0.394
HG-203		70.83		8.845E-02	2.326E+00	3.373E+00	5.978E-01	0.026
		72.87		3.423E+00	1.469E+00	2.149E+00	3.711E-01	1.593
		279.20	*	6.472E-02	4.870E-02	8.507E-02	9.348E-03	0.761
BI-207		72.81		7.047E-01	3.106E-01	4.761E-01	5.453E-02	1.480
	+	74.97		8.319E-01	2.594E-01	3.353E-01	3.859E-02	2.481
		569.70		2.040E-02	3.928E-02	6.555E-02	5.615E-03	0.311
		1063.66	*	-4.221E-02	6.714E-02	1.014E-01	8.948E-03	-0.416
PB-210		1770.23		3.149E-01	4.617E-01	7.826E-01	6.841E-02	0.402
PB-211		46.54	*	-2.080E+00	1.223E+01	1.991E+01	2.451E+00	-0.104
		404.85	*	-2.811E-01	8.930E-01	1.424E+00	6.889E-01	-0.197
		427.09		2.387E-01	1.916E+00	3.158E+00	1.460E+00	0.076
		832.01		-1.236E+00	1.395E+00	1.899E+00	9.863E-01	-0.651
BI-212	+	727.33	*	2.111E+00	1.121E+00	1.296E+00	1.610E-01	1.629
		785.37		6.158E+00	4.033E+00	7.085E+00	6.273E-01	0.869
		1620.50		3.370E+00	2.996E+00	5.611E+00	5.222E-01	0.601
RN-219	+	271.23		8.055E-01	4.109E-01	5.401E-01	6.600E-02	1.492
		401.81	*	-2.362E-01	4.819E-01	7.671E-01	1.134E-01	-0.308
RA-223		81.07		-2.990E-01	3.725E-01	4.777E-01	5.644E-02	-0.626
		83.79		9.303E-02	1.949E-01	2.859E-01	3.437E-02	0.325
		94.87		1.727E+00	7.062E-01	1.079E+00	1.221E-01	1.601
		144.24		3.592E-01	8.951E-01	1.454E+00	1.606E-01	0.247

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		154.21		-6.883E-02	4.975E-01	7.981E-01	8.840E-02	-0.086
	+	269.46		6.259E-01	3.176E-01	4.148E-01	4.577E-02	1.509
		323.87	*	1.715E-01	9.415E-01	1.372E+00	2.490E-01	0.125
	+	338.28		9.756E+00	2.410E+00	2.910E+00	3.779E-01	3.353
		79.69		1.392E+00	2.057E+00	3.025E+00	5.742E-01	0.460
		235.96		9.143E-01	2.610E-01	4.019E-01	4.994E-02	2.275
		256.23	*	-1.465E-01	3.053E-01	4.995E-01	6.912E-02	-0.293
TH-227	+	299.98		2.124E+00	1.215E+00	1.946E+00	2.742E-01	1.092
		304.50		5.611E-01	2.137E+00	3.143E+00	5.524E-01	0.179
		334.37		3.463E-01	2.949E+00	3.378E+00	5.526E-01	0.103
		79.80		1.343E-01	2.664E+00	3.850E+00	8.928E-01	0.035
		235.96		9.143E-01	2.591E-01	4.019E-01	4.800E-02	2.275
		256.23	*	-1.465E-01	3.055E-01	4.995E-01	7.598E-02	-0.293
	+	299.98		2.124E+00	1.215E+00	1.946E+00	2.742E-01	1.092
TH-229		304.50		5.611E-01	2.137E+00	3.143E+00	5.524E-01	0.179
		334.37		3.463E-01	2.949E+00	3.378E+00	5.526E-01	0.103
		85.43		4.551E-01	3.301E-01	4.947E-01	6.018E-02	0.920
	+	88.47		3.606E-01	2.126E-01	3.051E-01	3.760E-02	1.182
		193.51	*	-2.803E-01	6.875E-01	1.080E+00	1.176E-01	-0.259
	+	210.85		2.164E+00	1.443E+00	2.024E+00	2.223E-01	1.069
		283.69	*	-1.540E+00	1.826E+00	2.903E+00	4.629E-01	-0.530
PA-231	+	301.36		1.364E+00	7.786E-01	1.258E+00	1.708E-01	1.085
TH-231		81.07		-2.990E-01	3.725E-01	4.777E-01	5.644E-02	-0.626
		83.79		9.303E-02	1.949E-01	2.859E-01	3.437E-02	0.325
		94.87		1.727E+00	7.062E-01	1.079E+00	1.221E-01	1.601
PA-233		144.24		3.592E-01	8.951E-01	1.454E+00	1.606E-01	0.247
		154.21		-6.883E-02	4.975E-01	7.981E-01	8.840E-02	-0.086
	+	269.46		6.259E-01	3.176E-01	4.148E-01	4.577E-02	1.509
		323.87	*	1.715E-01	9.415E-01	1.372E+00	2.490E-01	0.125
	+	338.28		9.756E+00	2.410E+00	2.910E+00	3.779E-01	3.353
	+	300.13		9.610E-01	5.545E-01	8.836E-01	1.417E-01	1.088
		311.90	*	2.058E-02	7.836E-02	1.318E-01	1.395E-02	0.156
		340.48		3.610E+00	1.307E+00	1.672E+00	4.100E-01	2.159
		94.67		7.925E-01	2.733E-01	4.035E-01	5.823E-02	1.964
		98.44		1.027E-01	1.368E-01	2.019E-01	1.134E-01	0.509
PA-234		111.00		1.427E-01	2.223E-01	3.697E-01	4.908E-02	0.386
		131.20		1.250E-01	1.368E-01	2.280E-01	2.289E-02	0.548
		569.50		2.455E-01	3.455E-01	5.832E-01	4.995E-02	0.421
		733.00		3.532E-01	5.033E-01	7.676E-01	1.703E-01	0.460
		880.51		-2.613E-01	3.270E-01	5.013E-01	4.642E-02	-0.521
		883.24		-2.141E-02	3.266E-01	5.360E-01	3.608E-01	-0.040
		926.50		1.056E-01	1.966E-01	3.362E-01	8.577E-02	0.314
		946.00	*	8.154E-02	3.665E-01	6.137E-01	1.170E-01	0.133
		949.00		4.449E-02	5.669E-01	9.387E-01	8.668E-02	0.047
		766.42		1.304E+01	1.530E+01	2.435E+01	1.236E+01	0.536
PA-234M		1001.03	*	1.522E+00	5.790E+00	9.567E+00	9.921E-01	0.159
TH-234		63.29	*	1.014E+00	2.370E+00	3.925E+00	7.783E-01	0.258
	+	92.59		2.353E+00	1.254E+00	1.678E+00	3.930E-01	1.402
U-238		63.29	*	1.014E+00	2.370E+00	3.925E+00	7.783E-01	0.258

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.59		2.353E+00	1.159E+00	1.678E+00	1.951E-01	1.402
		99.53		3.118E-01	2.174E-01	3.683E-01	3.993E-02	0.847
		103.37		-8.332E-02	1.333E-01	2.124E-01	2.243E-02	-0.392
		106.12		7.934E-02	1.073E-01	1.791E-01	1.864E-02	0.443
	*	117.23		-2.898E-01	4.949E-01	7.858E-01	7.931E-02	-0.369
		228.18		-1.990E-02	2.705E-01	4.536E-01	5.004E-02	-0.044
AM-241		277.60		4.944E-02	2.217E-01	3.641E-01	3.942E-02	0.136
	*	59.54		-3.573E-01	2.977E-01	4.668E-01	5.479E-02	-0.765
CM-247		278.00		5.131E-01	9.080E-01	1.550E+00	1.678E-01	0.331
		287.50		2.626E+00	1.634E+00	2.746E+00	2.945E-01	0.956
	*	402.40		-2.607E-02	4.480E-02	7.105E-02	6.008E-03	-0.367
CF-249		252.80		6.760E-01	1.134E+00	1.944E+00	2.138E-01	0.348
		333.37		1.013E-01	3.568E-01	3.574E-01	3.562E-02	0.284
	*	388.16		3.390E-02	4.835E-02	8.253E-02	7.035E-03	0.411
CF-251	*	177.52		-6.643E-02	1.692E-01	2.670E-01	2.873E-02	-0.249
		227.38		-1.662E-02	4.360E-01	7.322E-01	8.077E-02	-0.023
		285.41		-2.716E-01	2.744E+00	4.556E+00	4.896E-01	-0.060

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G247551002
* Acquisition date   : 4-MAR-2010 18:50:29 Detector SN#      :
* Detector ID        : GAM15                      Sensitivity   : 5.000
* Geometry           : CAN                      Energy tolerance: 1.500
* Elapsed live time: 0 02:00:00.00             Abundance limit : 75.000
* Elapsed real time: 0 02:00:01.48             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G247551002             Analyst initials: MXR1
* Batch Number       : 956158                 Sample Quantity : 1.4237E+02 GRAM
* Recovery           : 1.00000                 Carrier Weight  : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32 MS Isotope       :
* MSD DPM            : 0.000                   MSD Isotope    :
* LCS DPM            : 0.000                   LCS Isotope     :
* LCSD DPM           : 0.000                   LCSD Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.734E+01	4.119E+00	5.828E-01	0.000E+00
CD-109	2.401E+00	1.387E+00	1.713E+00	0.000E+00
SN-126	2.339E-01	1.351E-01	1.681E-01	0.000E+00
TL-208	5.684E-01	9.994E-02	6.748E-02	0.000E+00
BI-211	4.105E+00	6.321E-01	4.276E-01	0.000E+00
PB-212	1.971E+00	2.683E-01	1.156E-01	0.000E+00
BI-214	1.422E+00	2.131E-01	1.239E-01	0.000E+00
PB-214	1.490E+00	2.431E-01	1.561E-01	0.000E+00
RA-224	4.707E+00	1.556E+00	1.238E+00	0.000E+00
RA-226	1.422E+00	2.131E-01	1.239E-01	0.000E+00
AC-228	2.217E+00	4.190E-01	2.484E-01	0.000E+00
RA-228	2.217E+00	4.190E-01	2.484E-01	0.000E+00
TH-228	1.971E+00	2.683E-01	1.156E-01	0.000E+00
TH-232	2.217E+00	4.190E-01	2.484E-01	0.000E+00
U-235	2.976E-02	2.612E-01	4.527E-01	0.000E+00
NP-237	6.980E-01	4.280E-01	5.594E-01	0.000E+00
ANH-511	1.204E-01	7.394E-02	5.642E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.638E-01	3.871E-01	6.900E-01	0.000E+00 NOT IDENT.
NA-22	9.396E-03	5.260E-02	8.886E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	9.582E+06	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-1.510E-02	4.933E-02	8.242E-02	0.000E+00 FAIL ABUN
V-48	-5.927E-02	9.562E-02	1.537E-01	0.000E+00 NOT IDENT.
CR-51	4.276E-01	4.721E-01	8.619E-01	0.000E+00 NOT IDENT.
MN-54	3.026E-02	4.499E-02	8.081E-02	0.000E+00 NOT IDENT.
CO-56	-4.122E-03	4.520E-02	7.710E-02	0.000E+00 NOT IDENT.
CO-57	-5.892E-03	3.112E-02	5.425E-02	0.000E+00 NOT IDENT.
CO-58	-7.546E-02	4.614E-02	6.806E-02	0.000E+00 NOT IDENT.

FE-59	-3.440E-02	1.184E-01	1.944E-01	0.000E+00	NOT IDENT.
CO-60	1.157E-02	4.300E-02	7.345E-02	0.000E+00	NOT IDENT.
ZN-65	-6.893E-02	1.394E-01	1.893E-01	0.000E+00	NOT IDENT.
SE-75	2.100E-02	6.165E-02	9.735E-02	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.546E-02	9.278E-02	0.000E+00	NOT IDENT.
Y-88	1.943E-03	3.981E-02	6.714E-02	0.000E+00	NOT IDENT.
Y-91	2.190E+01	2.922E+01	5.138E+01	0.000E+00	NOT IDENT.
NB-94	-2.282E-02	3.902E-02	6.531E-02	0.000E+00	NOT IDENT.
NB-95	1.775E-02	5.144E-02	9.099E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.908E-01	3.177E-01	0.000E+00	NOT IDENT.
ZR-95	5.435E-02	8.675E-02	1.565E-01	0.000E+00	NOT IDENT.
MO-99	2.482E+00	2.532E+01	4.425E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.020E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.690E-02	4.696E-02	8.205E-02	0.000E+00	FAIL ABUN
RH-106	9.943E-02	3.555E-01	6.097E-01	0.000E+00	NOT IDENT.
RU-106	9.943E-02	3.554E-01	6.097E-01	0.000E+00	NOT IDENT.
AG-108M	-8.265E-03	3.610E-02	6.139E-02	0.000E+00	NOT IDENT.
AG-110M	-5.949E-03	4.105E-02	7.122E-02	0.000E+00	NOT IDENT.
SN-113	-2.154E-02	5.486E-02	9.314E-02	0.000E+00	NOT IDENT.
CD-115	-4.304E+00	2.463E+01	4.133E+01	0.000E+00	NOT IDENT.
SN-117M	5.353E-02	7.901E-02	1.399E-01	0.000E+00	NOT IDENT.
TE-123M	3.477E-02	3.683E-02	6.567E-02	0.000E+00	NOT IDENT.
SB-124	8.112E-03	8.104E-02	1.390E-01	0.000E+00	NOT IDENT.
SB-125	5.993E-02	1.123E-01	1.993E-01	0.000E+00	FAIL ABUN
TE-125M	-2.563E+01	1.282E+01	2.038E+01	0.000E+00	NOT IDENT.
I-126	2.062E-01	2.875E-01	5.245E-01	0.000E+00	NOT IDENT.
SB-126	-1.914E-02	1.938E-01	2.873E-01	0.000E+00	NOT IDENT.
SB-127	4.032E-01	2.125E+00	3.759E+00	0.000E+00	NOT IDENT.
I-131	-5.306E-02	1.667E-01	2.857E-01	0.000E+00	NOT IDENT.
TE-132	-1.086E-01	1.431E+00	2.560E+00	0.000E+00	NOT IDENT.
BA-133	-8.905E-04	5.771E-02	8.731E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.956E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.675E-02	6.334E-02	1.071E-01	0.000E+00	NOT IDENT.
CS-135	1.268E-01	2.143E-01	3.422E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.034E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.035E-03	1.384E-01	2.326E-01	0.000E+00	NOT IDENT.
BA-137M	-6.170E-03	4.113E-02	7.130E-02	0.000E+00	NOT IDENT.
CS-137	-6.518E-03	4.345E-02	7.532E-02	0.000E+00	NOT IDENT.
CE-139	-7.293E-03	3.739E-02	6.408E-02	0.000E+00	NOT IDENT.
BA-140	-5.405E-02	3.337E-01	5.593E-01	0.000E+00	NOT IDENT.
LA-140	3.097E-02	1.180E-01	1.802E-01	0.000E+00	FAIL ABUN
CE-141	8.062E-02	8.274E-02	1.482E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	8.585E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.508E-02	2.542E-01	4.459E-01	0.000E+00	NOT IDENT.
PM-144	1.799E-02	3.937E-02	7.063E-02	0.000E+00	NOT IDENT.
PR-144	1.467E+00	2.945E+00	5.296E+00	0.000E+00	NOT IDENT.
PM-146	-7.396E-03	5.189E-02	8.595E-02	0.000E+00	NOT IDENT.
ND-147	1.164E-01	7.270E-01	1.249E+00	0.000E+00	FAIL ABUN
PM-149	1.505E+02	2.252E+02	4.077E+02	0.000E+00	NOT IDENT.
EU-152	-2.421E-03	1.410E-01	2.017E-01	0.000E+00	FAIL ABUN
GD-153	-9.401E-03	1.234E-01	1.912E-01	0.000E+00	NOT IDENT.
EU-154	4.555E-02	1.479E-01	2.527E-01	0.000E+00	NOT IDENT.
EU-155	1.476E-01	1.347E-01	2.455E-01	0.000E+00	FAIL ABUN
TB-160	2.907E-03	1.570E-01	2.694E-01	0.000E+00	FAIL ABUN
HO-166M	-4.065E-02	6.697E-02	1.114E-01	0.000E+00	NOT IDENT.
TA-182	2.155E-02	2.708E-01	4.541E-01	0.000E+00	FAIL ABUN
IR-192	-6.944E-03	4.258E-02	7.433E-02	0.000E+00	FAIL ABUN
HG-203	6.472E-02	4.773E-02	8.856E-02	0.000E+00	NOT IDENT.
BI-207	-4.221E-02	6.580E-02	1.026E-01	0.000E+00	FAIL ABUN
PB-210	-2.080E+00	1.198E+01	2.149E+01	0.000E+00	NOT IDENT.
PB-211	-2.811E-01	8.752E-01	1.471E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	1.098E+00	1.322E+00	0.000E+00	FAIL ABUN
RN-219	-2.362E-01	4.722E-01	7.926E-01	0.000E+00	FAIL ABUN
RA-223	1.715E-01	9.227E-01	1.424E+00	0.000E+00	FAIL ABUN
AC-227	-1.465E-01	2.992E-01	5.209E-01	0.000E+00	FAIL ABUN
TH-227	-1.465E-01	2.993E-01	5.209E-01	0.000E+00	FAIL ABUN
TH-229	-2.803E-01	6.738E-01	1.133E+00	0.000E+00	FAIL ABUN
PA-231	-1.540E+00	1.790E+00	3.021E+00	0.000E+00	FAIL ABUN
TH-231	1.715E-01	9.227E-01	1.424E+00	0.000E+00	FAIL ABUN
PA-233	2.058E-02	7.680E-02	1.369E-01	0.000E+00	FAIL ABUN
PA-234	8.154E-02	3.592E-01	6.224E-01	0.000E+00	NOT IDENT.
PA-234M	1.522E+00	5.674E+00	9.691E+00	0.000E+00	NOT IDENT.
TH-234	1.014E+00	2.323E+00	4.211E+00	0.000E+00	FAIL ABUN
U-238	1.014E+00	2.323E+00	4.211E+00	0.000E+00	FAIL ABUN
NP-239	-2.898E-01	4.850E-01	8.327E-01	0.000E+00	NOT IDENT.
AM-241	-3.573E-01	2.918E-01	5.013E-01	0.000E+00	NOT IDENT.
CM-247	-2.607E-02	4.390E-02	7.340E-02	0.000E+00	NOT IDENT.
CF-249	3.390E-02	4.738E-02	8.532E-02	0.000E+00	NOT IDENT.

CF-251	-6.643E-02	1.658E-01	2.806E-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]G247551002.CNF;1
Sample date        : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:50:29.
Sample ID          : G247551002 Sample quantity : 1.42370E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 956158 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	1459	10.66*	9.663E-01	3.734E+01	3.734E+01	11.26
CD-109	88.03	146	3.70*	4.463E+00	2.339E+00	2.401E+00	58.95
SN-126	64.28	-----	9.60	1.941E+00	-----	Line Not Found	-----
	86.94	146	8.90	4.463E+00	9.724E-01	9.724E-01	71.49
	87.57	146	37.00*	4.463E+00	2.339E-01	2.339E-01	58.95
TL-208	277.37	-----	6.60	3.705E+00	-----	Line Not Found	-----
	583.19	401	85.00*	2.190E+00	5.684E-01	5.684E-01	17.94
	860.56	-----	12.50	1.576E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	3.001E+00	-----	Line Not Found	-----
	351.06	632	12.92*	3.141E+00	4.105E+00	4.105E+00	15.71
PB-212	74.82	365	10.28	3.246E+00	2.886E+00	2.886E+00	32.67
	77.11	517	17.10	3.500E+00	2.278E+00	2.278E+00	21.28
	238.63	1341	43.60*	4.114E+00	1.971E+00	1.971E+00	13.89
	300.09	85	3.30	3.505E+00	1.931E+00	1.931E+00	56.74
BI-214	609.32	520	45.49*	2.117E+00	1.422E+00	1.422E+00	15.29
	1120.29	94	14.92	1.226E+00	1.354E+00	1.354E+00	47.84
	1764.49	94	15.30	8.554E-01	1.898E+00	1.898E+00	26.75
PB-214	74.82	365	5.80	3.246E+00	5.115E+00	5.115E+00	32.18
	77.11	517	9.70	3.500E+00	4.015E+00	4.015E+00	22.82
	242.00	298	7.25	4.078E+00	2.662E+00	2.662E+00	34.23
	295.22	389	18.42	3.547E+00	1.568E+00	1.568E+00	22.08
	351.93	632	35.60*	3.141E+00	1.490E+00	1.490E+00	16.65
RA-224	240.99	298	4.10*	4.078E+00	4.707E+00	4.707E+00	33.74
RA-226	609.32	520	45.49*	2.117E+00	1.422E+00	1.422E+00	15.29
	1120.29	94	14.92	1.226E+00	1.354E+00	1.354E+00	47.84
	1764.49	94	15.30	8.554E-01	1.898E+00	1.898E+00	26.75
AC-228	338.32	339	11.27	3.227E+00	2.458E+00	2.458E+00	46.95
	911.20	324	25.80*	1.494E+00	2.217E+00	2.217E+00	19.29
	968.97	216	15.80	1.410E+00	2.556E+00	2.556E+00	30.26
RA-228	338.32	339	11.27	3.227E+00	2.458E+00	2.458E+00	46.95
	911.20	324	25.80*	1.494E+00	2.217E+00	2.217E+00	19.29
	968.97	216	15.80	1.410E+00	2.556E+00	2.556E+00	30.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	365	10.28	3.246E+00	2.886E+00	2.886E+00	31.20
	77.11	517	17.10	3.500E+00	2.278E+00	2.278E+00	21.28
	238.63	1341	43.60*	4.114E+00	1.971E+00	1.971E+00	13.89
	300.09	85	3.30	3.505E+00	1.931E+00	1.931E+00	82.80
TH-232	338.32	339	11.27	3.227E+00	2.458E+00	2.458E+00	23.21
	911.20	324	25.80*	1.494E+00	2.217E+00	2.217E+00	19.29
	968.97	216	15.80	1.410E+00	2.556E+00	2.556E+00	30.26
U-235	89.96	75	3.47	4.647E+00	1.233E+00	1.233E+00	79.65
	93.35	183	5.60	4.849E+00	1.777E+00	1.777E+00	53.74
	143.76	-----	10.96*	5.506E+00	-----	Line Not Found	-----
	163.33	-----	5.08	5.224E+00	-----	Line Not Found	-----
	185.72	191	57.20	4.856E+00	1.813E-01	1.813E-01	48.45
	205.31	-----	5.01	4.560E+00	-----	Line Not Found	-----
NP-237	86.48	146	12.40*	4.463E+00	6.980E-01	6.980E-01	62.57
	95.86	-----	2.68	5.004E+00	-----	Line Not Found	-----
ANH-511	511.00	110	100.00*	2.419E+00	1.204E-01	1.204E-01	62.67

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 3
Number of lines tentatively identified by NID 26 89.66%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.734E+01	3.734E+01	0.420E+01	11.26	
CD-109	461.40D	1.03	2.339E+00	2.401E+00	1.415E+00	58.95	
SN-126	2.30E+05Y	1.00	2.339E-01	2.339E-01	1.379E-01	58.95	
TL-208	1.41E+10Y	1.00	5.684E-01	5.684E-01	1.020E-01	17.94	
BI-211	7.04E+08Y	1.00	4.105E+00	4.105E+00	0.645E+00	15.71	
PB-212	1.41E+10Y	1.00	1.971E+00	1.971E+00	0.274E+00	13.89	
BI-214	1600.00Y	1.00	1.422E+00	1.422E+00	0.217E+00	15.29	
PB-214	1600.00Y	1.00	1.490E+00	1.490E+00	0.248E+00	16.65	
RA-224	1.41E+10Y	1.00	4.707E+00	4.707E+00	1.588E+00	33.74	
RA-226	1600.00Y	1.00	1.422E+00	1.422E+00	0.217E+00	15.29	
AC-228	1.41E+10Y	1.00	2.217E+00	2.217E+00	0.428E+00	19.29	
RA-228	1.41E+10Y	1.00	2.217E+00	2.217E+00	0.428E+00	19.29	
TH-228	1.41E+10Y	1.00	1.971E+00	1.971E+00	0.274E+00	13.89	
TH-232	1.41E+10Y	1.00	2.217E+00	2.217E+00	0.428E+00	19.29	
U-235	7.04E+08Y	1.00	1.813E-01	1.813E-01	0.878E-01	48.45	K
NP-237	2.14E+06Y	1.00	6.980E-01	6.980E-01	4.367E-01	62.57	
ANH-511	1.00E+09Y	1.00	1.204E-01	1.204E-01	0.754E-01	62.67	
Total Activity :			6.522E+01	6.528E+01			

Grand Total Activity : 6.522E+01 6.528E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	209.81	103	322	1.05	418.53	414	9	1.43E-02	65.8	4.49E+00	T
0	269.91	125	222	1.67	538.73	534	11	1.73E-02	49.5	3.78E+00	T
0	328.50	54	245	0.94	655.91	651	10	7.51E-03	****	3.29E+00	T
0	462.58	89	135	1.39	924.07	917	12	1.24E-02	56.3	2.60E+00	T
0	727.61	98	103	1.74	1454.15	1447	16	1.36E-02	51.6	1.83E+00	T
0	794.28	66	68	2.30	1587.52	1580	13	9.13E-03	57.4	1.69E+00	
2	964.64	70	49	2.42	1928.28	1918	24	9.66E-03	53.7	1.42E+00	T
7	1587.24	33	8	3.05	3173.83	3168	22	4.61E-03	49.7	9.09E-01	
7	1592.61	19	10	2.82	3184.56	3168	22	2.61E-03	74.9	9.07E-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]G247551002.CNF;1
* Acquisition date   : 4-MAR-2010 18:50:29.  Detector SN#      :
* Detector ID        : GAM15                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.48             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G247551002             Analyst initials: MXR1
* Batch Number       : 956158                 Sample Quantity : 1.42370E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32.11MS Isotope       :
* MSD ID             :                      MSD Isotope        :
* LCS ID             : 1032-A                 LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.734E+01	4.203E+00	5.801E-01	5.701E-02	64.358
CD-109	2.401E+00	1.415E+00	1.607E+00	1.995E-01	1.494
SN-126	2.339E-01	1.379E-01	1.577E-01	1.952E-02	1.483
TL-208	5.684E-01	1.020E-01	6.583E-02	6.021E-03	8.634
BI-211	4.105E+00	6.450E-01	4.127E-01	4.110E-02	9.948
PB-212	1.971E+00	2.738E-01	1.107E-01	1.322E-02	17.808
BI-214	1.422E+00	2.174E-01	1.210E-01	1.206E-02	11.752
PB-214	1.490E+00	2.481E-01	1.507E-01	1.713E-02	9.886
RA-224	4.707E+00	1.588E+00	1.186E+00	1.308E-01	3.969
RA-226	1.422E+00	2.174E-01	1.210E-01	1.206E-02	11.752
AC-228	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
RA-228	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
TH-228	1.971E+00	2.738E-01	1.107E-01	1.322E-02	17.808
TH-232	2.217E+00	4.276E-01	2.448E-01	2.965E-02	9.057
U-235	1.813E-01	8.785E-02	4.290E-01	7.633E-02	0.423
NP-237	6.980E-01	4.367E-01	5.247E-01	1.275E-01	1.330
ANH-511	1.204E-01	7.545E-02	5.489E-02	4.743E-03	2.193

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.638E-01		3.950E-01	6.703E-01	6.230E-02	0.393

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	9.396E-03		5.367E-02	8.819E-02	8.011E-03	0.107
NA-24	-9.753E+00		4.889E+00	Half-Life too short		
SC-46	-1.510E-02		5.034E-02	8.115E-02	7.541E-03	-0.186
V-48	-5.927E-02		9.757E-02	1.517E-01	1.387E-02	-0.391
CR-51	4.276E-01		4.817E-01	8.303E-01	8.811E-02	0.515
MN-54	3.026E-02		4.591E-02	7.946E-02	7.211E-03	0.381
CO-56	-4.122E-03		4.612E-02	7.583E-02	6.920E-03	-0.054
CO-57	-5.892E-03		3.175E-02	5.123E-02	5.160E-03	-0.115
CO-58	-7.546E-02		4.708E-02	6.688E-02	6.013E-03	-1.128
FE-59	-3.440E-02		1.209E-01	1.923E-01	1.794E-02	-0.179
CO-60	1.157E-02		4.388E-02	7.297E-02	7.015E-03	0.159
ZN-65	-6.893E-02		1.422E-01	1.873E-01	1.600E-02	-0.368
SE-75	2.100E-02		6.291E-02	9.340E-02	1.024E-02	0.225
SR-85	1.068E-01		5.659E-02	9.028E-02	7.799E-03	1.183
Y-88	1.943E-03		4.063E-02	6.718E-02	5.658E-03	0.029
Y-91	2.190E+01		2.982E+01	5.093E+01	4.294E+00	0.430
NB-94	-2.282E-02		3.982E-02	6.398E-02	5.402E-03	-0.357
NB-95	1.775E-02		5.249E-02	8.930E-02	7.824E-03	0.199
NB-95M	4.134E-01		1.947E-01	3.041E-01	3.664E-02	1.359
ZR-95	5.435E-02		8.852E-02	1.535E-01	1.476E-02	0.354
MO-99	2.482E+00		2.584E+01	4.339E+01	6.841E+00	0.057
TC-99M	-1.704E+13		1.030E+13	Half-Life too short		
RU-103	1.690E-02		4.792E-02	7.977E-02	1.115E-02	0.212
RH-106	9.943E-02		3.628E-01	5.957E-01	7.813E-02	0.167
RU-106	9.943E-02		3.626E-01	5.957E-01	5.006E-02	0.167
AG-108M	-8.265E-03		3.683E-02	5.952E-02	5.260E-03	-0.139
AG-110M	-5.949E-03		4.189E-02	6.967E-02	5.929E-03	-0.085
SN-113	-2.154E-02		5.598E-02	9.010E-02	7.825E-03	-0.239
CD-115	-4.304E+00		2.513E+01	4.024E+01	3.473E+00	-0.107
SN-117M	5.353E-02		8.062E-02	1.328E-01	1.392E-02	0.403
TE-123M	3.477E-02		3.758E-02	6.235E-02	6.570E-03	0.558
SB-124	8.112E-03		8.270E-02	1.388E-01	1.308E-02	0.058
SB-125	5.993E-02		1.146E-01	1.932E-01	1.681E-02	0.310
TE-125M	-2.563E+01		1.308E+01	1.920E+01	2.282E+00	-1.335
I-126	2.062E-01		2.934E-01	5.132E-01	4.232E-02	0.402
SB-126	-1.914E-02		1.977E-01	2.816E-01	2.404E-02	-0.068
SB-127	4.032E-01		2.169E+00	3.680E+00	4.356E-01	0.110
I-131	-5.306E-02		1.701E-01	2.759E-01	2.667E-02	-0.192
TE-132	-1.086E-01		1.460E+00	2.449E+00	4.326E-01	-0.044
BA-133	-8.905E-04		5.889E-02	8.429E-02	1.139E-02	-0.011
I-133	-1.769E-02		2.019E-02	Half-Life too short		
CS-134	9.675E-02		6.464E-02	1.052E-01	9.432E-03	0.919
CS-135	1.268E-01		2.187E-01	3.284E-01	3.941E-02	0.386
I-135	6.446E+11		1.038E+12	Half-Life too short		
CS-136	-8.035E-03		1.412E-01	2.298E-01	2.126E-02	-0.035
BA-137M	-6.170E-03		4.197E-02	6.975E-02	5.734E-03	-0.088
CS-137	-6.518E-03		4.434E-02	7.368E-02	6.071E-03	-0.088
CE-139	-7.293E-03		3.815E-02	6.090E-02	6.500E-03	-0.120

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-140	-5.405E-02		3.406E-01	5.447E-01	1.847E-01	-0.099
LA-140	3.097E-02		1.204E-01	1.798E-01	1.685E-02	0.172
CE-141	8.062E-02		8.443E-02	1.405E-01	1.452E-02	0.574
CE-143	2.594E-03		4.380E-04	Half-Life too short		
CE-144	2.508E-02		2.594E-01	4.218E-01	6.807E-02	0.059
PM-144	1.799E-02		4.017E-02	6.917E-02	5.820E-03	0.260
PR-144	1.467E+00		3.005E+00	5.187E+00	4.362E-01	0.283
PM-146	-7.396E-03		5.295E-02	8.341E-02	8.820E-03	-0.089
ND-147	1.164E-01		7.418E-01	1.216E+00	1.819E-01	0.096
PM-149	1.505E+02		2.298E+02	3.918E+02	6.591E+01	0.384
EU-152	-2.421E-03		1.439E-01	1.946E-01	1.980E-02	-0.012
GD-153	-9.401E-03		1.259E-01	1.798E-01	1.984E-02	-0.052
EU-154	4.555E-02		1.509E-01	2.508E-01	2.941E-02	0.182
EU-155	1.476E-01		1.374E-01	2.312E-01	2.435E-02	0.638
TB-160	2.907E-03		1.602E-01	2.652E-01	2.454E-02	0.011
HO-166M	-4.065E-02		6.833E-02	1.091E-01	9.265E-03	-0.373
TA-182	2.155E-02		2.763E-01	4.503E-01	3.865E-02	0.048
IR-192	-6.944E-03		4.345E-02	7.158E-02	7.381E-03	-0.097
HG-203	6.472E-02		4.870E-02	8.507E-02	9.348E-03	0.761
BI-207	-4.221E-02		6.714E-02	1.014E-01	8.948E-03	-0.416
PB-210	-2.080E+00		1.223E+01	1.991E+01	2.451E+00	-0.104
PB-211	-2.811E-01		8.930E-01	1.424E+00	6.889E-01	-0.197
BI-212	2.111E+00	+	1.121E+00	1.296E+00	1.610E-01	1.629
RN-219	-2.362E-01		4.819E-01	7.671E-01	1.134E-01	-0.308
RA-223	1.715E-01		9.415E-01	1.372E+00	2.490E-01	0.125
AC-227	-1.465E-01		3.053E-01	4.995E-01	6.912E-02	-0.293
TH-227	-1.465E-01		3.055E-01	4.995E-01	7.598E-02	-0.293
TH-229	-2.803E-01		6.875E-01	1.080E+00	1.176E-01	-0.259
PA-231	-1.540E+00		1.826E+00	2.903E+00	4.629E-01	-0.530
TH-231	1.715E-01		9.415E-01	1.372E+00	2.490E-01	0.125
PA-233	2.058E-02		7.836E-02	1.318E-01	1.395E-02	0.156
PA-234	8.154E-02		3.665E-01	6.137E-01	1.170E-01	0.133
PA-234M	1.522E+00		5.790E+00	9.567E+00	9.921E-01	0.159
TH-234	1.014E+00		2.370E+00	3.925E+00	7.783E-01	0.258
U-238	1.014E+00		2.370E+00	3.925E+00	7.783E-01	0.258
NP-239	-2.898E-01		4.949E-01	7.858E-01	7.931E-02	-0.369
AM-241	-3.573E-01		2.977E-01	4.668E-01	5.479E-02	-0.765
CM-247	-2.607E-02		4.480E-02	7.105E-02	6.008E-03	-0.367
CF-249	3.390E-02		4.835E-02	8.253E-02	7.035E-03	0.411
CF-251	-6.643E-02		1.692E-01	2.670E-01	2.873E-02	-0.249

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]G247551002
* Acquisition date   : 4-MAR-2010 18:50:29 Detector SN#      :
* Detector ID        : GAM15                               Sensitivity      : 5.000
* Geometry           : CAN                               Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                     Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.48                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G247551002                     Analyst initials: MXR1
* Batch Number       : 956158                           Sample Quantity : 1.4237E+02 GRAM
* Recovery           : 1.00000                           Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32 MS Isotope      :
* MSD DPM             : 0.000                           MSD Isotope      :
* LCS DPM             : 0.000                           LCS Isotope      :
* LCSD DPM            : 0.000                           LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.734E+01	4.119E+00	2.916E-01	2.102E+00
CD-109	2.401E+00	1.387E+00	8.568E-01	7.076E-01
SN-126	2.339E-01	1.351E-01	8.412E-02	6.894E-02
TL-208	5.684E-01	9.994E-02	3.376E-02	5.099E-02
BI-211	4.105E+00	6.321E-01	2.139E-01	3.225E-01
PB-212	1.971E+00	2.683E-01	5.783E-02	1.369E-01
BI-214	1.422E+00	2.131E-01	6.200E-02	1.087E-01
PB-214	1.490E+00	2.431E-01	7.812E-02	1.240E-01
RA-224	4.707E+00	1.556E+00	6.195E-01	7.939E-01
RA-226	1.422E+00	2.131E-01	6.200E-02	1.087E-01
AC-228	2.217E+00	4.190E-01	1.243E-01	2.138E-01
RA-228	2.217E+00	4.190E-01	1.243E-01	2.138E-01
TH-228	1.971E+00	2.683E-01	5.783E-02	1.369E-01
TH-232	2.217E+00	4.190E-01	1.243E-01	2.138E-01
U-235	2.976E-02	2.612E-01	2.265E-01	1.332E-01
NP-237	6.980E-01	4.280E-01	2.799E-01	2.183E-01
ANH-511	1.204E-01	7.394E-02	2.823E-02	3.772E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.638E-01	3.871E-01	3.452E-01	1.975E-01 NOT IDENT.
NA-22	9.396E-03	5.260E-02	4.446E-02	2.683E-02 NOT IDENT.
NA-24	-9.753E+06	9.582E+06	0.000E+00	4.889E+06 SHORT HLIF
SC-46	-1.510E-02	4.933E-02	4.123E-02	2.517E-02 FAIL ABUN
V-48	-5.927E-02	9.562E-02	7.689E-02	4.878E-02 NOT IDENT.
CR-51	4.276E-01	4.721E-01	4.312E-01	2.409E-01 NOT IDENT.
MN-54	3.026E-02	4.499E-02	4.043E-02	2.295E-02 NOT IDENT.
CO-56	-4.122E-03	4.520E-02	3.857E-02	2.306E-02 NOT IDENT.
CO-57	-5.892E-03	3.112E-02	2.714E-02	1.588E-02 NOT IDENT.
CO-58	-7.546E-02	4.614E-02	3.405E-02	2.354E-02 NOT IDENT.

FE-59	-3.440E-02	1.184E-01	9.726E-02	6.043E-02	NOT IDENT.
CO-60	1.157E-02	4.300E-02	3.675E-02	2.194E-02	NOT IDENT.
ZN-65	-6.893E-02	1.394E-01	9.470E-02	7.110E-02	NOT IDENT.
SE-75	2.100E-02	6.165E-02	4.870E-02	3.146E-02	NOT IDENT.
SR-85	1.068E-01	5.546E-02	4.642E-02	2.830E-02	NOT IDENT.
Y-88	1.943E-03	3.981E-02	3.359E-02	2.031E-02	NOT IDENT.
Y-91	2.190E+01	2.922E+01	2.571E+01	1.491E+01	NOT IDENT.
NB-94	-2.282E-02	3.902E-02	3.268E-02	1.991E-02	NOT IDENT.
NB-95	1.775E-02	5.144E-02	4.552E-02	2.624E-02	NOT IDENT.
NB-95M	4.134E-01	1.908E-01	1.590E-01	9.734E-02	NOT IDENT.
ZR-95	5.435E-02	8.675E-02	7.829E-02	4.426E-02	NOT IDENT.
MO-99	2.482E+00	2.532E+01	2.214E+01	1.292E+01	NOT IDENT.
TC-99M	-1.704E+19	2.020E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	1.690E-02	4.696E-02	4.105E-02	2.396E-02	FAIL ABUN
RH-106	9.943E-02	3.555E-01	3.050E-01	1.814E-01	NOT IDENT.
RU-106	9.943E-02	3.554E-01	3.050E-01	1.813E-01	NOT IDENT.
AG-108M	-8.265E-03	3.610E-02	3.071E-02	1.842E-02	NOT IDENT.
AG-110M	-5.949E-03	4.105E-02	3.563E-02	2.095E-02	NOT IDENT.
SN-113	-2.154E-02	5.486E-02	4.660E-02	2.799E-02	NOT IDENT.
CD-115	-4.304E+00	2.463E+01	2.068E+01	1.256E+01	NOT IDENT.
SN-117M	5.353E-02	7.901E-02	6.997E-02	4.031E-02	NOT IDENT.
TE-123M	3.477E-02	3.683E-02	3.285E-02	1.879E-02	NOT IDENT.
SB-124	8.112E-03	8.104E-02	6.954E-02	4.135E-02	NOT IDENT.
SB-125	5.993E-02	1.123E-01	9.971E-02	5.728E-02	FAIL ABUN
TE-125M	-2.563E+01	1.282E+01	1.019E+01	6.542E+00	NOT IDENT.
I-126	2.062E-01	2.875E-01	2.624E-01	1.467E-01	NOT IDENT.
SB-126	-1.914E-02	1.938E-01	1.437E-01	9.886E-02	NOT IDENT.
SB-127	4.032E-01	2.125E+00	1.880E+00	1.084E+00	NOT IDENT.
I-131	-5.306E-02	1.667E-01	1.429E-01	8.507E-02	NOT IDENT.
TE-132	-1.086E-01	1.431E+00	1.281E+00	7.302E-01	NOT IDENT.
BA-133	-8.905E-04	5.771E-02	4.368E-02	2.944E-02	NOT IDENT.
I-133	-1.769E+04	3.956E+04	0.000E+00	2.019E+04	SHORT HLIF
CS-134	9.675E-02	6.334E-02	5.360E-02	3.232E-02	NOT IDENT.
CS-135	1.268E-01	2.143E-01	1.712E-01	1.093E-01	NOT IDENT.
I-135	6.446E+17	2.034E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.035E-03	1.384E-01	1.163E-01	7.061E-02	NOT IDENT.
BA-137M	-6.170E-03	4.113E-02	3.567E-02	2.099E-02	NOT IDENT.
CS-137	-6.518E-03	4.345E-02	3.768E-02	2.217E-02	NOT IDENT.
CE-139	-7.293E-03	3.739E-02	3.206E-02	1.907E-02	NOT IDENT.
BA-140	-5.405E-02	3.337E-01	2.798E-01	1.703E-01	NOT IDENT.
LA-140	3.097E-02	1.180E-01	9.016E-02	6.022E-02	FAIL ABUN
CE-141	8.062E-02	8.274E-02	7.415E-02	4.222E-02	NOT IDENT.
CE-143	2.594E+03	8.585E+02	0.000E+00	4.380E+02	SHORT HLIF
CE-144	2.508E-02	2.542E-01	2.231E-01	1.297E-01	NOT IDENT.
PM-144	1.799E-02	3.937E-02	3.533E-02	2.009E-02	NOT IDENT.
PR-144	1.467E+00	2.945E+00	2.650E+00	1.502E+00	NOT IDENT.
PM-146	-7.396E-03	5.189E-02	4.300E-02	2.647E-02	NOT IDENT.
ND-147	1.164E-01	7.270E-01	6.250E-01	3.709E-01	FAIL ABUN
PM-149	1.505E+02	2.252E+02	2.040E+02	1.149E+02	NOT IDENT.
EU-152	-2.421E-03	1.410E-01	1.009E-01	7.193E-02	FAIL ABUN
GD-153	-9.401E-03	1.234E-01	9.566E-02	6.295E-02	NOT IDENT.
EU-154	4.555E-02	1.479E-01	1.264E-01	7.544E-02	NOT IDENT.
EU-155	1.476E-01	1.347E-01	1.228E-01	6.872E-02	FAIL ABUN
TB-160	2.907E-03	1.570E-01	1.348E-01	8.009E-02	FAIL ABUN
HO-166M	-4.065E-02	6.697E-02	5.572E-02	3.417E-02	NOT IDENT.
TA-182	2.155E-02	2.708E-01	2.272E-01	1.382E-01	FAIL ABUN
IR-192	-6.944E-03	4.258E-02	3.719E-02	2.172E-02	FAIL ABUN
HG-203	6.472E-02	4.773E-02	4.431E-02	2.435E-02	NOT IDENT.
BI-207	-4.221E-02	6.580E-02	5.133E-02	3.357E-02	FAIL ABUN
PB-210	-2.080E+00	1.198E+01	1.075E+01	6.114E+00	NOT IDENT.
PB-211	-2.811E-01	8.752E-01	7.361E-01	4.465E-01	NOT IDENT.
BI-212	2.111E+00	1.098E+00	6.613E-01	5.603E-01	FAIL ABUN
RN-219	-2.362E-01	4.722E-01	3.965E-01	2.409E-01	FAIL ABUN
RA-223	1.715E-01	9.227E-01	7.124E-01	4.708E-01	FAIL ABUN
AC-227	-1.465E-01	2.992E-01	2.606E-01	1.527E-01	FAIL ABUN
TH-227	-1.465E-01	2.993E-01	2.606E-01	1.527E-01	FAIL ABUN
TH-229	-2.803E-01	6.738E-01	5.670E-01	3.438E-01	FAIL ABUN
PA-231	-1.540E+00	1.790E+00	1.511E+00	9.130E-01	FAIL ABUN
TH-231	1.715E-01	9.227E-01	7.124E-01	4.708E-01	FAIL ABUN
PA-233	2.058E-02	7.680E-02	6.851E-02	3.918E-02	FAIL ABUN
PA-234	8.154E-02	3.592E-01	3.114E-01	1.833E-01	NOT IDENT.
PA-234M	1.522E+00	5.674E+00	4.848E+00	2.895E+00	NOT IDENT.
TH-234	1.014E+00	2.323E+00	2.107E+00	1.185E+00	FAIL ABUN
U-238	1.014E+00	2.323E+00	2.107E+00	1.185E+00	FAIL ABUN
NP-239	-2.898E-01	4.850E-01	4.166E-01	2.474E-01	NOT IDENT.
AM-241	-3.573E-01	2.918E-01	2.508E-01	1.489E-01	NOT IDENT.
CM-247	-2.607E-02	4.390E-02	3.672E-02	2.240E-02	NOT IDENT.
CF-249	3.390E-02	4.738E-02	4.269E-02	2.417E-02	NOT IDENT.

CF-251

-6.643E-02

1.658E-01

1.404E-01

8.458E-02 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
*****

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ENERGY	MDA COUNTS
46.54	324.3724
49.72	341.4457
57.36	0.0000
59.54	417.7411
63.29	408.3486
63.29	408.3486
64.28	427.5234
67.75	458.1481
69.67	463.7104
70.83	464.4461
72.81	446.6836
72.87	446.7189
72.87	446.7189
74.82	489.3704
74.82	489.3704
74.82	489.3704
74.97	489.4681
77.11	490.8372
77.11	490.8372
77.11	490.8372
79.69	546.6051
79.80	556.2733
80.12	556.4984
80.19	556.5472
80.57	563.2150
81.00	584.3320
81.07	584.3832
81.07	584.3832
83.79	534.9585
83.79	534.9585
85.43	539.2531
86.48	539.9401
86.55	539.9871
86.79	586.8989
86.94	593.4584
87.57	451.8862
88.03	452.1357
88.47	452.3733
89.96	453.1731
91.11	457.0280
92.59	457.8163
92.59	457.8163
93.35	389.9736
94.67	418.2321
94.87	429.7219
94.87	429.7219
95.86	479.0940
97.43	427.7057
98.44	409.7458
99.53	388.6207
100.11	388.8700
103.18	489.7791
103.37	457.0169
105.31	390.0500
106.12	389.3576
109.28	471.2746
111.00	350.9839
111.76	335.7182
116.30	389.3270
117.23	389.6922
121.12	368.1885
121.78	384.1275
122.06	382.1400
123.07	374.1320
131.20	400.2846
133.52	414.9089
136.00	411.6136

136.47	404.3619
140.51	437.7975
140.51	0.0000
143.76	415.5651
144.24	407.1903
144.24	407.1903
145.44	384.0833
152.43	368.1160
153.25	393.1453
154.21	404.2454
154.21	404.2454
156.02	389.7485
158.56	381.9220
159.00	364.7422
162.66	386.4715
163.33	398.6315
165.86	366.7965
176.60	358.9536
177.52	375.6855
181.07	361.2925
184.41	386.9472
185.72	391.3089
193.51	361.3329
197.04	335.5110
205.31	364.1858
210.85	336.1823
215.65	320.7307
222.11	300.3566
227.38	300.5006
228.16	309.7665
228.18	309.7706
235.69	314.3415
235.96	314.3960
235.96	314.3960
238.63	262.3436
238.63	262.3436
240.99	262.7381
242.00	262.9074
244.70	194.9080
252.40	222.0601
252.80	220.2633
256.23	250.4051
256.23	250.4051
260.90	229.7233
264.66	225.2704
268.22	235.0896
269.46	225.9135
269.46	225.9135
271.23	251.1039
273.65	281.1365
276.40	245.3829
277.37	250.4395
277.60	242.1261
278.00	228.2960
279.20	203.0722
279.54	199.3504
280.46	248.3798
283.69	251.6651
284.31	252.6993
285.41	236.8169
285.90	219.8966
287.50	190.1041
293.27	0.0000
295.22	232.4330
295.96	232.5287
298.57	232.8666
299.98	185.4857
299.98	185.4857
300.09	185.4976
300.09	185.4976
300.13	185.5023
301.36	195.1454
302.85	204.8326
304.50	181.1772
304.50	181.1772
304.85	155.7788
308.46	191.1230
311.90	189.5623

316.51	198.6664
319.41	203.7783
320.08	177.8864
323.87	211.9622
323.87	211.9622
328.76	210.8921
333.37	174.2783
334.37	184.0555
334.37	184.0555
338.28	192.1871
338.28	192.1871
338.32	192.1920
338.32	192.1920
338.32	192.1920
340.48	184.6284
340.55	184.6342
344.28	181.0866
351.06	187.2353
351.93	188.9437
356.01	176.2668
364.49	170.1131
366.42	170.2715
383.85	167.7127
388.16	145.1784
388.63	141.2304
391.69	171.3092
400.66	163.0119
401.81	157.0920
402.40	163.1393
404.85	168.3302
410.95	149.7003
414.70	155.9877
423.72	157.6167
427.09	150.7643
427.87	143.7299
433.94	150.1951
453.88	138.7293
463.37	114.7296
468.07	108.0864
473.00	120.6805
476.78	112.6005
477.60	112.6364
487.02	99.5766
492.35	132.0090
497.08	105.1771
511.00	117.2616
514.00	122.2871
527.90	99.0465
529.87	0.0000
531.02	100.2185
537.26	101.5078
546.56	0.0000
563.25	112.0778
569.33	112.3213
569.50	113.3988
569.70	118.7559
583.19	99.9705
600.60	102.7373
602.73	108.2227
604.72	110.1008
609.32	90.3870
609.32	90.3870
610.33	81.3776
614.28	99.5935
618.01	100.0814
621.93	87.1406
621.93	87.1406
633.25	86.3754
635.95	109.4312
636.99	101.8073
645.85	91.1237
657.76	107.4547
661.66	106.6685
661.66	106.6685
664.57	0.0000
666.33	94.8546
666.50	94.8609
677.62	83.1793

685.70	83.3899
695.00	97.5681
696.49	93.8943
696.51	92.9647
697.00	92.9789
702.65	112.6990
706.68	86.7277
711.68	96.1979
720.70	77.0625
721.93	0.0000
722.78	75.5029
722.91	75.5062
723.31	80.3362
724.19	73.9286
727.33	87.2689
733.00	78.9568
735.93	101.6038
739.50	93.2355
747.24	83.0640
752.31	86.0234
753.82	82.2776
756.73	83.2949
763.94	127.0999
765.81	101.5446
766.42	95.8670
777.92	100.9428
778.90	99.0658
783.70	75.3547
785.37	74.4358
795.86	73.8360
801.95	90.8905
810.29	93.2149
810.76	98.0322
815.77	57.7454
818.51	72.2366
832.01	105.3698
834.85	84.1662
836.80	0.0000
846.77	73.7611
856.80	113.8579
860.56	59.4201
871.09	71.3069
873.19	73.3002
875.33	0.0000
879.36	64.6089
880.51	78.3366
883.24	66.6331
884.68	76.4607
889.28	84.4043
898.04	83.6096
911.20	59.2175
911.20	59.2175
911.20	59.2175
926.50	54.4920
937.49	75.5052
944.13	73.6387
946.00	69.6895
949.00	78.7091
962.29	63.9714
964.08	64.0000
966.15	64.0313
968.97	60.0708
968.97	60.0708
968.97	60.0708
983.53	80.3760
996.26	86.6666
1001.03	63.5601
1004.73	54.5273
1037.84	77.3359
1038.76	0.0000
1048.07	63.2387
1050.41	67.3562
1050.41	67.3562
1063.66	74.7228
1085.87	54.5225
1099.45	78.4183
1112.07	81.9489
1115.54	97.6311

1120.29	78.7770
1120.29	78.7770
1120.55	86.0396
1121.30	81.7578
1131.51	0.0000
1173.23	92.2539
1177.93	74.5072
1189.05	77.8361
1204.77	81.2548
1221.41	99.5346
1231.02	125.1925
1235.36	96.6320
1238.28	87.1250
1260.41	0.0000
1271.85	70.5977
1274.44	53.5095
1274.54	55.6520
1291.59	47.2477
1298.22	0.0000
1312.11	38.8125
1332.49	33.5531
1365.19	30.8051
1368.63	0.0000
1384.29	44.0297
1408.01	38.5776
1457.56	0.0000
1460.82	23.7488
1489.16	23.8682
1505.03	30.6362
1596.21	20.4199
1620.50	19.5257
1678.03	0.0000
1690.97	13.8247
1764.49	8.7408
1764.49	8.7408
1770.23	6.9988
1771.35	61.0000
1791.20	0.0000
1836.06	16.1579

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G247551002

Total Uranium Activity	3.0313E+00	ug/g
Total Uranium Counting Unc.	6.9117E+00	ug/g
Total Uranium Tpu	3.5264E-06	ug/g
Total Uranium Mda	6.2681E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 956158                          SAMPLE ID   : G247551002
*  ANALYST       : MXR1                             DETECTOR    : GAM15
*  SAMPLE DATE   : 15-FEB-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-MAR-2010 18:50:29.56           SAMPLE ALQT  : 142.370 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.073E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.530E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.958E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.930E+00

```

VAX/VMS Nuclide Identification Report Generated 4-MAR-2010 20:51:57.09

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050254.CNF;1
Sample date        : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:51:25.
Sample ID          : G1202050254 Sample quantity : 1.45780E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.65 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 956158 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	186.10*	68	109	1.31	371.24	367	12	9.42E-03	36.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 4-MAR-2010 20:51:59

```

Configuration       : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050254.CNF;1
Analyses by        : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title       : MXR1
Sample date        : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:51:25
Sample ID          : G1202050254 Sample quantity : 145.78 GRAM
Sample type        : SOLID Sample geometry :
Detector name      : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.65 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00
    
```

Full Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.60	*	-2.613E-02	1.086E-01	1.742E-01	1.262E-02	-0.150	
NA-22	1274.54	*	-3.994E-03	1.422E-02	2.216E-02	1.508E-03	-0.180	
NA-24	1368.63	*	2.392E-04	1.422E-02	Half-Life	too short		
K-40	1460.82	*	-1.953E-02	1.741E-01	2.897E-01	2.198E-02	-0.067	
SC-46	889.28	*	2.134E-03	1.554E-02	2.585E-02	2.883E-03	0.083	
	1120.55		1.553E-02	1.502E-02	2.858E-02	1.974E-03	0.543	
V-48	944.13		9.001E-02	3.083E-01	4.803E-01	5.084E-02	0.187	
	983.53	*	8.022E-03	2.124E-02	3.628E-02	3.588E-03	0.221	
	1312.11		1.315E-02	2.264E-02	4.065E-02	2.961E-03	0.323	
CR-51	320.08	*	9.797E-02	1.477E-01	2.506E-01	1.611E-02	0.391	
MN-54	834.85	*	-9.252E-03	1.408E-02	2.109E-02	2.161E-03	-0.439	
CO-56	846.77	*	8.527E-03	1.544E-02	2.699E-02	2.817E-03	0.316	
	1037.84		-4.611E-02	1.278E-01	2.046E-01	1.894E-02	-0.225	
	1238.28		-1.846E-03	2.615E-02	4.260E-02	2.840E-03	-0.043	
	1771.35		-7.849E-02	1.230E-01	1.781E-01	1.076E-02	-0.441	
CO-57	122.06	*	-4.667E-03	1.138E-02	1.770E-02	1.048E-03	-0.264	
	136.47		-3.888E-02	8.858E-02	1.362E-01	8.897E-03	-0.285	
CO-58	810.76	*	-1.015E-03	1.600E-02	2.617E-02	2.584E-03	-0.039	
FE-59	1099.45	*	1.724E-02	2.873E-02	5.186E-02	4.266E-03	0.332	
	1291.59		7.971E-03	3.951E-02	6.698E-02	5.630E-03	0.119	
CO-60	1173.23		-1.236E-02	1.445E-02	2.046E-02	1.131E-03	-0.604	
	1332.49	*	2.117E-03	1.751E-02	2.915E-02	2.202E-03	0.073	
ZN-65	1115.54	*	1.374E-02	3.011E-02	5.318E-02	3.746E-03	0.258	
SE-75	121.12		-1.886E-02	5.515E-02	8.613E-02	7.902E-03	-0.219	
	136.00		3.418E-04	1.642E-02	2.619E-02	1.492E-03	0.013	
	264.66	*	-1.315E-02	1.845E-02	2.837E-02	1.623E-03	-0.464	
	279.54		1.501E-02	4.175E-02	7.005E-02	4.333E-03	0.214	
	400.66		2.695E-02	1.045E-01	1.785E-01	1.621E-02	0.151	
SR-85	514.00	*	-2.766E-02	2.437E-02	3.711E-02	2.459E-03	-0.745	
Y-88	898.04		1.200E-03	2.006E-02	3.113E-02	3.529E-03	0.039	
	1836.06	*	-4.089E-04	1.949E-02	3.181E-02	1.812E-03	-0.013	
Y-91	1204.77	*	-4.710E+00	6.824E+00	1.006E+01	5.944E-01	-0.468	
NB-94	702.65	*	-1.056E-02	1.430E-02	2.202E-02	1.806E-03	-0.479	
	871.09		-3.174E-03	1.430E-02	2.275E-02	2.467E-03	-0.140	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	765.81	*		5.203E-03	1.424E-02	2.460E-02	2.250E-03	0.211
NB-95M	235.69	*		-8.877E-02	4.830E-02	6.794E-02	5.002E-03	-1.307
ZR-95	724.19			-3.462E-03	3.114E-02	5.116E-02	4.735E-03	-0.068
	756.73	*		1.743E-02	2.721E-02	4.826E-02	4.766E-03	0.361
MO-99	140.51			5.988E-01	2.592E+00	4.000E+00	9.121E-01	0.150
	181.07			1.541E+00	1.829E+00	2.914E+00	5.104E-01	0.529
	366.42			-4.334E+00	1.050E+01	1.706E+01	9.853E-01	-0.254
	739.50	*		-5.992E-01	1.264E+00	1.975E+00	3.126E-01	-0.303
	777.92			-1.821E+00	3.998E+00	6.263E+00	5.847E-01	-0.291
TC-99M	140.51	*		1.582E+03	3.998E+00	Half-Life	too short	
RU-103	497.08	*		7.803E-04	1.464E-02	2.420E-02	3.090E-03	0.032
	610.33			-2.705E-01	3.898E-01	6.000E-01	9.409E-02	-0.451
RH-106	621.93	*		-2.788E-03	1.396E-01	2.246E-01	2.801E-02	-0.012
	1050.41			-2.576E-01	1.068E+00	1.732E+00	1.481E-01	-0.149
RU-106	621.93	*		-2.788E-03	1.396E-01	2.246E-01	1.653E-02	-0.012
	1050.41			-2.576E-01	1.068E+00	1.732E+00	1.481E-01	-0.149
AG-108M	433.94	*		-7.473E-04	1.292E-02	2.137E-02	1.378E-03	-0.035
	614.28			3.447E-04	1.812E-02	2.930E-02	2.238E-03	0.012
	722.91			-1.437E-02	1.384E-02	1.996E-02	1.753E-03	-0.720
CD-109	88.03	*		-3.125E-02	3.230E-01	5.255E-01	4.858E-02	-0.059
AG-110M	657.76	*		-8.533E-03	1.186E-02	1.806E-02	1.424E-03	-0.473
	677.62			6.416E-02	1.190E-01	2.107E-01	1.710E-02	0.305
	706.68			8.996E-02	8.686E-02	1.591E-01	1.356E-02	0.565
	763.94			1.395E-03	5.886E-02	9.781E-02	9.138E-03	0.014
	884.68			-4.638E-03	1.987E-02	3.147E-02	3.553E-03	-0.147
	937.49			9.055E-03	4.822E-02	8.020E-02	8.778E-03	0.113
	1384.29			2.821E-03	5.926E-02	9.739E-02	7.536E-03	0.029
	1505.03			-6.562E-02	1.080E-01	1.590E-01	1.142E-02	-0.413
SN-113	391.69	*		7.989E-03	1.651E-02	2.887E-02	1.771E-03	0.277
CD-115	260.90			9.168E+00	1.135E+01	1.970E+01	1.112E+00	0.465
	492.35			-1.690E-01	3.067E+00	5.018E+00	3.249E-01	-0.034
	527.90	*		-9.963E-02	9.112E-01	1.473E+00	9.898E-02	-0.068
SN-117M	156.02			-5.275E-01	6.683E-01	1.072E+00	5.727E-02	-0.492
	158.56	*		5.761E-03	1.624E-02	2.815E-02	1.496E-03	0.205
TE-123M	159.00	*		7.490E-03	1.051E-02	1.863E-02	1.005E-03	0.402
SB-124	602.73			6.910E-03	1.799E-02	3.007E-02	2.175E-03	0.230
	645.85			-4.120E-02	1.804E-01	2.810E-01	2.271E-02	-0.147
	722.78			-1.295E-01	1.314E-01	1.914E-01	1.665E-02	-0.677
	1690.97	*		2.509E-02	3.750E-02	6.907E-02	4.783E-03	0.363
SB-125	427.87	*		4.034E-02	3.872E-02	6.999E-02	4.368E-03	0.576
	463.37			-4.167E-02	1.131E-01	1.805E-01	1.288E-02	-0.231
	600.60			-2.742E-04	9.071E-02	1.466E-01	1.168E-02	-0.002
	635.95			-2.695E-02	1.157E-01	1.810E-01	1.494E-02	-0.149
TE-125M	109.28	*		-1.092E+00	3.790E+00	5.987E+00	5.361E-01	-0.182
I-126	388.63			1.919E-02	4.945E-02	8.573E-02	4.927E-03	0.224
	666.33	*		2.292E-02	6.820E-02	1.181E-01	9.080E-03	0.194
	753.82			-1.142E-02	5.764E-01	9.542E-01	8.553E-02	-0.012
SB-126	414.70			1.092E-02	2.233E-02	3.887E-02	2.299E-03	0.281
	666.50			7.335E-03	2.305E-02	3.986E-02	3.065E-03	0.184

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	695.00			1.898E-02	2.479E-02	4.435E-02	3.590E-03	0.428
	697.00			3.330E-02	8.185E-02	1.422E-01	1.155E-02	0.234
	720.70	*	-2.957E-02	4.071E-02	6.173E-02	5.227E-03	-0.479	
	856.80		1.728E-02	1.525E-01	2.533E-01	2.686E-02	0.068	
SN-126	64.28		8.546E-02	2.772E-01	4.530E-01	6.696E-02	0.189	
	86.94		6.635E-02	1.362E-01	2.260E-01	9.372E-02	0.294	
	87.57	*	1.048E-02	3.221E-02	5.389E-02	4.965E-03	0.194	
SB-127	252.40		-1.496E-01	7.432E-01	1.197E+00	4.867E-01	-0.125	
	473.00		-4.916E-02	2.284E-01	3.678E-01	3.673E-02	-0.134	
	685.70	*	-7.530E-02	2.008E-01	3.216E-01	3.037E-02	-0.234	
	783.70		3.772E-01	5.551E-01	9.824E-01	1.154E-01	0.384	
I-131	80.19		-9.711E-01	1.131E+00	1.739E+00	1.511E-01	-0.558	
	284.31		7.788E-03	3.760E-01	6.124E-01	3.867E-02	0.013	
	364.49	*	-4.614E-03	2.925E-02	4.862E-02	3.116E-03	-0.095	
	636.99		2.028E-01	4.004E-01	6.827E-01	5.455E-02	0.297	
TE-132	49.72		6.661E-01	3.991E+00	6.805E+00	6.096E-01	0.098	
	111.76		1.223E+00	4.649E+00	7.302E+00	5.761E-01	0.167	
	116.30		-3.060E+00	4.017E+00	6.080E+00	4.650E-01	-0.503	
	228.16	*	7.304E-02	1.035E-01	1.680E-01	2.249E-02	0.435	
BA-133	81.00		-2.233E-02	3.647E-02	5.703E-02	8.880E-03	-0.392	
	276.40		-1.944E-03	1.354E-01	2.204E-01	2.763E-02	-0.009	
	302.85		2.226E-02	5.843E-02	9.749E-02	1.109E-02	0.228	
	356.01	*	-1.475E-02	1.856E-02	2.723E-02	3.067E-03	-0.542	
	383.85		-6.032E-03	1.112E-01	1.857E-01	1.976E-02	-0.032	
I-133	529.87	*	5.115E-06	1.112E-01	Half-Life	too short		
	875.33		2.050E-04	1.112E-01	Half-Life	too short		
	1298.22		1.435E-04	1.112E-01	Half-Life	too short		
CS-134	563.25		-1.624E-02	1.498E-01	2.408E-01	1.701E-02	-0.067	
	569.33		3.535E-02	9.476E-02	1.530E-01	1.094E-02	0.231	
	604.72		-1.079E-02	1.792E-02	2.744E-02	1.995E-03	-0.393	
	795.86	*	3.730E-03	1.866E-02	3.151E-02	3.048E-03	0.118	
	801.95		-4.703E-02	1.965E-01	3.130E-01	3.054E-02	-0.150	
CS-135	1365.19		-3.895E-01	5.426E-01	7.719E-01	6.145E-02	-0.505	
	268.22	*	-1.464E-02	5.970E-02	9.538E-02	7.210E-03	-0.153	
I-135	546.56		2.460E+03	5.970E-02	Half-Life	too short		
	836.80		-7.153E+03	5.970E-02	Half-Life	too short		
	1038.76		-1.427E+03	5.970E-02	Half-Life	too short		
	1131.51		2.605E+03	5.970E-02	Half-Life	too short		
	1260.41	*	-5.214E+02	5.970E-02	Half-Life	too short		
	1457.56		5.537E+03	5.970E-02	Half-Life	too short		
	1678.03		3.156E+03	5.970E-02	Half-Life	too short		
	1791.20		-1.382E+04	5.970E-02	Half-Life	too short		
CS-136	153.25		2.303E-02	2.454E-01	4.193E-01	3.244E-02	0.055	
	176.60		7.819E-03	1.444E-01	2.438E-01	1.616E-02	0.032	
	273.65		6.583E-02	1.519E-01	2.565E-01	1.728E-02	0.257	
	340.55		-3.351E-02	4.291E-02	6.337E-02	3.965E-03	-0.529	
	818.51		6.473E-03	2.174E-02	3.716E-02	3.709E-03	0.174	
	1048.07	*	1.015E-02	3.554E-02	6.133E-02	5.492E-03	0.166	
	1235.36		-1.097E-02	1.480E-01	2.412E-01	2.456E-02	-0.045	

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BA-137M	661.66	*		-3.735E-03	1.245E-02	2.014E-02	1.535E-03	-0.185
CS-137	661.66	*		-3.946E-03	1.316E-02	2.127E-02	1.625E-03	-0.185
CE-139	165.86	*		3.280E-03	1.172E-02	2.015E-02	1.058E-03	0.163
BA-140	162.66			-2.364E-01	2.507E-01	3.816E-01	2.358E-02	-0.620
	304.85			-2.013E-01	4.501E-01	6.945E-01	1.983E-01	-0.290
	423.72			-1.083E-01	6.388E-01	1.047E+00	3.382E-01	-0.103
	537.26	*		2.854E-02	7.568E-02	1.280E-01	4.287E-02	0.223
LA-140	328.76			-1.663E-02	9.449E-02	1.495E-01	9.704E-03	-0.111
	487.02			-7.660E-03	4.154E-02	6.707E-02	4.785E-03	-0.114
	815.77			-1.619E-03	9.836E-02	1.617E-01	1.750E-02	-0.010
	1596.21	*		1.286E-02	2.517E-02	4.578E-02	3.142E-03	0.281
CE-141	145.44	*		-4.145E-03	2.196E-02	3.425E-02	1.956E-03	-0.121
CE-143	57.36			-6.198E+01	4.322E+01	6.255E+01	6.113E+00	-0.991
	293.27	*		3.231E+00	3.324E+00	5.739E+00	1.174E+00	0.563
	664.57			-4.236E+00	3.066E+01	5.062E+01	1.506E+01	-0.084
	721.93			-2.482E+01	3.360E+01	4.973E+01	1.391E+01	-0.499
CE-144	80.12			-7.319E-01	9.532E-01	1.477E+00	1.279E-01	-0.496
	133.52	*		1.387E-02	8.405E-02	1.357E-01	1.877E-02	0.102
PM-144	476.78			1.172E-02	2.278E-02	3.972E-02	2.915E-03	0.295
	618.01			1.731E-03	1.489E-02	2.429E-02	1.849E-03	0.071
	696.49	*		7.573E-03	1.450E-02	2.542E-02	2.063E-03	0.298
PR-144	696.51	*		5.629E-01	1.082E+00	1.896E+00	1.539E-01	0.297
	1489.16			3.983E+00	6.107E+00	1.094E+01	7.905E-01	0.364
PM-146	453.88	*		1.078E-03	1.697E-02	2.827E-02	2.470E-03	0.038
	633.25			1.171E-01	5.764E-01	9.476E-01	3.596E-01	0.124
	735.93			3.762E-03	6.051E-02	1.013E-01	2.840E-02	0.037
	747.24			1.547E-02	4.072E-02	7.027E-02	1.035E-02	0.220
ND-147	91.11			-4.138E-02	8.633E-02	1.368E-01	1.288E-02	-0.302
	319.41			-5.868E-01	1.128E+00	1.738E+00	1.004E-01	-0.338
	531.02	*		-8.193E-02	1.636E-01	2.518E-01	3.513E-02	-0.325
PM-149	285.90	*		1.686E+00	6.702E+00	1.113E+01	1.573E+00	0.151
EU-152	121.78			9.692E-04	3.121E-02	5.021E-02	3.855E-03	0.019
	244.70			4.448E-02	1.281E-01	2.163E-01	1.208E-02	0.206
	344.28	*		1.356E-02	4.029E-02	6.656E-02	4.340E-03	0.204
	778.90			-3.545E-02	1.134E-01	1.811E-01	1.693E-02	-0.196
	964.08			-6.203E-02	1.271E-01	1.802E-01	1.846E-02	-0.344
	1085.87			-1.963E-02	1.336E-01	2.178E-01	1.688E-02	-0.090
	1112.07			-1.201E-01	1.075E-01	1.471E-01	1.047E-02	-0.816
	1408.01			-8.315E-02	8.213E-02	1.093E-01	8.120E-03	-0.761
GD-153	69.67			1.360E-01	8.226E-01	1.280E+00	1.039E-01	0.106
	97.43	*		-1.724E-02	3.729E-02	5.659E-02	4.425E-03	-0.305
	103.18			4.851E-03	4.584E-02	7.495E-02	5.405E-03	0.065
EU-154	123.07			5.242E-03	2.175E-02	3.553E-02	3.355E-03	0.148
	723.31			-7.255E-02	6.184E-02	8.686E-02	8.157E-03	-0.835
	873.19			-1.957E-02	1.128E-01	1.802E-01	2.455E-02	-0.109
	996.26			4.228E-02	1.471E-01	2.467E-01	4.441E-02	0.171
	1004.73			-5.747E-02	7.969E-02	1.133E-01	1.392E-02	-0.507
	1274.44	*		-1.084E-02	4.048E-02	6.327E-02	6.368E-03	-0.171
EU-155	86.55			1.165E-02	3.962E-02	6.620E-02	6.099E-03	0.176

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TB-160	105.31	*		1.037E-02	4.271E-02	7.049E-02	5.037E-03	0.147
	86.79			4.883E-02	9.840E-02	1.665E-01	1.523E-02	0.293
	197.04			1.430E-02	2.158E-01	3.621E-01	1.945E-02	0.039
	215.65			-6.793E-02	2.680E-01	4.360E-01	2.380E-02	-0.156
	298.57			-3.537E-02	4.390E-02	6.603E-02	3.793E-03	-0.536
	879.36	*		1.720E-02	5.308E-02	9.046E-02	9.937E-03	0.190
	962.29			1.713E-02	2.288E-01	3.510E-01	3.606E-02	0.049
	966.15			5.139E-02	7.539E-02	1.319E-01	1.346E-02	0.390
	1177.93			5.762E-02	1.101E-01	1.964E-01	1.096E-02	0.293
	1271.85			1.202E-01	2.191E-01	3.928E-01	2.655E-02	0.306
HO-166M	80.57			-6.870E-02	1.056E-01	1.652E-01	1.436E-02	-0.416
	184.41			4.128E-02	1.497E-02	2.697E-02	1.433E-03	1.531
	280.46			1.353E-02	3.378E-02	5.684E-02	3.242E-03	0.238
	410.95			6.382E-02	9.744E-02	1.718E-01	1.011E-02	0.371
	711.68	*		-1.976E-02	2.656E-02	3.857E-02	3.215E-03	-0.512
	752.31			5.037E-05	1.125E-01	1.867E-01	1.669E-02	0.000
	810.29			-3.277E-04	2.519E-02	4.146E-02	4.082E-03	-0.008
	67.75			-4.359E-02	5.479E-02	8.443E-02	6.786E-03	-0.516
	100.11			-8.599E-03	7.319E-02	1.179E-01	8.862E-03	-0.073
	152.43			7.119E-02	1.392E-01	2.288E-01	1.231E-02	0.311
TA-182	222.11			5.162E-02	1.397E-01	2.375E-01	1.303E-02	0.217
	1121.30			6.842E-03	4.416E-02	7.502E-02	5.168E-03	0.091
	1189.05			4.697E-02	1.082E-01	1.892E-01	1.082E-02	0.248
	1221.41	*		-3.290E-02	6.458E-02	9.839E-02	6.019E-03	-0.334
	1231.02			1.086E-01	1.676E-01	2.984E-01	1.861E-02	0.364
	295.96			-2.817E-02	4.462E-02	6.541E-02	3.815E-03	-0.431
	308.46			2.397E-02	3.782E-02	6.451E-02	3.758E-03	0.372
	316.51	*		1.143E-03	1.516E-02	2.459E-02	1.426E-03	0.046
	468.07			1.737E-02	2.472E-02	4.364E-02	3.114E-03	0.398
	70.83			-3.393E-01	5.867E-01	8.603E-01	1.361E-01	-0.394
HG-203	72.87			-6.445E-02	3.094E-01	5.048E-01	7.742E-02	-0.128
	279.20	*		4.368E-03	1.381E-02	2.310E-02	1.393E-03	0.189
BI-207	72.81			-1.582E-02	7.749E-02	1.265E-01	1.044E-02	-0.125
	74.97			-1.386E-02	4.842E-02	7.476E-02	6.250E-03	-0.185
	569.70			8.829E-03	1.496E-02	2.464E-02	1.727E-03	0.358
	1063.66	*		-1.240E-03	2.178E-02	3.612E-02	2.981E-03	-0.034
TL-208	1770.23			-6.263E-02	2.475E-01	3.880E-01	2.347E-02	-0.161
	277.37			-1.057E-01	1.542E-01	2.355E-01	2.526E-02	-0.449
	583.19	*		-2.966E-03	1.782E-02	2.869E-02	2.245E-03	-0.103
	860.56			6.218E-02	1.266E-01	2.185E-01	2.444E-02	0.285
PB-210	46.54	*		1.045E+00	2.571E+00	4.458E+00	3.417E-01	0.234
BI-211	72.87			-2.802E-01	1.345E+00	2.195E+00	1.812E-01	-0.128
	351.06	*		-3.299E-02	1.038E-01	1.605E-01	1.031E-02	-0.206
PB-211	404.85	*		-2.615E-01	3.130E-01	4.388E-01	2.105E-01	-0.596
	427.09			3.576E-01	6.954E-01	1.174E+00	5.385E-01	0.304
	832.01			2.878E-01	4.119E-01	6.884E-01	3.589E-01	0.418
BI-212	727.33	*		-1.680E-01	2.447E-01	3.436E-01	4.268E-02	-0.489
	785.37			6.107E-01	1.267E+00	2.206E+00	2.085E-01	0.277
	1620.50			3.424E-02	8.699E-01	1.455E+00	9.840E-02	0.024

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PB-212	74.82			-4.680E-02	1.689E-01	2.609E-01	3.345E-02	-0.179
	77.11			6.421E-03	9.147E-02	1.460E-01	1.237E-02	0.044
	238.63	*		-2.232E-02	2.737E-02	4.449E-02	3.207E-03	-0.502
	300.09			1.377E-01	3.181E-01	5.337E-01	4.457E-02	0.258
BI-214	609.32	*		-2.889E-02	4.078E-02	6.293E-02	5.656E-03	-0.459
	1120.29			9.193E-02	9.668E-02	1.811E-01	1.744E-02	0.508
	1764.49			-5.213E-02	1.360E-01	2.119E-01	1.289E-02	-0.246
	74.82			-8.296E-02	2.993E-01	4.624E-01	5.326E-02	-0.179
PB-214	77.11			1.132E-02	1.612E-01	2.574E-01	3.044E-02	0.044
	242.00			-2.995E-01	1.677E-01	2.247E-01	1.806E-02	-1.333
	295.22			-6.671E-02	6.488E-02	9.155E-02	7.947E-03	-0.729
	351.93	*		5.562E-03	3.742E-02	6.009E-02	5.087E-03	0.093
RN-219	271.23			-1.131E-03	9.600E-02	1.565E-01	1.243E-02	-0.007
	401.81	*		1.377E-01	1.648E-01	2.936E-01	3.947E-02	0.469
RA-223	81.07			-5.271E-02	8.226E-02	1.287E-01	1.122E-02	-0.410
	83.79			1.733E-02	4.922E-02	8.276E-02	7.378E-03	0.209
	94.87			-4.617E-01	2.205E-01	3.052E-01	2.486E-02	-1.513
	144.24			-7.766E-02	2.934E-01	4.235E-01	2.945E-02	-0.183
	154.21			2.072E-02	1.498E-01	2.565E-01	1.694E-02	0.081
	269.46			4.289E-02	7.044E-02	1.207E-01	7.160E-03	0.355
	323.87	*		1.143E-01	2.898E-01	4.807E-01	7.744E-02	0.238
	338.28			1.235E-01	4.026E-01	6.521E-01	6.679E-02	0.189
RA-224	240.99	*		-2.752E-01	2.855E-01	4.130E-01	2.301E-02	-0.666
RA-226	609.32	*		-2.889E-02	4.078E-02	6.293E-02	5.656E-03	-0.459
	1120.29			9.193E-02	9.668E-02	1.811E-01	1.744E-02	0.508
	1764.49			-5.213E-02	1.360E-01	2.119E-01	1.289E-02	-0.246
AC-227	79.69			-2.618E-01	4.876E-01	7.683E-01	1.325E-01	-0.341
	235.96			-8.095E-02	6.095E-02	9.009E-02	7.176E-03	-0.898
	256.23	*		4.130E-02	1.110E-01	1.869E-01	1.893E-02	0.221
	299.98			1.514E-01	3.499E-01	5.869E-01	6.433E-02	0.258
	304.50			-1.635E-01	7.080E-01	1.122E+00	1.709E-01	-0.146
	334.37			-4.806E-01	7.034E-01	1.049E+00	1.491E-01	-0.458
TH-227	79.80			-4.158E-01	6.473E-01	1.006E+00	2.191E-01	-0.413
	235.96			-8.095E-02	6.089E-02	9.009E-02	6.478E-03	-0.898
	256.23	*		4.130E-02	1.110E-01	1.869E-01	2.231E-02	0.221
	299.98			1.514E-01	3.499E-01	5.869E-01	6.433E-02	0.258
	304.50			-1.635E-01	7.080E-01	1.122E+00	1.709E-01	-0.146
	334.37			-4.806E-01	7.034E-01	1.049E+00	1.491E-01	-0.458
AC-228	338.32			3.210E-02	1.024E-01	1.646E-01	6.786E-02	0.195
	911.20	*		4.306E-02	7.121E-02	1.208E-01	1.636E-02	0.357
	968.97			-1.294E-01	1.171E-01	1.609E-01	4.014E-02	-0.804
RA-228	338.32			3.210E-02	1.024E-01	1.646E-01	6.786E-02	0.195
	911.20	*		4.306E-02	7.121E-02	1.208E-01	1.636E-02	0.357
	968.97			-1.294E-01	1.171E-01	1.609E-01	4.014E-02	-0.804
TH-228	74.82			-4.680E-02	1.688E-01	2.609E-01	2.200E-02	-0.179
	77.11			6.421E-03	9.147E-02	1.460E-01	1.237E-02	0.044
	238.63	*		-2.232E-02	2.737E-02	4.449E-02	3.207E-03	-0.502
TH-229	300.09			1.377E-01	3.287E-01	5.337E-01	3.249E-01	0.258
	85.43			3.367E-02	8.516E-02	1.432E-01	1.295E-02	0.235

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		88.47		-5.531E-03	4.806E-02	7.805E-02	7.150E-03	-0.071
		193.51	*	2.030E-01	2.101E-01	3.643E-01	1.951E-02	0.557
		210.85		-1.399E-02	3.139E-01	5.199E-01	2.826E-02	-0.027
PA-231		283.69	*	1.951E-01	5.856E-01	9.788E-01	1.280E-01	0.199
		301.36		2.230E-02	2.308E-01	3.766E-01	3.884E-02	0.059
TH-231		81.07		-5.271E-02	8.226E-02	1.287E-01	1.122E-02	-0.410
		83.79		1.733E-02	4.922E-02	8.276E-02	7.378E-03	0.209
		94.87		-4.617E-01	2.205E-01	3.052E-01	2.486E-02	-1.513
		144.24		-7.766E-02	2.934E-01	4.235E-01	2.945E-02	-0.183
		154.21		2.072E-02	1.498E-01	2.565E-01	1.694E-02	0.081
		269.46		4.289E-02	7.044E-02	1.207E-01	7.160E-03	0.355
		323.87	*	1.143E-01	2.898E-01	4.807E-01	7.744E-02	0.238
		338.28		1.235E-01	4.026E-01	6.521E-01	6.679E-02	0.189
TH-232		338.32		3.210E-02	1.015E-01	1.646E-01	9.523E-03	0.195
		911.20	*	4.306E-02	7.121E-02	1.208E-01	1.636E-02	0.357
		968.97		-1.294E-01	1.171E-01	1.609E-01	4.014E-02	-0.804
PA-233		300.13		6.855E-02	1.585E-01	2.657E-01	3.551E-02	0.258
		311.90	*	-4.896E-02	2.888E-02	3.902E-02	2.391E-03	-1.255
		340.48		-7.900E-02	2.335E-01	3.602E-01	8.359E-02	-0.219
PA-234		94.67		-7.823E-02	7.579E-02	1.142E-01	1.382E-02	-0.685
		98.44		1.139E-03	4.004E-02	6.301E-02	3.507E-02	0.018
		111.00		-3.590E-02	8.328E-02	1.239E-01	1.329E-02	-0.290
		131.20		-1.194E-02	4.287E-02	6.690E-02	3.808E-03	-0.178
		569.50		6.668E-02	1.318E-01	2.154E-01	1.509E-02	0.310
		733.00		4.558E-02	1.616E-01	2.760E-01	6.129E-02	0.165
		880.51		4.537E-02	1.057E-01	1.830E-01	2.014E-02	0.248
		883.24		3.169E-02	1.165E-01	1.940E-01	1.311E-01	0.163
		926.50		1.333E-02	6.693E-02	1.119E-01	2.924E-02	0.119
		946.00	*	3.317E-02	1.296E-01	2.002E-01	3.949E-02	0.166
		949.00		-1.405E-01	1.874E-01	2.718E-01	2.854E-02	-0.517
PA-234M		766.42		-4.149E-01	4.005E+00	6.540E+00	3.325E+00	-0.063
		1001.03	*	1.112E+00	1.924E+00	3.066E+00	3.308E-01	0.363
TH-234		63.29	*	-2.902E-01	7.509E-01	1.174E+00	2.114E-01	-0.247
		92.59		3.328E-02	3.253E-01	5.523E-01	1.216E-01	0.060
U-235		89.96		-9.959E-01	4.444E-01	4.959E-01	1.225E-01	-2.008
		93.35		2.393E-02	2.452E-01	4.159E-01	9.565E-02	0.058
		143.76	*	-2.079E-02	8.719E-02	1.260E-01	1.965E-02	-0.165
		163.33		-2.384E-01	1.854E-01	2.685E-01	4.458E-02	-0.888
	+	185.72		3.992E-02	2.896E-02	3.660E-02	1.947E-03	1.091
		205.31		-9.711E-02	1.893E-01	2.892E-01	4.875E-02	-0.336
NP-237		86.48	*	2.966E-02	9.806E-02	1.636E-01	3.742E-02	0.181
		95.86		-4.016E-01	4.255E-01	6.303E-01	1.499E-01	-0.637
U-238		63.29	*	-2.902E-01	7.509E-01	1.174E+00	2.114E-01	-0.247
		92.59		3.328E-02	3.252E-01	5.523E-01	4.677E-02	0.060
NP-239		99.53		-1.167E-02	7.334E-02	1.139E-01	8.630E-03	-0.102
		103.37		1.805E-02	4.140E-02	6.935E-02	4.989E-03	0.260
		106.12		-4.008E-04	3.420E-02	5.532E-02	3.846E-03	-0.007
		117.23	*	7.393E-02	1.654E-01	2.753E-01	1.700E-02	0.269
		228.18		6.827E-02	9.693E-02	1.578E-01	8.705E-03	0.433

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241	277.60			-4.966E-02	7.026E-02	1.073E-01	6.113E-03	-0.463
	59.54		*	3.387E-03	8.216E-02	1.337E-01	1.109E-02	0.025
CM-247	278.00			-3.118E-01	3.033E-01	4.490E-01	2.558E-02	-0.694
	287.50			-4.460E-01	4.971E-01	7.395E-01	4.230E-02	-0.603
	402.40		*	7.075E-03	1.500E-02	2.610E-02	1.520E-03	0.271
CF-249	252.80			-9.027E-02	4.319E-01	6.976E-01	3.918E-02	-0.129
	333.37			-2.756E-02	7.255E-02	1.122E-01	6.487E-03	-0.246
	388.16		*	2.286E-02	1.519E-02	2.870E-02	1.650E-03	0.796
CF-251	177.52		*	-1.955E-03	4.796E-02	8.042E-02	4.250E-03	-0.024
	227.38			1.349E-01	1.466E-01	2.578E-01	1.421E-02	0.524
	285.41			7.753E-02	8.661E-01	1.419E+00	8.110E-02	0.055
ANH-511	511.00		*	-3.145E-02	2.490E-02	4.602E-02	3.039E-03	-0.684

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]G1202050254      *
* Acquisition date   : 4-MAR-2010 18:51:25 Detector SN#                   *
* Detector ID        : GAM18                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance : 1.500      *
* Elapsed live time   : 0 02:00:00.00                               Abundance limit : 75.000      *
* Elapsed real time   : 0 02:00:00.65                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 23-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202050254                               Analyst initials: MXR1        *
* Batch Number       : 956158                                   Sample Quantity : 1.4578E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                         *
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope                 : *
* MSD DPM            : 0.000                                           MSD Isotope       : *
* LCS DPM            : 0.000                                           LCS Isotope       : *
* LCSD DPM           : 0.000                                           LCSD Isotope      : *
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Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.613E-02	1.065E-01	1.798E-01	0.000E+00 NOT IDENT.
NA-22	-3.994E-03	1.393E-02	2.236E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	8.603E+02	0.000E+00	0.000E+00 SHORT HLIF
K-40	-1.953E-02	1.707E-01	2.913E-01	0.000E+00 NOT IDENT.
SC-46	2.134E-03	1.523E-02	2.630E-02	0.000E+00 NOT IDENT.
V-48	8.022E-03	2.082E-02	3.682E-02	0.000E+00 NOT IDENT.
CR-51	9.797E-02	1.447E-01	2.610E-01	0.000E+00 NOT IDENT.
MN-54	-9.252E-03	1.379E-02	2.149E-02	0.000E+00 NOT IDENT.
CO-56	8.527E-03	1.513E-02	2.749E-02	0.000E+00 NOT IDENT.
CO-57	-4.667E-03	1.115E-02	1.882E-02	0.000E+00 NOT IDENT.
CO-58	-1.015E-03	1.568E-02	2.669E-02	0.000E+00 NOT IDENT.
FE-59	1.724E-02	2.815E-02	5.250E-02	0.000E+00 NOT IDENT.
CO-60	2.117E-03	1.716E-02	2.937E-02	0.000E+00 NOT IDENT.
ZN-65	1.374E-02	2.951E-02	5.382E-02	0.000E+00 NOT IDENT.
SE-75	-1.315E-02	1.808E-02	2.967E-02	0.000E+00 NOT IDENT.
SR-85	-2.766E-02	2.388E-02	3.824E-02	0.000E+00 NOT IDENT.
Y-88	-4.089E-04	1.910E-02	3.182E-02	0.000E+00 NOT IDENT.
Y-91	-4.710E+00	6.688E+00	1.016E+01	0.000E+00 NOT IDENT.
NB-94	-1.056E-02	1.402E-02	2.252E-02	0.000E+00 NOT IDENT.
NB-95	5.203E-03	1.395E-02	2.512E-02	0.000E+00 NOT IDENT.
NB-95M	-8.877E-02	4.733E-02	7.124E-02	0.000E+00 NOT IDENT.
ZR-95	1.743E-02	2.666E-02	4.929E-02	0.000E+00 NOT IDENT.
MO-99	-5.992E-01	1.239E+00	2.018E+00	0.000E+00 NOT IDENT.
TC-99M	0.000E+00	6.706E+09	0.000E+00	0.000E+00 SHORT HLIF
RU-103	7.803E-04	1.434E-02	2.495E-02	0.000E+00 NOT IDENT.
RH-106	-2.788E-03	1.368E-01	2.304E-01	0.000E+00 NOT IDENT.

RU-106	-2.788E-03	1.368E-01	2.304E-01	0.000E+00	NOT IDENT.
AG-108M	-7.473E-04	1.266E-02	2.211E-02	0.000E+00	NOT IDENT.
CD-109	-3.125E-02	3.166E-01	5.628E-01	0.000E+00	NOT IDENT.
AG-110M	-8.533E-03	1.162E-02	1.850E-02	0.000E+00	NOT IDENT.
SN-113	7.989E-03	1.618E-02	2.993E-02	0.000E+00	NOT IDENT.
CD-115	-9.963E-02	8.929E-01	1.517E+00	0.000E+00	NOT IDENT.
SN-117M	5.761E-03	1.591E-02	2.977E-02	0.000E+00	NOT IDENT.
TE-123M	7.490E-03	1.030E-02	1.970E-02	0.000E+00	NOT IDENT.
SB-124	2.509E-02	3.675E-02	6.921E-02	0.000E+00	NOT IDENT.
SB-125	4.034E-02	3.794E-02	7.242E-02	0.000E+00	NOT IDENT.
TE-125M	-1.092E+00	3.715E+00	6.383E+00	0.000E+00	NOT IDENT.
I-126	2.292E-02	6.683E-02	1.210E-01	0.000E+00	NOT IDENT.
SB-126	-2.957E-02	3.990E-02	6.312E-02	0.000E+00	NOT IDENT.
SN-126	1.048E-02	3.156E-02	5.773E-02	0.000E+00	NOT IDENT.
SB-127	-7.530E-02	1.968E-01	3.292E-01	0.000E+00	NOT IDENT.
I-131	-4.614E-03	2.866E-02	5.049E-02	0.000E+00	NOT IDENT.
TE-132	7.304E-02	1.015E-01	1.763E-01	0.000E+00	NOT IDENT.
BA-133	-1.475E-02	1.819E-02	2.829E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.423E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.730E-03	1.829E-02	3.214E-02	0.000E+00	NOT IDENT.
CS-135	-1.464E-02	5.850E-02	9.973E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.471E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.015E-02	3.483E-02	6.216E-02	0.000E+00	NOT IDENT.
BA-137M	-3.735E-03	1.220E-02	2.063E-02	0.000E+00	NOT IDENT.
CS-137	-3.946E-03	1.289E-02	2.179E-02	0.000E+00	NOT IDENT.
CE-139	3.280E-03	1.149E-02	2.130E-02	0.000E+00	NOT IDENT.
BA-140	2.854E-02	7.416E-02	1.317E-01	0.000E+00	NOT IDENT.
LA-140	1.286E-02	2.466E-02	4.594E-02	0.000E+00	NOT IDENT.
CE-141	-4.145E-03	2.152E-02	3.629E-02	0.000E+00	NOT IDENT.
CE-143	3.231E+00	3.258E+00	5.989E+00	0.000E+00	NOT IDENT.
CE-144	1.387E-02	8.237E-02	1.441E-01	0.000E+00	NOT IDENT.
PM-144	7.573E-03	1.421E-02	2.601E-02	0.000E+00	NOT IDENT.
PR-144	5.629E-01	1.060E+00	1.940E+00	0.000E+00	NOT IDENT.
PM-146	1.078E-03	1.663E-02	2.921E-02	0.000E+00	NOT IDENT.
ND-147	-8.193E-02	1.604E-01	2.593E-01	0.000E+00	NOT IDENT.
PM-149	1.686E+00	6.568E+00	1.162E+01	0.000E+00	NOT IDENT.
EU-152	1.356E-02	3.949E-02	6.920E-02	0.000E+00	NOT IDENT.
GD-153	-1.724E-02	3.655E-02	6.049E-02	0.000E+00	NOT IDENT.
EU-154	-1.084E-02	3.967E-02	6.383E-02	0.000E+00	NOT IDENT.
EU-155	1.037E-02	4.186E-02	7.522E-02	0.000E+00	NOT IDENT.
TB-160	1.720E-02	5.202E-02	9.206E-02	0.000E+00	NOT IDENT.
HO-166M	-1.976E-02	2.603E-02	3.944E-02	0.000E+00	NOT IDENT.
TA-182	-3.290E-02	6.329E-02	9.936E-02	0.000E+00	NOT IDENT.
IR-192	1.143E-03	1.485E-02	2.562E-02	0.000E+00	NOT IDENT.
HG-203	4.368E-03	1.354E-02	2.414E-02	0.000E+00	NOT IDENT.
BI-207	-1.240E-03	2.134E-02	3.660E-02	0.000E+00	NOT IDENT.
TL-208	-2.966E-03	1.746E-02	2.948E-02	0.000E+00	NOT IDENT.
PB-210	1.045E+00	2.520E+00	4.838E+00	0.000E+00	NOT IDENT.
BI-211	-3.299E-02	1.017E-01	1.668E-01	0.000E+00	NOT IDENT.
PB-211	-2.615E-01	3.067E-01	4.546E-01	0.000E+00	NOT IDENT.
BI-212	-1.680E-01	2.398E-01	3.512E-01	0.000E+00	NOT IDENT.
PB-212	-2.232E-02	2.682E-02	4.664E-02	0.000E+00	NOT IDENT.
BI-214	-2.889E-02	3.996E-02	6.459E-02	0.000E+00	NOT IDENT.
PB-214	5.562E-03	3.668E-02	6.245E-02	0.000E+00	NOT IDENT.
RN-219	1.377E-01	1.615E-01	3.042E-01	0.000E+00	NOT IDENT.
RA-223	1.143E-01	2.840E-01	5.005E-01	0.000E+00	NOT IDENT.
RA-224	-2.752E-01	2.798E-01	4.329E-01	0.000E+00	NOT IDENT.
RA-226	-2.889E-02	3.996E-02	6.459E-02	0.000E+00	NOT IDENT.
AC-227	4.130E-02	1.088E-01	1.956E-01	0.000E+00	NOT IDENT.
TH-227	4.130E-02	1.088E-01	1.956E-01	0.000E+00	NOT IDENT.
AC-228	4.306E-02	6.978E-02	1.228E-01	0.000E+00	NOT IDENT.
RA-228	4.306E-02	6.978E-02	1.228E-01	0.000E+00	NOT IDENT.
TH-228	-2.232E-02	2.682E-02	4.664E-02	0.000E+00	NOT IDENT.
TH-229	2.030E-01	2.059E-01	3.837E-01	0.000E+00	NOT IDENT.
PA-231	1.951E-01	5.739E-01	1.022E+00	0.000E+00	NOT IDENT.
TH-231	1.143E-01	2.840E-01	5.005E-01	0.000E+00	NOT IDENT.
TH-232	4.306E-02	6.978E-02	1.228E-01	0.000E+00	NOT IDENT.
PA-233	-4.896E-02	2.830E-02	4.066E-02	0.000E+00	NOT IDENT.
PA-234	3.317E-02	1.270E-01	2.034E-01	0.000E+00	NOT IDENT.
PA-234M	1.112E+00	1.885E+00	3.111E+00	0.000E+00	NOT IDENT.
TH-234	-2.902E-01	7.359E-01	1.266E+00	0.000E+00	NOT IDENT.
U-235	-2.079E-02	8.545E-02	1.336E-01	0.000E+00	FAIL ABUN
NP-237	2.966E-02	9.610E-02	1.753E-01	0.000E+00	NOT IDENT.
U-238	-2.902E-01	7.359E-01	1.266E+00	0.000E+00	NOT IDENT.
NP-239	7.393E-02	1.621E-01	2.931E-01	0.000E+00	NOT IDENT.
AM-241	3.387E-03	8.052E-02	1.444E-01	0.000E+00	NOT IDENT.
CM-247	7.075E-03	1.470E-02	2.704E-02	0.000E+00	NOT IDENT.
CF-249	2.286E-02	1.488E-02	2.976E-02	0.000E+00	NOT IDENT.

CF-251	-1.955E-03	4.700E-02	8.485E-02	0.000E+00 NOT IDENT.
ANH-511	-3.145E-02	2.440E-02	4.742E-02	0.000E+00 NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050254.CNF;1
Sample date        : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:51:25.
Sample ID          : G1202050254          Sample quantity  : 1.45780E+02 GRAM
Detector name      : GAM18                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:00.65  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials  : MXR1
Abundance limit    : 75.00000             Sensitivity        : 5.00000
Batch ID           : 956158               Detector SN#       :
Matrix Spike ID    :                     LCS ID            : 1032-A
*****

```

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202050254

Page : 2
Acquisition date : 4-MAR-2010 18:51:25

Total number of lines in spectrum 1
Number of unidentified lines 0
Number of lines tentatively identified by NID 1 100.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202050254

Page : 3
Acquisition date : 4-MAR-2010 18:51:25

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.10	68	109	1.31	371.24	367	12	9.42E-03	72.3	7.65E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050254.CNF;1
* Acquisition date   : 4-MAR-2010 18:51:25.  Detector SN#      :
* Detector ID        : GAM18                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:00.65             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 23-FEB-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202050254           Analyst initials: MXR1
* Batch Number       : 956158                Sample Quantity : 1.45780E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope       :
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A                LCS Isotope      :
*****

```

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.613E-02		1.086E-01	1.742E-01	1.262E-02	-0.150
NA-22	-3.994E-03		1.422E-02	2.216E-02	1.508E-03	-0.180
NA-24	2.392E-04		4.389E-04	Half-Life too short		
K-40	-1.953E-02		1.741E-01	2.897E-01	2.198E-02	-0.067
SC-46	2.134E-03		1.554E-02	2.585E-02	2.883E-03	0.083
V-48	8.022E-03		2.124E-02	3.628E-02	3.588E-03	0.221
CR-51	9.797E-02		1.477E-01	2.506E-01	1.611E-02	0.391
MN-54	-9.252E-03		1.408E-02	2.109E-02	2.161E-03	-0.439
CO-56	8.527E-03		1.544E-02	2.699E-02	2.817E-03	0.316
CO-57	-4.667E-03		1.138E-02	1.770E-02	1.048E-03	-0.264
CO-58	-1.015E-03		1.600E-02	2.617E-02	2.584E-03	-0.039
FE-59	1.724E-02		2.873E-02	5.186E-02	4.266E-03	0.332
CO-60	2.117E-03		1.751E-02	2.915E-02	2.202E-03	0.073
ZN-65	1.374E-02		3.011E-02	5.318E-02	3.746E-03	0.258
SE-75	-1.315E-02		1.845E-02	2.837E-02	1.623E-03	-0.464
SR-85	-2.766E-02		2.437E-02	3.711E-02	2.459E-03	-0.745
Y-88	-4.089E-04		1.949E-02	3.181E-02	1.812E-03	-0.013

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	-4.710E+00		6.824E+00	1.006E+01	5.944E-01	-0.468
NB-94	-1.056E-02		1.430E-02	2.202E-02	1.806E-03	-0.479
NB-95	5.203E-03		1.424E-02	2.460E-02	2.250E-03	0.211
NB-95M	-8.877E-02		4.830E-02	6.794E-02	5.002E-03	-1.307
ZR-95	1.743E-02		2.721E-02	4.826E-02	4.766E-03	0.361
MO-99	-5.992E-01		1.264E+00	1.975E+00	3.126E-01	-0.303
TC-99M	1.582E+03		3.422E+03	Half-Life too short		
RU-103	7.803E-04		1.464E-02	2.420E-02	3.090E-03	0.032
RH-106	-2.788E-03		1.396E-01	2.246E-01	2.801E-02	-0.012
RU-106	-2.788E-03		1.396E-01	2.246E-01	1.653E-02	-0.012
AG-108M	-7.473E-04		1.292E-02	2.137E-02	1.378E-03	-0.035
CD-109	-3.125E-02		3.230E-01	5.255E-01	4.858E-02	-0.059
AG-110M	-8.533E-03		1.186E-02	1.806E-02	1.424E-03	-0.473
SN-113	7.989E-03		1.651E-02	2.887E-02	1.771E-03	0.277
CD-115	-9.963E-02		9.112E-01	1.473E+00	9.898E-02	-0.068
SN-117M	5.761E-03		1.624E-02	2.815E-02	1.496E-03	0.205
TE-123M	7.490E-03		1.051E-02	1.863E-02	1.005E-03	0.402
SB-124	2.509E-02		3.750E-02	6.907E-02	4.783E-03	0.363
SB-125	4.034E-02		3.872E-02	6.999E-02	4.368E-03	0.576
TE-125M	-1.092E+00		3.790E+00	5.987E+00	5.361E-01	-0.182
I-126	2.292E-02		6.820E-02	1.181E-01	9.080E-03	0.194
SB-126	-2.957E-02		4.071E-02	6.173E-02	5.227E-03	-0.479
SN-126	1.048E-02		3.221E-02	5.389E-02	4.965E-03	0.194
SB-127	-7.530E-02		2.008E-01	3.216E-01	3.037E-02	-0.234
I-131	-4.614E-03		2.925E-02	4.862E-02	3.116E-03	-0.095
TE-132	7.304E-02		1.035E-01	1.680E-01	2.249E-02	0.435
BA-133	-1.475E-02		1.856E-02	2.723E-02	3.067E-03	-0.542
I-133	5.115E-06		1.747E-05	Half-Life too short		
CS-134	3.730E-03		1.866E-02	3.151E-02	3.048E-03	0.118
CS-135	-1.464E-02		5.970E-02	9.538E-02	7.210E-03	-0.153
I-135	-5.214E+02		1.771E+03	Half-Life too short		
CS-136	1.015E-02		3.554E-02	6.133E-02	5.492E-03	0.166
BA-137M	-3.735E-03		1.245E-02	2.014E-02	1.535E-03	-0.185
CS-137	-3.946E-03		1.316E-02	2.127E-02	1.625E-03	-0.185
CE-139	3.280E-03		1.172E-02	2.015E-02	1.058E-03	0.163
BA-140	2.854E-02		7.568E-02	1.280E-01	4.287E-02	0.223
LA-140	1.286E-02		2.517E-02	4.578E-02	3.142E-03	0.281
CE-141	-4.145E-03		2.196E-02	3.425E-02	1.956E-03	-0.121
CE-143	3.231E+00		3.324E+00	5.739E+00	1.174E+00	0.563
CE-144	1.387E-02		8.405E-02	1.357E-01	1.877E-02	0.102
PM-144	7.573E-03		1.450E-02	2.542E-02	2.063E-03	0.298
PR-144	5.629E-01		1.082E+00	1.896E+00	1.539E-01	0.297
PM-146	1.078E-03		1.697E-02	2.827E-02	2.470E-03	0.038
ND-147	-8.193E-02		1.636E-01	2.518E-01	3.513E-02	-0.325
PM-149	1.686E+00		6.702E+00	1.113E+01	1.573E+00	0.151
EU-152	1.356E-02		4.029E-02	6.656E-02	4.340E-03	0.204
GD-153	-1.724E-02		3.729E-02	5.659E-02	4.425E-03	-0.305
EU-154	-1.084E-02		4.048E-02	6.327E-02	6.368E-03	-0.171

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1.037E-02		4.271E-02	7.049E-02	5.037E-03	0.147
TB-160	1.720E-02		5.308E-02	9.046E-02	9.937E-03	0.190
HO-166M	-1.976E-02		2.656E-02	3.857E-02	3.215E-03	-0.512
TA-182	-3.290E-02		6.458E-02	9.839E-02	6.019E-03	-0.334
IR-192	1.143E-03		1.516E-02	2.459E-02	1.426E-03	0.046
HG-203	4.368E-03		1.381E-02	2.310E-02	1.393E-03	0.189
BI-207	-1.240E-03		2.178E-02	3.612E-02	2.981E-03	-0.034
TL-208	-2.966E-03		1.782E-02	2.869E-02	2.245E-03	-0.103
PB-210	1.045E+00		2.571E+00	4.458E+00	3.417E-01	0.234
BI-211	-3.299E-02		1.038E-01	1.605E-01	1.031E-02	-0.206
PB-211	-2.615E-01		3.130E-01	4.388E-01	2.105E-01	-0.596
BI-212	-1.680E-01		2.447E-01	3.436E-01	4.268E-02	-0.489
PB-212	-2.232E-02		2.737E-02	4.449E-02	3.207E-03	-0.502
BI-214	-2.889E-02		4.078E-02	6.293E-02	5.656E-03	-0.459
PB-214	5.562E-03		3.742E-02	6.009E-02	5.087E-03	0.093
RN-219	1.377E-01		1.648E-01	2.936E-01	3.947E-02	0.469
RA-223	1.143E-01		2.898E-01	4.807E-01	7.744E-02	0.238
RA-224	-2.752E-01		2.855E-01	4.130E-01	2.301E-02	-0.666
RA-226	-2.889E-02		4.078E-02	6.293E-02	5.656E-03	-0.459
AC-227	4.130E-02		1.110E-01	1.869E-01	1.893E-02	0.221
TH-227	4.130E-02		1.110E-01	1.869E-01	2.231E-02	0.221
AC-228	4.306E-02		7.121E-02	1.208E-01	1.636E-02	0.357
RA-228	4.306E-02		7.121E-02	1.208E-01	1.636E-02	0.357
TH-228	-2.232E-02		2.737E-02	4.449E-02	3.207E-03	-0.502
TH-229	2.030E-01		2.101E-01	3.643E-01	1.951E-02	0.557
PA-231	1.951E-01		5.856E-01	9.788E-01	1.280E-01	0.199
TH-231	1.143E-01		2.898E-01	4.807E-01	7.744E-02	0.238
TH-232	4.306E-02		7.121E-02	1.208E-01	1.636E-02	0.357
PA-233	-4.896E-02		2.888E-02	3.902E-02	2.391E-03	-1.255
PA-234	3.317E-02		1.296E-01	2.002E-01	3.949E-02	0.166
PA-234M	1.112E+00		1.924E+00	3.066E+00	3.308E-01	0.363
TH-234	-2.902E-01		7.509E-01	1.174E+00	2.114E-01	-0.247
U-235	-2.079E-02		8.719E-02	1.260E-01	1.965E-02	-0.165
NP-237	2.966E-02		9.806E-02	1.636E-01	3.742E-02	0.181
U-238	-2.902E-01		7.509E-01	1.174E+00	2.114E-01	-0.247
NP-239	7.393E-02		1.654E-01	2.753E-01	1.700E-02	0.269
AM-241	3.387E-03		8.216E-02	1.337E-01	1.109E-02	0.025
CM-247	7.075E-03		1.500E-02	2.610E-02	1.520E-03	0.271
CF-249	2.286E-02		1.519E-02	2.870E-02	1.650E-03	0.796
CF-251	-1.955E-03		4.796E-02	8.042E-02	4.250E-03	-0.024
ANH-511	-3.145E-02		2.490E-02	4.602E-02	3.039E-03	-0.684

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202050254
* Acquisition date   : 4-MAR-2010 18:51:25 Detector SN#      :
* Detector ID        : GAM18                               Sensitivity      : 5.000
* Geometry           : CAN                                   Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                        Abundance limit : 75.000
* Elapsed real time  : 0 02:00:00.65                        Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 23-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202050254                        Analyst initials: MXR1
* Batch Number       : 956158                               Sample Quantity : 1.4578E+02 GRAM
* Recovery           : 1.00000                               Carrier Weight  : 0.00000
*****
*                               QC DATA                                   *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope      :
* MSD DPM             : 0.000                               MSD Isotope      :
* LCS DPM             : 0.000                               LCS Isotope      :
* LCSD DPM            : 0.000                               LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU	
---- Non-Identified Nuclides ----					
Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-2.613E-02	1.065E-01	8.996E-02	5.432E-02	NOT IDENT.
NA-22	-3.994E-03	1.393E-02	1.119E-02	7.108E-03	NOT IDENT.
NA-24	2.392E+02	8.603E+02	0.000E+00	4.389E+02	SHORT HLIF
K-40	-1.953E-02	1.707E-01	1.457E-01	8.707E-02	NOT IDENT.
SC-46	2.134E-03	1.523E-02	1.316E-02	7.772E-03	NOT IDENT.
V-48	8.022E-03	2.082E-02	1.842E-02	1.062E-02	NOT IDENT.
CR-51	9.797E-02	1.447E-01	1.306E-01	7.383E-02	NOT IDENT.
MN-54	-9.252E-03	1.379E-02	1.075E-02	7.038E-03	NOT IDENT.
CO-56	8.527E-03	1.513E-02	1.375E-02	7.719E-03	NOT IDENT.
CO-57	-4.667E-03	1.115E-02	9.417E-03	5.689E-03	NOT IDENT.
CO-58	-1.015E-03	1.568E-02	1.335E-02	7.999E-03	NOT IDENT.
FE-59	1.724E-02	2.815E-02	2.627E-02	1.436E-02	NOT IDENT.
CO-60	2.117E-03	1.716E-02	1.469E-02	8.757E-03	NOT IDENT.
ZN-65	1.374E-02	2.951E-02	2.693E-02	1.505E-02	NOT IDENT.
SE-75	-1.315E-02	1.808E-02	1.484E-02	9.224E-03	NOT IDENT.
SR-85	-2.766E-02	2.388E-02	1.913E-02	1.218E-02	NOT IDENT.
Y-88	-4.089E-04	1.910E-02	1.592E-02	9.746E-03	NOT IDENT.
Y-91	-4.710E+00	6.688E+00	5.083E+00	3.412E+00	NOT IDENT.
NB-94	-1.056E-02	1.402E-02	1.127E-02	7.152E-03	NOT IDENT.
NB-95	5.203E-03	1.395E-02	1.257E-02	7.118E-03	NOT IDENT.
NB-95M	-8.877E-02	4.733E-02	3.564E-02	2.415E-02	NOT IDENT.
ZR-95	1.743E-02	2.666E-02	2.466E-02	1.360E-02	NOT IDENT.
MO-99	-5.992E-01	1.239E+00	1.010E+00	6.321E-01	NOT IDENT.
TC-99M	1.582E+09	6.706E+09	0.000E+00	3.422E+09	SHORT HLIF
RU-103	7.803E-04	1.434E-02	1.248E-02	7.319E-03	NOT IDENT.
RH-106	-2.788E-03	1.368E-01	1.153E-01	6.981E-02	NOT IDENT.

RU-106	-2.788E-03	1.368E-01	1.153E-01	6.981E-02	NOT IDENT.
AG-108M	-7.473E-04	1.266E-02	1.106E-02	6.461E-03	NOT IDENT.
CD-109	-3.125E-02	3.166E-01	2.816E-01	1.615E-01	NOT IDENT.
AG-110M	-8.533E-03	1.162E-02	9.256E-03	5.928E-03	NOT IDENT.
SN-113	7.989E-03	1.618E-02	1.498E-02	8.257E-03	NOT IDENT.
CD-115	-9.963E-02	8.929E-01	7.587E-01	4.556E-01	NOT IDENT.
SN-117M	5.761E-03	1.591E-02	1.489E-02	8.119E-03	NOT IDENT.
TE-123M	7.490E-03	1.030E-02	9.855E-03	5.254E-03	NOT IDENT.
SB-124	2.509E-02	3.675E-02	3.462E-02	1.875E-02	NOT IDENT.
SB-125	4.034E-02	3.794E-02	3.623E-02	1.936E-02	NOT IDENT.
TE-125M	-1.092E+00	3.715E+00	3.193E+00	1.895E+00	NOT IDENT.
I-126	2.292E-02	6.683E-02	6.053E-02	3.410E-02	NOT IDENT.
SB-126	-2.957E-02	3.990E-02	3.158E-02	2.036E-02	NOT IDENT.
SN-126	1.048E-02	3.156E-02	2.888E-02	1.610E-02	NOT IDENT.
SB-127	-7.530E-02	1.968E-01	1.647E-01	1.004E-01	NOT IDENT.
I-131	-4.614E-03	2.866E-02	2.526E-02	1.462E-02	NOT IDENT.
TE-132	7.304E-02	1.015E-01	8.818E-02	5.176E-02	NOT IDENT.
BA-133	-1.475E-02	1.819E-02	1.415E-02	9.278E-03	NOT IDENT.
I-133	5.115E+00	3.423E+01	0.000E+00	1.747E+01	SHORT HLIF
CS-134	3.730E-03	1.829E-02	1.608E-02	9.332E-03	NOT IDENT.
CS-135	-1.464E-02	5.850E-02	4.989E-02	2.985E-02	NOT IDENT.
I-135	-5.214E+08	3.471E+09	0.000E+00	1.771E+09	SHORT HLIF
CS-136	1.015E-02	3.483E-02	3.110E-02	1.777E-02	NOT IDENT.
BA-137M	-3.735E-03	1.220E-02	1.032E-02	6.227E-03	NOT IDENT.
CS-137	-3.946E-03	1.289E-02	1.090E-02	6.578E-03	NOT IDENT.
CE-139	3.280E-03	1.149E-02	1.065E-02	5.860E-03	NOT IDENT.
BA-140	2.854E-02	7.416E-02	6.591E-02	3.784E-02	NOT IDENT.
LA-140	1.286E-02	2.466E-02	2.298E-02	1.258E-02	NOT IDENT.
CE-141	-4.145E-03	2.152E-02	1.816E-02	1.098E-02	NOT IDENT.
CE-143	3.231E+00	3.258E+00	2.996E+00	1.662E+00	NOT IDENT.
CE-144	1.387E-02	8.237E-02	7.208E-02	4.203E-02	NOT IDENT.
PM-144	7.573E-03	1.421E-02	1.301E-02	7.249E-03	NOT IDENT.
PR-144	5.629E-01	1.060E+00	9.707E-01	5.409E-01	NOT IDENT.
PM-146	1.078E-03	1.663E-02	1.462E-02	8.483E-03	NOT IDENT.
ND-147	-8.193E-02	1.604E-01	1.297E-01	8.182E-02	NOT IDENT.
PM-149	1.686E+00	6.568E+00	5.816E+00	3.351E+00	NOT IDENT.
EU-152	1.356E-02	3.949E-02	3.462E-02	2.015E-02	NOT IDENT.
GD-153	-1.724E-02	3.655E-02	3.026E-02	1.865E-02	NOT IDENT.
EU-154	-1.084E-02	3.967E-02	3.193E-02	2.024E-02	NOT IDENT.
EU-155	1.037E-02	4.186E-02	3.763E-02	2.136E-02	NOT IDENT.
TB-160	1.720E-02	5.202E-02	4.606E-02	2.654E-02	NOT IDENT.
HO-166M	-1.976E-02	2.603E-02	1.973E-02	1.328E-02	NOT IDENT.
TA-182	-3.290E-02	6.329E-02	4.971E-02	3.229E-02	NOT IDENT.
IR-192	1.143E-03	1.485E-02	1.282E-02	7.579E-03	NOT IDENT.
HG-203	4.368E-03	1.354E-02	1.207E-02	6.906E-03	NOT IDENT.
BI-207	-1.240E-03	2.134E-02	1.831E-02	1.089E-02	NOT IDENT.
TL-208	-2.966E-03	1.746E-02	1.475E-02	8.911E-03	NOT IDENT.
PB-210	1.045E+00	2.520E+00	2.421E+00	1.286E+00	NOT IDENT.
BI-211	-3.299E-02	1.017E-01	8.346E-02	5.190E-02	NOT IDENT.
PB-211	-2.615E-01	3.067E-01	2.274E-01	1.565E-01	NOT IDENT.
BI-212	-1.680E-01	2.398E-01	1.757E-01	1.223E-01	NOT IDENT.
PB-212	-2.232E-02	2.682E-02	2.333E-02	1.369E-02	NOT IDENT.
BI-214	-2.889E-02	3.996E-02	3.232E-02	2.039E-02	NOT IDENT.
PB-214	5.562E-03	3.668E-02	3.124E-02	1.871E-02	NOT IDENT.
RN-219	1.377E-01	1.615E-01	1.522E-01	8.241E-02	NOT IDENT.
RA-223	1.143E-01	2.840E-01	2.504E-01	1.449E-01	NOT IDENT.
RA-224	-2.752E-01	2.798E-01	2.166E-01	1.428E-01	NOT IDENT.
RA-226	-2.889E-02	3.996E-02	3.232E-02	2.039E-02	NOT IDENT.
AC-227	4.130E-02	1.088E-01	9.785E-02	5.551E-02	NOT IDENT.
TH-227	4.130E-02	1.088E-01	9.785E-02	5.552E-02	NOT IDENT.
AC-228	4.306E-02	6.978E-02	6.145E-02	3.560E-02	NOT IDENT.
RA-228	4.306E-02	6.978E-02	6.145E-02	3.560E-02	NOT IDENT.
TH-228	-2.232E-02	2.682E-02	2.333E-02	1.369E-02	NOT IDENT.
TH-229	2.030E-01	2.059E-01	1.920E-01	1.050E-01	NOT IDENT.
PA-231	1.951E-01	5.739E-01	5.114E-01	2.928E-01	NOT IDENT.
TH-231	1.143E-01	2.840E-01	2.504E-01	1.449E-01	NOT IDENT.
TH-232	4.306E-02	6.978E-02	6.145E-02	3.560E-02	NOT IDENT.
PA-233	-4.896E-02	2.830E-02	2.034E-02	1.444E-02	NOT IDENT.
PA-234	3.317E-02	1.270E-01	1.018E-01	6.482E-02	NOT IDENT.
PA-234M	1.112E+00	1.885E+00	1.557E+00	9.618E-01	NOT IDENT.
TH-234	-2.902E-01	7.359E-01	6.332E-01	3.754E-01	NOT IDENT.
U-235	-2.079E-02	8.545E-02	6.683E-02	4.359E-02	FAIL ABUN
NP-237	2.966E-02	9.610E-02	8.771E-02	4.903E-02	NOT IDENT.
U-238	-2.902E-01	7.359E-01	6.332E-01	3.754E-01	NOT IDENT.
NP-239	7.393E-02	1.621E-01	1.466E-01	8.270E-02	NOT IDENT.
AM-241	3.387E-03	8.052E-02	7.224E-02	4.108E-02	NOT IDENT.
CM-247	7.075E-03	1.470E-02	1.353E-02	7.498E-03	NOT IDENT.
CF-249	2.286E-02	1.488E-02	1.489E-02	7.593E-03	NOT IDENT.

CF-251	-1.955E-03	4.700E-02	4.245E-02	2.398E-02	NOT IDENT.
ANH-511	-3.145E-02	2.440E-02	2.372E-02	1.245E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.54	104.5707
49.72	104.1409
57.36	116.4421
59.54	86.6149
63.29	113.2111
63.29	113.2111
64.28	104.1212
67.75	111.0510
69.67	95.3564
70.83	108.2681
72.81	114.7644
72.87	114.7854
72.87	114.7854
74.82	113.5043
74.82	113.5043
74.82	113.5043
74.97	113.5550
77.11	104.4225
77.11	104.4225
77.11	104.4225
79.69	104.2101
79.80	106.2283
80.12	106.3252
80.19	108.3336
80.57	106.4607
81.00	103.6012
81.07	103.6218
81.07	103.6218
83.79	97.3809
83.79	97.3809
85.43	108.9102
86.48	107.1964
86.55	107.2168
86.79	101.2121
86.94	101.2533
87.57	106.4948
88.03	111.7025
88.47	108.7824
89.96	182.6946
91.11	152.5301
92.59	91.4558
92.59	91.4558
93.35	93.6919
94.67	146.6888
94.87	178.8022
94.87	178.8022
95.86	132.6205
97.43	102.9729
98.44	90.7153
99.53	97.2288
100.11	98.4120
103.18	92.8071
103.37	84.4080
105.31	84.7917
106.12	89.1983
109.28	97.3309
111.00	102.0025
111.76	88.1931
116.30	114.0574
117.23	83.8095
121.12	100.9638
121.78	95.6080
122.06	114.3567
123.07	90.3548
131.20	96.3283
133.52	97.8909
136.00	98.3600

136.47	108.6328
140.51	91.2207
140.51	0.0000
143.76	87.1831
144.24	88.4078
144.24	88.4078
145.44	89.7527
152.43	88.5499
153.25	92.7613
154.21	94.6697
154.21	94.6697
156.02	107.2778
158.56	89.1995
159.00	80.4276
162.66	103.1567
163.33	110.3949
165.86	96.5533
176.60	88.2267
177.52	82.8888
181.07	65.9438
184.41	66.2805
185.72	86.7043
193.51	75.7142
197.04	99.4154
205.31	85.4029
210.85	78.4084
215.65	83.7303
222.11	87.3619
227.38	79.1652
228.16	73.3744
228.18	73.3761
235.69	127.4115
235.96	118.5626
235.96	118.5626
238.63	86.2433
238.63	86.2433
240.99	109.3605
242.00	129.4039
244.70	75.9008
252.40	96.7625
252.80	97.8170
256.23	84.0366
256.23	84.0366
260.90	73.2953
264.66	89.9698
268.22	71.8564
269.46	64.7601
269.46	64.7601
271.23	80.3387
273.65	69.1950
276.40	68.3697
277.37	82.9602
277.60	82.9810
278.00	89.2439
279.20	64.4228
279.54	65.4859
280.46	65.5523
283.69	65.7811
284.31	67.9150
285.41	65.9031
285.90	60.7046
287.50	78.6312
293.27	54.8509
295.22	81.3872
295.96	71.9304
298.57	86.9749
299.98	66.9192
299.98	66.9192
300.09	66.9269
300.09	66.9269
300.13	66.9288
301.36	74.4594
302.85	69.2470
304.50	81.1014
304.50	81.1014
304.85	86.4679
308.46	58.9276
311.90	96.7593

316.51	78.8424
319.41	90.9816
320.08	70.4481
323.87	73.9724
323.87	73.9724
328.76	75.4140
333.37	68.0604
334.37	73.6186
334.37	73.6186
338.28	47.4210
338.28	47.4210
338.32	47.4230
338.32	47.4230
338.32	47.4230
340.48	62.9900
340.55	72.9398
344.28	58.7750
351.06	61.3723
351.93	53.6030
356.01	77.3376
364.49	60.5306
366.42	66.0627
383.85	52.3604
388.16	35.9550
388.63	51.6482
391.69	47.1563
400.66	60.5447
401.81	48.4812
402.40	52.2354
404.85	67.2926
410.95	49.7774
414.70	48.9836
423.72	65.4582
427.09	58.0200
427.87	47.5854
433.94	61.1930
453.88	49.4947
463.37	60.5862
468.07	39.2197
473.00	41.3253
476.78	32.5565
477.60	40.4725
487.02	47.6941
492.35	49.8639
497.08	45.0225
511.00	58.5738
514.00	172.0223
527.90	46.9714
529.87	0.0000
531.02	48.0889
537.26	33.8999
546.56	0.0000
563.25	46.9819
569.33	46.1087
569.50	45.0650
569.70	45.0713
583.19	39.0966
600.60	69.3878
602.73	61.9917
604.72	87.7436
609.32	68.6641
609.32	68.6641
610.33	70.8517
614.28	68.8594
618.01	51.7535
621.93	47.5460
621.93	47.5460
633.25	35.8851
635.95	43.5615
636.99	32.6902
645.85	36.1340
657.76	35.8167
661.66	34.0507
661.66	34.0507
664.57	39.6336
666.33	40.5929
666.50	40.5965
677.62	31.5540

685.70	41.0065
695.00	39.3306
696.49	41.2348
696.51	41.2357
697.00	39.3707
702.65	53.5859
706.68	32.9706
711.68	46.2745
720.70	40.7910
721.93	40.8164
722.78	42.7332
722.91	42.7359
723.31	42.7441
724.19	34.2100
727.33	40.9249
733.00	40.0851
735.93	38.2308
739.50	38.2967
747.24	35.5569
752.31	37.5702
753.82	40.4893
756.73	29.9266
763.94	32.9347
765.81	29.0857
766.42	32.9735
777.92	42.9016
778.90	43.8968
783.70	32.2621
785.37	32.2870
795.86	35.3921
801.95	38.4470
810.29	36.6123
810.76	37.6104
815.77	31.7428
818.51	26.8154
832.01	24.9776
834.85	37.0128
836.80	0.0000
846.77	28.1549
856.80	37.3651
860.56	35.4023
871.09	33.5284
873.19	30.5072
875.33	0.0000
879.36	26.5078
880.51	22.4404
883.24	26.5507
884.68	31.6755
889.28	29.6885
898.04	31.8508
911.20	22.7255
911.20	22.7255
911.20	22.7255
926.50	23.9050
937.49	33.4043
944.13	24.0720
946.00	23.0424
949.00	36.7019
962.29	29.5130
964.08	33.7526
966.15	29.5575
968.97	38.0435
968.97	38.0435
968.97	38.0435
983.53	21.2528
996.26	26.6937
1001.03	18.1842
1004.73	28.9204
1037.84	36.2429
1038.76	0.0000
1048.07	31.7137
1050.41	33.6069
1050.41	33.6069
1063.66	30.9525
1085.87	21.7414
1099.45	17.0947
1112.07	30.5223
1115.54	20.0537

1120.29	15.3036
1120.29	15.3036
1120.55	13.3921
1121.30	21.0501
1131.51	0.0000
1173.23	25.3081
1177.93	16.5731
1189.05	22.5027
1204.77	27.5322
1221.41	27.6768
1231.02	23.7941
1235.36	27.7979
1238.28	22.8548
1260.41	0.0000
1271.85	13.0512
1274.44	18.0848
1274.54	18.0854
1291.59	16.1585
1298.22	0.0000
1312.11	13.2086
1332.49	22.4865
1365.19	23.7300
1368.63	0.0000
1384.29	14.5225
1408.01	27.1489
1457.56	0.0000
1460.82	11.6518
1489.16	13.8742
1505.03	16.8794
1596.21	9.5966
1620.50	9.6539
1678.03	0.0000
1690.97	10.7996
1764.49	13.9795
1764.49	13.9795
1770.23	16.9969
1771.35	20.0018
1791.20	0.0000
1836.06	17.2464

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202050254

Total Uranium Activity	-8.7304E-01	ug/g
Total Uranium Counting Unc.	2.1895E+00	ug/g
Total Uranium Tpu	1.1171E-06	ug/g
Total Uranium Mda	1.8841E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 956158                          SAMPLE ID   : G1202050254
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 23-FEB-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 4-MAR-2010 18:51:25.48           SAMPLE ALQT  : 145.780 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.283E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 8.259E-03
GROSS GAMMA MDA      (pCi/GRAM ) : 1.693E-02
GROSS GAMMA DLC      (pCi/GRAM ) : 8.012E-03

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VAX/VMS Nuclide Identification Report Generated 4-MAR-2010 20:53:04.30

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050255.CNF;1
Sample date       : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:52:02.
Sample ID        : G1202050255 Sample quantity : 1.36880E+02 GRAM
Detector name    : GAM21 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:26.45 0.4%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 956158 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	46.51*	176	391	0.67	93.01	89	8	2.44E-02	21.1	
2	0	63.74*	134	807	1.03	127.44	122	9	1.86E-02	39.4	
3	4	74.86*	735	420	0.71	149.67	147	11	1.02E-01	5.3	3.46E+00
4	4	77.11*	1141	350	0.70	154.16	147	11	1.59E-01	3.8	
5	0	87.14	378	379	1.09	174.22	172	6	5.25E-02	9.5	
6	0	89.89	235	265	0.89	179.71	178	5	3.26E-02	12.4	
7	5	92.90*	424	235	1.16	185.73	183	10	5.89E-02	7.6	8.89E+00
8	0	99.37	98	455	1.74	198.68	194	10	1.37E-02	41.7	
9	0	128.93	106	243	0.63	257.76	254	6	1.48E-02	25.1	
10	0	185.93*	262	356	1.13	371.72	367	11	3.64E-02	15.4	
11	0	209.10	148	257	0.71	418.04	414	9	2.05E-02	21.2	
12	7	238.45*	1375	135	0.85	476.71	470	21	1.91E-01	3.0	2.37E+00
13	7	241.38	297	236	1.53	482.58	470	21	4.12E-02	11.7	
14	0	270.00*	100	159	1.00	539.80	536	8	1.39E-02	24.6	
15	0	277.21	74	143	1.49	554.21	550	8	1.03E-02	30.3	
16	0	295.06*	322	247	0.90	589.91	584	12	4.47E-02	11.4	
17	0	299.74	63	108	0.81	599.25	596	6	8.75E-03	29.0	
18	0	327.93	85	152	0.80	655.62	651	10	1.18E-02	29.3	
19	0	338.06	260	157	1.04	675.88	672	9	3.61E-02	10.7	
20	0	351.66*	675	114	1.01	703.06	697	12	9.37E-02	5.0	
21	0	409.17	59	81	0.95	818.07	813	9	8.20E-03	30.4	
22	0	462.98	44	93	1.16	925.68	921	9	6.17E-03	42.1	
23	0	510.65*	94	105	1.51	1021.00	1015	13	1.31E-02	27.9	
24	0	582.86*	304	66	1.19	1165.41	1160	10	4.22E-02	7.6	
25	0	608.99*	382	37	1.23	1217.67	1213	10	5.30E-02	6.0	
26	0	727.46	72	71	1.35	1454.62	1448	12	1.00E-02	26.3	
27	0	770.09	100	124	5.45	1539.90	1528	31	1.39E-02	34.4	
28	0	794.31	36	41	1.48	1588.35	1584	9	4.93E-03	36.4	
29	0	910.58	259	42	1.50	1820.94	1814	15	3.60E-02	8.2	
30	0	968.50	127	47	1.34	1936.82	1932	12	1.77E-02	14.0	
31	0	1119.65	58	53	1.38	2239.24	2235	10	8.08E-03	26.8	
32	0	1460.01*	855	35	1.98	2920.39	2914	15	1.19E-01	3.7	
33	0	1621.29	16	9	3.36	3243.24	3235	12	2.19E-03	45.8	
34	0	1763.53	66	0	1.76	3528.00	3521	14	9.17E-03	12.3	

Flag: "*" = Peak area was modified by background subtraction


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050255.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-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:52:02
Sample ID         : G1202050255 Sample quantity : 136.88 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA21 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:26.45 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
K-40	+	1460.82	*	3.054E+01	3.466E+00	7.083E-01	6.047E-02	43.119
CD-109	+	88.03	*	3.532E+00	7.493E-01	7.013E-01	6.599E-02	5.036
SN-126	+	64.28		4.678E-01	3.747E-01	3.058E-01	4.531E-02	1.530
	+	86.94		1.430E+00	6.534E-01	2.913E-01	1.209E-01	4.911
	+	87.57	*	3.441E-01	7.300E-02	7.023E-02	6.583E-03	4.899
TL-208	+	277.37		8.131E-01	5.037E-01	5.637E-01	7.180E-02	1.442
	+	583.19	*	5.514E-01	1.033E-01	7.222E-02	7.861E-03	7.635
		860.56		4.641E-01	3.687E-01	6.811E-01	6.758E-02	0.681
PB-210	+	46.54	*	1.546E+00	6.686E-01	5.322E-01	5.033E-02	2.905
BI-211		72.87		7.308E-01	1.734E+00	2.676E+00	2.240E-01	0.273
	+	351.06	*	4.778E+00	6.457E-01	2.821E-01	2.546E-02	16.940
BI-212	+	727.33	*	2.087E+00	1.136E+00	9.190E-01	1.288E-01	2.271
		785.37		5.540E-01	3.833E+00	6.222E+00	6.387E-01	0.089
	+	1620.50		4.519E+00	4.152E+00	4.616E+00	3.860E-01	0.979
PB-212	+	74.82		2.370E+00	3.966E-01	3.101E-01	4.003E-02	7.644
	+	77.11		2.215E+00	2.545E-01	1.874E-01	1.617E-02	11.818
	+	238.63	*	1.971E+00	2.297E-01	8.555E-02	8.547E-03	23.034
	+	300.09		1.486E+00	8.759E-01	1.309E+00	1.412E-01	1.136
BI-214	+	609.32	*	1.354E+00	2.289E-01	1.161E-01	1.377E-02	11.653
	+	1120.29		1.150E+00	6.276E-01	6.189E-01	6.676E-02	1.858
	+	1764.49		1.976E+00	5.136E-01	2.626E-01	2.183E-02	7.526
PB-214	+	74.82		4.202E+00	6.618E-01	5.496E-01	6.383E-02	7.644
	+	77.11		3.905E+00	5.523E-01	3.304E-01	3.943E-02	11.818
	+	242.00		2.585E+00	6.654E-01	5.224E-01	5.544E-02	4.948
	+	295.22		1.340E+00	3.396E-01	2.075E-01	2.293E-02	6.457
	+	351.93	*	1.734E+00	2.531E-01	1.027E-01	1.085E-02	16.890
RA-224	+	240.99	*	4.571E+00	1.146E+00	9.196E-01	8.171E-02	4.971
RA-226	+	609.32	*	1.354E+00	2.289E-01	1.161E-01	1.377E-02	11.653
	+	1120.29		1.150E+00	6.276E-01	6.189E-01	6.676E-02	1.858
	+	1764.49		1.976E+00	5.136E-01	2.626E-01	2.183E-02	7.526
AC-228	+	338.32		2.024E+00	9.486E-01	4.036E-01	1.684E-01	5.015
	+	911.20	*	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
	+	968.97		2.062E+00	7.670E-01	6.440E-01	1.572E-01	3.202
RA-228	+	338.32		2.024E+00	9.486E-01	4.036E-01	1.684E-01	5.015

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	911.20	*	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
	+	968.97		2.062E+00	7.670E-01	6.440E-01	1.572E-01	3.202
TH-228	+	74.82		2.370E+00	3.238E-01	3.101E-01	2.656E-02	7.644
	+	77.11		2.215E+00	2.545E-01	1.874E-01	1.617E-02	11.818
	+	238.63	*	1.971E+00	2.297E-01	8.555E-02	8.547E-03	23.034
	+	300.09		1.486E+00	1.253E+00	1.309E+00	8.019E-01	1.136
TH-232	+	338.32		2.024E+00	4.664E-01	4.036E-01	3.518E-02	5.015
	+	911.20	*	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
	+	968.97		2.062E+00	7.670E-01	6.440E-01	1.572E-01	3.202
TH-234	+	63.29	*	1.214E+00	9.803E-01	7.938E-01	1.433E-01	1.529
	+	92.59		3.429E+00	9.302E-01	5.621E-01	1.265E-01	6.100
U-235	+	89.96		2.296E+00	8.059E-01	6.713E-01	1.674E-01	3.420
	+	93.35		2.590E+00	7.242E-01	4.260E-01	1.001E-01	6.081
		143.76	*	1.706E-01	1.721E-01	2.768E-01	4.901E-02	0.616
		163.33		1.891E-01	3.446E-01	5.947E-01	1.061E-01	0.318
	+	185.72		2.310E-01	7.367E-02	5.735E-02	4.813E-03	4.027
		205.31		2.129E-01	4.509E-01	6.991E-01	1.269E-01	0.304
NP-237	+	86.48	*	1.027E+00	3.063E-01	2.321E-01	5.323E-02	4.423
		95.86		-1.017E-01	6.731E-01	8.664E-01	2.117E-01	-0.117
U-238	+	63.29	*	1.214E+00	9.803E-01	7.938E-01	1.433E-01	1.529
	+	92.59		3.429E+00	6.158E-01	5.621E-01	5.411E-02	6.100
ANH-511	+	511.00	*	1.267E-01	7.173E-02	5.412E-02	5.189E-03	2.342

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	1.123E-01	3.192E-01	5.511E-01	5.399E-02	0.204
NA-22		1274.54	*	9.187E-03	6.210E-02	1.017E-01	8.344E-03	0.090
NA-24		1368.63	*	-4.885E+00	6.210E-02	Half-Life too short		
SC-46		889.28	*	-4.642E-02	4.521E-02	6.581E-02	5.852E-03	-0.705
	+	1120.55		1.980E-01	1.073E-01	1.699E-01	1.436E-02	1.165
V-48		944.13		-7.940E-01	1.197E+00	1.836E+00	1.610E-01	-0.432
		983.53	*	-2.273E-02	1.005E-01	1.620E-01	1.417E-02	-0.140
		1312.11		4.211E-02	1.223E-01	2.050E-01	1.671E-02	0.205
CR-51		320.08	*	-1.027E-01	3.788E-01	6.005E-01	5.579E-02	-0.171
MN-54		834.85	*	3.342E-02	4.937E-02	8.744E-02	8.475E-03	0.382
CO-56		846.77	*	2.930E-03	4.869E-02	8.219E-02	7.834E-03	0.036
		1037.84		-2.271E-02	4.209E-01	6.883E-01	6.279E-02	-0.033
		1238.28		1.213E-01	1.363E-01	2.364E-01	2.006E-02	0.513
		1771.35		-2.578E-01	2.776E-01	3.232E-01	2.685E-02	-0.798
CO-57		122.06	*	-6.985E-03	1.986E-02	3.047E-02	3.501E-03	-0.229
		136.47		-4.784E-02	1.712E-01	2.635E-01	2.918E-02	-0.182
CO-58		810.76	*	-3.197E-02	4.710E-02	7.367E-02	7.373E-03	-0.434
FE-59		1099.45	*	-8.650E-02	1.189E-01	1.769E-01	1.632E-02	-0.489
		1291.59		3.469E-02	1.766E-01	2.909E-01	2.733E-02	0.119
CO-60		1173.23		1.091E-02	5.881E-02	9.746E-02	8.031E-03	0.112
		1332.49	*	1.792E-03	4.785E-02	8.067E-02	6.547E-03	0.022
ZN-65		1115.54	*	3.445E-03	1.370E-01	1.941E-01	1.645E-02	0.018

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	121.12			-4.900E-04	1.032E-01	1.618E-01	2.164E-02	-0.003
	136.00			3.206E-03	3.268E-02	5.145E-02	5.468E-03	0.062
	264.66	*		4.021E-03	3.924E-02	6.500E-02	5.836E-03	0.062
	279.54			7.748E-02	1.052E-01	1.638E-01	1.513E-02	0.473
	400.66			1.683E-01	2.789E-01	4.627E-01	4.940E-02	0.364
SR-85	514.00	*		3.884E-03	4.280E-02	6.341E-02	6.102E-03	0.061
Y-88	898.04			-8.034E-03	5.517E-02	9.075E-02	7.976E-03	-0.089
	1836.06	*		8.734E-03	4.411E-02	7.511E-02	6.201E-03	0.116
Y-91	1204.77	*		-5.525E+00	3.133E+01	4.983E+01	4.105E+00	-0.111
NB-94	702.65	*		-2.902E-02	4.019E-02	5.992E-02	6.525E-03	-0.484
	871.09			2.594E-03	4.234E-02	7.129E-02	6.543E-03	0.036
NB-95	765.81	*		5.978E-02	6.731E-02	1.039E-01	1.086E-02	0.575
NB-95M	235.69	*		-2.619E-02	1.236E-01	1.813E-01	1.830E-02	-0.144
ZR-95	724.19			8.865E-02	1.243E-01	1.917E-01	2.178E-02	0.462
	756.73	*		-9.114E-03	9.970E-02	1.585E-01	1.788E-02	-0.058
MO-99	140.51			-1.753E+01	3.184E+01	4.724E+01	1.152E+01	-0.371
	181.07			2.467E+00	2.783E+01	4.272E+01	7.972E+00	0.058
	366.42			1.142E+02	1.631E+02	2.756E+02	2.311E+01	0.414
	739.50	*		2.418E+01	2.636E+01	4.586E+01	7.779E+00	0.527
	777.92			-5.144E+01	9.566E+01	1.225E+02	1.267E+01	-0.420
TC-99M	140.51	*		-7.006E+12	9.566E+01	Half-Life too short		
RU-103	497.08	*		-9.357E-03	3.914E-02	6.388E-02	9.245E-03	-0.146
	610.33		+	1.451E+01	3.083E+00	3.425E+00	5.990E-01	4.238
RH-106	621.93	*		2.457E-01	3.665E-01	6.340E-01	9.330E-02	0.388
	1050.41			2.317E+00	3.390E+00	5.959E+00	5.154E-01	0.389
RU-106	621.93	*		2.457E-01	3.656E-01	6.340E-01	6.803E-02	0.388
	1050.41			2.317E+00	3.390E+00	5.959E+00	5.154E-01	0.389
AG-108M	433.94	*		-1.623E-02	3.013E-02	4.881E-02	4.321E-03	-0.332
	614.28			4.534E-03	4.586E-02	6.666E-02	7.262E-03	0.068
	722.91			4.854E-03	4.816E-02	6.881E-02	7.568E-03	0.071
AG-110M	657.76	*		1.079E-02	4.109E-02	6.855E-02	7.689E-03	0.157
	677.62			-2.794E-02	3.459E-01	5.562E-01	6.225E-02	-0.050
	706.68			1.767E-01	2.661E-01	4.557E-01	5.043E-02	0.388
	763.94			2.284E-02	2.335E-01	3.310E-01	3.529E-02	0.069
	884.68			3.306E-02	6.013E-02	1.060E-01	9.788E-03	0.312
	937.49			9.067E-03	1.425E-01	2.383E-01	2.162E-02	0.038
	1384.29			2.094E-01	1.629E-01	3.264E-01	2.754E-02	0.641
	1505.03			-4.075E-01	3.352E-01	4.174E-01	3.473E-02	-0.976
SN-113	391.69	*		-4.306E-03	4.831E-02	7.614E-02	6.271E-03	-0.057
CD-115	260.90			-2.837E+02	2.446E+02	3.702E+02	3.309E+01	-0.766
	492.35			3.995E+01	7.697E+01	1.342E+02	1.256E+01	0.298
	527.90	*		-1.282E+01	2.530E+01	4.016E+01	3.930E+00	-0.319
SN-117M	156.02			-2.958E+00	2.030E+00	3.231E+00	2.916E-01	-0.915
	158.56	*		7.350E-03	4.933E-02	8.398E-02	7.392E-03	0.088
TE-123M	159.00	*		-5.578E-03	2.275E-02	3.803E-02	3.352E-03	-0.147
SB-124	602.73			-4.583E-03	4.525E-02	7.099E-02	7.497E-03	-0.065
	645.85			-3.278E-01	6.045E-01	9.306E-01	1.053E-01	-0.352
	722.78			3.302E-02	4.944E-01	7.030E-01	7.688E-02	0.047
	1690.97	*		-4.671E-02	7.915E-02	1.049E-01	9.150E-03	-0.445

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		427.87	*	-4.730E-02	9.465E-02	1.543E-01	1.335E-02	-0.307
	+	463.37		5.171E-01	4.384E-01	5.885E-01	5.653E-02	0.879
		600.60		3.082E-02	1.988E-01	3.309E-01	3.663E-02	0.093
		635.95		-2.981E-02	3.209E-01	5.192E-01	5.924E-02	-0.057
TE-125M		109.28	*	3.900E+00	7.263E+00	1.186E+01	1.442E+00	0.329
I-126		388.63		2.859E-01	1.954E-01	3.448E-01	2.761E-02	0.829
		666.33	*	2.812E-01	3.168E-01	5.521E-01	6.091E-02	0.509
		753.82		1.200E+00	2.784E+00	4.647E+00	4.904E-01	0.258
SB-126		414.70		3.917E-02	8.825E-02	1.542E-01	1.279E-02	0.254
		666.50		7.442E-02	1.098E-01	1.884E-01	2.079E-02	0.395
		695.00		-1.474E-02	1.083E-01	1.730E-01	1.890E-02	-0.085
		697.00		1.578E-02	3.793E-01	6.162E-01	6.727E-02	0.026
		720.70	*	-2.075E-01	2.118E-01	2.710E-01	2.924E-02	-0.765
		856.80		-1.928E-01	6.498E-01	1.057E+00	9.924E-02	-0.182
SB-127		252.40		3.850E-01	5.408E+00	8.972E+00	3.748E+00	0.043
		473.00		7.382E-01	2.491E+00	4.276E+00	5.848E-01	0.173
		685.70	*	-1.593E-01	2.299E+00	3.698E+00	5.106E-01	-0.043
		783.70		8.359E-01	6.651E+00	1.077E+01	1.521E+00	0.078
I-131		80.19		3.133E+00	3.041E+00	4.800E+00	4.272E-01	0.653
		284.31		3.507E-01	1.662E+00	2.755E+00	2.580E-01	0.127
		364.49	*	-9.256E-02	1.424E-01	2.149E-01	1.914E-02	-0.431
		636.99		-1.140E+00	2.255E+00	3.492E+00	3.934E-01	-0.326
TE-132		49.72		-1.004E+00	4.493E+00	6.865E+00	7.864E-01	-0.146
		111.76		-7.600E+00	3.907E+01	6.149E+01	8.176E+00	-0.124
		116.30		1.087E+00	3.386E+01	5.378E+01	7.286E+00	0.020
		228.16	*	6.234E-01	1.035E+00	1.770E+00	2.898E-01	0.352
BA-133		81.00		1.467E-02	5.012E-02	8.250E-02	1.293E-02	0.178
	+	276.40		7.518E-01	4.683E-01	6.296E-01	9.003E-02	1.194
		302.85		9.871E-02	1.447E-01	2.221E-01	2.946E-02	0.444
		356.01	*	3.760E-04	4.403E-02	6.285E-02	8.103E-03	0.006
		383.85		9.751E-04	2.863E-01	4.557E-01	5.500E-02	0.002
I-133		529.87	*	3.011E-02	2.863E-01	Half-Life	too short	
		875.33		5.148E-01	2.863E-01	Half-Life	too short	
		1298.22		9.252E-01	2.863E-01	Half-Life	too short	
CS-134		563.25		2.530E-01	4.092E-01	7.101E-01	7.273E-02	0.356
		569.33		1.430E-01	2.306E-01	3.994E-01	4.128E-02	0.358
		604.72		7.629E-03	3.938E-02	5.811E-02	6.157E-03	0.131
		795.86	*	1.067E-01	6.663E-02	1.118E-01	1.141E-02	0.955
		801.95		-6.904E-02	4.882E-01	8.085E-01	8.191E-02	-0.085
		1365.19		-2.861E-01	1.598E+00	2.606E+00	2.238E-01	-0.110
CS-135		268.22	*	1.374E-01	1.569E-01	2.462E-01	2.521E-02	0.558
I-135		546.56		1.427E+12	1.569E-01	Half-Life	too short	
		836.80		4.816E+12	1.569E-01	Half-Life	too short	
		1038.76		-1.752E+12	1.569E-01	Half-Life	too short	
		1131.51		-1.154E+12	1.569E-01	Half-Life	too short	
		1260.41	*	-5.453E+10	1.569E-01	Half-Life	too short	
		1457.56		2.800E+14	1.569E-01	Half-Life	too short	
		1678.03		-5.648E+11	1.569E-01	Half-Life	too short	
		1791.20		-8.304E+11	1.569E-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		153.25		5.629E-01	7.558E-01	1.333E+00	1.442E-01	0.422
		176.60		-1.905E-01	4.580E-01	7.627E-01	7.016E-02	-0.250
		273.65		3.891E-01	6.790E-01	8.477E-01	8.171E-02	0.459
		340.55		2.188E-01	1.699E-01	2.718E-01	2.452E-02	0.805
		818.51		-7.291E-02	1.005E-01	1.563E-01	1.548E-02	-0.467
BA-137M		1048.07	*	-1.121E-01	1.649E-01	2.505E-01	2.258E-02	-0.448
		1235.36		4.975E-01	9.901E-01	1.666E+00	1.912E-01	0.299
		661.66	*	-5.412E-02	4.693E-02	6.789E-02	7.498E-03	-0.797
		661.66	*	-5.717E-02	4.958E-02	7.172E-02	7.930E-03	-0.797
		165.86	*	-8.094E-03	2.332E-02	3.916E-02	3.183E-03	-0.207
BA-140		162.66		3.857E-01	7.388E-01	1.278E+00	1.153E-01	0.302
		304.85		-1.366E+00	1.530E+00	2.245E+00	6.591E-01	-0.609
		423.72		-1.442E-02	2.338E+00	3.960E+00	1.301E+00	-0.004
		537.26	*	3.143E-01	3.385E-01	5.772E-01	1.978E-01	0.544
		328.76		9.176E-01	5.448E-01	6.407E-01	5.945E-02	1.432
LA-140	+	487.02		7.529E-02	1.594E-01	2.770E-01	2.711E-02	0.272
		815.77		2.657E-02	4.285E-01	7.261E-01	7.856E-02	0.037
		1596.21	*	-3.857E-02	1.186E-01	1.830E-01	1.531E-02	-0.211
		145.44	*	-7.927E-02	5.677E-02	8.041E-02	8.063E-03	-0.986
		57.36		4.416E-04	5.677E-02	Half-Life	too short	
CE-143		293.27	*	1.367E-03	5.677E-02	Half-Life	too short	
		664.57		8.319E-03	5.677E-02	Half-Life	too short	
		721.93		-2.312E-03	5.677E-02	Half-Life	too short	
		80.12		1.371E+00	1.367E+00	2.156E+00	1.902E-01	0.636
		133.52	*	-1.246E-01	1.659E-01	2.472E-01	4.099E-02	-0.504
PM-144		476.78		7.000E-03	6.215E-02	1.053E-01	1.038E-02	0.067
		618.01		4.640E-03	3.998E-02	6.612E-02	7.201E-03	0.070
		696.49	*	3.537E-03	4.296E-02	7.004E-02	7.651E-03	0.051
		696.51	*	2.765E-01	3.220E+00	5.252E+00	5.735E-01	0.053
		1489.16		5.046E+00	1.584E+01	2.771E+01	2.302E+00	0.182
PM-146		453.88	*	2.416E-02	4.103E-02	7.222E-02	7.785E-03	0.335
		633.25		-1.683E-01	1.726E+00	2.792E+00	1.082E+00	-0.060
		735.93		3.088E-02	1.800E-01	2.944E-01	8.458E-02	0.105
		747.24		7.137E-02	1.279E-01	2.159E-01	3.419E-02	0.331
		91.11		8.526E-01	2.278E-01	3.108E-01	3.172E-02	2.743
ND-147	+	319.41		-6.039E-01	3.548E+00	5.667E+00	5.018E-01	-0.107
		531.02	*	9.363E-02	6.929E-01	1.164E+00	1.825E-01	0.080
		285.90	*	-5.590E+01	1.699E+02	2.712E+02	4.264E+01	-0.206
		121.78		-1.646E-02	5.661E-02	8.720E-02	1.086E-02	-0.189
		244.70		1.968E-01	3.121E-01	4.848E-01	4.315E-02	0.406
EU-152		344.28	*	-4.727E-02	9.292E-02	1.431E-01	1.312E-02	-0.330
		778.90		-9.791E-02	3.752E-01	5.019E-01	5.184E-02	-0.195
		964.08		5.919E-01	4.512E-01	7.439E-01	6.518E-02	0.796
		1085.87		3.268E-01	5.251E-01	9.148E-01	7.831E-02	0.357
		1112.07		-1.982E-01	4.179E-01	6.470E-01	5.487E-02	-0.306
GD-153		1408.01		2.747E-01	1.881E-01	3.840E-01	3.159E-02	0.715
		69.67		-6.297E-01	7.715E-01	1.227E+00	1.006E-01	-0.513
		97.43	*	2.351E-02	6.352E-02	8.529E-02	8.426E-03	0.276
		103.18		-1.004E-01	8.608E-02	1.168E-01	1.192E-02	-0.860

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154		123.07		1.916E-02	3.882E-02	6.284E-02	8.550E-03	0.305
		723.31		1.217E-01	2.075E-01	3.176E-01	3.647E-02	0.383
		873.19		2.452E-01	3.668E-01	6.503E-01	7.987E-02	0.377
		996.26		-2.401E-01	4.455E-01	6.871E-01	1.204E-01	-0.349
		1004.73		7.505E-02	3.049E-01	5.147E-01	6.030E-02	0.146
		1274.44	*	1.177E-02	1.766E-01	2.865E-01	3.168E-02	0.041
EU-155	+	86.55		4.176E-01	8.874E-02	1.244E-01	1.166E-02	3.358
		105.31	*	9.752E-02	7.408E-02	1.250E-01	1.303E-02	0.780
TB-160	+	86.79		1.130E+00	2.398E-01	3.510E-01	3.269E-02	3.220
		197.04		-2.222E-01	5.018E-01	8.147E-01	6.949E-02	-0.273
		215.65		3.678E-01	6.879E-01	1.180E+00	1.029E-01	0.312
	+	298.57		2.137E-01	1.253E-01	1.993E-01	1.778E-02	1.072
		879.36	*	-1.375E-01	1.824E-01	2.806E-01	2.540E-02	-0.490
		962.29		5.646E-01	8.344E-01	1.346E+00	1.179E-01	0.420
		966.15		9.791E-01	3.986E-01	6.901E-01	6.046E-02	1.419
		1177.93		-5.489E-01	5.235E-01	7.501E-01	6.181E-02	-0.732
		1271.85		-1.075E-01	1.030E+00	1.638E+00	1.343E-01	-0.066
		80.57		1.256E-01	1.508E-01	2.360E-01	2.090E-02	0.532
HO-166M		184.41		5.343E-02	3.281E-02	5.380E-02	4.506E-03	0.993
		280.46		3.994E-02	8.401E-02	1.280E-01	1.141E-02	0.312
		410.95		1.919E-01	3.008E-01	4.504E-01	3.711E-02	0.426
		711.68	*	-5.877E-02	7.859E-02	1.170E-01	1.269E-02	-0.502
		752.31		-3.836E-01	3.963E-01	5.735E-01	6.059E-02	-0.669
		810.29		-7.285E-02	7.109E-02	1.066E-01	1.066E-02	-0.683
		67.75		2.934E-02	4.839E-02	8.119E-02	6.580E-03	0.361
TA-182	+	100.11		2.705E-01	2.274E-01	2.134E-01	2.140E-02	1.268
		152.43		-3.672E-01	3.182E-01	4.583E-01	4.276E-02	-0.801
		222.11		-3.490E-02	3.020E-01	5.010E-01	4.394E-02	-0.070
		1121.30		5.473E-01	2.716E-01	4.613E-01	3.897E-02	1.186
		1189.05		1.761E-01	4.270E-01	7.218E-01	5.948E-02	0.244
		1221.41	*	-4.169E-02	2.919E-01	4.655E-01	3.832E-02	-0.090
		1231.02		-1.307E-01	7.532E-01	1.198E+00	9.858E-02	-0.109
IR-192	+	295.96		1.011E+00	2.479E-01	3.087E-01	2.774E-02	3.276
		308.46		3.467E-02	9.516E-02	1.583E-01	1.416E-02	0.219
		316.51	*	2.294E-02	3.230E-02	5.500E-02	4.888E-03	0.417
		468.07		-4.520E-02	8.090E-02	1.174E-01	1.132E-02	-0.385
HG-203		70.83		-9.174E-01	6.628E-01	1.007E+00	1.598E-01	-0.911
		72.87		1.879E-01	4.464E-01	6.881E-01	1.059E-01	0.273
BI-207		279.20	*	2.515E-02	3.934E-02	6.070E-02	5.541E-03	0.414
		72.81		4.056E-02	9.967E-02	1.538E-01	1.287E-02	0.264
	+	74.97		6.833E-01	9.299E-02	1.456E-01	1.236E-02	4.694
		569.70		1.856E-02	3.594E-02	6.176E-02	6.323E-03	0.301
PB-211		1063.66	*	-1.387E-02	6.793E-02	1.089E-01	9.383E-03	-0.127
		1770.23		-1.677E+00	7.717E-01	5.397E-01	4.485E-02	-3.106
		404.85	*	-6.640E-01	9.440E-01	1.141E+00	5.513E-01	-0.582
		427.09		-1.125E+00	1.708E+00	2.621E+00	1.212E+00	-0.429
RN-219		832.01		-2.643E-01	1.233E+00	2.018E+00	1.051E+00	-0.131
	+	271.23		6.512E-01	3.277E-01	4.426E-01	4.657E-02	1.471
		401.81	*	1.432E-01	4.479E-01	7.270E-01	1.060E-01	0.197

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-223		81.07		3.011E-02	1.134E-01	1.866E-01	1.659E-02	0.161
		83.79		1.611E-01	8.067E-02	1.300E-01	1.181E-02	1.240
		94.87		2.145E-01	3.318E-01	4.540E-01	4.423E-02	0.472
		144.24		1.874E-01	5.729E-01	9.028E-01	9.804E-02	0.208
		154.21		2.382E-01	3.016E-01	5.332E-01	5.310E-02	0.447
	+	269.46		5.059E-01	2.532E-01	3.578E-01	3.256E-02	1.414
		323.87	*	3.059E-02	7.174E-01	1.038E+00	1.810E-01	0.029
	+	338.28		8.031E+00	1.971E+00	2.776E+00	3.371E-01	2.893
		79.69		-6.399E-01	7.308E-01	1.042E+00	1.804E-01	-0.614
		235.96		-4.239E-02	1.485E-01	2.166E-01	2.284E-02	-0.196
AC-227		256.23	*	-1.109E-01	2.438E-01	3.911E-01	4.802E-02	-0.283
	+	299.98		1.635E+00	9.705E-01	1.604E+00	2.071E-01	1.019
		304.50		-1.710E+00	1.611E+00	2.383E+00	3.976E-01	-0.717
		334.37		1.498E+00	1.791E+00	2.762E+00	4.326E-01	0.542
		79.80		1.453E-01	9.139E-01	1.388E+00	3.032E-01	0.105
TH-227		235.96		-4.239E-02	1.484E-01	2.166E-01	2.160E-02	-0.196
		256.23	*	-1.109E-01	2.439E-01	3.911E-01	5.400E-02	-0.283
	+	299.98		1.635E+00	9.705E-01	1.604E+00	2.071E-01	1.019
		304.50		-1.710E+00	1.611E+00	2.383E+00	3.976E-01	-0.717
		334.37		1.498E+00	1.791E+00	2.762E+00	4.326E-01	0.542
TH-229		85.43		-2.475E-01	1.416E-01	1.914E-01	1.763E-02	-1.293
	+	88.47		5.305E-01	1.125E-01	1.347E-01	1.270E-02	3.937
		193.51	*	1.145E-01	4.439E-01	7.582E-01	6.436E-02	0.151
PA-231		210.85		6.199E-01	8.249E-01	1.300E+00	1.128E-01	0.477
		283.69	*	9.184E-02	1.330E+00	2.186E+00	3.228E-01	0.042
		301.36		9.433E-01	6.297E-01	1.008E+00	1.246E-01	0.936
TH-231		81.07		3.011E-02	1.134E-01	1.866E-01	1.659E-02	0.161
		83.79		1.611E-01	8.067E-02	1.300E-01	1.181E-02	1.240
		94.87		2.145E-01	3.318E-01	4.540E-01	4.423E-02	0.472
		144.24		1.874E-01	5.729E-01	9.028E-01	9.804E-02	0.208
		154.21		2.382E-01	3.016E-01	5.332E-01	5.310E-02	0.447
	+	269.46		5.059E-01	2.532E-01	3.578E-01	3.256E-02	1.414
		323.87	*	3.059E-02	7.174E-01	1.038E+00	1.810E-01	0.029
	+	338.28		8.031E+00	1.971E+00	2.776E+00	3.371E-01	2.893
	+	300.13		7.399E-01	4.428E-01	7.238E-01	1.086E-01	1.022
		311.90	*	-2.556E-02	6.023E-02	9.451E-02	8.626E-03	-0.270
PA-233		340.48		8.991E-01	6.819E-01	1.048E+00	2.525E-01	0.858
		94.67		1.817E-01	1.259E-01	1.788E-01	2.359E-02	1.017
	+	98.44		1.352E-01	1.359E-01	1.021E-01	5.716E-02	1.324
PA-234		111.00		-1.778E-01	1.395E-01	2.036E-01	2.780E-02	-0.873
		131.20		7.403E-02	8.940E-02	1.358E-01	1.481E-02	0.545
		569.50		1.757E-01	3.199E-01	5.510E-01	5.641E-02	0.319
		733.00		-1.278E-01	5.096E-01	6.872E-01	1.587E-01	-0.186
		880.51		-2.698E-01	3.532E-01	5.415E-01	4.891E-02	-0.498
		883.24		1.749E-01	3.713E-01	6.182E-01	4.159E-01	0.283
		926.50		-8.184E-02	2.219E-01	3.530E-01	8.942E-02	-0.232
		946.00	*	8.956E-03	3.898E-01	6.487E-01	1.222E-01	0.014
		949.00		5.671E-01	6.051E-01	1.090E+00	9.550E-02	0.520
		766.42		2.252E+01	1.983E+01	2.885E+01	1.474E+01	0.781

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	1001.03	*	-2.213E+00	6.064E+00	9.623E+00	9.682E-01	-0.230
		99.53		2.452E-01	2.062E-01	1.996E-01	1.996E-02	1.228
		103.37		-9.087E-02	7.791E-02	1.057E-01	1.080E-02	-0.860
		106.12		1.488E-03	5.891E-02	9.419E-02	9.785E-03	0.016
		117.23	*	-1.130E-01	3.018E-01	4.680E-01	5.209E-02	-0.241
AM-241	+	228.18		1.154E-01	1.910E-01	3.278E-01	2.890E-02	0.352
		277.60		3.716E-01	2.277E-01	3.054E-01	2.724E-02	1.217
		59.54	*	2.556E-02	5.034E-02	7.935E-02	6.731E-03	0.322
CM-247	+	278.00		1.578E+00	9.672E-01	1.301E+00	1.160E-01	1.214
		287.50		3.925E-01	1.099E+00	1.838E+00	1.641E-01	0.213
		402.40	*	1.128E-02	4.148E-02	6.712E-02	5.444E-03	0.168
CF-249		252.80		5.849E-02	8.135E-01	1.350E+00	1.205E-01	0.043
		333.37		7.830E-02	1.984E-01	2.723E-01	2.386E-02	0.288
		388.16	*	4.386E-02	4.157E-02	7.148E-02	5.731E-03	0.614
CF-251		177.52	*	2.039E-02	1.076E-01	1.816E-01	1.505E-02	0.112
		227.38		2.142E-01	3.086E-01	5.323E-01	4.689E-02	0.403
		285.41		4.024E-01	1.998E+00	3.310E+00	2.955E-01	0.122

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]G1202050255      *
* Acquisition date   : 4-MAR-2010 18:52:02 Detector SN# :                   *
* Detector ID        : GAM21          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 02:00:26.45 Half life ratio    : 8.000            *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202050255    Analyst initials: MXR1              *
* Batch Number       : 956158          Sample Quantity   : 1.3688E+02 GRAM    *
* Recovery           : 1.00000         Carrier Weight     : 0.00000          *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                               *
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 MS Isotope      :                 *
* MSD DPM            : 0.000          MSD Isotope          :                 *
* LCS DPM            : 0.000          LCS Isotope          :                 *
* LCSD DPM           : 0.000          LCSD Isotope         :                 *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.054E+01	3.397E+00	7.103E-01	0.000E+00
CD-109	3.532E+00	7.343E-01	7.415E-01	0.000E+00
SN-126	3.441E-01	7.154E-02	7.426E-02	0.000E+00
TL-208	5.514E-01	1.013E-01	7.374E-02	0.000E+00
PB-210	1.546E+00	6.553E-01	5.691E-01	0.000E+00
BI-211	4.778E+00	6.328E-01	2.908E-01	0.000E+00
BI-212	2.087E+00	1.113E+00	9.343E-01	0.000E+00
PB-212	1.971E+00	2.251E-01	8.883E-02	0.000E+00
BI-214	1.354E+00	2.244E-01	1.185E-01	0.000E+00
PB-214	1.734E+00	2.481E-01	1.058E-01	0.000E+00
RA-224	4.571E+00	1.123E+00	9.546E-01	0.000E+00
RA-226	1.354E+00	2.244E-01	1.185E-01	0.000E+00
AC-228	2.428E+00	4.803E-01	2.876E-01	0.000E+00
RA-228	2.428E+00	4.803E-01	2.876E-01	0.000E+00
TH-228	1.971E+00	2.251E-01	8.883E-02	0.000E+00
TH-232	2.428E+00	4.803E-01	2.876E-01	0.000E+00
TH-234	1.214E+00	9.606E-01	8.443E-01	0.000E+00
U-235	1.706E-01	1.686E-01	2.901E-01	0.000E+00
NP-237	1.027E+00	3.001E-01	2.455E-01	0.000E+00
U-238	1.214E+00	9.606E-01	8.443E-01	0.000E+00
ANH-511	1.267E-01	7.030E-02	5.540E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.123E-01	3.128E-01	5.648E-01	0.000E+00 NOT IDENT.
NA-22	9.187E-03	6.086E-02	1.023E-01	0.000E+00 NOT IDENT.
NA-24	0.000E+00	9.475E+06	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-4.642E-02	4.430E-02	6.665E-02	0.000E+00 FAIL ABUN
V-48	-2.273E-02	9.844E-02	1.637E-01	0.000E+00 NOT IDENT.
CR-51	-1.027E-01	3.712E-01	6.201E-01	0.000E+00 NOT IDENT.

MN-54	3.342E-02	4.838E-02	8.866E-02	0.000E+00	NOT IDENT.
CO-56	2.930E-03	4.772E-02	8.331E-02	0.000E+00	NOT IDENT.
CO-57	-6.985E-03	1.946E-02	3.203E-02	0.000E+00	NOT IDENT.
CO-58	-3.197E-02	4.616E-02	7.474E-02	0.000E+00	NOT IDENT.
FE-59	-8.650E-02	1.165E-01	1.784E-01	0.000E+00	NOT IDENT.
CO-60	1.792E-03	4.689E-02	8.104E-02	0.000E+00	NOT IDENT.
ZN-65	3.445E-03	1.342E-01	1.957E-01	0.000E+00	NOT IDENT.
SE-75	4.021E-03	3.845E-02	6.736E-02	0.000E+00	NOT IDENT.
SR-85	3.884E-03	4.195E-02	6.490E-02	0.000E+00	NOT IDENT.
Y-88	8.734E-03	4.323E-02	7.497E-02	0.000E+00	NOT IDENT.
Y-91	-5.525E+00	3.071E+01	5.016E+01	0.000E+00	NOT IDENT.
NB-94	-2.902E-02	3.939E-02	6.095E-02	0.000E+00	NOT IDENT.
NB-95	5.978E-02	6.597E-02	1.056E-01	0.000E+00	NOT IDENT.
NB-95M	-2.619E-02	1.211E-01	1.883E-01	0.000E+00	NOT IDENT.
ZR-95	-9.114E-03	9.770E-02	1.610E-01	0.000E+00	NOT IDENT.
MO-99	2.418E+01	2.583E+01	4.661E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.256E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-9.357E-03	3.836E-02	6.542E-02	0.000E+00	FAIL ABUN
RH-106	2.457E-01	3.591E-01	6.465E-01	0.000E+00	NOT IDENT.
RU-106	2.457E-01	3.583E-01	6.465E-01	0.000E+00	NOT IDENT.
AG-108M	-1.623E-02	2.953E-02	5.011E-02	0.000E+00	NOT IDENT.
AG-110M	1.079E-02	4.027E-02	6.982E-02	0.000E+00	NOT IDENT.
SN-113	-4.306E-03	4.734E-02	7.833E-02	0.000E+00	NOT IDENT.
CD-115	-1.282E+01	2.480E+01	4.108E+01	0.000E+00	NOT IDENT.
SN-117M	7.350E-03	4.834E-02	8.786E-02	0.000E+00	NOT IDENT.
TE-123M	-5.578E-03	2.230E-02	3.979E-02	0.000E+00	NOT IDENT.
SB-124	-4.671E-02	7.757E-02	1.048E-01	0.000E+00	NOT IDENT.
SB-125	-4.730E-02	9.276E-02	1.585E-01	0.000E+00	FAIL ABUN
TE-125M	3.900E+00	7.117E+00	1.249E+01	0.000E+00	NOT IDENT.
I-126	2.812E-01	3.104E-01	5.622E-01	0.000E+00	NOT IDENT.
SB-126	-2.075E-01	2.076E-01	2.756E-01	0.000E+00	NOT IDENT.
SB-127	-1.593E-01	2.253E+00	3.764E+00	0.000E+00	NOT IDENT.
I-131	-9.256E-02	1.396E-01	2.214E-01	0.000E+00	NOT IDENT.
TE-132	6.234E-01	1.014E+00	1.840E+00	0.000E+00	NOT IDENT.
BA-133	3.760E-04	4.315E-02	6.477E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	3.569E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.067E-01	6.530E-02	1.134E-01	0.000E+00	NOT IDENT.
CS-135	1.374E-01	1.538E-01	2.550E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.114E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.121E-01	1.616E-01	2.528E-01	0.000E+00	NOT IDENT.
BA-137M	-5.412E-02	4.600E-02	6.915E-02	0.000E+00	NOT IDENT.
CS-137	-5.717E-02	4.859E-02	7.305E-02	0.000E+00	NOT IDENT.
CE-139	-8.094E-03	2.286E-02	4.093E-02	0.000E+00	NOT IDENT.
BA-140	3.143E-01	3.317E-01	5.902E-01	0.000E+00	NOT IDENT.
LA-140	-3.857E-02	1.163E-01	1.832E-01	0.000E+00	FAIL ABUN
CE-141	-7.927E-02	5.564E-02	8.426E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	5.274E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.246E-01	1.626E-01	2.595E-01	0.000E+00	NOT IDENT.
PM-144	3.537E-03	4.210E-02	7.127E-02	0.000E+00	NOT IDENT.
PR-144	2.765E-01	3.155E+00	5.343E+00	0.000E+00	NOT IDENT.
PM-146	2.416E-02	4.021E-02	7.408E-02	0.000E+00	NOT IDENT.
ND-147	9.363E-02	6.791E-01	1.191E+00	0.000E+00	FAIL ABUN
PM-149	-5.590E+01	1.665E+02	2.806E+02	0.000E+00	NOT IDENT.
EU-152	-4.727E-02	9.107E-02	1.475E-01	0.000E+00	NOT IDENT.
GD-153	2.351E-02	6.225E-02	9.002E-02	0.000E+00	NOT IDENT.
EU-154	1.177E-02	1.730E-01	2.881E-01	0.000E+00	NOT IDENT.
EU-155	9.752E-02	7.260E-02	1.318E-01	0.000E+00	FAIL ABUN
TB-160	-1.375E-01	1.788E-01	2.842E-01	0.000E+00	FAIL ABUN
HO-166M	-5.877E-02	7.702E-02	1.190E-01	0.000E+00	NOT IDENT.
TA-182	-4.169E-02	2.860E-01	4.685E-01	0.000E+00	FAIL ABUN
IR-192	2.294E-02	3.165E-02	5.681E-02	0.000E+00	FAIL ABUN
HG-203	2.515E-02	3.855E-02	6.284E-02	0.000E+00	NOT IDENT.
BI-207	-1.387E-02	6.658E-02	1.099E-01	0.000E+00	FAIL ABUN
PB-211	-6.640E-01	9.251E-01	1.173E+00	0.000E+00	NOT IDENT.
RN-219	1.432E-01	4.389E-01	7.476E-01	0.000E+00	FAIL ABUN
RA-223	3.059E-02	7.030E-01	1.072E+00	0.000E+00	FAIL ABUN
AC-227	-1.109E-01	2.389E-01	4.056E-01	0.000E+00	FAIL ABUN
TH-227	-1.109E-01	2.390E-01	4.056E-01	0.000E+00	FAIL ABUN
TH-229	1.145E-01	4.350E-01	7.903E-01	0.000E+00	FAIL ABUN
PA-231	9.184E-02	1.304E+00	2.262E+00	0.000E+00	NOT IDENT.
TH-231	3.059E-02	7.030E-01	1.072E+00	0.000E+00	FAIL ABUN
PA-233	-2.556E-02	5.902E-02	9.765E-02	0.000E+00	FAIL ABUN
PA-234	8.956E-03	3.820E-01	6.561E-01	0.000E+00	FAIL ABUN
PA-234M	-2.213E+00	5.943E+00	9.722E+00	0.000E+00	NOT IDENT.
NP-239	-1.130E-01	2.958E-01	4.923E-01	0.000E+00	FAIL ABUN
AM-241	2.556E-02	4.933E-02	8.449E-02	0.000E+00	NOT IDENT.
CM-247	1.128E-02	4.065E-02	6.901E-02	0.000E+00	FAIL ABUN
CF-249	4.386E-02	4.074E-02	7.355E-02	0.000E+00	NOT IDENT.

CF-251	2.039E-02	1.055E-01	1.896E-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]G1202050255.CNF;1
Sample date        : 15-FEB-2010 12:00:00 Acquisition date : 4-MAR-2010 18:52:02.
Sample ID          : G1202050255 Sample quantity : 1.36880E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:26.45 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 956158 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	855	10.66*	7.206E-01	3.054E+01	3.054E+01	11.35
CD-109	88.03	378	3.70*	8.138E+00	3.441E+00	3.532E+00	21.22
SN-126	64.28	134	9.60	8.191E+00	4.678E-01	4.678E-01	80.10
	86.94	378	8.90	8.138E+00	1.430E+00	1.430E+00	45.68
	87.57	378	37.00*	8.138E+00	3.441E-01	3.441E-01	21.22
TL-208	277.37	74	6.60	3.803E+00	8.131E-01	8.131E-01	61.95
	583.19	304	85.00*	1.778E+00	5.514E-01	5.514E-01	18.74
	860.56	-----	12.50	1.201E+00	-----	Line Not Found	-----
PB-210	46.54	176	4.25*	7.349E+00	1.544E+00	1.546E+00	43.25
BI-211	72.87	-----	1.23	8.278E+00	-----	Line Not Found	-----
	351.06	675	12.92*	2.998E+00	4.778E+00	4.778E+00	13.51
BI-212	727.33	72	6.67*	1.419E+00	2.087E+00	2.087E+00	54.43
	785.37	-----	1.10	1.315E+00	-----	Line Not Found	-----
	1620.50	16	1.47	6.507E-01	4.519E+00	4.519E+00	91.89
PB-212	74.82	735	10.28	8.275E+00	2.370E+00	2.370E+00	16.73
	77.11	1141	17.10	8.264E+00	2.215E+00	2.215E+00	11.49
	238.63	1375	43.60*	4.388E+00	1.971E+00	1.971E+00	11.66
	300.09	63	3.30	3.522E+00	1.486E+00	1.486E+00	58.93
BI-214	609.32	382	45.49*	1.700E+00	1.353E+00	1.354E+00	16.92
	1120.29	58	14.92	9.300E-01	1.150E+00	1.150E+00	54.59
	1764.49	66	15.30	5.986E-01	1.976E+00	1.976E+00	25.98
PB-214	74.82	735	5.80	8.275E+00	4.201E+00	4.202E+00	15.75
	77.11	1141	9.70	8.264E+00	3.905E+00	3.905E+00	14.14
	242.00	297	7.25	4.339E+00	2.585E+00	2.585E+00	25.74
	295.22	322	18.42	3.577E+00	1.340E+00	1.340E+00	25.35
	351.93	675	35.60*	2.998E+00	1.734E+00	1.734E+00	14.60
RA-224	240.99	297	4.10*	4.339E+00	4.571E+00	4.571E+00	25.08
RA-226	609.32	382	45.49*	1.700E+00	1.353E+00	1.354E+00	16.92
	1120.29	58	14.92	9.300E-01	1.150E+00	1.150E+00	54.59
	1764.49	66	15.30	5.986E-01	1.976E+00	1.976E+00	25.98
AC-228	338.32	260	11.27	3.121E+00	2.024E+00	2.024E+00	46.87
	911.20	259	25.80*	1.136E+00	2.428E+00	2.428E+00	20.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-228	968.97	127	15.80	1.070E+00	2.062E+00	2.062E+00	37.19
	338.32	260	11.27	3.121E+00	2.024E+00	2.024E+00	46.87
	911.20	259	25.80*	1.136E+00	2.428E+00	2.428E+00	20.19
TH-228	968.97	127	15.80	1.070E+00	2.062E+00	2.062E+00	37.19
	74.82	735	10.28	8.275E+00	2.370E+00	2.370E+00	13.66
	77.11	1141	17.10	8.264E+00	2.215E+00	2.215E+00	11.49
TH-232	238.63	1375	43.60*	4.388E+00	1.971E+00	1.971E+00	11.66
	300.09	63	3.30	3.522E+00	1.486E+00	1.486E+00	84.31
	338.32	260	11.27	3.121E+00	2.024E+00	2.024E+00	23.04
TH-234	911.20	259	25.80*	1.136E+00	2.428E+00	2.428E+00	20.19
	968.97	127	15.80	1.070E+00	2.062E+00	2.062E+00	37.19
	63.29	134	3.70*	8.191E+00	1.214E+00	1.214E+00	80.76
U-235	92.59	424	4.23	8.022E+00	3.429E+00	3.429E+00	27.13
	89.96	235	3.47	8.085E+00	2.296E+00	2.296E+00	35.10
	93.35	424	5.60	8.022E+00	2.590E+00	2.590E+00	27.96
NP-237	143.76	-----	10.96*	6.567E+00	-----	Line Not Found	-----
	163.33	-----	5.08	6.017E+00	-----	Line Not Found	-----
	185.72	262	57.20	5.446E+00	2.310E-01	2.310E-01	31.90
U-238	205.31	-----	5.01	5.015E+00	-----	Line Not Found	-----
	86.48	378	12.40*	8.138E+00	1.027E+00	1.027E+00	29.83
	95.86	-----	2.68	7.953E+00	-----	Line Not Found	-----
ANH-511	63.29	134	3.70*	8.191E+00	1.214E+00	1.214E+00	80.76
	92.59	424	4.23	8.022E+00	3.429E+00	3.429E+00	17.96
	511.00	94	100.00*	2.038E+00	1.267E-01	1.267E-01	56.60

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 5
Number of lines tentatively identified by NID 29 85.29%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	3.054E+01	3.054E+01	0.347E+01	11.35	
CD-109	461.40D	1.03	3.441E+00	3.532E+00	0.749E+00	21.22	
SN-126	2.30E+05Y	1.00	3.441E-01	3.441E-01	0.730E-01	21.22	
TL-208	1.41E+10Y	1.00	5.514E-01	5.514E-01	1.033E-01	18.74	
PB-210	22.20Y	1.00	1.544E+00	1.546E+00	0.669E+00	43.25	
BI-211	7.04E+08Y	1.00	4.778E+00	4.778E+00	0.646E+00	13.51	
BI-212	1.41E+10Y	1.00	2.087E+00	2.087E+00	1.136E+00	54.43	
PB-212	1.41E+10Y	1.00	1.971E+00	1.971E+00	0.230E+00	11.66	
BI-214	1600.00Y	1.00	1.353E+00	1.354E+00	0.229E+00	16.92	
PB-214	1600.00Y	1.00	1.734E+00	1.734E+00	0.253E+00	14.60	
RA-224	1.41E+10Y	1.00	4.571E+00	4.571E+00	1.146E+00	25.08	
RA-226	1600.00Y	1.00	1.353E+00	1.354E+00	0.229E+00	16.92	
AC-228	1.41E+10Y	1.00	2.428E+00	2.428E+00	0.490E+00	20.19	
RA-228	1.41E+10Y	1.00	2.428E+00	2.428E+00	0.490E+00	20.19	
TH-228	1.41E+10Y	1.00	1.971E+00	1.971E+00	0.230E+00	11.66	
TH-232	1.41E+10Y	1.00	2.428E+00	2.428E+00	0.490E+00	20.19	
TH-234	4.47E+09Y	1.00	1.214E+00	1.214E+00	0.980E+00	80.76	
U-235	7.04E+08Y	1.00	2.310E-01	2.310E-01	0.737E-01	31.90	K
NP-237	2.14E+06Y	1.00	1.027E+00	1.027E+00	0.306E+00	29.83	
U-238	4.47E+09Y	1.00	1.214E+00	1.214E+00	0.980E+00	80.76	
ANH-511	1.00E+09Y	1.00	1.267E-01	1.267E-01	0.717E-01	56.60	

Total Activity : 6.734E+01 6.743E+01

Grand Total Activity : 6.734E+01 6.743E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	99.37	98	455	1.74	198.68	194	10	1.37E-02	83.5	7.87E+00	T
0	128.93	106	243	0.63	257.76	254	6	1.48E-02	50.3	7.01E+00	
0	209.10	148	257	0.71	418.04	414	9	2.05E-02	42.5	4.94E+00	
0	270.00	100	159	1.00	539.80	536	8	1.39E-02	49.2	3.90E+00	T
0	327.93	85	152	0.80	655.62	651	10	1.18E-02	58.6	3.22E+00	T
0	409.17	59	81	0.95	818.07	813	9	8.20E-03	60.8	2.57E+00	
0	462.98	44	93	1.16	925.68	921	9	6.17E-03	84.2	2.26E+00	T
0	770.09	100	124	5.45	1539.90	1528	31	1.39E-02	68.8	1.34E+00	
0	794.31	36	41	1.48	1588.35	1584	9	4.93E-03	72.8	1.30E+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]G1202050255.CNF;1
* Acquisition date   : 4-MAR-2010 18:52:02.   Detector SN#      :
* Detector ID        : GAM21                   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 02:00:26.45           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 15-FEB-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G1202050255           Analyst initials: MXR1
* Batch Number       : 956158                Sample Quantity : 1.36880E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51.9MS Isotope      :
* MSD ID             :                        MSD Isotope     :
* LCS ID             : 1032-A                 LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.054E+01	3.466E+00	7.083E-01	6.047E-02	43.119
CD-109	3.532E+00	7.493E-01	7.013E-01	6.599E-02	5.036
SN-126	3.441E-01	7.300E-02	7.023E-02	6.583E-03	4.899
TL-208	5.514E-01	1.033E-01	7.222E-02	7.861E-03	7.635
PB-210	1.546E+00	6.686E-01	5.322E-01	5.033E-02	2.905
BI-211	4.778E+00	6.457E-01	2.821E-01	2.546E-02	16.940
BI-212	2.087E+00	1.136E+00	9.190E-01	1.288E-01	2.271
PB-212	1.971E+00	2.297E-01	8.555E-02	8.547E-03	23.034
BI-214	1.354E+00	2.289E-01	1.161E-01	1.377E-02	11.653
PB-214	1.734E+00	2.531E-01	1.027E-01	1.085E-02	16.890
RA-224	4.571E+00	1.146E+00	9.196E-01	8.171E-02	4.971
RA-226	1.354E+00	2.289E-01	1.161E-01	1.377E-02	11.653
AC-228	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
RA-228	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
TH-228	1.971E+00	2.297E-01	8.555E-02	8.547E-03	23.034
TH-232	2.428E+00	4.901E-01	2.842E-01	3.324E-02	8.543
TH-234	1.214E+00	9.803E-01	7.938E-01	1.433E-01	1.529
U-235	2.310E-01	7.367E-02	2.768E-01	4.901E-02	0.834

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	1.027E+00	3.063E-01	2.321E-01	5.323E-02	4.423
U-238	1.214E+00	9.803E-01	7.938E-01	1.433E-01	1.529
ANH-511	1.267E-01	7.173E-02	5.412E-02	5.189E-03	2.342

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.123E-01		3.192E-01	5.511E-01	5.399E-02	0.204
NA-22	9.187E-03		6.210E-02	1.017E-01	8.344E-03	0.090
NA-24	-4.885E+00		4.834E+00	Half-Life too short		
SC-46	-4.642E-02		4.521E-02	6.581E-02	5.852E-03	-0.705
V-48	-2.273E-02		1.005E-01	1.620E-01	1.417E-02	-0.140
CR-51	-1.027E-01		3.788E-01	6.005E-01	5.579E-02	-0.171
MN-54	3.342E-02		4.937E-02	8.744E-02	8.475E-03	0.382
CO-56	2.930E-03		4.869E-02	8.219E-02	7.834E-03	0.036
CO-57	-6.985E-03		1.986E-02	3.047E-02	3.501E-03	-0.229
CO-58	-3.197E-02		4.710E-02	7.367E-02	7.373E-03	-0.434
FE-59	-8.650E-02		1.189E-01	1.769E-01	1.632E-02	-0.489
CO-60	1.792E-03		4.785E-02	8.067E-02	6.547E-03	0.022
ZN-65	3.445E-03		1.370E-01	1.941E-01	1.645E-02	0.018
SE-75	4.021E-03		3.924E-02	6.500E-02	5.836E-03	0.062
SR-85	3.884E-03		4.280E-02	6.341E-02	6.102E-03	0.061
Y-88	8.734E-03		4.411E-02	7.511E-02	6.201E-03	0.116
Y-91	-5.525E+00		3.133E+01	4.983E+01	4.105E+00	-0.111
NB-94	-2.902E-02		4.019E-02	5.992E-02	6.525E-03	-0.484
NB-95	5.978E-02		6.731E-02	1.039E-01	1.086E-02	0.575
NB-95M	-2.619E-02		1.236E-01	1.813E-01	1.830E-02	-0.144
ZR-95	-9.114E-03		9.970E-02	1.585E-01	1.788E-02	-0.058
MO-99	2.418E+01		2.636E+01	4.586E+01	7.779E+00	0.527
TC-99M	-7.006E+12		6.411E+12	Half-Life too short		
RU-103	-9.357E-03		3.914E-02	6.388E-02	9.245E-03	-0.146
RH-106	2.457E-01		3.665E-01	6.340E-01	9.330E-02	0.388
RU-106	2.457E-01		3.656E-01	6.340E-01	6.803E-02	0.388
AG-108M	-1.623E-02		3.013E-02	4.881E-02	4.321E-03	-0.332
AG-110M	1.079E-02		4.109E-02	6.855E-02	7.689E-03	0.157
SN-113	-4.306E-03		4.831E-02	7.614E-02	6.271E-03	-0.057
CD-115	-1.282E+01		2.530E+01	4.016E+01	3.930E+00	-0.319
SN-117M	7.350E-03		4.933E-02	8.398E-02	7.392E-03	0.088
TE-123M	-5.578E-03		2.275E-02	3.803E-02	3.352E-03	-0.147
SB-124	-4.671E-02		7.915E-02	1.049E-01	9.150E-03	-0.445
SB-125	-4.730E-02		9.465E-02	1.543E-01	1.335E-02	-0.307
TE-125M	3.900E+00		7.263E+00	1.186E+01	1.442E+00	0.329
I-126	2.812E-01		3.168E-01	5.521E-01	6.091E-02	0.509
SB-126	-2.075E-01		2.118E-01	2.710E-01	2.924E-02	-0.765
SB-127	-1.593E-01		2.299E+00	3.698E+00	5.106E-01	-0.043
I-131	-9.256E-02		1.424E-01	2.149E-01	1.914E-02	-0.431
TE-132	6.234E-01		1.035E+00	1.770E+00	2.898E-01	0.352

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	3.760E-04		4.403E-02	6.285E-02	8.103E-03	0.006
I-133	3.011E-02		1.821E-02	Half-Life too short		
CS-134	1.067E-01		6.663E-02	1.118E-01	1.141E-02	0.955
CS-135	1.374E-01		1.569E-01	2.462E-01	2.521E-02	0.558
I-135	-5.453E+10		1.078E+12	Half-Life too short		
CS-136	-1.121E-01		1.649E-01	2.505E-01	2.258E-02	-0.448
BA-137M	-5.412E-02		4.693E-02	6.789E-02	7.498E-03	-0.797
CS-137	-5.717E-02		4.958E-02	7.172E-02	7.930E-03	-0.797
CE-139	-8.094E-03		2.332E-02	3.916E-02	3.183E-03	-0.207
BA-140	3.143E-01		3.385E-01	5.772E-01	1.978E-01	0.544
LA-140	-3.857E-02		1.186E-01	1.830E-01	1.531E-02	-0.211
CE-141	-7.927E-02		5.677E-02	8.041E-02	8.063E-03	-0.986
CE-143	1.367E-03		2.691E-04	Half-Life too short		
CE-144	-1.246E-01		1.659E-01	2.472E-01	4.099E-02	-0.504
PM-144	3.537E-03		4.296E-02	7.004E-02	7.651E-03	0.051
PR-144	2.765E-01		3.220E+00	5.252E+00	5.735E-01	0.053
PM-146	2.416E-02		4.103E-02	7.222E-02	7.785E-03	0.335
ND-147	9.363E-02		6.929E-01	1.164E+00	1.825E-01	0.080
PM-149	-5.590E+01		1.699E+02	2.712E+02	4.264E+01	-0.206
EU-152	-4.727E-02		9.292E-02	1.431E-01	1.312E-02	-0.330
GD-153	2.351E-02		6.352E-02	8.529E-02	8.426E-03	0.276
EU-154	1.177E-02		1.766E-01	2.865E-01	3.168E-02	0.041
EU-155	9.752E-02		7.408E-02	1.250E-01	1.303E-02	0.780
TB-160	-1.375E-01		1.824E-01	2.806E-01	2.540E-02	-0.490
HO-166M	-5.877E-02		7.859E-02	1.170E-01	1.269E-02	-0.502
TA-182	-4.169E-02		2.919E-01	4.655E-01	3.832E-02	-0.090
IR-192	2.294E-02		3.230E-02	5.500E-02	4.888E-03	0.417
HG-203	2.515E-02		3.934E-02	6.070E-02	5.541E-03	0.414
BI-207	-1.387E-02		6.793E-02	1.089E-01	9.383E-03	-0.127
PB-211	-6.640E-01		9.440E-01	1.141E+00	5.513E-01	-0.582
RN-219	1.432E-01		4.479E-01	7.270E-01	1.060E-01	0.197
RA-223	3.059E-02		7.174E-01	1.038E+00	1.810E-01	0.029
AC-227	-1.109E-01		2.438E-01	3.911E-01	4.802E-02	-0.283
TH-227	-1.109E-01		2.439E-01	3.911E-01	5.400E-02	-0.283
TH-229	1.145E-01		4.439E-01	7.582E-01	6.436E-02	0.151
PA-231	9.184E-02		1.330E+00	2.186E+00	3.228E-01	0.042
TH-231	3.059E-02		7.174E-01	1.038E+00	1.810E-01	0.029
PA-233	-2.556E-02		6.023E-02	9.451E-02	8.626E-03	-0.270
PA-234	8.956E-03		3.898E-01	6.487E-01	1.222E-01	0.014
PA-234M	-2.213E+00		6.064E+00	9.623E+00	9.682E-01	-0.230
NP-239	-1.130E-01		3.018E-01	4.680E-01	5.209E-02	-0.241
AM-241	2.556E-02		5.034E-02	7.935E-02	6.731E-03	0.322
CM-247	1.128E-02		4.148E-02	6.712E-02	5.444E-03	0.168
CF-249	4.386E-02		4.157E-02	7.148E-02	5.731E-03	0.614
CF-251	2.039E-02		1.076E-01	1.816E-01	1.505E-02	0.112

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]G1202050255          *
* Acquisition date   : 4-MAR-2010 18:52:02 Detector SN#                   *
* Detector ID        : GAM21 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 02:00:26.45 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 15-FEB-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G1202050255 Analyst initials: MXR1                 *
* Batch Number       : 956158 Sample Quantity : 1.3688E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*                                     *                                       *
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 MS Isotope                   :
* MSD DPM             : 0.000 MSD Isotope                                :
* LCS DPM             : 0.000 LCS Isotope                                :
* LCSD DPM            : 0.000 LCSD Isotope                               :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.054E+01	3.397E+00	3.553E-01	1.733E+00
CD-109	3.532E+00	7.343E-01	3.710E-01	3.746E-01
SN-126	3.441E-01	7.154E-02	3.715E-02	3.650E-02
TL-208	5.514E-01	1.013E-01	3.689E-02	5.167E-02
PB-210	1.546E+00	6.553E-01	2.847E-01	3.343E-01
BI-211	4.778E+00	6.328E-01	1.455E-01	3.229E-01
BI-212	2.087E+00	1.113E+00	4.674E-01	5.680E-01
PB-212	1.971E+00	2.251E-01	4.444E-02	1.149E-01
BI-214	1.354E+00	2.244E-01	5.928E-02	1.145E-01
PB-214	1.734E+00	2.481E-01	5.295E-02	1.266E-01
RA-224	4.571E+00	1.123E+00	4.776E-01	5.732E-01
RA-226	1.354E+00	2.244E-01	5.928E-02	1.145E-01
AC-228	2.428E+00	4.803E-01	1.439E-01	2.450E-01
RA-228	2.428E+00	4.803E-01	1.439E-01	2.450E-01
TH-228	1.971E+00	2.251E-01	4.444E-02	1.149E-01
TH-232	2.428E+00	4.803E-01	1.439E-01	2.450E-01
TH-234	1.214E+00	9.606E-01	4.224E-01	4.901E-01
U-235	1.706E-01	1.686E-01	1.451E-01	8.604E-02
NP-237	1.027E+00	3.001E-01	1.228E-01	1.531E-01
U-238	1.214E+00	9.606E-01	4.224E-01	4.901E-01
ANH-511	1.267E-01	7.030E-02	2.772E-02	3.586E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.123E-01	3.128E-01	2.826E-01	1.596E-01 NOT IDENT.
NA-22	9.187E-03	6.086E-02	5.117E-02	3.105E-02 NOT IDENT.
NA-24	-4.885E+06	9.475E+06	0.000E+00	4.834E+06 SHORT HLIF
SC-46	-4.642E-02	4.430E-02	3.334E-02	2.260E-02 FAIL ABUN
V-48	-2.273E-02	9.844E-02	8.192E-02	5.023E-02 NOT IDENT.
CR-51	-1.027E-01	3.712E-01	3.103E-01	1.894E-01 NOT IDENT.

MN-54	3.342E-02	4.838E-02	4.436E-02	2.468E-02	NOT IDENT.
CO-56	2.930E-03	4.772E-02	4.168E-02	2.435E-02	NOT IDENT.
CO-57	-6.985E-03	1.946E-02	1.603E-02	9.928E-03	NOT IDENT.
CO-58	-3.197E-02	4.616E-02	3.739E-02	2.355E-02	NOT IDENT.
FE-59	-8.650E-02	1.165E-01	8.925E-02	5.946E-02	NOT IDENT.
CO-60	1.792E-03	4.689E-02	4.054E-02	2.392E-02	NOT IDENT.
ZN-65	3.445E-03	1.342E-01	9.788E-02	6.848E-02	NOT IDENT.
SE-75	4.021E-03	3.845E-02	3.370E-02	1.962E-02	NOT IDENT.
SR-85	3.884E-03	4.195E-02	3.247E-02	2.140E-02	NOT IDENT.
Y-88	8.734E-03	4.323E-02	3.751E-02	2.205E-02	NOT IDENT.
Y-91	-5.525E+00	3.071E+01	2.510E+01	1.567E+01	NOT IDENT.
NB-94	-2.902E-02	3.939E-02	3.049E-02	2.010E-02	NOT IDENT.
NB-95	5.978E-02	6.597E-02	5.281E-02	3.366E-02	NOT IDENT.
NB-95M	-2.619E-02	1.211E-01	9.420E-02	6.180E-02	NOT IDENT.
ZR-95	-9.114E-03	9.770E-02	8.056E-02	4.985E-02	NOT IDENT.
MO-99	2.418E+01	2.583E+01	2.332E+01	1.318E+01	NOT IDENT.
TC-99M	-7.006E+18	1.256E+19	0.000E+00	0.000E+00	SHORT HLIF
RU-103	-9.357E-03	3.836E-02	3.273E-02	1.957E-02	FAIL ABUN
RH-106	2.457E-01	3.591E-01	3.235E-01	1.832E-01	NOT IDENT.
RU-106	2.457E-01	3.583E-01	3.235E-01	1.828E-01	NOT IDENT.
AG-108M	-1.623E-02	2.953E-02	2.507E-02	1.506E-02	NOT IDENT.
AG-110M	1.079E-02	4.027E-02	3.493E-02	2.055E-02	NOT IDENT.
SN-113	-4.306E-03	4.734E-02	3.919E-02	2.415E-02	NOT IDENT.
CD-115	-1.282E+01	2.480E+01	2.055E+01	1.265E+01	NOT IDENT.
SN-117M	7.350E-03	4.834E-02	4.395E-02	2.466E-02	NOT IDENT.
TE-123M	-5.578E-03	2.230E-02	1.990E-02	1.138E-02	NOT IDENT.
SB-124	-4.671E-02	7.757E-02	5.246E-02	3.958E-02	NOT IDENT.
SB-125	-4.730E-02	9.276E-02	7.928E-02	4.733E-02	FAIL ABUN
TE-125M	3.900E+00	7.117E+00	6.250E+00	3.631E+00	NOT IDENT.
I-126	2.812E-01	3.104E-01	2.813E-01	1.584E-01	NOT IDENT.
SB-126	-2.075E-01	2.076E-01	1.379E-01	1.059E-01	NOT IDENT.
SB-127	-1.593E-01	2.253E+00	1.883E+00	1.149E+00	NOT IDENT.
I-131	-9.256E-02	1.396E-01	1.108E-01	7.121E-02	NOT IDENT.
TE-132	6.234E-01	1.014E+00	9.204E-01	5.174E-01	NOT IDENT.
BA-133	3.760E-04	4.315E-02	3.241E-02	2.201E-02	FAIL ABUN
I-133	3.011E+04	3.569E+04	0.000E+00	1.821E+04	SHORT HLIF
CS-134	1.067E-01	6.530E-02	5.676E-02	3.332E-02	NOT IDENT.
CS-135	1.374E-01	1.538E-01	1.276E-01	7.847E-02	NOT IDENT.
I-135	-5.453E+16	2.114E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.121E-01	1.616E-01	1.265E-01	8.247E-02	NOT IDENT.
BA-137M	-5.412E-02	4.600E-02	3.459E-02	2.347E-02	NOT IDENT.
CS-137	-5.717E-02	4.859E-02	3.655E-02	2.479E-02	NOT IDENT.
CE-139	-8.094E-03	2.286E-02	2.048E-02	1.166E-02	NOT IDENT.
BA-140	3.143E-01	3.317E-01	2.953E-01	1.692E-01	NOT IDENT.
LA-140	-3.857E-02	1.163E-01	9.166E-02	5.932E-02	FAIL ABUN
CE-141	-7.927E-02	5.564E-02	4.215E-02	2.839E-02	NOT IDENT.
CE-143	1.367E+03	5.274E+02	0.000E+00	2.691E+02	SHORT HLIF
CE-144	-1.246E-01	1.626E-01	1.298E-01	8.296E-02	NOT IDENT.
PM-144	3.537E-03	4.210E-02	3.566E-02	2.148E-02	NOT IDENT.
PR-144	2.765E-01	3.155E+00	2.673E+00	1.610E+00	NOT IDENT.
PM-146	2.416E-02	4.021E-02	3.706E-02	2.052E-02	NOT IDENT.
ND-147	9.363E-02	6.791E-01	5.958E-01	3.465E-01	FAIL ABUN
PM-149	-5.590E+01	1.665E+02	1.404E+02	8.493E+01	NOT IDENT.
EU-152	-4.727E-02	9.107E-02	7.381E-02	4.646E-02	NOT IDENT.
GD-153	2.351E-02	6.225E-02	4.504E-02	3.176E-02	NOT IDENT.
EU-154	1.177E-02	1.730E-01	1.441E-01	8.828E-02	NOT IDENT.
EU-155	9.752E-02	7.260E-02	6.593E-02	3.704E-02	FAIL ABUN
TB-160	-1.375E-01	1.788E-01	1.422E-01	9.121E-02	FAIL ABUN
HO-166M	-5.877E-02	7.702E-02	5.955E-02	3.929E-02	NOT IDENT.
TA-182	-4.169E-02	2.860E-01	2.344E-01	1.459E-01	FAIL ABUN
IR-192	2.294E-02	3.165E-02	2.842E-02	1.615E-02	FAIL ABUN
HG-203	2.515E-02	3.855E-02	3.144E-02	1.967E-02	NOT IDENT.
BI-207	-1.387E-02	6.658E-02	5.497E-02	3.397E-02	FAIL ABUN
PB-211	-6.640E-01	9.251E-01	5.869E-01	4.720E-01	NOT IDENT.
RN-219	1.432E-01	4.389E-01	3.740E-01	2.239E-01	FAIL ABUN
RA-223	3.059E-02	7.030E-01	5.361E-01	3.587E-01	FAIL ABUN
AC-227	-1.109E-01	2.389E-01	2.029E-01	1.219E-01	FAIL ABUN
TH-227	-1.109E-01	2.390E-01	2.029E-01	1.220E-01	FAIL ABUN
TH-229	1.145E-01	4.350E-01	3.954E-01	2.220E-01	FAIL ABUN
PA-231	9.184E-02	1.304E+00	1.132E+00	6.651E-01	NOT IDENT.
TH-231	3.059E-02	7.030E-01	5.361E-01	3.587E-01	FAIL ABUN
PA-233	-2.556E-02	5.902E-02	4.885E-02	3.011E-02	FAIL ABUN
PA-234	8.956E-03	3.820E-01	3.283E-01	1.949E-01	FAIL ABUN
PA-234M	-2.213E+00	5.943E+00	4.864E+00	3.032E+00	NOT IDENT.
NP-239	-1.130E-01	2.958E-01	2.463E-01	1.509E-01	FAIL ABUN
AM-241	2.556E-02	4.933E-02	4.227E-02	2.517E-02	NOT IDENT.
CM-247	1.128E-02	4.065E-02	3.453E-02	2.074E-02	FAIL ABUN
CF-249	4.386E-02	4.074E-02	3.679E-02	2.079E-02	NOT IDENT.

CF-251

2.039E-02

1.055E-01

9.487E-02

5.381E-02 NOT IDENT.

```

*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD       *
*               CHARLESTON ,SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
*****

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ENERGY	MDA COUNTS
46.54	169.5467
49.72	211.3427
57.36	0.0000
59.54	298.8770
63.29	355.1260
63.29	355.1260
64.28	356.5456
67.75	340.6380
69.67	379.0520
70.83	425.7814
72.81	429.2323
72.87	429.3247
72.87	429.3247
74.82	427.9475
74.82	427.9475
74.82	427.9475
74.97	428.1788
77.11	431.4164
77.11	431.4164
77.11	431.4164
79.69	366.6835
79.80	313.0394
80.12	276.1047
80.19	276.1698
80.57	287.5869
81.00	312.5787
81.07	312.6522
81.07	312.6522
83.79	282.2912
83.79	282.2912
85.43	408.8369
86.48	338.3203
86.55	338.3960
86.79	338.6523
86.94	273.8782
87.57	274.4248
88.03	259.2407
88.47	259.5981
89.96	218.0511
91.11	208.0980
92.59	224.1215
92.59	224.1215
93.35	224.6356
94.67	225.5243
94.87	225.6592
94.87	225.6592
95.86	217.6147
97.43	194.5694
98.44	216.3339
99.53	217.0122
100.11	217.3720
103.18	260.7362
103.37	260.8740
105.31	193.3513
106.12	221.7817
109.28	215.7654
111.00	259.8701
111.76	227.4124
116.30	203.6205
117.23	217.9343
121.12	201.4185
121.78	208.7407
122.06	211.2173
123.07	184.8296
131.20	189.1987
133.52	233.7554
136.00	204.9255

136.47	217.2079
140.51	215.4946
140.51	0.0000
143.76	190.0344
144.24	206.1830
144.24	206.1830
145.44	251.0032
152.43	253.4217
153.25	200.9069
154.21	192.1089
154.21	192.1089
156.02	247.2978
158.56	197.9968
159.00	197.3232
162.66	186.8447
163.33	174.3305
165.86	192.2676
176.60	201.3589
177.52	182.4838
181.07	195.0652
184.41	186.9321
185.72	196.6596
193.51	181.3323
197.04	196.8462
205.31	170.2181
210.85	164.7889
215.65	174.8520
222.11	157.7837
227.38	144.8211
228.16	149.7242
228.18	149.7290
235.69	176.7431
235.96	185.4365
235.96	185.4365
238.63	164.4943
238.63	164.4943
240.99	165.0387
242.00	165.2718
244.70	129.5101
252.40	118.6195
252.80	118.6835
256.23	158.6416
256.23	158.6416
260.90	143.7580
264.66	113.5756
268.22	115.5963
269.46	130.3147
269.46	130.3147
271.23	135.6290
273.65	105.8118
276.40	126.4013
277.37	123.0079
277.60	123.0450
278.00	118.5449
279.20	106.5445
279.54	95.9304
280.46	106.7111
283.69	115.2944
284.31	114.3607
285.41	111.4460
285.90	123.7892
287.50	101.4774
293.27	0.0000
295.22	114.8278
295.96	114.9272
298.57	112.1638
299.98	141.9931
299.98	141.9931
300.09	142.0125
300.09	142.0125
300.13	142.0181
301.36	110.9635
302.85	100.1953
304.50	135.9403
304.50	135.9403
304.85	132.8549
308.46	103.9911
311.90	105.4504

316.51	82.6750
319.41	96.7634
320.08	107.4769
323.87	110.5941
323.87	110.5941
328.76	78.9536
333.37	84.2017
334.37	84.2905
334.37	84.2905
338.28	123.7018
338.28	123.7018
338.32	123.7064
338.32	123.7064
338.32	123.7064
340.48	83.2018
340.55	83.2081
344.28	97.1790
351.06	73.6656
351.93	73.7311
356.01	81.2176
364.49	96.9475
366.42	69.2202
383.85	76.0634
388.16	71.8107
388.63	66.1409
391.69	90.3440
400.66	80.7111
401.81	87.7204
402.40	90.0780
404.85	100.6929
410.95	82.0406
414.70	81.4374
423.72	89.1409
427.09	96.4810
427.87	88.5727
433.94	82.7997
453.88	57.9307
463.37	71.5094
468.07	83.0078
473.00	64.3369
476.78	56.2307
477.60	54.4212
487.02	57.6056
492.35	55.0415
497.08	54.3015
511.00	74.7315
514.00	62.1912
527.90	71.8185
529.87	0.0000
531.02	58.5427
537.26	48.1979
546.56	0.0000
563.25	56.9167
569.33	60.1064
569.50	62.0829
569.70	62.0906
583.19	73.1867
600.60	58.3257
602.73	60.9947
604.72	51.6219
609.32	49.5473
609.32	49.5473
610.33	45.3291
614.28	60.0473
618.01	65.0664
621.93	48.9185
621.93	48.9185
633.25	60.5485
635.95	56.5358
636.99	61.7139
645.85	62.0435
657.76	52.0676
661.66	79.3236
661.66	79.3236
664.57	0.0000
666.33	55.4682
666.50	58.6147
677.62	46.3499

685.70	51.8546
695.00	60.6373
696.49	59.6230
696.51	59.6248
697.00	60.7051
702.65	63.0332
706.68	51.3955
711.68	68.7148
720.70	60.4229
721.93	0.0000
722.78	46.6633
722.91	46.6673
723.31	38.0338
724.19	44.9693
727.33	46.5615
733.00	50.3960
735.93	48.9523
739.50	40.3253
747.24	50.3392
752.31	79.0005
753.82	57.1003
756.73	60.4869
763.94	54.7510
765.81	58.3397
766.42	59.6838
777.92	60.4795
778.90	51.6109
783.70	52.4045
785.37	46.8693
795.86	35.8975
801.95	47.7065
810.29	56.0361
810.76	50.6256
815.77	41.6864
818.51	51.7230
832.01	52.0598
834.85	52.1294
836.80	0.0000
846.77	44.1469
856.80	49.8973
860.56	38.8767
871.09	42.7858
873.19	40.9653
875.33	0.0000
879.36	53.2176
880.51	51.3772
883.24	37.4111
884.68	35.5638
889.28	44.0774
898.04	49.8997
911.20	42.6149
911.20	42.6149
911.20	42.6149
926.50	45.7594
937.49	44.0605
944.13	46.1063
946.00	44.2200
949.00	39.4645
962.29	58.0767
964.08	50.0470
966.15	63.0164
968.97	72.7972
968.97	72.7972
968.97	72.7972
983.53	43.9409
996.26	44.1694
1001.03	50.1558
1004.73	50.2305
1037.84	43.9076
1038.76	0.0000
1048.07	52.0990
1050.41	36.1002
1050.41	36.1002
1063.66	42.3322
1085.87	37.6070
1099.45	44.9475
1112.07	51.3159
1115.54	46.2437

1120.29	45.2934
1120.29	45.2934
1120.55	39.4639
1121.30	53.2056
1131.51	0.0000
1173.23	41.9609
1177.93	61.9932
1189.05	44.3010
1204.77	55.1459
1221.41	60.7907
1231.02	71.6848
1235.36	66.4320
1238.28	58.9880
1260.41	0.0000
1271.85	41.2081
1274.44	40.1562
1274.54	39.0727
1291.59	33.8306
1298.22	0.0000
1312.11	29.6591
1332.49	23.9529
1365.19	24.1941
1368.63	0.0000
1384.29	7.4876
1408.01	6.5981
1457.56	0.0000
1460.82	18.1859
1489.16	13.5084
1505.03	22.2906
1596.21	15.8939
1620.50	11.9966
1678.03	0.0000
1690.97	8.1426
1764.49	3.5530
1764.49	3.5530
1770.23	28.0184
1771.35	11.4181
1791.20	0.0000
1836.06	7.3777

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202050255

Total Uranium Activity	3.6898E+00	ug/g
Total Uranium Counting Unc.	2.8590E+00	ug/g
Total Uranium Tpu	1.4587E-06	ug/g
Total Uranium Mda	1.2584E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 956158          SAMPLE ID   : G1202050255
*  ANALYST       : MXR1            DETECTOR    : GAM21
*  SAMPLE DATE   : 15-FEB-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 4-MAR-2010 18:52:02.81  SAMPLE ALQT: 136.880 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.025E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.397E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.901E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.892E+00

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VAX/VMS Nuclide Identification Report Generated 4-MAR-2010 19:54:16.58

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050256.CNF;1
Sample date        : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:53:52.
Sample ID          : G1202050256 Sample quantity : 1.55440E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.95 0.1%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit   : 75.00000 Sensitivity : 5.00000
Batch ID          : 956158 Detector SN# :
Matrix Spike ID   : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.49	3754	845	0.80	117.85	113	9	1.04E+00	2.1	
2	1	74.98	117	341	0.83	148.85	145	13	3.26E-02	25.2	6.68E-01
3	1	77.11*	264	330	0.76	153.12	145	13	7.34E-02	12.1	
4	0	87.97*	1586	641	0.83	174.85	170	10	4.41E-01	3.9	
5	0	122.08	264	282	0.89	243.12	239	9	7.34E-02	13.0	
6	0	186.42*	120	428	1.13	371.90	365	14	3.33E-02	38.1	
7	6	238.63*	503	166	0.95	476.39	471	16	1.40E-01	6.1	2.32E+00
8	6	241.47	176	259	1.61	482.08	471	16	4.88E-02	20.7	
9	0	269.68	80	202	0.65	538.55	534	8	2.21E-02	32.9	
10	0	295.04	134	269	1.32	589.29	585	12	3.72E-02	25.9	
11	0	338.60*	82	196	0.73	676.48	671	10	2.27E-02	34.2	
12	0	351.89*	212	259	1.19	703.07	698	11	5.90E-02	16.3	
13	0	583.29*	190	95	1.38	1166.16	1161	10	5.28E-02	12.2	
14	0	609.61*	159	97	1.41	1218.84	1214	10	4.42E-02	14.2	
15	0	661.79	2539	144	1.34	1323.25	1316	15	7.05E-01	2.2	
16	0	911.33*	121	124	1.58	1822.58	1818	12	3.36E-02	20.5	
17	0	1121.34	61	56	0.65	2242.77	2238	14	1.69E-02	29.0	
18	0	1173.65	1886	26	1.70	2347.42	2341	15	5.24E-01	2.4	
19	0	1332.96*	1734	21	1.69	2666.15	2659	14	4.82E-01	2.5	
20	0	1461.71*	32	5	1.81	2923.71	2918	11	8.89E-03	23.6	
21	0	1765.02*	29	8	1.30	3530.43	3524	12	8.05E-03	28.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 4-MAR-2010 19:54:20

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050256.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:53:52
Sample ID : G1202050256 Sample quantity : 155.44 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA11 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.95 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
K-40	+	1460.82	*	1.184E+00	5.688E-01	5.199E-01	4.496E-02	2.278
CO-57	+	122.06	*	2.075E-01	5.672E-02	4.755E-02	4.022E-03	4.363
		136.47		1.537E-01	2.691E-01	4.648E-01	4.362E-02	0.331
CO-60	+	1173.23		6.227E+00	5.813E-01	9.140E-02	7.343E-03	68.123
	+	1332.49	*	6.369E+00	6.131E-01	9.140E-02	7.553E-03	69.678
CD-109	+	88.03	*	3.076E+01	3.781E+00	1.495E+00	1.417E-01	20.580
SN-126		64.28		-5.434E-01	5.422E-01	8.261E-01	1.198E-01	-0.658
	+	86.94		1.260E+01	5.327E+00	6.171E-01	2.562E-01	20.421
	+	87.57	*	3.031E+00	3.725E-01	1.478E-01	1.394E-02	20.515
CS-135	+	268.22	*	5.043E-01	3.407E-01	3.602E-01	5.652E-02	1.400
BA-137M	+	661.66	*	5.681E+00	5.945E-01	1.124E-01	1.063E-02	50.556
CS-137	+	661.66	*	6.002E+00	6.288E-01	1.187E-01	1.125E-02	50.556
TL-208		277.37		-2.477E-01	5.847E-01	9.205E-01	1.645E-01	-0.269
	+	583.19	*	4.056E-01	1.080E-01	9.156E-02	9.879E-03	4.430
		860.56		4.637E-02	5.401E-01	9.139E-01	9.516E-02	0.051
BI-211		72.87		2.593E+00	3.867E+00	5.811E+00	4.616E-01	0.446
	+	351.06	*	2.025E+00	7.114E-01	5.458E-01	7.201E-02	3.711
PB-212	+	74.82		9.491E-01	4.926E-01	6.708E-01	8.494E-02	1.415
	+	77.11		1.240E+00	3.170E-01	3.889E-01	3.232E-02	3.188
	+	238.63	*	1.070E+00	1.990E-01	1.393E-01	1.955E-02	7.680
		300.09		6.439E-01	1.462E+00	2.154E+00	3.467E-01	0.299
BI-214	+	609.32	*	6.574E-01	2.006E-01	1.698E-01	1.927E-02	3.870
	+	1120.29		1.291E+00	7.617E-01	8.962E-01	9.722E-02	1.440
	+	1764.49		8.540E-01	4.984E-01	4.703E-01	3.875E-02	1.816
PB-214	+	74.82		1.682E+00	8.680E-01	1.189E+00	1.348E-01	1.415
	+	77.11		2.186E+00	5.872E-01	6.856E-01	8.027E-02	3.188
	+	242.00		2.267E+00	9.969E-01	8.476E-01	1.241E-01	2.675
	+	295.22		7.860E-01	4.271E-01	3.725E-01	6.113E-02	2.110
	+	351.93	*	7.351E-01	2.613E-01	1.985E-01	2.831E-02	3.703
RA-224	+	240.99	*	4.008E+00	1.748E+00	1.493E+00	2.000E-01	2.684
RA-226	+	609.32	*	6.574E-01	2.006E-01	1.698E-01	1.927E-02	3.870
	+	1120.29		1.291E+00	7.617E-01	8.962E-01	9.722E-02	1.440
	+	1764.49		8.540E-01	4.984E-01	4.703E-01	3.875E-02	1.816
TH-228	+	74.82		9.491E-01	4.840E-01	6.708E-01	5.493E-02	1.415

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		1.240E+00	3.170E-01	3.889E-01	3.232E-02	3.188
	+	238.63	*	1.070E+00	1.990E-01	1.393E-01	1.955E-02	7.680
		300.09		6.439E-01	1.512E+00	2.154E+00	1.344E+00	0.299
NP-237	+	86.48	*	9.044E+00	2.198E+00	4.982E-01	1.143E-01	18.156
		95.86		7.214E-02	1.050E+00	1.635E+00	3.943E-01	0.044
AM-241	+	59.54	*	1.375E+01	1.231E+00	3.499E-01	2.750E-02	39.286

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.60	*	-2.595E-01	5.532E-01	8.968E-01	1.015E-01	-0.289
NA-22		1274.54	*	7.733E-03	4.283E-02	7.178E-02	5.895E-03	0.108
NA-24		1368.63	*	-8.777E-04	4.283E-02	Half-Life too short		
SC-46		889.28	*	-4.262E-02	7.573E-02	1.219E-01	1.201E-02	-0.350
	+	1120.55		2.089E-01	1.225E-01	1.571E-01	1.340E-02	1.330
V-48		944.13		7.959E-03	1.537E+00	2.566E+00	2.483E-01	0.003
		983.53	*	-8.263E-02	1.116E-01	1.748E-01	1.658E-02	-0.473
		1312.11		3.701E-02	6.850E-02	1.210E-01	9.973E-03	0.306
CR-51		320.08	*	2.642E-01	4.963E-01	8.189E-01	1.188E-01	0.323
MN-54		834.85	*	-4.162E-02	6.779E-02	1.093E-01	1.077E-02	-0.381
CO-56		846.77	*	-6.626E-02	7.186E-02	1.127E-01	1.110E-02	-0.588
		1037.84		-1.073E-01	5.886E-01	9.613E-01	9.216E-02	-0.112
		1238.28		-3.150E-02	8.513E-02	1.315E-01	1.107E-02	-0.239
		1771.35		-7.973E-01	3.955E-01	3.771E-01	3.103E-02	-2.115
CO-58		810.76	*	-4.208E-02	7.218E-02	1.096E-01	1.079E-02	-0.384
FE-59		1099.45	*	6.177E-02	1.686E-01	2.852E-01	2.681E-02	0.217
		1291.59		2.955E-02	1.177E-01	1.992E-01	1.880E-02	0.148
ZN-65		1115.54	*	-2.323E-02	1.920E-01	2.700E-01	2.317E-02	-0.086
SE-75	+	121.12		1.066E+00	3.007E-01	3.633E-01	3.981E-02	2.933
		136.00		5.414E-02	4.955E-02	8.726E-02	7.684E-03	0.620
		264.66	*	3.545E-03	7.137E-02	1.036E-01	1.523E-02	0.034
		279.54		6.769E-03	1.587E-01	2.575E-01	4.032E-02	0.026
		400.66		-1.846E-02	3.920E-01	6.609E-01	8.439E-02	-0.028
SR-85		514.00	*	-8.555E-02	6.504E-02	9.851E-02	1.052E-02	-0.868
Y-88		898.04		-7.042E-02	8.284E-02	1.303E-01	1.288E-02	-0.540
		1836.06	*	-2.478E-02	4.747E-02	6.904E-02	5.605E-03	-0.359
Y-91		1204.77	*	1.615E+00	2.231E+01	3.682E+01	2.980E+00	0.044
NB-94		702.65	*	8.009E-02	5.631E-02	1.002E-01	9.624E-03	0.799
		871.09		1.690E-02	6.999E-02	1.195E-01	1.177E-02	0.141
NB-95		765.81	*	-5.187E-02	6.283E-02	9.334E-02	9.112E-03	-0.556
NB-95M		235.69	*	5.733E-02	1.855E-01	2.761E-01	3.859E-02	0.208
ZR-95		724.19		-1.539E-01	1.609E-01	2.397E-01	2.473E-02	-0.642
		756.73	*	2.000E-02	1.176E-01	1.918E-01	2.023E-02	0.104
MO-99		140.51		-8.164E-01	6.842E+00	1.143E+01	2.724E+00	-0.071
		181.07		2.872E+00	6.287E+00	9.620E+00	1.892E+00	0.299
		366.42		-7.132E+00	4.347E+01	6.802E+01	8.242E+00	-0.105
		739.50	*	4.412E+00	5.504E+00	9.382E+00	1.536E+00	0.470
		777.92		1.868E+00	1.609E+01	2.608E+01	2.552E+00	0.072

---- 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	*		-2.059E+03	1.609E+01	Half-Life too short		
RU-103	497.08	*		3.635E-02	6.534E-02	1.120E-01	1.720E-02	0.325
	610.33	+		6.173E+00	2.044E+00	2.778E+00	4.760E-01	2.222
RH-106	621.93	*		-5.061E-01	5.323E-01	8.026E-01	1.134E-01	-0.631
	1050.41			-1.947E-01	5.110E+00	8.431E+00	7.653E-01	-0.023
RU-106	621.93	*		-5.061E-01	5.298E-01	8.026E-01	7.961E-02	-0.631
	1050.41			-1.947E-01	5.110E+00	8.431E+00	7.653E-01	-0.023
AG-108M	433.94	*		-4.618E-03	5.234E-02	8.755E-02	9.633E-03	-0.053
	614.28			3.849E-02	6.433E-02	9.781E-02	1.002E-02	0.394
	722.91			-3.608E-02	6.642E-02	1.025E-01	1.016E-02	-0.352
AG-110M	657.76	*		4.793E-02	6.943E-02	1.056E-01	1.029E-02	0.454
	677.62			-3.656E-01	4.927E-01	7.456E-01	7.266E-02	-0.490
	706.68			-3.822E-01	3.262E-01	4.669E-01	4.594E-02	-0.819
	763.94			-6.364E-02	2.476E-01	3.885E-01	3.872E-02	-0.164
	884.68			3.880E-02	9.837E-02	1.693E-01	1.709E-02	0.229
	937.49			-3.180E-02	2.433E-01	4.030E-01	4.022E-02	-0.079
	1384.29			1.501E-01	1.827E-01	3.357E-01	2.877E-02	0.447
	1505.03			-4.699E-01	2.883E-01	2.835E-01	2.385E-02	-1.658
SN-113	391.69	*		1.309E-02	7.297E-02	1.247E-01	1.356E-02	0.105
CD-115	260.90			-2.288E+01	3.962E+01	6.189E+01	8.955E+00	-0.370
	492.35			6.738E+00	1.309E+01	2.244E+01	2.412E+00	0.300
	527.90	*		4.569E-01	3.671E+00	6.132E+00	6.515E-01	0.075
SN-117M	156.02			1.894E-01	1.996E+00	3.361E+00	3.146E-01	0.056
	158.56	*		-1.433E-02	4.863E-02	8.007E-02	7.568E-03	-0.179
TE-123M	159.00	*		-2.019E-02	3.299E-02	5.333E-02	5.074E-03	-0.379
SB-124	602.73			6.348E-03	5.424E-02	8.974E-02	9.071E-03	0.071
	645.85			-1.689E-01	7.729E-01	1.238E+00	1.250E-01	-0.136
	722.78			-3.583E-01	6.262E-01	9.639E-01	9.484E-02	-0.372
	1690.97	*		2.438E-02	1.036E-01	1.793E-01	1.562E-02	0.136
SB-125	427.87	*		-1.083E-01	1.607E-01	2.594E-01	2.828E-02	-0.417
	463.37			4.954E-01	5.205E-01	9.078E-01	1.027E-01	0.546
	600.60			-1.095E-01	2.783E-01	4.420E-01	4.718E-02	-0.248
	635.95			-1.999E-01	4.613E-01	7.265E-01	7.550E-02	-0.275
TE-125M	109.28	*		6.069E-02	1.003E+01	1.714E+01	1.784E+00	0.004
I-126	388.63			1.270E-01	2.038E-01	3.560E-01	3.861E-02	0.357
	666.33	*		3.252E-01	2.995E-01	4.747E-01	4.500E-02	0.685
	753.82			-4.148E-01	2.383E+00	3.778E+00	3.679E-01	-0.110
SB-126	414.70			5.167E-02	9.601E-02	1.663E-01	1.786E-02	0.311
	666.50			1.077E-01	1.013E-01	1.602E-01	1.519E-02	0.673
	695.00			-8.055E-02	9.526E-02	1.428E-01	1.368E-02	-0.564
	697.00			-1.385E-01	3.358E-01	5.255E-01	5.038E-02	-0.263
	720.70	*		1.612E-02	1.783E-01	2.901E-01	2.802E-02	0.056
	856.80			6.110E-02	6.591E-01	1.116E+00	1.100E-01	0.055
SB-127	252.40			6.742E-01	2.482E+00	4.071E+00	1.735E+00	0.166
	473.00			8.812E-01	1.184E+00	2.049E+00	2.716E-01	0.430
	685.70	*		-3.592E-01	7.929E-01	1.233E+00	1.333E-01	-0.291
	783.70			4.807E-01	2.171E+00	3.550E+00	4.275E-01	0.135
I-131	80.19			-3.871E-01	3.814E+00	5.467E+00	4.719E-01	-0.071
	284.31			9.106E-01	1.457E+00	2.425E+00	3.781E-01	0.376

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-132	364.49	*		2.083E-02	1.222E-01	1.957E-01	2.451E-02	0.106
	636.99			-4.449E-02	1.647E+00	2.683E+00	2.728E-01	-0.017
	49.72			-1.642E+00	8.105E+00	1.291E+01	1.173E+00	-0.127
	111.76			5.762E-01	1.189E+01	2.031E+01	1.947E+00	0.028
	116.30			7.169E+00	1.077E+01	1.884E+01	1.800E+00	0.381
BA-133	228.16	*		4.676E-02	3.316E-01	5.468E-01	9.633E-02	0.086
	81.00			-2.074E-02	1.245E-01	1.777E-01	2.764E-02	-0.117
	276.40			1.193E-01	5.254E-01	8.596E-01	1.630E-01	0.139
	302.85			-2.292E-01	2.328E-01	3.461E-01	6.156E-02	-0.662
	356.01	*		-7.997E-03	7.583E-02	1.058E-01	1.685E-02	-0.076
I-133	383.85			1.167E-01	4.658E-01	8.001E-01	1.143E-01	0.146
	529.87	*		7.341E-05	4.658E-01	Half-Life	too short	
	875.33			-3.948E-03	4.658E-01	Half-Life	too short	
	1298.22			-2.041E-04	4.658E-01	Half-Life	too short	
	563.25			-3.211E-01	5.645E-01	8.882E-01	9.318E-02	-0.362
CS-134	569.33			8.017E-02	3.316E-01	5.541E-01	5.806E-02	0.145
	604.72			6.985E-03	5.329E-02	7.771E-02	7.854E-03	0.090
	795.86	*		1.514E-01	7.955E-02	1.447E-01	1.428E-02	1.046
	801.95			-1.031E-01	6.901E-01	1.090E+00	1.075E-01	-0.095
	1365.19			2.054E-01	1.474E+00	2.440E+00	2.128E-01	0.084
I-135	546.56			2.792E+04	1.474E+00	Half-Life	too short	
	836.80			1.545E+04	1.474E+00	Half-Life	too short	
	1038.76			1.789E+04	1.474E+00	Half-Life	too short	
	1131.51			1.128E+04	1.474E+00	Half-Life	too short	
	1260.41	*		-6.275E+03	1.474E+00	Half-Life	too short	
CS-136	1457.56			8.956E+03	1.474E+00	Half-Life	too short	
	1678.03			-2.580E+03	1.474E+00	Half-Life	too short	
	1791.20			8.089E+03	1.474E+00	Half-Life	too short	
	153.25			-1.397E-01	7.587E-01	1.261E+00	1.363E-01	-0.111
	176.60			-5.199E-02	4.729E-01	7.824E-01	8.564E-02	-0.066
CE-139	273.65			1.301E-01	6.274E-01	9.188E-01	1.433E-01	0.142
	340.55			9.520E-02	1.685E-01	2.503E-01	3.403E-02	0.380
	818.51			-2.242E-02	1.095E-01	1.720E-01	1.692E-02	-0.130
	1048.07	*		3.139E-02	1.656E-01	2.777E-01	2.620E-02	0.113
	1235.36			1.355E-01	4.022E-01	6.873E-01	7.849E-02	0.197
BA-140	165.86	*		1.407E-03	3.723E-02	6.228E-02	6.053E-03	0.023
	162.66			1.129E+00	7.299E-01	1.299E+00	1.315E-01	0.869
	304.85			6.507E-01	1.557E+00	2.541E+00	8.038E-01	0.256
	423.72			9.436E-01	2.585E+00	4.406E+00	1.477E+00	0.214
	537.26	*		-3.061E-01	3.442E-01	5.049E-01	1.740E-01	-0.606
LA-140	328.76			3.850E-01	3.663E-01	6.143E-01	8.724E-02	0.627
	487.02			-3.879E-02	1.736E-01	2.851E-01	3.190E-02	-0.136
	815.77			4.344E-01	4.889E-01	8.317E-01	8.924E-02	0.522
	1596.21	*		-4.520E-02	6.700E-02	9.413E-02	7.916E-03	-0.480
	145.44	*		2.244E-02	6.388E-02	1.093E-01	1.002E-02	0.205
CE-143	57.36			2.992E+02	1.398E+02	2.174E+02	2.037E+01	1.376
	293.27	*		1.551E+01	1.477E+01	2.216E+01	5.489E+00	0.700
	664.57			1.416E+03	4.892E+02	4.551E+02	1.378E+02	3.112
	721.93			-4.937E+00	1.506E+02	2.426E+02	6.878E+01	-0.020

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144		80.12		-4.899E-01	3.224E+00	4.608E+00	3.963E-01	-0.106
		133.52	*	-1.929E-01	2.517E-01	4.079E-01	6.249E-02	-0.473
PM-144		476.78		-9.659E-02	1.191E-01	1.885E-01	2.145E-02	-0.512
		618.01		-7.299E-03	5.506E-02	8.920E-02	9.069E-03	-0.082
		696.49	*	-2.441E-02	5.600E-02	8.737E-02	8.375E-03	-0.279
PR-144		696.51	*	-1.809E+00	4.181E+00	6.524E+00	6.253E-01	-0.277
		1489.16		-6.988E+00	1.620E+01	2.514E+01	2.114E+00	-0.278
PM-146		453.88	*	-1.247E-03	7.652E-02	1.281E-01	1.591E-02	-0.010
		633.25		1.659E+00	2.419E+00	4.020E+00	1.547E+00	0.413
		735.93		1.286E-01	2.662E-01	4.414E-01	1.253E-01	0.291
		747.24		-1.447E-01	1.726E-01	2.555E-01	3.899E-02	-0.566
ND-147		91.11		-9.744E-02	2.530E-01	3.533E-01	3.502E-02	-0.276
		319.41		1.273E+00	3.611E+00	5.903E+00	8.416E-01	0.216
		531.02	*	-3.676E-01	6.866E-01	1.091E+00	1.764E-01	-0.337
PM-149		285.90	*	1.594E+01	2.720E+01	4.504E+01	9.023E+00	0.354
EU-152	+	121.78		6.049E-01	1.680E-01	2.216E-01	2.163E-02	2.730
		244.70		2.008E-02	5.266E-01	7.684E-01	1.044E-01	0.026
		344.28	*	2.164E-02	1.465E-01	2.353E-01	3.189E-02	0.092
		778.90		-1.944E-02	4.377E-01	6.994E-01	6.843E-02	-0.028
		964.08		-3.417E-02	6.029E-01	1.001E+00	9.597E-02	-0.034
		1085.87		-1.606E-01	7.761E-01	1.260E+00	1.110E-01	-0.128
		1112.07		-3.036E-01	6.211E-01	9.842E-01	8.465E-02	-0.308
		1408.01		1.258E-01	2.052E-01	3.670E-01	3.067E-02	0.343
GD-153		69.67		-9.803E-01	1.900E+00	2.922E+00	2.250E-01	-0.335
		97.43	*	-1.158E-01	9.965E-02	1.421E-01	1.263E-02	-0.815
		103.18		9.693E-02	1.185E-01	2.099E-01	1.821E-02	0.462
EU-154	+	123.07		4.275E-01	1.211E-01	1.470E-01	1.652E-02	2.907
		723.31		-2.582E-01	3.100E-01	4.664E-01	4.874E-02	-0.554
		873.19		-2.824E-01	5.647E-01	9.142E-01	1.172E-01	-0.309
		996.26		-4.532E-01	7.276E-01	1.147E+00	2.049E-01	-0.395
		1004.73		-1.853E-02	4.096E-01	6.793E-01	8.288E-02	-0.027
		1274.44	*	2.197E-02	1.217E-01	2.039E-01	2.257E-02	0.108
EU-155	+	86.55		3.667E+00	4.530E-01	3.042E-01	2.857E-02	12.057
		105.31	*	2.968E-02	1.170E-01	2.024E-01	1.766E-02	0.147
TB-160	+	86.79		9.264E+00	1.139E+00	9.292E-01	8.678E-02	9.969
		197.04		-2.750E-01	7.067E-01	1.145E+00	1.276E-01	-0.240
		215.65		2.329E-01	9.767E-01	1.624E+00	1.961E-01	0.143
		298.57		1.304E-02	1.854E-01	2.668E-01	3.991E-02	0.049
		879.36	*	2.131E-01	2.727E-01	4.802E-01	4.732E-02	0.444
		962.29		8.278E-01	1.035E+00	1.804E+00	1.730E-01	0.459
		966.15		-5.994E-01	4.212E-01	6.357E-01	6.086E-02	-0.943
		1177.93		4.803E-01	5.399E-01	8.640E-01	6.949E-02	0.556
		1271.85		-1.955E-01	6.908E-01	1.069E+00	8.763E-02	-0.183
HO-166M		80.57		2.374E-01	3.487E-01	5.215E-01	4.509E-02	0.455
		184.41		9.401E-03	4.333E-02	7.429E-02	7.833E-03	0.127
		280.46		6.949E-04	1.262E-01	2.038E-01	3.149E-02	0.003
		410.95		6.799E-02	3.970E-01	6.761E-01	7.255E-02	0.101
		711.68	*	8.192E-02	1.007E-01	1.731E-01	1.667E-02	0.473
		752.31		1.618E-01	4.819E-01	7.974E-01	7.762E-02	0.203

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182		810.29		-2.161E-02	1.133E-01	1.783E-01	1.752E-02	-0.121
		67.75		-4.765E-02	1.196E-01	1.853E-01	1.403E-02	-0.257
		100.11		3.019E-04	1.845E-01	3.165E-01	2.777E-02	0.001
		152.43		-2.617E-02	3.986E-01	6.667E-01	6.160E-02	-0.039
		222.11		-7.257E-02	5.034E-01	8.196E-01	1.017E-01	-0.089
	+	1121.30		5.856E-01	3.433E-01	4.403E-01	3.752E-02	1.330
		1189.05		-1.165E-01	3.498E-01	5.475E-01	4.415E-02	-0.213
IR-192		1221.41	*	-1.595E-02	1.984E-01	3.202E-01	2.602E-02	-0.050
		1231.02		-4.480E-01	4.541E-01	6.238E-01	5.077E-02	-0.718
	+	295.96		5.527E-01	2.983E-01	3.284E-01	4.951E-02	1.683
		308.46		-1.670E-01	1.530E-01	2.255E-01	3.308E-02	-0.741
		316.51	*	-8.879E-02	5.340E-02	7.321E-02	1.052E-02	-1.213
		468.07		-8.774E-02	1.185E-01	1.892E-01	2.137E-02	-0.464
		70.83		-4.775E-01	1.517E+00	2.160E+00	3.376E-01	-0.221
HG-203		72.87		5.961E-01	8.924E-01	1.336E+00	2.027E-01	0.446
		279.20	*	2.708E-02	5.266E-02	8.753E-02	1.366E-02	0.309
		72.81		1.473E-01	2.225E-01	3.343E-01	2.654E-02	0.441
BI-207	+	74.97		2.735E-01	1.394E-01	2.255E-01	1.830E-02	1.213
		569.70		-2.996E-02	5.386E-02	8.501E-02	8.821E-03	-0.352
		1063.66	*	4.795E-02	1.046E-01	1.786E-01	1.604E-02	0.269
PB-210		1770.23		-6.476E-01	7.846E-01	8.098E-01	6.665E-02	-0.800
		46.54	*	4.023E-01	4.182E+00	6.795E+00	6.269E-01	0.059
		404.85	*	4.266E-01	1.188E+00	2.015E+00	9.834E-01	0.212
PB-211		427.09		-1.193E+00	2.775E+00	4.465E+00	2.086E+00	-0.267
		832.01		-8.358E-01	1.949E+00	2.920E+00	1.521E+00	-0.286
		727.33	*	7.056E-01	9.471E-01	1.621E+00	2.141E-01	0.435
BI-212		785.37		-1.180E+00	5.279E+00	8.293E+00	8.123E-01	-0.142
		1620.50		3.435E+00	3.110E+00	6.088E+00	5.112E-01	0.564
		271.23		6.062E-01	4.266E-01	6.596E-01	1.057E-01	0.919
RN-219		401.81	*	-3.685E-01	6.444E-01	1.048E+00	1.695E-01	-0.352
		81.07		-5.059E-02	2.822E-01	4.024E-01	3.500E-02	-0.126
		83.79		-7.427E-02	1.768E-01	2.489E-01	2.238E-02	-0.298
RA-223		94.87		-8.168E-01	5.747E-01	8.168E-01	7.360E-02	-1.000
		144.24		-2.484E-01	8.004E-01	1.327E+00	1.320E-01	-0.187
		154.21		-1.237E-01	4.599E-01	7.606E-01	7.659E-02	-0.163
	+	269.46		5.805E-01	3.913E-01	5.265E-01	7.918E-02	1.103
		323.87	*	-4.258E-01	1.052E+00	1.632E+00	3.363E-01	-0.261
	+	338.28		3.441E+00	2.418E+00	2.894E+00	4.605E-01	1.189
AC-227		79.69		-8.204E-01	1.675E+00	2.341E+00	4.027E-01	-0.350
		235.96		1.504E-01	2.316E-01	3.516E-01	5.034E-02	0.428
		256.23	*	8.257E-02	3.756E-01	6.175E-01	1.020E-01	0.134
		299.98		1.413E+00	1.568E+00	2.366E+00	4.164E-01	0.597
		304.50		7.624E-01	2.495E+00	4.072E+00	8.317E-01	0.187
		334.37		-1.793E-01	3.021E+00	4.258E+00	8.025E-01	-0.042
TH-227		79.80		-1.124E+00	2.213E+00	3.080E+00	6.702E-01	-0.365
		235.96		1.504E-01	2.316E-01	3.516E-01	4.887E-02	0.428
		256.23	*	8.257E-02	3.757E-01	6.175E-01	1.092E-01	0.134
		299.98		1.413E+00	1.568E+00	2.366E+00	4.164E-01	0.597
		304.50		7.624E-01	2.495E+00	4.072E+00	8.317E-01	0.187

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228		334.37		-1.793E-01	3.021E+00	4.258E+00	8.025E-01	-0.042
	+	338.32		8.672E-01	7.008E-01	7.294E-01	3.135E-01	1.189
	+	911.20	*	1.235E+00	5.285E-01	6.994E-01	8.740E-02	1.765
RA-228		968.97		4.882E-01	5.861E-01	1.004E+00	2.480E-01	0.486
	+	338.32		8.672E-01	7.008E-01	7.294E-01	3.135E-01	1.189
	+	911.20	*	1.235E+00	5.285E-01	6.994E-01	8.740E-02	1.765
TH-229		968.97		4.882E-01	5.861E-01	1.004E+00	2.480E-01	0.486
		85.43		2.988E-01	2.881E-01	4.350E-01	3.992E-02	0.687
	+	88.47		4.673E+00	5.743E-01	5.770E-01	5.450E-02	8.099
PA-231		193.51	*	-5.389E-01	7.121E-01	1.129E+00	1.239E-01	-0.477
		210.85		-4.240E-01	1.167E+00	1.882E+00	2.226E-01	-0.225
		283.69	*	1.063E+00	2.233E+00	3.687E+00	7.138E-01	0.288
TH-231		301.36		6.058E-01	9.389E-01	1.486E+00	2.551E-01	0.408
		81.07		-5.059E-02	2.822E-01	4.024E-01	3.500E-02	-0.126
		83.79		-7.427E-02	1.768E-01	2.489E-01	2.238E-02	-0.298
TH-232		94.87		-8.168E-01	5.747E-01	8.168E-01	7.330E-02	-1.000
		144.24		-2.484E-01	8.004E-01	1.327E+00	1.320E-01	-0.187
		154.21		-1.237E-01	4.599E-01	7.606E-01	7.659E-02	-0.163
PA-233	+	269.46		5.805E-01	3.913E-01	5.265E-01	7.918E-02	1.103
		323.87	*	-4.258E-01	1.052E+00	1.632E+00	3.363E-01	-0.261
	+	338.28		3.441E+00	2.418E+00	2.894E+00	4.605E-01	1.189
PA-234	+	338.32		8.672E-01	6.048E-01	7.294E-01	9.836E-02	1.189
	+	911.20	*	1.235E+00	5.285E-01	6.994E-01	8.740E-02	1.765
		968.97		4.882E-01	5.861E-01	1.004E+00	2.480E-01	0.486
PA-234M		300.13		3.205E-01	7.284E-01	1.072E+00	2.057E-01	0.299
		311.90	*	-3.316E-02	1.065E-01	1.673E-01	2.455E-02	-0.198
		340.48		5.384E-01	9.603E-01	1.416E+00	3.703E-01	0.380
TH-234		94.67		-2.548E-01	2.109E-01	3.027E-01	3.840E-02	-0.842
		98.44		2.522E-02	9.714E-02	1.662E-01	9.279E-02	0.152
		111.00		1.216E-01	2.051E-01	3.587E-01	4.309E-02	0.339
U-235		131.20		-9.808E-02	1.274E-01	2.073E-01	1.789E-02	-0.473
		569.50		-2.401E-01	4.798E-01	7.608E-01	7.896E-02	-0.316
		733.00		1.679E-01	6.540E-01	1.075E+00	2.433E-01	0.156
U-238		880.51		9.367E-02	5.777E-01	9.815E-01	9.670E-02	0.095
		883.24		-9.683E-02	5.994E-01	9.895E-01	6.669E-01	-0.098
		926.50		9.676E-02	3.870E-01	6.560E-01	1.685E-01	0.147
U-238		946.00	*	1.528E-01	6.508E-01	1.102E+00	2.123E-01	0.139
		949.00		-2.133E-01	9.800E-01	1.612E+00	1.556E-01	-0.132
		766.42		-1.600E+01	1.986E+01	2.691E+01	1.371E+01	-0.595
U-238		1001.03	*	-9.417E-01	8.872E+00	1.470E+01	1.564E+00	-0.064
		63.29	*	1.010E+00	1.496E+00	2.318E+00	4.123E-01	0.436
		92.59		8.036E-01	8.355E-01	1.379E+00	3.073E-01	0.583
U-238		89.96		1.144E+00	1.128E+00	1.658E+00	4.124E-01	0.690
		93.35		5.451E-01	6.105E-01	1.009E+00	2.348E-01	0.540
		143.76	*	6.930E-02	2.364E-01	4.032E-01	6.907E-02	0.172
U-238		163.33		3.186E-01	5.226E-01	8.951E-01	1.652E-01	0.356
	+	185.72		1.646E-01	1.266E-01	1.109E-01	1.176E-02	1.485
		205.31		-1.254E-01	6.494E-01	1.059E+00	2.088E-01	-0.118
U-238		63.29	*	1.010E+00	1.496E+00	2.318E+00	4.123E-01	0.436

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	92.59			8.036E-01	8.193E-01	1.379E+00	1.260E-01	0.583
	99.53			1.808E-01	1.769E-01	3.147E-01	2.769E-02	0.574
	103.37			8.843E-02	1.094E-01	1.937E-01	1.679E-02	0.457
	106.12			5.221E-02	9.155E-02	1.605E-01	1.380E-02	0.325
	117.23	*		-5.561E-02	5.082E-01	8.228E-01	6.961E-02	-0.068
CM-247	228.18			1.592E-02	3.140E-01	5.155E-01	6.556E-02	0.031
	277.60			-5.236E-02	2.650E-01	4.238E-01	6.523E-02	-0.124
	278.00			3.940E-02	1.126E+00	1.826E+00	2.815E-01	0.022
	287.50			-6.202E-01	1.969E+00	3.110E+00	4.751E-01	-0.199
	402.40	*		-2.076E-02	5.937E-02	9.825E-02	1.051E-02	-0.211
CF-249	252.80			-2.519E-01	1.424E+00	2.291E+00	3.214E-01	-0.110
	333.37			-5.419E-02	3.160E-01	4.410E-01	6.042E-02	-0.123
CF-251	388.16	*		1.598E-02	6.532E-02	1.121E-01	1.219E-02	0.143
	177.52	*		-5.179E-02	1.651E-01	2.700E-01	2.762E-02	-0.192
	227.38			4.684E-02	5.139E-01	8.456E-01	1.072E-01	0.055
	285.41			2.052E+00	3.437E+00	5.710E+00	8.753E-01	0.359
ANH-511	511.00	*		6.340E-03	5.758E-02	1.057E-01	1.130E-02	0.060

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]G1202050256
* Acquisition date   : 4-MAR-2010 18:53:52 Detector SN#      :
* Detector ID        : GAM11                               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 01:00:01.95                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date       : 23-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID         : G1202050256                     Analyst initials: MXR1
* Batch Number      : 956158                           Sample Quantity : 1.5544E+02 GRAM
* Recovery          : 1.00000                           Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight   : 0.00000
* CALIB. DATE/TIME : 18-NOV-2009 15:33:22 MS Isotope      :
* MSD DPM           : 0.000                             MSD Isotope      :
* LCS DPM           : 0.000                             LCS Isotope      :
* LCSD DPM          : 0.000                             LCSD Isotope      :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	1.184E+00	5.575E-01	5.244E-01	0.000E+00
CO-57	2.075E-01	5.558E-02	5.121E-02	0.000E+00
CO-60	6.369E+00	6.008E-01	9.242E-02	0.000E+00
CD-109	3.076E+01	3.705E+00	1.623E+00	0.000E+00
SN-126	3.031E+00	3.651E-01	1.604E-01	0.000E+00
CS-135	5.043E-01	3.339E-01	3.803E-01	0.000E+00
BA-137M	5.681E+00	5.826E-01	1.158E-01	0.000E+00
CS-137	6.002E+00	6.162E-01	1.224E-01	0.000E+00
TL-208	4.056E-01	1.058E-01	9.471E-02	0.000E+00
BI-211	2.025E+00	6.971E-01	5.722E-01	0.000E+00
PB-212	1.070E+00	1.951E-01	1.475E-01	0.000E+00
BI-214	6.574E-01	1.966E-01	1.755E-01	0.000E+00
PB-214	7.351E-01	2.561E-01	2.081E-01	0.000E+00
RA-224	4.008E+00	1.713E+00	1.581E+00	0.000E+00
RA-226	6.574E-01	1.966E-01	1.755E-01	0.000E+00
TH-228	1.070E+00	1.951E-01	1.475E-01	0.000E+00
NP-237	9.044E+00	2.154E+00	5.411E-01	0.000E+00
AM-241	1.375E+01	1.206E+00	3.835E-01	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.595E-01	5.421E-01	9.327E-01	0.000E+00 NOT IDENT.
NA-22	7.733E-03	4.197E-02	7.267E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.167E+03	0.000E+00	0.000E+00 SHORT HLIF
SC-46	-4.262E-02	7.422E-02	1.247E-01	0.000E+00 FAIL ABUN
V-48	-8.263E-02	1.094E-01	1.783E-01	0.000E+00 NOT IDENT.
CR-51	2.642E-01	4.864E-01	8.606E-01	0.000E+00 NOT IDENT.
MN-54	-4.162E-02	6.643E-02	1.120E-01	0.000E+00 NOT IDENT.
CO-56	-6.626E-02	7.042E-02	1.154E-01	0.000E+00 NOT IDENT.
CO-58	-4.208E-02	7.073E-02	1.123E-01	0.000E+00 NOT IDENT.

FE-59	6.177E-02	1.652E-01	2.899E-01	0.000E+00	NOT IDENT.
ZN-65	-2.323E-02	1.881E-01	2.744E-01	0.000E+00	NOT IDENT.
SE-75	3.545E-03	6.994E-02	1.094E-01	0.000E+00	FAIL ABUN
SR-85	-8.555E-02	6.374E-02	1.022E-01	0.000E+00	NOT IDENT.
Y-88	-2.478E-02	4.652E-02	6.917E-02	0.000E+00	NOT IDENT.
Y-91	1.615E+00	2.187E+01	3.733E+01	0.000E+00	NOT IDENT.
NB-94	8.009E-02	5.519E-02	1.031E-01	0.000E+00	NOT IDENT.
NB-95	-5.187E-02	6.157E-02	9.585E-02	0.000E+00	NOT IDENT.
NB-95M	5.733E-02	1.817E-01	2.925E-01	0.000E+00	NOT IDENT.
ZR-95	2.000E-02	1.152E-01	1.970E-01	0.000E+00	NOT IDENT.
MO-99	4.412E+00	5.394E+00	9.643E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.691E+10	0.000E+00	0.000E+00	SHORT HLIF
RU-103	3.635E-02	6.403E-02	1.163E-01	0.000E+00	FAIL ABUN
RH-106	-5.061E-01	5.216E-01	8.287E-01	0.000E+00	NOT IDENT.
RU-106	-5.061E-01	5.192E-01	8.287E-01	0.000E+00	NOT IDENT.
AG-108M	-4.618E-03	5.130E-02	9.128E-02	0.000E+00	NOT IDENT.
AG-110M	4.793E-02	6.804E-02	1.089E-01	0.000E+00	NOT IDENT.
SN-113	1.309E-02	7.151E-02	1.304E-01	0.000E+00	NOT IDENT.
CD-115	4.569E-01	3.598E+00	6.360E+00	0.000E+00	NOT IDENT.
SN-117M	-1.433E-02	4.766E-02	8.568E-02	0.000E+00	NOT IDENT.
TE-123M	-2.019E-02	3.233E-02	5.706E-02	0.000E+00	NOT IDENT.
SB-124	2.438E-02	1.015E-01	1.801E-01	0.000E+00	NOT IDENT.
SB-125	-1.083E-01	1.574E-01	2.706E-01	0.000E+00	NOT IDENT.
TE-125M	6.069E-02	9.834E+00	1.852E+01	0.000E+00	NOT IDENT.
I-126	3.252E-01	2.935E-01	4.893E-01	0.000E+00	NOT IDENT.
SB-126	1.612E-02	1.747E-01	2.984E-01	0.000E+00	NOT IDENT.
SB-127	-3.592E-01	7.770E-01	1.269E+00	0.000E+00	NOT IDENT.
I-131	2.083E-02	1.197E-01	2.049E-01	0.000E+00	NOT IDENT.
TE-132	4.676E-02	3.250E-01	5.797E-01	0.000E+00	NOT IDENT.
BA-133	-7.997E-03	7.431E-02	1.109E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.359E+02	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.796E-02	1.485E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.655E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.139E-02	1.623E-01	2.827E-01	0.000E+00	NOT IDENT.
CE-139	1.407E-03	3.648E-02	6.657E-02	0.000E+00	NOT IDENT.
BA-140	-3.061E-01	3.373E-01	5.234E-01	0.000E+00	NOT IDENT.
LA-140	-4.520E-02	6.566E-02	9.469E-02	0.000E+00	NOT IDENT.
CE-141	2.244E-02	6.260E-02	1.172E-01	0.000E+00	NOT IDENT.
CE-143	1.551E+01	1.448E+01	2.334E+01	0.000E+00	NOT IDENT.
CE-144	-1.929E-01	2.466E-01	4.383E-01	0.000E+00	NOT IDENT.
PM-144	-2.441E-02	5.488E-02	8.994E-02	0.000E+00	NOT IDENT.
PR-144	-1.809E+00	4.097E+00	6.716E+00	0.000E+00	NOT IDENT.
PM-146	-1.247E-03	7.499E-02	1.334E-01	0.000E+00	NOT IDENT.
ND-147	-3.676E-01	6.729E-01	1.131E+00	0.000E+00	NOT IDENT.
PM-149	1.594E+01	2.665E+01	4.747E+01	0.000E+00	NOT IDENT.
EU-152	2.164E-02	1.435E-01	2.468E-01	0.000E+00	FAIL ABUN
GD-153	-1.158E-01	9.766E-02	1.539E-01	0.000E+00	NOT IDENT.
EU-154	2.197E-02	1.192E-01	2.065E-01	0.000E+00	FAIL ABUN
EU-155	2.968E-02	1.147E-01	2.188E-01	0.000E+00	FAIL ABUN
TB-160	2.131E-01	2.672E-01	4.912E-01	0.000E+00	FAIL ABUN
HO-166M	8.192E-02	9.871E-02	1.781E-01	0.000E+00	NOT IDENT.
TA-182	-1.595E-02	1.944E-01	3.246E-01	0.000E+00	FAIL ABUN
IR-192	-8.879E-02	5.233E-02	7.697E-02	0.000E+00	FAIL ABUN
HG-203	2.708E-02	5.161E-02	9.232E-02	0.000E+00	NOT IDENT.
BI-207	4.795E-02	1.025E-01	1.817E-01	0.000E+00	FAIL ABUN
PB-210	4.023E-01	4.098E+00	7.491E+00	0.000E+00	NOT IDENT.
PB-211	4.266E-01	1.164E+00	2.104E+00	0.000E+00	NOT IDENT.
BI-212	7.056E-01	9.282E-01	1.666E+00	0.000E+00	NOT IDENT.
RN-219	-3.685E-01	6.316E-01	1.095E+00	0.000E+00	NOT IDENT.
RA-223	-4.258E-01	1.031E+00	1.715E+00	0.000E+00	FAIL ABUN
AC-227	8.257E-02	3.681E-01	6.527E-01	0.000E+00	NOT IDENT.
TH-227	8.257E-02	3.682E-01	6.527E-01	0.000E+00	NOT IDENT.
AC-228	0.000E+00	5.180E-01	7.147E-01	0.000E+00	FAIL ABUN
RA-228	0.000E+00	5.180E-01	7.147E-01	0.000E+00	FAIL ABUN
TH-229	-5.389E-01	6.979E-01	1.202E+00	0.000E+00	FAIL ABUN
PA-231	1.063E+00	2.188E+00	3.888E+00	0.000E+00	NOT IDENT.
TH-231	-4.258E-01	1.031E+00	1.715E+00	0.000E+00	FAIL ABUN
TH-232	0.000E+00	5.180E-01	7.147E-01	0.000E+00	FAIL ABUN
PA-233	-3.316E-02	1.044E-01	1.759E-01	0.000E+00	NOT IDENT.
PA-234	1.528E-01	6.378E-01	1.125E+00	0.000E+00	NOT IDENT.
PA-234M	-9.417E-01	8.695E+00	1.499E+01	0.000E+00	NOT IDENT.
TH-234	1.010E+00	1.466E+00	2.537E+00	0.000E+00	NOT IDENT.
U-235	6.930E-02	2.317E-01	4.325E-01	0.000E+00	FAIL ABUN
U-238	1.010E+00	1.466E+00	2.537E+00	0.000E+00	NOT IDENT.
NP-239	-5.561E-02	4.980E-01	8.871E-01	0.000E+00	NOT IDENT.
CM-247	-2.076E-02	5.819E-02	1.026E-01	0.000E+00	NOT IDENT.
CF-249	1.598E-02	6.401E-02	1.172E-01	0.000E+00	NOT IDENT.
CF-251	-5.179E-02	1.618E-01	2.881E-01	0.000E+00	NOT IDENT.

ANH-511	6.340E-03	5.643E-02	1.097E-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]G1202050256.CNF;1
Sample date    : 23-FEB-2010 00:00:00 Acquisition date : 4-MAR-2010 18:53:52.
Sample ID      : G1202050256      Sample quantity   : 1.55440E+02 GRAM
Detector name  : GAM11            Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.95 0.1%
Energy tolerance : 1.50000 keV    Analyst Initials  : MXR1
Abundance limit  : 75.00000       Sensitivity     : 5.00000
Batch ID        : 956158          Detector SN#    :
Matrix Spike ID :                  LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	32	10.66*	1.225E+00	1.184E+00	1.184E+00	48.03
CO-57	122.06	264	85.60*	7.366E+00	2.023E-01	2.075E-01	27.34
	136.47	-----	10.68	7.168E+00	-----	Line Not Found	-----
CO-60	1173.23	1886	99.85	1.471E+00	6.205E+00	6.227E+00	9.34
	1332.49	1734	99.98*	1.320E+00	6.346E+00	6.369E+00	9.63
CD-109	88.03	1586	3.70*	6.832E+00	3.031E+01	3.076E+01	12.29
SN-126	64.28	-----	9.60	4.433E+00	-----	Line Not Found	-----
	86.94	1586	8.90	6.832E+00	1.260E+01	1.260E+01	42.28
	87.57	1586	37.00*	6.832E+00	3.031E+00	3.031E+00	12.29
CS-135	268.22	80	16.00*	4.772E+00	5.043E-01	5.043E-01	67.57
BA-137M	661.66	2539	89.90*	2.403E+00	5.678E+00	5.681E+00	10.46
CS-137	661.66	2539	85.10*	2.403E+00	5.998E+00	6.002E+00	10.48
TL-208	277.37	-----	6.60	4.676E+00	-----	Line Not Found	-----
	583.19	190	85.00*	2.661E+00	4.056E-01	4.056E-01	26.62
	860.56	-----	12.50	1.927E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.23	5.576E+00	-----	Line Not Found	-----
	351.06	212	12.92*	3.922E+00	2.025E+00	2.025E+00	35.12
PB-212	74.82	117	10.28	5.807E+00	9.491E-01	9.491E-01	51.91
	77.11	264	17.10	6.022E+00	1.240E+00	1.240E+00	25.57
	238.63	503	43.60*	5.210E+00	1.070E+00	1.070E+00	18.61
	300.09	-----	3.30	4.414E+00	-----	Line Not Found	-----
BI-214	609.32	159	45.49*	2.569E+00	6.574E-01	6.574E-01	30.51
	1120.29	61	14.92	1.530E+00	1.291E+00	1.291E+00	59.01
	1764.49	29	15.30	1.071E+00	8.540E-01	8.540E-01	58.36
PB-214	74.82	117	5.80	5.807E+00	1.682E+00	1.682E+00	51.60
	77.11	264	9.70	6.022E+00	2.185E+00	2.186E+00	26.87
	242.00	176	7.25	5.167E+00	2.267E+00	2.267E+00	43.98
	295.22	134	18.42	4.469E+00	7.860E-01	7.860E-01	54.34
	351.93	212	35.60*	3.922E+00	7.351E-01	7.351E-01	35.55
RA-224	240.99	176	4.10*	5.167E+00	4.008E+00	4.008E+00	43.60
RA-226	609.32	159	45.49*	2.569E+00	6.574E-01	6.574E-01	30.51
	1120.29	61	14.92	1.530E+00	1.291E+00	1.291E+00	59.01

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	1764.49	29	15.30	1.071E+00	8.540E-01	8.540E-01	58.36
	74.82	117	10.28	5.807E+00	9.491E-01	9.491E-01	51.00
	77.11	264	17.10	6.022E+00	1.240E+00	1.240E+00	25.57
	238.63	503	43.60*	5.210E+00	1.070E+00	1.070E+00	18.61
NP-237	300.09	-----	3.30	4.414E+00	-----	Line Not Found	-----
	86.48	1586	12.40*	6.832E+00	9.044E+00	9.044E+00	24.30
	95.86	-----	2.68	7.169E+00	-----	Line Not Found	-----
AM-241	59.54	3754	35.90*	3.674E+00	1.375E+01	1.375E+01	8.96

Flag: "*" = Keyline

Total number of lines in spectrum 21
Number of unidentified lines 0
Number of lines tentatively identified by NID 21 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.184E+00	1.184E+00	0.569E+00	48.03	
CO-57	271.74D	1.03	2.023E-01	2.075E-01	0.567E-01	27.34	
CO-60	5.27Y	1.00	6.346E+00	6.369E+00	0.613E+00	9.63	
CD-109	461.40D	1.01	3.031E+01	3.076E+01	0.378E+01	12.29	
SN-126	2.30E+05Y	1.00	3.031E+00	3.031E+00	0.373E+00	12.29	
CS-135	2.30E+06Y	1.00	5.043E-01	5.043E-01	3.407E-01	67.57	
BA-137M	30.08Y	1.00	5.678E+00	5.681E+00	0.594E+00	10.46	
CS-137	30.08Y	1.00	5.998E+00	6.002E+00	0.629E+00	10.48	
TL-208	1.41E+10Y	1.00	4.056E-01	4.056E-01	1.080E-01	26.62	
BI-211	7.04E+08Y	1.00	2.025E+00	2.025E+00	0.711E+00	35.12	
PB-212	1.41E+10Y	1.00	1.070E+00	1.070E+00	0.199E+00	18.61	
BI-214	1600.00Y	1.00	6.574E-01	6.574E-01	2.006E-01	30.51	
PB-214	1600.00Y	1.00	7.351E-01	7.351E-01	2.613E-01	35.55	
RA-224	1.41E+10Y	1.00	4.008E+00	4.008E+00	1.748E+00	43.60	
RA-226	1600.00Y	1.00	6.574E-01	6.574E-01	2.006E-01	30.51	
TH-228	1.41E+10Y	1.00	1.070E+00	1.070E+00	0.199E+00	18.61	
NP-237	2.14E+06Y	1.00	9.044E+00	9.044E+00	2.198E+00	24.30	
AM-241	432.60Y	1.00	1.375E+01	1.375E+01	0.123E+01	8.96	

Total Activity : 8.667E+01 8.716E+01

Grand Total Activity : 8.667E+01 8.716E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202050256

Page : 4
Acquisition date : 4-MAR-2010 18:53:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.42	120	428	1.13	371.90	365	14	3.33E-02	76.2	6.15E+00	T
0	338.60	82	196	0.73	676.48	671	10	2.27E-02	68.4	4.04E+00	T
0	911.33	121	124	1.58	1822.58	1818	12	3.36E-02	40.9	1.83E+00	T

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202050256.CNF;1
* Acquisition date   : 4-MAR-2010 18:53:52.  Detector SN#      :
* Detector ID        : GAM11                      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 01:00:01.95             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 23-FEB-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202050256           Analyst initials: MXR1
* Batch Number       : 956158                Sample Quantity : 1.55440E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22.2MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	1.184E+00	5.688E-01	5.199E-01	4.496E-02	2.278
CO-57	2.075E-01	5.672E-02	4.755E-02	4.022E-03	4.363
CO-60	6.369E+00	6.131E-01	9.140E-02	7.553E-03	69.678
CD-109	3.076E+01	3.781E+00	1.495E+00	1.417E-01	20.580
SN-126	3.031E+00	3.725E-01	1.478E-01	1.394E-02	20.515
CS-135	5.043E-01	3.407E-01	3.602E-01	5.652E-02	1.400
BA-137M	5.681E+00	5.945E-01	1.124E-01	1.063E-02	50.556
CS-137	6.002E+00	6.288E-01	1.187E-01	1.125E-02	50.556
TL-208	4.056E-01	1.080E-01	9.156E-02	9.879E-03	4.430
BI-211	2.025E+00	7.114E-01	5.458E-01	7.201E-02	3.711
PB-212	1.070E+00	1.990E-01	1.393E-01	1.955E-02	7.680
BI-214	6.574E-01	2.006E-01	1.698E-01	1.927E-02	3.870
PB-214	7.351E-01	2.613E-01	1.985E-01	2.831E-02	3.703
RA-224	4.008E+00	1.748E+00	1.493E+00	2.000E-01	2.684
RA-226	6.574E-01	2.006E-01	1.698E-01	1.927E-02	3.870
TH-228	1.070E+00	1.990E-01	1.393E-01	1.955E-02	7.680
NP-237	9.044E+00	2.198E+00	4.982E-01	1.143E-01	18.156
AM-241	1.375E+01	1.231E+00	3.499E-01	2.750E-02	39.286

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.595E-01		5.532E-01	8.968E-01	1.015E-01	-0.289
NA-22	7.733E-03		4.283E-02	7.178E-02	5.895E-03	0.108
NA-24	-8.777E-04		1.106E-03	Half-Life too short		
SC-46	-4.262E-02		7.573E-02	1.219E-01	1.201E-02	-0.350
V-48	-8.263E-02		1.116E-01	1.748E-01	1.658E-02	-0.473
CR-51	2.642E-01		4.963E-01	8.189E-01	1.188E-01	0.323
MN-54	-4.162E-02		6.779E-02	1.093E-01	1.077E-02	-0.381
CO-56	-6.626E-02		7.186E-02	1.127E-01	1.110E-02	-0.588
CO-58	-4.208E-02		7.218E-02	1.096E-01	1.079E-02	-0.384
FE-59	6.177E-02		1.686E-01	2.852E-01	2.681E-02	0.217
ZN-65	-2.323E-02		1.920E-01	2.700E-01	2.317E-02	-0.086
SE-75	3.545E-03		7.137E-02	1.036E-01	1.523E-02	0.034
SR-85	-8.555E-02		6.504E-02	9.851E-02	1.052E-02	-0.868
Y-88	-2.478E-02		4.747E-02	6.904E-02	5.605E-03	-0.359
Y-91	1.615E+00		2.231E+01	3.682E+01	2.980E+00	0.044
NB-94	8.009E-02		5.631E-02	1.002E-01	9.624E-03	0.799
NB-95	-5.187E-02		6.283E-02	9.334E-02	9.112E-03	-0.556
NB-95M	5.733E-02		1.855E-01	2.761E-01	3.859E-02	0.208
ZR-95	2.000E-02		1.176E-01	1.918E-01	2.023E-02	0.104
MO-99	4.412E+00		5.504E+00	9.382E+00	1.536E+00	0.470
TC-99M	-2.059E+03		8.625E+03	Half-Life too short		
RU-103	3.635E-02		6.534E-02	1.120E-01	1.720E-02	0.325
RH-106	-5.061E-01		5.323E-01	8.026E-01	1.134E-01	-0.631
RU-106	-5.061E-01		5.298E-01	8.026E-01	7.961E-02	-0.631
AG-108M	-4.618E-03		5.234E-02	8.755E-02	9.633E-03	-0.053
AG-110M	4.793E-02		6.943E-02	1.056E-01	1.029E-02	0.454
SN-113	1.309E-02		7.297E-02	1.247E-01	1.356E-02	0.105
CD-115	4.569E-01		3.671E+00	6.132E+00	6.515E-01	0.075
SN-117M	-1.433E-02		4.863E-02	8.007E-02	7.568E-03	-0.179
TE-123M	-2.019E-02		3.299E-02	5.333E-02	5.074E-03	-0.379
SB-124	2.438E-02		1.036E-01	1.793E-01	1.562E-02	0.136
SB-125	-1.083E-01		1.607E-01	2.594E-01	2.828E-02	-0.417
TE-125M	6.069E-02		1.003E+01	1.714E+01	1.784E+00	0.004
I-126	3.252E-01		2.995E-01	4.747E-01	4.500E-02	0.685
SB-126	1.612E-02		1.783E-01	2.901E-01	2.802E-02	0.056
SB-127	-3.592E-01		7.929E-01	1.233E+00	1.333E-01	-0.291
I-131	2.083E-02		1.222E-01	1.957E-01	2.451E-02	0.106
TE-132	4.676E-02		3.316E-01	5.468E-01	9.633E-02	0.086
BA-133	-7.997E-03		7.583E-02	1.058E-01	1.685E-02	-0.076
I-133	7.341E-05		6.936E-05	Half-Life too short		
CS-134	1.514E-01		7.955E-02	1.447E-01	1.428E-02	1.046
I-135	-6.275E+03		4.416E+03	Half-Life too short		
CS-136	3.139E-02		1.656E-01	2.777E-01	2.620E-02	0.113
CE-139	1.407E-03		3.723E-02	6.228E-02	6.053E-03	0.023
BA-140	-3.061E-01		3.442E-01	5.049E-01	1.740E-01	-0.606
LA-140	-4.520E-02		6.700E-02	9.413E-02	7.916E-03	-0.480
CE-141	2.244E-02		6.388E-02	1.093E-01	1.002E-02	0.205
CE-143	1.551E+01		1.477E+01	2.216E+01	5.489E+00	0.700

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144	-1.929E-01		2.517E-01	4.079E-01	6.249E-02	-0.473
PM-144	-2.441E-02		5.600E-02	8.737E-02	8.375E-03	-0.279
PR-144	-1.809E+00		4.181E+00	6.524E+00	6.253E-01	-0.277
PM-146	-1.247E-03		7.652E-02	1.281E-01	1.591E-02	-0.010
ND-147	-3.676E-01		6.866E-01	1.091E+00	1.764E-01	-0.337
PM-149	1.594E+01		2.720E+01	4.504E+01	9.023E+00	0.354
EU-152	2.164E-02		1.465E-01	2.353E-01	3.189E-02	0.092
GD-153	-1.158E-01		9.965E-02	1.421E-01	1.263E-02	-0.815
EU-154	2.197E-02		1.217E-01	2.039E-01	2.257E-02	0.108
EU-155	2.968E-02		1.170E-01	2.024E-01	1.766E-02	0.147
TB-160	2.131E-01		2.727E-01	4.802E-01	4.732E-02	0.444
HO-166M	8.192E-02		1.007E-01	1.731E-01	1.667E-02	0.473
TA-182	-1.595E-02		1.984E-01	3.202E-01	2.602E-02	-0.050
IR-192	-8.879E-02		5.340E-02	7.321E-02	1.052E-02	-1.213
HG-203	2.708E-02		5.266E-02	8.753E-02	1.366E-02	0.309
BI-207	4.795E-02		1.046E-01	1.786E-01	1.604E-02	0.269
PB-210	4.023E-01		4.182E+00	6.795E+00	6.269E-01	0.059
PB-211	4.266E-01		1.188E+00	2.015E+00	9.834E-01	0.212
BI-212	7.056E-01		9.471E-01	1.621E+00	2.141E-01	0.435
RN-219	-3.685E-01		6.444E-01	1.048E+00	1.695E-01	-0.352
RA-223	-4.258E-01		1.052E+00	1.632E+00	3.363E-01	-0.261
AC-227	8.257E-02		3.756E-01	6.175E-01	1.020E-01	0.134
TH-227	8.257E-02		3.757E-01	6.175E-01	1.092E-01	0.134
AC-228	1.235E+00	+	5.285E-01	6.994E-01	8.740E-02	1.765
RA-228	1.235E+00	+	5.285E-01	6.994E-01	8.740E-02	1.765
TH-229	-5.389E-01		7.121E-01	1.129E+00	1.239E-01	-0.477
PA-231	1.063E+00		2.233E+00	3.687E+00	7.138E-01	0.288
TH-231	-4.258E-01		1.052E+00	1.632E+00	3.363E-01	-0.261
TH-232	1.235E+00	+	5.285E-01	6.994E-01	8.740E-02	1.765
PA-233	-3.316E-02		1.065E-01	1.673E-01	2.455E-02	-0.198
PA-234	1.528E-01		6.508E-01	1.102E+00	2.123E-01	0.139
PA-234M	-9.417E-01		8.872E+00	1.470E+01	1.564E+00	-0.064
TH-234	1.010E+00		1.496E+00	2.318E+00	4.123E-01	0.436
U-235	6.930E-02		2.364E-01	4.032E-01	6.907E-02	0.172
U-238	1.010E+00		1.496E+00	2.318E+00	4.123E-01	0.436
NP-239	-5.561E-02		5.082E-01	8.228E-01	6.961E-02	-0.068
CM-247	-2.076E-02		5.937E-02	9.825E-02	1.051E-02	-0.211
CF-249	1.598E-02		6.532E-02	1.121E-01	1.219E-02	0.143
CF-251	-5.179E-02		1.651E-01	2.700E-01	2.762E-02	-0.192
ANH-511	6.340E-03		5.758E-02	1.057E-01	1.130E-02	0.060

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]G1202050256
* Acquisition date   : 4-MAR-2010 18:53:52 Detector SN#      :
* Detector ID        : GAM11                      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 01:00:01.95              Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 23-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202050256              Analyst initials: MXR1
* Batch Number       : 956158                   Sample Quantity : 1.5544E+02 GRAM
* Recovery           : 1.00000                  Carrier Weight  : 0.00000
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope      :
* MSD DPM             : 0.000                      MSD Isotope   :
* LCS DPM             : 0.000                      LCS Isotope   :
* LCSD DPM            : 0.000                      LCSD Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	1.184E+00	5.575E-01	2.623E-01	2.844E-01
CO-57	2.075E-01	5.558E-02	2.562E-02	2.836E-02
CO-60	6.369E+00	6.008E-01	4.624E-02	3.065E-01
CD-109	3.076E+01	3.705E+00	8.119E-01	1.890E+00
SN-126	3.031E+00	3.651E-01	8.027E-02	1.863E-01
CS-135	5.043E-01	3.339E-01	1.903E-01	1.704E-01
BA-137M	5.681E+00	5.826E-01	5.796E-02	2.972E-01
CS-137	6.002E+00	6.162E-01	6.123E-02	3.144E-01
TL-208	4.056E-01	1.058E-01	4.738E-02	5.398E-02
BI-211	2.025E+00	6.971E-01	2.863E-01	3.557E-01
PB-212	1.070E+00	1.951E-01	7.379E-02	9.952E-02
BI-214	6.574E-01	1.966E-01	8.779E-02	1.003E-01
PB-214	7.351E-01	2.561E-01	1.041E-01	1.307E-01
RA-224	4.008E+00	1.713E+00	7.910E-01	8.738E-01
RA-226	6.574E-01	1.966E-01	8.779E-02	1.003E-01
TH-228	1.070E+00	1.951E-01	7.379E-02	9.952E-02
NP-237	9.044E+00	2.154E+00	2.707E-01	1.099E+00
AM-241	1.375E+01	1.206E+00	1.919E-01	6.155E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.595E-01	5.421E-01	4.666E-01	2.766E-01 NOT IDENT.
NA-22	7.733E-03	4.197E-02	3.636E-02	2.141E-02 NOT IDENT.
NA-24	-8.777E+02	2.167E+03	0.000E+00	1.106E+03 SHORT HLIF
SC-46	-4.262E-02	7.422E-02	6.237E-02	3.787E-02 FAIL ABUN
V-48	-8.263E-02	1.094E-01	8.920E-02	5.581E-02 NOT IDENT.
CR-51	2.642E-01	4.864E-01	4.306E-01	2.482E-01 NOT IDENT.
MN-54	-4.162E-02	6.643E-02	5.604E-02	3.389E-02 NOT IDENT.
CO-56	-6.626E-02	7.042E-02	5.772E-02	3.593E-02 NOT IDENT.
CO-58	-4.208E-02	7.073E-02	5.620E-02	3.609E-02 NOT IDENT.

FE-59	6.177E-02	1.652E-01	1.451E-01	8.430E-02	NOT IDENT.
ZN-65	-2.323E-02	1.881E-01	1.373E-01	9.599E-02	NOT IDENT.
SE-75	3.545E-03	6.994E-02	5.474E-02	3.568E-02	FAIL ABUN
SR-85	-8.555E-02	6.374E-02	5.115E-02	3.252E-02	NOT IDENT.
Y-88	-2.478E-02	4.652E-02	3.461E-02	2.374E-02	NOT IDENT.
Y-91	1.615E+00	2.187E+01	1.868E+01	1.116E+01	NOT IDENT.
NB-94	8.009E-02	5.519E-02	5.160E-02	2.816E-02	NOT IDENT.
NB-95	-5.187E-02	6.157E-02	4.795E-02	3.141E-02	NOT IDENT.
NB-95M	5.733E-02	1.817E-01	1.463E-01	9.273E-02	NOT IDENT.
ZR-95	2.000E-02	1.152E-01	9.856E-02	5.878E-02	NOT IDENT.
MO-99	4.412E+00	5.394E+00	4.824E+00	2.752E+00	NOT IDENT.
TC-99M	-2.059E+09	1.691E+10	0.000E+00	8.625E+09	SHORT HLIF
RU-103	3.635E-02	6.403E-02	5.820E-02	3.267E-02	FAIL ABUN
RH-106	-5.061E-01	5.216E-01	4.146E-01	2.661E-01	NOT IDENT.
RU-106	-5.061E-01	5.192E-01	4.146E-01	2.649E-01	NOT IDENT.
AG-108M	-4.618E-03	5.130E-02	4.566E-02	2.617E-02	NOT IDENT.
AG-110M	4.793E-02	6.804E-02	5.446E-02	3.471E-02	NOT IDENT.
SN-113	1.309E-02	7.151E-02	6.522E-02	3.649E-02	NOT IDENT.
CD-115	4.569E-01	3.598E+00	3.182E+00	1.836E+00	NOT IDENT.
SN-117M	-1.433E-02	4.766E-02	4.286E-02	2.432E-02	NOT IDENT.
TE-123M	-2.019E-02	3.233E-02	2.855E-02	1.649E-02	NOT IDENT.
SB-124	2.438E-02	1.015E-01	9.011E-02	5.178E-02	NOT IDENT.
SB-125	-1.083E-01	1.574E-01	1.354E-01	8.033E-02	NOT IDENT.
TE-125M	6.069E-02	9.834E+00	9.263E+00	5.017E+00	NOT IDENT.
I-126	3.252E-01	2.935E-01	2.448E-01	1.498E-01	NOT IDENT.
SB-126	1.612E-02	1.747E-01	1.493E-01	8.914E-02	NOT IDENT.
SB-127	-3.592E-01	7.770E-01	6.351E-01	3.964E-01	NOT IDENT.
I-131	2.083E-02	1.197E-01	1.025E-01	6.109E-02	NOT IDENT.
TE-132	4.676E-02	3.250E-01	2.900E-01	1.658E-01	NOT IDENT.
BA-133	-7.997E-03	7.431E-02	5.547E-02	3.791E-02	NOT IDENT.
I-133	7.341E+01	1.359E+02	0.000E+00	6.936E+01	SHORT HLIF
CS-134	1.514E-01	7.796E-02	7.427E-02	3.977E-02	NOT IDENT.
I-135	-6.275E+09	8.655E+09	0.000E+00	4.416E+09	SHORT HLIF
CS-136	3.139E-02	1.623E-01	1.414E-01	8.279E-02	NOT IDENT.
CE-139	1.407E-03	3.648E-02	3.330E-02	1.861E-02	NOT IDENT.
BA-140	-3.061E-01	3.373E-01	2.619E-01	1.721E-01	NOT IDENT.
LA-140	-4.520E-02	6.566E-02	4.737E-02	3.350E-02	NOT IDENT.
CE-141	2.244E-02	6.260E-02	5.864E-02	3.194E-02	NOT IDENT.
CE-143	1.551E+01	1.448E+01	1.168E+01	7.386E+00	NOT IDENT.
CE-144	-1.929E-01	2.466E-01	2.193E-01	1.258E-01	NOT IDENT.
PM-144	-2.441E-02	5.488E-02	4.500E-02	2.800E-02	NOT IDENT.
PR-144	-1.809E+00	4.097E+00	3.360E+00	2.090E+00	NOT IDENT.
PM-146	-1.247E-03	7.499E-02	6.673E-02	3.826E-02	NOT IDENT.
ND-147	-3.676E-01	6.729E-01	5.658E-01	3.433E-01	NOT IDENT.
PM-149	1.594E+01	2.665E+01	2.375E+01	1.360E+01	NOT IDENT.
EU-152	2.164E-02	1.435E-01	1.235E-01	7.323E-02	FAIL ABUN
GD-153	-1.158E-01	9.766E-02	7.701E-02	4.982E-02	NOT IDENT.
EU-154	2.197E-02	1.192E-01	1.033E-01	6.084E-02	FAIL ABUN
EU-155	2.968E-02	1.147E-01	1.095E-01	5.850E-02	FAIL ABUN
TB-160	2.131E-01	2.672E-01	2.458E-01	1.363E-01	FAIL ABUN
HO-166M	8.192E-02	9.871E-02	8.912E-02	5.036E-02	NOT IDENT.
TA-182	-1.595E-02	1.944E-01	1.624E-01	9.920E-02	FAIL ABUN
IR-192	-8.879E-02	5.233E-02	3.851E-02	2.670E-02	FAIL ABUN
HG-203	2.708E-02	5.161E-02	4.619E-02	2.633E-02	NOT IDENT.
BI-207	4.795E-02	1.025E-01	9.090E-02	5.228E-02	FAIL ABUN
PB-210	4.023E-01	4.098E+00	3.748E+00	2.091E+00	NOT IDENT.
PB-211	4.266E-01	1.164E+00	1.053E+00	5.939E-01	NOT IDENT.
BI-212	7.056E-01	9.282E-01	8.337E-01	4.736E-01	NOT IDENT.
RN-219	-3.685E-01	6.316E-01	5.478E-01	3.222E-01	NOT IDENT.
RA-223	-4.258E-01	1.031E+00	8.579E-01	5.260E-01	FAIL ABUN
AC-227	8.257E-02	3.681E-01	3.266E-01	1.878E-01	NOT IDENT.
TH-227	8.257E-02	3.682E-01	3.266E-01	1.878E-01	NOT IDENT.
AC-228	1.235E+00	5.180E-01	3.576E-01	2.643E-01	FAIL ABUN
RA-228	1.235E+00	5.180E-01	3.576E-01	2.643E-01	FAIL ABUN
TH-229	-5.389E-01	6.979E-01	6.012E-01	3.561E-01	FAIL ABUN
PA-231	1.063E+00	2.188E+00	1.945E+00	1.116E+00	NOT IDENT.
TH-231	-4.258E-01	1.031E+00	8.579E-01	5.260E-01	FAIL ABUN
TH-232	1.235E+00	5.180E-01	3.576E-01	2.643E-01	FAIL ABUN
PA-233	-3.316E-02	1.044E-01	8.800E-02	5.327E-02	NOT IDENT.
PA-234	1.528E-01	6.378E-01	5.628E-01	3.254E-01	NOT IDENT.
PA-234M	-9.417E-01	8.695E+00	7.498E+00	4.436E+00	NOT IDENT.
TH-234	1.010E+00	1.466E+00	1.269E+00	7.479E-01	NOT IDENT.
U-235	6.930E-02	2.317E-01	2.164E-01	1.182E-01	FAIL ABUN
U-238	1.010E+00	1.466E+00	1.269E+00	7.479E-01	NOT IDENT.
NP-239	-5.561E-02	4.980E-01	4.438E-01	2.541E-01	NOT IDENT.
CM-247	-2.076E-02	5.819E-02	5.135E-02	2.969E-02	NOT IDENT.
CF-249	1.598E-02	6.401E-02	5.863E-02	3.266E-02	NOT IDENT.
CF-251	-5.179E-02	1.618E-01	1.441E-01	8.254E-02	NOT IDENT.

ANH-511

6.340E-03

5.643E-02

5.487E-02

2.879E-02 NOT IDENT.

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*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD      *
*               CHARLESTON ,SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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ENERGY	MDA COUNTS
46.54	355.6566
49.72	445.3882
57.36	553.1155
59.54	424.4123
63.29	209.5938
63.29	209.5938
64.28	268.1090
67.75	268.4085
69.67	276.8303
70.83	284.3324
72.81	277.9759
72.87	278.0191
72.87	278.0191
74.82	316.1357
74.82	316.1357
74.82	316.1357
74.97	316.2579
77.11	317.9853
77.11	317.9853
77.11	317.9853
79.69	324.4337
79.80	324.5204
80.12	302.3781
80.19	302.4300
80.57	272.2795
81.00	303.0298
81.07	303.0818
81.07	303.0818
83.79	338.9685
83.79	338.9685
85.43	298.1540
86.48	344.3706
86.55	274.1604
86.79	274.3115
86.94	274.4076
87.57	274.8076
88.03	275.0994
88.47	275.3775
89.96	258.7109
91.11	293.8576
92.59	229.7697
92.59	229.7697
93.35	216.5443
94.67	286.6686
94.87	286.7938
94.87	286.7938
95.86	192.8513
97.43	212.2302
98.44	173.4867
99.53	163.0187
100.11	185.8175
103.18	167.6310
103.37	167.6967
105.31	185.2825
106.12	171.1793
109.28	183.3462
111.00	172.8427
111.76	188.5232
116.30	185.8450
117.23	207.8180
121.12	169.2014
121.78	169.4056
122.06	169.4925
123.07	185.1206
131.20	216.6597
133.52	232.6815
136.00	191.5843

136.47	215.0293
140.51	188.5175
140.51	0.0000
143.76	171.3831
144.24	186.9431
144.24	186.9431
145.44	165.4818
152.43	179.2657
153.25	180.4144
154.21	183.4450
154.21	183.4450
156.02	165.4672
158.56	164.2486
159.00	178.2852
162.66	140.0467
163.33	157.9407
165.86	191.3579
176.60	178.1107
177.52	185.0128
181.07	163.8750
184.41	178.0952
185.72	178.4095
193.51	206.5546
197.04	191.8369
205.31	193.8467
210.85	191.1855
215.65	177.2719
222.11	204.8709
227.38	186.8319
228.16	183.9515
228.18	187.0042
235.69	193.7238
235.96	178.4038
235.96	178.4038
238.63	198.4717
238.63	198.4717
240.99	198.9900
242.00	199.2099
244.70	175.4693
252.40	163.8770
252.80	169.1669
256.23	159.2997
256.23	159.2997
260.90	173.7650
264.66	152.2383
268.22	151.1975
269.46	163.6062
269.46	163.6062
271.23	162.8333
273.65	155.2243
276.40	156.1854
277.37	171.3249
277.60	164.9378
278.00	160.7178
279.20	140.5254
279.54	152.3744
280.46	152.5131
283.69	147.6056
284.31	146.6167
285.41	151.0885
285.90	151.1597
287.50	170.8581
293.27	140.2644
295.22	186.2763
295.96	186.4050
298.57	165.5521
299.98	155.9203
299.98	155.9203
300.09	175.6350
300.09	175.6350
300.13	175.6416
301.36	159.0784
302.85	190.8931
304.50	141.7394
304.50	141.7394
304.85	139.5858
308.46	178.6410
311.90	162.6056

316.51	167.7215
319.41	123.6081
320.08	123.6804
323.87	160.9863
323.87	160.9863
328.76	141.4629
333.37	143.7151
334.37	143.8370
334.37	143.8370
338.28	123.3745
338.28	123.3745
338.32	123.3790
338.32	123.3790
338.32	123.3790
340.48	107.1623
340.55	107.1681
344.28	118.3097
351.06	152.1496
351.93	152.2578
356.01	132.6657
364.49	129.5251
366.42	138.9893
383.85	128.5609
388.16	136.0495
388.63	127.2612
391.69	145.2717
400.66	130.1939
401.81	137.4453
402.40	135.7183
404.85	131.4894
410.95	132.9733
414.70	134.2355
423.72	140.5397
427.09	155.4175
427.87	156.4104
433.94	142.4628
453.88	143.4843
463.37	148.1163
468.07	159.7854
473.00	134.0494
476.78	153.1707
477.60	145.7288
487.02	114.4474
492.35	116.7295
497.08	115.1712
511.00	108.4799
514.00	169.2687
527.90	100.8579
529.87	0.0000
531.02	111.7291
537.26	109.2144
546.56	0.0000
563.25	95.0156
569.33	95.3379
569.50	115.2106
569.70	115.2247
583.19	85.0597
600.60	91.9248
602.73	78.8807
604.72	71.2701
609.32	78.1420
609.32	78.1420
610.33	89.3508
614.28	81.3965
618.01	97.8662
621.93	100.1085
621.93	100.1085
633.25	72.9522
635.95	92.6010
636.99	83.3854
645.85	85.8268
657.76	86.5439
661.66	116.7271
661.66	116.7271
664.57	105.2051
666.33	65.1822
666.50	65.1879
677.62	82.9756

685.70	75.9177
695.00	93.1992
696.49	87.9646
696.51	87.9671
697.00	92.2278
702.65	65.8996
706.68	85.1929
711.68	68.3125
720.70	78.2420
721.93	87.9383
722.78	100.8475
722.91	100.8532
723.31	110.5282
724.19	118.0869
727.33	83.8557
733.00	79.7587
735.93	80.9441
739.50	67.0216
747.24	92.2035
752.31	76.1032
753.82	83.7676
756.73	76.2506
763.94	72.1210
765.81	80.9285
766.42	86.4207
777.92	73.6595
778.90	72.5903
783.70	67.2288
785.37	77.2034
795.86	53.1753
801.95	74.4140
810.29	89.1626
810.76	95.8682
815.77	79.3116
818.51	89.4653
832.01	94.4590
834.85	105.3771
836.80	0.0000
846.77	104.9777
856.80	92.6791
860.56	93.7260
871.09	95.9432
873.19	102.4242
875.33	0.0000
879.36	86.1697
880.51	95.3786
883.24	103.7415
884.68	90.0208
889.28	103.0641
898.04	113.5648
911.20	102.9988
911.20	102.9988
911.20	102.9988
926.50	106.3907
937.49	118.0666
944.13	108.9624
946.00	102.4563
949.00	113.8599
962.29	107.7907
964.08	131.5138
966.15	165.6946
968.97	120.3709
968.97	120.3709
968.97	120.3709
983.53	95.2710
996.26	99.5262
1001.03	85.3127
1004.73	81.5822
1037.84	87.3677
1038.76	0.0000
1048.07	86.6924
1050.41	87.7368
1050.41	87.7368
1063.66	78.3320
1085.87	86.7926
1099.45	82.2219
1112.07	98.4683
1115.54	86.2943

1120.29	83.1014
1120.29	83.1014
1120.55	83.1055
1121.30	63.8406
1131.51	0.0000
1173.23	35.4802
1177.93	35.5298
1189.05	34.6309
1204.77	28.6535
1221.41	27.7660
1231.02	31.9703
1235.36	21.6839
1238.28	31.0034
1260.41	0.0000
1271.85	20.8691
1274.44	16.7078
1274.54	16.7078
1291.59	16.7883
1298.22	0.0000
1312.11	14.7738
1332.49	28.6519
1365.19	16.0583
1368.63	0.0000
1384.29	11.8363
1408.01	11.9099
1457.56	0.0000
1460.82	9.1451
1489.16	18.4196
1505.03	19.4166
1596.21	13.2292
1620.50	8.5525
1678.03	0.0000
1690.97	11.5859
1764.49	11.7725
1764.49	11.7725
1770.23	16.8387
1771.35	31.4388
1791.20	0.0000
1836.06	13.9425

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202050256

Total Uranium Activity	3.0363E+00	ug/g
Total Uranium Counting Unc.	4.3622E+00	ug/g
Total Uranium Tpu	2.2256E-06	ug/g
Total Uranium Mda	3.7777E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 956158          SAMPLE ID   : G1202050256
*  ANALYST       : MXR1           DETECTOR    : GAM11
*  SAMPLE DATE   : 23-FEB-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00
*  ANALYSIS DATE: 4-MAR-2010 18:53:52.28  SAMPLE ALQT: 155.440 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.691E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.308E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.268E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.583E+00

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Radiochemistry Batch Checklist, Rev10

Batch# 956742 Product: H3 Date: 3-12-10

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 RPD is 100% or less. If greater 5* MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.	✓		
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly 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 REMF, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature]Secondary Review Performed By: [Signature] 3/13/10

LANL 3-13-10

Tritium Que Sheet

01-MAR-10

Batch #: 956742

Analyst: KXK2

First Client Due Date 13-MAR-10

Internal Due Date: 03-MAR-10

Spike Isotope: Hydrogen-3

Spike Code: _____

Expiration Date: _____

Vol: _____

LCS Isotope: Hydrogen-3

LCS Code: 0134-K

Expiration Date: 3/27/10

Vol: 0.1

Prep Date: 3/1/10 Initials: JKK Pipet ID: 2970968 Witness: 3/2/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Dist Vol (mL)	LSC Rack #
247344001-1	RE15-10-8208	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-2	1		629.19	609.69	19.50	45-1
247344002-1	RE15-10-8205	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-3	2		656.61	644.13	12.48	45-2
247344003-1	RE15-10-8206	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-4	3		543.22	530.73	12.49	45-3
247344004-1	RE15-10-8207	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-5	4		584.52	574.00	10.52	45-4
247344005-1	RE15-10-8204	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-6	5		484.09	474.41	9.68	45-5
247344006-1	RE15-10-8202	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-7	6		526.52	516.52	10.00	45-6
247344007-1	RE15-10-8209	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-8	7		538.62	529.46	9.16	45-7
247344008-1	RE15-10-8205	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-9	8		488.40	478.14	10.26	45-8
247344009-1	RE15-10-8227	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-10	9		498.81	490.83	7.98	45-9
247344010-1	RE15-10-8228	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-11	10		507.26	499.65	7.61	45-10
247344011-1	RE15-10-8212	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	3-12	11		233.14	148.28	84.86	45-11
247360001-1	RE36-10-7427	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	54-1	12		245.14	120.12	125.02	45-12
247360002-1	RE36-10-7423	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	54-2	13		465.60	425.56	40.04	45-13
247360003-1	RE36-10-7428	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	54-3	14		513.00	469.40	43.61	45-14
247360004-1	RE36-10-7424	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	12-FEB-10	10	54-4	15		548.91	511.04	37.87	45-15
247551001-1	RE15-10-8349	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	15-FEB-10	10	54-5	16		576.98	556.21	20.77	45-16
247551002-1	RE15-10-8348	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	15-FEB-10	10	54-6	17		534.79	522.49	12.30	45-17
247552002-1	WST15-10-8894	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	15-FEB-10	10	54-7	18		20.00	0.00	20.00	45-18
1202051381-1	MB for batch 956742	MB		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	15-FEB-10	10	54-8	19		233.14	148.28	84.86	45-19
1202051382-1	RE36-10-7427(247360001DUP)	DUP		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	12-FEB-10	10	54-9	20		20.00	0.00	20.00	45-20
1202051383-1	LCS for batch 956742	LCS		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	12-FEB-10	10	54-10	20		20.00	0.00	20.00	45-21

Bkg Rack #: 3-1/25-1
dailies 3/1/23
3/5/1

Comments:

Bkg prepared with dead water? Yes/No

Instrument Used (circle as appropriate): LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500

(Gold) 7070506, LS6500 (Green) 7067404, Wallac (Yellow) 4140127, LS6000 (Brown) 7060653, Wallac

(Pink) 2200082, Wallac (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used : Ecoscint Ultra (10 mL sample/13 mL Ecoscint Ultra)

Data Reviewed By: JMK 3-12-10

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE	2/25/2010		INITIALS	KXK2	BATCH NUMBER	956742			
Sample #	Sample Wet (g)	Flask Weight (g)	Flask & Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	Flask & Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
247344001	629.19	200.00	829.19	0.031	19.50	609.69	809.69	10	
247344002	0.00	200.00	200.00	0.011	0.00	0.00	200.00	10	
247344003	656.61	200.00	856.61	0.019	12.48	644.13	844.13	10	
247344004	543.22	200.00	743.22	0.023	12.49	530.73	730.73	10	
247344005	584.52	200.00	784.52	0.018	10.52	574.00	774.00	10	
247344006	484.09	200.00	684.09	0.020	9.68	474.41	674.41	10	
247344007	526.52	200.00	726.52	0.019	10.00	516.52	716.52	8	
247344008	538.62	200.00	738.62	0.017	9.16	529.46	729.46	7	
247344009	488.40	200.00	688.40	0.021	10.26	478.14	678.14	10	
247344010	498.81	200.00	698.81	0.016	7.98	490.83	690.83	7	
247344011	507.26	200.00	707.26	0.015	7.61	499.65	699.65	6	
247360001	233.14	200.00	433.14	0.364	84.86	148.28	348.28	10	
247360002	245.14	200.00	445.14	0.510	125.02	120.12	320.12	10	
247360003	465.60	200.00	665.60	0.086	40.04	425.56	625.56	10	
247360004	513.00	200.00	713.00	0.085	43.61	469.40	669.40	10	
247551001	548.91	200.00	748.91	0.069	37.87	511.04	711.04	10	
247551002	576.98	200.00	776.98	0.036	20.77	556.21	756.21	10	
247552002	534.79	200.00	734.79	0.023	12.30	522.49	722.49	9	
MB	20	200.00	220.00	1.000	20.00	0.00	200.00	10	
DUP	233.14	200.00	433.14	0.364	84.86	148.28	348.28	10	
LSC	20	200.00	220.00	1.000	20.00	0.00	200.00	10	

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

Batch : 956742
Analyst : KXK2
Prep Date : 3/1/2010

Spike S/N :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

LCS S/N : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2461.37
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S
Paramname : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.32 years

Pipet, 0.1 ml Stdv : +/- 0.000701 ml
Pipet, 0.5 ml Stdv : +/- 0.002564 ml
Pipet, 1.0 ml Stdv : +/- 0.005480 ml
Pipet, 5.0 ml Stdv : +/- 0.025729 ml

H-3 Abundance : 1
Method Uncertainty : 0.0891
Geometry: 10mL DW/13mL
Ecosoft Ultra

Sample Characteristics		Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Stddev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
Pos.	Sample ID								
1	247344001.1	629.19	0.0195	0.0100	2.5729E-05	609.69	3.10%	1	2/12/2010 12:00
2	247344003.1	656.61	0.0125	0.0100	2.5729E-05	644.13	1.90%	3	2/12/2010 12:00
3	247344004.1	543.22	0.0125	0.0100	2.5729E-05	530.73	2.30%	4	2/12/2010 12:00
4	247344005.1	584.52	0.0105	0.0100	2.5729E-05	574.00	1.80%	5	2/12/2010 12:00
5	247344006.1	484.09	0.0087	0.0100	2.5729E-05	474.41	2.00%	6	2/12/2010 12:00
6	247344007.1	526.52	0.0100	0.0080	2.5729E-05	516.52	1.90%	7	2/12/2010 12:00
7	247344008.1	538.82	0.0092	0.0070	2.5729E-05	529.46	1.70%	8	2/12/2010 12:00
8	247344009.1	488.40	0.0103	0.0100	2.5729E-05	478.14	2.10%	9	2/12/2010 12:00
9	247344010.1	498.81	0.0080	0.0070	2.5729E-05	490.83	1.60%	10	2/12/2010 12:00
10	247344011.1	507.26	0.0076	0.0060	2.5729E-05	498.65	1.50%	11	2/12/2010 12:00
11	247360001.1	233.14	0.0849	0.0100	2.5729E-05	148.28	36.40%	12	2/12/2010 12:00
12	247360002.1	245.14	0.1250	0.0100	2.5729E-05	120.12	51.00%	13	2/12/2010 12:00
13	247360003.1	465.80	0.0400	0.0100	2.5729E-05	425.56	8.60%	14	2/12/2010 12:00
14	247360004.1	513.00	0.0436	0.0100	2.5729E-05	469.40	8.50%	15	2/12/2010 12:00
15	247551001.1	548.91	0.0378	0.0100	2.5729E-05	511.04	6.90%	16	2/15/2010 12:00
16	247551002.1	576.98	0.0208	0.0100	2.5729E-05	556.21	3.60%	17	2/15/2010 12:00
17	247552002.1	534.79	0.0123	0.0090	2.5729E-05	522.49	2.30%	18	2/15/2010 12:00
18	1202051381.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	19	3/1/2010 0:00
19	1202051382.1	233.14	0.0849	0.0100	2.5729E-05	148.28	36.40%	12	2/12/2010 12:00
20	1202051383.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	20	3/1/2010 0:00

Count raw data			Background				Calibration Data			Detector			Backgrounds	
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	45-2	15	115.1	167.8	15	3/9/2010 6:44	0.996	LSCRED	8/21/2009	8/31/2010	0.2077	0.00792	45-1	3/9/2010 6:28
2	45-3	15	114.4	523.47	15	3/9/2010 7:01	0.996	LSCRED	8/21/2009	8/31/2010	0.2080	0.00792	45-1	3/9/2010 6:28
3	45-4	15	114.4	167.73	15	3/9/2010 7:17	0.996	LSCRED	8/21/2009	8/31/2010	0.2080	0.00792	45-1	3/9/2010 6:28
4	45-5	15	113.2	1304.73	15	3/9/2010 7:34	0.996	LSCRED	8/21/2009	8/31/2010	0.2085	0.00792	45-1	3/9/2010 6:28
5	45-6	15	112.8	3987.8	15	3/9/2010 7:50	0.996	LSCRED	8/21/2009	8/31/2010	0.2086	0.00792	45-1	3/9/2010 6:28
6	45-7	15	114.4	497.27	15	3/9/2010 8:08	0.996	LSCRED	8/21/2009	8/31/2010	0.2080	0.00792	45-1	3/9/2010 6:28
7	45-8	15	114.4	1049.53	15	3/9/2010 8:23	0.996	LSCRED	8/21/2009	8/31/2010	0.2080	0.00792	45-1	3/9/2010 6:28
8	45-9	15	112.7	4040.47	15	3/9/2010 8:39	0.996	LSCRED	8/21/2009	8/31/2010	0.2087	0.00792	45-1	3/9/2010 6:28
9	45-10	15	114.8	399.2	15	3/9/2010 8:55	0.996	LSCRED	8/21/2009	8/31/2010	0.2078	0.00792	45-1	3/9/2010 6:28
10	45-11	15	115.5	352.93	15	3/9/2010 9:12	0.996	LSCRED	8/21/2009	8/31/2010	0.2075	0.00792	45-1	3/9/2010 6:28
11	25-2	90	116.8	4.12	90	3/12/2010 7:08	0.996	LSCRED	8/21/2009	8/31/2010	0.2069	0.00792	25-1	3/12/2010 5:35
12	23	50.0287	761.2	1.53	50	3/9/2010 16:17	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2730	0.00792	21	3/9/2010 14:32
13	24	50.0286	755.72	1.51	50	3/9/2010 17:09	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2641	0.00792	21	3/9/2010 14:32
14	25	30.0287	758.98	1.84	30	3/11/2010 14:04	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2694	0.00792	22	3/11/2010 13:32
15	26	30.0287	755.24	3.3	30	3/11/2010 14:37	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2633	0.00792	22	3/11/2010 13:32
16	27	30.0287	761.16	3.81	30	3/11/2010 15:09	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2730	0.00792	22	3/11/2010 13:32
17	37	2.99642	797.19	3407.39	15	3/9/2010 10:01	0.997	LSCPINK	8/21/2009	8/31/2010	0.1803	0.00792	31	3/9/2010 8:15
18	57-2	95	120.2	3.55	95	3/11/2010 18:49	0.998	LSCBROWN	9/9/2009	9/30/2010	0.2289	0.00792	57-1	3/11/2010 17:11
19	29	30.0287	762.28	2.21	30	3/11/2010 16:14	0.996	LSCORANGE	7/23/2009	7/31/2010	0.2748	0.00792	22	3/11/2010 13:32
20	40	15.0287	805.01	23.38	15	3/9/2010 10:40	0.999	LSCPINK	8/21/2009	8/31/2010	0.1887	0.00792	31	3/9/2010 8:15

- 1 - Results are decay corrected to Sample Date/Time
2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date
3 - Spike Nominals are decay corrected to Sample Date/Time

• - RPD changed to 0% due to activity below MDC for 1202051382.1

Results																
Pos.	Decision Level	Critical Level	Required MDC	MDC	Sample Act. Conc.	Sample Act. Error	Net Count Rate	Net Count Rate Error	1 SIGMA Counting	1 SIGMA Total Prop. Uncertainty	Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	CPM	CPM	pCi/L	pCi/L						
1	327.7016	231.3601	250	506.2625	359550.5275	0.022	164.670	3.376	734.9276	2602.8117		SAMPLE				
2	327.2218	231.0214	250	505.5213	113118.0568	0.014	520.340	5.925	1288.0702	7982.9928		SAMPLE				
3	327.2223	231.0218	250	505.5221	35782.8816	0.022	164.600	3.375	733.7026	2597.9461		SAMPLE				
4	328.4706	230.4910	250	504.3608	282308.6177	0.011	1301.600	9.338	2025.2638	19766.1225		SAMPLE				
5	328.2406	230.3286	250	504.0054	863640.2207	0.010	3984.670	16.311	3535.3460	60254.1990		SAMPLE				
6	409.0301	288.7787	250	631.9060	134278.9037	0.015	494.140	5.776	1569.5342	9490.0584		SAMPLE				
7	467.4638	330.0334	250	722.1796	324973.6964	0.012	1046.400	8.377	2601.6503	22814.5603		SAMPLE				
8	328.1862	230.2903	250	503.9215	874910.1896	0.010	4037.340	16.419	3558.0055	61039.1061		SAMPLE				
9	467.8522	330.3077	250	722.7797	123107.1264	0.016	396.070	5.179	1609.7440	8735.8684		SAMPLE				
10	546.8581	385.9453	250	844.5260	127038.3109	0.017	349.800	4.872	1769.4337	9044.1898		SAMPLE				
11	144.5099	102.0253	250	211.3398	109.3381	0.587	0.500	0.283	64.1273	64.5779		SAMPLE				
12	71.9664	50.8089	250	111.5491	109.3063	0.332	0.660	0.219	36.2748	37.0651		SAMPLE				
13	74.4105	52.5344	250	115.3375	109.5966	0.341	0.640	0.218	37.3501	38.1221		SAMPLE				
14	136.0514	97.4655	250	211.7033	-5.0367	11.716	-0.030	0.351	59.0114	59.0127		SAMPLE				
15	141.2099	99.6954	250	216.5470	245.5754	0.290	1.430	0.415	71.2556	73.2796		SAMPLE				
16	136.1953	96.1551	250	208.6570	321.3271	0.224	1.940	0.435	72.0352	75.4315		SAMPLE				
17	561.7050	396.5986	250	1106.7297	1066792.5826	0.013	3405.910	33.723	10562.7116	75070.0579		SAMPLE				
18	114.4414	80.7966	250	167.8171	118.2536	0.436	0.600	0.262	51.5535	52.2072		MB				
19	135.3608	95.5659	250	207.5773	55.9700	1.084	0.340	0.389	60.6780	60.8031	247360001.1	DUP	0.0%	0.2128		
20	276.4074	195.1460	250	443.6492	5954.2021	0.059	21.900	1.286	343.7942	533.3280		LCS			5543.6203	105.6%

Instrument Type LS 6000
 Data Capture Date 09 Mar 2010 06:27:42
 User Filename C:\LSCCAPTURE\RED\USER03\UN030901.BSF

User Number 3
 User Id TRITIUM
 User Comments RED

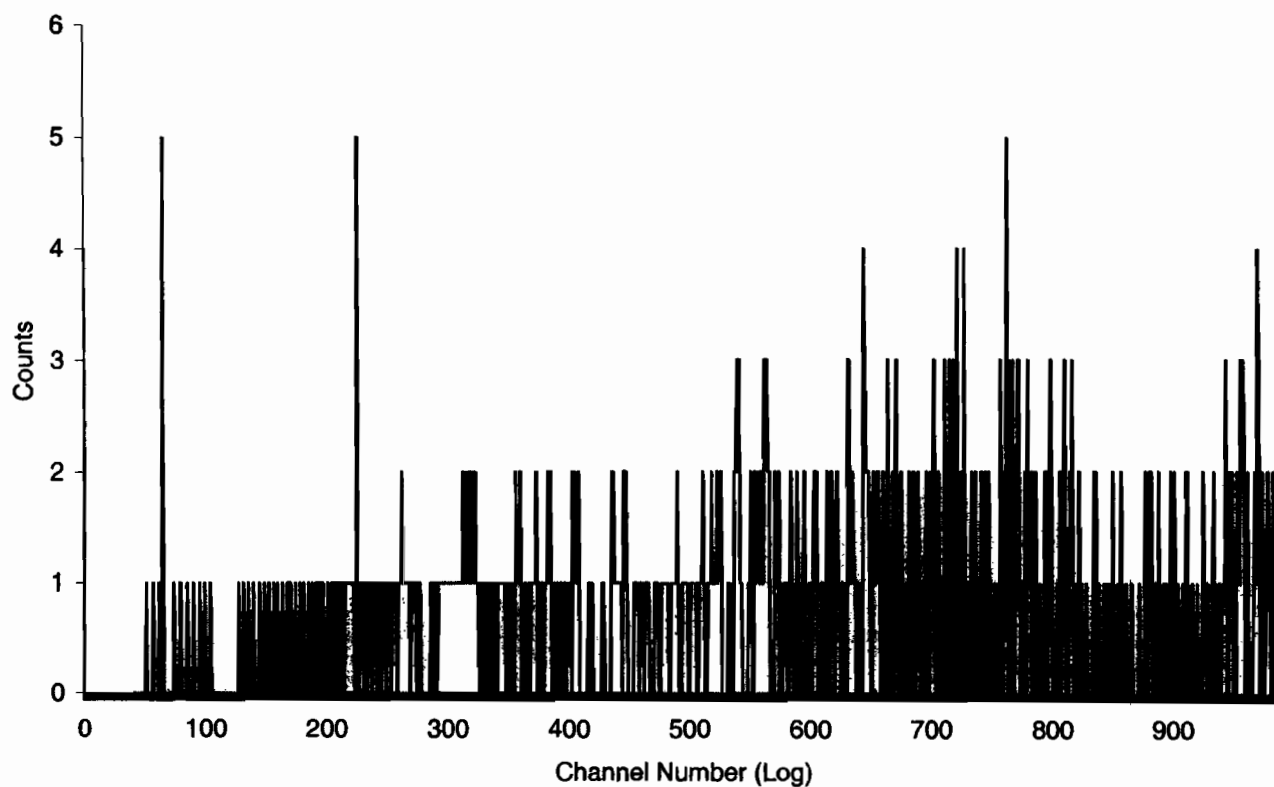
Scintillator Choice: LIQUID

Sam	Rack	Time	H#	Raw CPM1	Raw CPM2	CPM Iso1	%Err1	CPM Iso2	%Err2	LumEx	ElTime
1	45-1	15.00	114.4	3.73	46.47	3.13	31.85	45.87	7.67	1.41	15.86
2	45-2	15.00	115.1	168.20	275.67	167.80	3.99	275.27	3.11	0.19	32.23
3	45-3	15.00	114.4	523.87	795.73	523.47	2.26	795.33	1.83	0.07	48.60
4	45-4	15.00	114.4	168.13	283.67	167.73	3.99	283.27	3.07	0.18	64.96
5	45-5	15.00	113.2	1305.13	1921.00	1304.73	1.43	1920.60	1.18	0.03	81.32
6	45-6	15.00	112.8	3988.27	5841.07	3987.80	0.82	5840.60	0.68	0.00	97.73
7	45-7	15.00	114.4	497.67	751.87	497.27	2.32	751.47	1.88	0.07	114.10
8	45-8	15.00	114.4	1049.93	1552.00	1049.53	1.59	1551.60	1.31	0.04	130.47
9	45-9	15.00	112.7	4040.93	5932.07	4040.47	0.81	5931.60	0.67	0.00	146.89
10	45-10	15.00	114.8	399.67	620.07	399.20	2.59	619.60	2.08	0.10	163.27
11	45-11	15.00	115.5	353.33	548.33	352.93	2.75	547.93	2.21	0.10	179.63

Sample Count Start Time:	9 Mar 2010 06:28:34		
Data Capture Date	09 Mar 2010 06:43:03		
User Filename	S03030945-1A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	45-1	15.00
H#, Total Counts:	114.4	794	
Win1: Tritium - Start, End, Counts:	65	225	47
Win2: - Start, End, Counts:	0	990	689

SPECTRUM PLOT

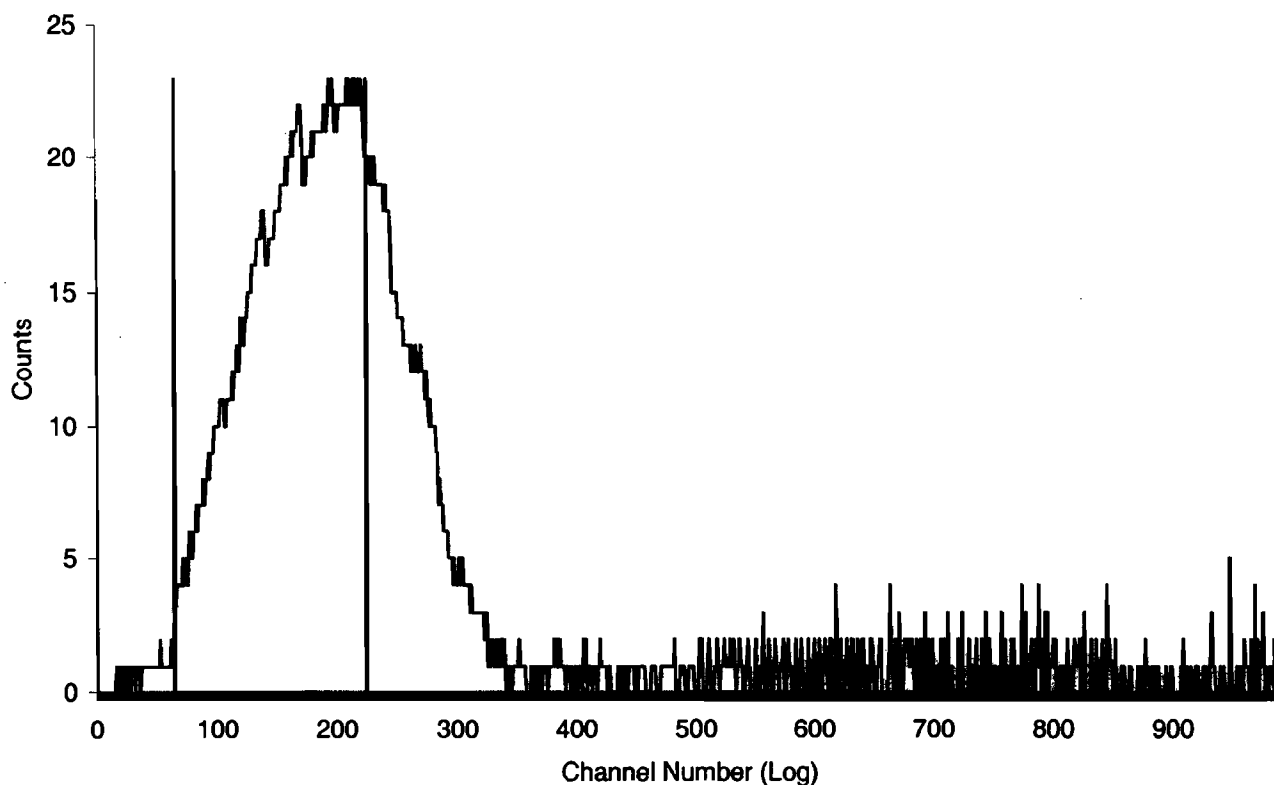
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 06:44:56		
Data Capture Date	09 Mar 2010 06:59:25		
User Filename	S03030945-2A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	45-2	15.00
H#, Total Counts:	115.1	4239	
Win1: Tritium - Start, End, Counts:	65	225	2534
Win2: - Start, End, Counts:	0	990	4131

SPECTRUM PLOT

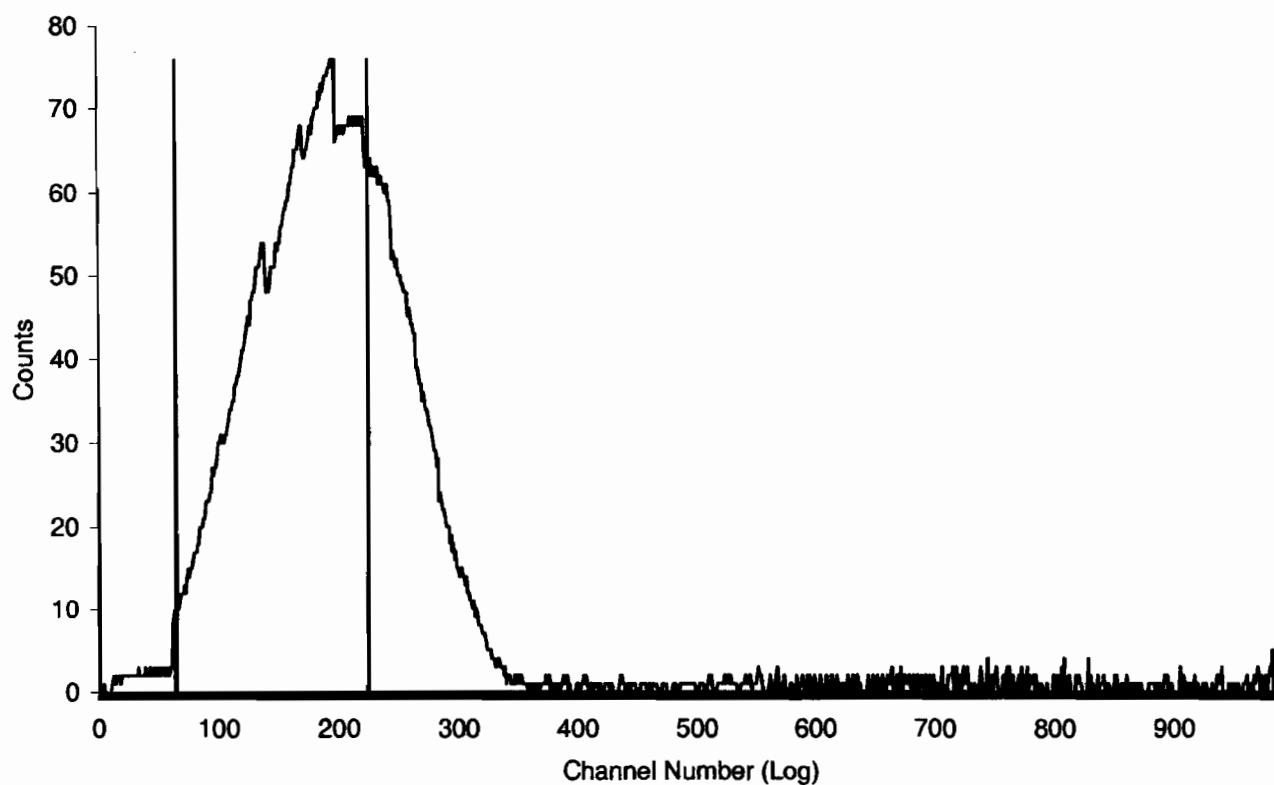
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 07:01:18		
Data Capture Date	09 Mar 2010 07:15:47		
User Filename	S03030945-3A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	45-3	15.00
H#, Total Counts:	114.4	12073	
Win1: Tritium - Start, End, Counts:	65	225	7904
Win2: - Start, End, Counts:	0	990	11933

SPECTRUM PLOT

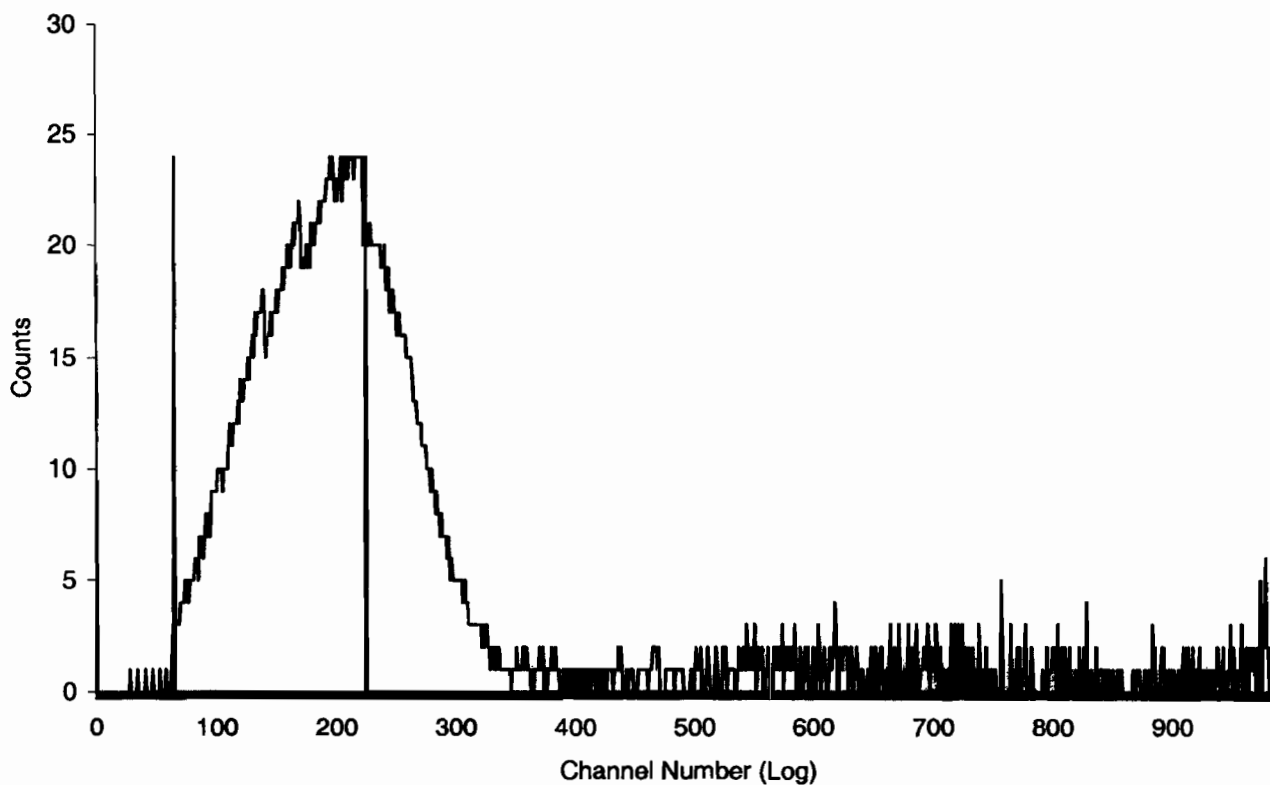
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 07:17:40		
Data Capture Date	09 Mar 2010 07:32:08		
User Filename	S03030945-4A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	45-4	15.00
H#, Total Counts:	114.4	4229	
Win1: Tritium - Start, End, Counts:	65	225	2533
Win2: - Start, End, Counts:	0	990	4217

SPECTRUM PLOT

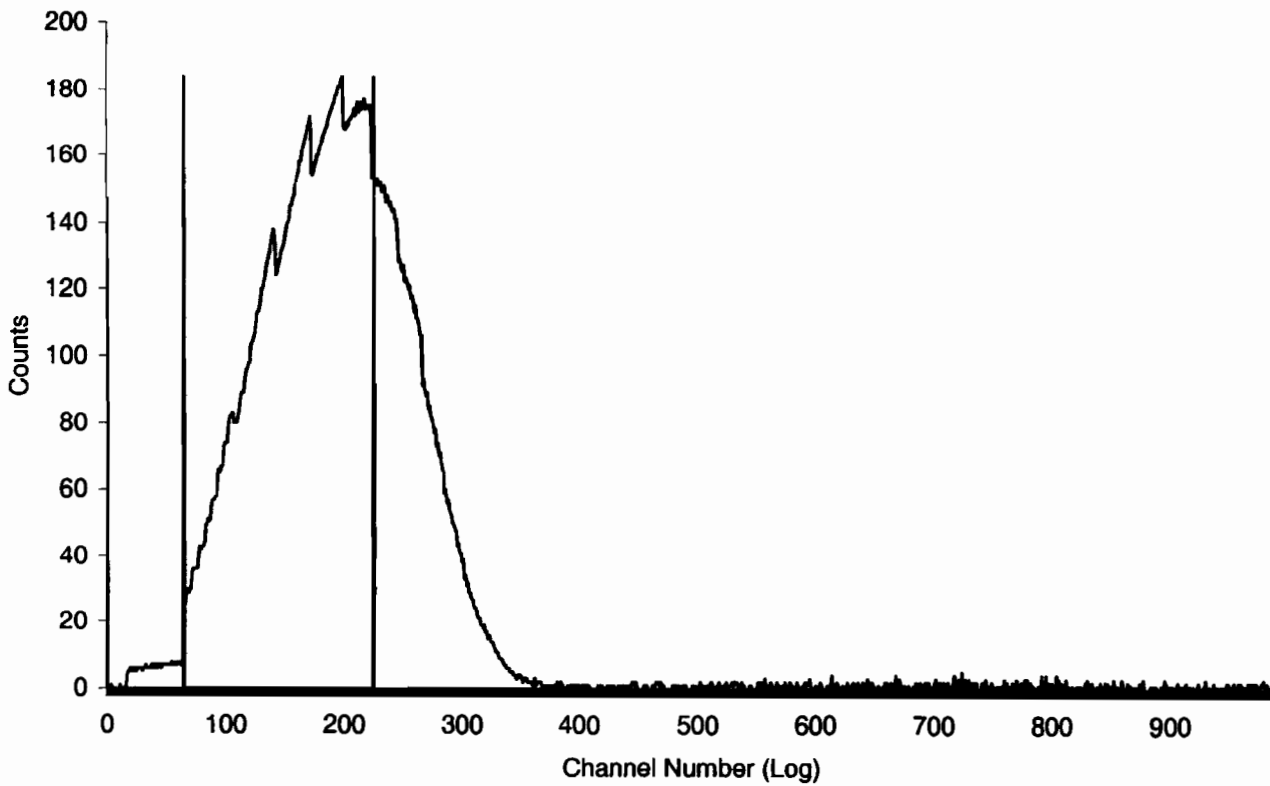
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 07:34:01		
Data Capture Date	09 Mar 2010 07:49:27		
User Filename	S03030945-5A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	45-5	15.00
H#, Total Counts:	113.2	28975	
Win1: Tritium - Start, End, Counts:	65	225	19716
Win2: - Start, End, Counts:	0	990	28807

SPECTRUM PLOT

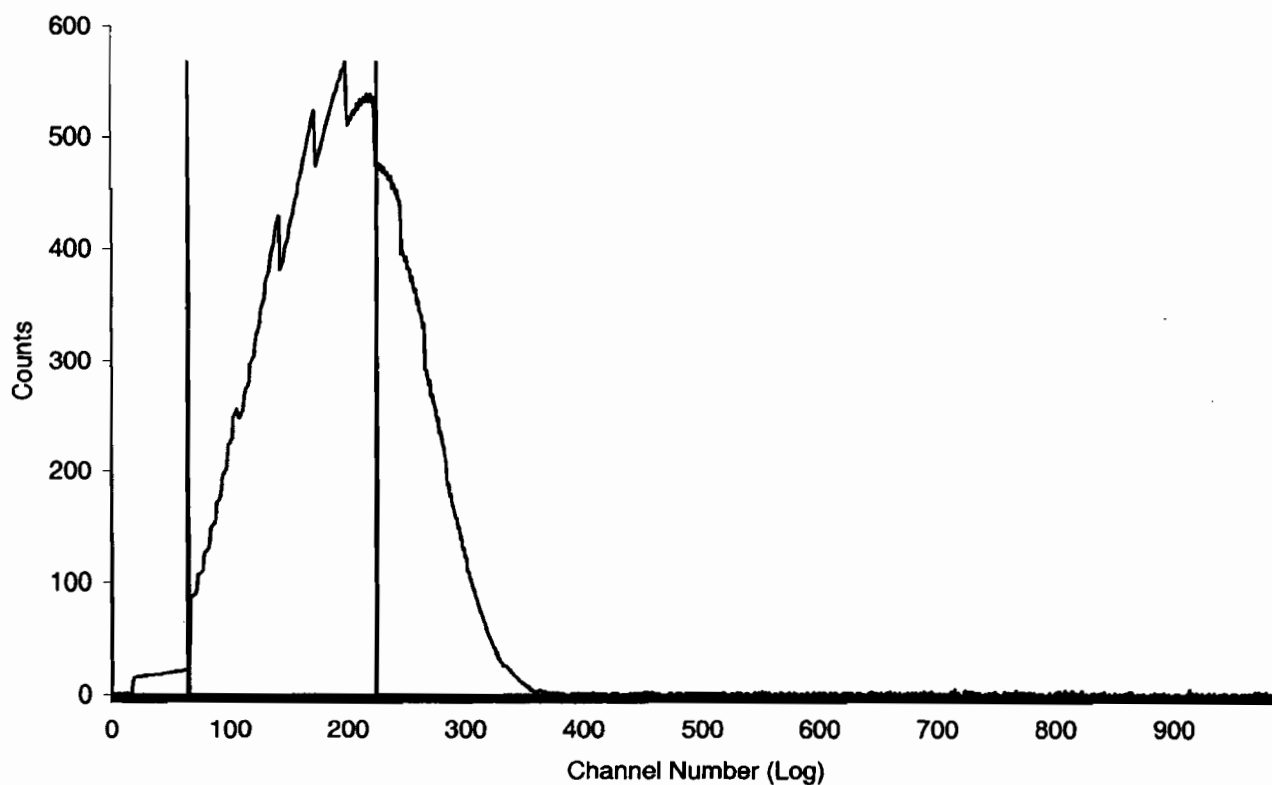
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 07:50:26		
Data Capture Date	09 Mar 2010 08:04:56		
User Filename	S03030945-6A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	45-6	15.00
H#, Total Counts:	112.8	87690	
Win1: Tritium - Start, End, Counts:	65	225	60271
Win2: - Start, End, Counts:	0	990	87598

SPECTRUM PLOT

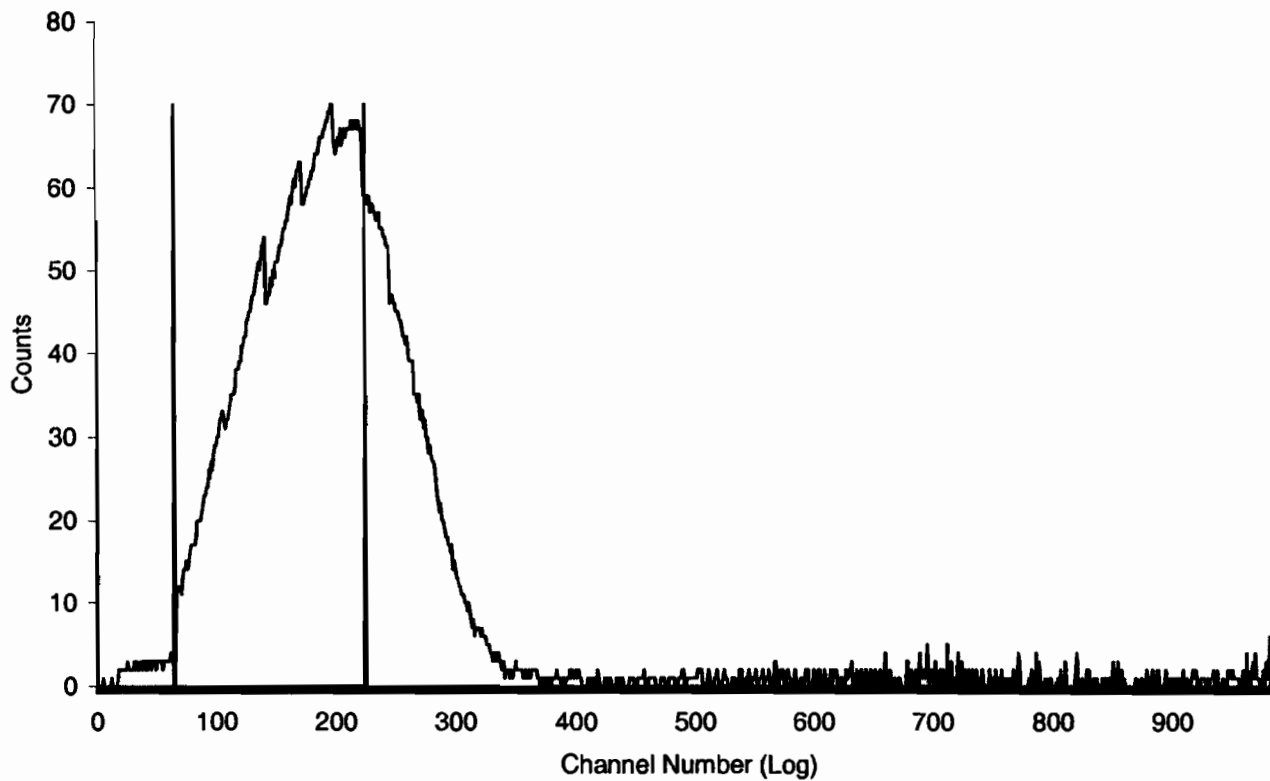
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 08:06:48		
Data Capture Date	09 Mar 2010 08:21:18		
User Filename	S03030945-7A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	45-7	15.00
H#, Total Counts:	114.4	11442	
Win1: Tritium - Start, End, Counts:	65	225	7515
Win2: - Start, End, Counts:	0	990	11274

SPECTRUM PLOT

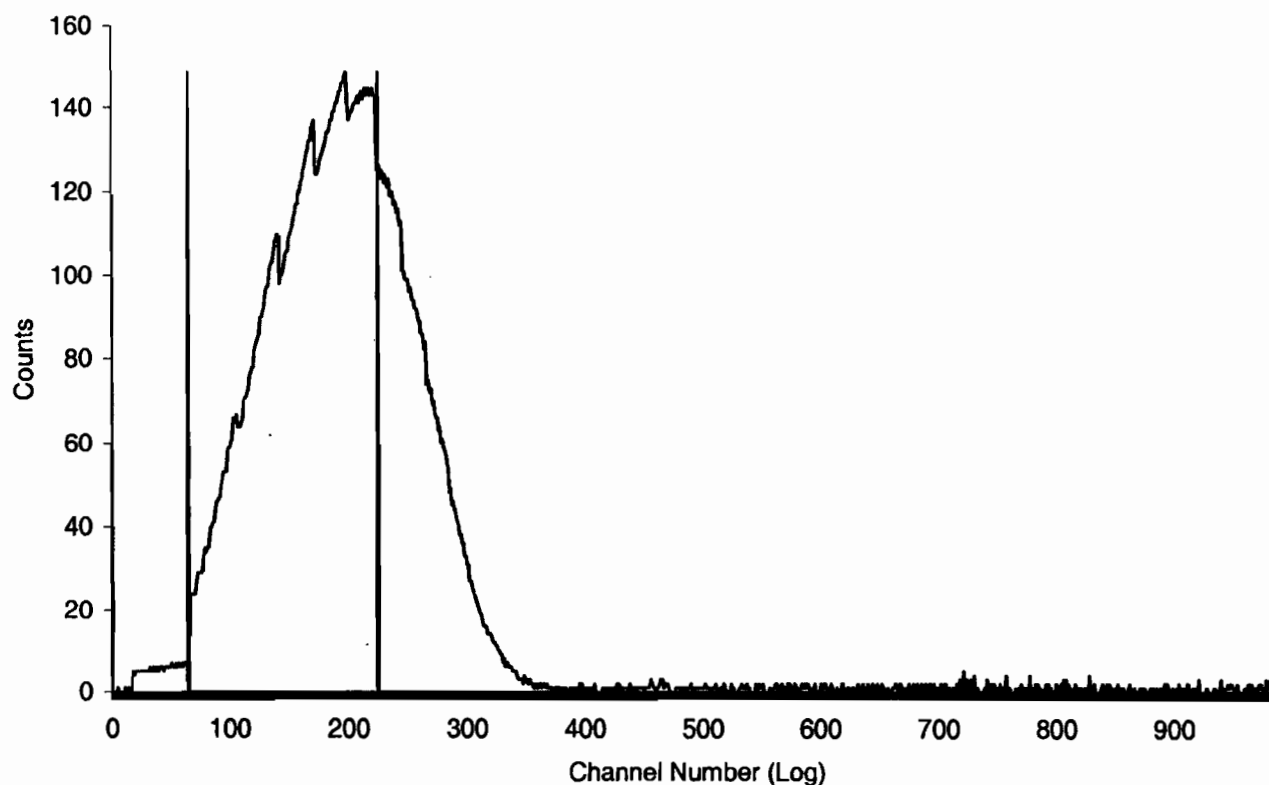
USER 03 - TRITIUM



Sample Count Start Time:	9 Mar 2010 08:23:10		
Data Capture Date	09 Mar 2010 08:37:40		
User Filename	S03030945-8A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	8	45-8	15.00
H#, Total Counts:	114.4	23367	
Win1: Tritium - Start, End, Counts:	65	225	15862
Win2: - Start, End, Counts:	0	990	23269

SPECTRUM PLOT

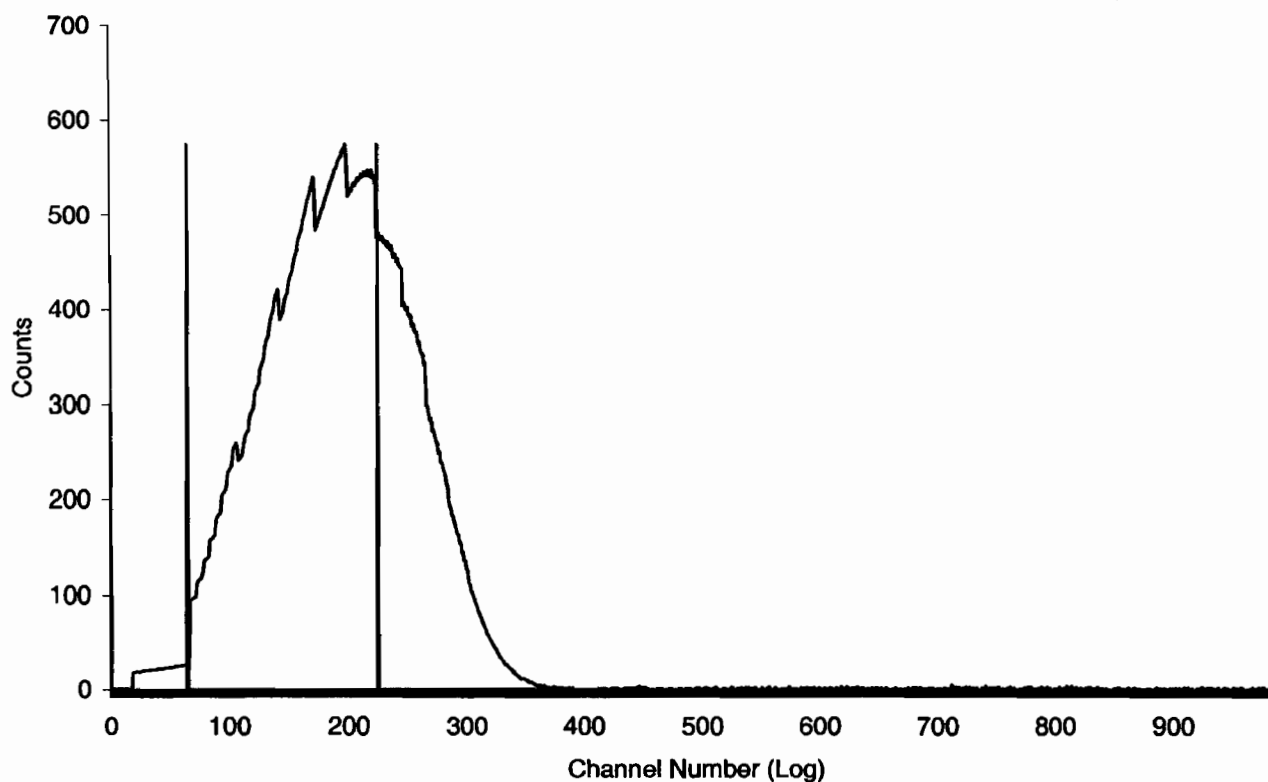
USER 03 - TRITIUM



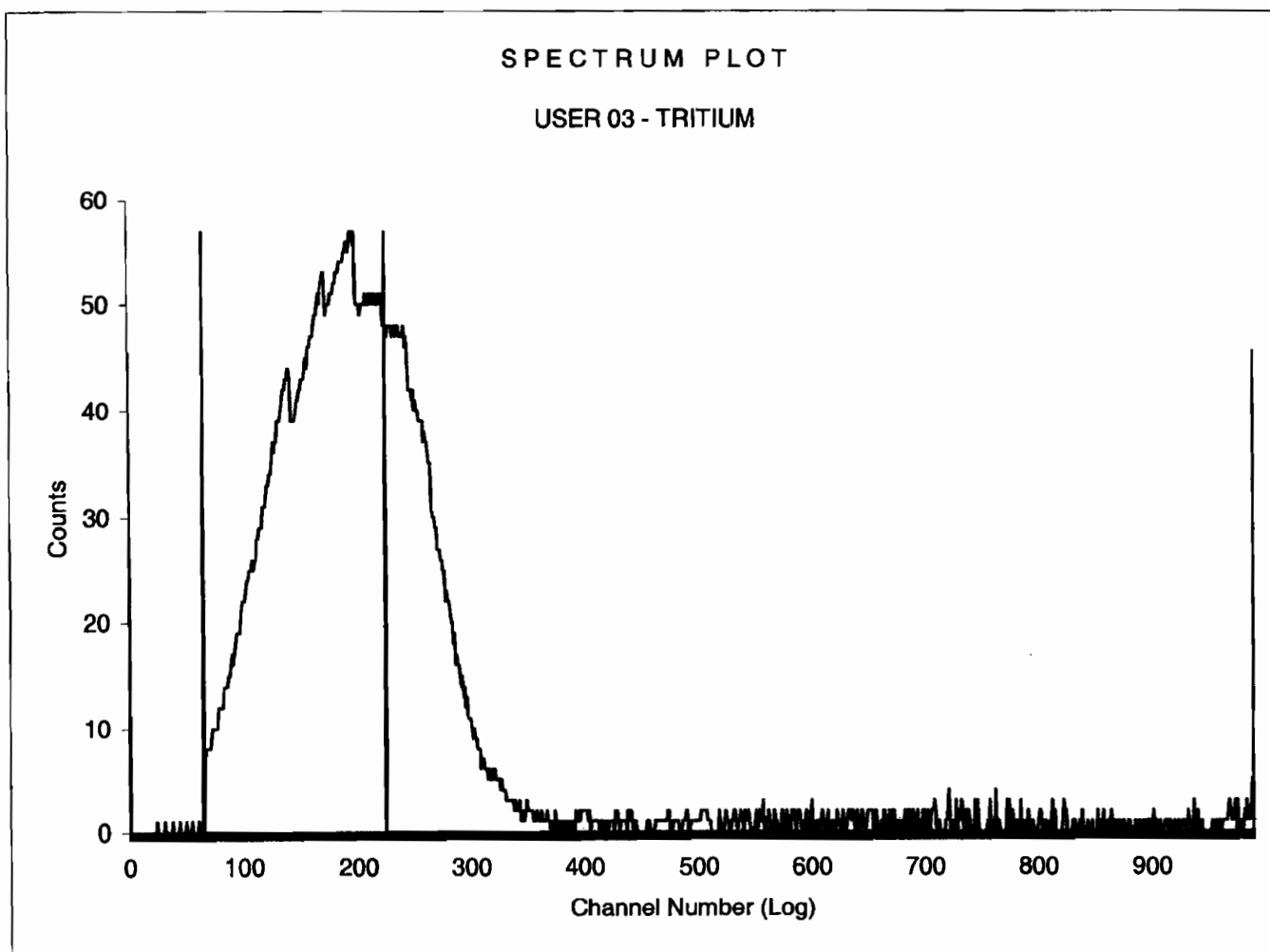
Sample Count Start Time:	9 Mar 2010 08:39:35		
Data Capture Date	09 Mar 2010 08:54:05		
User Filename	S03030945-9A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	9	45-9	15.00
H#, Total Counts:	112.7	89046	
Win1: Tritium - Start, End, Counts:	65	225	61062
Win2: - Start, End, Counts:	0	990	88957

SPECTRUM PLOT

USER 03 - TRITIUM



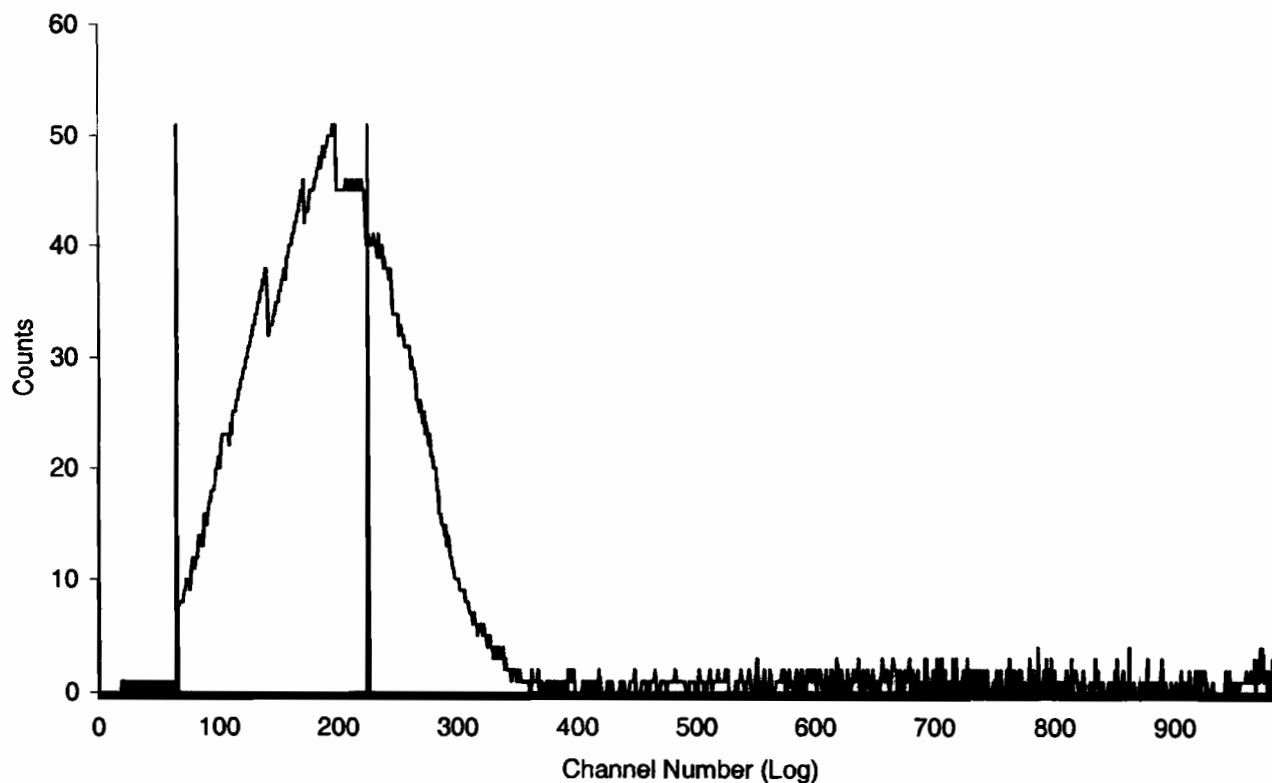
Sample Count Start Time:	9 Mar 2010 08:55:58		
Data Capture Date	09 Mar 2010 09:10:27		
User Filename	S03030945-10A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	10	45-10	15.00
H#, Total Counts:	114.8	9286	
Win1: Tritium - Start, End, Counts:	65	225	6036
Win2: - Start, End, Counts:	0	990	9198



Sample Count Start Time:	9 Mar 2010 09:12:20		
Data Capture Date	09 Mar 2010 09:26:49		
User Filename	S03030945-11A.XLS		
	U03030945-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	11	45-11	15.00
H#, Total Counts:	115.5	8241	
Win1: Tritium - Start, End, Counts:	65	225	5333
Win2: - Start, End, Counts:	0	990	8157

SPECTRUM PLOT

USER 03 - TRITIUM



REGISTRY

TUE 9 MAR 2010 14:30

*** DIRECTORY PATH :S:\LSC\O\DA\956742A0 ***

PARAMETER GROUP: 8
ID: H-3 (1)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	21	BKG	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	22	247360001	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	23	247360002	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	24	247360003	50:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	1	1	10:00	6.0E01	2.6E01	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

JP 3/10/10

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	50- 175	1	2
2	5- 320	1	2
3	1- 1024	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1. POS	2. ID	3. CTIME	4. SQP	5. CPM1	6. CPM2	7. CPM3
SEND SPECTRA	12					
RESOLUTION OF SPECTRA	1024					
LISTING	Y					
INSTRUMENT NUMBER	1					

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q012101N.001	9 MAR 2010 15:23					
21	BKG	50:01.780	761.59	.87	2.25	6.56
Q022201N.001	9 MAR 2010 16:15					
22	247360001	50:01.780	760.29	1.92	3.23	7.63
Q032301N.001	9 MAR 2010 17:08					
23	247360002	50:01.780	761.20	1.53	2.88	8.16
Q042401N.001	9 MAR 2010 18:00					
24	247360003	50:01.773	755.72	1.51	3.04	7.79
Q050101N.001	9 MAR 2010 18:04					
1	1	0:01.773	916.30	5020.00	23207.00	100380.00

Page 1

JP 3/10/10

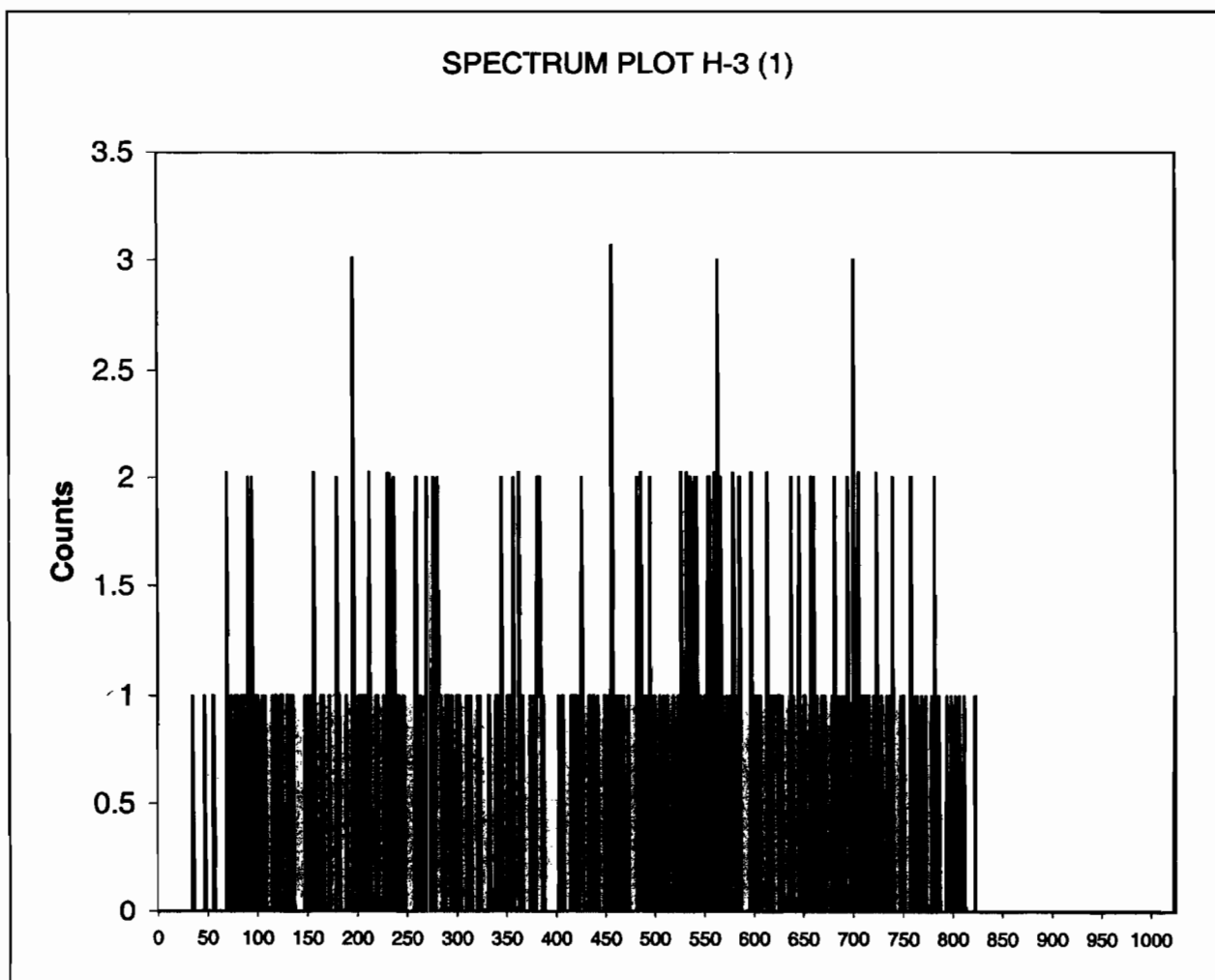
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 MAR 2010 14:30
s:\sc\files\orange\956742A0\SQ012101N.001.xls
s:\sc\files\orange\956742A0\U956742A0.xls

ID: H-3 (1)
Comments: ORANGE

Sample, Rack-Pos, Time: 1, BKG, 50.02967:
Quench: 761.59
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	1

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 MAR 2010 14:30
s:\sc\files\orange\956742A0\SQ032301N.001.xls
s:\sc\files\orange\956742A0\U956742A0.xls

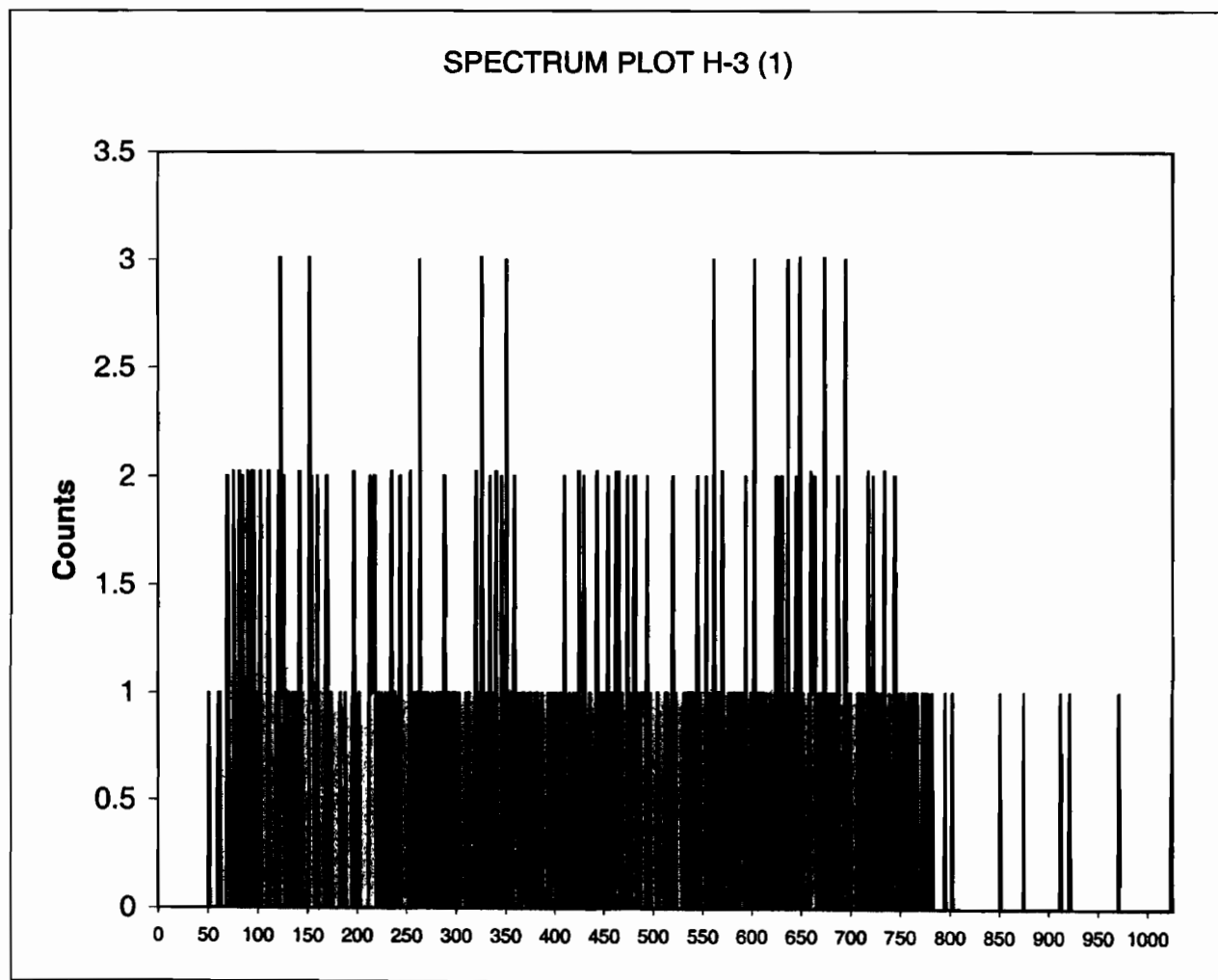
ID:
Comments:

H-3 (1)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

3, 247360002, 50.02967:
761.2
50-175

Channel Counts



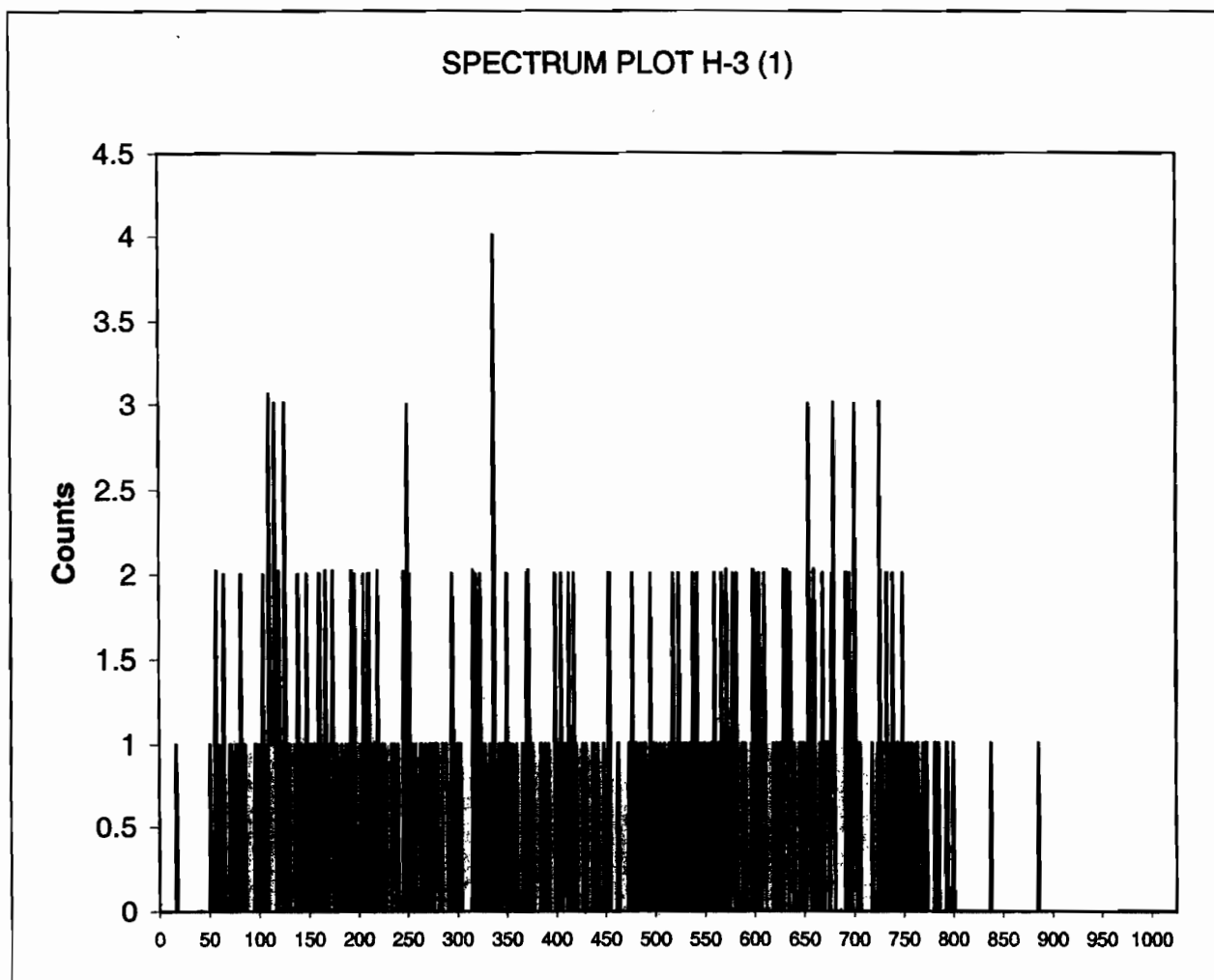
32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: TUE 9 MAR 2010 14:30
FileName: s:\lsc\files\orange\956742A0\SQ042401N.001.xls
File Info: s:\lsc\files\orange\956742A0\U956742A0.xls

ID: H-3 (1)
Comments: ORANGE

Sample, Rack-Pos, Time: 4, 247360003, 50.02955:
Quench: 755.72
Start, End, X-Axis 50-175

Channel Counts



32	0
33	0
34	0
35	0

REGISTRY

TUE 9 MAR 2010 8:13

*** DIRECTORY PATH :S:\LSC\Q\DA\956742A0 ***

PARAMETER GROUP: 8
ID: H-3(3)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	31	BKG	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	32	247360002	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	33	247360003	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	34	247360004	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	35	247551001	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	36	247551002	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	37	247552002	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
8	38	1202051381	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
9	39	1202051382	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
10	40	1202051383	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	1- 174	1	2
2	1- 174	1	2
3	60- 220	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1. POS	2. ID	3. CTIME	4. SQP	5. CPM1	6. CPM2	7. CPM3
SEND SPECTRA	12					
RESOLUTION OF SPECTRA	1024					
LISTING	Y					
INSTRUMENT NUMBER	1					

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q013101N.001	9 MAR 2010 8:31					
31	BKG	15:01.785	804.56	1.48	1.48	1.81
Q023201N.001	9 MAR 2010 8:48					
32	247360002	15:01.778	803.43	.94	.94	1.34
Q033301N.001	9 MAR 2010 9:06					

Page 1

REGISTRY

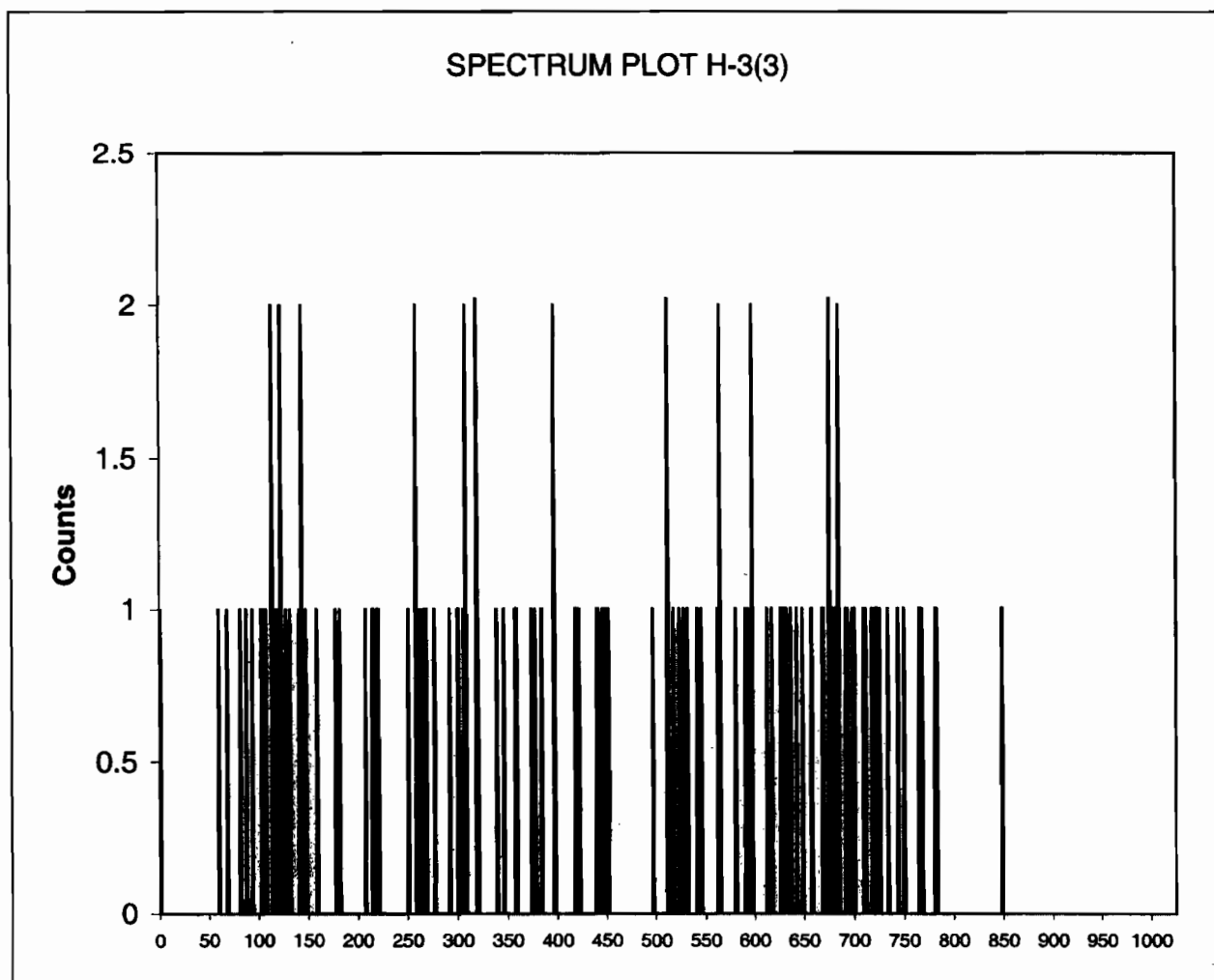
3-12-10 33 247360003 15:01.785 802.68 .74 .74 1.14
 Q043401N.001 9 MAR 2010 9:23
 34 247360004 15:01.785 804.55 1.07 1.07 1.61
 Q053501N.001 9 MAR 2010 9:41
 35 247551001 15:01.785 804.27 1.68 1.68 2.15
 Q063601N.001 9 MAR 2010 9:58
 36 247551002 15:01.785 803.52 2.76 2.76 3.30
 Q073701N.001 9 MAR 2010 10:04
 37 247552002 2:59.785 797.19 3407.39 3407.39 3590.45
 Q083801N.001 9 MAR 2010 10:21
 38 1202051381 15:01.778 798.38 1.01 1.01 1.21
 Q093901N.001 9 MAR 2010 10:39
 39 1202051382 15:01.784 806.74 1.01 1.01 1.61
 Q104001N.001 9 MAR 2010 10:56
 40 1202051383 15:01.784 805.01 23.38 23.38 25.74

Instrument Type: Quantulus
Data Capture Date: TUE 9 MAR 2010 8:13
FileName: s:\sc\files\pink\956742A0\SQ013101N.001.xls
File Info: s:\sc\files\pink\956742A0\U956742A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 1, BKG, 15.02975:
Quench: 804.56
Start, End, X-Axis: 1-174

Channel Counts



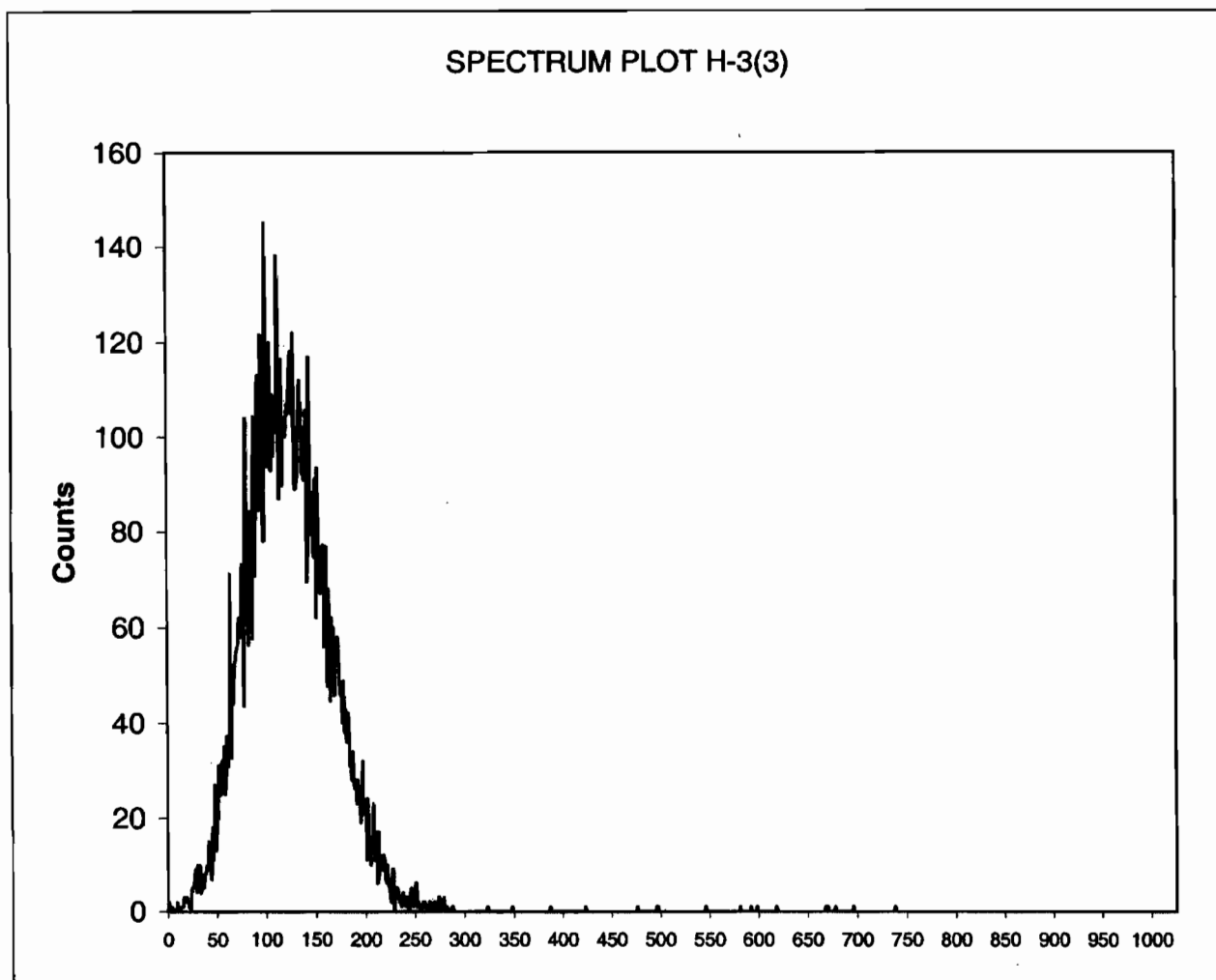
32 0
33 0
34 0
35 0

Instrument Type: Quantulus
Data Capture Date: TUE 9 MAR 2010 8:13
FileName: s:\sc\files\pink\956742A0\SQ073701N.001.xls
File Info: s:\sc\files\pink\956742A0\U956742A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 7, 247552002, 2.996417:
Quench: 797.19
Start, End, X-Axis 1-174

Channel Counts



32	10
33	4
34	5
35	8

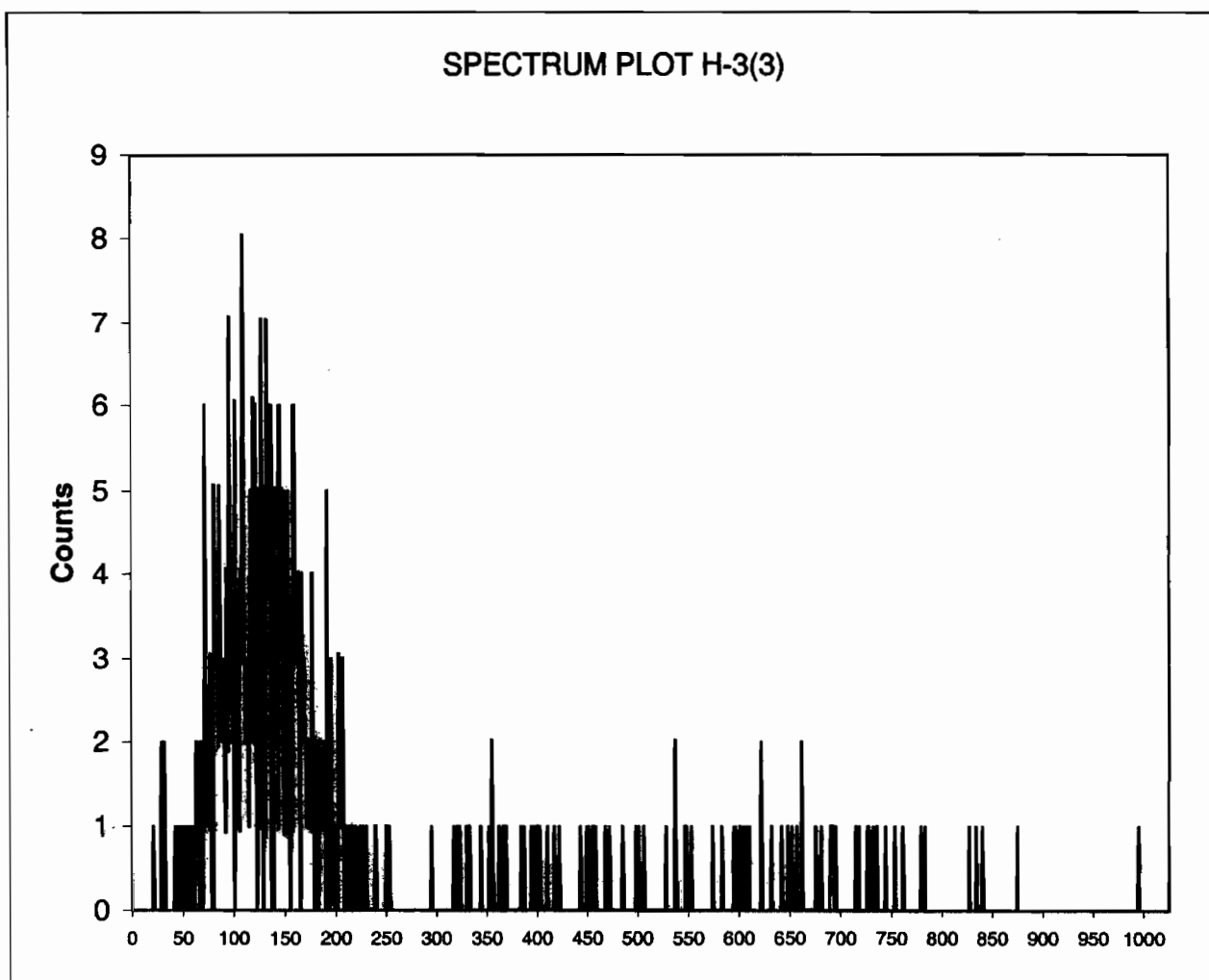
Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 MAR 2010 8:13
s:\sc\files\pink\956742A0\SQ104001N.001.xls
s:\sc\files\pink\956742A0\U956742A0.xls

ID: H-3(3)
Comments: PINK

Sample, Rack-Pos, Time: 10, 1202051383, 15.02973:
Quench: 805.01
Start, End, X-Axis 1-174

Channel Counts



32	2
33	0
34	0
35	0

REGISTRY

THU 11 MAR 2010 13:30

*** DIRECTORY PATH :S:\LSC\O\DA\956742A2 ***

PARAMETER GROUP: 8
ID: H-3 (2)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	22	BKG	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	25	247360004	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	26	247551001	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	27	247551002	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	28	1202051381	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	29	1202051382	30:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT	TRIGG.	INHIBIT	MEMORY SPLIT
1 LRSUM	DCOS	G	L*R
2 GSUM	G		L*R

WINDOW	CHANNELS	MCA	HALF
1	50- 175	1	2
2	5- 320	1	2
3	1- 1024	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1. POS	2. ID	3. CTIME	4. SQP	5. CPM1	6. CPM2	7. CPM3
SEND SPECTRA 12						
RESOLUTION OF SPECTRA 1024						
LISTING Y						
INSTRUMENT NUMBER 1						

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q012201N.001	11 MAR 2010	14:03				
22	BKG	30:01.780	759.32	1.87	3.30	8.31
Q022501N.001	11 MAR 2010	14:35				
25	247360004	30:01.780	758.98	1.84	3.13	7.83
Q032601N.001	11 MAR 2010	15:08				
26	247551001	30:01.780	755.24	3.30	4.56	10.22
Q042701N.001	11 MAR 2010	15:40				
27	247551002	30:01.780	761.16	3.81	5.35	10.80
Q052801N.001 11 MAR 2010 16:13						

Page 1

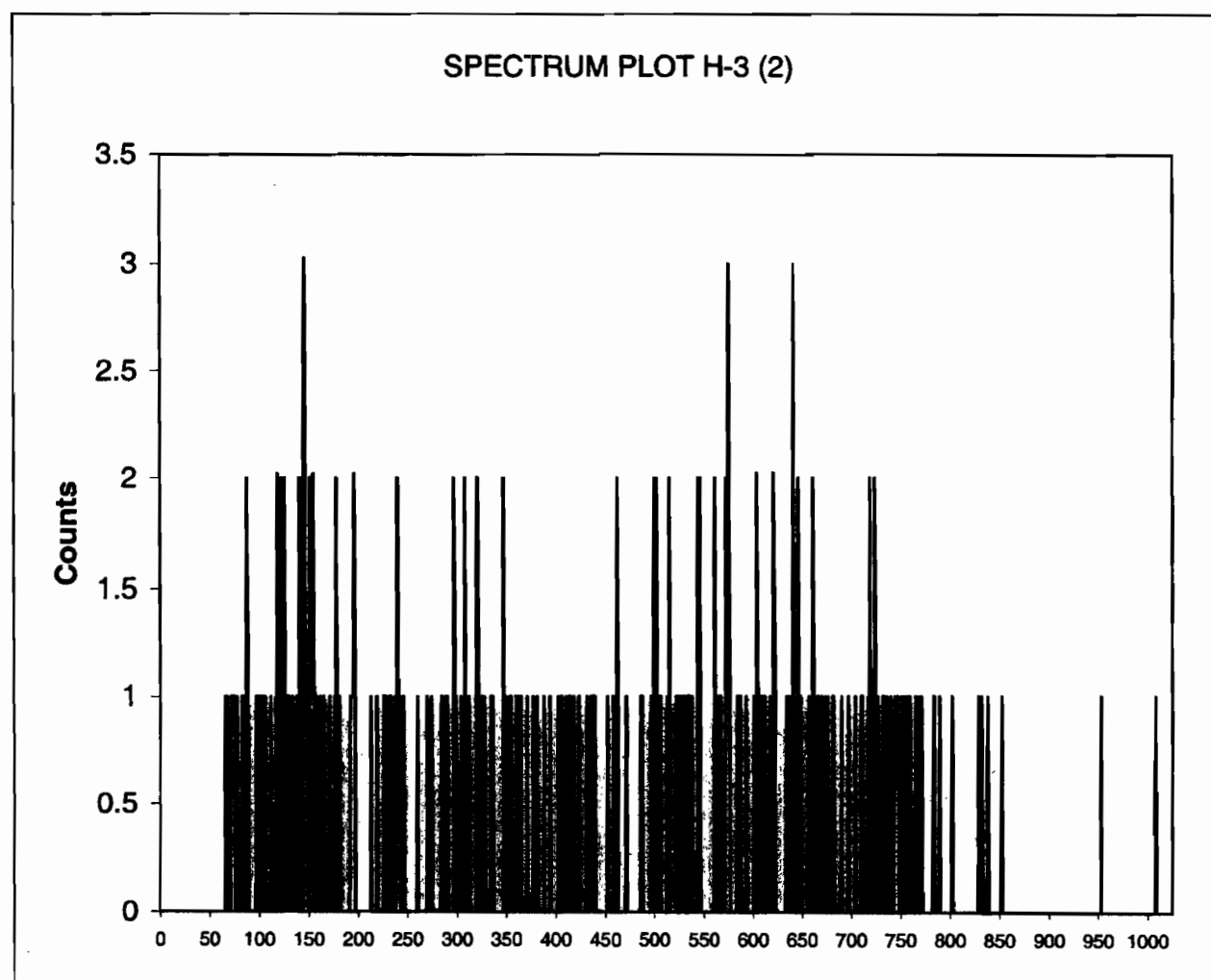
3-12-10	28	1202051381	30:01.780	754.26	.71	2.28	6.81
	Q062901N.001	11 MAR 2010	16:45				
	29	1202051382	30:01.780	762.28	2.21	3.68	8.48

Instrument Type: Quantulus
Data Capture Date: THU 11 MAR 2010 13:30
FileName: s:\sc\files\orange\956742A2\SQ012201N.001.xls
File Info: s:\sc\files\orange\956742A2\U956742A2.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 1, BKG, 30.02967:
Quench: 759.32
Start, End, X-Axis 50-175

Channel Counts



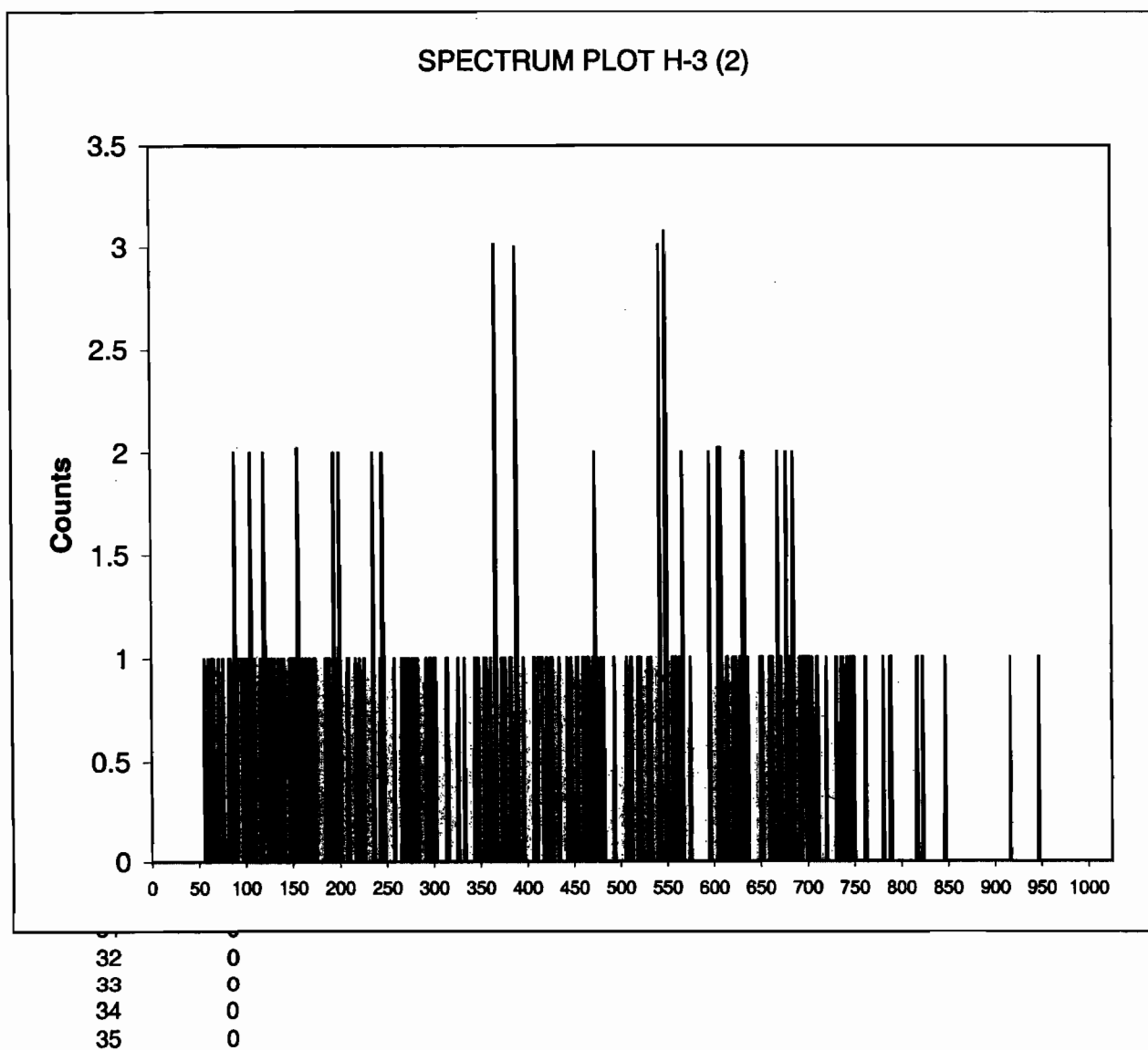
32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: THU 11 MAR 2010 13:30
FileName: s:\sc\files\orange\956742A2\SQ022501N.001.xls
File Info: s:\sc\files\orange\956742A2\U956742A2.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 2, 247360004, 30.02967:
Quench: 758.98
Start, End, X-Axis 50-175

Channel Counts

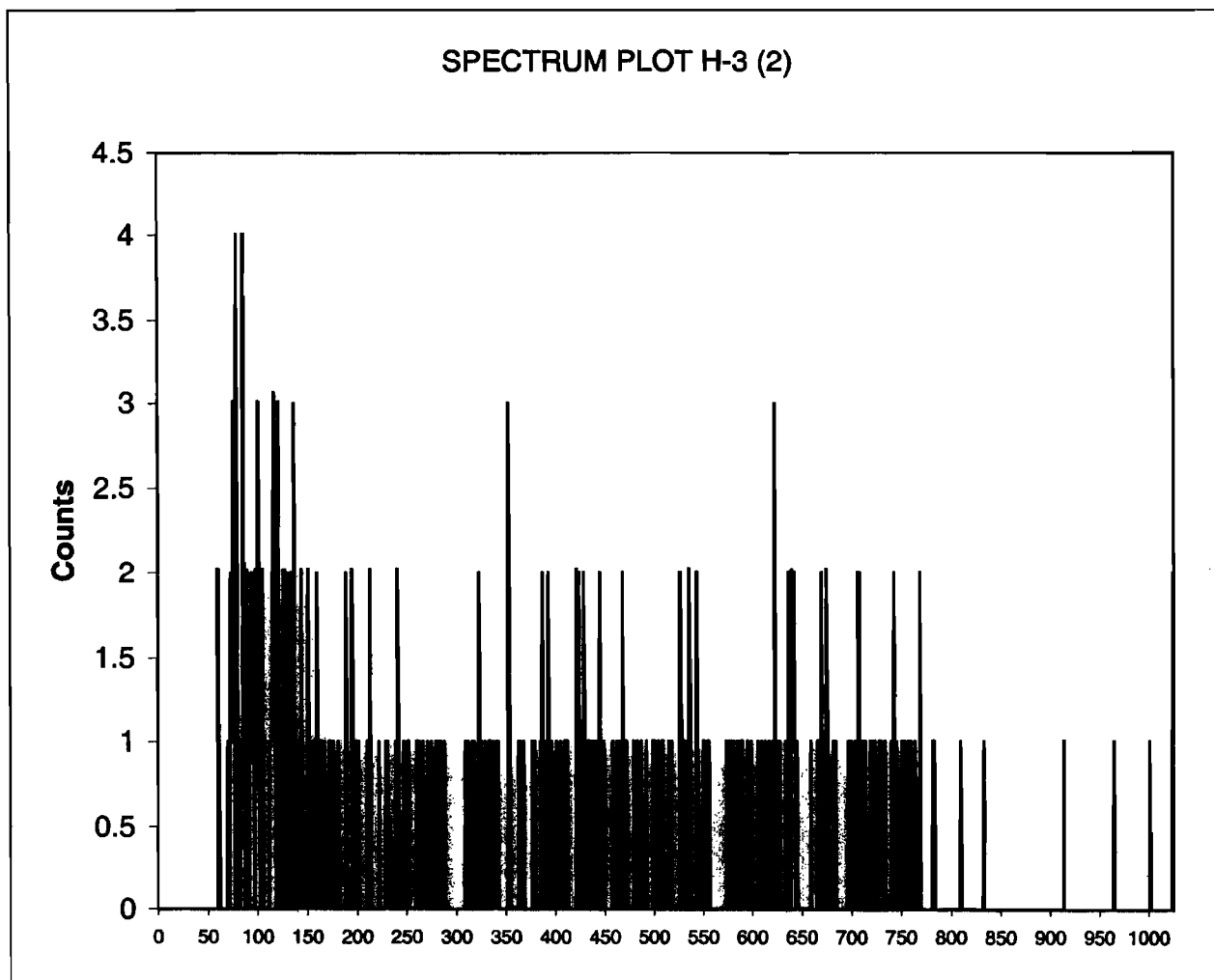


Instrument Type: Quantulus
Data Capture Date: THU 11 MAR 2010 13:30
FileName: s:\sc\files\orange\956742A2\SQ032601N.001.xls
File Info: s:\sc\files\orange\956742A2\U956742A2.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 3, 247551001, 30.02967:
Quench: 755.24
Start, End, X-Axis 50-175

Channel Counts



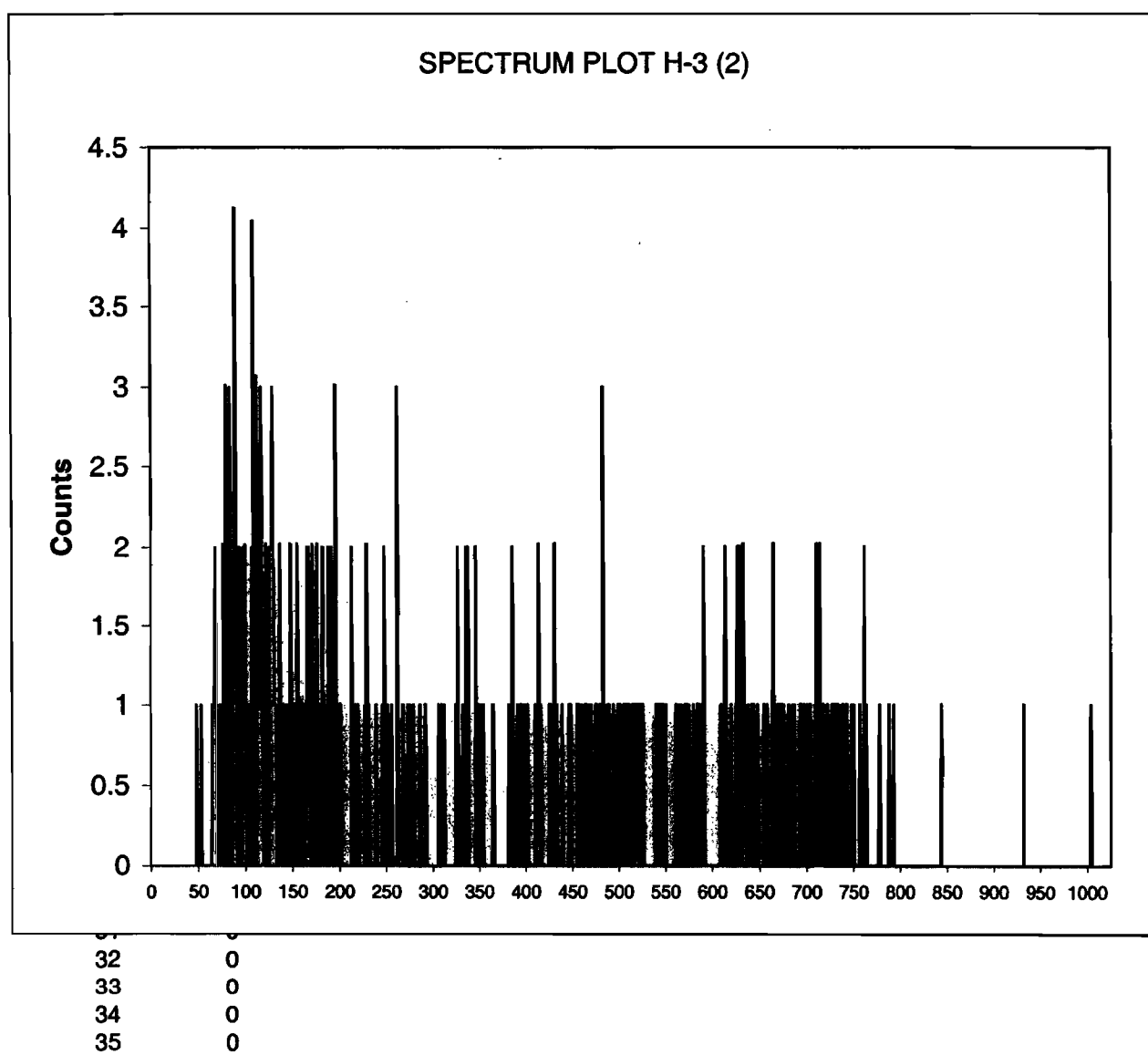
32 0
33 0
34 0
35 0

Instrument Type: Quantulus
Data Capture Date: THU 11 MAR 2010 13:30
FileName: s:\sc\files\orange\956742A2\SQ042701N.001.xls
File Info: s:\sc\files\orange\956742A2\U956742A2.xls

ID: H-3 (2)
Comments: ORANGE

Sample, Rack-Pos, Time: 4, 247551002, 30.02967:
Quench: 761.16
Start, End, X-Axis 50-175

Channel Counts



Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
THU 11 MAR 2010 13:30
s:\sc\files\orange\956742A2\SQ062901N.001.xls
s:\sc\files\orange\956742A2\U956742A2.xls

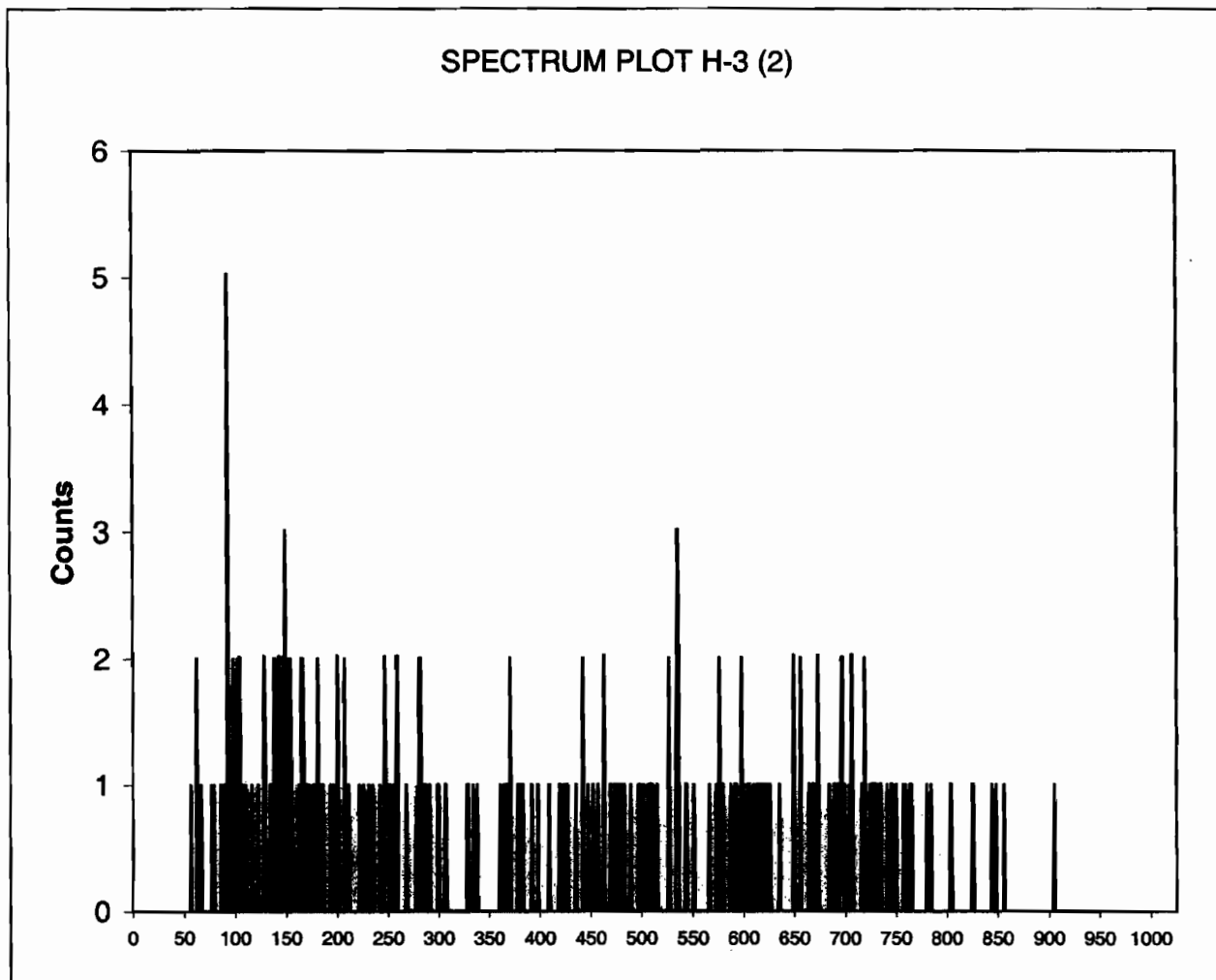
ID:
Comments:

H-3 (2)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

6, 1202051382, 30.02967:
762.28
50-175

Channel Counts



32 0
33 0
34 0
35 0

Instrument Type LS 6000
 Data Capture Date 11 Mar 2010 17:09:03
 User Filename C:\SCCAPTURE\BROWN\USER13\UN031101.BSF

User Number 13
 User Id TRITIUM
 User Comments BROWN

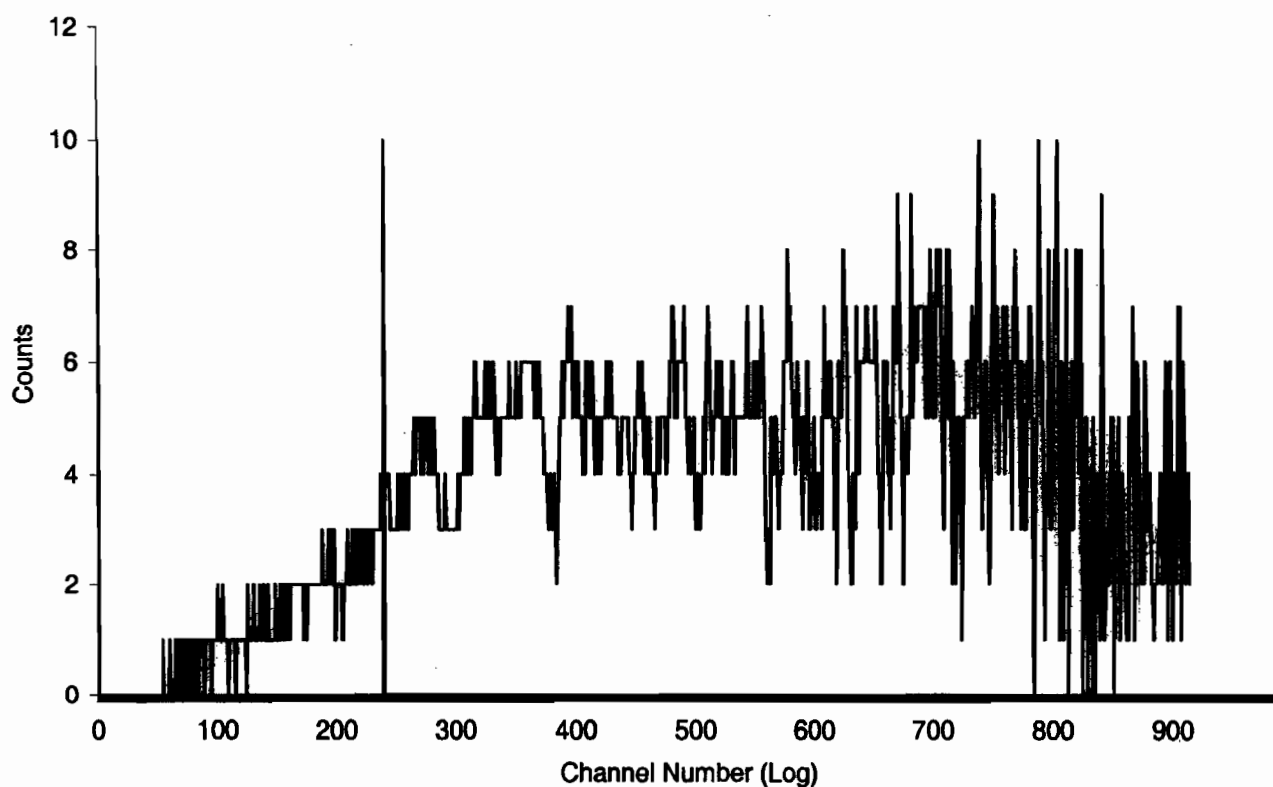
Scintillator Choice: LIQUID

Sam	Rack	Time	H#	Raw CPM1	CPM Iso1	%Err1	LumEx	EITime
1	57-1	95.00	124.7	3.02	2.95	12.10	0.21	97.41
2	57-2	95.00	120.2	3.71	3.55	11.13	0.40	195.42

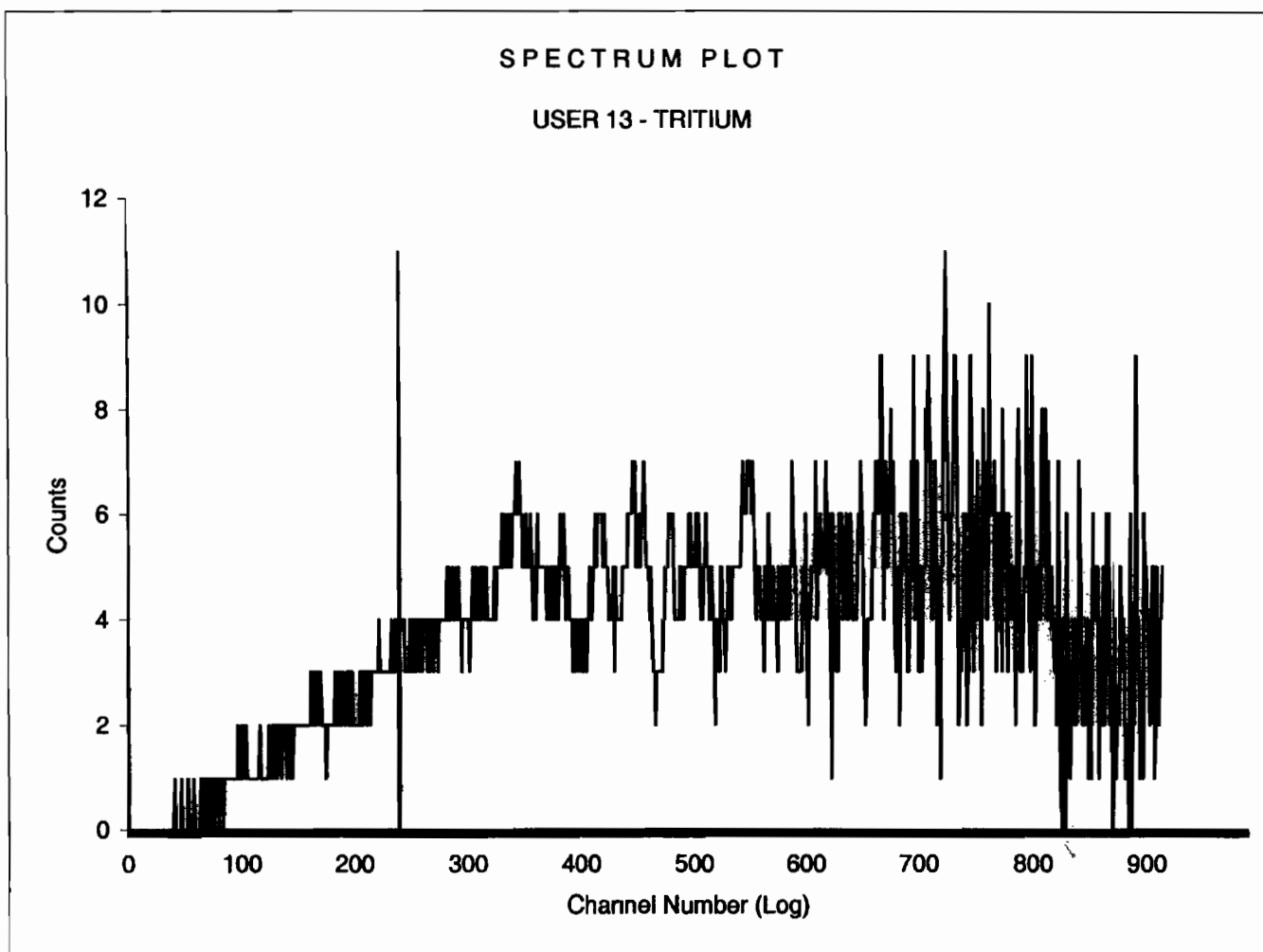
Sample Count Start Time:	11 Mar 2010 17:11:28		
Data Capture Date	11 Mar 2010 18:46:52		
User Filename	S13031157-1A.XLS		
	U13031157-1A.XLS		
Spectrum Type	Log Counts		
User Number	13		
User Id	TRITIUM		
User Comment	BROWN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	57-1	95.00
H#, Total Counts:	124.7	3462	
Win1: Tritium - Start, End, Counts:	0	240	284
Win2: - Start, End, Counts:	0	990	3462

SPECTRUM PLOT

USER 13 - TRITIUM



Sample Count Start Time:	11 Mar 2010 18:49:28		
Data Capture Date	11 Mar 2010 20:24:52		
User Filename	S13031157-2A.XLS		
	U13031157-1A.XLS		
Spectrum Type	Log Counts		
User Number	13		
User Id	TRITIUM		
User Comment	BROWN		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	57-2	95.00
H#, Total Counts:	120.2	3442	
Win1: Tritium - Start, End, Counts:	0	240	341
Win2: - Start, End, Counts:	0	990	3442



ID: TRITIUM

12 MAR 2010 05:45

USER: 3

COMMENT: RED

PRESET TIME : 65.00

DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : EDIT

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : EDIT

TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF

SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 65.0 - 225.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 990.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		

1	25-1	90.00	128.5	3.62	11.62	49.00	3.02	0.75	92.56
---	------	-------	-------	------	-------	-------	------	------	-------

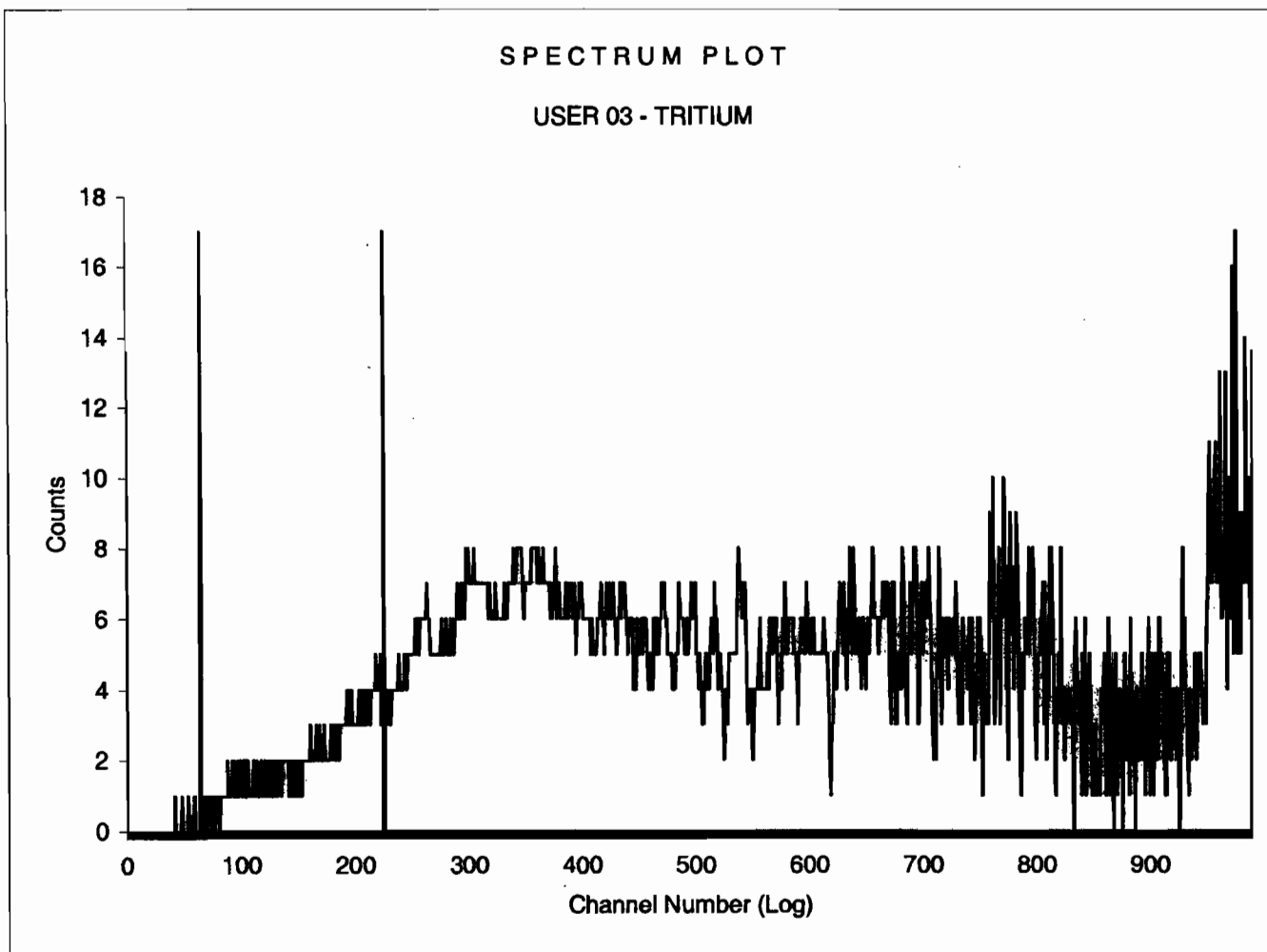
2	25-2	90.00	116.8	4.12	11.07	48.61	3.04	1.13	185.79
---	------	-------	-------	------	-------	-------	------	------	--------

MISSING SAMPLE

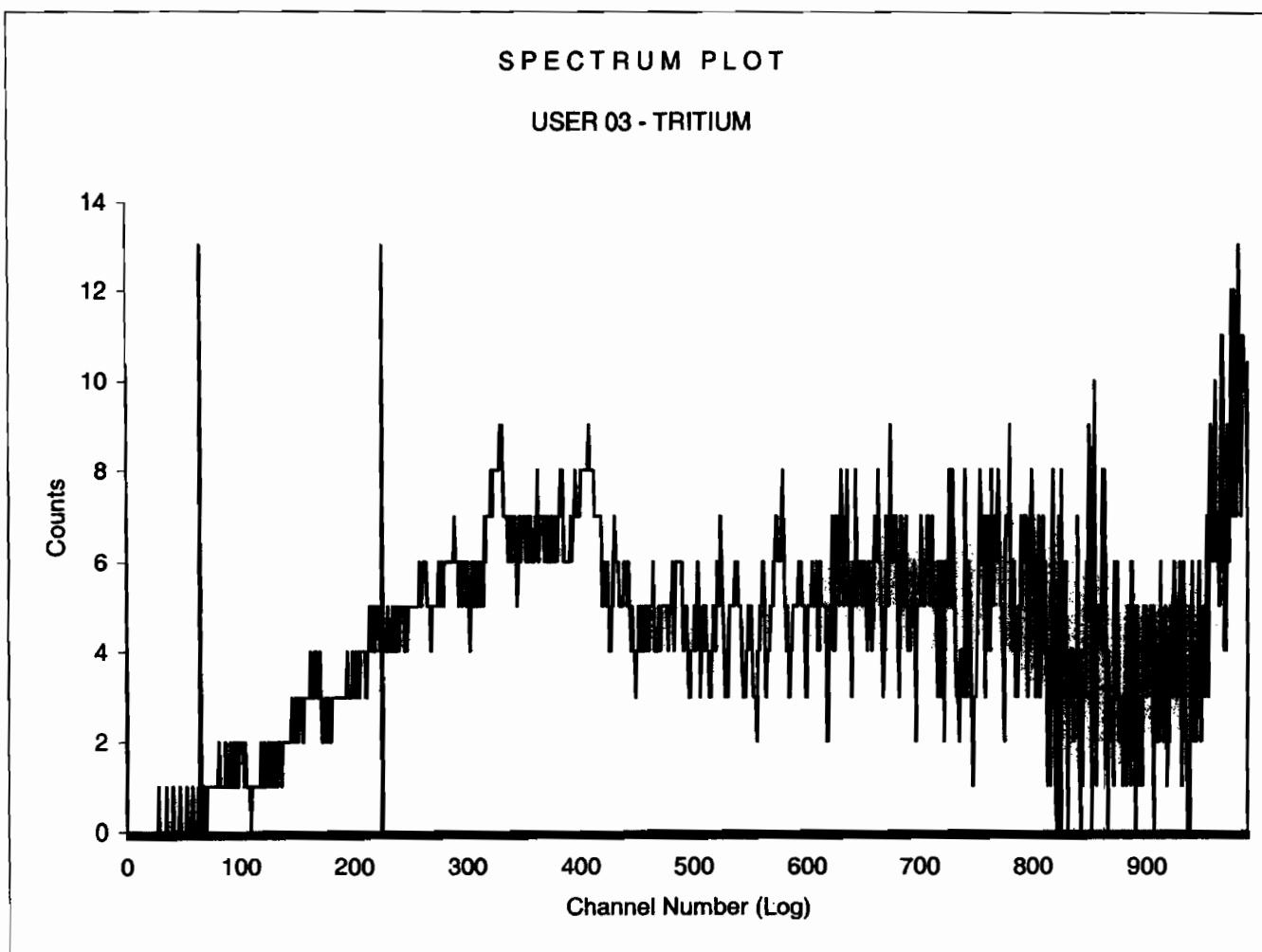
6	25-6	0.25	116.8	4.00	200.00	40.00	43.25	9.87	187.09
---	------	------	-------	------	--------	-------	-------	------	--------

7	25-7	0.05	116.8	60.00	115.47	140.00	75.59	24.96	187.82
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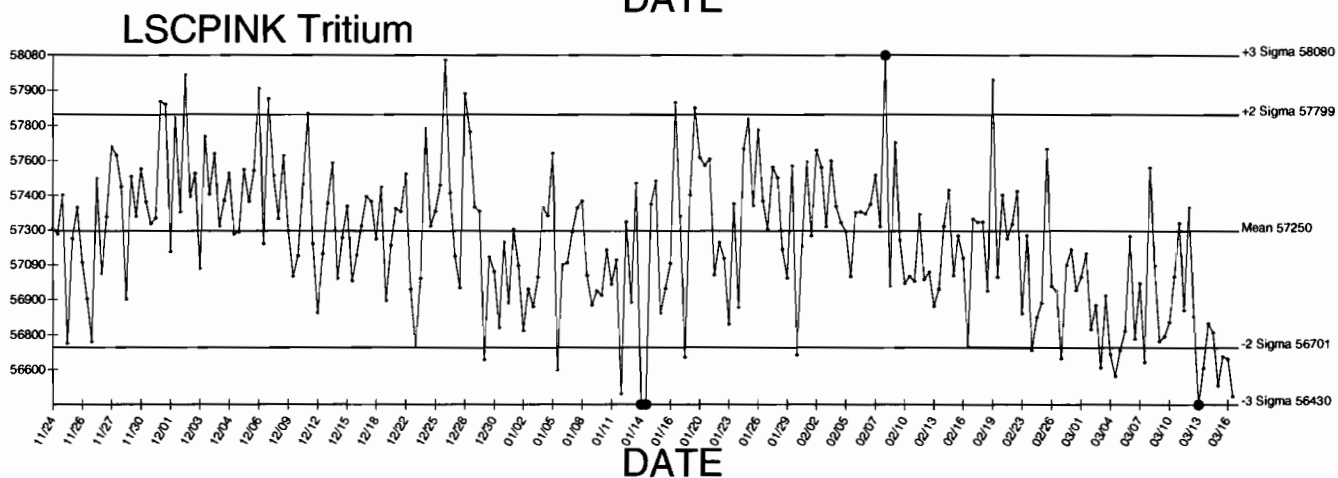
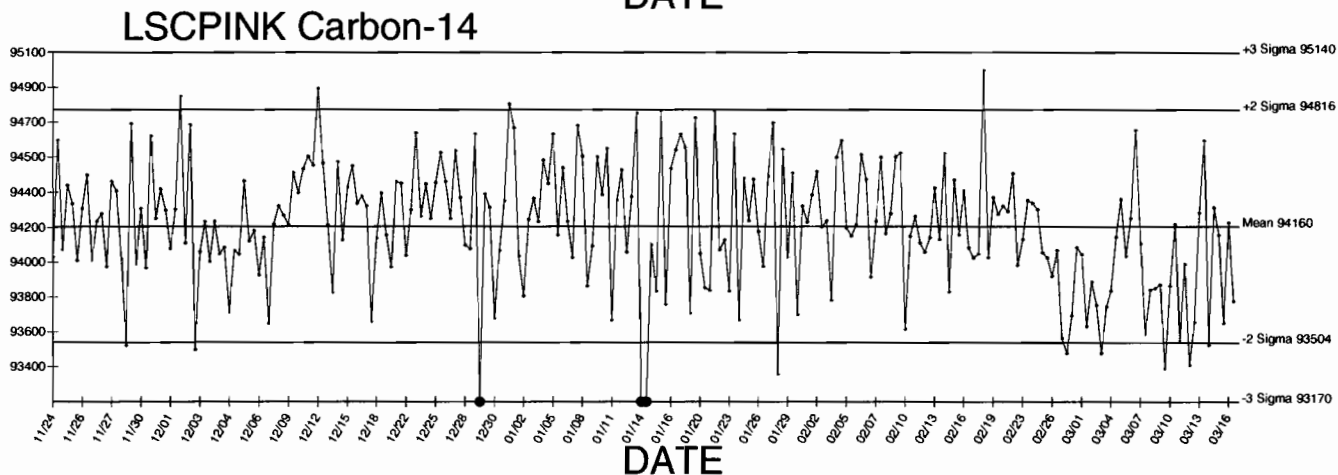
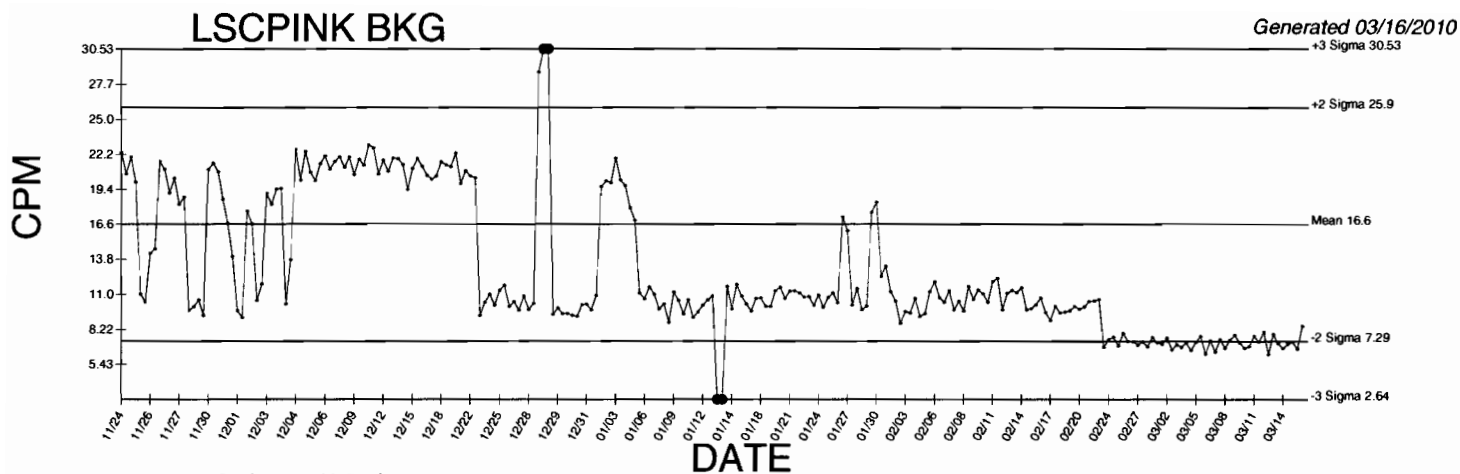
Sample Count Start Time:	12 Mar 2010 05:35:10		
Data Capture Date	12 Mar 2010 07:05:37		
User Filename	S03031225-1A.XLS		
	U03031225-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	25-1	90.00
H#, Total Counts:	128.5	5147	
Win1: Tritium - Start, End, Counts:	65	225	328
Win2: - Start, End, Counts:	0	990	4421



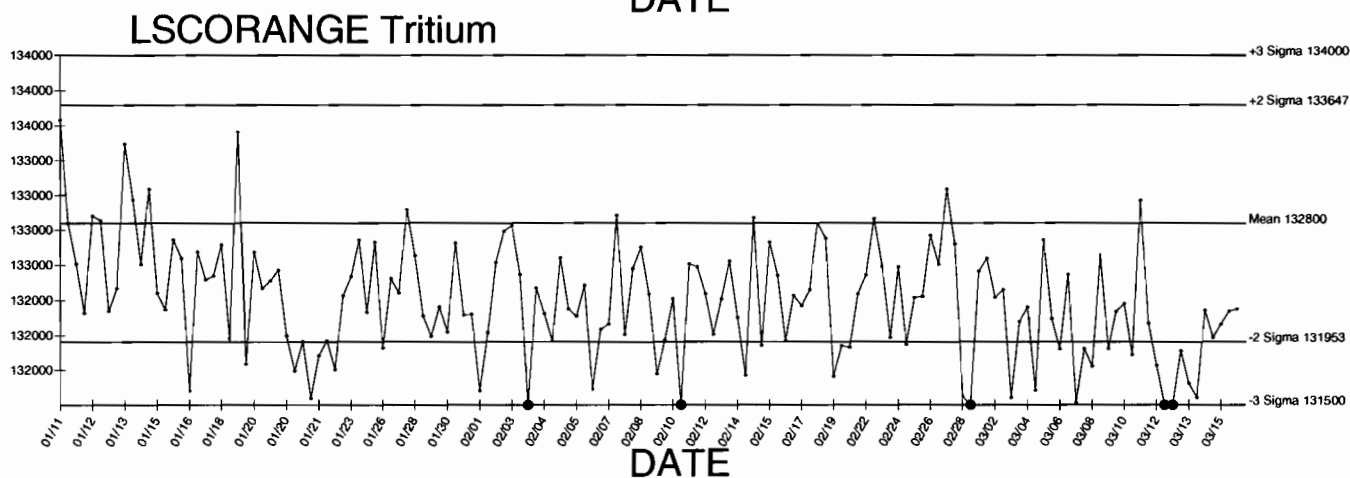
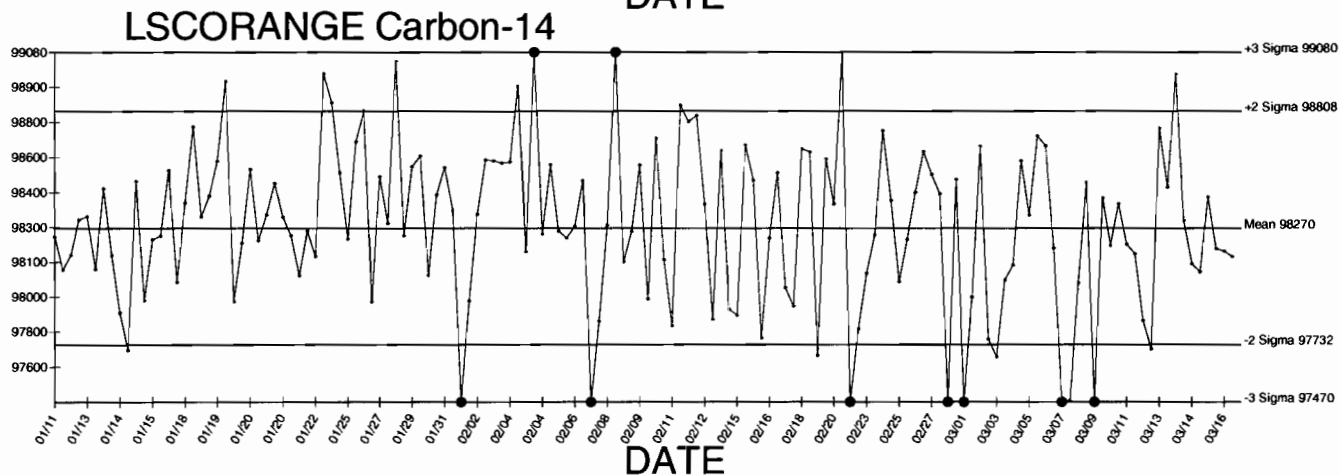
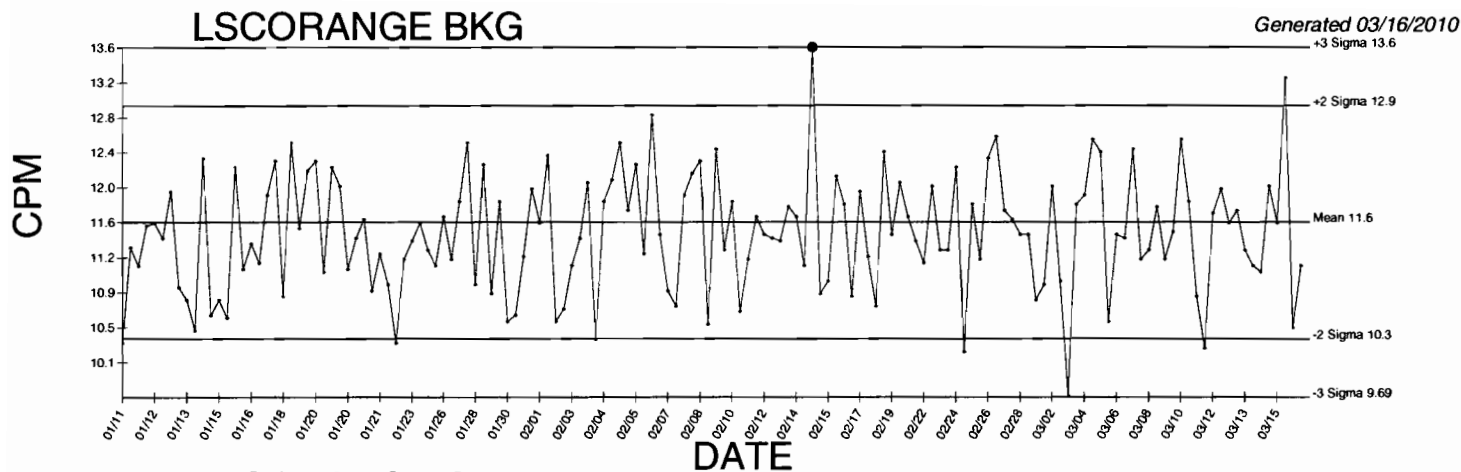
Sample Count Start Time:	12 Mar 2010 07:08:23		
Data Capture Date	12 Mar 2010 08:39:36		
User Filename	S03031225-2A.XLS		
	U03031225-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	TRITIUM		
User Comment	RED		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	25-2	90.00
H#, Total Counts:	116.8	4982	
Win1: Tritium - Start, End, Counts:	65	225	374
Win2: - Start, End, Counts:	0	990	4382



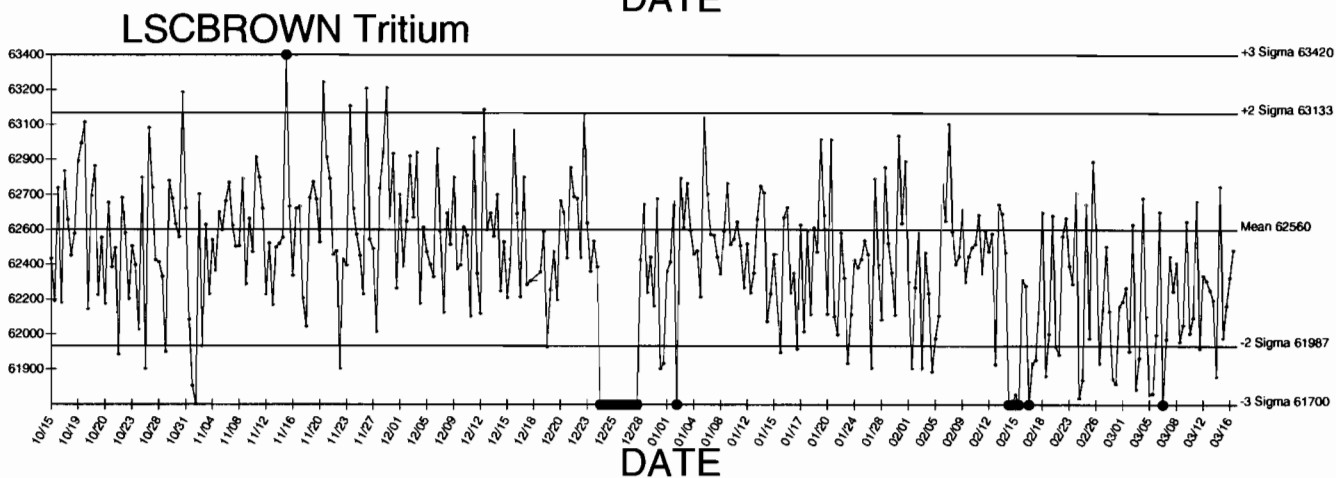
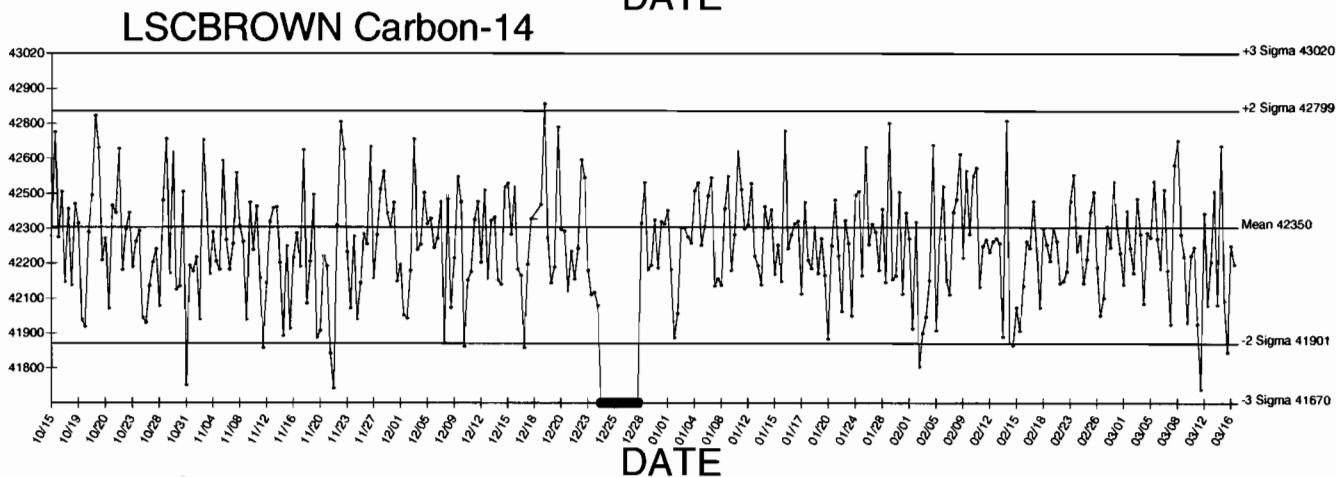
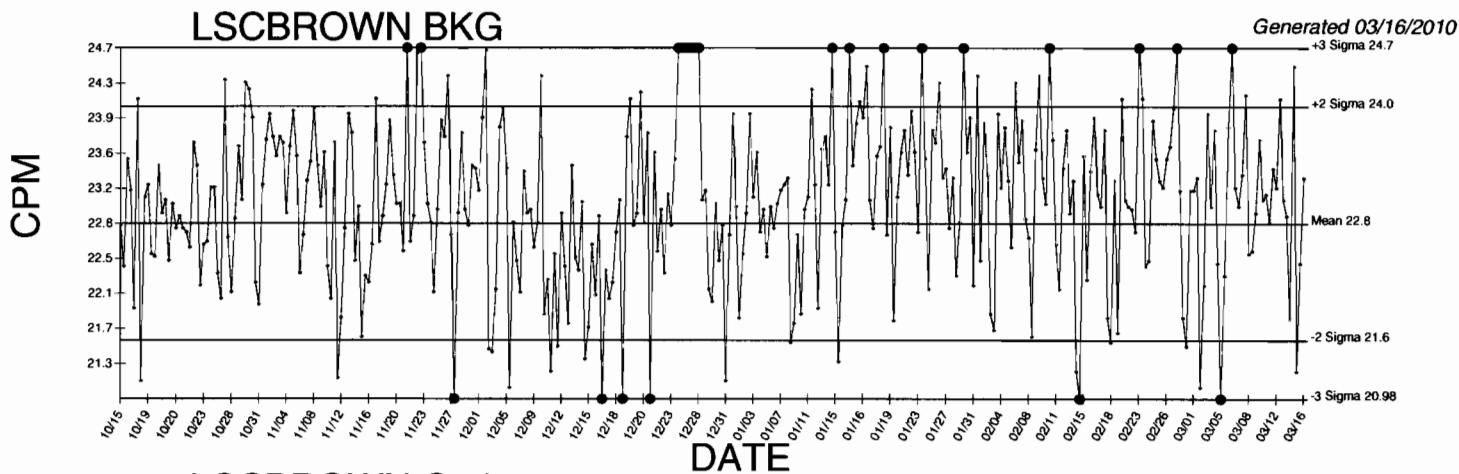
BACKGROUND AND EFFICIENCY DATA



● Denotes Outlier



● Denotes Outlier

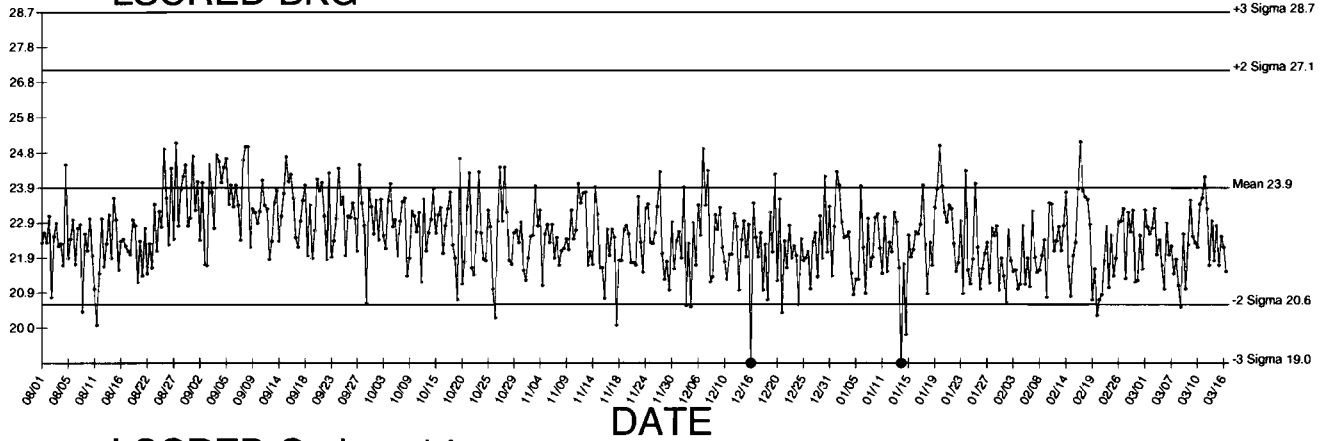


● Denotes Outlier

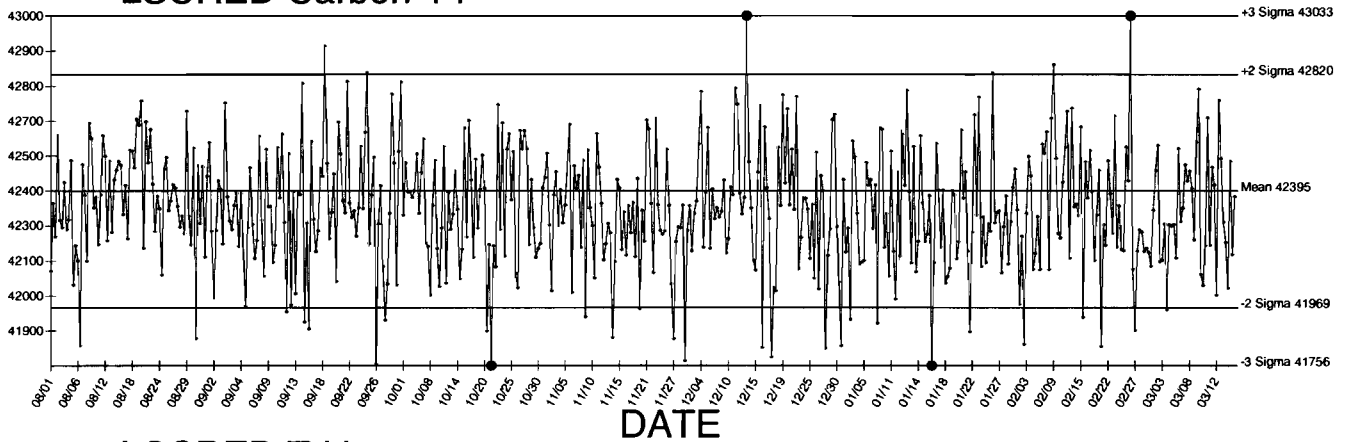
LSCRED BKG

Generated 03/16/2010
+3 Sigma 28.7

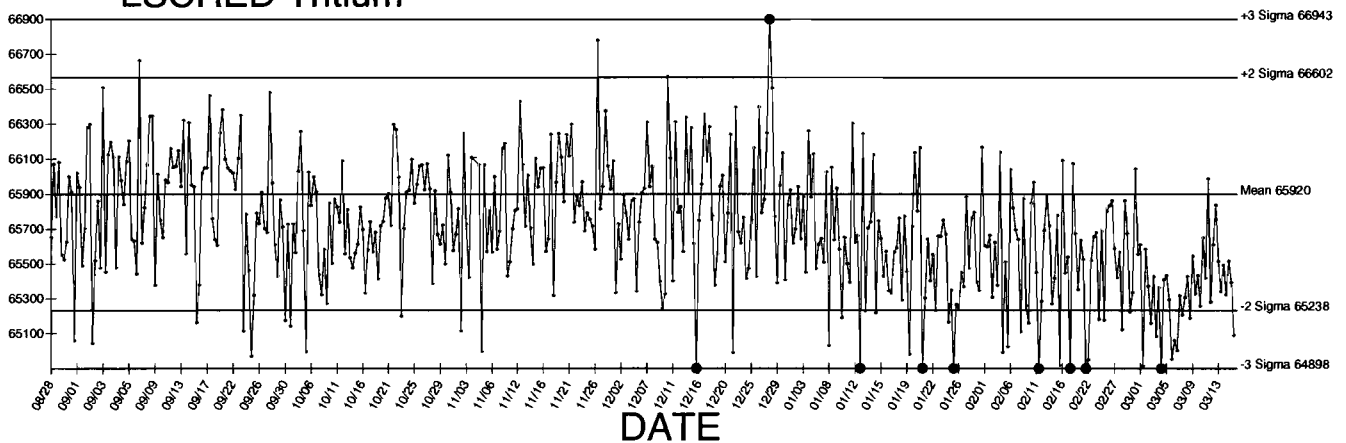
CPM



LSCRED Carbon-14

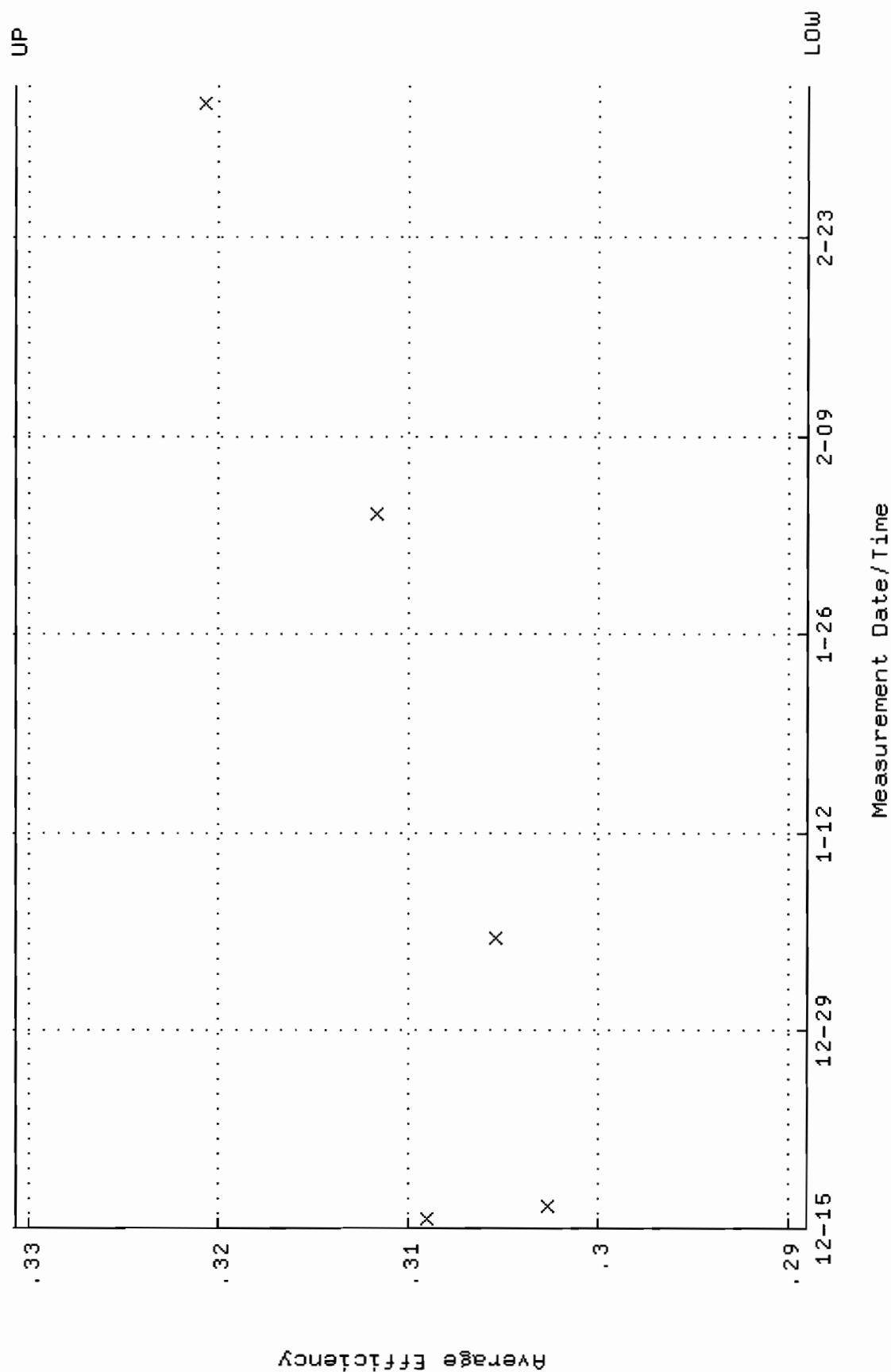


LSCRED Tritium

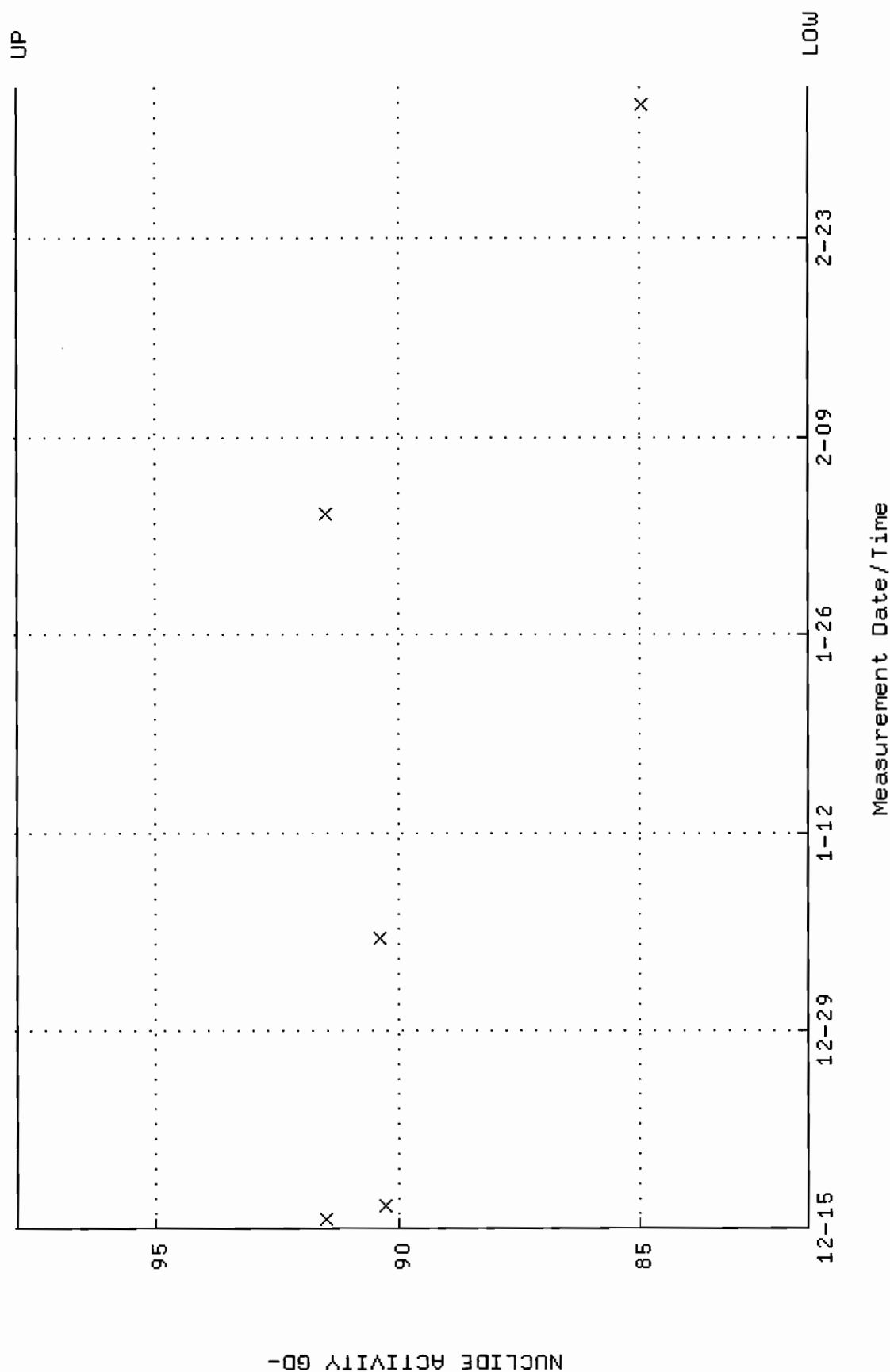


● Denotes Outlier

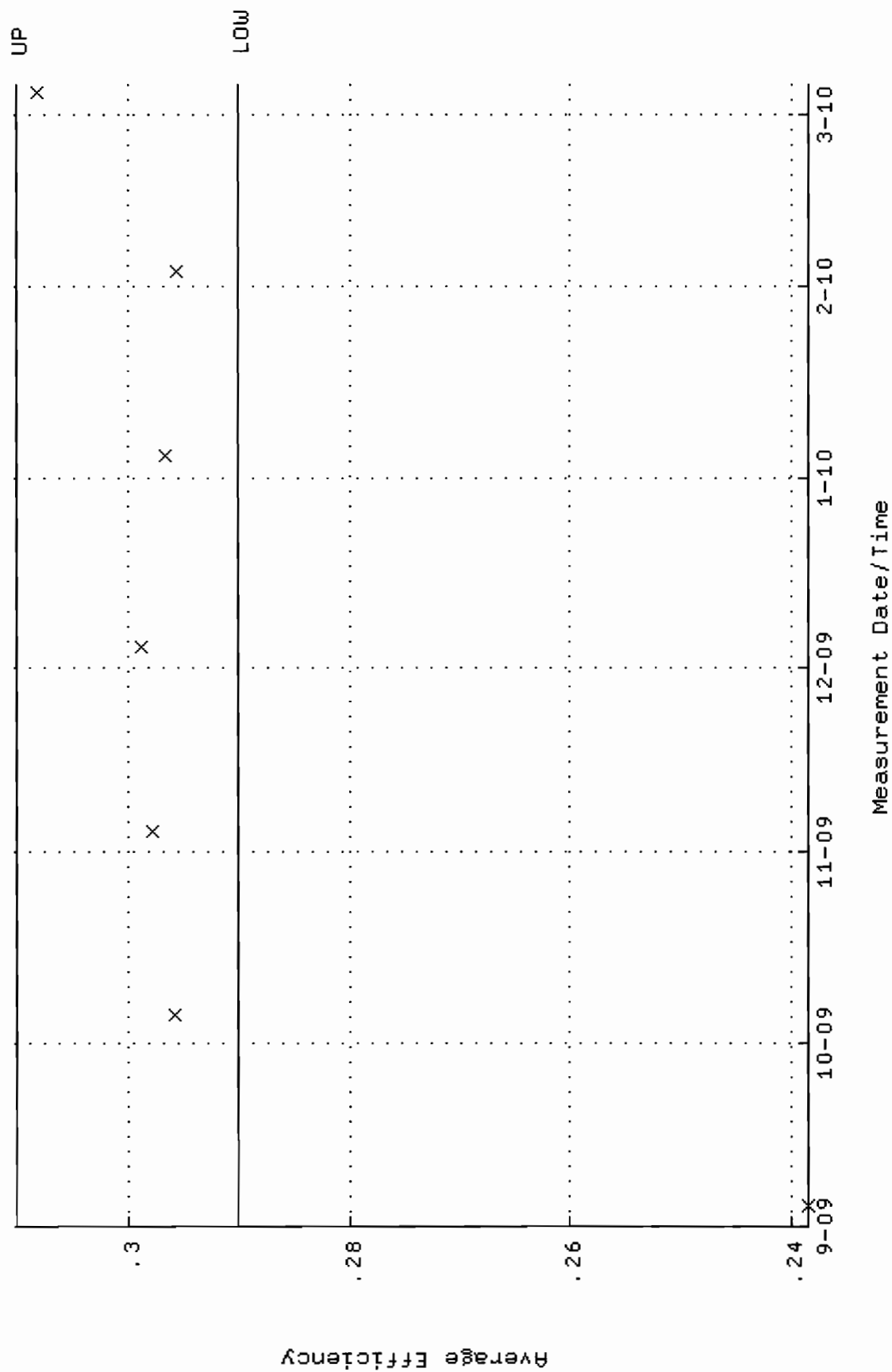
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.288996 through 0.330714



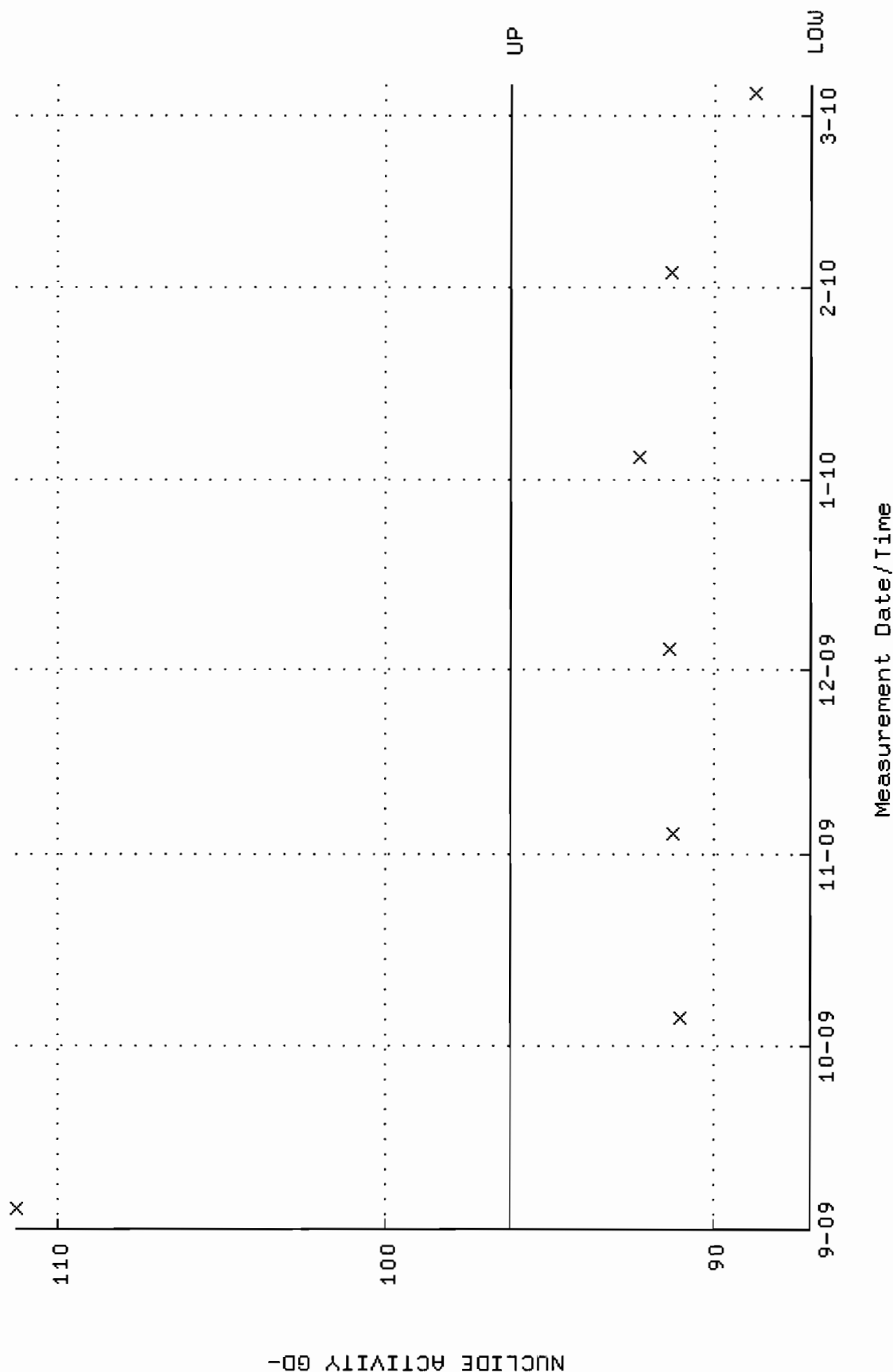
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.5567 through 97.8515



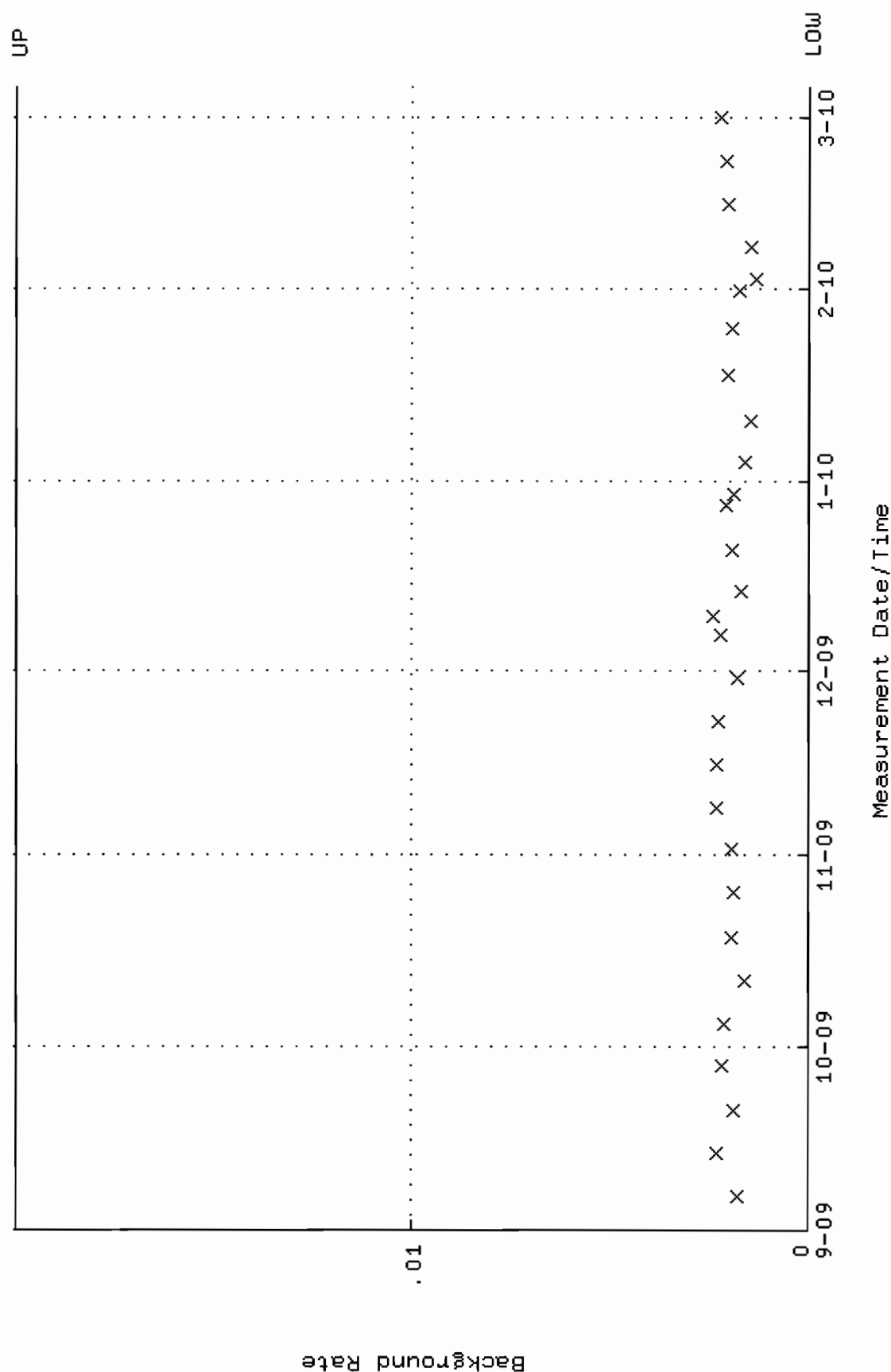
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



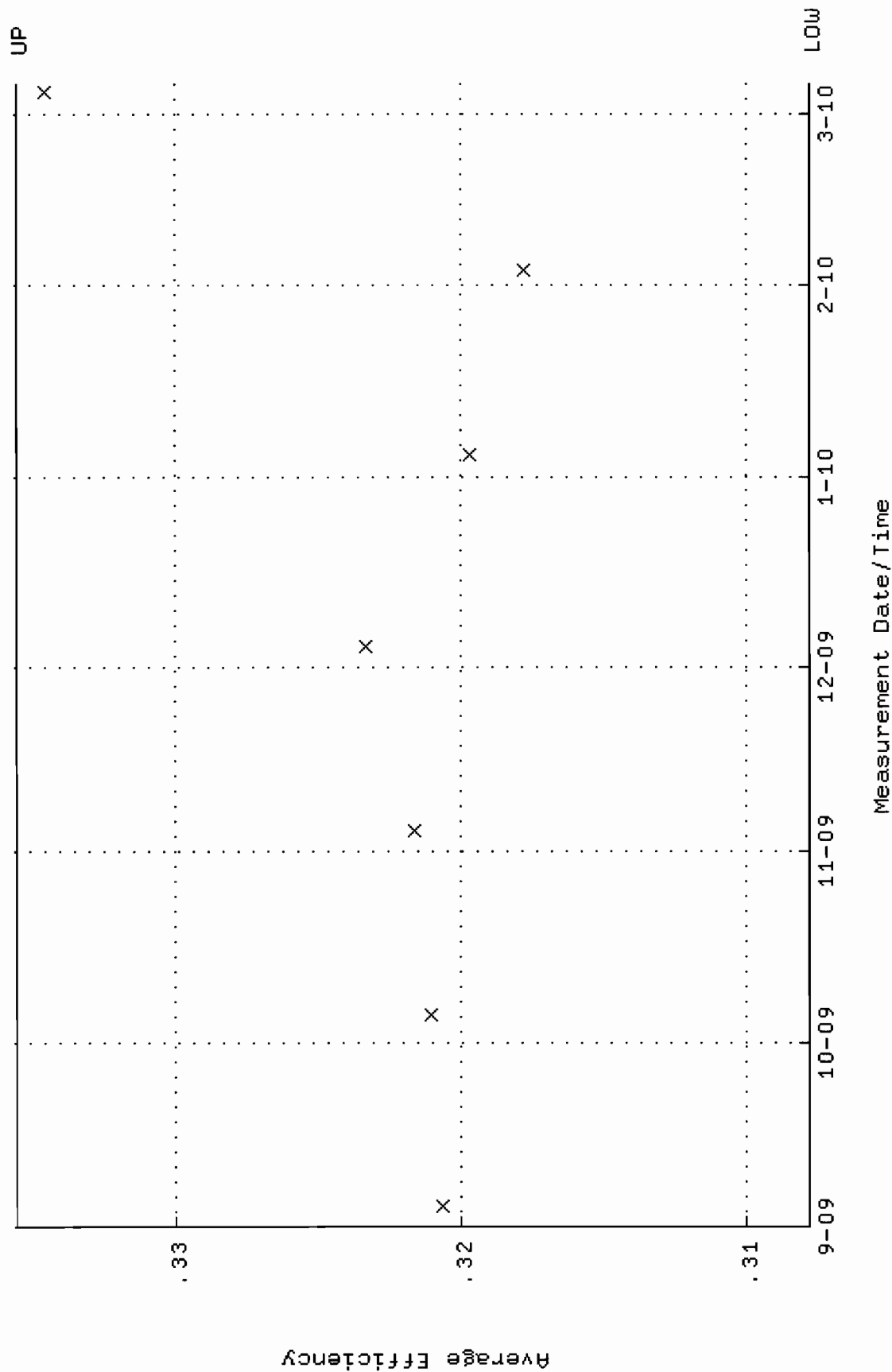
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.0687 through 96.2339



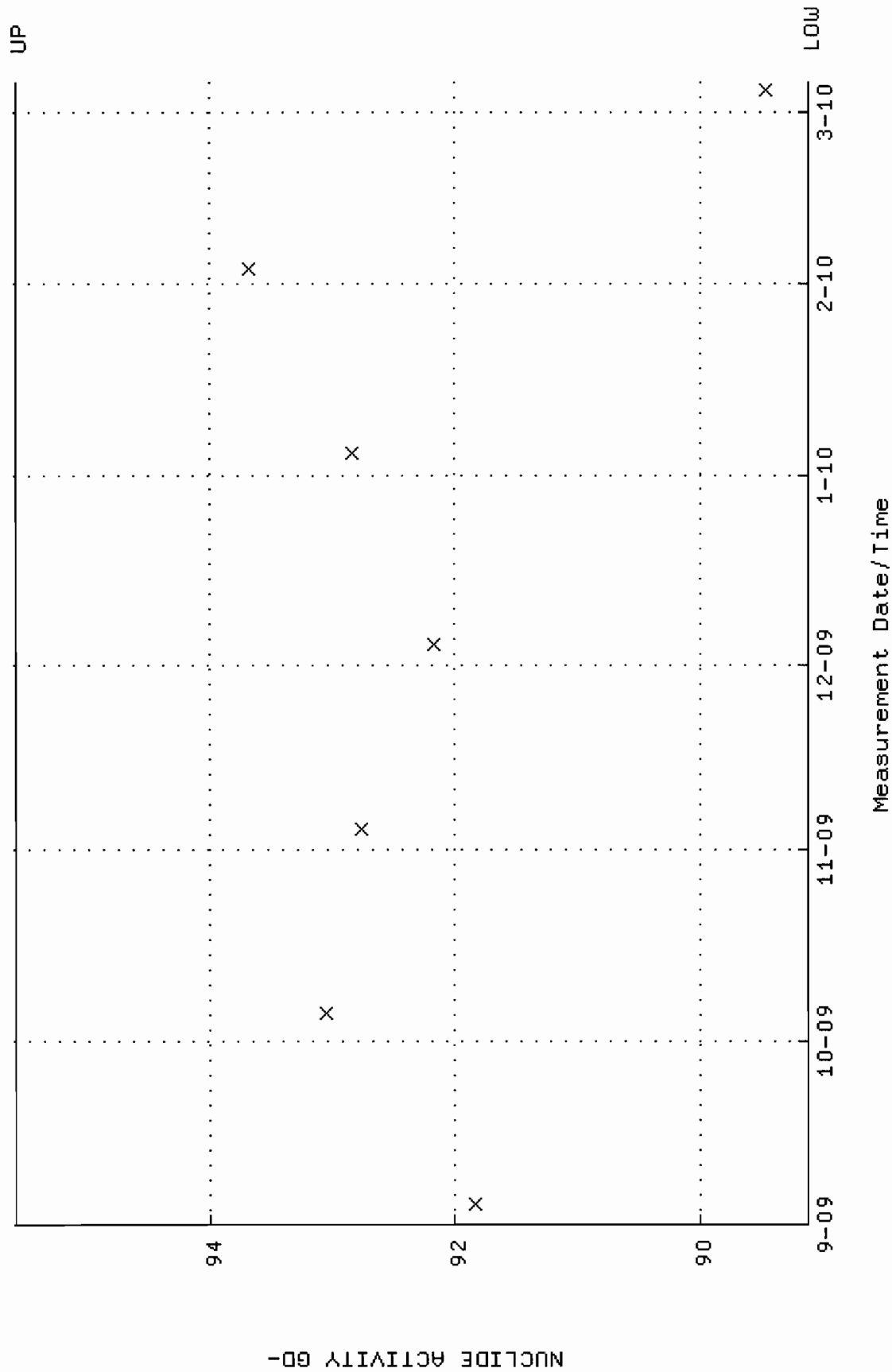
QA filename : DKA100:[ENV_ALPHA.QA.B]B007.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:01 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



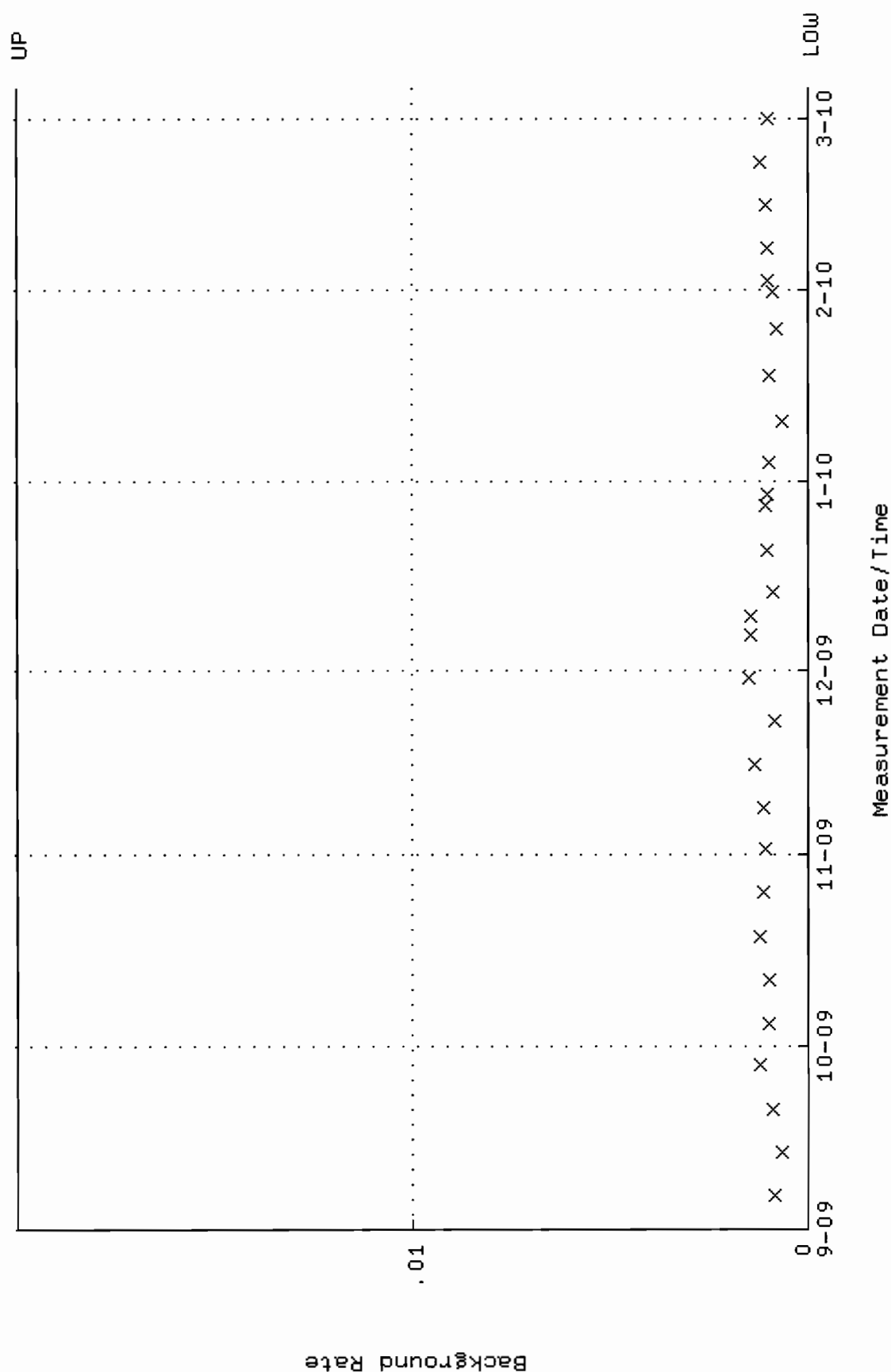
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.307754 through 0.335576



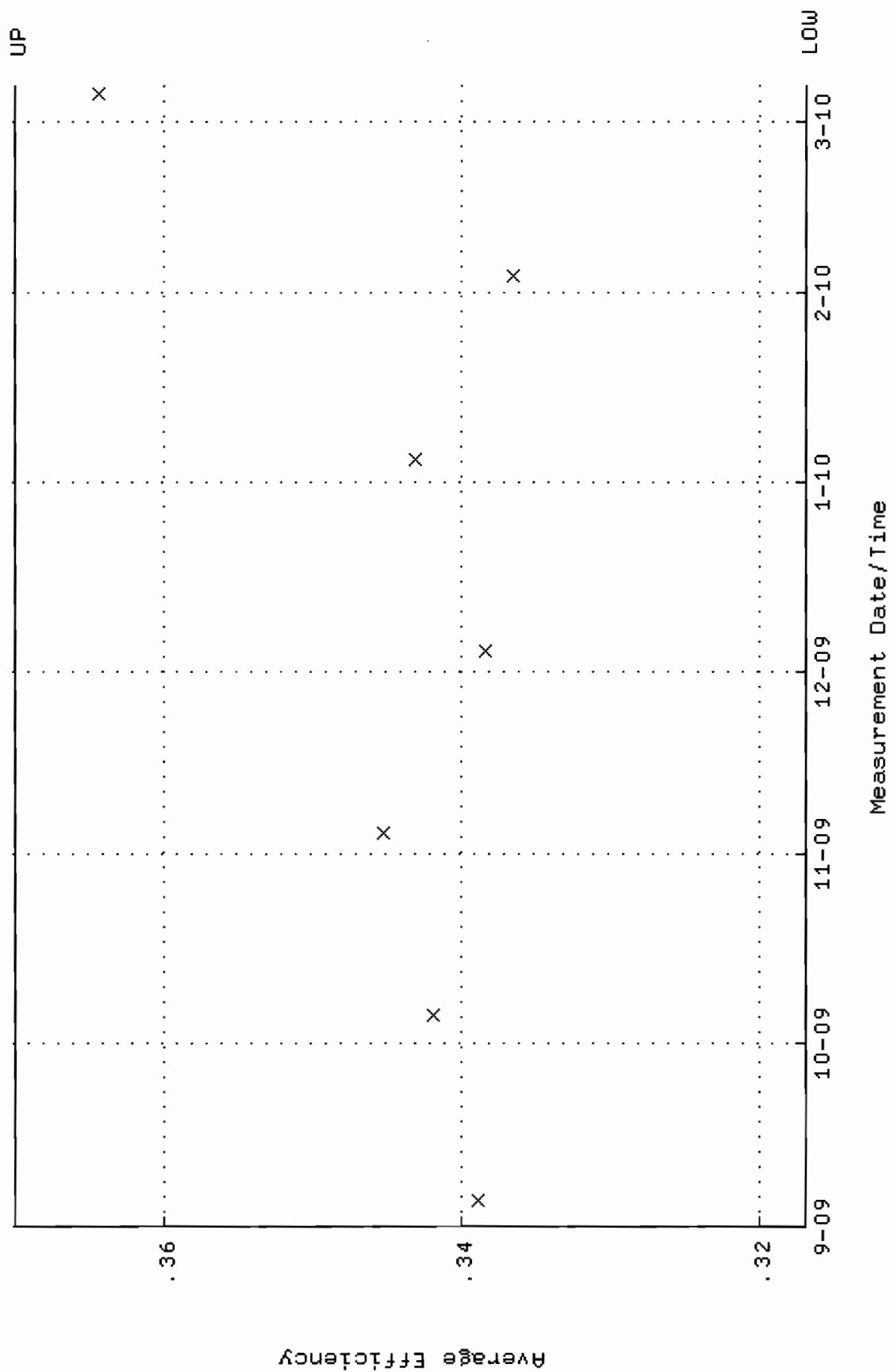
QA filename : DKA100:[ENV-ALPHA.QA.W]W008.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 4-SEP-2009 07:36:40 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.1115 through 95.5851



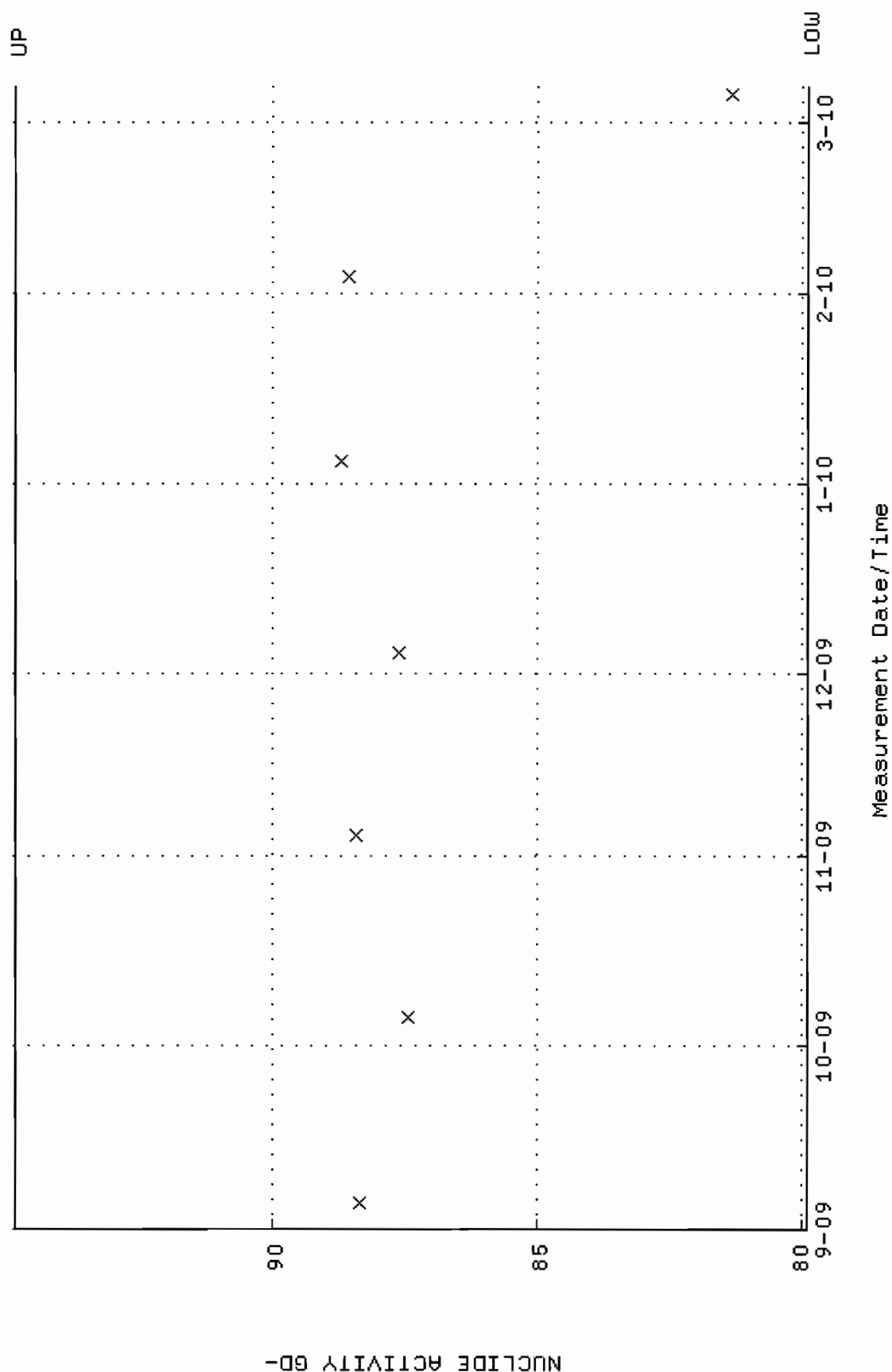
QA filename : DKA100:[ENV_ALPHA.QA.B]B008.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:01 through 5-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



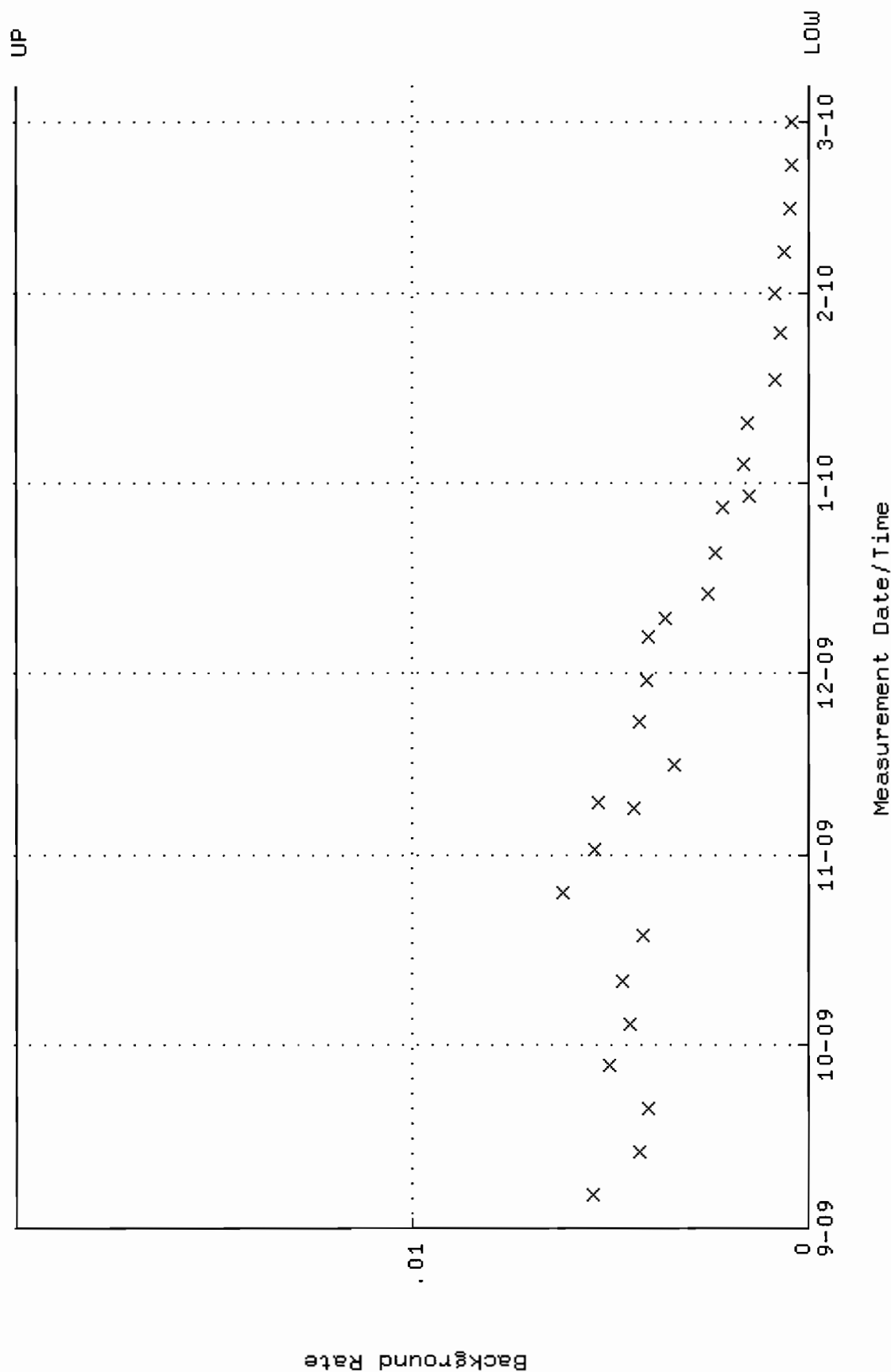
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.316853 through 0.369991



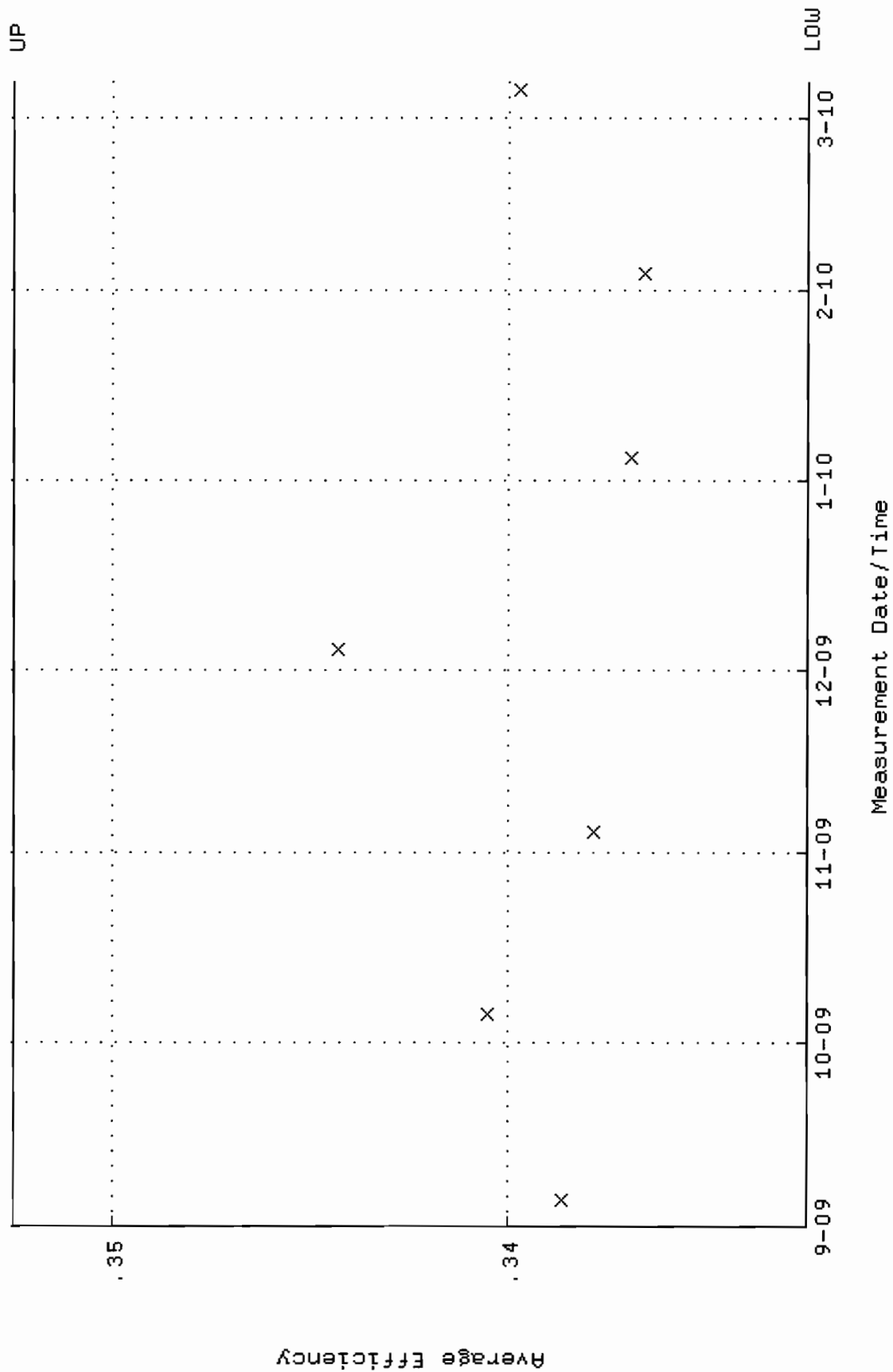
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 79.8821 through 94.8741



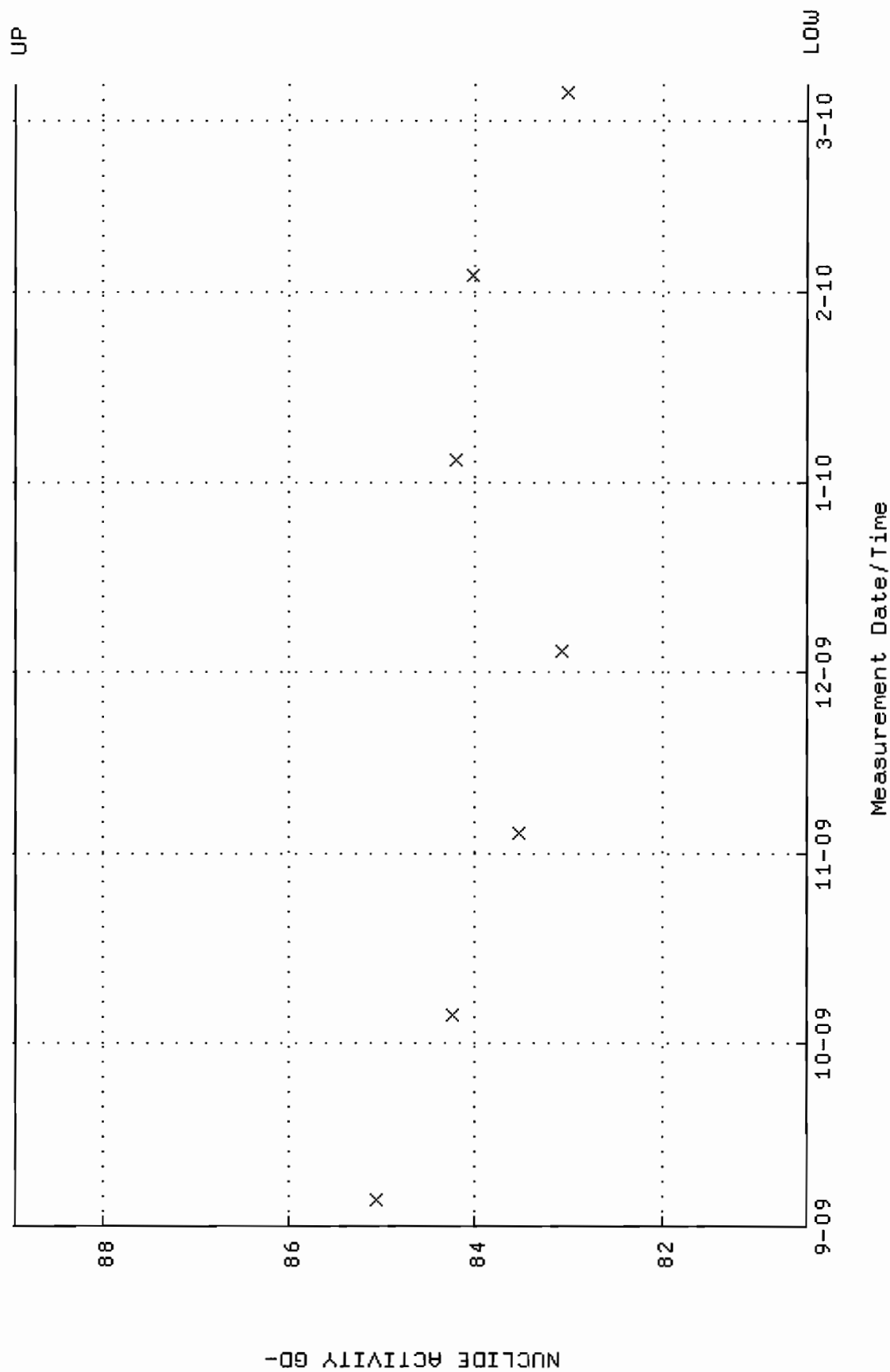
QA filename : DKA100:[ENV_ALPHA.QA.B]B043.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:06 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



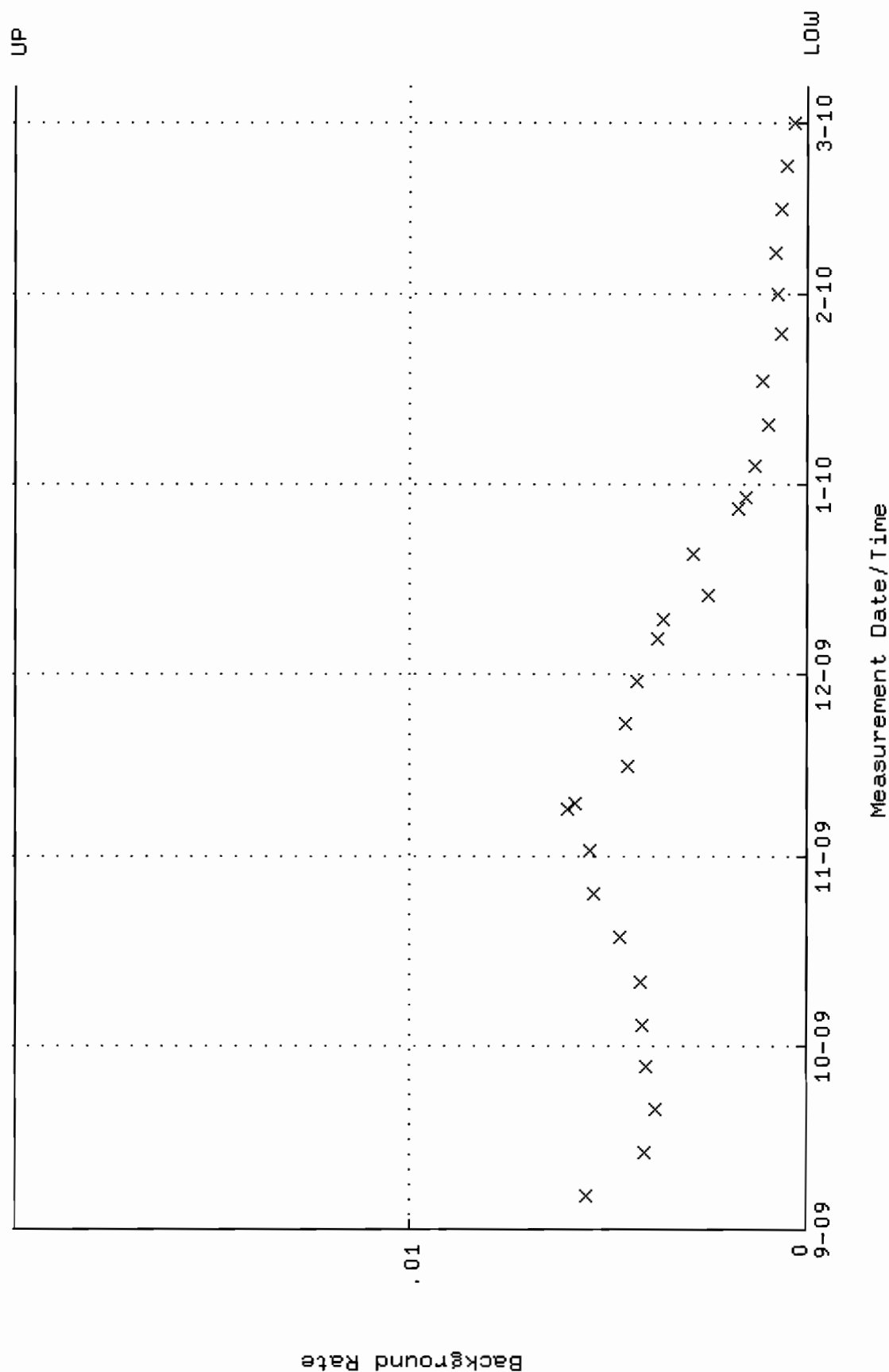
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.332472 through 0.352472



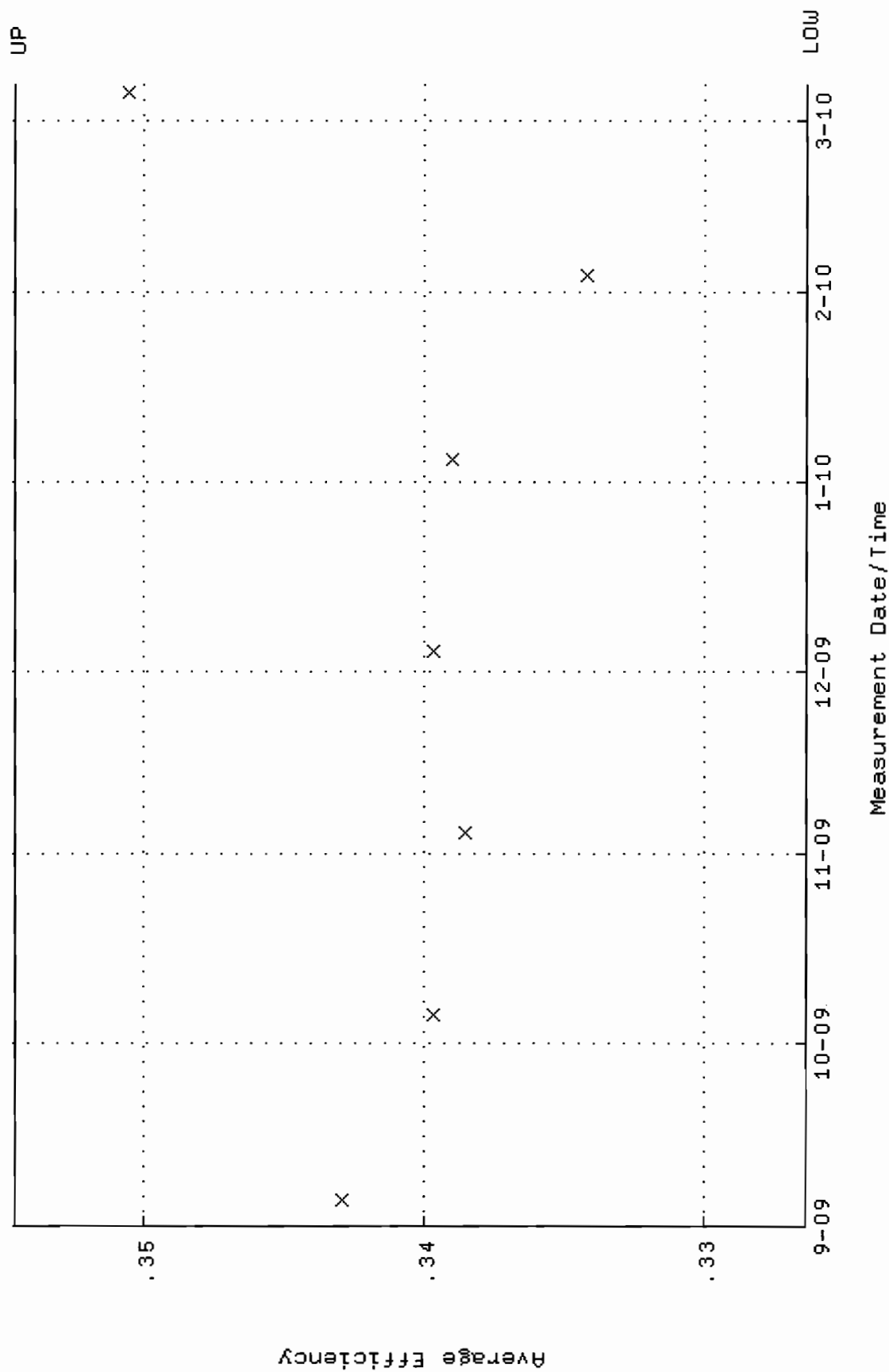
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 80.4622 through 88.9320



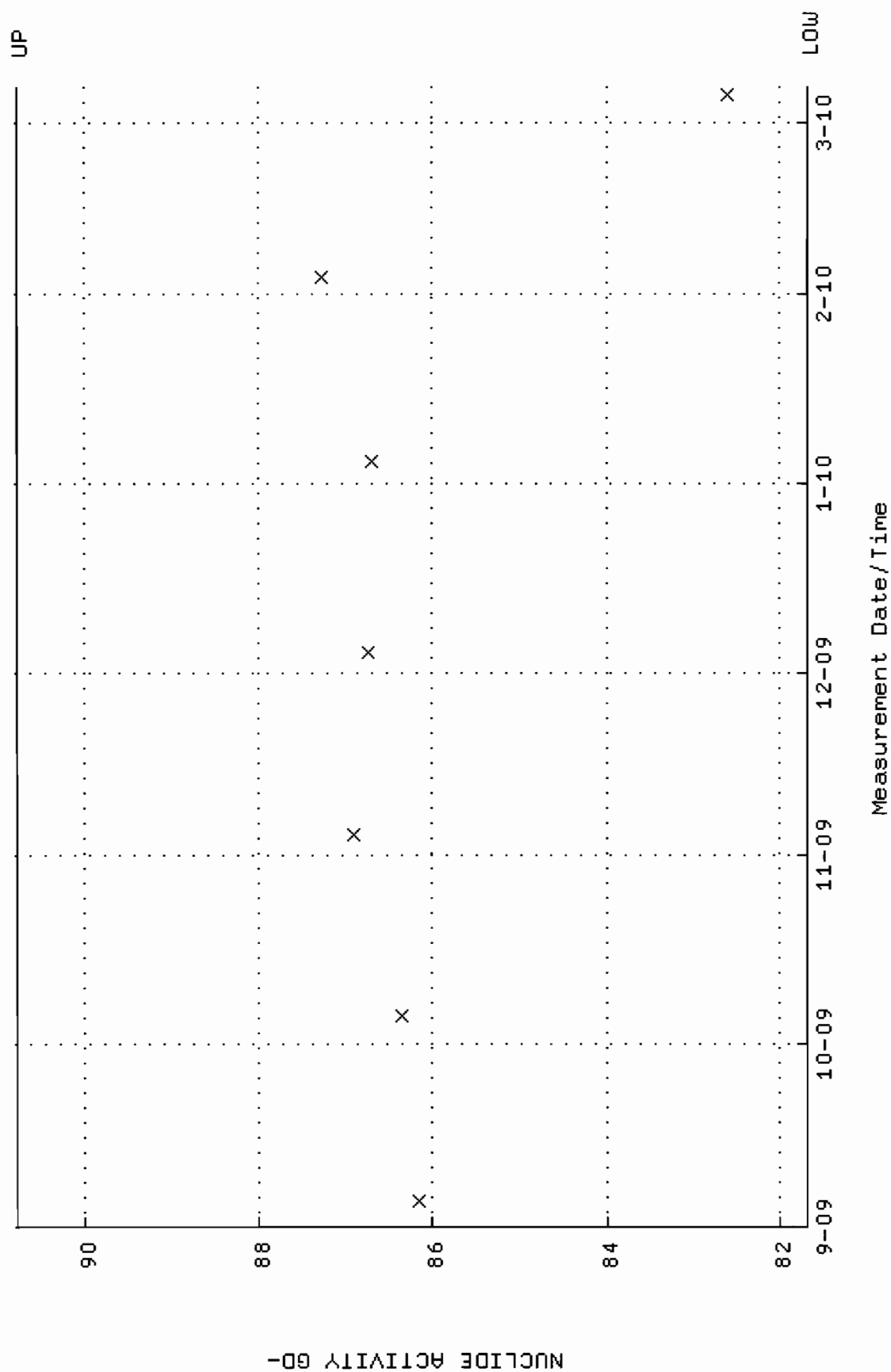
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:06 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



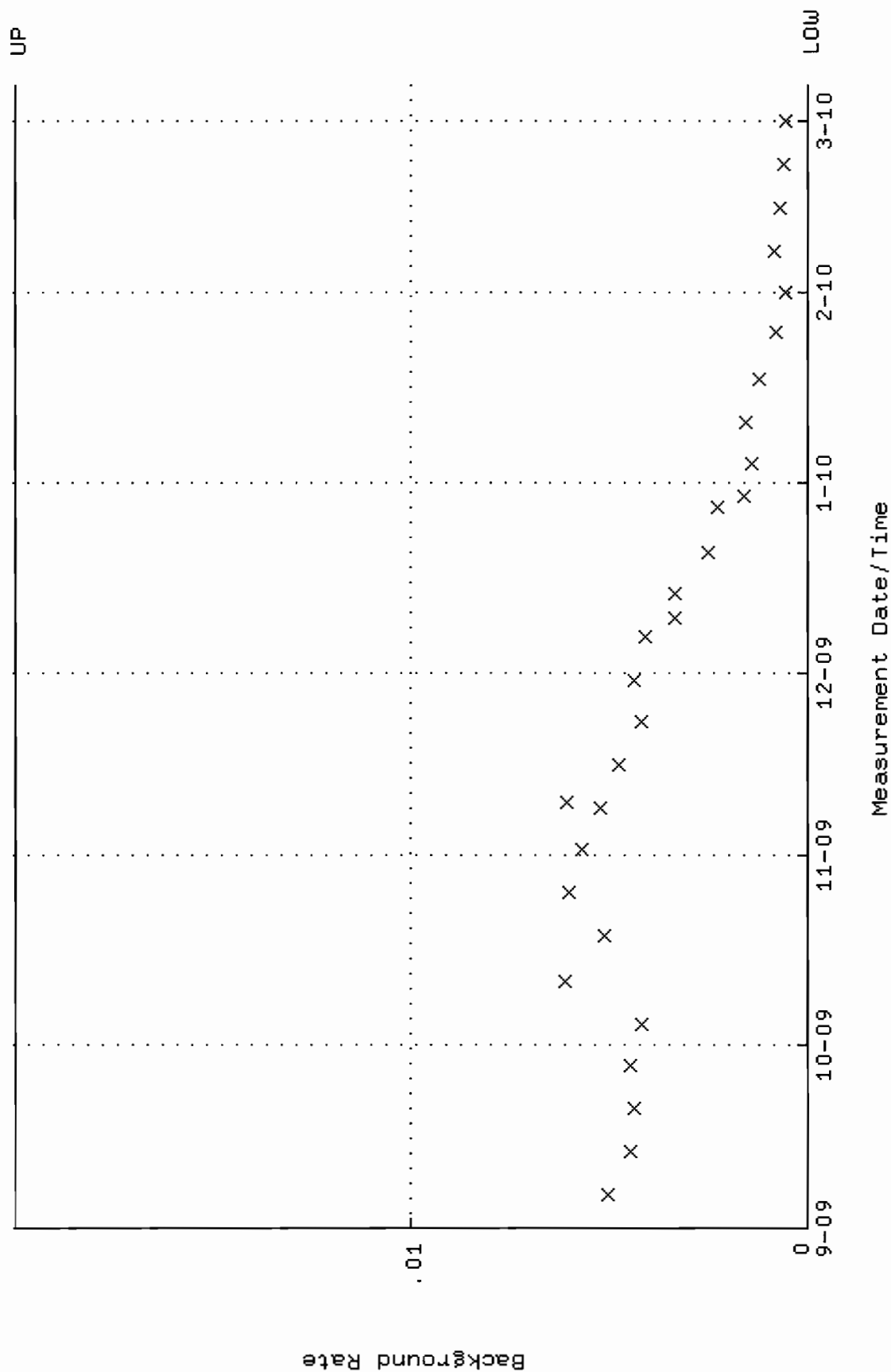
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
Lower/Upper Lmts: 0.326384 through 0.354578



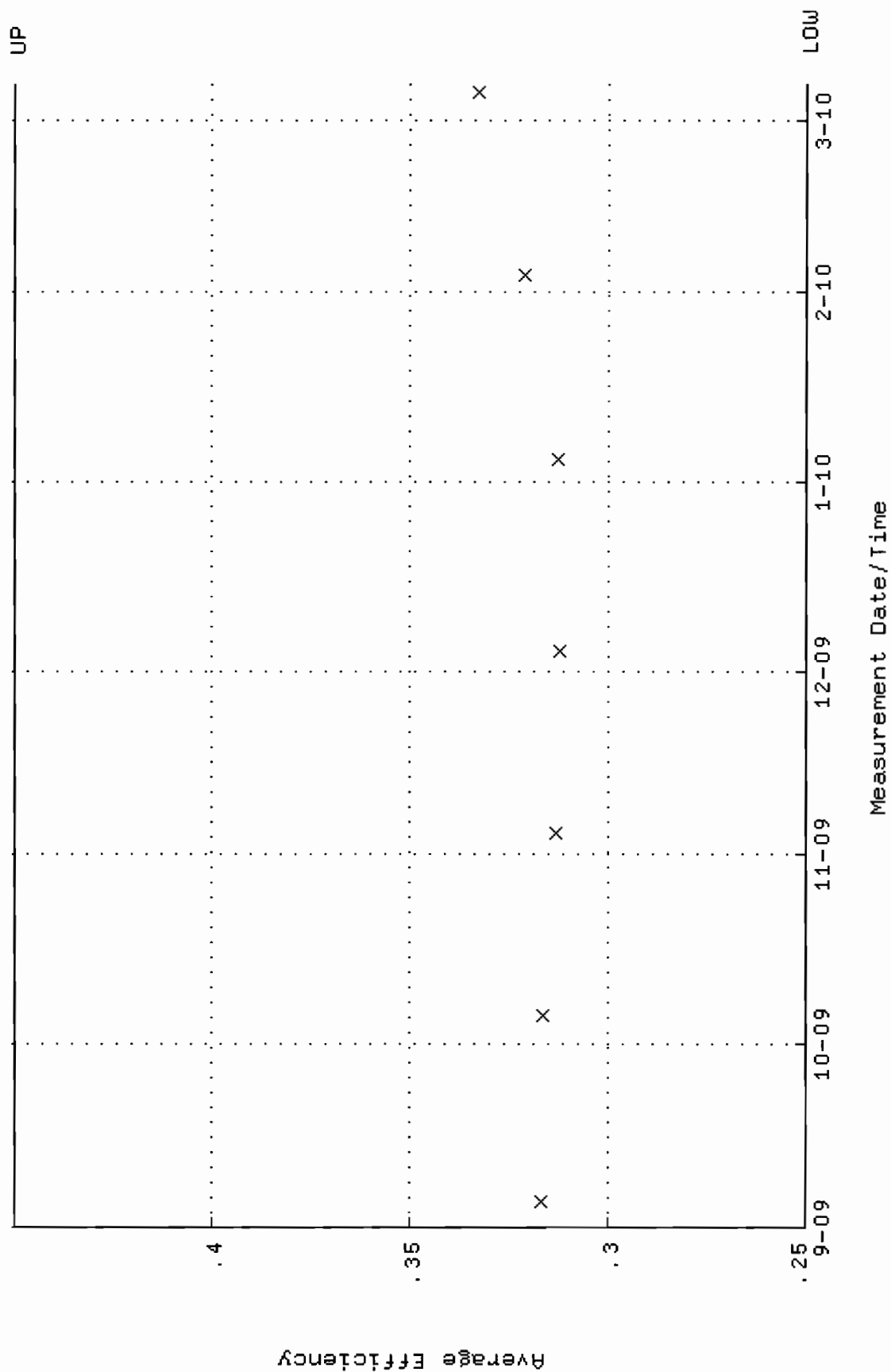
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
Lower/Upper Lmts: 81.6839 through 90.7805



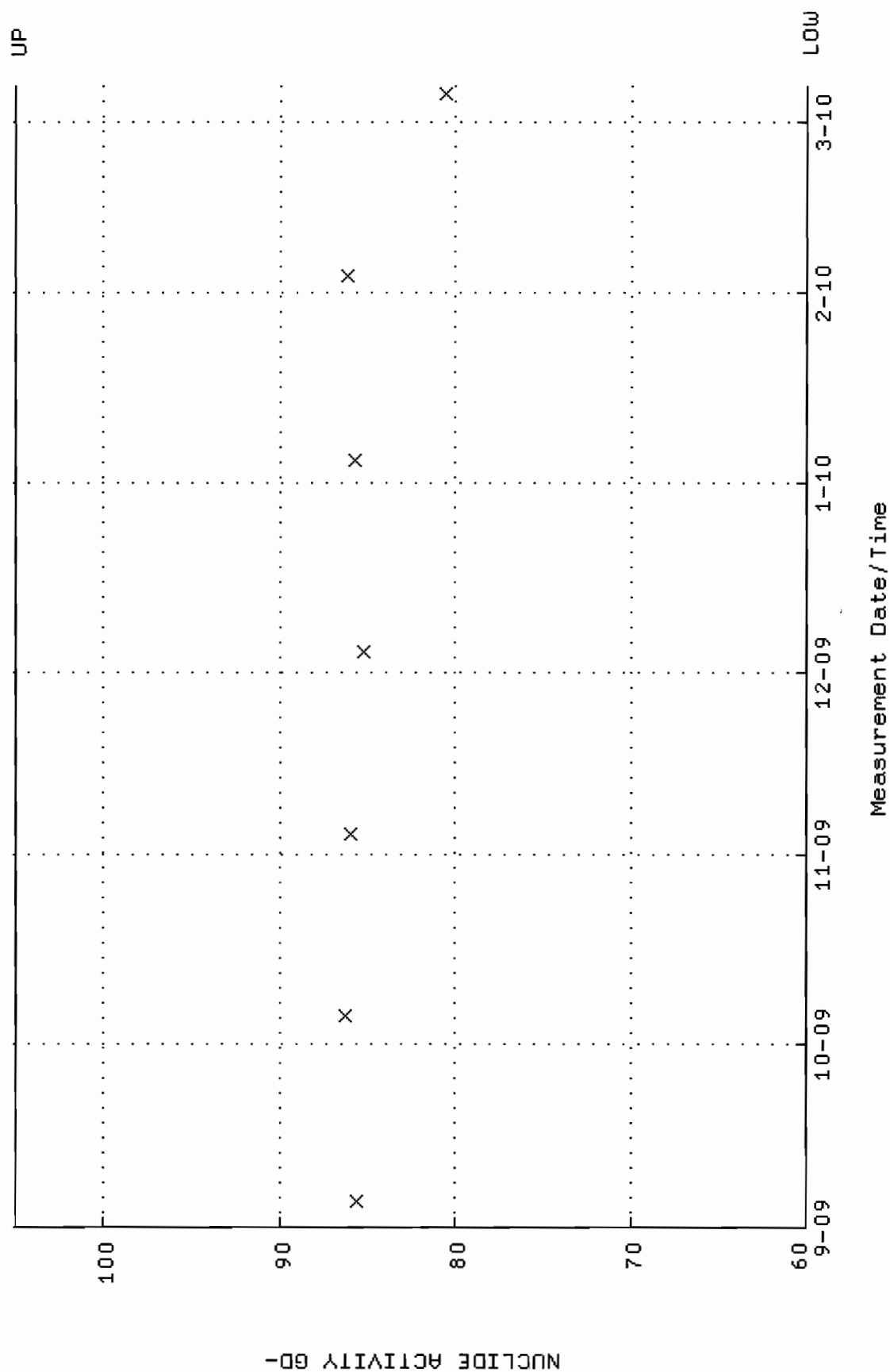
QA filename : DKA100:[ENV_ALPHA.QA.B]B046.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:06 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



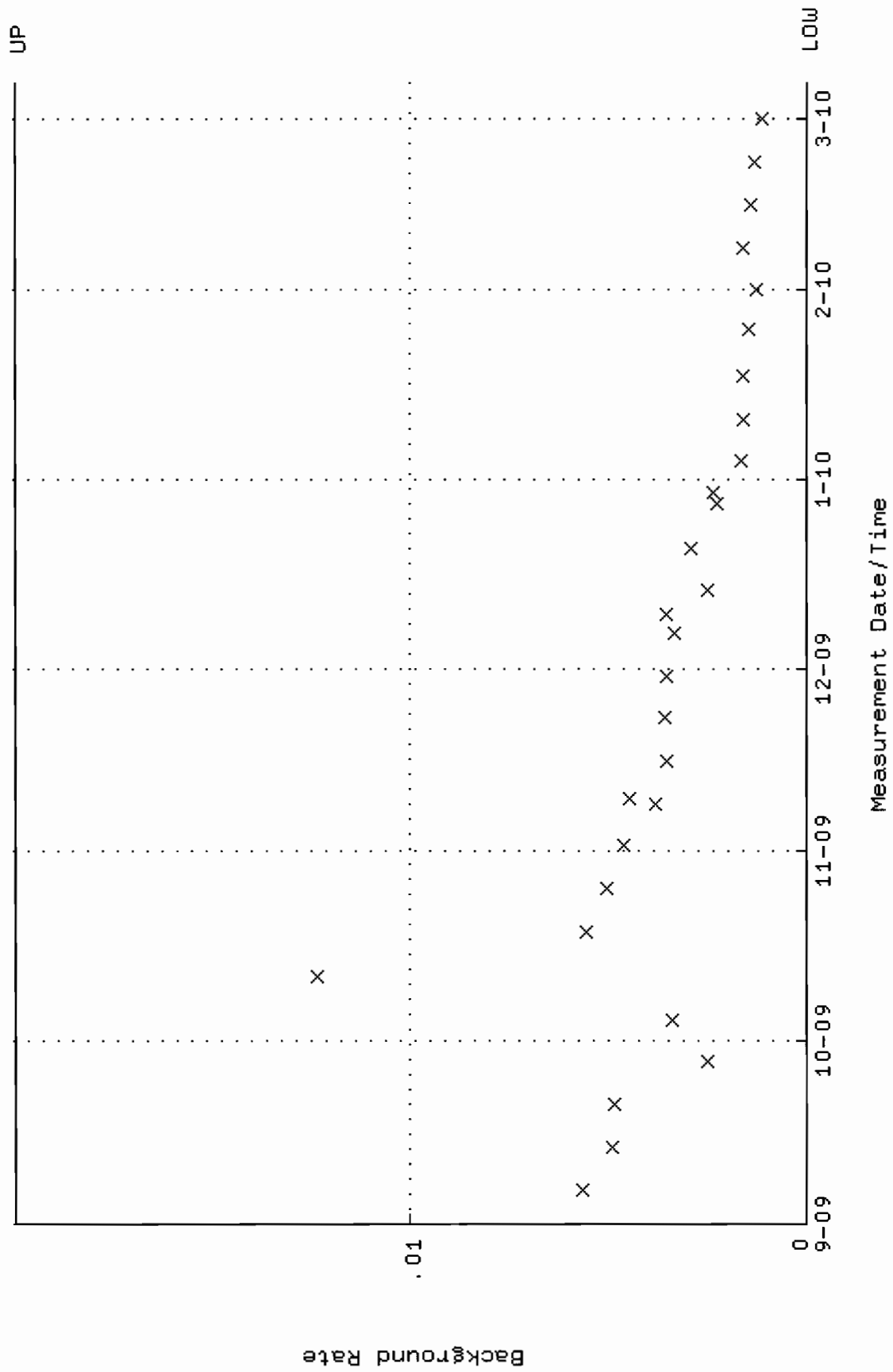
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



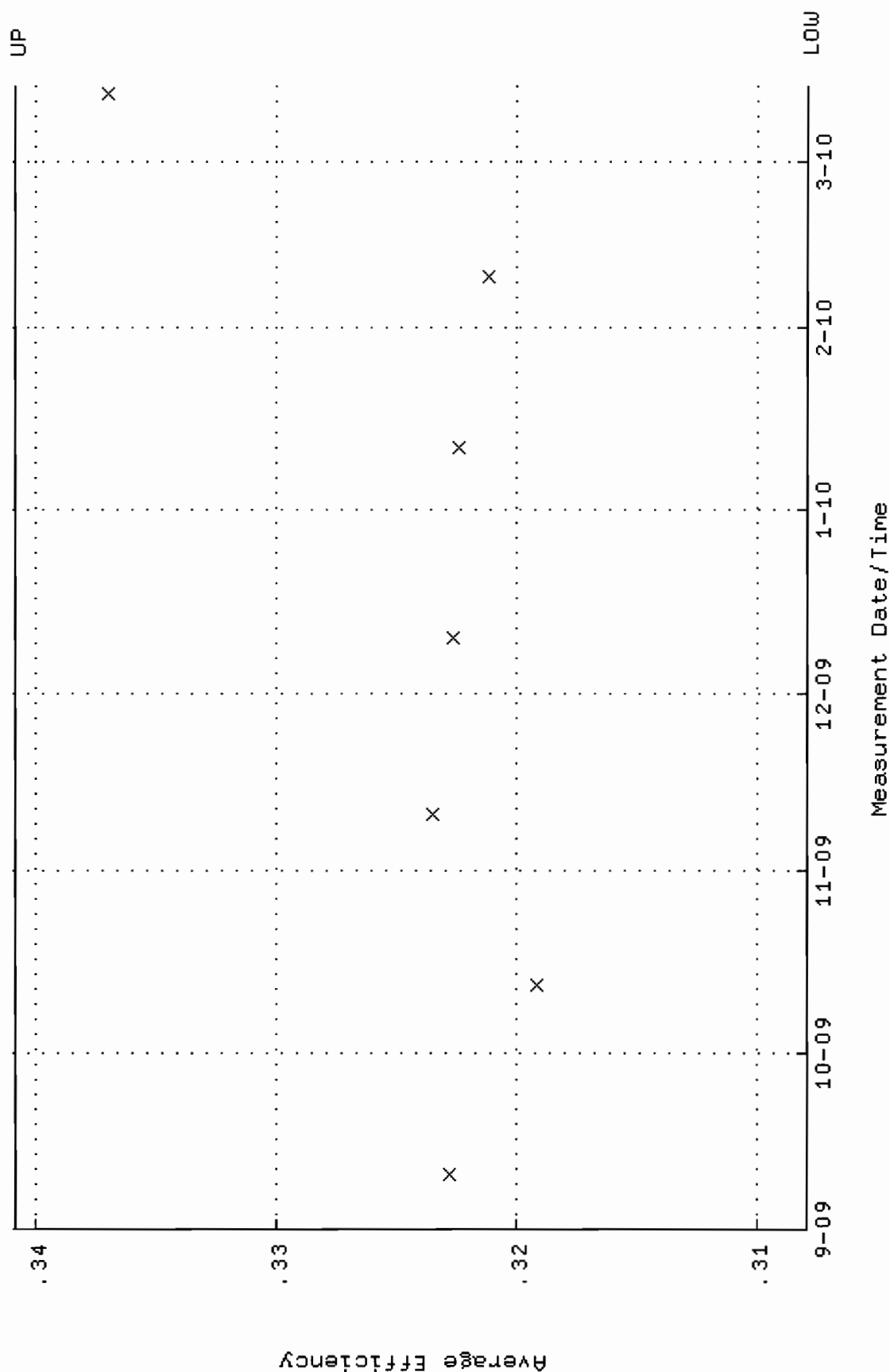
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 5-SEP-2009 09:03:12 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



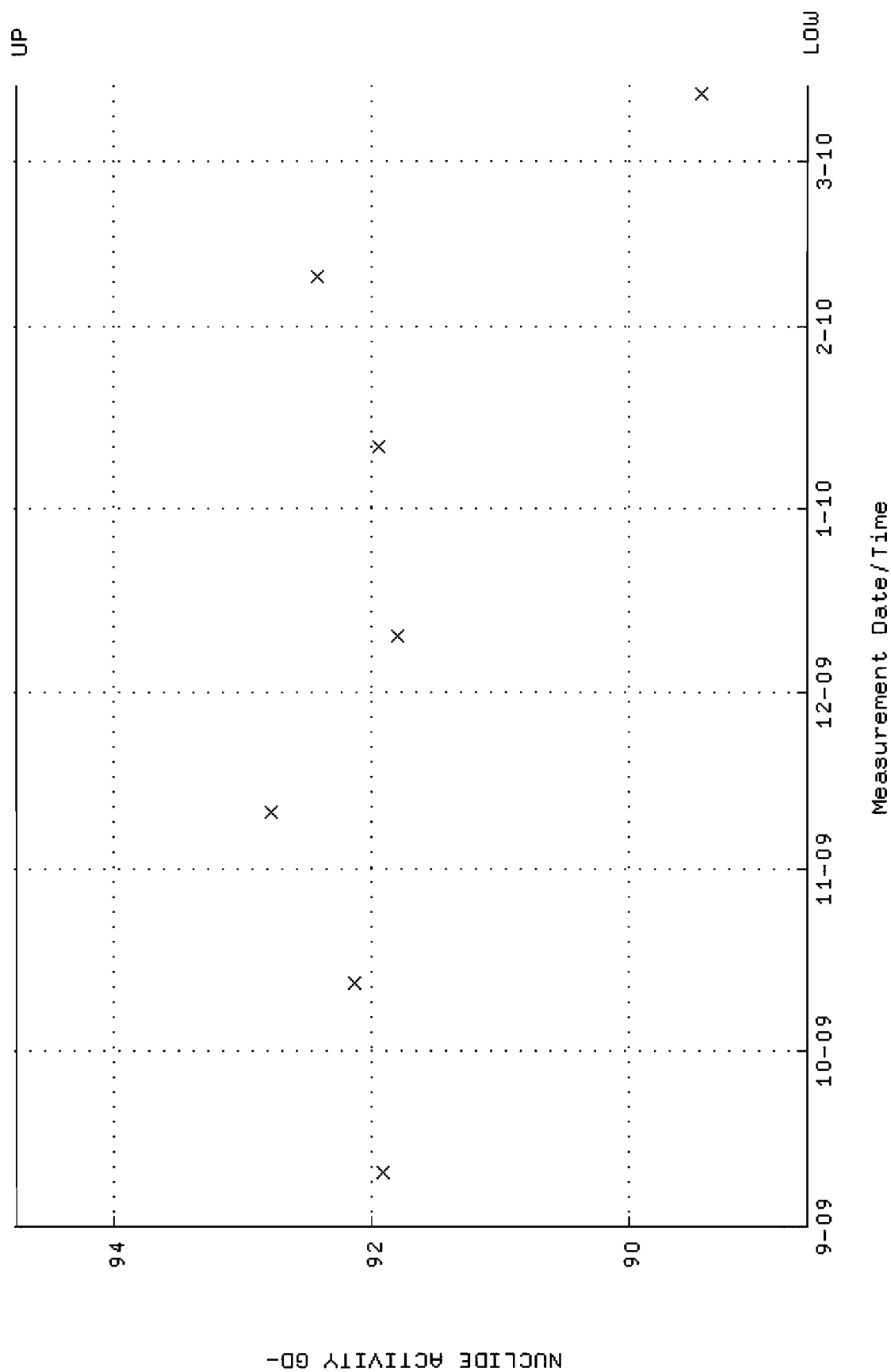
QA filename : DKA100:[ENV_ALPHA.QA.B]B048.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:06 through 6-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



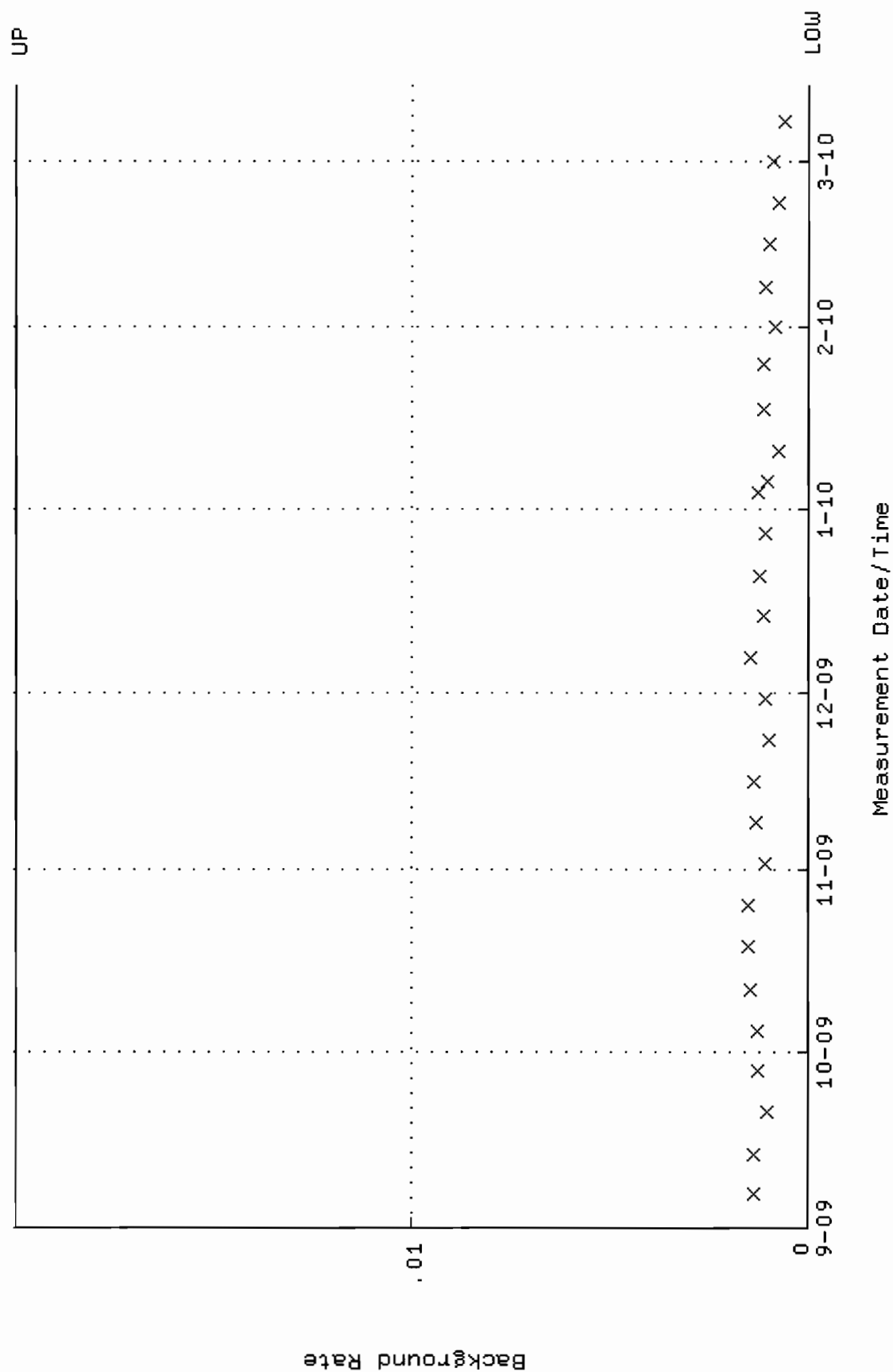
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.307889 through 0.340829



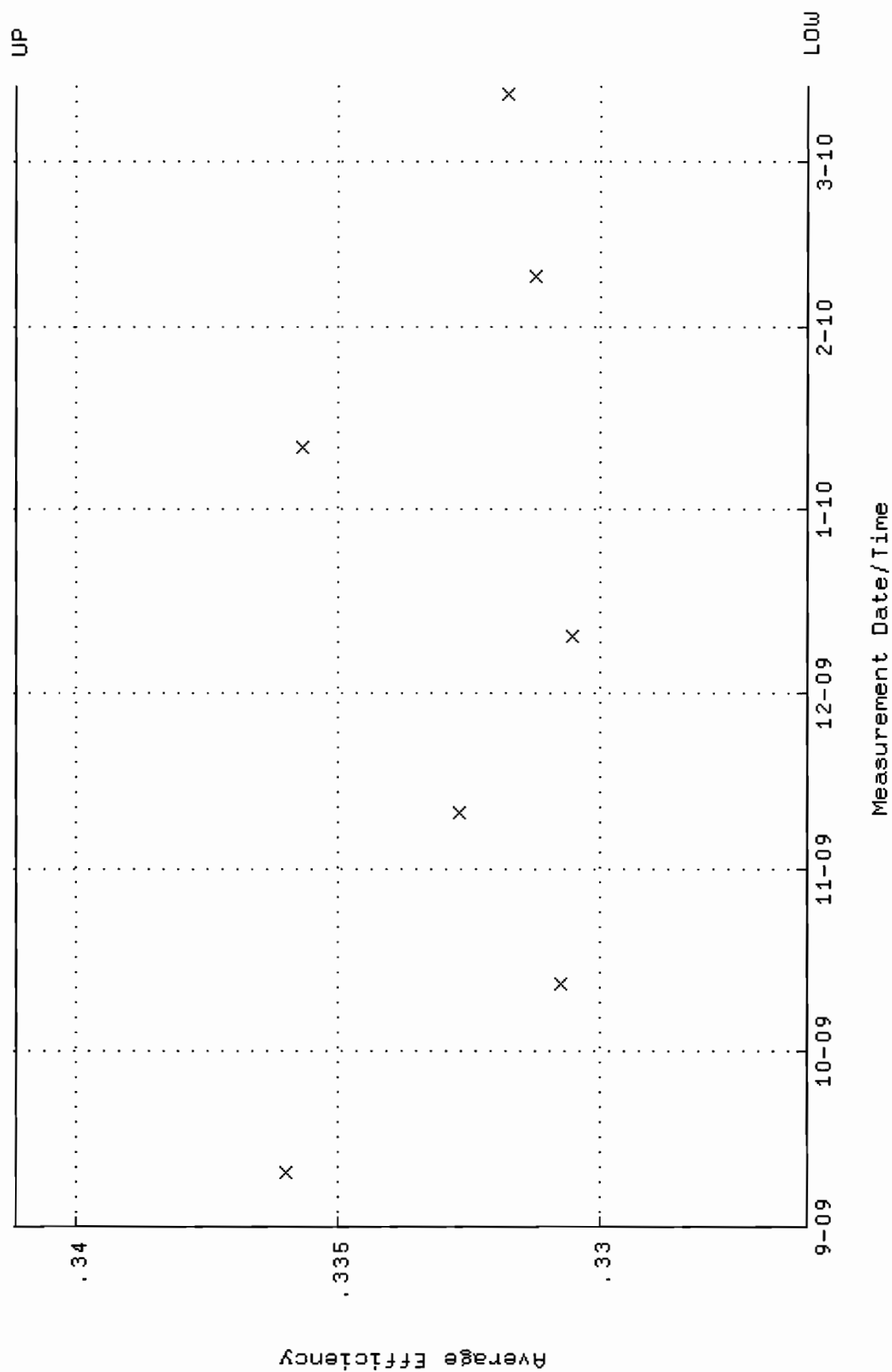
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.6219 through 94.7527



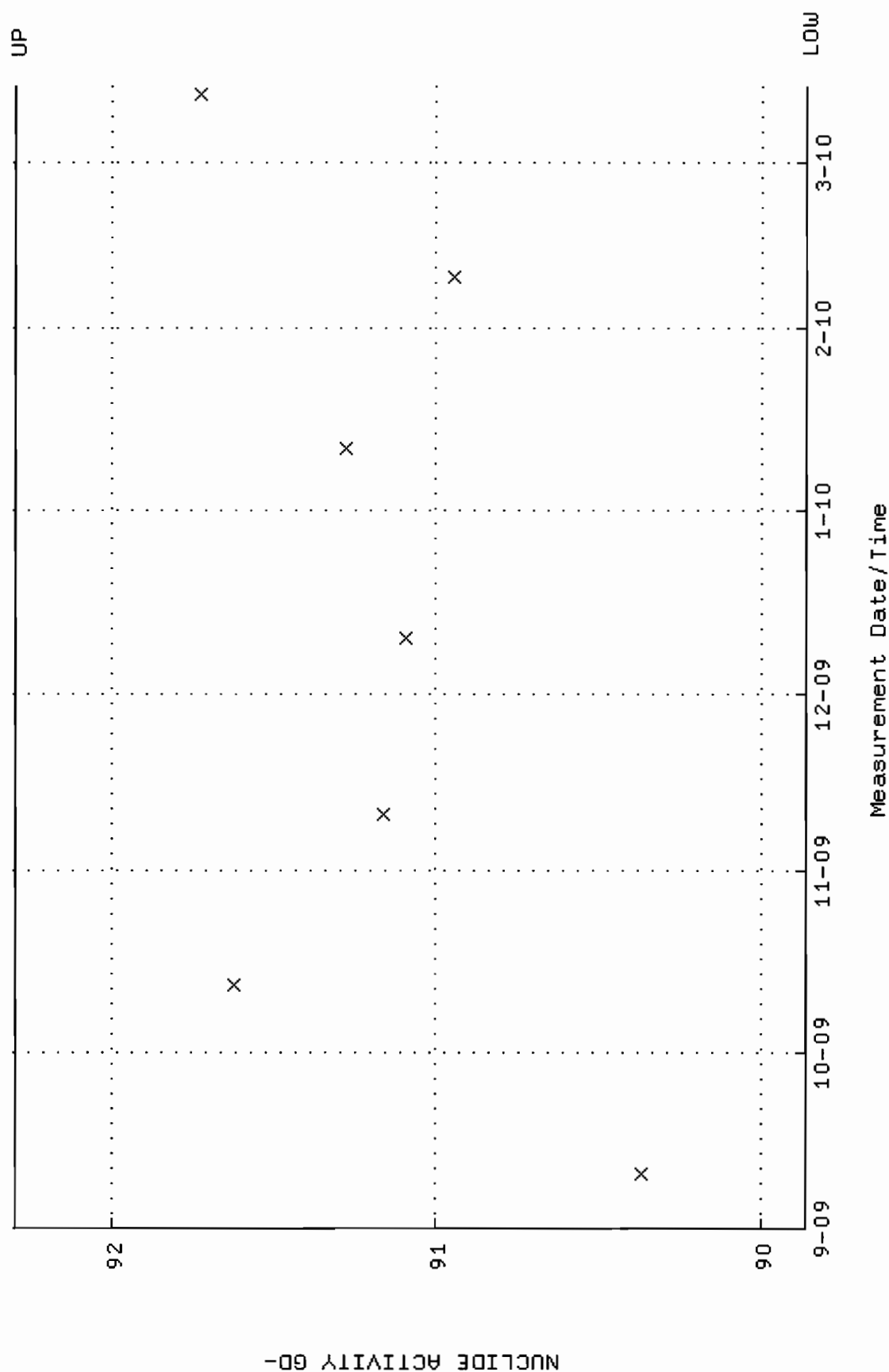
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



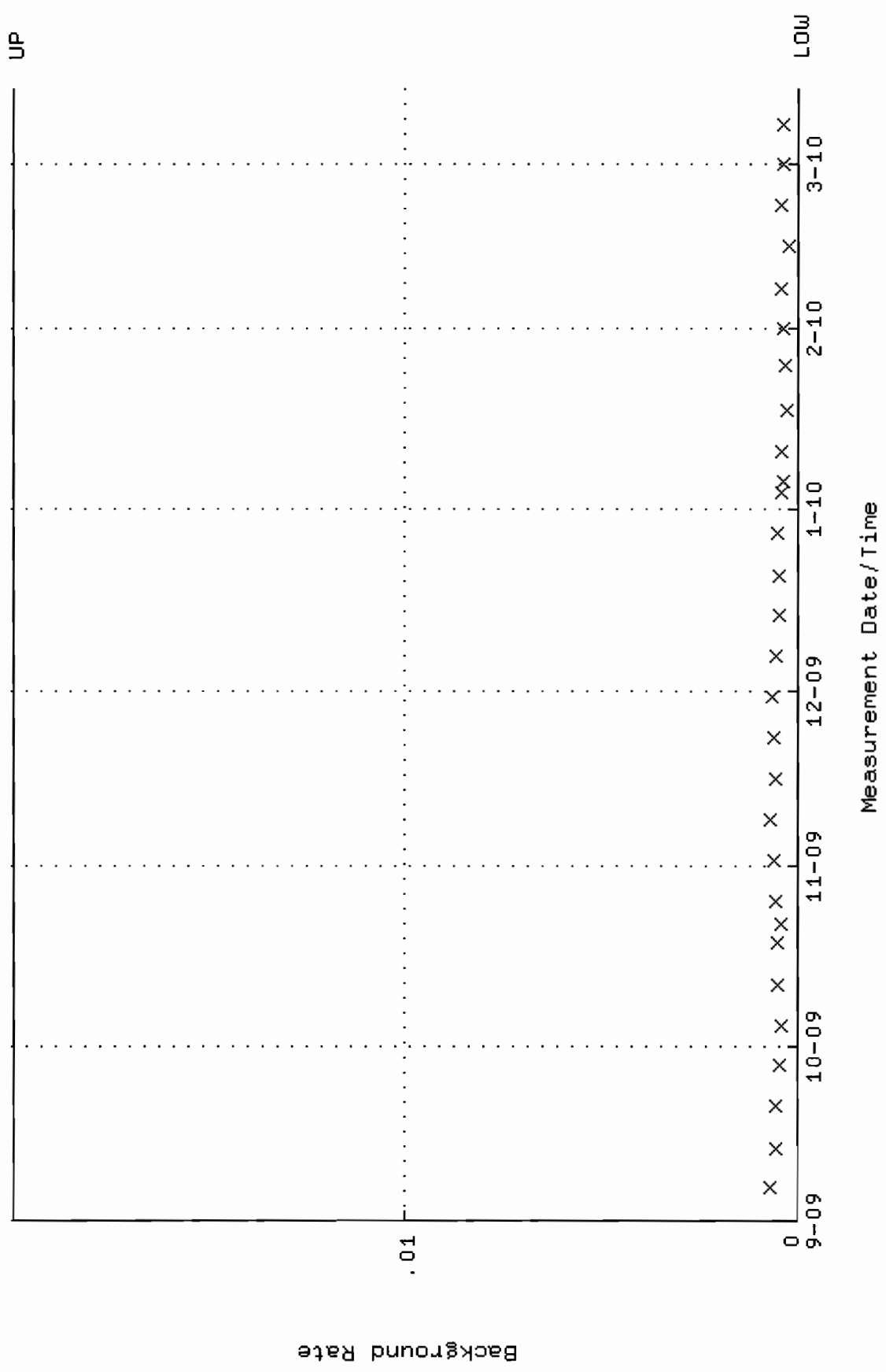
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.326078 through 0.341146



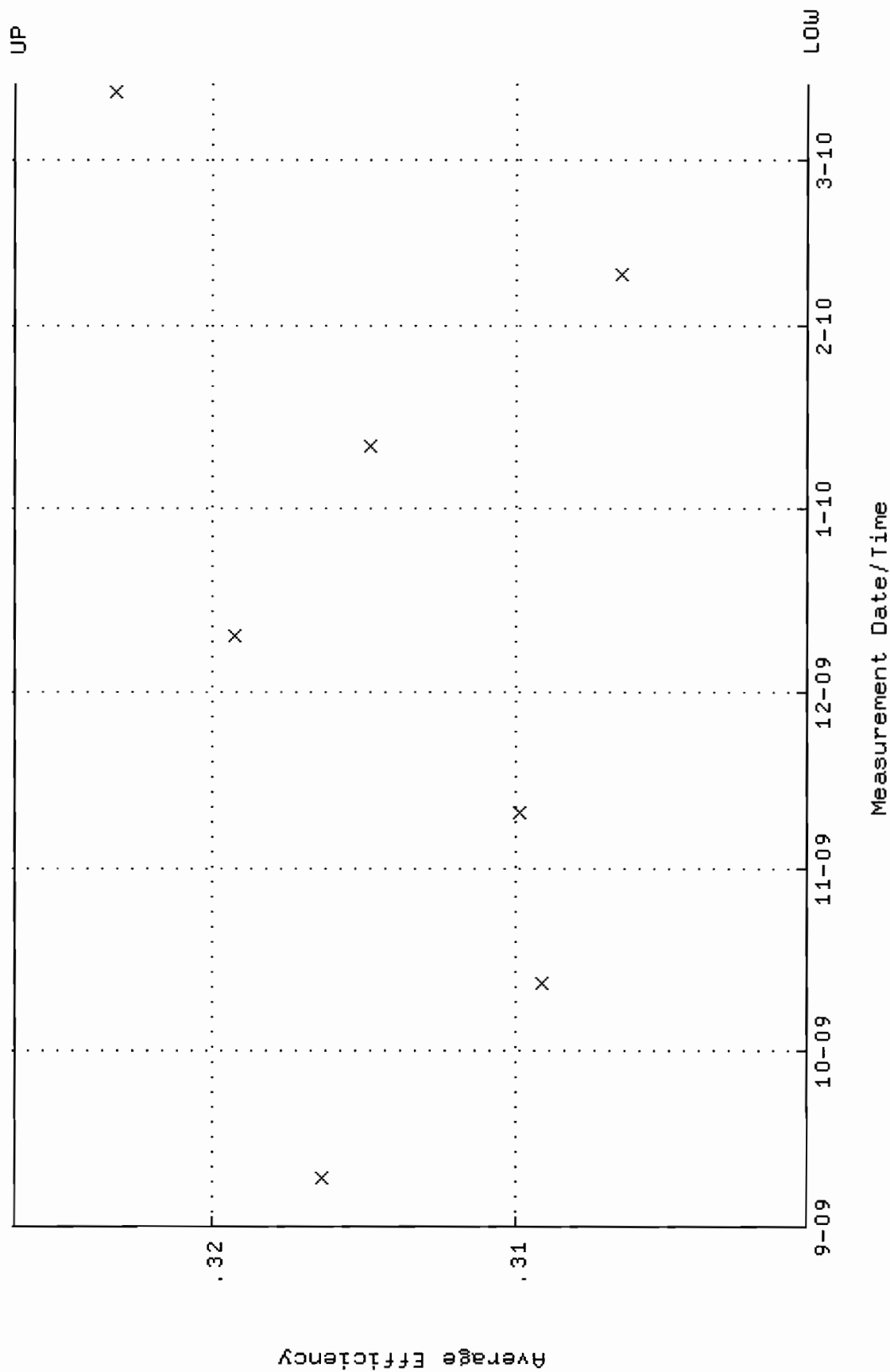
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-SEP-2009 07:45:11 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.8600 through 92.3006



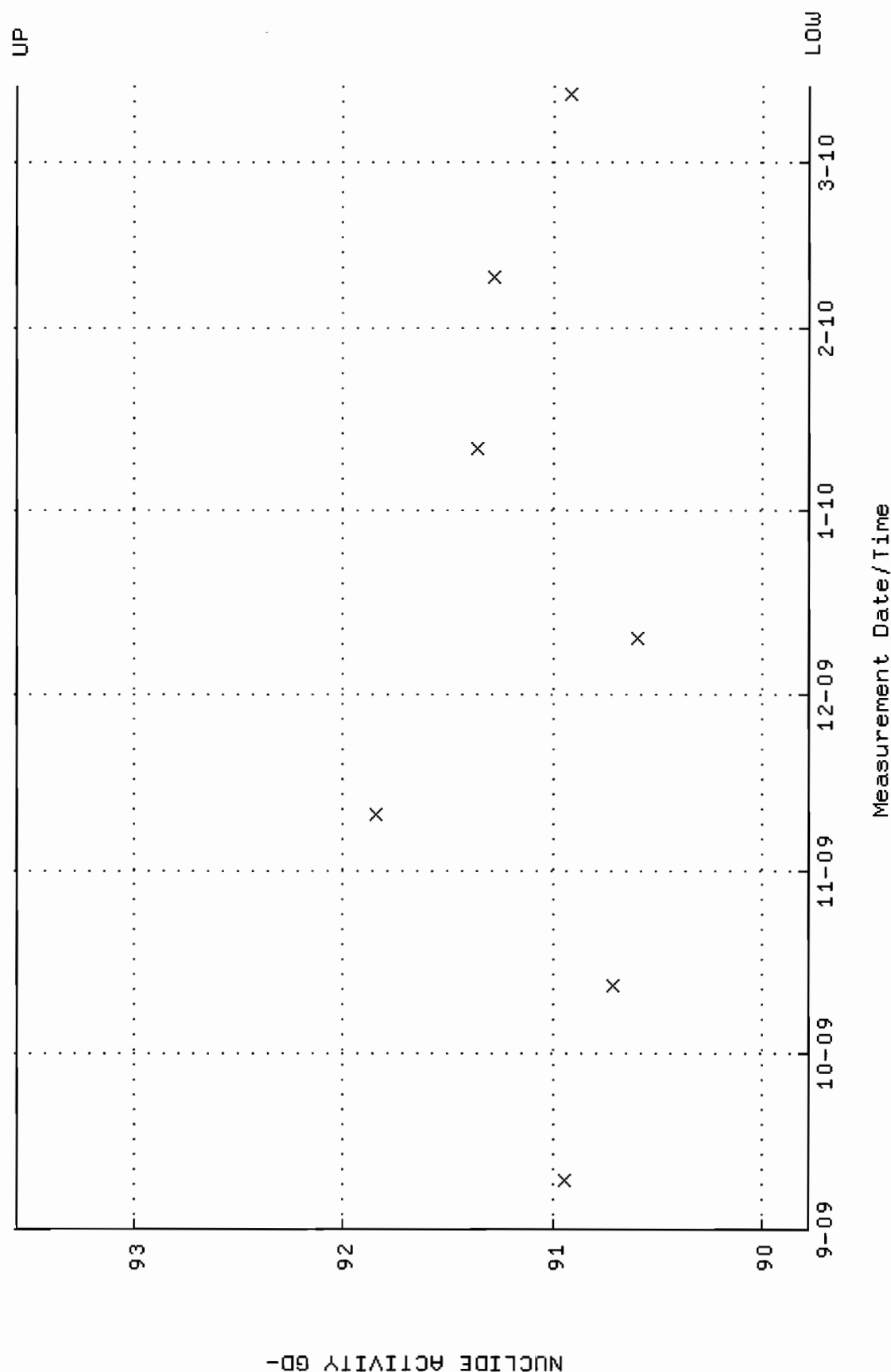
QA filename : DKA100:[ENV_ALPHA.QA.B]B073.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:07 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



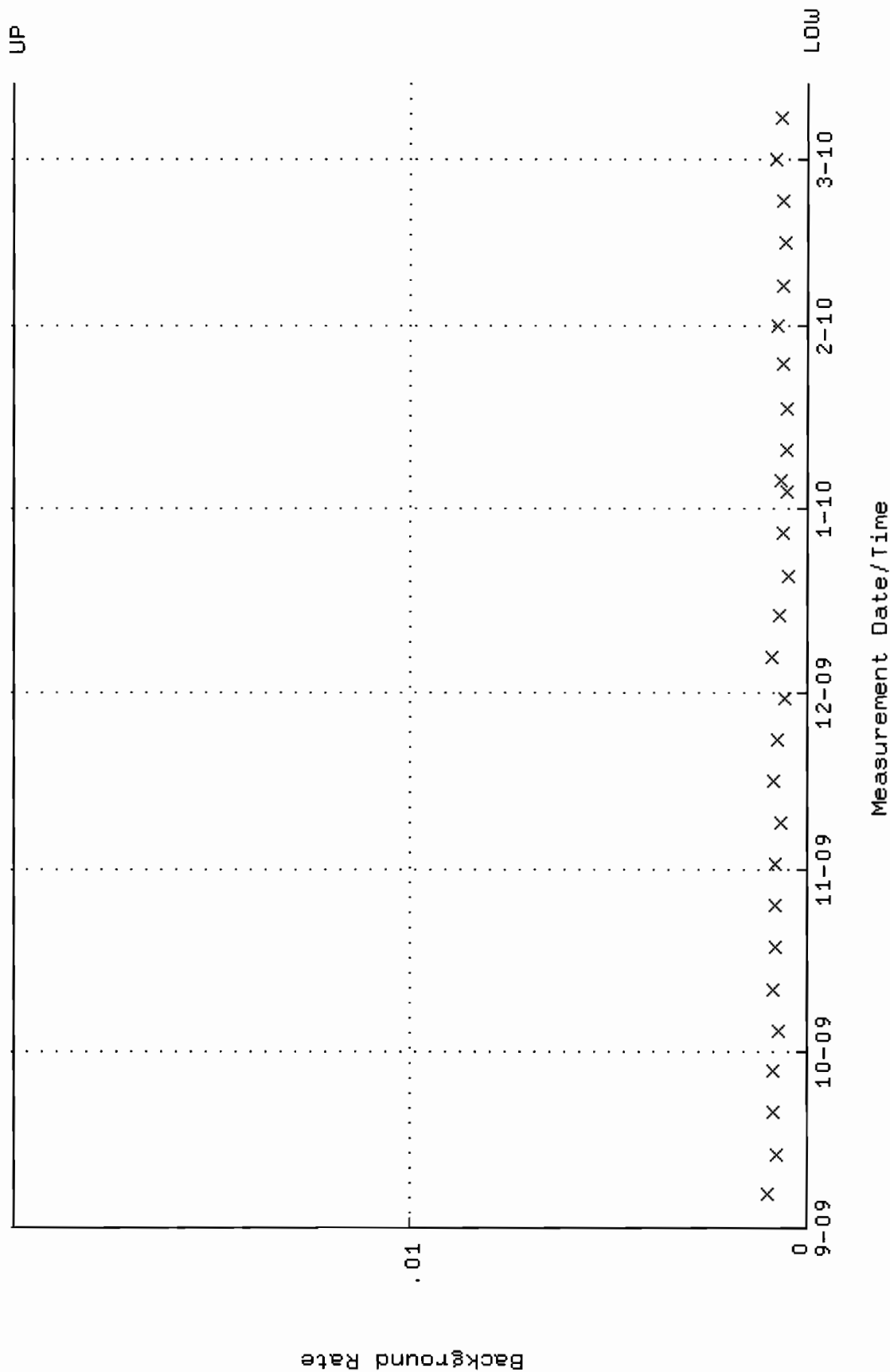
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 9-SEP-2009 09:27:48 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.300487 through 0.326465



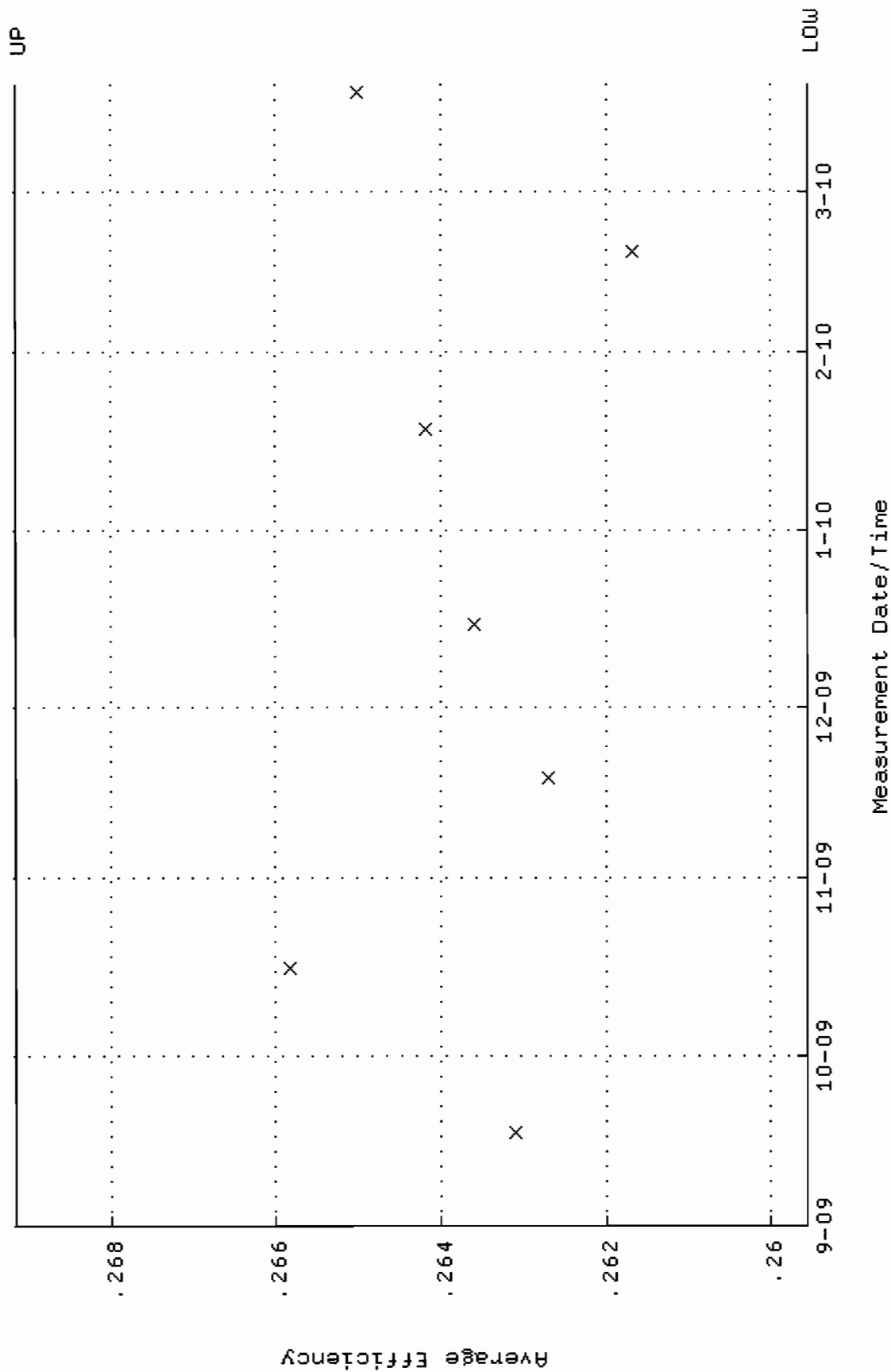
QA filename : DKA100:[ENV_ALPHA.QA.W]W087.QAF; 4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 9-SEP-2009 09:27:48 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.7763 through 93.5625



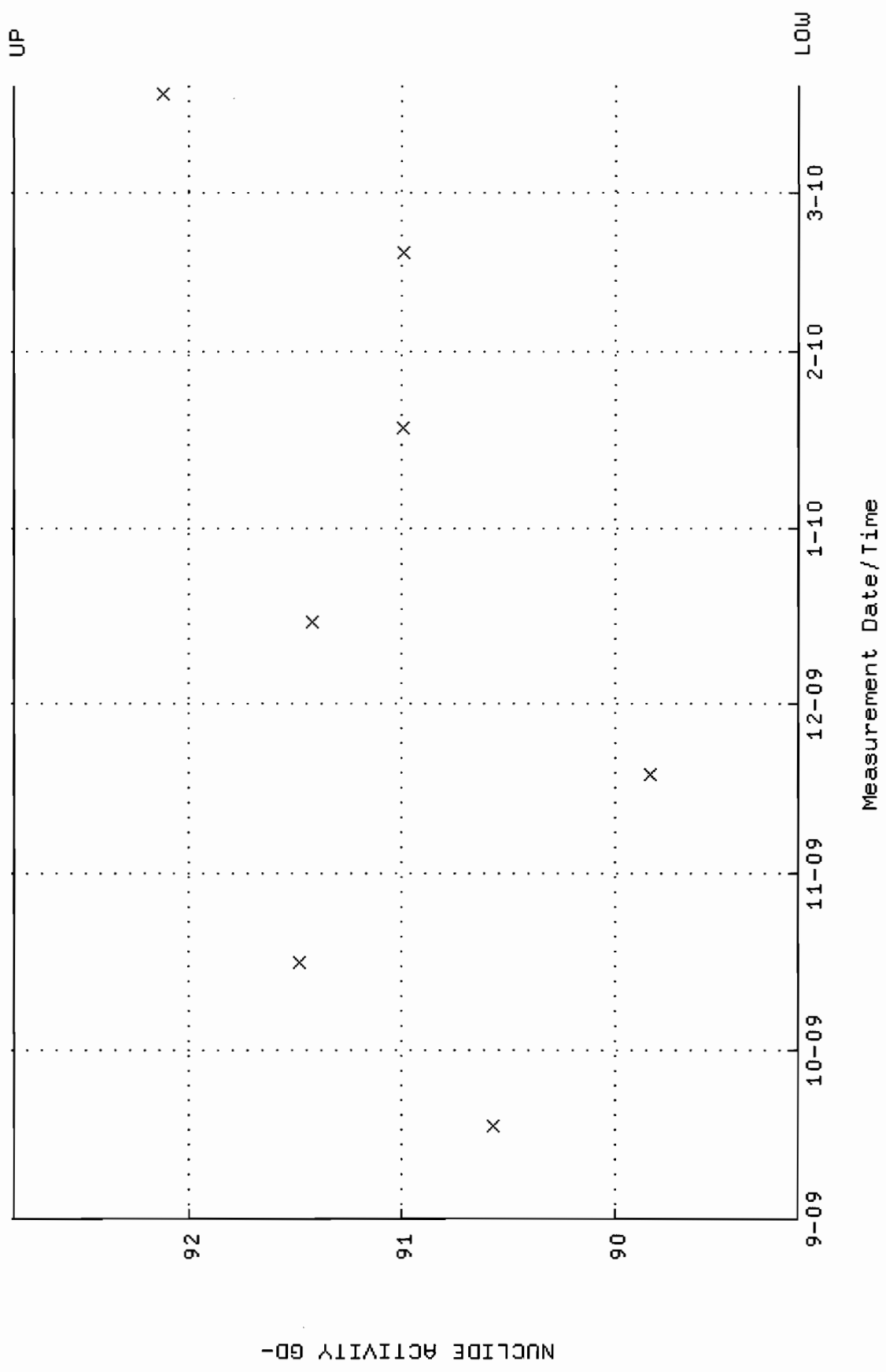
QA filename : DKA100:[ENV_ALPHA.QA.B]B087.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 14:27:09 through 13-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



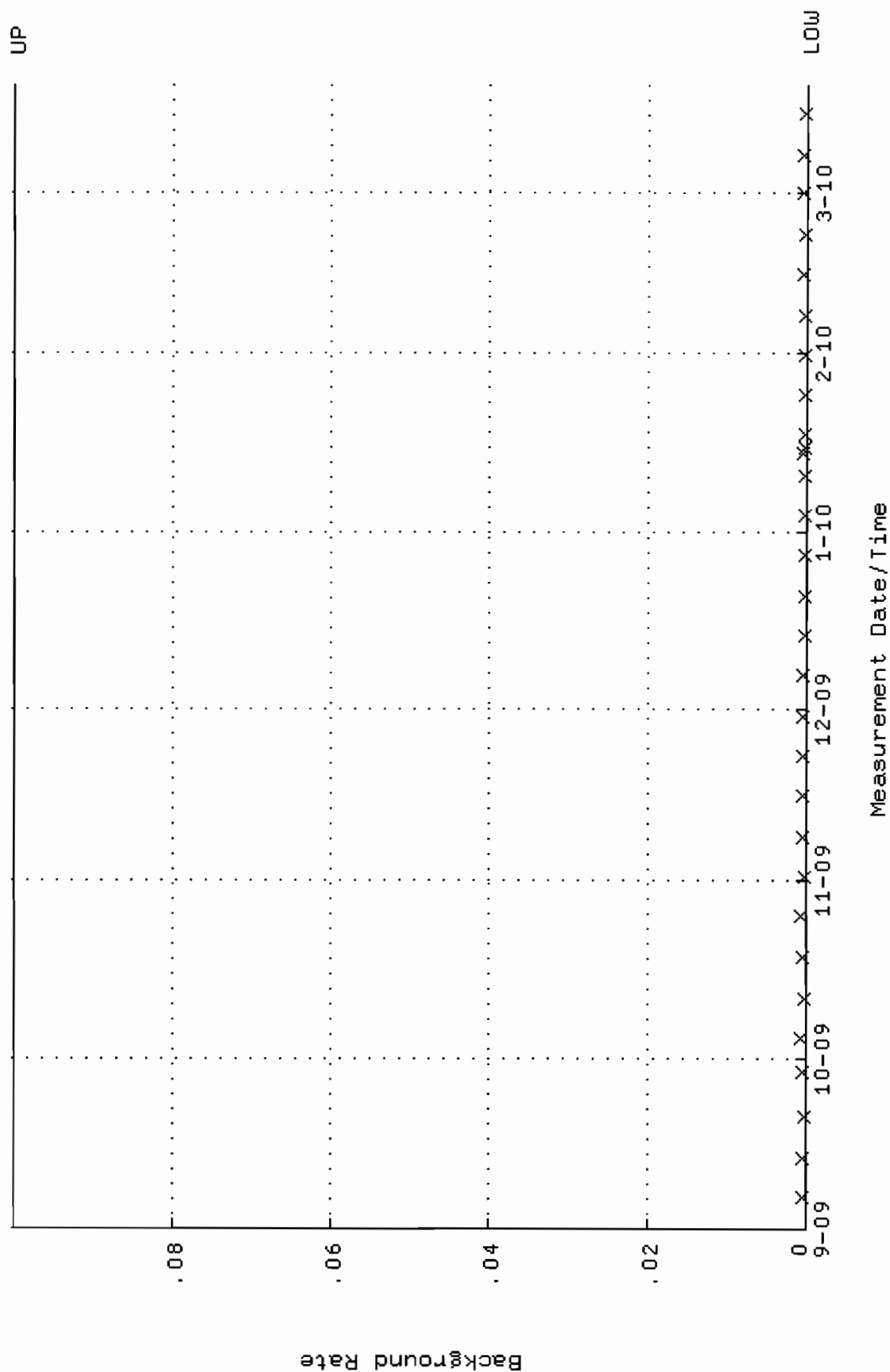
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:24:21 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.259560 through 0.269146



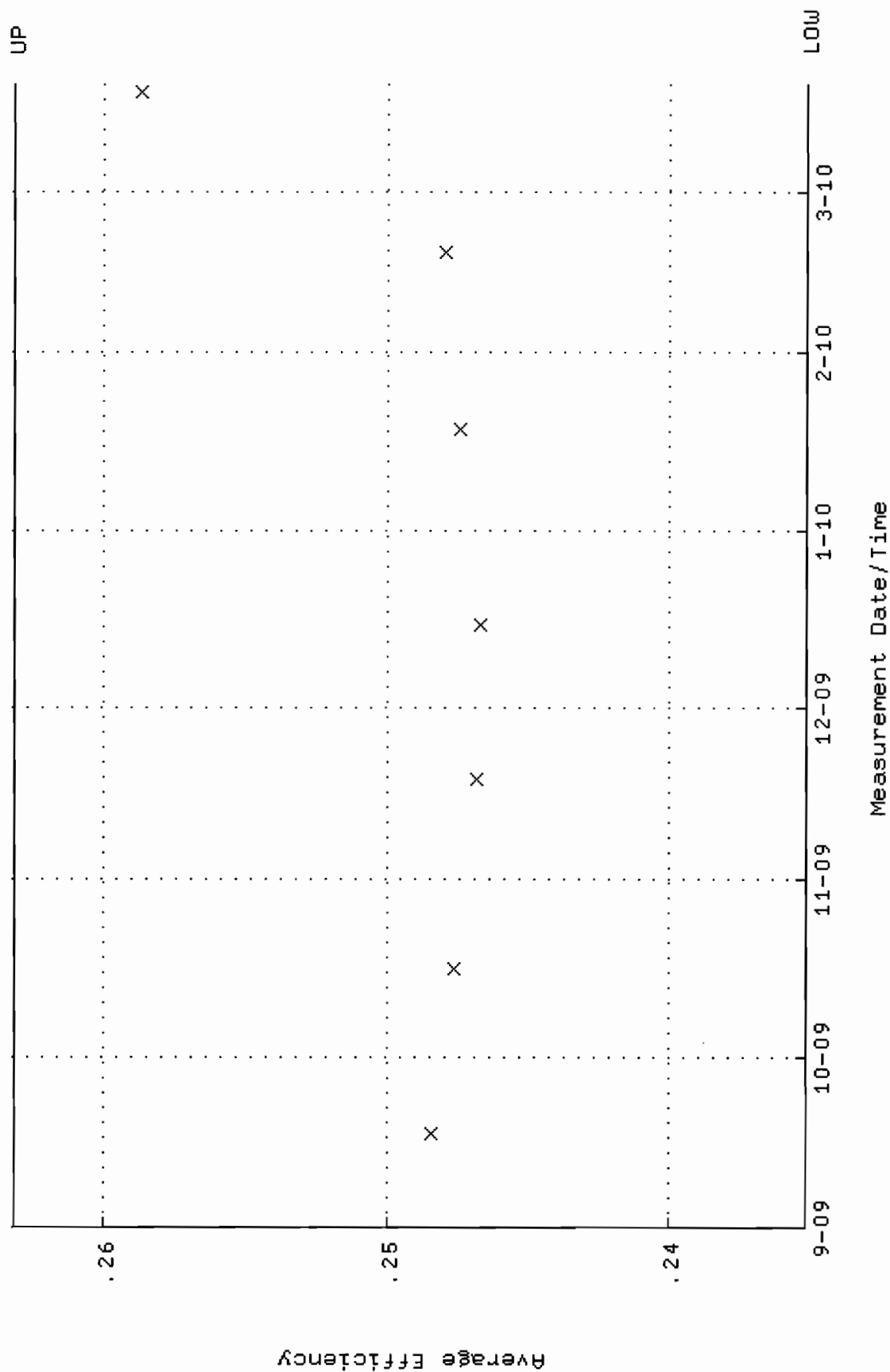
QA filename : DKA100:[ENV_ALPHA.QA.W]W129.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:24:21 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.1401 through 92.8201



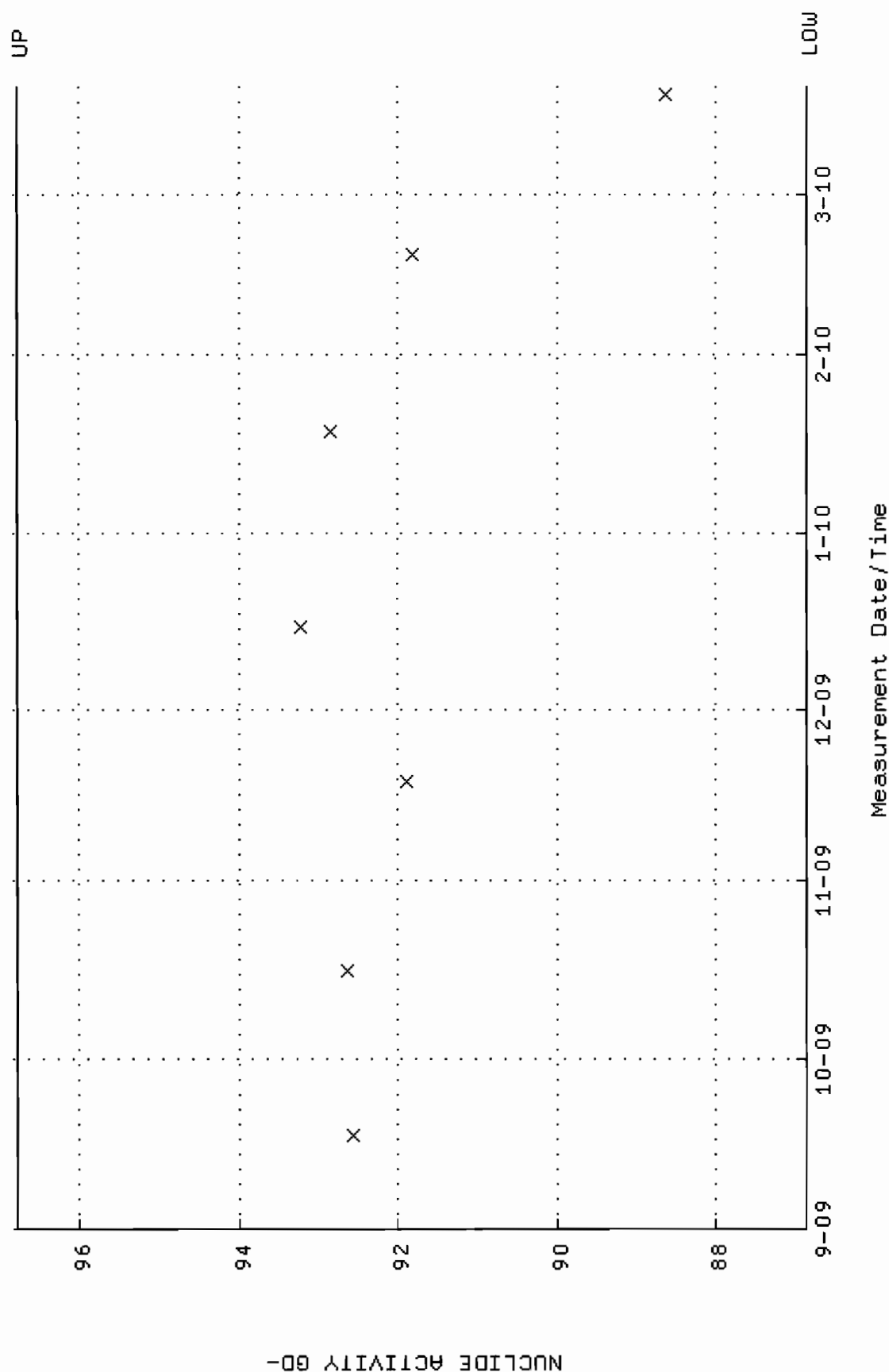
QA filename : DKA100:[ENV_ALPHA.QA.B]B129.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:41:19 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:24:25 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.235120 through 0.263192



QA filename : DKA100:[ENV_ALPHA.QA.W]W130.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:24:25 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.8592 through 96.7952

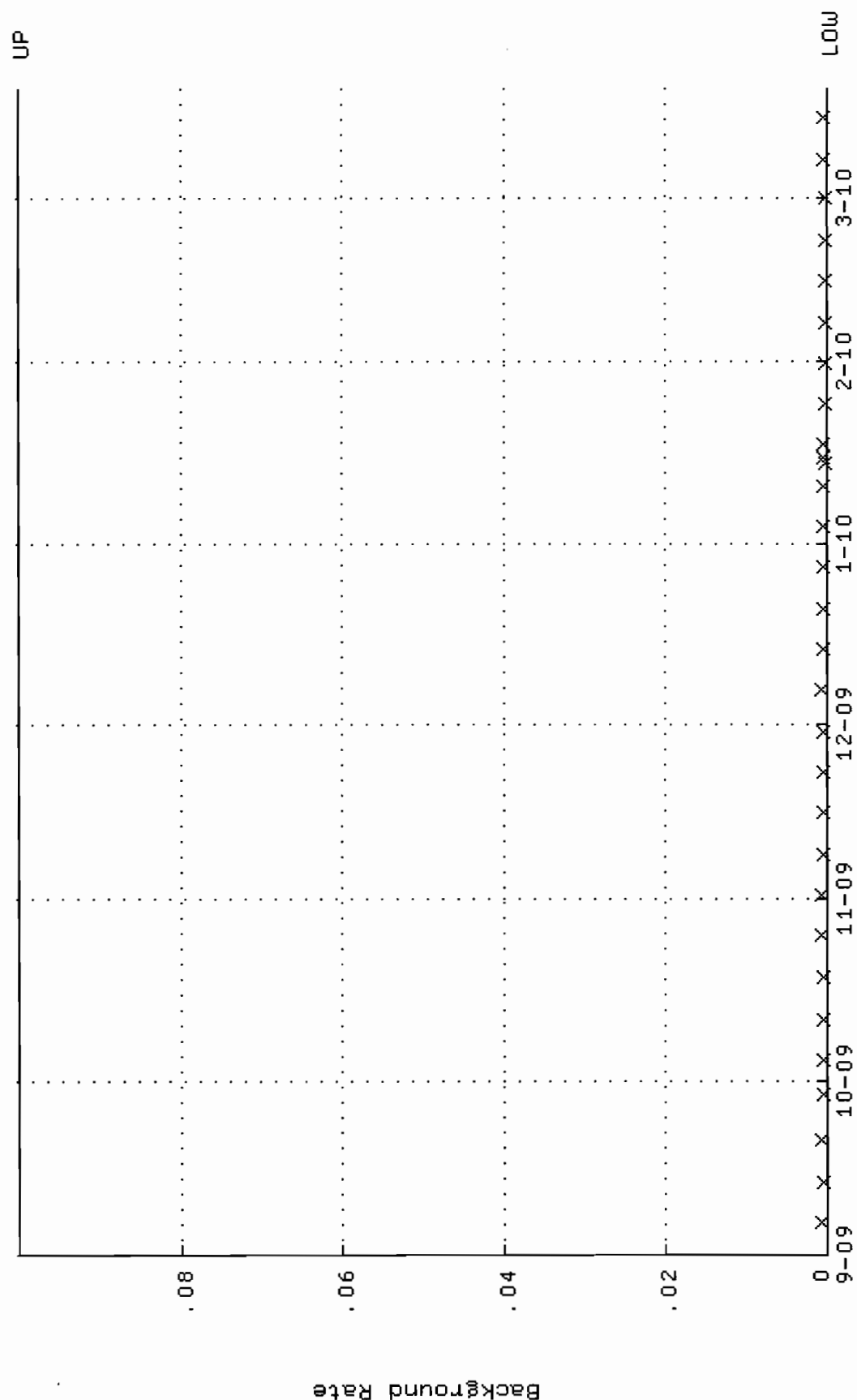


QA filename : DKA100:[ENV_ALPHA.QA.B]B130.QAF;1

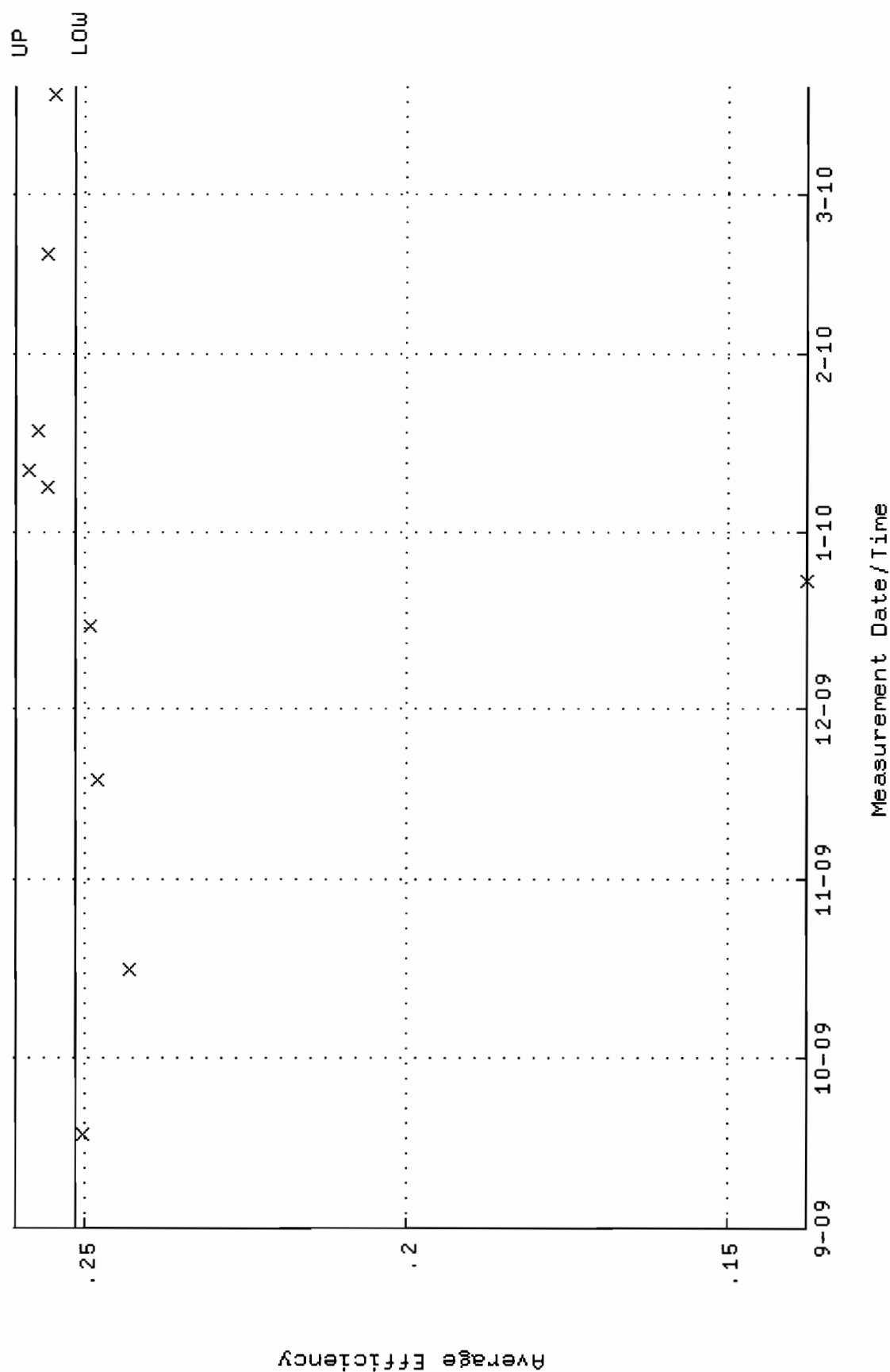
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 6-SEP-2009 15:41:24 through 19-MAR-2010 12:00:00

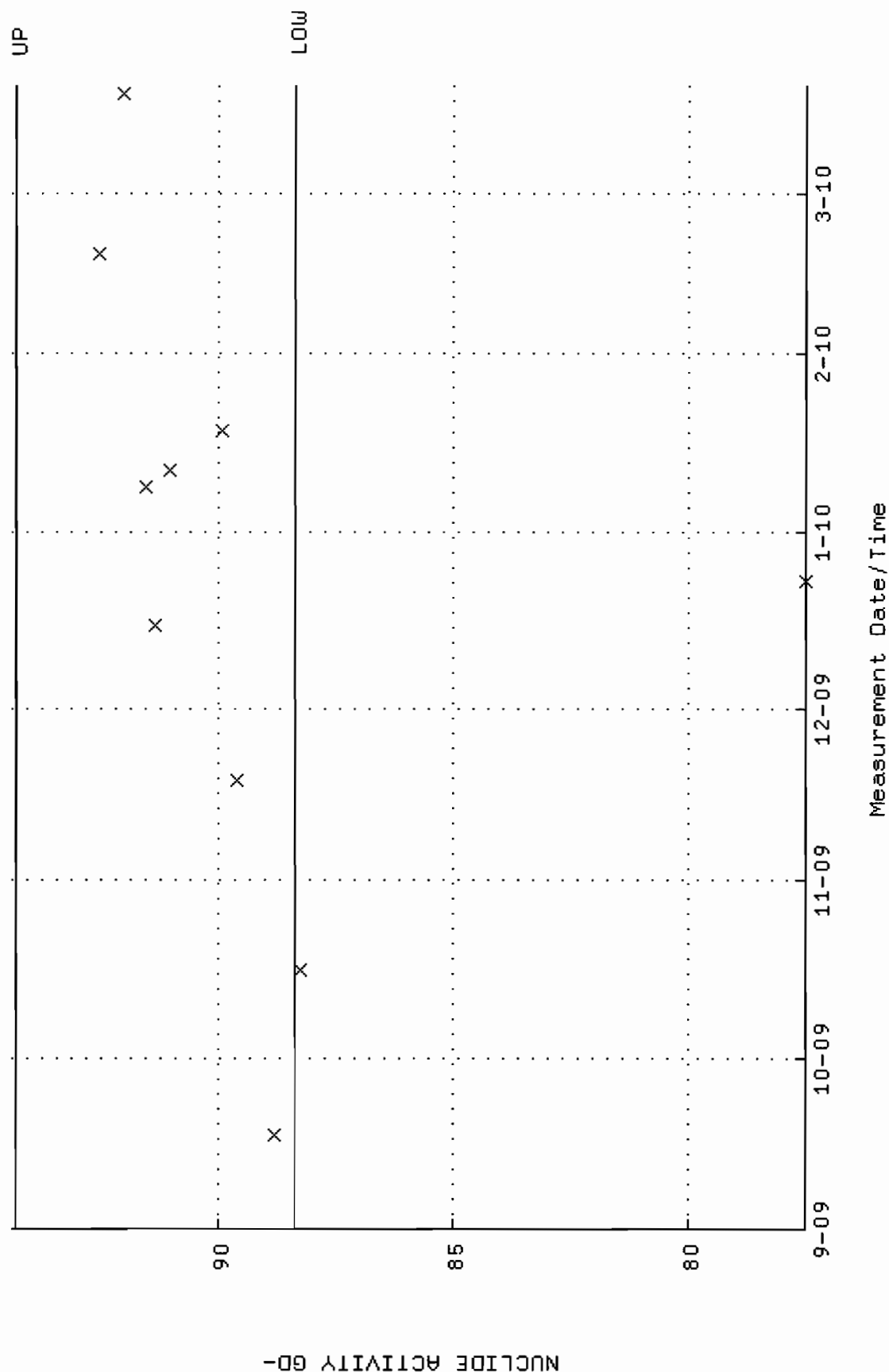
Lower/Upper Lmts: 0.000000E+00 through 0.100000



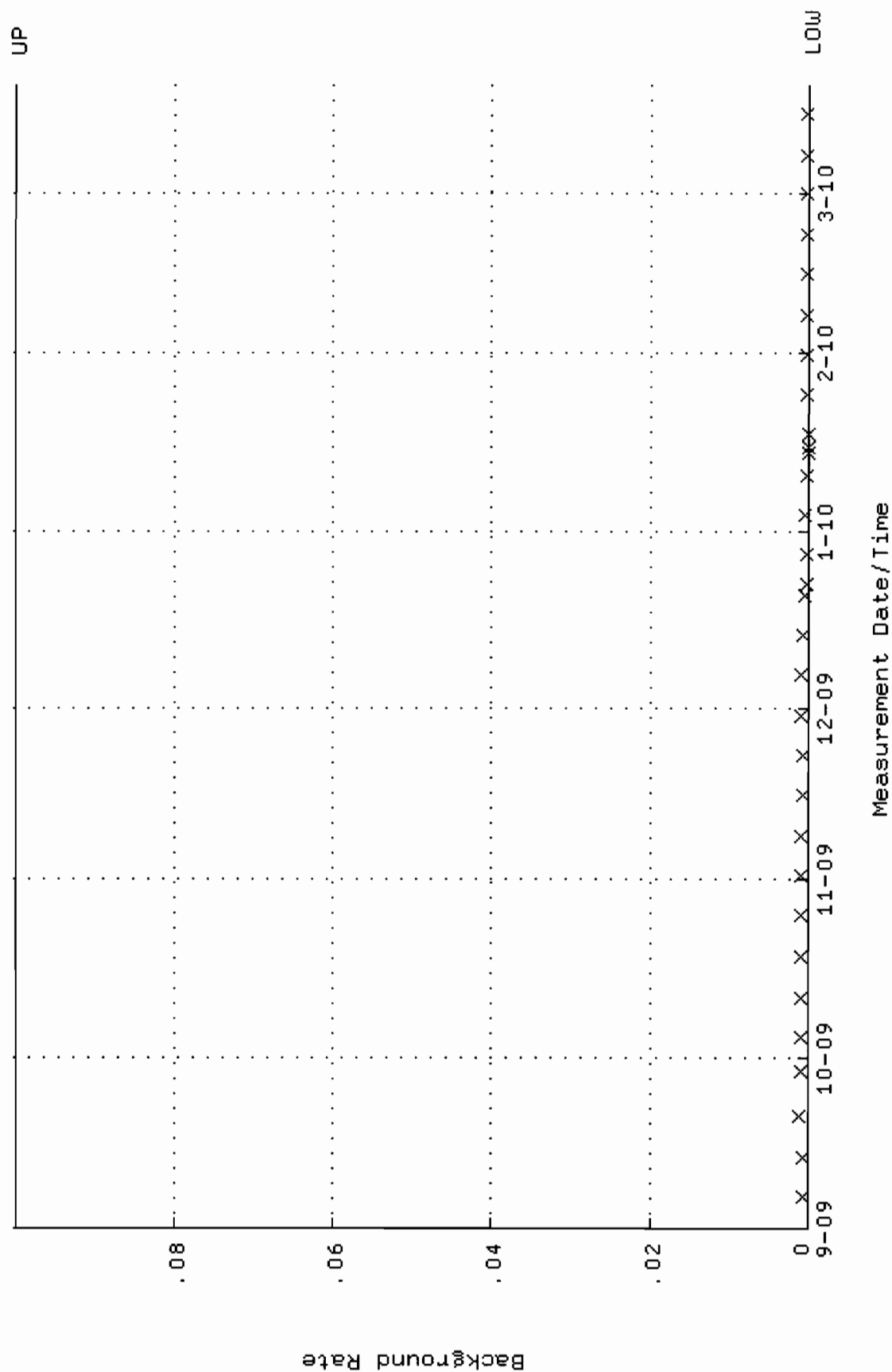
QA filename : DKA100:[ENV_ALPHA.QA.W]W131.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-SEP-2009 07:24:30 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.251694 through 0.260714



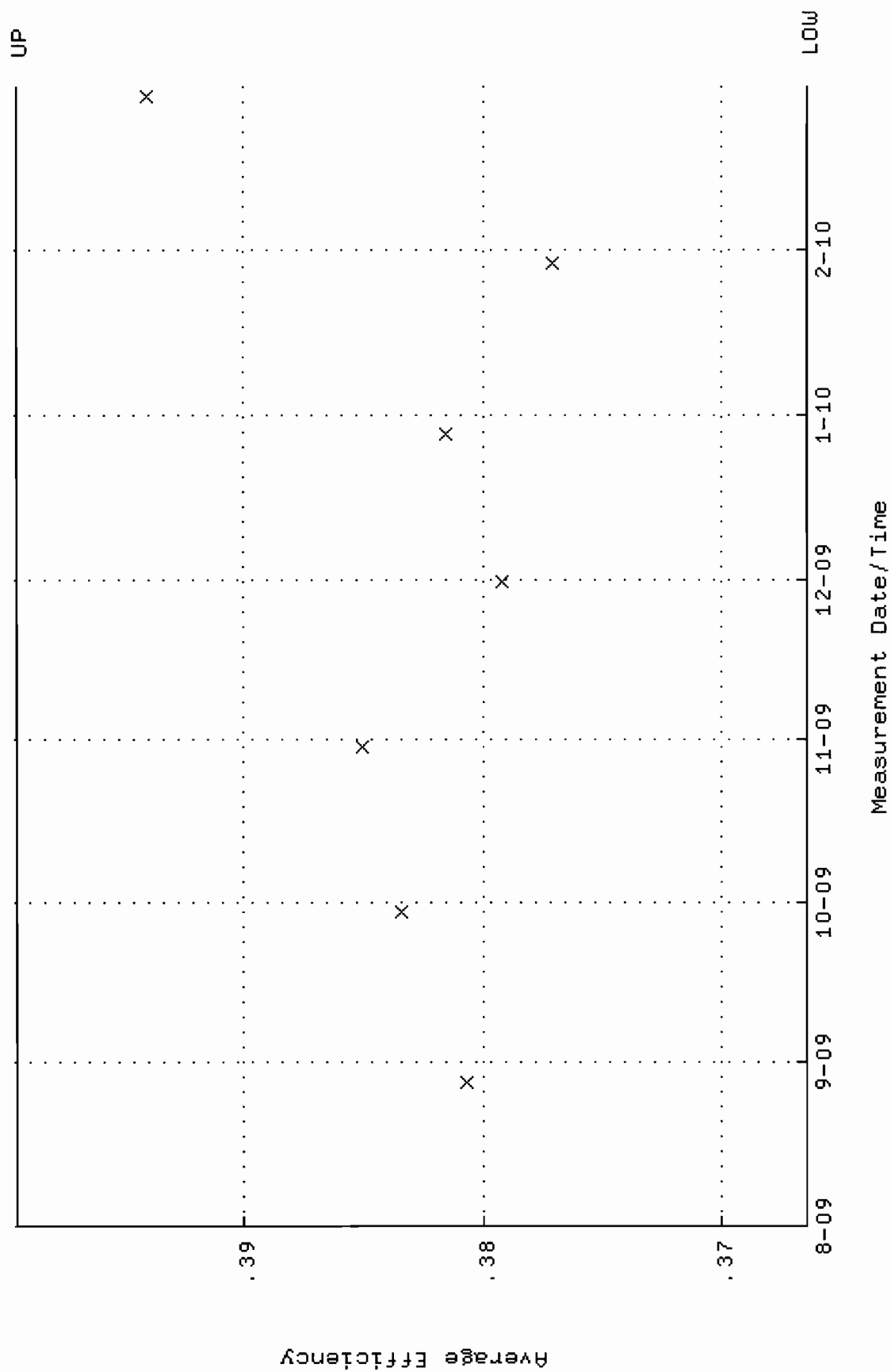
QA filename : OKA100:[ENV_ALPHA.QA.W]W131.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-SEP-2009 07:24:30 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.4061 through 94.3891



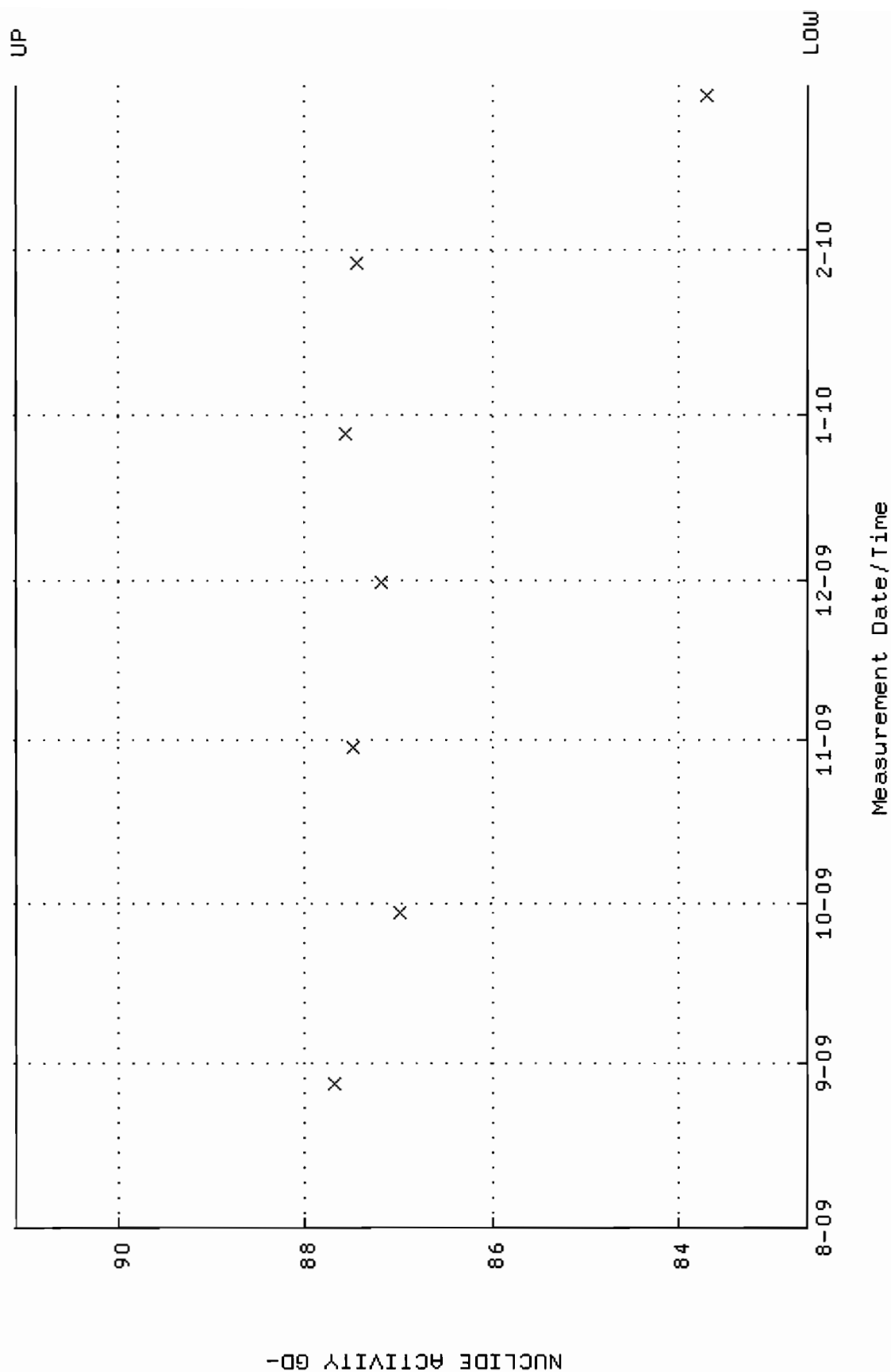
QA filename : DKA100:[ENV_ALPHA.QA.B]B131.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 6-SEP-2009 15:41:28 through 19-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



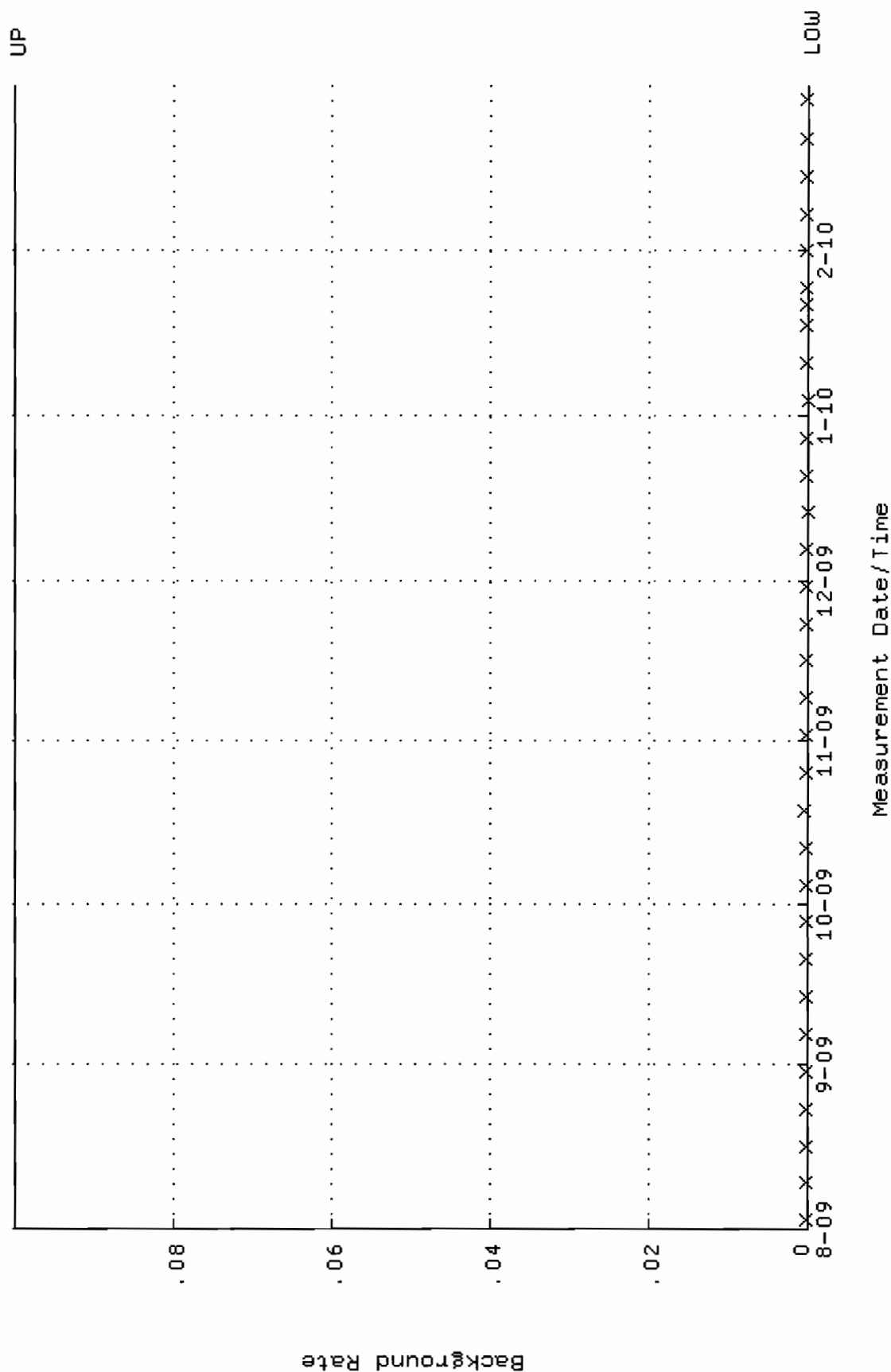
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:35 through 3-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.366381 through 0.399563



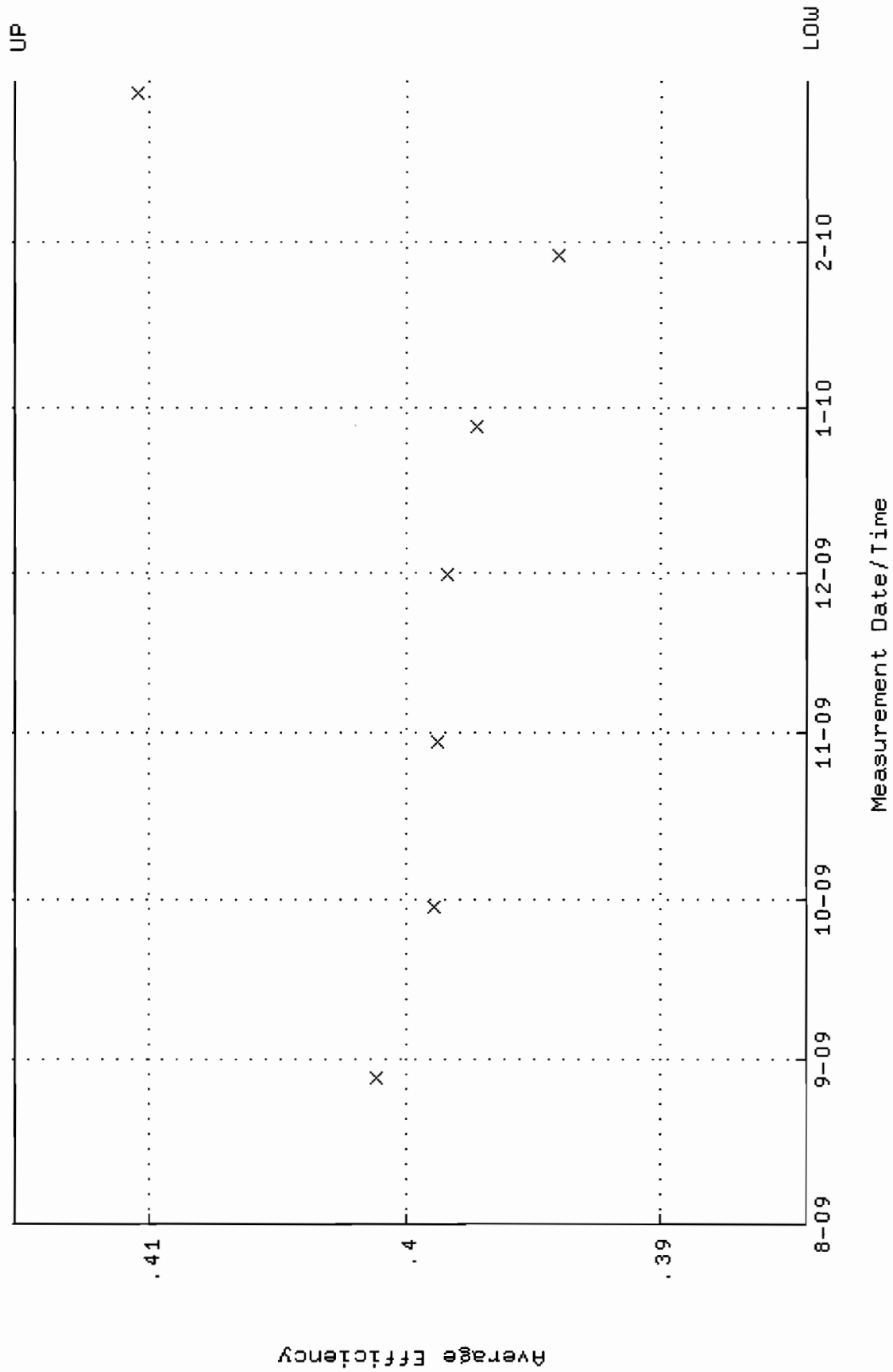
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:35 through 3-MAR-2010 12:00:00
 Lower/Upper Lmts: 82.6177 through 91.1049



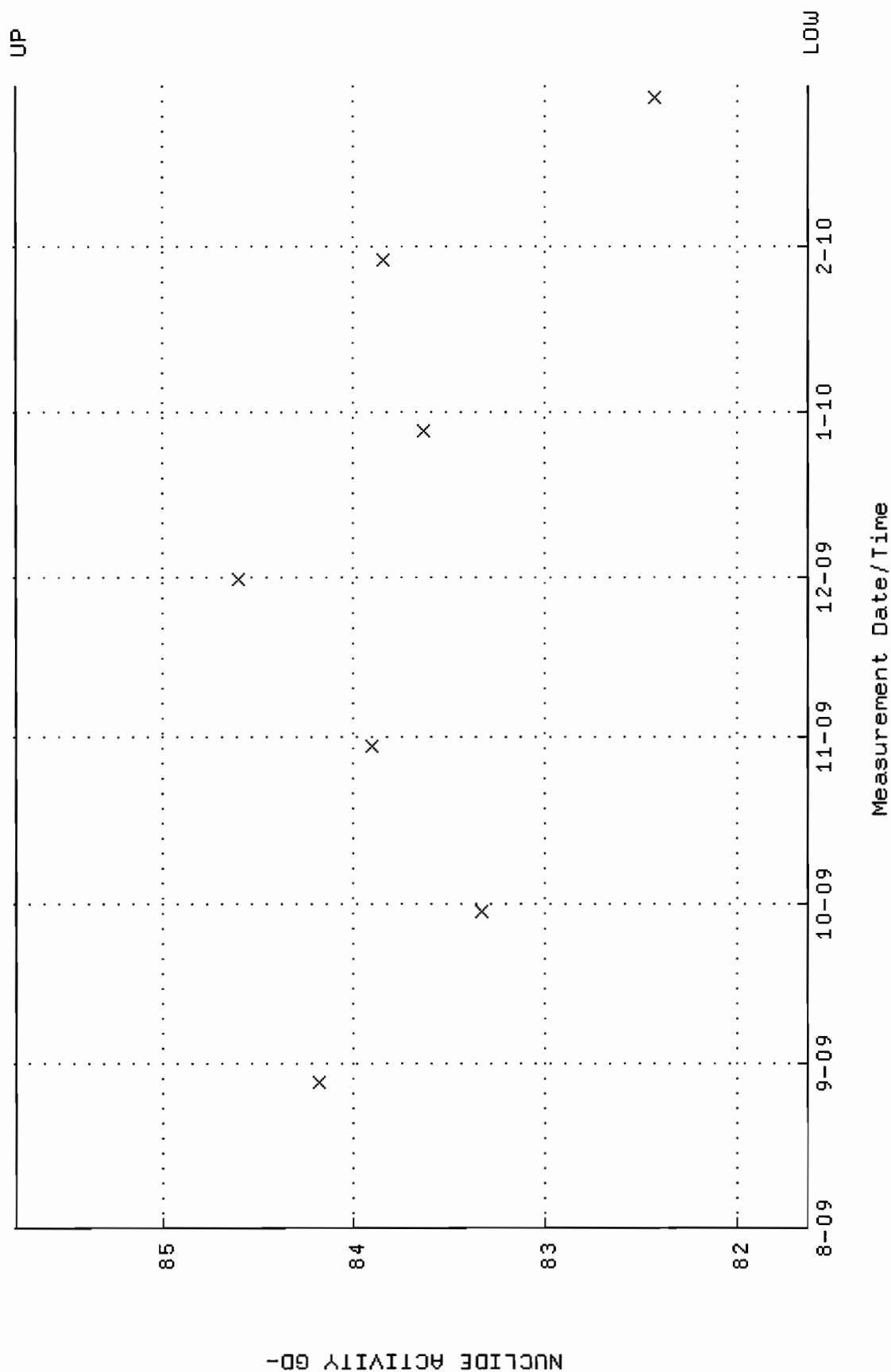
QA filename : DKA100:[ENV_ALPHA.QA.B]B233.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:52 through 3-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



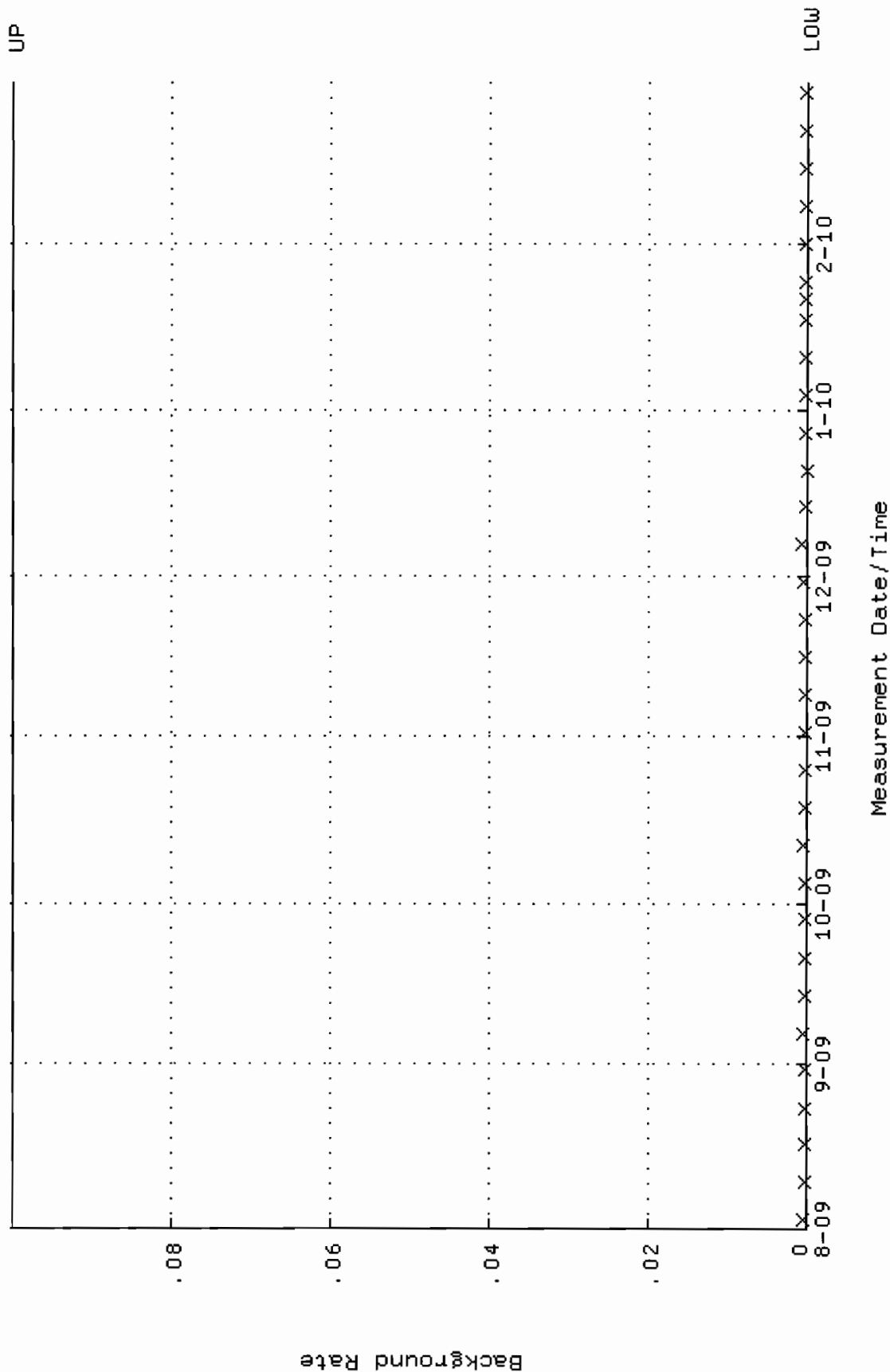
QA filename : DKA100:[ENV_ALPHA.QA.W]W237.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.384343 through 0.415273



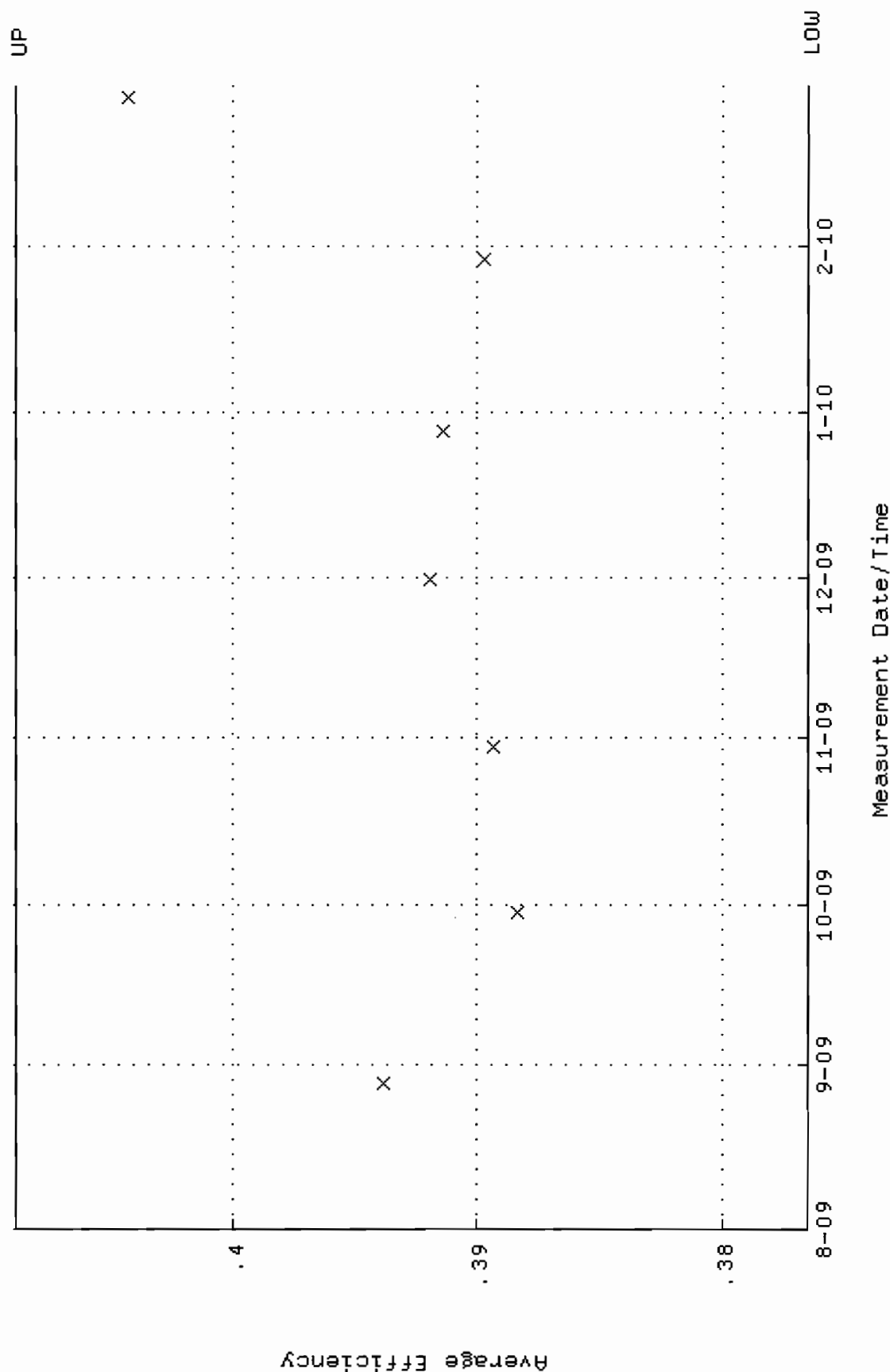
QA filename : DKA100:[ENV_ALPHA.QA.W]w237.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.6308 through 85.7646



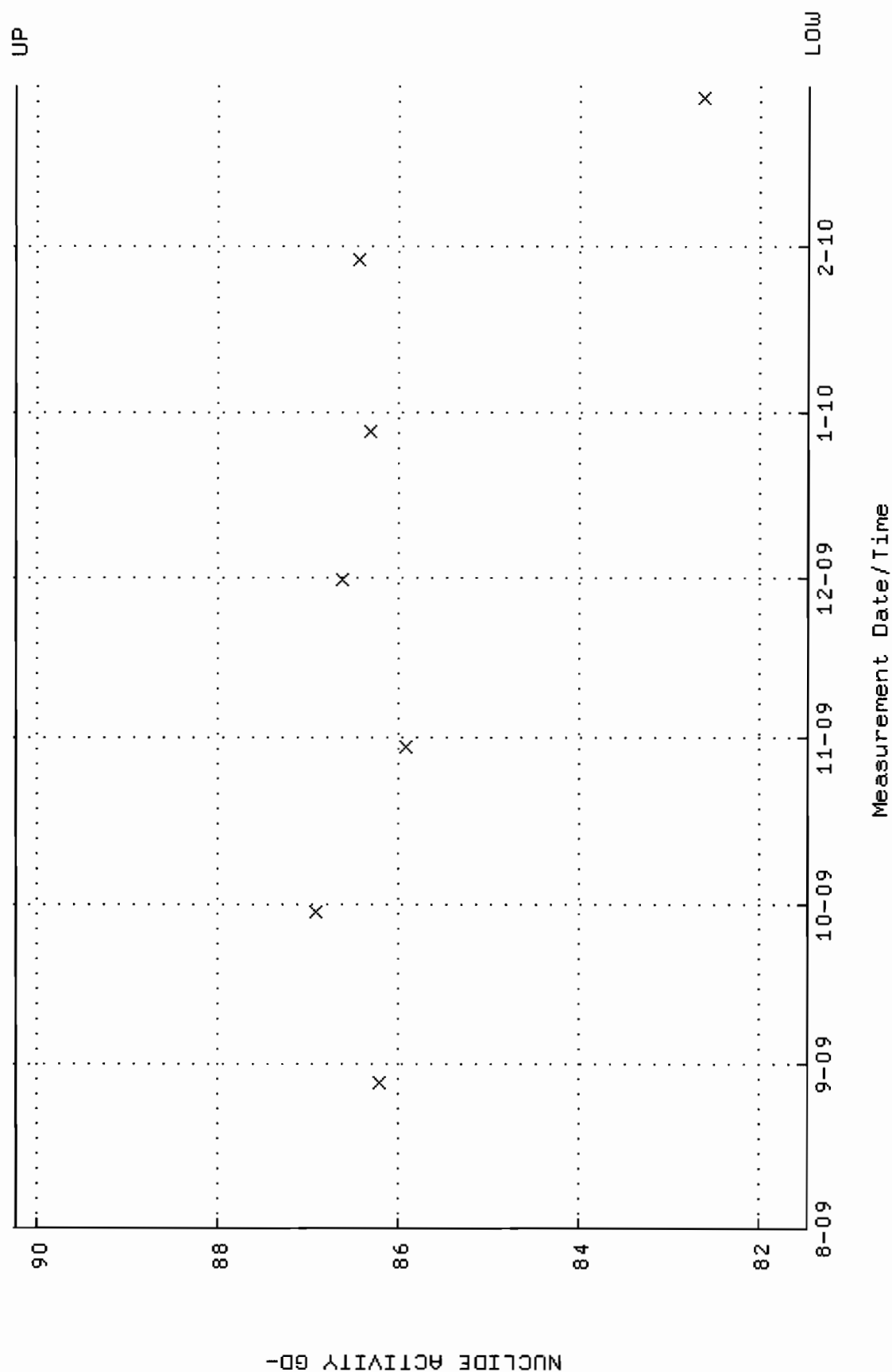
QA filename : DKA100:[ENV_ALPHA.QA.B]B237.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:08 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



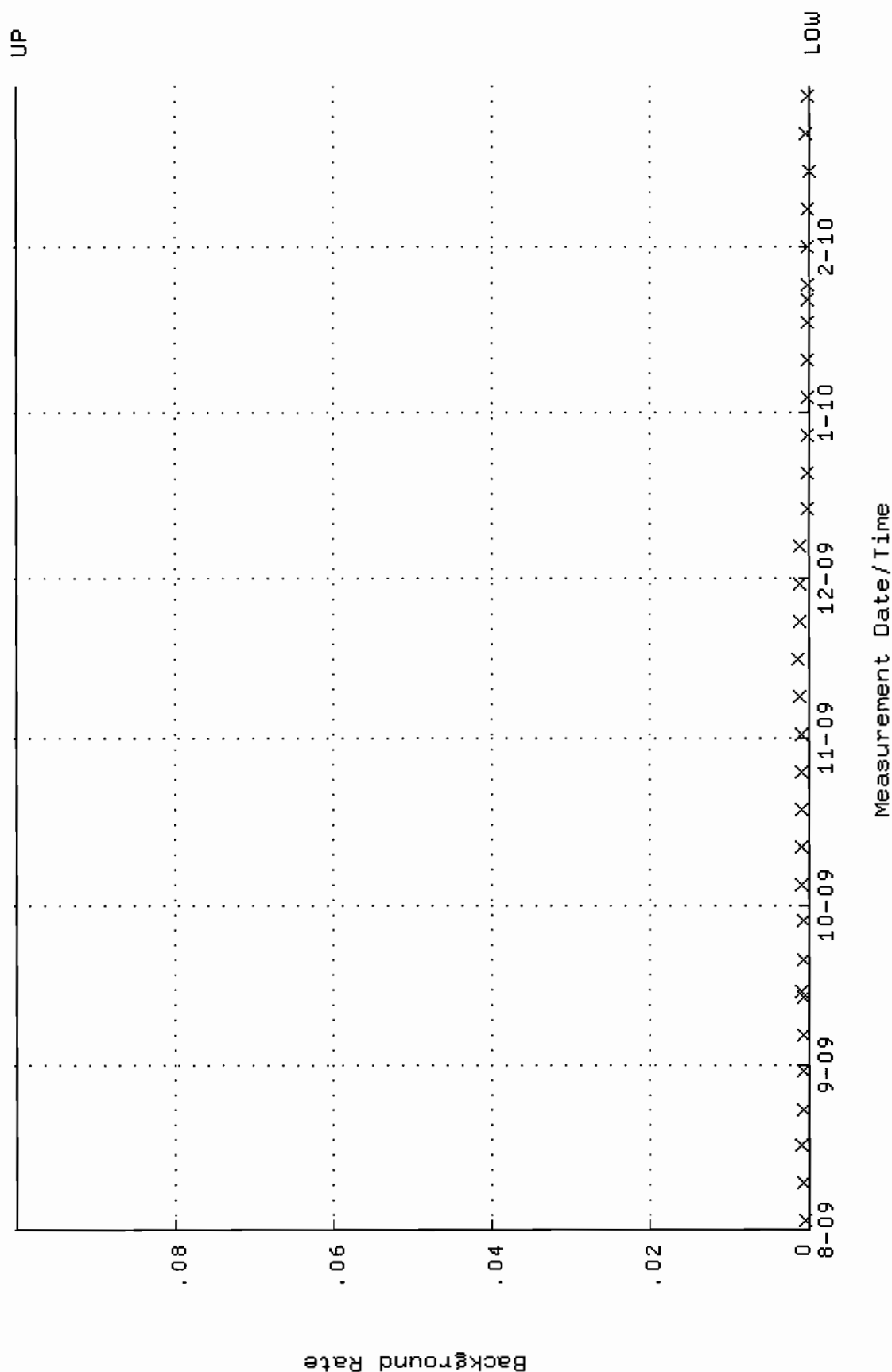
QA filename : DKA100:[ENV_ALPHA.QA.W]W248.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:09:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.376481 through 0.408807



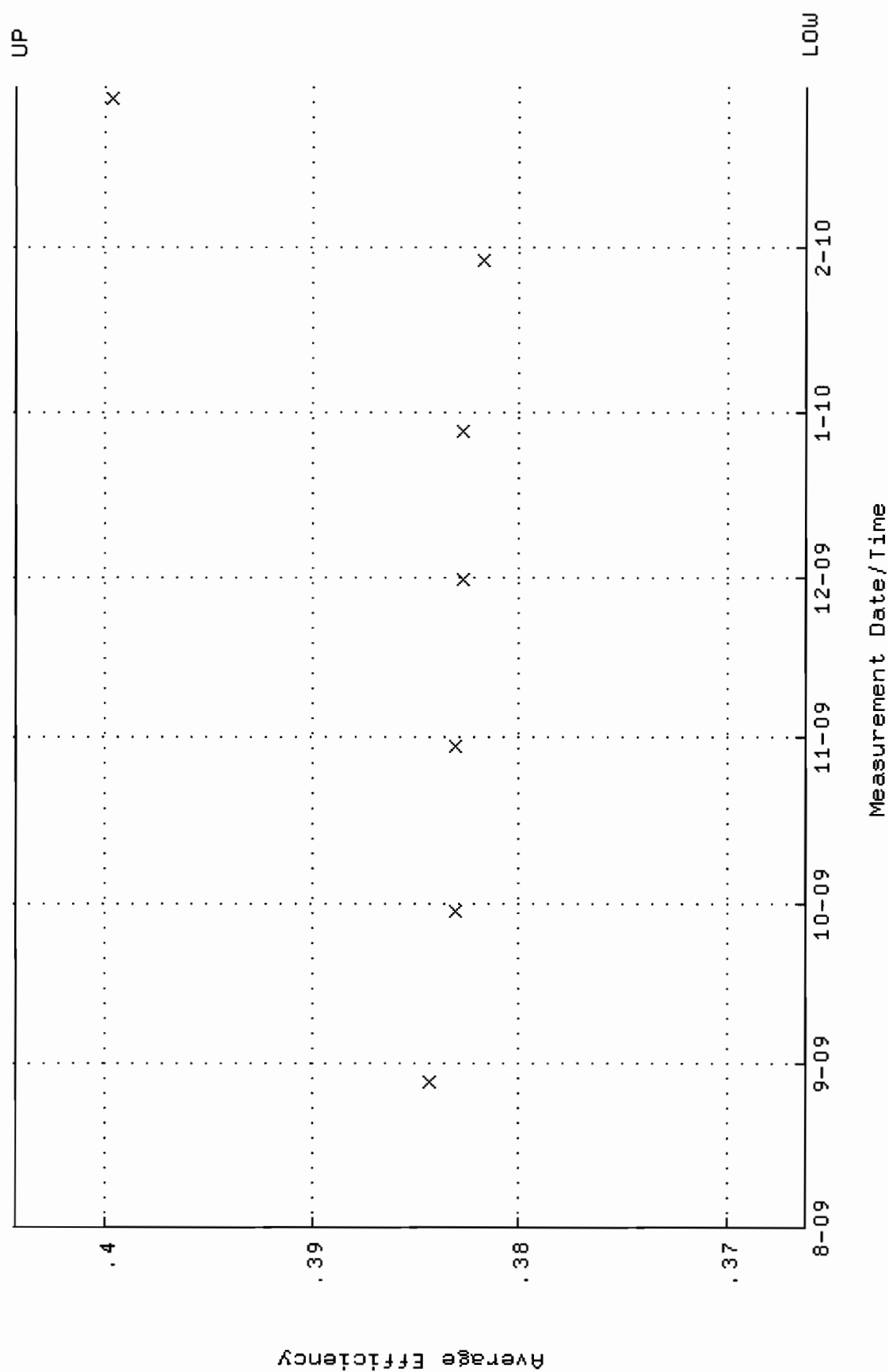
QA filename : DKA100:[ENV_ALPHA.QA.W]U248.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:09:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.4745 through 90.2275



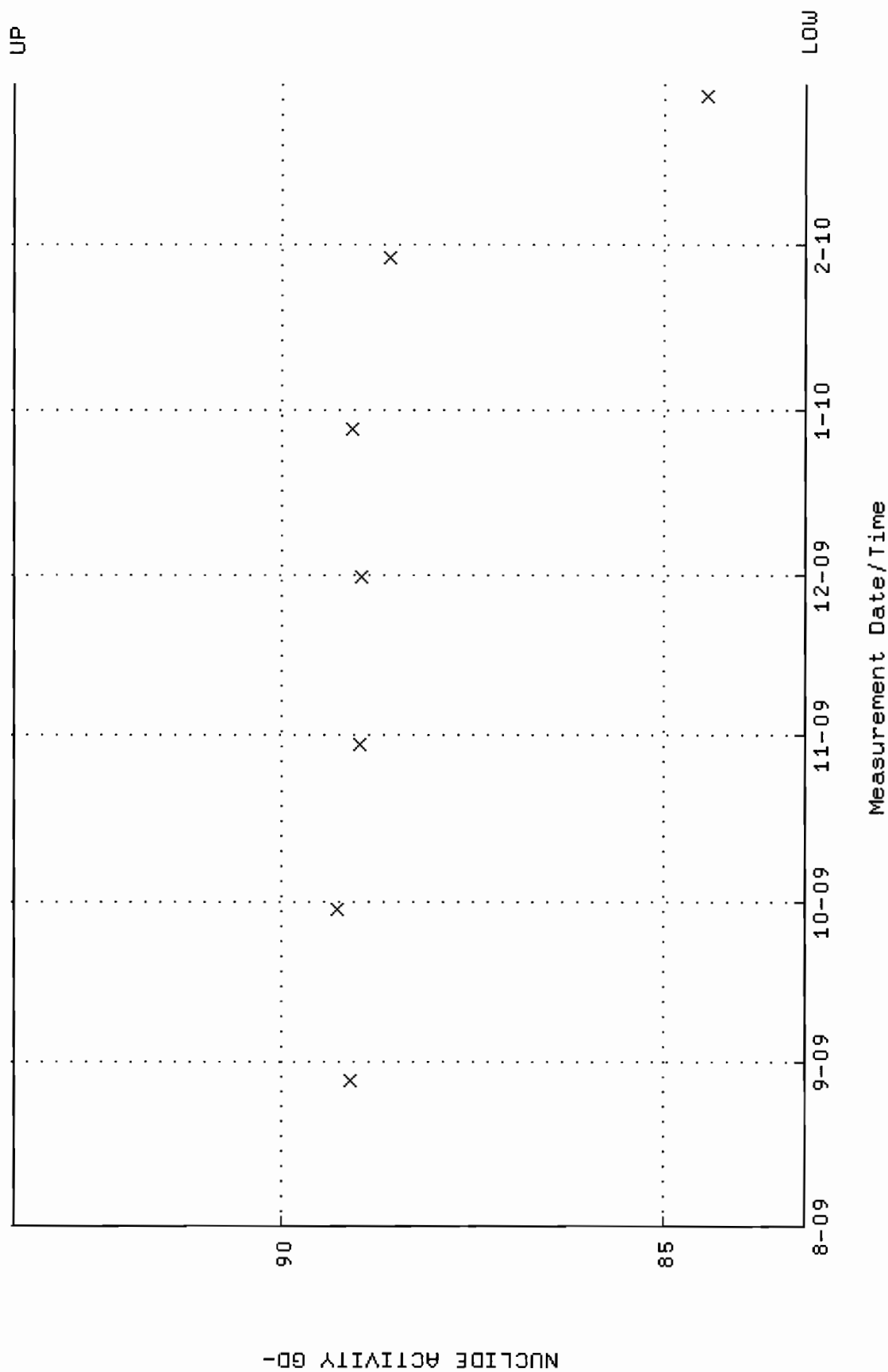
QA filename : DKA100:[ENV_ALPHA.QA.B]B248.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:59 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



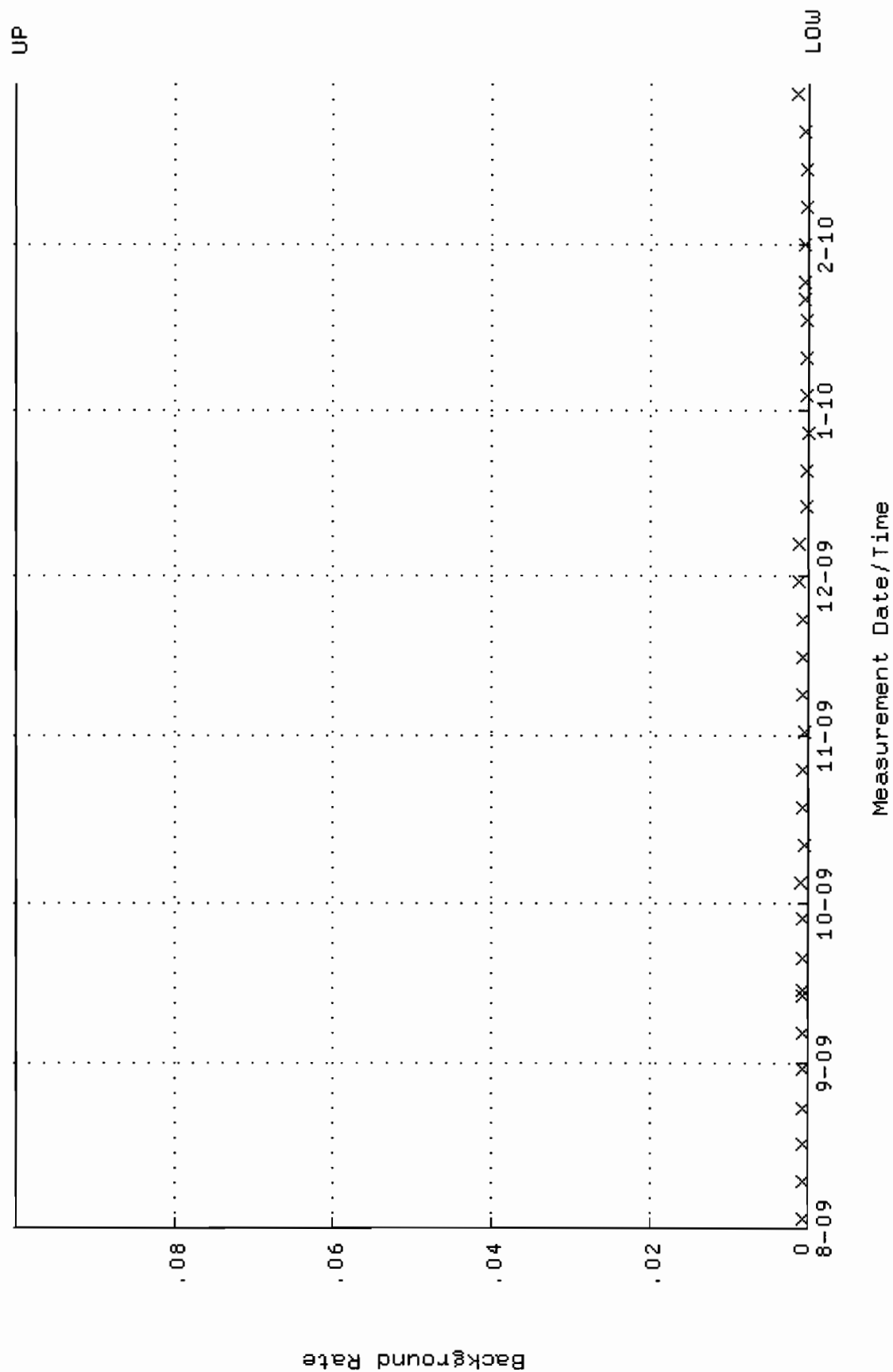
QA filename : DKA100:[ENV_ALPHA.QA.W]W253.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:22 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.366220 through 0.404308



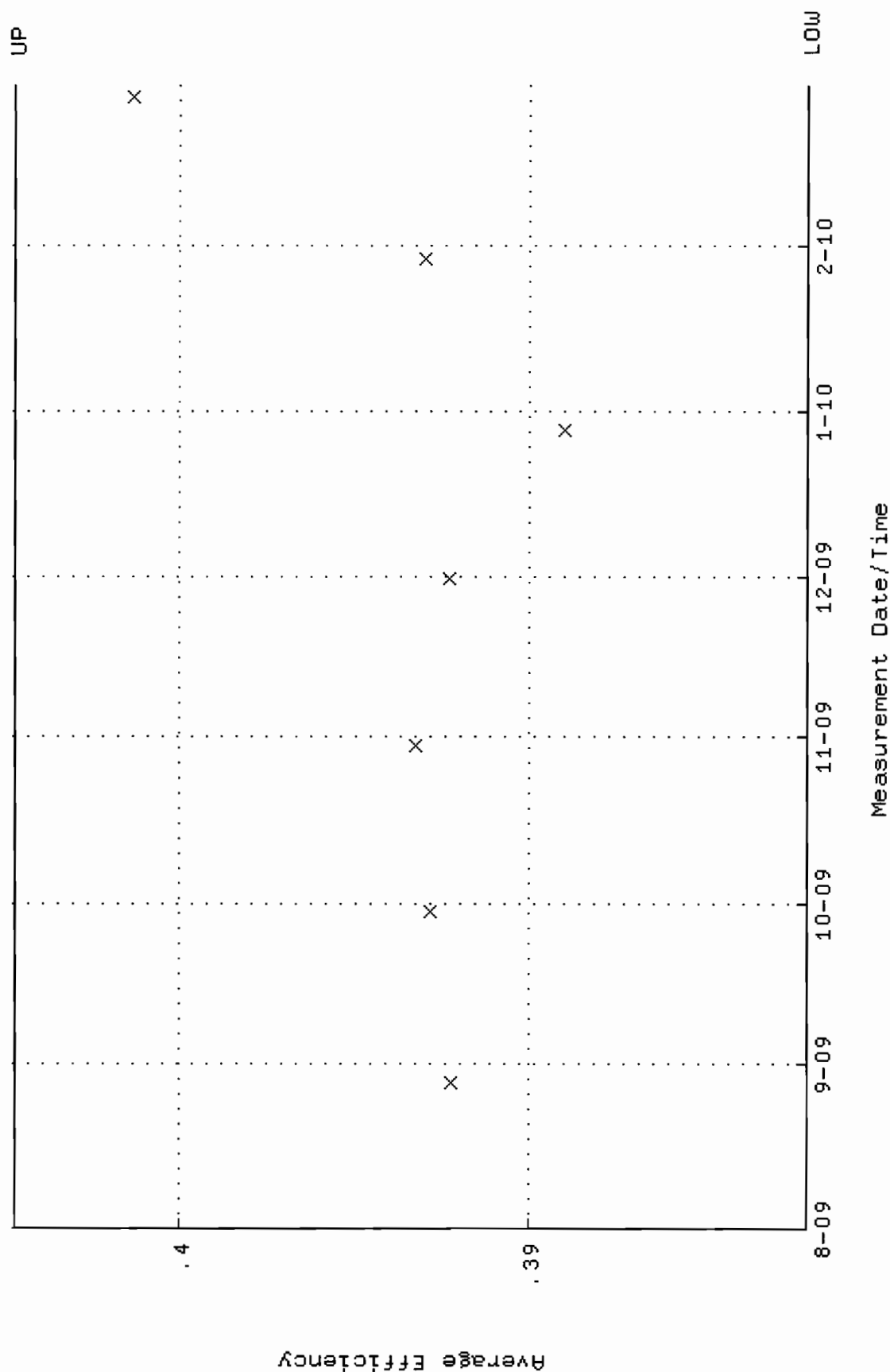
QA filename : DKA100:[ENV_ALPHA.QA.w]W253.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:10:22 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.1439 through 93.5297



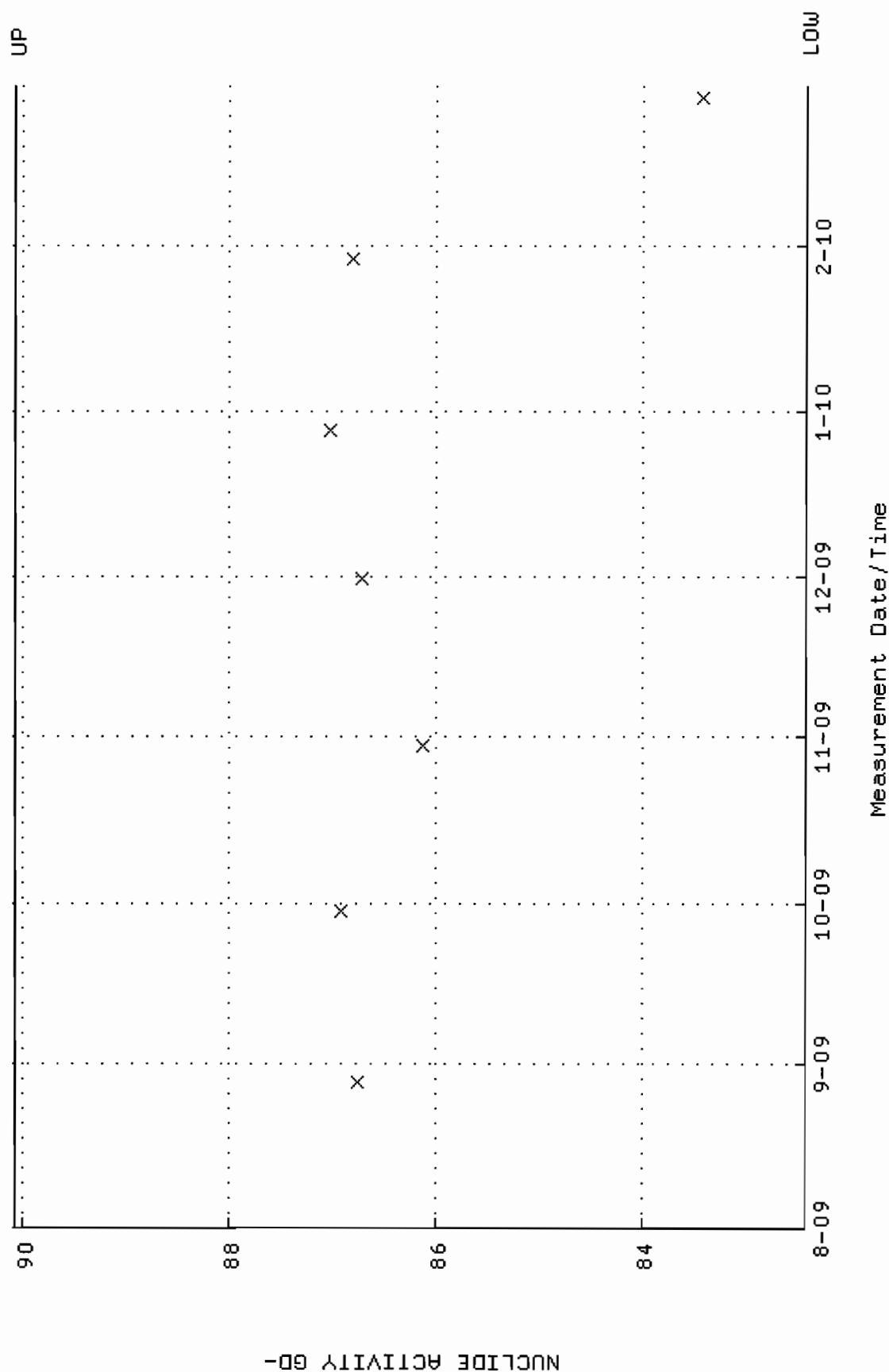
QA filename : DKA100:[ENV-ALPHA.QA.B]B253.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:28:23 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



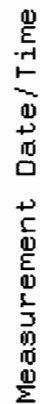
QA filename : DKA100:[ENV_ALPHA.QA.W]W254.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:10:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.382064 through 0.404708



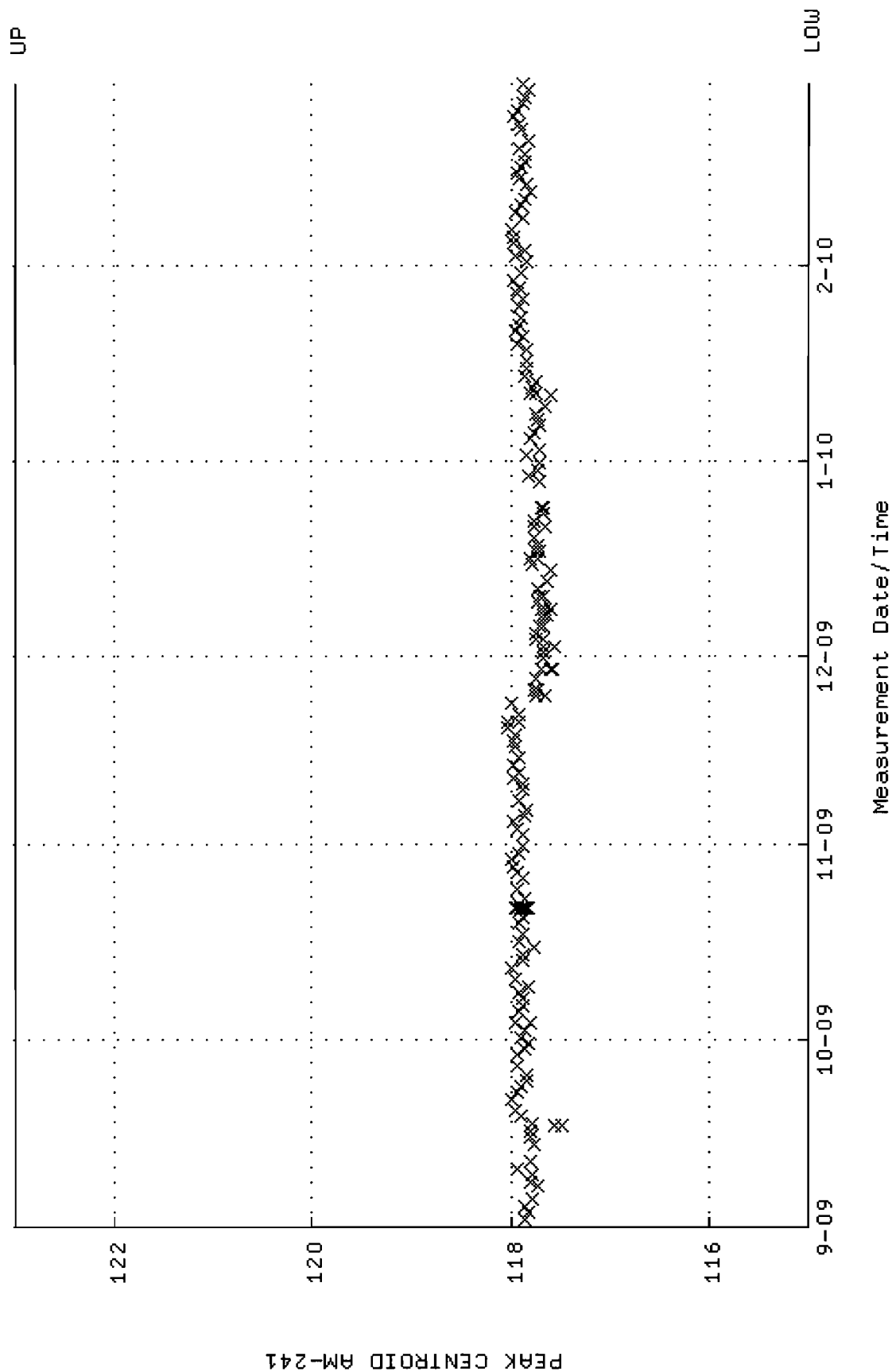
QA filename : DKA100:[ENV_ALPHA.QA.W]W254.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 28-AUG-2009 07:10:27 through 2-MAR-2010 12:00:00
Lower/Upper Lmts: 82.4132 through 90.0734



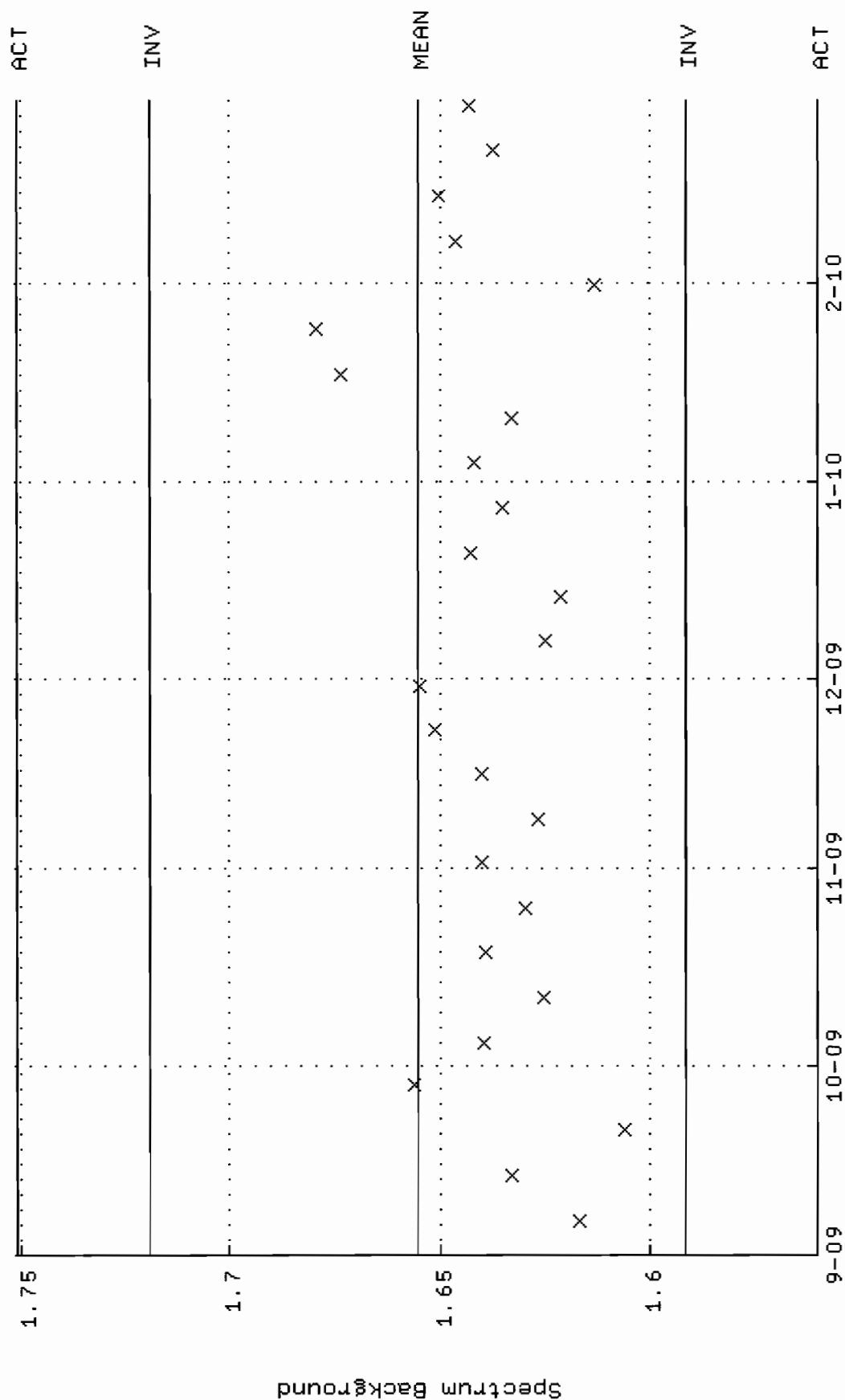
Lower/Upper Lmts: 0.00000E+00 through 0.100000



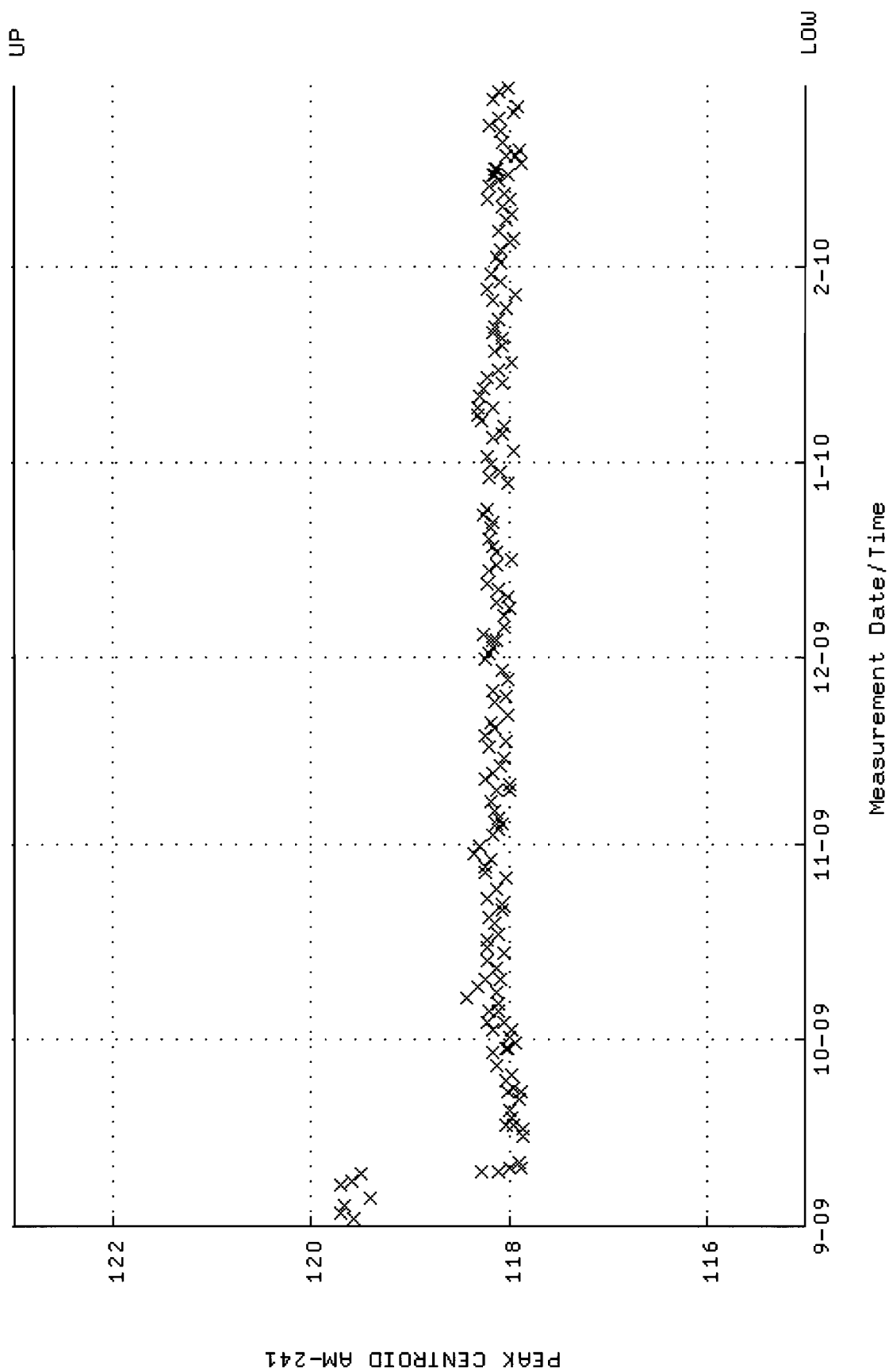
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:47:51 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



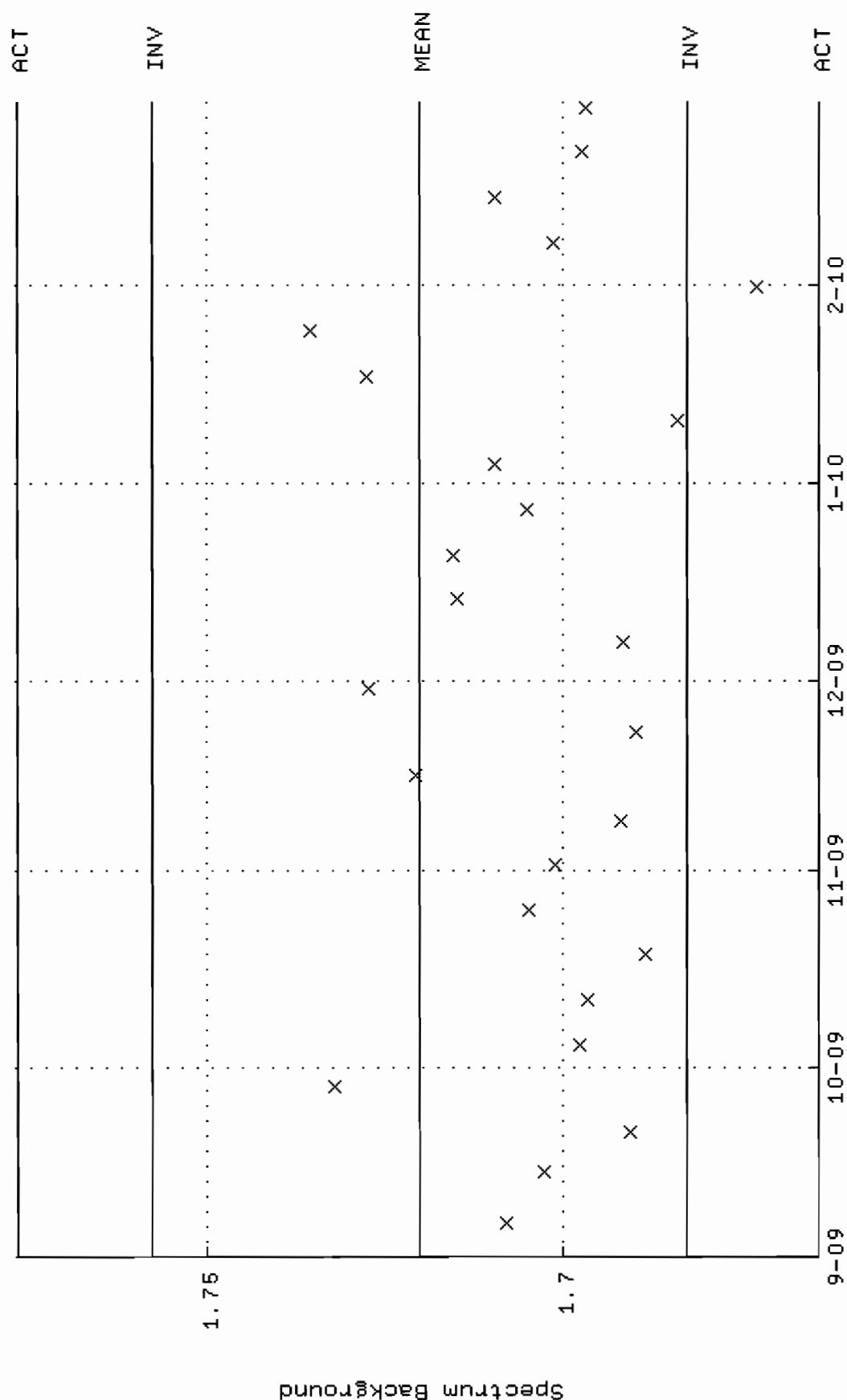
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:41:47 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



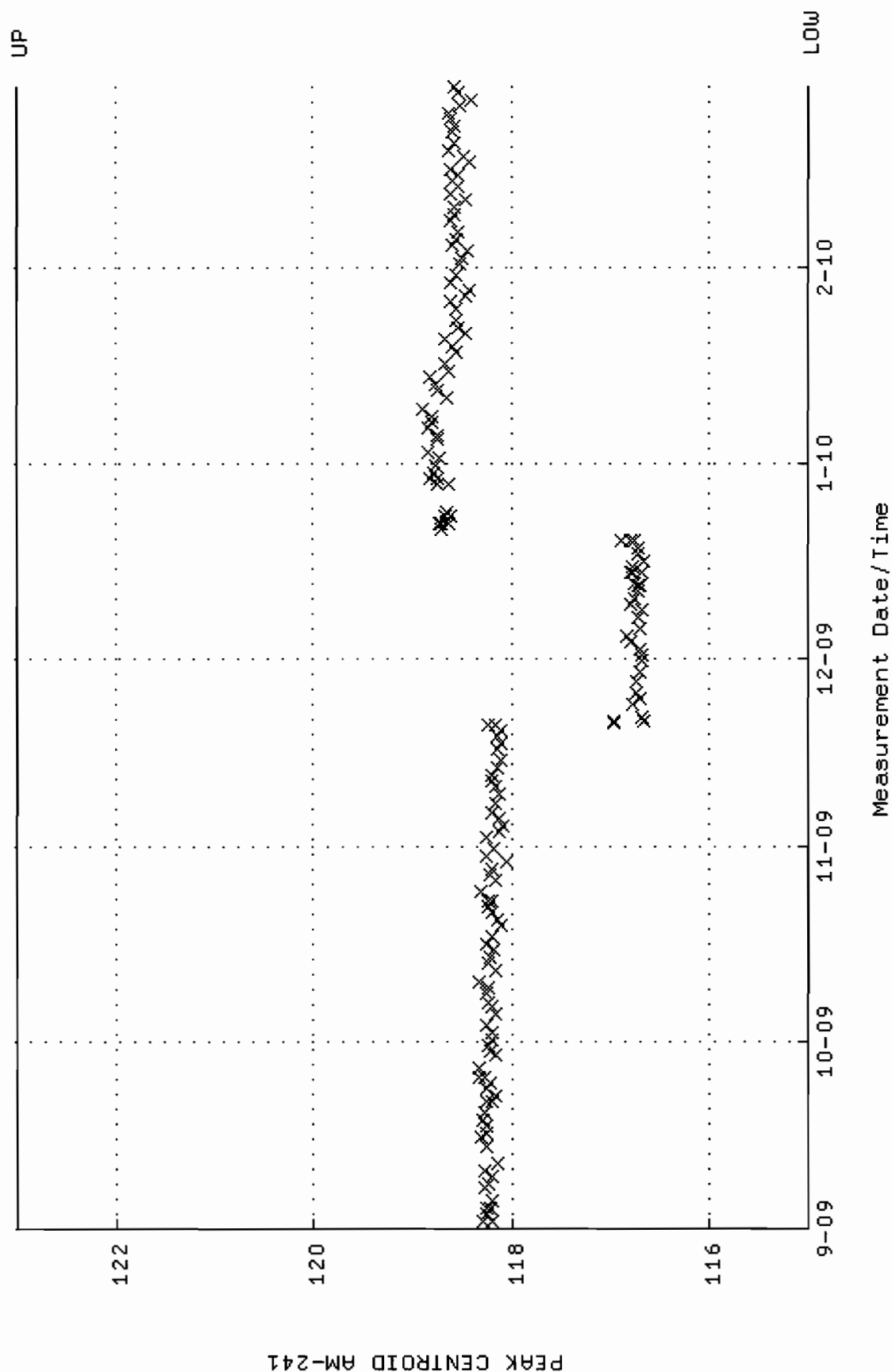
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-SEP-2009 06:32:23 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



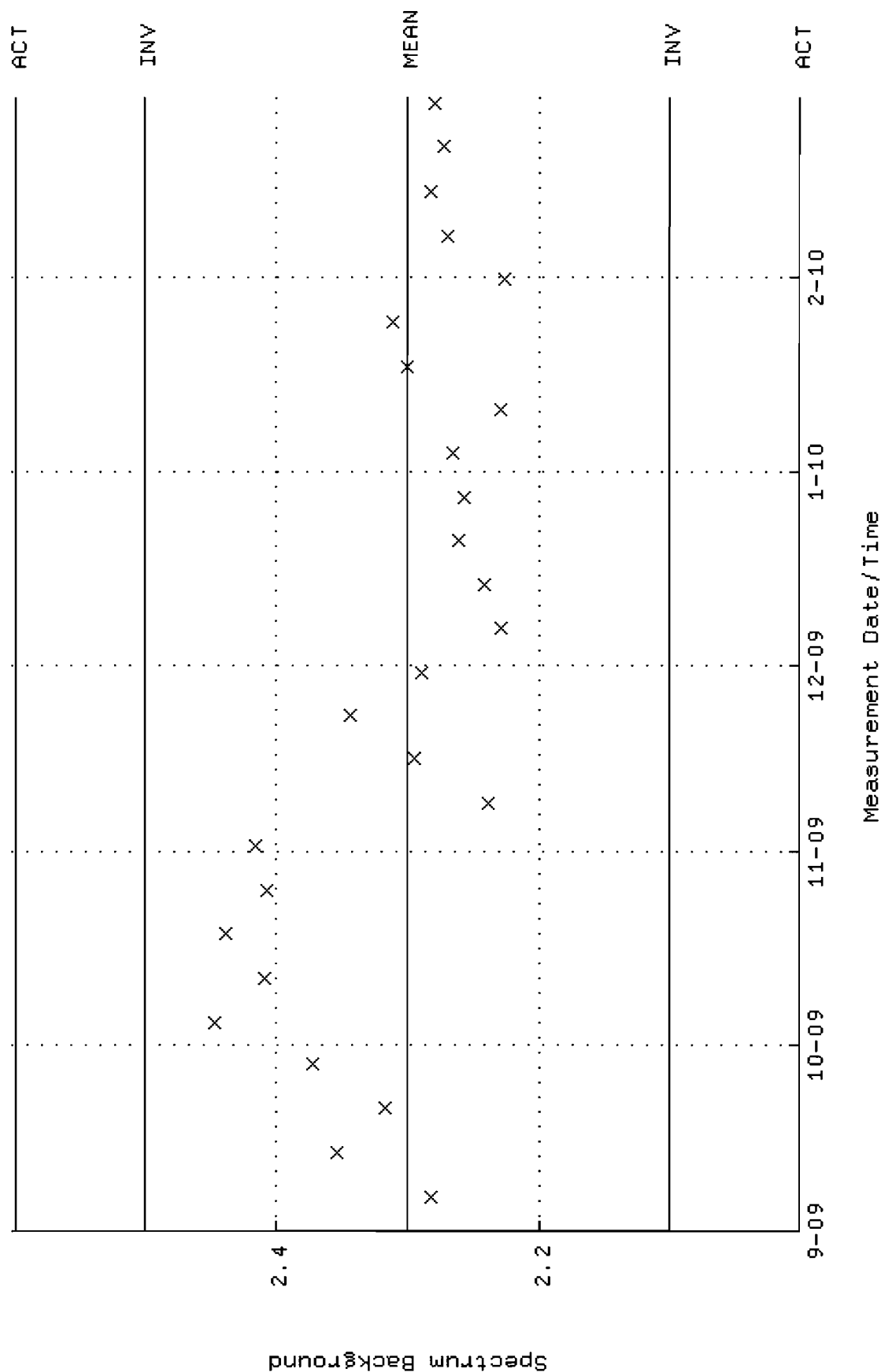
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:43:44 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



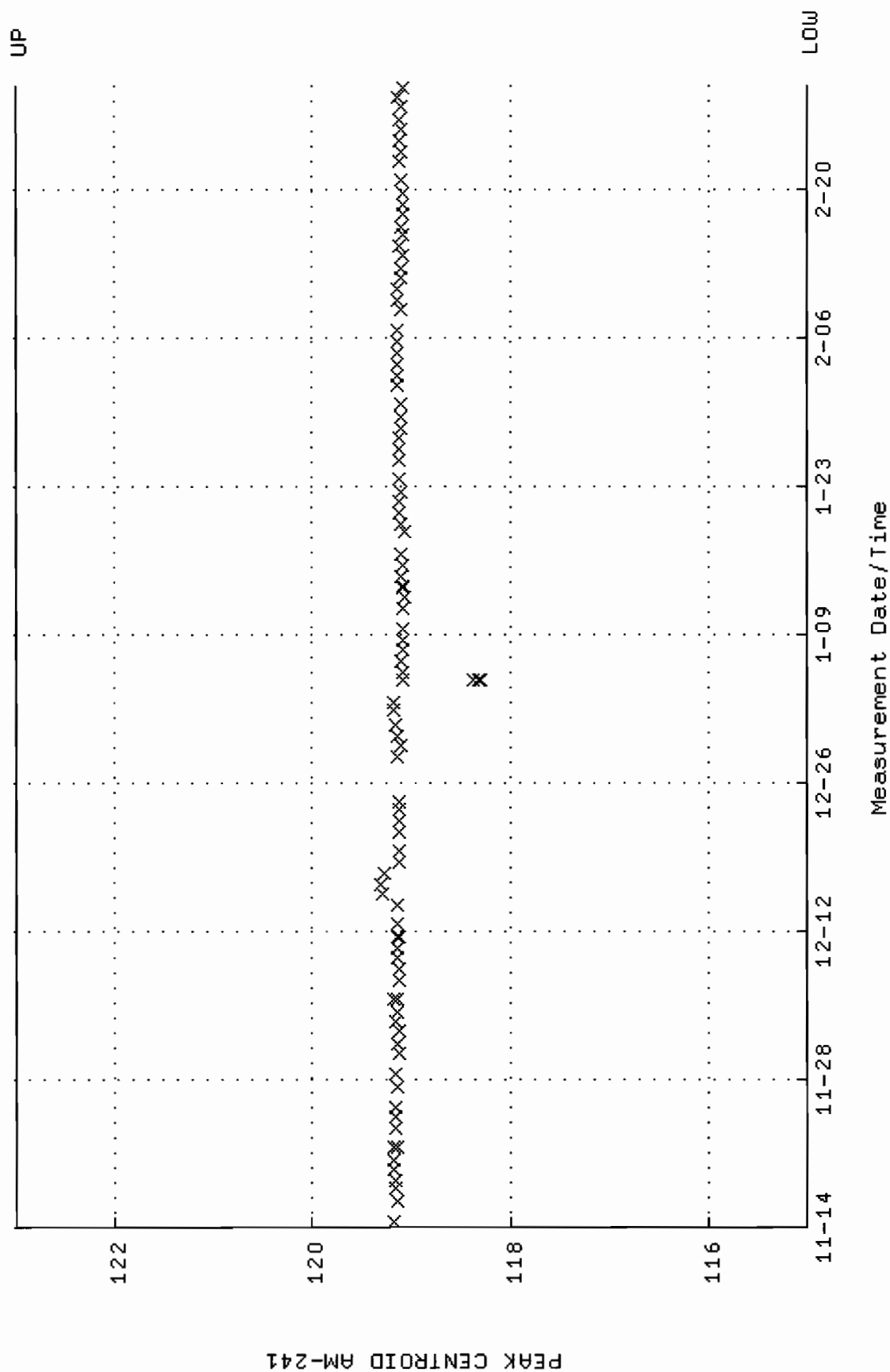
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM18-CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-SEP-2009 06:13:07 through 1-MAR-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



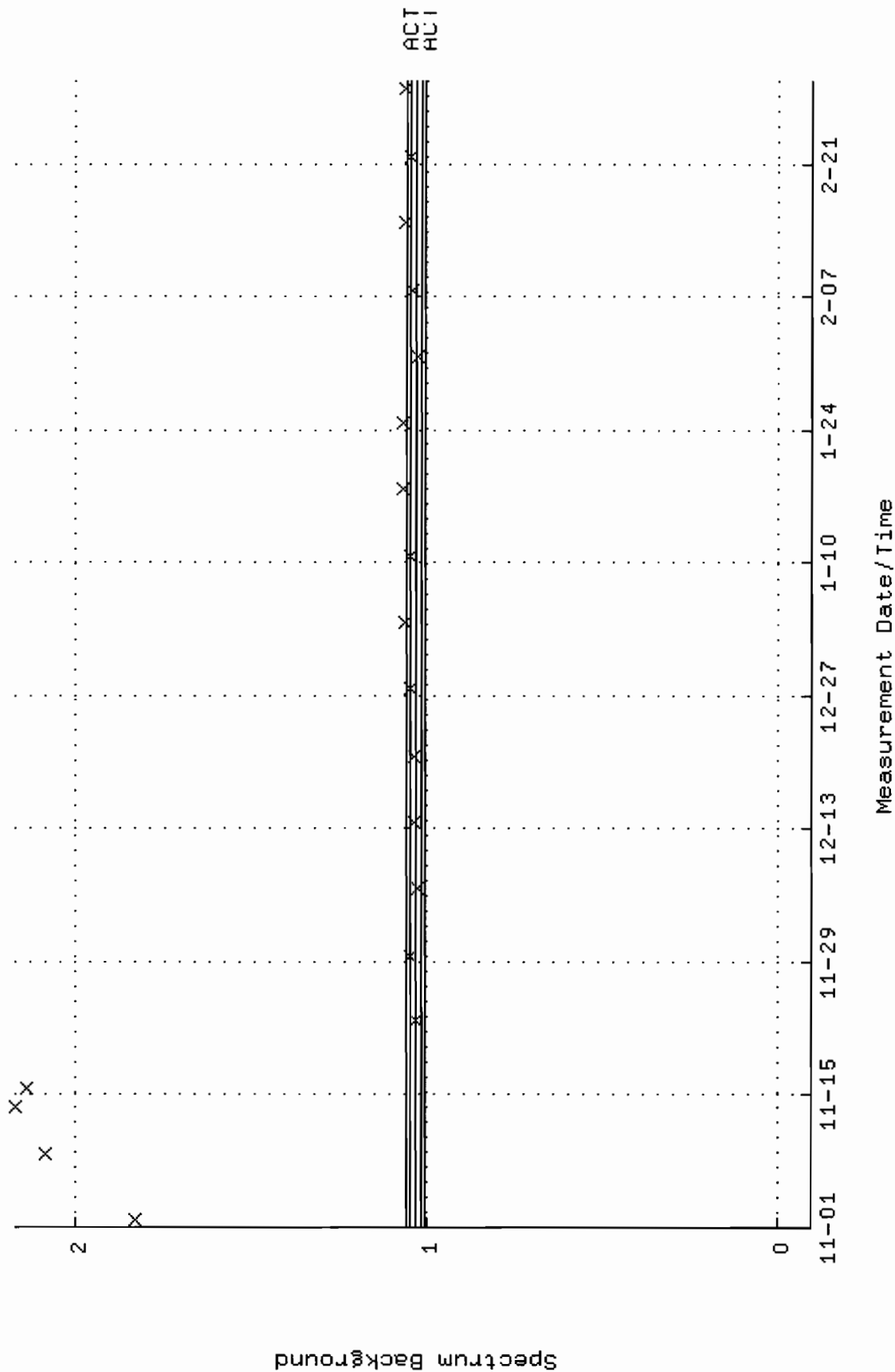
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 6-SEP-2009 11:45:03 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 14-NOV-2009 13:18:08 through 1-MAR-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM21.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 1-NOV-2009 18:17:19 through 1-MAR-2010 12:00:00
 Mean +- Std Dev : 1.03312 +- 8.784250E-03 (0.85 %)



STANDARDS DATA

0134



CALIBRATION
No. 0146

Description

Radionuclide: TRITIUM (HYDROGEN-3)

Product code: TRY-64

Chemical form: water

Batch: 111

Measurement

Reference time: 1200 GMT on 1 March 1996

Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water

which is equivalent to: 13.19 microcuries per gram of water

or: 2.93×10^7 disintegrations per minute
per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy

The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity

No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data

Half-life of tritium: 12.43 ± 0.11 years

Maximum beta energy of tritium: 18.6 keV

Remarks:

The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μ Ci) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

**Approved
signatory**

W. F. Case

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W.F. Case

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2C-5-023-061a

Amersham
The Health Science Group

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0134	Isotope:	Tritium
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	DI WATER	Prep Date:	02/21/2001
Reference Date:	03/01/1996	Verification Date:	09/10/2008
Ampoule Mass (g):	5 g	Expiration Date:	03/27/2010
Uncertainty:	+/- 2.5 %	Primary Code:	0134-A
LogBook No:	RC S 023 061	Dilution(mL):	100 mL
		Mass of Parent(g):	3.3659 g
		Density(g/mL):	1.0004
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff Mass, Used (mL)	Source DPM/mL
4/9/2009	0134-K N1	1097.2000	54.0000	1043.2000	1.0000	2741.3089
	0134-K N2	1073.2000	54.0000	1019.2000	1.0000	2678.242955
	0134-K N3	1085.2000	54.0000	1031.2000	1.0000	2709.776428
Mean Value (Counting) =	2709.776428		104.954429	Pass	Average =	2709.776428
Stdev =	31.53347278		0.01163693	Rule 3 (Pass/Fail)		

Certificate Value = 2581.86 dpm/mL
 Lower Limit = 2646.709482 dpm/mL
 Upper Limit = 2772.843373 dpm/mL
 Rule 1 Pass/Fail Fail *exception taken due to full recovery of standard
 Two sigma = 63.06694556 dpm/mL
 10 % of Mean = 270.9776428 dpm/mL
 Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 10% of the certificate value.

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecocint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecocint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. Each verification source calculation was performed as follows:

$$\text{Source dpm/g} = (A - B)/(C)(D)$$

where:

- A = Ver. source cpm,
- B = BKG cpm,
- C = System efficiency, (cpm/dpm), and
- D = mass used for standard verification.

Reference RAD SOP M-001

Handwritten: 4/12/09
 Amanda J. Fehr 4/9/09

1032

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytix maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.
P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY: M. Dimitrova
M. Dimitrova, Radiochemist

Q A APPROVED: DM. Mj 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method 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		A Solution Material Info	
Parent Code:	1032	Isotope:	Mixed Gamma
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL	Prep Date:	11/30/2006
Reference Date:	10/01/2006	Verification Date:	12/02/2009
Ampoule Mass (g):	5.31725 g	Expiration Date:	12/02/2010
Uncertainty:	+/- 2.81 %	Primary Code:	1032-A
LogBook No:	RC-S-045-073	Dilution(mL):	100 mL
		Mass of Parent(g):	5.2579 g
		Density(g/mL):	1.0611
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (dpm)) * (conversion dpm to dpm) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (5.31725 g * 100 mL) = 2163.7461 dpm/mL
(5.2579 g) * (218817 dpm) * (1 dpm/dpm) / (1.0611 g/mL)/ (5.31725 g * 100 mL) = 2039.2400 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241

Isotope	Result	pCi/L - Var. 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
Rule 3 (Pass/Fail) 100.00 Pass

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.56666667
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.

M. Stamps
12/2/09
independent
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	pCi/L - VER-IAE-1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L - VER-IAE-3
Mixed Gamma N3	898.9	pCi/L - VER-IAE-2

Mean Value (Counting) = 886.90
Stdev = 28.651
Rule 3 (Pass/Fail) 95.01 Pass

Certificate Value = 933.44144
Lower Limit = 829.597644
Upper Limit = 944.202356
Rule 1 (Pass/Fail) Pass
Two sigma = 57.30235597
10 % of Mean = 88.69000000
Rule 2 (Pass/Fail) Pass

Verification Rules

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Handwritten: 12/2/09
Signature: M. Stamps
Date: 12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - VER-JAN-5
Mixed Gamma N1	1572	pCi/L - VER-JAN-2
Mixed Gamma N2	1495	pCi/L - VER-JAN-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67 Pass
Stdev = 42.829 Rule 3 (Pass/Fail)

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.

M. Stamps
12/2/09
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 *fitt c held 12/1/04*

angela d. johnson 12/3/04

TRM

Invoice:

5 bottles of TRM-1
 10 " " TRM-2 and 3
 5 " each of TRM-1 through 6
 7 " baghouse dirt

Use 1/4 gm x 10 samples with together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Th-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	425 ± 13	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

9911627-01-20

Attention Nancy Slater At GEL
Not For Log-In

SF 2001-COC (10-97)
Supersedes (4-97) Issue

Internal Lab
Batch No.

ANALYSIS REQUEST AND CHAIN OF CUSTODY
Press F1 for instructions for each field.

Page 1 of 1
AR/COC- 602945

Dept. No./Mail Stop: 7132 / 1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Date Samples Shipped: 11-16-99 SMO USE Carrier/Waybill No.: 736494 Lab Contact: EDIE KENT Lab Destination: GEL SMO Contact/Phone: Doug Salimi / 844-3110 Send Report to SMO: Suzi Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 143 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154	
Location Building N/A Sample No. - Fraction 050484 - 001 050485 - 001 050486 - 001		Tech Area VI Room N/A ER Sample ID or Sample Location Detail PEM-1 TRM-2 NRM-2 NBHD		Reference LOV (available at SMO) Sample Matrix Date/Time Collected Sample Type Preservative Container Type Volume	
Parameter & Method Requested See Special Instructions Below		Sample ID		LAB USE	
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No. Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		Sample Tracking Date Entered (mm/dd/yy) Entered by: [Signature] Init Company/Organization/Phone Weston / 7577 / 845-0887		Special Instructions/QC Requirements EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No These samples are with characterized and materials being sent to GEL for help to track history. Please list as separate report.	
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Date Name Douglas E. Perry Signature: [Signature]		Date 11-16-99 Time 0900		Abnormal Conditions on Receipt Lab Use	
Sample Team Members 1. Relinquished by [Signature] Org. [Signature] Date 11-16-99 Time 0900		4. Relinquished by		Date	
1. Received by		4. Received by		Date	
2. Relinquished by		5. Relinquished by		Date	
2. Received by		5. Received by		Date	
3. Relinquished by		6. Relinquished by		Date	
3. Received by		6. Received by		Date	

Original To Accompany Samples, Laboratory Copy (White) 1st Copy To Accompany Samples, Return to SMO (Blue) 2nd Copy SMO Suspense Copy (Yellow) 3rd Copy Field Copy (Pink)

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Lehn 4/30/04
Lett & Stahl 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.

SF 2001-COC (10-97)
Supersedes (5-67) issue

SF 2001-COC (10-97)
Supervises (5-97) issue

Internal Lab
Batch No.

SARWR No. N/A

Press F1 for instructions for each field.

02945

602945

[illegible]

Original	1 st Copy	2 nd Copy	3 rd Copy	Field Copy (Pink)
To Accompany Samples, (Laboratory Copy (White))	To Accompany Samples, Return to SMO (Blue)	SMO Suspense Copy (Yellow)		

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) intergrated under: 228, 278 keV.
Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: $\pm 3.0\%$
b. Random uncertainty in assay: $\pm 0.4\%$
c. Random uncertainty in weighing(s): $\pm 0.0\%$
d. Total uncertainty at the 99% confidence level: $\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
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		A Solution Material Info	
Parent Code:	445-96-2	Isotope:	Americium-243
Prepared By:	Genie Bost	Prepared By:	Angela Johnson
Carrier Conc:	2M HNO3	Prep Date:	01/05/1994
Reference Date:	01/01/1994	Verification Date:	05/11/2009
Ampoule Mass (g):	5.3739 g	Expiration Date:	05/11/2010
Uncertainty:	+/- 3 %	Primary Code:	445-96-2-A
LogBook No:	RC S 005 032	Dilution(mL):	100 mL
		Mass of Parent(g):	5.3419 g
		Density(g/mL):	1.0785
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards							
Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989	Rule 3 (Pass/Fail)	
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

- Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
- Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
- Rule 3 = The determined mean value shall be within 5% of the certificate value.

Mary G. Aders 5/15/09
Taheri
 07509



NATIONAL PHYSICAL LABORATORY

Teddington Middlesex UK TW11 0LW Telephone +44 20 8977 3222

Certificate of Calibration



PLUTONIUM-236 SOLUTION R37-02

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to recognised national standards, and to units of measurement realised at the National Physical Laboratory or other recognised national standards laboratories. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

FOR: GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407
USA

FOR THE ATTENTION OF: Mr Tim Winters

NPL PRODUCT CODE: R37-02

IDENTIFICATION: A09881

DESCRIPTION: An aqueous solution of ^{236}Pu also containing 2 mol dm^{-3} of nitric acid. The solution is contained in a flame sealed ampoule of type Q and nominal volume 5 ml (squat) as defined in BS 795:1983.

DATE(S) OF CALIBRATION: 26 June 2009 to 1 July 2009

INTENDED USE: Calibration of instruments for response to ^{236}Pu

STORAGE: The material may be stored at room temperature in a suitably sealed container. Flame-sealed glass ampoules are recommended for long-term storage. Regulatory conditions may apply to the manner in which this material is stored.

RECEIVED
17/07/09
AM

MEASUREMENTS

The samples were prepared by gravimetric dilution of a ^{236}Pu solution, which had been previously standardised using liquid scintillation counting. The accuracy of the dilution factor was checked using liquid scintillation counting.

Reference: 2009100356

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Date of Issue: 4 November 2009

Signed:

(Authorised Signatory)

Checked by: *Ch. Ali*

Name: Dr Arvic Harms

for Managing Director

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RESULTS

Principal radionuclide:	^{236}Pu
Reference time:	2009-07-01 12:00 UTC
Activity concentration of principal radionuclide:	170.8 Bq g^{-1}
Expanded uncertainty:	$\pm 0.6 \text{ Bq g}^{-1} (\pm 0.36 \%)$
Contaminants present:	$^{226}\text{Ra}, ^{232}\text{U}, ^{228}\text{Th}, ^{237}\text{Np}$
Activity concentration of ^{226}Ra :	11.0 mBq g^{-1}
Expanded uncertainty:	$\pm 4.0 \text{ mBq g}^{-1} (\pm 36 \%)$
Activity concentration of ^{232}U :	0.67 Bq g^{-1}
Expanded uncertainty:	$\pm 0.12 \text{ Bq g}^{-1} (\pm 18 \%)$
Activity concentration of ^{228}Th :	11.38 mBq g^{-1}
Expanded uncertainty:	$\pm 0.46 \text{ mBq g}^{-1} (\pm 4 \%)$
Activity concentration of ^{237}Np :	5.00 mBq g^{-1}
Expanded uncertainty:	$\pm 0.34 \text{ mBq g}^{-1} (\pm 8 \%)$
Sample Mass:	$4.97 \text{ g} \pm 0.02 \text{ g}$

UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Reference: 2009100356

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Checked by: *ac all*

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NOTES

- [1]. The reported reference time is stated consistent with the format given in ISO 8601:2004. UTC is the abbreviation for Universal Time, Coordinated. The date is stated in the format YYYY-MM-DD such that 2008-09-01 represents 1 September 2008.
- [2]. The recommended half life of ^{236}Pu is 1044 (6) days and is taken from the evaluations published in *Nuclear Data Sheets*.
- [3]. The recommended half life of ^{226}Ra is $5.844 (50) \times 10^5$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [4]. The recommended half life of ^{232}U is 25800 (800) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [5]. The recommended half life of ^{237}Np is $7.83 (6) \times 10^8$ days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.
- [6]. The recommended half life of ^{228}Th is 698.60 (46) days and is taken from the evaluations of the *Decay Data Evaluation Project*, see for example www.nucleide.org/DDEP.htm.

UNCERTAINTIES

The reported uncertainties are based on standard uncertainties multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %. The uncertainty evaluations have been carried out in accordance with UKAS requirements.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1430	Isotope:	Plutonium-236
Prepared By:	Ashley Drochter	Prepared By:	Ashley Drochter
Carrier Conc:	2 M HNO3	Prep Date:	01/27/2010
Reference Date:	07/01/2009	Verification Date:	01/27/2010
Ampoule Mass (g):	4.97 g	Expiration Date:	01/27/2011
Uncertainty:	+/- .36 %	Primary Code:	1430-A
LogBook No:	RC-S-051-149	Dilution(mL):	100 mL
		Mass of Parent(g):	4.8051 g
		Density(g/mL):	1.0610
		Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (100 \text{ mL}) = 492.4266 \text{ dpm/mL}$
$(4.8051 \text{ g}) * (170.8 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0610 \text{ g/mL}) / (100 \text{ mL}) = 464.1156 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/27/2010	Bethany Fiem	33.0429	200	1430-B	76.6786262 dpm/mL	01/27/2010	01/27/2011
03/01/2010	Ashley Drochter	15.2331	200	1430-C	35.3496 dpm/mL	03/01/2010	03/01/2011

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Plutonium-236 Standard 1430-C

	Isotope	Value	Uncertainty
A. Drochter 3/4/2010	1430-C	2.760	0.4480
	1430-C	2.770	0.4520
	1430-C	2.950	0.4850
Mean Value (Counting) =	2.827	104.54659 % of Known Value	
Stdev =	0.106926766		
Target =	2.70		
Lower Limit =	2.612813134		
Upper Limit =	3.040520199		
Rule 1 Pass/Fail	Pass	Pass	Pass
Two sigma =	0.213853532		
10 % of Mean =	0.282666667		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard 1430-B using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. After approximately ten minutes, 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-236 were calculated by comparison to Pu-239 certified values.

file 3/5/10
h 3/5/10



Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytiscinc.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: W. Mao

W. Mao, Radiochemist

QA Approved: D. M. 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	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter	Serial #	Value	Uncertainty	
Date: 12/10/09	1283-H N1	2.020	pCi/L	0.238
	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
Stddev =	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: 956158

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247539001	SAMPLE	MXR1	GAM02	04-MAR-10 13:15	DONE	CAN	29-OCT-09 00:00
247539002	SAMPLE	MXR1	GAM05	04-MAR-10 13:16	DONE	CAN	11-JUN-09 00:00
247539003	SAMPLE	MXR1	GAM10	04-MAR-10 13:17	DONE	CAN	16-MAR-09 00:00
247539004	SAMPLE	MXR1	GAM06	04-MAR-10 13:18	DONE	CAN	16-FEB-10 00:00
247539005	SAMPLE	MXR1	GAM01	04-MAR-10 13:18	DONE	CAN	12-JAN-10 00:00
247539006	SAMPLE	MXR1	GAM21	04-MAR-10 13:19	DONE	CAN	28-JUL-09 00:00
247539007	SAMPLE	MXR1	GAM20	04-MAR-10 13:20	DONE	CAN	26-AUG-09 00:00
247539008	SAMPLE	MXR1	GAM07	04-MAR-10 14:23	DONE	CAN	20-JUL-09 00:00
247539009	SAMPLE	MXR1	GAM11	04-MAR-10 14:24	DONE	CAN	18-NOV-09 00:00
247539010	SAMPLE	MXR1	GAM15	04-MAR-10 14:25	DONE	CAN	03-FEB-10 00:00
247539011	SAMPLE	MXR1	GAM18	04-MAR-10 14:26	DONE	CAN	23-APR-09 00:00
247549001	SAMPLE	MXR1	GAM15	04-MAR-10 16:34	DONE	CAN	03-FEB-10 00:00
247551001	SAMPLE	MXR1	GAM18	04-MAR-10 16:40	DONE	CAN	23-APR-09 00:00
247549002	SAMPLE	MXR1	GAM02	04-MAR-10 16:52	DONE	CAN	29-OCT-09 00:00
247549003	SAMPLE	MXR1	GAM10	04-MAR-10 18:13	DONE	CAN	16-MAR-09 00:00
247549004	SAMPLE	MXR1	GAM05	04-MAR-10 18:50	DONE	CAN	11-JUN-09 00:00
247551002	SAMPLE	MXR1	GAM15	04-MAR-10 18:50	DONE	CAN	03-FEB-10 00:00
1202050254	MB	MXR1	GAM18	04-MAR-10 18:51	DONE	CAN	23-APR-09 00:00
1202050255	DUP	MXR1	GAM21	04-MAR-10 18:52	DONE	CAN	28-JUL-09 00:00
1202050256	LCS	MXR1	GAM11	04-MAR-10 18:53	DONE	CAN	18-NOV-09 00:00

Instrument Run Log

Instrument Type: LSC

Batch ID: 956742

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247344001	SAMPLE	KXK2	LSCRED	09-MAR-10 06:44	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344003	SAMPLE	KXK2	LSCRED	09-MAR-10 07:01	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344004	SAMPLE	KXK2	LSCRED	09-MAR-10 07:17	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344005	SAMPLE	KXK2	LSCRED	09-MAR-10 07:34	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344006	SAMPLE	KXK2	LSCRED	09-MAR-10 07:50	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344007	SAMPLE	KXK2	LSCRED	09-MAR-10 08:06	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344008	SAMPLE	KXK2	LSCRED	09-MAR-10 08:23	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344009	SAMPLE	KXK2	LSCRED	09-MAR-10 08:39	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344010	SAMPLE	KXK2	LSCRED	09-MAR-10 08:55	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247344011	SAMPLE	KXK2	LSCRED	09-MAR-10 09:12	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247552002	SAMPLE	KXK2	LSCPINK	09-MAR-10 10:01	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202051383	LCS	KXK2	LSCPINK	09-MAR-10 10:40	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
247360002	SAMPLE	KXK2	LSCORANGE	09-MAR-10 16:17	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
247360003	SAMPLE	KXK2	LSCORANGE	09-MAR-10 17:09	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
247360004	SAMPLE	KXK2	LSCORANGE	11-MAR-10 14:04	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
247551001	SAMPLE	KXK2	LSCORANGE	11-MAR-10 14:37	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
247551002	SAMPLE	KXK2	LSCORANGE	11-MAR-10 15:09	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
1202051382	DUP	KXK2	LSCORANGE	11-MAR-10 16:14	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
1202051381	MB	KXK2	LSCBROWN	11-MAR-10 18:49	DONE	10mL DW/13mL Ecoscint Ultra	09-SEP-09 00:00
247360001	SAMPLE	KXK2	LSCRED	12-MAR-10 07:08	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 961200

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
247549001	SAMPLE	AYB1	1227	16-MAR-10 07:35	DONE		
247549002	SAMPLE	AYB1	1228	16-MAR-10 07:35	DONE		
247549003	SAMPLE	AYB1	1229	16-MAR-10 07:35	DONE		
247549004	SAMPLE	AYB1	1230	16-MAR-10 07:35	DONE		
1202061746	LCS	AYB1	1233	16-MAR-10 07:38	DONE		
247797001	SAMPLE	AYB1	1237	16-MAR-10 07:38	DONE		
247797003	SAMPLE	AYB1	1239	16-MAR-10 07:38	DONE		
247797004	SAMPLE	AYB1	1240	16-MAR-10 07:38	DONE		
247797005	SAMPLE	AYB1	1241	16-MAR-10 07:39	DONE		
248239001	SAMPLE	AYB1	1242	16-MAR-10 07:39	DONE		
248239002	SAMPLE	AYB1	1243	16-MAR-10 07:39	DONE		
248239003	SAMPLE	AYB1	1244	16-MAR-10 07:39	DONE		
248239004	SAMPLE	AYB1	1247	16-MAR-10 07:39	DONE		
248239005	SAMPLE	AYB1	1248	16-MAR-10 07:39	DONE		
248239006	SAMPLE	AYB1	1249	16-MAR-10 07:39	DONE		
248239007	SAMPLE	AYB1	1250	16-MAR-10 07:39	DONE		
1202061744	MB	AYB1	1253	16-MAR-10 07:39	DONE		
1202061745	DUP	AYB1	1254	16-MAR-10 07:39	DONE		
247551001	SAMPLE	AYB1	1043	17-MAR-10 07:28	DONE		
247797002	SAMPLE	AYB1	1044	17-MAR-10 07:28	DONE		
247551002	SAMPLE	AYB1	1248	18-MAR-10 14:39	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 961201

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202061752	LCS	AYB1	1045	17-MAR-10 07:28	DONE		
1202061750	MB	AYB1	1046	17-MAR-10 07:28	DONE		
1202061751	DUP	AYB1	1048	17-MAR-10 07:28	DONE		
247797001	SAMPLE	AYB1	1019	17-MAR-10 08:50	DUSE		
247797002	SAMPLE	AYB1	1020	17-MAR-10 08:50	DONE		
247797003	SAMPLE	AYB1	1022	17-MAR-10 08:50	DONE		
247797004	SAMPLE	AYB1	1023	17-MAR-10 08:50	DUSE		
247797005	SAMPLE	AYB1	1024	17-MAR-10 08:50	DONE		
248239007	SAMPLE	AYB1	1077	17-MAR-10 08:56	DUSE		
247549001	SAMPLE	AYB1	1083	17-MAR-10 08:56	DUSE		
247549002	SAMPLE	AYB1	1084	17-MAR-10 08:56	DONE		
247549003	SAMPLE	AYB1	1085	17-MAR-10 08:56	DONE		
247549004	SAMPLE	AYB1	1086	17-MAR-10 08:56	DONE		
247551001	SAMPLE	AYB1	1087	17-MAR-10 08:56	DONE		
247551002	SAMPLE	AYB1	1088	17-MAR-10 08:56	DUSE		
248239001	SAMPLE	AYB1	1095	17-MAR-10 08:56	DUSE		
248239002	SAMPLE	AYB1	1096	17-MAR-10 08:56	DONE		
248239003	SAMPLE	AYB1	1097	17-MAR-10 08:56	DONE		
248239004	SAMPLE	AYB1	1098	17-MAR-10 08:56	DONE		
248239005	SAMPLE	AYB1	1099	17-MAR-10 08:56	DUSE		
248239006	SAMPLE	AYB1	1100	17-MAR-10 08:56	DONE		
247549001	SAMPLE	AYB1	1071	18-MAR-10 20:59	DONE		
247551002	SAMPLE	AYB1	1072	18-MAR-10 20:59	DONE		
247797001	SAMPLE	AYB1	1073	18-MAR-10 20:59	DONE		
247797004	SAMPLE	AYB1	1074	18-MAR-10 20:59	DONE		
248239001	SAMPLE	AYB1	1107	18-MAR-10 20:59	DONE		
248239005	SAMPLE	AYB1	1108	18-MAR-10 20:59	DONE		
248239007	SAMPLE	AYB1	1109	18-MAR-10 20:59	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 961204

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202061756	MB	AYB1	1129	17-MAR-10 13:28	DONE		
1202061757	DUP	AYB1	1130	17-MAR-10 13:28	DONE		
1202061758	LCS	AYB1	1131	17-MAR-10 13:28	DONE		
247549001	SAMPLE	AYB1	1001	17-MAR-10 18:34	DONE		
247549002	SAMPLE	AYB1	1002	17-MAR-10 18:34	DONE		
247549003	SAMPLE	AYB1	1003	17-MAR-10 18:34	DONE		
247549004	SAMPLE	AYB1	1004	17-MAR-10 18:34	DONE		
247551001	SAMPLE	AYB1	1006	17-MAR-10 18:34	DONE		
247551002	SAMPLE	AYB1	1007	17-MAR-10 18:34	DONE		
247797001	SAMPLE	AYB1	1008	17-MAR-10 18:34	DONE		
247797002	SAMPLE	AYB1	1009	17-MAR-10 18:34	DONE		
247797003	SAMPLE	AYB1	1010	17-MAR-10 18:34	DONE		
247797004	SAMPLE	AYB1	1011	17-MAR-10 18:34	DONE		
247797005	SAMPLE	AYB1	1001	18-MAR-10 11:45	DONE		
248239001	SAMPLE	AYB1	1002	18-MAR-10 11:45	DONE		
248239002	SAMPLE	AYB1	1003	18-MAR-10 11:45	DONE		
248239003	SAMPLE	AYB1	1004	18-MAR-10 11:45	DONE		
248239004	SAMPLE	AYB1	1006	18-MAR-10 11:45	DONE		
248239005	SAMPLE	AYB1	1007	18-MAR-10 11:45	DONE		
248239006	SAMPLE	AYB1	1008	18-MAR-10 11:45	DONE		
248239007	SAMPLE	AYB1	1009	18-MAR-10 11:45	DONE		