Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Floyd Snider

PROJECT: Lora Lake Surface Se | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 4/11/2011

SDG: SQ22 | RUNID: IP041171 | METHOD: ICP | END DATE: 4/11/2011

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
S0	S0	1.00	08432				X																	X									
S2	S2	1.00	08473																														
S3	S3	1.00	08491				X																	X									
S4	S4	1.00	08514																														
S5	S5	1.00	08540																														
ICV	ICV	1.00	09054				X																	X									
ICB	ICB	1.00	09084				X																	X									
CRI	CRII	1.00	09125				X																	X									
ICSA	ICSAI	1.00	09165				X																	X									
ICSAB	ICSABI	1.00	09210				X																	X									
ZZZZZZ	HiPurQC7M	1.00	09261																														
ZZZZZZ	SPEXQC21	1.00	09302																														
ZZZZZZ	DICHECK	1.00	09344																														
CCV	CCV1	1.00	09385				X																	X									
CCB	CCB1	1.00	09415				X																	X									
ZZZZZZ	SQ63MB1	1.00	09464																														
ZZZZZZ	SQ63A-L	5.00	09504																														
ZZZZZZ	SQ63A	1.00	09543																														
LL-SED1-0-15-03291	SQ22A	2.00	09583				X																	X									
LL-SED3-0-15-03291	SQ22C	2.00	10023																														
LL-SED2-0-15-03291D	SQ22BDUP	2.00	10062																														
LL-SED2-0-15-03291	SQ22B	2.00	10103				X																	X									
LL-SED2-0-15-03291S	SQ22BSPK	2.00	10161				X																	X									
LL-SED2-0-15-03291D	SQ22BDUP	2.00	10201				X																	X									
ZZZZZZ	SQ63MB1SPK	1.00	10242																														
CCV	CCV2	1.00	10282				X																	X									
CCB	CCB2	1.00	10312				X																	X									
PBS	SQ22MB1	2.00	10354				X																	X									
CRI	CRIF	1.00	10395				X																	X									
ICSA	ICSAF	1.00	10435				X																	X									
ICSAB	ICSABF	1.00	10480				X																	X									
CCV	CCV3	1.00	10531				X																	X									
CCB	CCB3	1.00	10561				X																	X									
ZZZZZZ	SQ42MB1	2.00	11002																														
LL-SED3-0-15-03291	SQ22C	2.00	11042				X																	X									

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: Floyd Snider

PROJECT: Lora Lake Surface Se | INSTRUMENT ID: OPTIMA ICP 2 | START DATE: 4/11/2011

SDG: SQ22 | RUNID: IP041171 | METHOD: ICP | END DATE: 4/11/2011

CLIENT ID	ARI ID	DIL.	TIME	%R	AG	AL	AS	B	BA	BE	CA	CD	CO	CR	CU	FE	HG	K	MG	MN	MO	NA	NI	PB	SB	SE	SI	SN	TI	TL	U	V	ZN
LL-SED4-0-15-03291	SQ22D	2.00	11082				X																	X									
LL-SED1-0-15-03291	SQ22E	2.00	11122				X																	X									
LL-SED5-0-15-03291	SQ22F	2.00	11161				X																	X									
ZZZZZZ	SQ42A	2.00	11201																														
ZZZZZZ	SQ42B	2.00	11242																														
ZZZZZZ	SQ42C	2.00	11282																														
ZZZZZZ	SQ42MB1SPK	2.00	11312																														
LCSS	SQ22MB1SPK	2.00	11352				X																	X									
CCV	CCV4	1.00	11392				X																	X									
CCB	CCB4	1.00	11422				X																	X									

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: SP34, SQ22

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED1-0-15-032911
ARI ID: 11-6950 SP34A

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	18.20
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	18.50
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	1.00	60.8
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	104	1,190
Total Organic Carbon	04/06/11 040611#1	Plumb,1981	Percent	0.020	6.88

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED2-0-15-032911
ARI ID: 11-6951 SP34B

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	15.40
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	14.50
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	6.20	301
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	136	2,670
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.200	10.6

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED3-0-15-032911
ARI ID: 11-6952 SP34C

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	20.60
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	20.60
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	2.39	135
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	96.7	1,140
Total Organic Carbon	04/06/11 040611#1	Plumb,1981	Percent	0.020	8.14

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED4-0-15-032911
ARI ID: 11-6953 SP34D

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	18.40
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	17.30
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.98	82.6
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	54.5	984
Total Organic Carbon	04/06/11 040611#1	Plumb,1981	Percent	0.020	8.71

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED1-0-15-032911-D
ARI ID: 11-6954 SP34E

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	20.70
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	18.10
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.91	64.7
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	109	1,120
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.020	5.80

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED5-0-15-032911
ARI ID: 11-6955 SP34F

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	81.60
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	77.30
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.11	2.73
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	2.52	31.4
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.020	0.903

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: MC-SED1-0-10-032911
ARI ID: 11-6956 SP34G

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	77.20
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	78.30
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.12	2.28
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	2.47	48.6
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.020	0.536

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: MC-SED2-0-10-032911
ARI ID: 11-6957 SP34H

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	78.90
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	77.70
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.12	0.34
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	1.22	< 1.22 U
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.020	0.364

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

SAMPLE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: MC-SED3-0-10-032911
ARI ID: 11-6958 SP34I

Analyte	Date	Method	Units	RL	Sample
Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	85.20
Preserved Total Solids	03/30/11 033011#1	EPA 160.3	Percent	0.01	83.60
N-Ammonia	04/04/11 040411#1	EPA 350.1M	mg-N/kg	0.11	0.24
Sulfide	04/04/11 040411#1	EPA 376.2	mg/kg	1.18	< 1.18 U
Total Organic Carbon	04/07/11 040711#1	Plumb,1981	Percent	0.020	0.146

RL Analytical reporting limit
U Undetected at reported detection limit

Ammonia determined on 2N KCl extracts.

METHOD BLANK RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	03/30/11	Percent	< 0.01 U
Preserved Total Solids	03/30/11	Percent	< 0.01 U
N-Ammonia	04/04/11	mg-N/kg	< 0.10 U
Sulfide	04/04/11	mg/kg	< 1.00 U
Total Organic Carbon	04/06/11	Percent	< 0.020 U
	04/07/11		< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Sulfide EPA 376.2	PREP	04/04/11	mg/kg	7.03	7.25	97.0%
Total Organic Carbon	ICVL	04/06/11	Percent	0.098	0.100	98.0%
Plumb,1981	ICVL	04/07/11		0.098	0.100	98.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
N-Ammonia	04/04/11	mg-N/kg	100	100	100.0%
SPEX 28-24AS					
Total Organic Carbon	04/06/11	Percent	2.46	2.99	82.3%
NIST 1941B	04/07/11		2.54	2.99	84.9%

REPLICATE RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: SP34B Client ID: LL-SED2-0-15-032911					
Total Solids	03/30/11	Percent	15.40	15.30 15.30	0.4%
Preserved Total Solids	03/30/11	Percent	14.50	14.50 14.60	0.4%
N-Ammonia	04/04/11	mg-N/kg	301	298 294	1.2%
Sulfide	04/04/11	mg/kg	2,670	2,360	12.3%
Total Organic Carbon	04/07/11	Percent	10.6	11.1 11.8	5.4%

MS/MSD RESULTS-CONVENTIONALS
SP34-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/15/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: SP34B Client ID: LL-SED2-0-15-032911						
N-Ammonia	04/04/11	mg-N/kg	301	822	596	87.5%
Sulfide	04/04/11	mg/kg	2,670	3,520	982	86.6%
Total Organic Carbon	04/07/11	Percent	10.6	29.4	16.9	111.1%

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED1-0-15-032911
ARI ID: 11-7355 SQ22A

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	32.10
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	8.00

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED2-0-15-032911
ARI ID: 11-7356 SQ22B

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	19.30
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	7.16

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED3-0-15-032911
ARI ID: 11-7357 SQ22C

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	28.30
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	9.18

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED4-0-15-032911
ARI ID: 11-7358 SQ22D

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	25.80
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	8.86

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED1-0-15-032911-D
ARI ID: 11-7359 SQ22E

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	32.80
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	8.42

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Client ID: LL-SED5-0-15-032911
ARI ID: 11-7360 SQ22F

Analyte	Date	Method	Units	RL	Sample
Total Solids	04/11/11 041111#1	EPA 160.3	Percent	0.01	82.80
Total Organic Carbon	04/20/11 042011#1	Plumb,1981	Percent	0.020	1.30

RL Analytical reporting limit
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	04/11/11	Percent	< 0.01 U
Total Organic Carbon	04/20/11	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte/Method	QC ID	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon Plumb,1981	ICVL	04/20/11	Percent	0.092	0.100	92.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST 1941B	04/20/11	Percent	2.68	2.99	89.6%

REPLICATE RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: SQ22B Client ID: LL-SED2-0-15-032911					
Total Solids	04/11/11	Percent	19.30	19.20 19.60	1.1%
Total Organic Carbon	04/20/11	Percent	7.16	6.70 6.45	5.3%

MS/MSD RESULTS-CONVENTIONALS
SQ22-Floyd Snider

ANALYTICAL RESOURCES INCORPORATED

Matrix: Sediment
Data Release Authorized:
Reported: 04/21/11

Project: Lora Lake Surface Sediment S
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: SQ22B Client ID: LL-SED2-0-15-032911						
Total Organic Carbon	04/20/11	Percent	7.16	31.4	18.6	130.2%

Geotechnical Analysis
Report and Summary QC Forms

ARI Job ID: SP34, SQ22

Floyd Snider
POS-LL
Lora Lake Surface Sediment Sampling

Apparent Grain Size Distribution Summary
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.00	15.60	7.80	3.90	2.00	1.00
LL-SED2-0-15-032911	100.0	100.0	100.0	88.6	83.3	79.6	76.2	72.2	69.9	62.5	52.9	40.2	27.9	17.4
	100.0	100.0	100.0	91.1	85.5	81.9	78.3	74.6	72.3	66.4	55.4	42.3	29.5	18.4
	100.0	100.0	100.0	83.7	77.1	72.6	68.9	65.1	63.0	57.8	48.6	36.8	25.9	16.5
LL-SED1-0-15-032911	100.0	100.0	100.0	87.5	79.8	71.0	60.1	52.3	47.6	35.8	24.9	16.0	10.0	4.8
LL-SED3-0-15-032911	100.0	100.0	100.0	93.8	91.3	89.5	87.4	84.7	80.7	69.4	54.4	37.9	23.7	12.8
LL-SED4-0-15-032911	100.0	100.0	100.0	90.3	85.9	83.2	80.0	75.0	69.0	54.9	41.1	27.9	16.5	9.1
LL-SED1-0-15-032911-D	100.0	100.0	99.9	88.4	83.2	73.0	59.5	50.7	44.7	33.5	22.6	14.3	8.0	4.8
LL-SED5-0-15-032911	100.0	97.1	83.6	59.7	25.8	6.3	2.3	1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
MC-SED1-0-10-032911	100.0	56.9	33.7	20.6	12.2	5.1	3.3	2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6
MC-SED2-0-10-032911	100.0	66.5	42.2	29.6	13.3	3.2	2.3	2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
MC-SED3-0-10-032911	100.0	57.4	32.5	18.5	8.5	1.5	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Floyd Snider
POS-LL
Lora Lake Surface Sediment Sampling

Apparent Grain Size Distribution Summary
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31 0	31.0-15.6	15 6-7 8	7.8-3 9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
LL-SED2-0-15-032911	0.0	11.3	5.4	3.6	3.4	4.0	2.3	7.4	9.6	12.8	12.2	10.6	17.4	72.2
	0.0	8.9	5.7	3.6	3.6	3.7	2.3	5.9	10.9	13.1	12.8	11.1	18.4	74.6
	0.0	16.3	6.6	4.5	3.7	3.8	2.0	5.3	9.2	11.8	11.0	9.4	16.5	65.1
LL-SED1-0-15-032911	0.0	12.5	7.6	8.9	10.8	7.9	4.7	11.8	10.9	8.9	6.0	5.3	4.8	52.3
LL-SED3-0-15-032911	0.0	6.2	2.5	1.8	2.1	2.8	4.0	11.3	15.0	16.5	14.2	10.8	12.8	84.7
LL-SED4-0-15-032911	0.0	9.7	4.4	2.7	3.2	5.0	6.0	14.1	13.8	13.2	11.4	7.4	9.1	75.0
LL-SED1-0-15-032911-D	0.1	11.5	5.2	10.2	13.5	8.8	6.0	11.1	10.9	8.3	6.4	3.1	4.8	50.7
LL-SED5-0-15-032911	16.4	23.9	33.9	19.5	4.0	0.4	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	1.9
MC-SED1-0-10-032911	66.3	13.1	8.4	7.1	1.8	0.7	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6	2.6
MC-SED2-0-10-032911	57.8	12.7	16.2	10.1	1.0	0.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0
MC-SED3-0-10-032911	67.5	14.0	10.0	7.0	1.3	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1

Notes to the Testing:
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

Client:	Floyd Snider	Client Project No.:	POS-LL
		Client Project:	Lora Lake Surface Sediment Sampling
ARI Trip. Sample ID:	SP34B	Batch No.:	SP34-1
Client Trip. Sample ID:	LL-SED2-0-15-032911	Page:	1 of 1

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
LL-SED2-0-15-032911	100.0	100.0	100.0	88.6	83.3	79.6	76.2	72.2	69.9	62.5	52.9	40.2	27.9	17.4
	100.0	100.0	100.0	91.1	85.5	81.9	78.3	74.6	72.3	66.4	55.4	42.3	29.5	18.4
	100.0	100.0	100.0	83.7	77.1	72.6	68.9	65.1	63.0	57.8	48.6	36.8	25.9	16.5
AVE	NA	100.00	99.99	87.82	81.94	78.05	74.46	70.64	68.43	62.24	52.33	39.78	27.76	17.41
STDEV	NA	0.00	0.03	3.78	4.33	4.85	4.97	4.98	4.83	4.32	3.46	2.77	1.81	0.96
%RSD	NA	0.00	0.03	4.31	5.29	6.21	6.68	7.05	7.05	6.94	6.61	6.97	6.54	5.54

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
LL-SED2-0-15-032911	3/29/2011	4/14/2011	4/20/2011	103.4		8.0
	3/29/2011	4/14/2011	4/20/2011	101.9		8.4
	3/29/2011	4/14/2011	4/20/2011	103.3		7.2
LL-SED1-0-15-032911	3/29/2011	4/14/2011	4/20/2011	100.5		7.7
LL-SED3-0-15-032911	3/29/2011	4/12/2011	4/20/2011	97.1		7.0
LL-SED4-0-15-032911	3/29/2011	4/12/2011	4/20/2011	99.4		5.3
LL-SED1-0-15-032911-D	3/29/2011	4/12/2011	4/20/2011	100.6		5.5
LL-SED5-0-15-032911	3/29/2011	4/12/2011	4/20/2011	101.5	SS	2.3
MC-SED1-0-10-032911	3/29/2011	4/12/2011	4/20/2011	101.6	SS	3.4
MC-SED2-0-10-032911	3/29/2011	4/12/2011	4/20/2011	101.4	SS	2.5
MC-SED3-0-10-032911	3/29/2011	4/12/2011	4/20/2011	99.6	SS	0.1

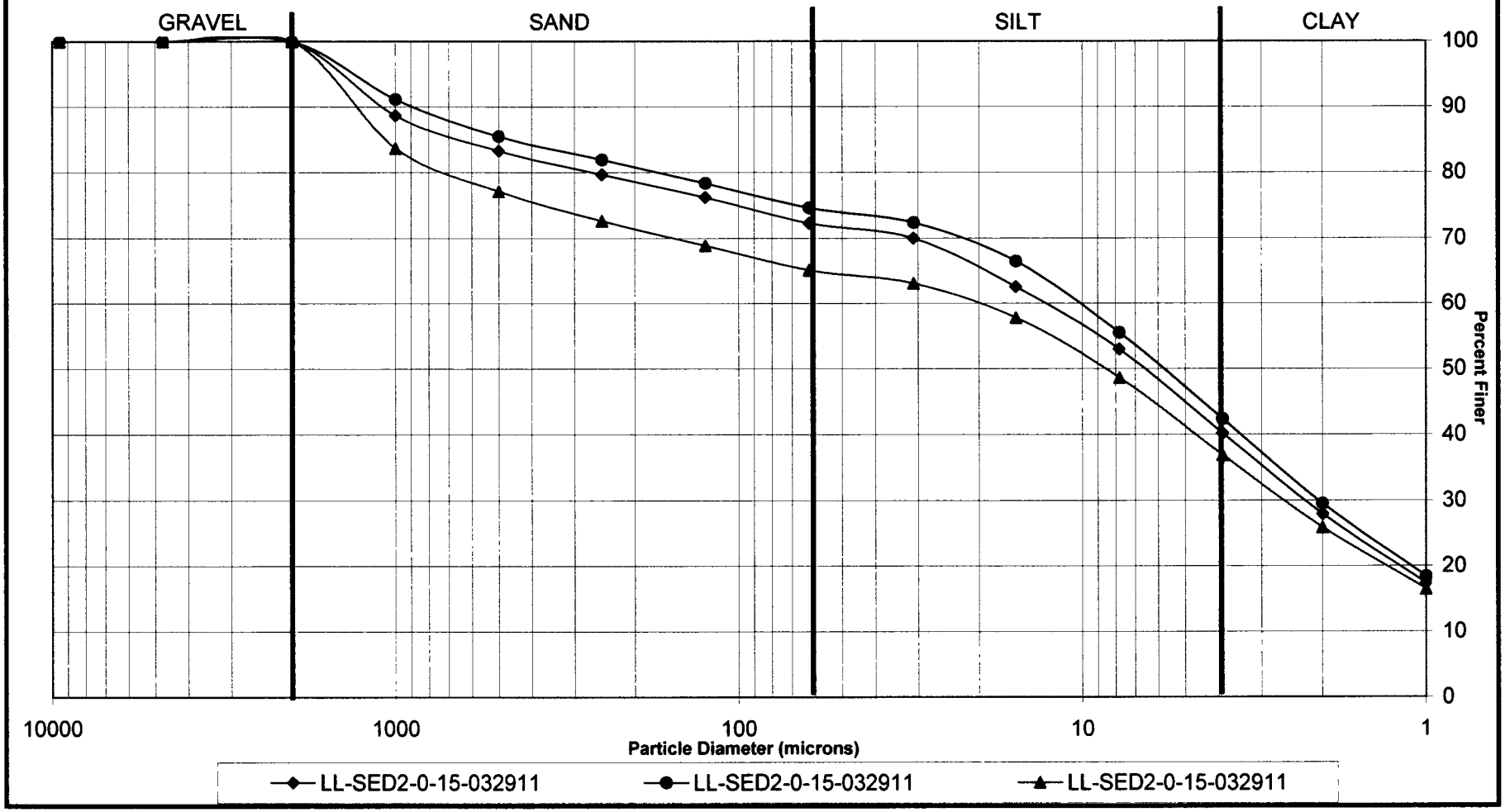
* ARI Internal QA limits = 95-105%

Notes to the Testing:

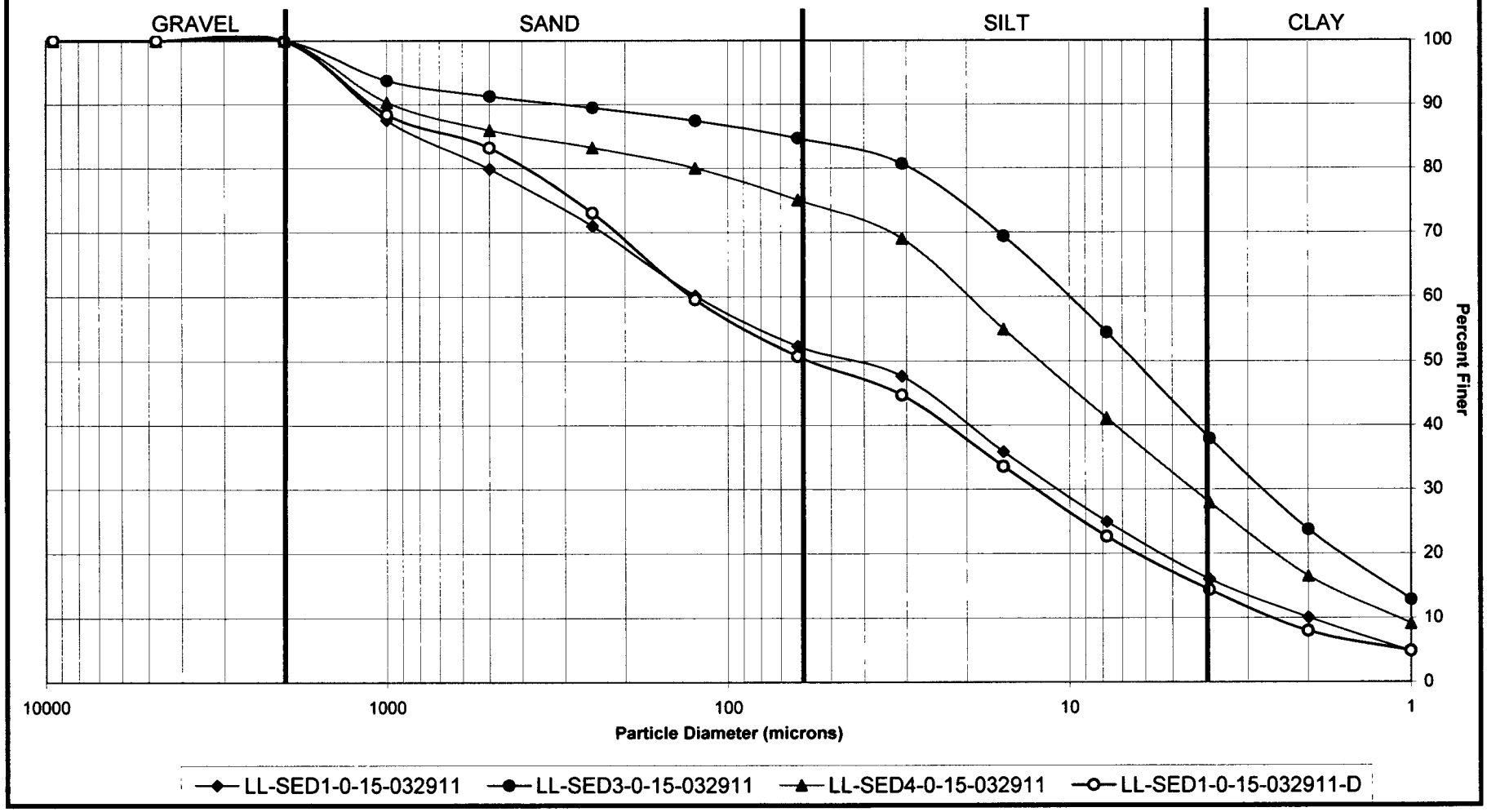
1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

PSEP Grain Size Distribution

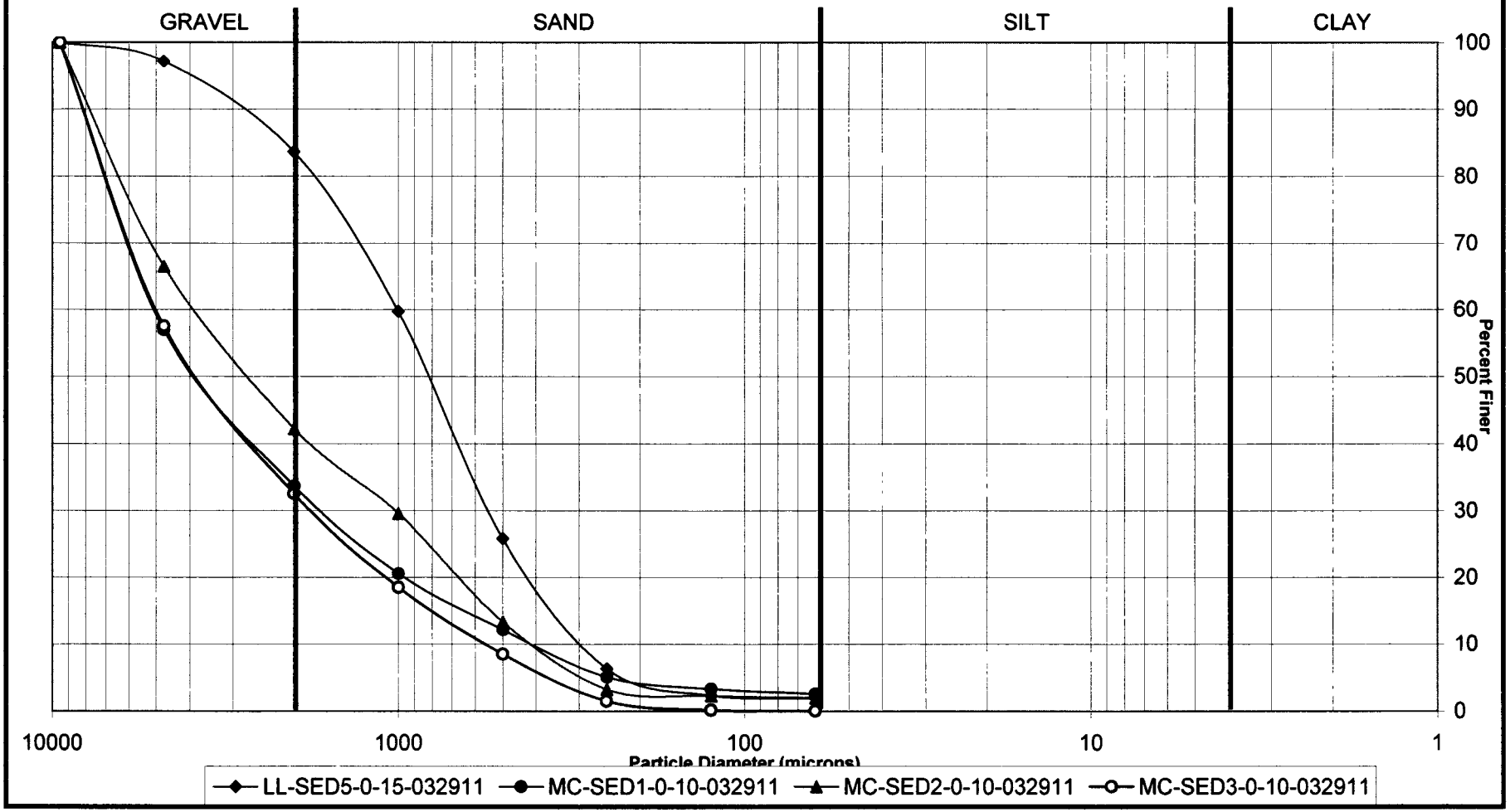
Triplicate Sample Plot



PSEP Grain Size Distribution



PSEP Grain Size Distribution



Total Solids

ARI Job ID: SP34, SQ22

Volatiles Total Solids-voats
Data By: Pat Basilio
Created: 4/12/11

Worklist: 3496
Analyst: PAB
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

ARI ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids
1. SP34A 11-6950	1.58	9.33	3.98	30.97
2. SP34B 11-6951	1.63	10.31	3.04	16.24
3. SP34C 11-6952	1.52	9.71	3.15	19.90
4. SP34D 11-6953	1.68	8.85	3.01	18.55
5. SP34E 11-6954	1.51	10.16	3.43	22.20
6. SP34F 11-6955	1.51	10.57	8.46	76.71
7. SP34G 11-6956	_____	_____	%	79.24
8. SP34H 11-6957	_____	_____	%	74.82
9. SP34I 11-6958	_____	_____	%	79.88

* - VOA TS Copied From BETX TS
% - VOA TS Copied From Metals TS
$ - VOA TS Copied From Extraction TS

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section VOA

Oven Identification: 11 **Balance ID:** 4009006 PT120

Samples in Oven: Date: 4/11/11 Time: 12:15 pm Temp: 106 Analyst: AB

Removed from Oven: Date: 4/12/11 Time: 10 am Temp: 106 Analyst: AB

Source of Total Solids Data If From A Different Lab:

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
SP34 A	1.58	9.33	3.98	10 DSam	Y
B	1.63	10.31	3.04	4/12/11	↓
C	1.52	9.71	3.15	↓	↓
D	1.68	8.85	3.01	↓	↓
E	1.51	10.16	3.43	↓	↓
F	1.51	10.57	8.46	↓	↓

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Extractions Total Solids-extts
Data By: Jim Hawk
Created: 3/31/11

Worklist: 41
Analyst: RVR
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	SP34G 11-6956 MC-SED1-0-10-032911	1.18	12.72	10.73	82.8	NR
2.	SP34H 11-6957 MC-SED2-0-10-032911	1.15	12.47	10.80	85.2	NR
3.	SP34I 11-6958 MC-SED3-0-10-032911	1.16	12.39	11.48	91.9	NR

Extractions Total Solids-extts
Data By: Jim Hawk
Created: 3/31/11

Worklist: 41
Analyst: JBH
Comments:

Oven ID: 015

Balance ID: 28040092

Samples In: Date: 3/31/11 Time: 12:15 Temp: 10X (RF 4/1/11 10) Analyst: J.H.

Samples Out: Date: 4/1/11 Time: 06:40 Temp: 10/6 Analyst: RR

	ARI ID / CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	SP34G 11-6956 MC-SED1-0-10-032911	1.18	12.72	10.73		NR
2.	SP34H 11-6957 MC-SED2-0-10-032911	1.15	12.47	10.80		NR
3.	SP34I 11-6958 MC-SED3-0-10-032911	1.16	12.39	11.48		NR

Extractions Total Solids-extts
Data By: Alex Choeng
Created: 4/ 6/11

Worklist: 2127
Analyst: RVR
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID / CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	SQ22A 11-7355 LL-SED1-0-15-032911	1.17	12.04	4.50	30.6	NR
2.	SQ22B 11-7356 LL-SED2-0-15-032911	1.18	12.47	3.29	18.7	NR
3.	SQ22C 11-7357 LL-SED3-0-15-032911	1.17	11.70	3.93	26.2	NR
4.	SQ22D 11-7358 LL-SED4-0-15-032911	1.18	11.68	3.81	25.0	NR
5.	SQ22E 11-7359 LL-SED1-0-15-032911-D	1.17	11.32	4.32	31.0	NR
6.	SQ22F 11-7360 LL-SED5-0-15-032911	1.18	14.02	11.80	82.7	NR

ractions Total Solids-extts
ı By: Alex Choeng
Created: 4/ 6/11

Worklist: 2127
Analyst: AC
Comments:

Oven ID: ϕ15

Balance ID: 2175452.ϕ

Samples In: Date: 4-6-11 Time: 18.1ϕ Temp: 103°C Analyst: AC

Samples Out: Date: 4/7/11 Time: ϕ6:45 Temp: 104° Analyst: RR

	ARI ID / CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	SQ22A 11-7355 LL-SED1-0-15-032911	1.17	12.ϕ4	~~3.29~~ RR 4/7/11 4.5ϕ		NR
2.	SQ22B 11-7356 LL-SED2-0-15-032911	1.18	12.47	3.29		NR
3.	SQ22C 11-7357 LL-SED3-0-15-032911	1.17	11.7ϕ	3.93		NR
4.	SQ22D 11-7358 LL-SED4-0-15-032911	1.18	11.68	3.81		NR
5.	SQ22E 11-7359 LL-SED1-0-15-032911-D	1.17	11.32	4.32		NR
6.	SQ22F 11-7360 LL-SED5-0-15-032911	1.18	14.ϕ2	1.8ϕ		NR

Extractions Total Solids-extts
Data By: Aron A. Rigg
Created: 4/20/11

Worklist: 6696
Analyst: AAR
Comments:

Oven ID:_____

Balance ID:_____

Samples In: Date:_____ Time:_____ Temp:_____ Analyst:_____

Samples Out: Date:_____ Time:_____ Temp:_____ Analyst:_____

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	SQ22B 11-8696 LL-SED2-0-15-032911	0.00	10.16	1.90	18.7	NR

AR 4/20/2011

Solids Data Entry Report Checked by: DM Date: 4/4/11
Date: 04/02/11 Data Analyst: KM

Solids Determination performed on 04/01/11 by KM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
SP34	G	MC-SED1-0-10-032911	0.978	10.611	8.611	79.24
SP34	H	MC-SED2-0-10-032911	1.024	10.345	7.998	74.82
SP34	I	MC-SED3-0-10-032911	1.013	10.621	8.688	79.88

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 4/01/11 Time: 1300 Temp: 103°C Analyst: KM

Removed from Oven: Date: 4/02/11 Time: 1205 Temp: 103°C Analyst: KM

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
SP78 A	1.017	10.314	4.007	—	✓
" B	1.034	10.043	7.797	—	✓
SP69 A	1.012	10.700	3.942	—	✓
" B	1.018	10.470	3.889	—	✓
" C	0.993	10.775	4.165	—	✓
" D	1.008	10 619	4.130	—	✓
SP34 G	0.978	10.611	8.611	—	✓
" H	1.024	10.345	7.998	—	✓
" I	1.013	10.621	8 688	—	✓
		KM			
			4/01/11		

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Solids Data Entry Report Checked by: MH Date: 4/07/11
Date: 04/07/11 Data Analyst: DM

Solids Determination performed on 04/06/11 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
SQ22	A	LL-SED1-0-15-032911	1.024	10.850	4.079	31.09
SQ22	B	LL-SED2-0-15-032911	1.032	10.314	2.851	19.60
SQ22	C	LL-SED3-0-15-032911	1.023	10.556	3.593	26.96
SQ22	D	LL-SED4-0-15-032911	1.022	10.641	3.389	24.61
SQ22	E	LL-SED1-0-15-032911	1.025	10.800	4.077	31.22
SQ22	F	LL-SED5-0-15-032911	1.031	10.304	8.453	80.04

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

Oven Identification: 07 **Balance ID:** 068755

Samples in Oven: Date: 4-6-11 Time: 1245 Temp: 103°C Analyst: DM

Removed from Oven: Date: 4-7-11 Time: 0615 Temp: 102°C Analyst: DM

Source of Total Solids Data If From A Different Lab: —

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
SQ22 A	1.024	10.850	4.079	—	✓
" B	1.032	10.314	2.851	—	✓
" C	1.023	10.556	3.593	—	✓
" D	1.022	10.641	3.589	—	✓
" E	1.025	10.800	4.077	—	✓
" F	1.031	10.304	8.453	—	✓
		4-6-11 DM			

1) Place a check mark in this column if samples have dried > 12 but < 24 hours. When samples have been at 104°C < 12 hours, constant weight must be verified as described in SOP 10023S. Use a 2nd bench sheet for additional weightings.

Chain of Custody Documentation

ARI Job ID: SP34, SQ22

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: SP34	Turn-around Requested: Standard	Page: 1 of 2	
ARI Client Company: Floyd Snider	Phone: 206-292-2078	Date: 3/30/11	Ice Present? Y
Client Contact: Erin Breckel		No. of Coolers: 5	Cooler Temps: 3.9, 5.6, 4.8, 5.4, 3.8
Client Project Name: POS-LL Lora Lake Surface Sediment Sampling			
Client Project #:	Samplers: EB/AM/TS		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No Containers	Analysis Requested: cPAHs (8270D-SIM Low Level)	PCP (8041)	As, Pb (6010B)	Dioxins/Furans (1613)	VOCs* (8260C)	TOC	Total Solids	Grain size	Ammonia	Total Sulfides	Notes/Comments
LL-SED1-0-15-032911	032911	14:05	Sediment	10	X	X	X	X	X	X	X	X	X	X	
LL-SED2-0-15-032911		12:00		20	X	X	X	X	X	X	X	X	X	X	Extra volume for MS/MSD analysis
LL-SED3-0-15-032911		11:10		10	X	X	X	X	X	X	X	X	X	X	
LL-SED4-0-15-032911		13:10		10	X	X	X	X	X	X	X	X	X	X	
LL-SED1-0-15-032911-D		14:05		10	X	X	X	X	X	X	X	X	X	X	
MC-SED1-0-10-032911		16:50		10	X	X	X	X	X	X	X	X	X	X	
MC-SED2-0-10-032911		16:35		10	X	X	X	X	X	X	X	X	X	X	
MC-SED3-0-10-032911		16:15		10	X	X	X	X	X	X	X	X	X	X	
LL-SED1-0-15-032911-ER		15:50	Water	5	X	X	X	X							
LL-SED-032911-TB	032311	16:00	Water	2					X						

Comments/Special Instructions
*See list in SAP/QAPP

Relinquished by (Signature)	Received by (Signature)	Relinquished by (Signature)	Received by (Signature)
Erin Breckel			
Printed Name: Erin Breckel	Printed Name: A. Volgnrdsen	Printed Name	Printed Name:
Company: Floyd Snider	Company: ARI	Company	Company:
Date & Time: 3/30/11 11:40	Date & Time: 3/30/11 1140	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: SP34	Turn-around Requested: Standard	Page: 2 of 2	
ARI Client Company: Floyd Snider	Phone: 206-292-2078	Date: 3/30/11	Ice Present?
Client Contact: Erin Breckel		No. of Coolers:	Cooler Temps:
Client Project Name: Lora Lake Surface Sediment Sampling			
Client Project #: POS-LL	Samplers: EB/AM/TS		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No Containers	cPAHs (8270D-SIM Low Level)	PCP (8041)	As, Pb (6010B)	Dioxins/Furans (1613)	VOCs (8260C)	TOC	Total Solids	Grainsize	Ammonia	Total Sulfides	Notes/Comments
LL-SED5-0-15-032911	3/29/11	15:10	sediment	10	X	X	X	X	X	X	X	X	X	X	

Comments/Special Instructions	Relinquished by	Received by	Relinquished by:	Received by
*See list in SAP/QAPP	(Signature) Erin Breckel	(Signature)	(Signature)	(Signature)
	Printed Name: Erin Breckel	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: Floyd Snider	Company: ARI	Company:	Company:
	Date & Time: 3/30/11 11:40	Date & Time: 3/30/11 1140	Date & Time:	Date & Time

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Floyd Snider Project Name: POS-LL

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: SP34 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 3.9 5.6 4.8 5.4 3.8

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90741619

Cooler Accepted by: AV Date: 3/30/11 Time: 1140

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	3/23/11	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JM Date: 3/30/11 Time: 1220

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

LL-SED-032911-TB = sm in 2 of 2

By: JM Date: 3/30/11

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	● ● ●

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 03/30/11
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **SP34**

PC: Sue D.
VTSR: 03/30/11

Inquiry Number: NONE
Analysis Requested: 03/30/11
Contact: Breckel, Erin
Client: Floyd Snider
Logged by: JM
Sample Set Used: Yes-491
Validatable Package: Yes
Deliverables:

Project #: POS-LL
Project: Lora Lake Surface Sediment Sampling
Sample Site:
SDG No:
Analytical Protocol: PSDDA

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
11-6959 **SP34J**	LL-SED1-0-15-032911-ER						TOC															

Checked By JM Date 3/30/11

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: SP34, SQ22

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: Floyd Snider	**ARI Project No.:** SP34
Client Project: Lora Lake Surface Sediment Sampling	**Client Project No.:** POS-LL

Case Narrative

1. Nine samples were submitted for analysis on March 30, 2011, and were in good condition.
2. Six samples were submitted for separation of solids by means of centrifuging according to modified Corp of Engineers draft interim guide lines. The sediments for separation were received in 8oz wide mouth glass jars.
3. The samples were centrifuged in a pre-cooled centrifuge (4°C) at 1,000xg for 30 minutes.
4. The supernatant water was decanted.
5. The solid sample was spooned into appropriate sample jars.
6. All samples were submitted for grain size analysis according to Puget Sound Estuary Protocol (PSEP) methodology.
7. The samples were run in a single batch and one sample from this job, LL-SED2-0-15-032911, was chosen for triplicate analysis by the client. The triplicate data is reported on the QA summary.
8. Four samples did not contain the required 5 grams of fines for the pipette portion of the analysis. The analytical balance has a capacity of about 200 grams (by 0.0001 grams) and a sample that would yield 5 grams of fines could not be split and stay within the capacity of the balance
9. Six samples contained woody or other organic matter, which may have broken down during the sieving process, affecting grain size analysis.
10. The data is provided in summary tables and plots.
11. There were no other noted anomalies in this project.

Approved by: Robert Dobbee Date: April 20, 2011
Technician

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SP34
Client: Floyd Snider
Project Event: POS-LL
Project Name: Lora Lake Surface Sediment Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	LL-SED1-0-15-032911	SP34A	11-6950	Sediment	03/29/11 14:05	03/30/11 11:40
2.	LL-SED2-0-15-032911	SP34B	11-6951	Sediment	03/29/11 12:00	03/30/11 11:40
3.	LL-SED3-0-15-032911	SP34C	11-6952	Sediment	03/29/11 11:10	03/30/11 11:40
4.	LL-SED4-0-15-032911	SP34D	11-6953	Sediment	03/29/11 13:10	03/30/11 11:40
5.	LL-SED1-0-15-032911-D	SP34E	11-6954	Sediment	03/29/11 14:05	03/30/11 11:40
6.	LL-SED5-0-15-032911	SP34F	11-6955	Sediment	03/29/11 15:10	03/30/11 11:40
7.	MC-SED1-0-10-032911	SP34G	11-6956	Sediment	03/29/11 16:50	03/30/11 11:40
8.	MC-SED2-0-10-032911	SP34H	11-6957	Sediment	03/29/11 16:35	03/30/11 11:40
9.	MC-SED3-0-10-032911	SP34I	11-6958	Sediment	03/29/11 16:15	03/30/11 11:40
10.	LL-SED1-0-15-032911-ER	SP34J	11-6959	Water	03/29/11 15:50	03/30/11 11:40
11.	LL-SED-032911-TB	SP34K	11-6960	Water	03/29/11	03/30/11 11:40

Printed 03/30/11

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: SQ22
Client: Floyd Snider
Project Event: POS-LL
Project Name: Lora Lake Surface Sediment Sampling

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	LL-SED1-0-15-032911	SQ22A	11-7355	Sediment	03/29/11 14:05	03/30/11 14:04
2.	LL-SED2-0-15-032911	SQ22B	11-7356	Sediment	03/29/11 12:00	03/30/11 14:04
3.	LL-SED3-0-15-032911	SQ22C	11-7357	Sediment	03/29/11 11:10	03/30/11 14:04
4.	LL-SED4-0-15-032911	SQ22D	11-7358	Sediment	03/29/11 13:10	03/30/11 14:04
5.	LL-SED1-0-15-032911-D	SQ22E	11-7359	Sediment	03/29/11 14:05	03/30/11 14:04
6.	LL-SED5-0-15-032911	SQ22F	11-7360	Sediment	03/29/11 15:10	03/30/11 14:04

Printed 04/04/11

Data Reporting Qualifiers

Effective 2/14/2011

Inorganic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Duplicate RPD is not within established control limits

B — Reported value is less than the CRDL but ≥ the Reporting Limit

N — Matrix Spike recovery not within established control limits

NA — Not Applicable, analyte not spiked

H — The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L — Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U — Indicates that the target analyte was not detected at the reported concentration

* — Flagged value is not within established control limits

B — Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J — Estimated concentration when the value is less than ARI's established reporting limits

D — The spiked compound was not detected due to sample extract dilution

E — Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q — Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

EMPC Estimated Maximum Possible Concentration (EMPC) defined in EPA Statement of Work DLM02.2 as a value "calculated for 2,3,7,8-substituted isomers for which the quantitation and /or confirmation ion(s) has signal to noise in excess of 2.5, but does not meet identification criteria" **(Dioxin/Furan analysis only)**

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

X Analyte signal includes interference from polychlorinated diphenyl ethers. **(Dioxin/Furan analysis only)**

Z Analyte signal includes interference from the sample matrix or perfluorokerosene ions. **(Dioxin/Furan analysis only)**

Geotechnical Data

A	The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.
F	Samples were frozen prior to particle size determination
SM	Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations
SS	Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis
W	Weight of sample in some pipette aliquots was below the level required for accurate weighting

Geotechnical Data

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighing

F Samples were frozen prior to particle size determination

04/02/11

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1824-2	ABN	100/150	MEOH	07/22/11
B	1834-6	SIM PNA	15/75	ACETONE	10/05/11
C	NA	SIM ABN	25/37.5	MEOH	03/08/11
D	1795-4	LOW PCB	0.2	ACETONE	12/16/11
E	1771-3	HERB	62.5	MEOH	10/06/11
F	1791-3	PCP	12.5	ACETONE	12/09/11
G	1824-1	d8-DIOXANE	100	MEOH	08/14/11
H	1847-2	OP-PEST	25	ACETONE	03/23/12
I	1835-1	LOW S. PNA	1.5	ACETONE	10/05/11
J	1787-2	TBT-PORE	0.125	MECL2	11/27/11
K	1795-2	MED PCB	20	ACETONE	12/16/11
L	1785-4	TBT	2.5	MECL2	11/27/11
M	1767-1	EPH	1500	MECL2	06/02/11
N	1795-3	PCB	2	ACETONE	12/16/11
O	1821-3	TPH	450	MECL2	09/07/11
P	1813-2	HCID	2250	MECL2	08/05/11
Q	NA	EDB	1	MEOH	NA
R	1757-3	RESIN ACID	250	ACETONE	08/14/11
S*	NA	PBDE	.25	MEOH	NA
T	1768-2	ALKYL PNA	10	MEOH	07/22/11
U	NA	CONGENER	2.5	ACETONE	NA
V	1791-4	LOW PCP	1.25	ACETONE	12/09/11
*reverified solution					

LCS SOLUTIONS

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1837-2	PCB 1660	20	ACETONE	01/01/12
2#	NA	BCOC PEST	10	ACETONE	NA
3	1793-3	PEST	01/02/10	ACETONE	12/15/11
4	1806-2	LOW PEST	.1/.2/1	ACETONE	12/15/11
5	1779-1	EPH	1500	MECL2	11/11/11
6	1791-5	PCP	12.5/125	ACETONE	12/10/11
7	1834-4	ABN	100	MEOH	08/21/11
8	1785-3	TBT	2.5	MECL2	11/27/11
9	1786-3	PORE TBT	.125/.25	MECL2	11/27/11
10	1790-1	ABN ACID	100/200	MEOH	06/07/11
11	1777-2	TPHD	15000	ACETONE	11/01/11
12	1790-2	ABN BASE	200	MEOH	06/07/11
13	1838-4	LOW PCB	2	ACETONE	01/31/12
14	1822-2	LOW ABN ACID	10/20	MEOH	06/07/11
15	1814-2	SIM PNA	15/75	MEOH	01/04/12
16	1834-5	1,4-DIOXANE	100	MEOH	08/25/11
17	1772-3	1248 PCB	10	ACETONE	05/01/11
18	1814-3	LOW SIM PNA	1.5	ACETONE	01/04/12
19	1815-2	AK103	7500	ACETONE	06/02/11
20	1843-3	PNA	100	ACETONE	08/14/11
21	1844-3	SKY/BHT	100	MEOH	09/24/11
22	1781-1	HERB	05 to 4000	MEOH	04/15/11
23	1822-3	LW ABN BASE	20	MEOH	06/07/11
24	1822-4	LOW ABN	10	ACETONE	10/01/11
25#	NA	DIPHENYL	100	MEOH	NA
26	1823-1	OP-PEST	25	MEOH	07/01/11
27	NA	STEROLS	200	MEOH	NA
28#	1807-1	ADD. PEST	2	ACETONE	08/31/11
29#	NA	DECANES	100	MEOH	NA

LCS SOLUTIONS

30	NA	EDB/DBCP	0.2	MEOH	NA
31	1835-2	TERPINEOL	100	MEOH	09/02/11
32	NA	GUAIACOL	50-200	ACETONE	NA
33	NA	RETENE	100	MEOH	NA
34	1842-1	CONGENERS	0.5	ACETONE	03/14/12
35	NA	ALKYL PNA A	10	MEOH	NA
36	NA	ALKYL PNA B	10	MEOH	NA
37	1773-1	CAR/PERY	100	ACETONE	10/14/11
38	1846-2	ABN ACID	200-450	MEOH	09/25/11
50	1757-4	FULL RESIN	250	ACETONE	08/14/11
51	1772-1	DDTS	0.01	ACETONE	04/24/11
52	NA	1232 PCB	20	ACETONE	NA
53	1780-1	DALAPON	50	MEOH	05/07/11
54	1753-1	T-CHLORDANE	10	ACETONE	07/21/11
55	1753-2	TOXAPHENE	50	ACETONE	07/21/11
56	1846-3	ABN BASE	50-200	MEOH	09/25/11
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Solid Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 5 mL Purge Volume [7]

Effective:5/18/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Low Level [1]	Low Level ME Limits [3]	Medium Level [2]	Medium Level ME Limits [3]
LCS Spike Recovery [8]				
Dichlorodifluoromethane	53 - 148	37 - 164	25 - 128	**10** - 145
Chloromethane	64 - 125	54 - 135	55 - 121	44 - 132
Vinyl Chloride	63 - 137	51 - 149	66 - 123	57 - 133
Bromomethane	57 - 136	44 - 149	40 - 154	21 - 173
Chloroethane	64 - 131	53 - 142	72 - 128	63 - 137
Trichlorofluoromethane	69 - 132	59 - 143	69 - 135	58 - 146
Acrolein	54 - 137	40 - 151	39 - 135	23 - 151
1,1,2-Trichloro-1,2,2-trifluoroethane	74 - 130	65 - 139	65 - 139	53 - 151
Acetone	60 - 131	48 - 143	55 - 130	43 - 143
1,1-Dichloroethene	75 - 126	67 - 135	73 - 133	63 - 143
Bromoethane	76 - 126	68 - 134	74 - 133	64 - 143
Methyl Iodide	65 - 139	53 - 151	47 - 155	29 - 173
Methylene Chloride	70 - 123	61 - 132	**80 - 120**	75 - 122
Acrylonitrile	67 - 125	57 - 135	62 - 129	51 - 140
Methyl tert-Butyl Ether	70 - 120	62 - 128	69 - 128	59 - 138
Carbon Disulfide	71 - 129	61 - 139	64 - 135	52 - 147
trans-1,2-Dichloroethene	80 - **120**	74 - 126	78 - 125	70 - 133
Vinyl Acetate	60 - 136	47 - 149	66 - 132	55 - 143
1,1-Dichloroethane	**80 - 120**	75 - 124	77 - 124	69 132
2-Butanone	70 - **120**	62 - 127	65 - 126	55 - 136
2,2-Dichloropropane	74 - 123	66 - 131	75 - 127	66 - 136
cis-1,2-Dichloroethene	**80 - 120**	76 - 123	**80** - 125	74 - 132
Chloroform	80 - **120**	74 - 123	**80** - 124	73 - 131
Bromodichloromethane	77 - 121	70 - 128	78 - 130	69 - 139
1,1,1-Trichloroethane	77 - 121	70 - 128	76 - 130	67 - 139
1,1-Dichloropropene	**80 - 120**	77 - 123	77 - 131	68 - 140
Carbon Tetrachloride	77 - 122	70 - 130	74 - 129	65 - 138
1,2-Dichloroethane	76 - **120**	69 - 123	73 - 123	65 - 131
Benzene	**80** - 120	80 - 126	**80 - 120**	75 - 130
Trichloroethene	**80 - 120**	77 - 123	**80** - 125	75 - 132
1,2-Dichloropropane	**80 - 120**	76 - 120	**80** - 122	74 - 129
Bromochloromethane	80 - 120	73 - 127	**80** - 127	73 - 135
Dibromomethane	80 - **120**	74 - 121	**80** - 121	76 - 128
2-Chloroethylvinylether	**10** - 191	**10** - 222	61 - 128	50 - 139

Spike Recovery Control Limits for Analysis of Solid Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 5 mL Purge Volume [7]

Effective:5/18/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Low Level [1]	Low Level ME Limits [3]	Medium Level [2]	Medium Level ME Limits [3]
4-Methyl-2-Pentanone	67 - **120**	59 - 125	80 - 123	73 - 130
cis-1,3-Dichloropropene	74 - **120**	67 - 125	80 - 122	73 - 129
Toluene	**80** - **120**	79 - **120**	**80** - 122	**80** - 127
trans-1,3-Dichloropropene	65 - **120**	57 - 125	**80** - 123	79 - 129
2-Hexanone	65 - 130	54 - 141	58 - 129	46 - 141
1,1,2-Trichloroethane	**80** - **120**	75 - 122	**80** - 120	77 - 126
1,3-Dichloropropane	80 - **120**	74 - 122	**80** - 120	76 - 126
Tetrachloroethene	**80** - 121	79 - 127	**80** - 130	73 - 138
Dibromochloromethane	64 - **120**	55 - 128	77 - 120	70 - 127
Ethylene Dibromide	75 - **120**	68 - 124	**80** - **120**	**80** - 120
Chlorobenzene	**80** - **120**	82 - 120	**80** - 121	80 - 127
Ethylbenzene	**80** - 127	80 - 134	**80** - 126	**80** - 132
1,1,2,2-Tetrachloroethane	74 - 120	66 - 128	79 - **120**	73 - 123
m,p-Xylene	**80** - 125	**80** - 131	**80** - 130	**80** - 137
o-Xylene	78 - **120**	71 - 126	**80** - 124	**80** - 130
Styrene	**80** - 123	78 - 130	**80** - 132	77 - 140
Isopropylbenzene	**80** - 127	84 - 133	**80** - 130	**80** - 137
Bromoform	60 - **120**	50 - 128	68 - 129	58 - 139
1,1,1,2-Tetrachloroethane	69 - 121	60 - 130	**80** - 126	76 - 133
1,2,3-Trichloropropane	72 - 121	64 - 129	77 - **120**	71 - 121
trans-1,4-Dichloro-2-butene	65 - 126	55 - 136	66 - 127	56 - 137
n-Propylbenzene	**80** - 132	**80** - 139	**80** - 132	77 - 140
Bromobenzene	**80** - **120**	78 - 122	**80** - 121	80 - 127
1,3,5-Trimethylbenzene	**80** - 125	**80** - 131	78 - 137	68 - 147
2-Chlorotoluene	**80** - 125	77 - 132	**80** - 123	**80** - 129
4-Chlorotoluene	**80** - 127	77 - 134	**80** - 130	74 - 138
tert-Butylbenzene	87 - 122	**80** - 128	**80** - 133	78 - 141
1,2,4-Trimethylbenzene	**80** - 126	**80** - 132	**80** - 131	79 - 139
sec-Butylbenzene	**80** - 134	80 - 142	**80** - 136	76 - 146
4-Isopropyltoluene	**80** - 131	**80** - 138	**80** - 141	71 - 151
1,3-Dichlorobenzene	**80** - 120	**80** - 126	**80** 126	77 - 133
1,4-Dichlorobenzene	**80** - 120	79 - 126	**80** 121	77 - 127
n-Butylbenzene	**80** - 138	**80** - 146	**80** - 138	77 - 147
1,2-Dichlorobenzene	**80** - **120**	78 - 122	**80** - **120**	**80** - 121
1,2-Dibromo-3-chloropropane	59 - 120	49 - 130	67 - 121	58 - 130
1,2,4-Trichlorobenzene	78 - 130	69 - 139	**80** - 133	72 - 142

Spike Recovery Control Limits for Analysis of Solid Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 5 mL Purge Volume [7]

Effective:5/18/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	Low Level [1]	Low Level ME Limits [3]	Medium Level [2]	Medium Level ME Limits [3]
Hexachloro-1,3-butadiene	76 - 129	67 - 138	62 - 148	48 - 162
Naphthalene	66 - **120**	58 - 126	74 - 133	64 - 143
1,2,3-Trichlorobenzene	73 - 123	65 - 131	80 - 126	72 - 134
MB/LCS Surrogate Recovery				
Dibromofluoromethane	**80 - 120**	(4)	**80 - 120**	(4)
d4-1,2-Dichloroethane	79 - 121	(4)	76 - **120**	(4)
d8-Toluene	**80 - 120**	(4)	**80 - 120**	(4)
4-Bromofluorobenzene	**80 - 120**	(4)	**80 - 120**	(4)
d4-1,2-Dichlorobenzene	**80 - 120**	(4)	**80 - 120**	(4)
Sample Surrogate Recovery				
Dibromofluoromethane	30 - 160[6]	(4)	30 - 160[6]	(4)
d4-1,2-Dichloroethane	75 - 152	(4)	69 - **120**	(4)
d8-Toluene	82 - 115	(4)	**80 - 120**	(4)
4-Bromofluorobenzene	64 - **120**	(4)	76 - 128	(4)
d4-1,2-Dichlorobenzene	**80 - 120**	(4)	**80 - 120**	(4)

(1) Control Limits calculated using all data generated 1/1/08 through 12/31/08.
(2) Control Limits calculated using all data generated 3/1/07 through 11/15/07.
(3) **ME** = A **marginal exceedance** defined in the NELAC Standard[5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of four marginal exceedances are acceptable. Five or more marginal exceedances require corrective action.
(4) Marginal Exceedances not allowed for surrogate standards
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses
(7) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:
a) ARI does not use control limits < 10
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.
(8) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Polycyclic Aromatic Hydrocarbons Selected Ion Monitoring (SIM) EPA Method SW-846-8270D-Modified [1,7]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix	Water		Soil	
Sample Volume / Final Volume	**500 mL to 0.5 mL**		**7.5 g / 0.5 mL**	
	Control Limits	**ME Limits [2]**	**Control Limits**	**ME Limits [2]**
LCS Spike Recovery [6]				
Napthalene	39 - **100**	30 - 102	37 - **100**	27 - 107
2-Methylnapthalene	39 - **100**	31 - **100**	37 - **100**	28 - **100**
1-Methylnapthalene	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]	30 - 160 [3]
Acenaphthylene	37 - 100	27 - 111	35 - **100**	26 - 102
Acenapthene	42 - **100**	33 - 107	39 - **100**	31 - **100**
Dibenzofuran	46 - **100**	38 - 101	39 - **100**	31 - **100**
Fluorene	49 - 101	40 - 110	42 - **100**	33 - 106
Phenanthrene	55 - 101	47 - 109	47 - **100**	38 - 108
Anthracene	47 - 102	38 - 111	41 - 106	30 - 117
Fluoranthene	60 - 106	52 - 114	52 - 109	43 - 119
Pyrene	55 - 110	46 - 119	47 - 111	36 - 122
Benz(a)anthracene	56 - 104	48 - 112	47 - 114	36 - 125
Chrysene	58 - 104	50 - 112	51 - 106	42 - 115
Benzofluoranthene(s) (Total)	30 - 160 [8]	30 - 160 [8]	30 - 160 [8]	30 - 160 [8]
Benzo(a)pyrene	32 - 110	19 - 123	44 - 111	33 - 122
Indeno(1,2,3-cd)pyrene	50 - 114	39 - 125	41 - 114	29 - 126
Dibenzo(a,h)anthracene	42 - 121	29 - 134	42 - 116	30 - 128
Benzo(g,h,i)perylene	50 - 113	40 - 124	37 - 115	27 - 107
MB / LCS Surrogate Recovery				
d10-2-Methylnaphthalene	36 - 101	(4)	35 - **100**	(4)
d14-Dibenzo(a,h)anthracene	42 - 121	(4)	37 - 120	(4)
Sample Surrogate Recovery				
d10-2-Methylnaphthalene	30 - 106	(4)	34 - **100**	(4)
d14-Dibenzo(a,h)anthracene	**10** - 130	(4)	**10** - 117	(4)

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/31/08.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard [5] as beyond the LCS-CL but still within the ME limits. ME limits are between 3 and 4 standard deviations around the mean. A maximum of one marginal exceedance is acceptable. Two or more marginal exceedances require corrective action.
(3) 30 – 160 are default, advisory control limits used when there is insufficient data to calculate historic control limits. **DO NOT** use these limits as the sole reason to reject the data from a batch of analyses.
(4) Marginal Exceedances not allowed for surrogate standards.
(5) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(6) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.
(7) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(8) Default limits pending generation of historic limits for total benzofluoranthrenes (7/29/10)

Spike Recovery Control Limits for SIM VOA EPA Method SW-846-8260C [1,2]

Effective 8/30/2010

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use.
http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Sample Matrix:	Water
Purge Volume:	10 mL
LCS Spike Recovery [3]	
Vinyl Chloride	76 - **120**
1,1-Dichloroethene	**80** - **120**
1,2-Dichloroethane	**80** - 128
cis-1,2-Dichloroethene	**80** - **120**
trans-1,2-Dichloroethene	**80** - **120**
Trichloroethene	**80** - **120**
Benzene	**80** - **120**
Tetrachloroethene	**80** - 122
1,1,2,2-Tetrachloroethane	**80** - 128
Method Blank/LCS Surrogate Recovery	
d4-1,2-Dichloroethane	78 - 126
d8-Toluene	**80** - **120**
Sample Surrogate Recovery	
d4-1,2-Dichloroethane	**80** - 129
d8-Toluene	**80** - **120**

(1) Control limits calculated using historic data collected from 1/1/10 to 8/23/10
(2) Highlighted control limits (**bold font**) adjusted from the calculated values as follows:

a) ARI does not use control limits < 10
b) Control limits for analyzes with no separate preparation procedure are adjusted to reflect the minimum uncertainty in the calibration of the instrument allowed by the referenced analytical method.

(3) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Chlorinated Phenols
EPA Method SW-846-8041[1,2]

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Calculated Control Limits	
Sample Matrix:	Water	Soil / Sediment
Sample Amount / Final Volume:	500 / 50 mL	10 g / 25 mL
LCS Spike Recovery [3]		
Pentachlorophenol	27 - 115	**10** - 162
Method Blank/LCS Surrogate Recovery		
2,4,6-Tribromophenol	40 - 130	50 - 115
Sample Surrogate Recovery		
2,4,6-Tribromophenol	11 - 156	**10** - 146

(1) ARI's Control limits calculated using all available spike recovery data from 1/1/08 through 12/1/08.
(2) Highlighted control limits (**bold font**) adjusted to demonstrate that ARI does not use control limits < 10.
(3) Laboratory Control Sample (LCS) spike recovery control limits also used as advisory control limits for sample matrix spike (MS) analyzes. MS recovery values are advisory and not used to assess the acceptability of an analytical batch.

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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

	ARI's Control Limits	
Sample Matrix:	Water	Soil / Sediment
Matrix Spike Recoveries	% Recovery	% Recovery
Ammonia	75 - 125	75 - 125
Bromide	75 125	75 - 125
Chloride	75 125	75 - 125
Cyanide	75 - 125	75 - 125
Ferrous Iron	75 - 125	75 - 125
Fluoride	75 - 125	75 - 125
Formaldehyde	75 - 125	75 - 125
Hexane Extractable Material	-- - --	78 - 114
Hexavalent Chromium	75 - 125	75 - 125
Nitrate/Nitrite	75 - 125	75 - 125
Oil and Grease	75 - 125	75 - 125
Phenol	75 - 125	75 - 125
Phosphorous	75 - 125	75 - 125
Sulfate	75 - 125	75 - 125
Sulfide	75 - 125	75 - 125
Total Kjeldahl Nitrogen	75 - 125	75 - 125
Total Organic Carbon	75 - 125	75 - 125
Duplicate RPDs		
Acidity	±20%	±20%
Alkalinity	±20%	±20%
BOD	±20%	±20%
Cation Exchange	±20%	±20%
COD	±20%	±20%
Conductivity	±20%	±20%
Salinity	±20%	±20%
Solids	±20%	±20%
Turbidity	±20%	±20%

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Summary of Laboratory Control Limits Metals Analyses (All Methods & Sample Matrices)

Effective 5/1/09

Control limits are updated periodically. Assure that you have ARI's current control limits by downloading the files at the time of use. http://www.arilabs.com/portal/downloads/ARI-CLs.zip

Element	Matrix Spike Recovery	LCS Recovery	Replicate RPD
Aluminum	75 - 125	80 - 120	≤ 20%
Antimony	75 - 125	80 - 120	≤ 20%
Arsenic	75 - 125	80 - 120	≤ 20%
Barium	75 - 125	80 - 120	≤ 20%
Beryllium	75 - 125	80 - 120	≤ 20%
Boron	75 - 125	80 - 120	≤ 20%
Cadmium	75 - 125	80 - 120	≤ 20%
Calcium	75 - 125	80 - 120	≤ 20%
Chromium	75 - 125	80 - 120	≤ 20%
Cobalt	75 - 125	80 - 120	≤ 20%
Copper	75 - 125	80 - 120	≤ 20%
Iron	75 - 125	80 - 120	≤ 20%
Lead	75 - 125	80 - 120	≤ 20%
Magnesium	75 - 125	80 - 120	≤ 20%
Manganese	75 - 125	80 - 120	≤ 20%
Mercury	75 - 125	80 - 120	≤ 20%
Nickel	75 - 125	80 - 120	≤ 20%
Potassium	75 - 125	80 - 120	≤ 20%
Selenium	75 - 125	80 - 120	≤ 20%
Silica	75 - 125	80 - 120	≤ 20%
Silver	75 - 125	80 - 120	≤ 20%
Sodium	75 - 125	80 - 120	≤ 20%
Strontium	75 - 125	80 - 120	≤ 20%
Thallium	75 - 125	80 - 120	≤ 20%
Vanadium	75 - 125	80 - 120	≤ 20%
Zinc	75 - 125	80 - 120	≤ 20%

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: SP34, SQ22

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED1-0-15-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34A
LIMS ID: 11-6950
Matrix: Sediment
Data Release Authorized: B
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 15:40

Sample Amount: 0.945 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 69.0%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	5.3	< 5.3	U
156-59-2	cis-1,2-Dichloroethene	5.3	< 5.3	U
107-06-2	1,2-Dichloroethane	5.3	< 5.3	U
79-01-6	Trichloroethene	5.3	< 5.3	U
127-18-4	Tetrachloroethene	5.3	< 5.3	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	123%
d8-Toluene	91.8%
Bromofluorobenzene	75.2%
d4-1,2-Dichlorobenzene	99.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED2-0-15-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34B
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 16:11

Sample Amount: 0.391 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 83.8%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	13	< 13	U
156-59-2	cis-1,2-Dichloroethene	13	< 13	U
107-06-2	1,2-Dichloroethane	13	< 13	U
79-01-6	Trichloroethene	13	< 13	U
127-18-4	Tetrachloroethene	13	< 13	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	113%
d8-Toluene	93.5%
Bromofluorobenzene	82.3%
d4-1,2-Dichlorobenzene	97.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED3-0-15-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34C
LIMS ID: 11-6952
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 16:38

Sample Amount: 0.565 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 80.1%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	8.8	< 8.8	U
156-59-2	cis-1,2-Dichloroethene	8.8	< 8.8	U
107-06-2	1,2-Dichloroethane	8.8	< 8.8	U
79-01-6	Trichloroethene	8.8	< 8.8	U
127-18-4	Tetrachloroethene	8.8	< 8.8	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	119%
d8-Toluene	93.8%
Bromofluorobenzene	79.2%
d4-1,2-Dichlorobenzene	98.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED4-0-15-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34D
LIMS ID: 11-6953
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 17:06

Sample Amount: 0.434 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 81.4%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	12	< 12	U
156-59-2	cis-1,2-Dichloroethene	12	< 12	U
107-06-2	1,2-Dichloroethane	12	< 12	U
79-01-6	Trichloroethene	12	< 12	U
127-18-4	Tetrachloroethene	12	< 12	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	95.0%
Bromofluorobenzene	85.4%
d4-1,2-Dichlorobenzene	98.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED1-0-15-032911-D**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34E
LIMS ID: 11-6954
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 17:34

Sample Amount: 0.655 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 77.8%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	7.6	< 7.6	U
156-59-2	cis-1,2-Dichloroethene	7.6	< 7.6	U
107-06-2	1,2-Dichloroethane	7.6	< 7.6	U
79-01-6	Trichloroethene	7.6	< 7.6	U
127-18-4	Tetrachloroethene	7.6	< 7.6	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%
d8-Toluene	93.2%
Bromofluorobenzene	77.1%
d4-1,2-Dichlorobenzene	97.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED5-0-15-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34F
LIMS ID: 11-6955
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 18:02

Sample Amount: 3.31 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 23.3%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.5	< 1.5	U
156-59-2	cis-1,2-Dichloroethene	1.5	< 1.5	U
107-06-2	1,2-Dichloroethane	1.5	< 1.5	U
79-01-6	Trichloroethene	1.5	< 1.5	U
127-18-4	Tetrachloroethene	1.5	< 1.5	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	123%
d8-Toluene	96.4%
Bromofluorobenzene	90.4%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MC-SED1-0-10-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34G
LIMS ID: 11-6956
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 18:29

Sample Amount: 3.95 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 20.8%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.3	< 1.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	< 1.3	U
107-06-2	1,2-Dichloroethane	1.3	< 1.3	U
79-01-6	Trichloroethene	1.3	< 1.3	U
127-18-4	Tetrachloroethene	1.3	< 1.3	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	120%
d8-Toluene	99.4%
Bromofluorobenzene	92.3%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MC-SED2-0-10-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34H
LIMS ID: 11-6957
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 18:57

Sample Amount: 3.76 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 25.2%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.3	< 1.3	U
156-59-2	cis-1,2-Dichloroethene	1.3	< 1.3	U
107-06-2	1,2-Dichloroethane	1.3	< 1.3	U
79-01-6	Trichloroethene	1.3	< 1.3	U
127-18-4	Tetrachloroethene	1.3	< 1.3	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	121%
d8-Toluene	97.0%
Bromofluorobenzene	93.8%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MC-SED3-0-10-032911**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34I
LIMS ID: 11-6958
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 19:25

Sample Amount: 4.10 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 20.1%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.2	< 1.2	U
156-59-2	cis-1,2-Dichloroethene	1.2	< 1.2	U
107-06-2	1,2-Dichloroethane	1.2	< 1.2	U
79-01-6	Trichloroethene	1.2	< 1.2	U
127-18-4	Tetrachloroethene	1.2	< 1.2	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	124%
d8-Toluene	96.6%
Bromofluorobenzene	96.2%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
POS-LL

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
SP34A	LL-SED1-0-15-032911	Low	123%	91.8%	75.2%	99.2%	0
MB-040111	Method Blank	Low	114%	95.3%	91.9%	99.9%	0
LCS-040111	Lab Control	Low	104%	98.1%	96.1%	101%	0
LCSD-040111	Lab Control Dup	Low	102%	96.5%	98.2%	102%	0
SP34B	LL-SED2-0-15-032911	Low	113%	93.5%	82.3%	97.9%	0
SP34BMS	LL-SED2-0-15-032911	Low	103%	94.6%	81.5%	95.5%	0
SP34BMSD	LL-SED2-0-15-032911	Low	104%	93.8%	86.6%	98.2%	0
SP34C	LL-SED3-0-15-032911	Low	119%	93.8%	79.2%	98.9%	0
SP34D	LL-SED4-0-15-032911	Low	112%	95.0%	85.4%	98.2%	0
SP34E	LL-SED1-0-15-032911-D	Low	117%	93.2%	77.1%	97.1%	0
SP34F	LL-SED5-0-15-032911	Low	123%	96.4%	90.4%	104%	0
SP34G	MC-SED1-0-10-032911	Low	120%	99.4%	92.3%	103%	0
SP34H	MC-SED2-0-10-032911	Low	121%	97.0%	93.8%	102%	0
SP34I	MC-SED3-0-10-032911	Low	124%	96.6%	96.2%	103%	0

	LCS/MB LIMITS		QC LIMITS	
SW8260C	Low	Med	Low	Med
(DCE) = d4-1,2-Dichloroethane	79-121	76-120	75-152	69-120
(TOL) = d8-Toluene	80-120	80-120	82-115	80-120
(BFB) = Bromofluorobenzene	80-120	80-120	64-120	76-128
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120	80-120	80-120

Log Number Range: 11-6950 to 11-6958

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED-032911-TB**
Page 1 of 1 **SAMPLE**

Lab Sample ID: SP34K
LIMS ID: 11-6960
Matrix: Water
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 19:52

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%
d8-Toluene	95.9%
Bromofluorobenzene	94.3%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
SP34K	LL-SED-032911-TB	5	117%	95.9%	94.3%	102%	0

SW8260C	LCS/MB LIMITS	QC LIMITS
(DCE) = d4-1,2-Dichloroethane	80-122	80-125
(TOL) = d8-Toluene	80-120	80-120
(BFB) = Bromofluorobenzene	80-120	80-120
(DCB) = d4-1,2-Dichlorobenzene	80-120	80-120

Prep Method: SW5030B
Log Number Range: 11-6960 to 11-6960

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED2-0-15-032911**
Page 1 of 1 **MATRIX SPIKE**

Lab Sample ID: SP34B
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst MS: FINN5/PAB
MSD: FINN5/PAB
Date Analyzed MS: 04/01/11 20:20
MSD: 04/01/11 20:48

Sample Amount MS: 0.492 g-dry-wt
MSD: 0.390 g-dry-wt
Purge Volume MS: 5.0 mL
MSD: 5.0 mL
Moisture: 83.8%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
trans-1,2-Dichloroethene	< 12.8 U	534	508	105%	689	641	107%	25.3%
cis-1,2-Dichloroethene	< 12.8 U	529	508	104%	662	641	103%	22.3%
1,2-Dichloroethane	< 12.8 U	556	508	109%	688	641	107%	21.2%
Trichloroethene	< 12.8 U	543	508	107%	667	641	104%	20.5%
Tetrachloroethene	< 12.8 U	514	508	101%	657	641	102%	24.4%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED2-0-15-032911**
Page 1 of 1 **MATRIX SPIKE**

Lab Sample ID: SP34B
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 20:20

Sample Amount: 0.492 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 83.8%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	10	---	
156-59-2	cis-1,2-Dichloroethene	10	---	
107-06-2	1,2-Dichloroethane	10	---	
79-01-6	Trichloroethene	10	---	
127-18-4	Tetrachloroethene	10	---	

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	94.6%
Bromofluorobenzene	81.5%
d4-1,2-Dichlorobenzene	95.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LL-SED2-0-15-032911**
Page 1 of 1 **MATRIX SPIKE DUP**

Lab Sample ID: SP34B
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 20:48

Sample Amount: 0.390 g-dry-wt
Purge Volume: 5.0 mL
Moisture: 83.8%

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	13	---	
156-59-2	cis-1,2-Dichloroethene	13	---	
107-06-2	1,2-Dichloroethane	13	---	
79-01-6	Trichloroethene	13	---	
127-18-4	Tetrachloroethene	13	---	

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	93.8%
Bromofluorobenzene	86.6%
d4-1,2-Dichlorobenzene	98.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-040111**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-040111
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
POS-LL
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/PAB
LCSD: FINN5/PAB
Date Analyzed LCS: 04/01/11 12:42
LCSD: 04/01/11 13:14

Sample Amount LCS: 5.00 g-dry-wt
LCSD: 5.00 g-dry-wt
Purge Volume LCS: 5.0 mL
LCSD: 5.0 mL
Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
trans-1,2-Dichloroethene	54.2	50.0	108%	50.2	50.0	100%	7.7%
cis-1,2-Dichloroethene	54.7	50.0	109%	52.0	50.0	104%	5.1%
1,2-Dichloroethane	53.5	50.0	107%	50.6	50.0	101%	5.6%
Trichloroethene	55.3	50.0	111%	51.0	50.0	102%	8.1%
Tetrachloroethene	56.3	50.0	113%	54.1	50.0	108%	4.0%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	104%	102%
d8-Toluene	98.1%	96.5%
Bromofluorobenzene	96.1%	98.2%
d4-1,2-Dichlorobenzene	101%	102%

4A

VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0401

Lab Name: ANALYTICAL RESOURCES, INC

Client: FLOTD SNIDER

ARI Job No: SP34

Project: LORA LAKE SURFACE SEDIM

Lab File ID: MB0401

Lab Sample ID: MB0401

Date Analyzed: 04/01/11

Time Analyzed: 1350

Instrument ID: FINN5

Heated Purge: (Y/N) Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0401	LCS0401	LCS0401	1242
02	LCS0401	LCS0401	LCS0401A	1314
03	LL-SED1-0-15	SP34A	SP34A	1540
04	LL-SED2-0-15	SP34B	SP34B	1611
05	LL-SED3-0-15	SP34C	SP34C	1638
06	LL-SED4-0-15	SP34D	SP34D	1706
07	LL-SED1-0-15	SP34E	SP34E	1734
08	LL-SED5-0-15	SP34F	SP34F	1802
09	MC-SED1-0-10	SP34G	SP34G	1829
10	MC-SED2-0-10	SP34H	SP34H	1857
11	MC-SED3-0-10	SP34I	SP34I	1925
12	LL-SED-03291	SP34K	SP34K	1952
13	LL-SED2-0-15	SP34BMS	SP34BMS	2020
14	LL-SED2-0-15	SP34BMSD	SP34BMSD	2048
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COMMENTS:

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-040111**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-040111
LIMS ID: 11-6951
Matrix: Sediment
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/PAB
Date Analyzed: 04/01/11 13:50

Sample Amount: 5.00 g-dry-wt
Purge Volume: 5.0 mL
Moisture: NA

CAS Number	Analyte	RL	Result	Q
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	114%
d8-Toluene	95.3%
Bromofluorobenzene	91.9%
d4-1,2-Dichlorobenzene	99.9%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: FLOTD SNIDER

Lab Code: ARI Case No.: LORA LAKE SURFACE SEDIMENT SDG No.: SP34

Lab File ID: BFB0309 BFB Injection Date: 03/09/11

Instrument ID: FINN5 BFB Injection Time: 1159

GC Column: RTX502.2 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.2
75	30.0 - 66.0% of mass 95	40.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 101.0% of mass 95	86.0
175	4.0 - 9.0% of mass 174	6.4 (7.5)1
176	93.0 - 101.0% of mass 174	82.2 (95.6)1
177	5.0 - 9.0% of mass 176	5.4 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD1	IC0309	0010309	03/09/11	1310
02	VSTD200	IC0309	2000309	03/09/11	1353
03	VSTD150	IC0309	1500309	03/09/11	1427
04	VSTD100	IC0309	1000309	03/09/11	1455
05	VSTD50	IC0309	0500309	03/09/11	1522
06	VSTD10	IC0309	0100309	03/09/11	1550
07	VSTD5	IC0309	0050309	03/09/11	1618
08	VSTD2	IC0309	0020309	03/09/11	1651
09					
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5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES, INC Contract: FLOTD SNIDER

Lab Code: ARI Case No.: LORA LAKE SURFACE SEDIMENT SDG No.: SP34

Lab File ID: BFB0401 BFB Injection Date: 04/01/11

Instrument ID: FINN5 BFB Injection Time: 1105

GC Column: RTX502.2 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	17.8
75	30.0 - 66.0% of mass 95	42.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.2 (0.3)1
174	50.0 - 101.0% of mass 95	84.7
175	4.0 - 9.0% of mass 174	6.3 (7.4)1
176	93.0 - 101.0% of mass 174	80.6 (95.2)1
177	5.0 - 9.0% of mass 176	5.5 (6.8)2

1-Value is % mass 174 2-Value is % mass 176

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	CC0401	0500401	04/01/11	1207
02	LCS0401	LCS0401	LCS0401	04/01/11	1242
03	LCS0401	LCS0401	LCS0401A	04/01/11	1314
04	MB0401	MB0401	MB0401	04/01/11	1350
05	LL-SED1-0-15-032	SP34A	SP34A	04/01/11	1540
06	LL-SED2-0-15-032	SP34B	SP34B	04/01/11	1611
07	LL-SED3-0-15-032	SP34C	SP34C	04/01/11	1638
08	LL-SED4-0-15-032	SP34D	SP34D	04/01/11	1706
09	LL-SED1-0-15-032	SP34E	SP34E	04/01/11	1734
10	LL-SED5-0-15-032	SP34F	SP34F	04/01/11	1802
11	MC-SED1-0-10-032	SP34G	SP34G	04/01/11	1829
12	MC-SED2-0-10-032	SP34H	SP34H	04/01/11	1857
13	MC-SED3-0-10-032	SP34I	SP34I	04/01/11	1925
14	LL-SED-032911-TB	SP34K	SP34K	04/01/11	1952
15	LL-SED2-0-15-03	SP34BMS	SP34BMS	04/01/11	2020
16	LL-SED2-0-15-03	SP34BMSD	SP34BMSD	04/01/11	2048
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF1: 0010309 RF2: 0020309 RF5: 0050309
RF10: 0100309 RF50: 0500309

COMPOUND	RF1	RF2	RF5	RF10	RF50
Chloromethane	1.171	1.006	0.919	0.820	0.825
Vinyl Chloride	1.353	1.373	1.210	1.054	1.151
Bromomethane	0.419	0.390	0.301	0.332	0.362
Chloroethane	0.774	0.674	0.933	0.869	0.688
Trichlorofluoromethane	1.030	1.046	1.050	1.026	0.985
Acrolein		0.173	0.167	0.160	0.157
112Trichloro122Trifluoroetha	0.771	0.872	0.872	0.821	0.779
Acetone	0.280	0.281	0.260	0.232	0.216
1,1-Dichloroethene	0.490	0.586	0.580	0.586	0.542
Bromoethane	0.415	0.436	0.462	0.432	0.450
Iodomethane	0.569	0.565	0.565	0.448	0.575
Methylene Chloride		0.712	0.704	0.682	0.655
Acrylonitrile		0.253	0.271	0.271	0.257
Carbon Disulfide	2.206	2.256	2.206	2.102	2.119
Trans-1,2-Dichloroethene	0.592	0.693	0.653	0.649	0.620
Vinyl Acetate	1.094	1.321	1.254	1.245	1.249
1,1-Dichloroethane	1.117	1.174	1.204	1.163	1.174
2-Butanone	0.275	0.354	0.362	0.351	0.341
2,2-Dichloropropane	0.731	0.772	0.764	0.759	0.786
Cis-1,2-Dichloroethene	0.596	0.714	0.697	0.708	0.672
Chloroform	1.008	1.149	1.099	1.100	1.075
Bromochloromethane	0.294	0.370	0.370	0.354	0.360
1,1,1-Trichloroethane	0.753	0.830	0.819	0.837	0.850
1,1-Dichloropropene	0.512	0.562	0.535	0.543	0.523
Carbon Tetrachloride	0.490	0.518	0.495	0.489	0.473
1,2-Dichloroethane	0.410	0.460	0.470	0.472	0.437
Benzene	1.455	1.526	1.506	1.535	1.436
Trichloroethene	0.377	0.399	0.415	0.420	0.403
1,2-Dichloropropane	0.407	0.440	0.441	0.460	0.438
Bromodichloromethane	0.473	0.515	0.496	0.505	0.498
Dibromomethane	0.235	0.277	0.269	0.279	0.260
2-Chloroethyl Vinyl Ether			0.076	0.090	0.087
4-Methyl-2-Pentanone	0.117	0.168	0.167	0.179	0.168
Cis 1,3-dichloropropene	0.522	0.547	0.562	0.582	0.599
Toluene	0.839	0.924	0.881	0.924	0.883
Trans 1,3-Dichloropropene	0.434	0.471	0.467	0.489	0.500
2-Hexanone	0.265	0.406	0.402	0.414	0.382

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF1: 0010309 RF2: 0020309 RF5: 0050309
RF10: 0100309 RF50: 0500309

COMPOUND	RF1	RF2	RF5	RF10	RF50
1,1,2-Trichloroethane	0.277	0.355	0.343	0.345	0.324
1,3-Dichloropropane	0.551	0.670	0.668	0.641	0.650
Tetrachloroethene	0.456	0.473	0.456	0.447	0.447
Chlorodibromomethane	0.450	0.477	0.439	0.432	0.453
1,2-Dibromoethane	0.318	0.394	0.380	0.392	0.383
Chlorobenzene	1.006	1.131	1.065	1.048	1.023
Ethyl Benzene	1.602	1.809	1.710	1.697	1.677
1,1,1,2-Tetrachloroethane	0.376	0.405	0.380	0.377	0.372
m,p-xylene	0.637	0.684	0.664	0.659	0.651
o-Xylene	0.606	0.680	0.649	0.659	0.665
Styrene	0.988	1.142	1.097	1.093	1.062
Bromoform	0.500	0.610	0.586	0.574	0.588
1,1,2,2-Tetrachloroethane	0.998	1.109	1.027	1.034	1.009
1,2,3-Trichloropropane		0.238	0.256	0.254	0.242
Trans-1,4-Dichloro 2-Butene		0.278	0.274	0.262	0.260
N-Propyl Benzene	3.606	3.691	3.592	3.524	3.566
Bromobenzene	0.878	0.931	0.899	0.906	0.883
Isopropyl Benzene	3.047	3.236	3.096	3.061	3.136
2-Chloro Toluene	2.381	2.436	2.427	2.386	2.202
4-Chloro Toluene	2.467	2.711	2.397	2.399	2.401
T-Butyl Benzene	2.260	2.402	2.236	2.251	2.252
1,3,5-Trimethyl Benzene	2.424	2.456	2.348	2.368	2.441
1,2,4-Trimethylbenzene	2.405	2.474	2.437	2.415	2.430
S-Butyl Benzene	3.313	3.425	3.319	3.352	3.347
4-Isopropyl Toluene	2.495	2.581	2.498	2.517	2.570
1,3-Dichlorobenzene	1.631	1.700	1.578	1.576	1.557
1,4-Dichlorobenzene	1.698	1.711	1.588	1.551	1.524
N-Butyl Benzene	2.559	2.526	2.445	2.505	2.558
1,2-Dichlorobenzene	1.532	1.626	1.517	1.508	1.448
1,2-Dibromo 3-Chloropropane		0.210	0.197	0.194	0.176
1,2,4-Trichlorobenzene	1.019	1.143	1.088	1.084	1.064
Hexachloro 1,3-Butadiene	0.630	0.686	0.616	0.654	0.580
Naphthalene		2.735	2.619	2.683	2.416
1,2,3-Trichlorobenzene		1.211	1.122	1.140	1.022
Dichlorodifluoromethane	0.535	0.476	0.528	0.491	0.544
Methyl tert-Butyl Ether	2.401	3.027	3.020	2.966	2.890

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF1: 0010309 RF2: 0020309 RF5: 0050309
RF10: 0100309 RF50: 0500309

COMPOUND	RF1	RF2	RF5	RF10	RF50
d4-1,2-Dichloroethane	0.508	0.570	0.587	0.596	0.567
d8-Toluene	1.113	1.120	1.120	1.149	1.121
4-Bromofluorobenzene	0.492	0.518	0.519	0.529	0.518
d4-1,2-Dichlorobenzene	0.871	0.883	0.880	0.885	0.900
Dibromofluoromethane	0.569	0.607	0.621	0.604	0.604

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF100: 1000309 RF150: 1500309 RF200: 2000309

COMPOUND	RF100	RF150	RF200
Chloromethane	0.799	0.834	0.700
Vinyl Chloride	0.970	0.914	0.781
Bromomethane	0.428	0.451	0.370
Chloroethane	0.671	0.668	0.588
Trichlorofluoromethane	0.959	0.994	0.891
Acrolein	0.149	0.147	0.125
112Trichloro122Trifluoroetha	0.752	0.780	0.707
Acetone	0.200	0.194	0.161
1,1-Dichloroethene	0.546	0.570	0.522
Bromoethane	0.438	0.440	0.401
Iodomethane	0.521	0.486	0.403
Methylene Chloride	0.639	0.648	0.582
Acrylonitrile	0.250	0.255	0.223
Carbon Disulfide	2.062	2.044	1.726
Trans-1,2-Dichloroethene	0.629	0.658	0.602
Vinyl Acetate	1.270	1.340	1.138
1,1-Dichloroethane	1.147	1.195	1.087
2-Butanone	0.333	0.334	0.284
2,2-Dichloropropane	0.793	0.826	0.738
Cis-1,2-Dichloroethene	0.676	0.704	0.638
Chloroform	1.082	1.092	1.011
Bromochloromethane	0.359	0.374	0.347
1,1,1-Trichloroethane	0.857	0.881	0.807
1,1-Dichloropropene	0.547	0.583	0.501
Carbon Tetrachloride	0.488	0.517	0.448
1,2-Dichloroethane	0.448	0.460	0.396
Benzene	1.422	1.327	1.035
Trichloroethene	0.427	0.456	0.400
1,2-Dichloropropane	0.455	0.476	0.414
Bromodichloromethane	0.514	0.536	0.464
Dibromomethane	0.264	0.272	0.238
2-Chloroethyl Vinyl Ether	0.100	0.116	0.101
4-Methyl-2-Pentanone	0.172	0.174	0.137
Cis 1,3-dichloropropene	0.638	0.678	0.581
Toluene	0.930	0.974	0.814
Trans 1,3-Dichloropropene	0.542	0.578	0.502
2-Hexanone	0.320	0.280	

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF100: 1000309 RF150: 1500309 RF200: 2000309

COMPOUND	RF100	RF150	RF200
1,1,2-Trichloroethane	0.341	0.355	0.312
1,3-Dichloropropane	0.646	0.706	0.556
Tetrachloroethene	0.458	0.521	0.433
Chlorodibromomethane	0.461	0.508	0.409
1,2-Dibromoethane	0.404	0.428	0.374
Chlorobenzene	1.038	1.114	0.846
Ethyl Benzene	1.623	1.504	1.077
1,1,1,2-Tetrachloroethane	0.383	0.425	0.354
m,p-xylene	0.668	0.682	0.509
o-Xylene	0.687	0.770	0.639
Styrene	1.106	1.168	0.891
Bromoform	0.616	0.703	0.551
1,1,2,2-Tetrachloroethane	1.006	1.087	0.831
1,2,3-Trichloropropane	0.244	0.268	0.208
Trans-1,4-Dichloro 2-Butene	0.265	0.289	0.217
N-Propyl Benzene	3.293	3.066	2.111
Bromobenzene	0.928	1.067	0.878
Isopropyl Benzene	3.068	3.034	2.101
2-Chloro Toluene	2.301	2.397	1.757
4-Chloro Toluene	2.349	2.433	1.714
T-Butyl Benzene	2.349	2.550	1.893
1,3,5-Trimethyl Benzene	2.508	2.553	1.857
1,2,4-Trimethylbenzene	2.472	2.572	1.823
S-Butyl Benzene	3.260	3.130	2.220
4-Isopropyl Toluene	2.632	2.659	1.929
1,3-Dichlorobenzene	1.611	1.835	1.444
1,4-Dichlorobenzene	1.591	1.813	1.396
N-Butyl Benzene	2.621	2.580	1.815
1,2-Dichlorobenzene	1.498	1.677	1.314
1,2-Dibromo 3-Chloropropane	0.173	0.183	0.135
1,2,4-Trichlorobenzene	1.078	1.208	0.963
Hexachloro 1,3-Butadiene	0.594	0.665	0.543
Naphthalene	2.319	2.306	1.606
1,2,3-Trichlorobenzene	1.010	1.103	0.852
Dichlorodifluoromethane	0.512	0.517	0.453
Methyl tert-Butyl Ether	2.803	2.556	2.055

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

LAB FILE ID: RF100: 1000309 RF150: 1500309 RF200: 2000309

COMPOUND	RF100	RF150	RF200
d4-1,2-Dichloroethane	0.531	0.476	0.569
d8-Toluene	1.142	1.135	1.142
4-Bromofluorobenzene	0.517	0.501	0.512
d4-1,2-Dichlorobenzene	0.901	0.883	0.899
Dibromofluoromethane	0.591	0.548	0.611

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	0.884	16.6
Vinyl Chloride	AVRG	1.101	19.1
Bromomethane	AVRG	0.382	13.2
Chloroethane	AVRG	0.733	15.9
Trichlorofluoromethane	AVRG	0.998	5.3
Acrolein	AVRG	0.154	10.2
112Trichloro122Trifluoroetha	AVRG	0.794	7.2
Acetone	AVRG	0.228	19.0
1,1-Dichloroethene	AVRG	0.553	6.2
Bromoethane	AVRG	0.434	4.4
Iodomethane	AVRG	0.516	12.5
Methylene Chloride	AVRG	0.660	6.7
Acrylonitrile	AVRG	0.254	6.3
Carbon Disulfide	AVRG	2.090	7.9
Trans-1,2-Dichloroethene	AVRG	0.637	5.2
Vinyl Acetate	AVRG	1.239	6.8
1,1-Dichloroethane	AVRG	1.158	3.4
2-Butanone	AVRG	0.329	9.8
2,2-Dichloropropane	AVRG	0.771	4.0
Cis-1,2-Dichloroethene	AVRG	0.676	6.0
Chloroform	AVRG	1.077	4.4
Bromochloromethane	AVRG	0.354	7.2
1,1,1-Trichloroethane	AVRG	0.829	4.6
1,1-Dichloropropene	AVRG	0.538	5.0
Carbon Tetrachloride	AVRG	0.490	4.6
1,2-Dichloroethane	AVRG	0.444	6.3
Benzene	AVRG	1.405	11.7
Trichloroethene	AVRG	0.412	5.7
1,2-Dichloropropane	AVRG	0.441	5.2
Bromodichloromethane	AVRG	0.500	4.7
Dibromomethane	AVRG	0.262	6.4
2-Chloroethyl Vinyl Ether	AVRG	0.095	14.6
4-Methyl-2-Pentanone	AVRG	0.160	13.4
Cis 1,3-dichloropropene	AVRG	0.589	8.5
Toluene	AVRG	0.896	5.8
Trans 1,3-Dichloropropene	AVRG	0.498	9.0
2-Hexanone	AVRG	0.353	17.9

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.332	8.0
1,3-Dichloropropane	AVRG	0.636	8.6
Tetrachloroethene	AVRG	0.461	5.8
Chlorodibromomethane	AVRG	0.454	6.6
1,2-Dibromoethane	AVRG	0.384	8.2
Chlorobenzene	AVRG	1.034	8.4
Ethyl Benzene	AVRG	1.587	14.1
1,1,1,2-Tetrachloroethane	AVRG	0.384	5.6
m,p-xylene	AVRG	0.644	8.8
o-Xylene	AVRG	0.669	7.2
Styrene	AVRG	1.068	8.4
Bromoform	AVRG	0.591	9.8
1,1,2,2-Tetrachloroethane	AVRG	1.013	8.3
1,2,3-Trichloropropane	AVRG	0.244	7.7
Trans-1,4-Dichloro 2-Butene	AVRG	0.264	8.7
N-Propyl Benzene	AVRG	3.306	15.8
Bromobenzene	AVRG	0.921	6.8
Isopropyl Benzene	AVRG	2.972	12.0
2-Chloro Toluene	AVRG	2.286	9.9
4-Chloro Toluene	AVRG	2.359	12.0
T-Butyl Benzene	AVRG	2.274	8.2
1,3,5-Trimethyl Benzene	AVRG	2.370	9.2
1,2,4-Trimethylbenzene	AVRG	2.378	9.7
S-Butyl Benzene	AVRG	3.171	12.4
4-Isopropyl Toluene	AVRG	2.485	9.4
1,3-Dichlorobenzene	AVRG	1.616	7.1
1,4-Dichlorobenzene	AVRG	1.609	8.0
N-Butyl Benzene	AVRG	2.451	10.7
1,2-Dichlorobenzene	AVRG	1.515	7.2
1,2-Dibromo 3-Chloropropane	AVRG	0.181	13.4
1,2,4-Trichlorobenzene	AVRG	1.081	6.8
Hexachloro 1,3-Butadiene	AVRG	0.621	7.6
Naphthalene	AVRG	2.383	16.1
1,2,3-Trichlorobenzene	AVRG	1.066	11.0
Dichlorodifluoromethane	AVRG	0.507	6.2
Methyl tert-Butyl Ether	AVRG	2.715	12.8

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Calibration Date: 03/09/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.550	7.6
d8-Toluene	AVRG	1.130	1.2
4-Bromofluorobenzene	AVRG	0.513	2.3
d4-1,2-Dichlorobenzene	AVRG	0.888	1.2
Dibromofluoromethane	AVRG	0.594	4.1

<- Indicates value outside QC limits:
(%RSD < 20% or R^2 > 0.990)

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Cont. Calib. Date: 04/01/11

Init. Calib. Date: 03/09/11 Cont. Calib. Time: 1207

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.884	0.966	0.100	AVRG	9.3	
Vinyl Chloride	1.101	1.125	0.010	AVRG	2.2	
Bromomethane	0.382	0.735	0.010	AVRG	92.4	<-
Chloroethane	0.733	0.701	0.010	AVRG	-4.4	
Trichlorofluoromethane	0.998	1.040	0.010	AVRG	4.2	
Acrolein	0.154	0.149	0.010	AVRG	-3.2	
112Trichloro122Trifluoroetha	0.794	0.831	0.010	AVRG	4.6	
Acetone	0.228	0.195	0.010	AVRG	-14.5	
1,1-Dichloroethene	0.553	0.561	0.010	AVRG	1.4	
Bromoethane	0.434	0.461	0.010	AVRG	6.2	
Iodomethane	0.516	0.812	0.010	AVRG	57.4	<-
Methylene Chloride	0.660	0.656	0.010	AVRG	-0.6	
Acrylonitrile	0.254	0.226	0.010	AVRG	-11.0	
Carbon Disulfide	2.090	2.071	0.010	AVRG	-0.9	
Trans-1,2-Dichloroethene	0.637	0.630	0.010	AVRG	-1.1	
Vinyl Acetate	1.239	1.114	0.010	AVRG	-10.1	
1,1-Dichloroethane	1.158	1.115	0.100	AVRG	-3.7	
2-Butanone	0.329	0.286	0.010	AVRG	-13.1	
2,2-Dichloropropane	0.771	0.816	0.010	AVRG	5.8	
Cis-1,2-Dichloroethene	0.676	0.690	0.010	AVRG	2.1	
Chloroform	1.077	1.066	0.010	AVRG	-1.0	
Bromochloromethane	0.354	0.364	0.010	AVRG	2.8	
1,1,1-Trichloroethane	0.829	0.889	0.010	AVRG	7.2	
1,1-Dichloropropene	0.538	0.514	0.010	AVRG	-4.5	
Carbon Tetrachloride	0.490	0.518	0.010	AVRG	5.7	
1,2-Dichloroethane	0.444	0.426	0.010	AVRG	-4.0	
Benzene	1.405	1.421	0.010	AVRG	1.1	
Trichloroethene	0.412	0.413	0.010	AVRG	0.2	
1,2-Dichloropropane	0.441	0.413	0.010	AVRG	-6.3	
Bromodichloromethane	0.500	0.502	0.010	AVRG	0.4	
Dibromomethane	0.262	0.250	0.010	AVRG	-4.6	
2-Chloroethyl Vinyl Ether	0.095	0.130	0.010	AVRG	36.8	<-
4-Methyl-2-Pentanone	0.160	0.147	0.010	AVRG	-8.1	
Cis 1,3-dichloropropene	0.589	0.596	0.010	AVRG	1.2	
Toluene	0.896	0.915	0.010	AVRG	2.1	
Trans 1,3-Dichloropropene	0.498	0.496	0.010	AVRG	-0.4	
2-Hexanone	0.353	0.326	0.010	AVRG	-7.6	

<- Exceeds QC limit of 20% D
* RF less than minimum RF

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Cont. Calib. Date: 04/01/11

Init. Calib. Date: 03/09/11 Cont. Calib. Time: 1207

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.332	0.343	0.010	AVRG	3.3
1,3-Dichloropropane	0.636	0.646	0.010	AVRG	1.6
Tetrachloroethene	0.461	0.489	0.010	AVRG	6.1
Chlorodibromomethane	0.454	0.491	0.010	AVRG	8.1
1,2-Dibromoethane	0.384	0.385	0.010	AVRG	0.3
Chlorobenzene	1.034	1.103	0.300	AVRG	6.7
Ethyl Benzene	1.587	1.728	0.010	AVRG	8.9
1,1,1,2-Tetrachloroethane	0.384	0.410	0.010	AVRG	6.8
m,p-xylene	0.644	0.678	0.010	AVRG	5.3
o-Xylene	0.669	0.697	0.010	AVRG	4.2
Styrene	1.068	1.110	0.010	AVRG	3.9
Bromoform	0.591	0.624	0.100	AVRG	5.6
1,1,2,2-Tetrachloroethane	1.013	0.989	0.300	AVRG	-2.4
1,2,3-Trichloropropane	0.244	0.249	0.010	AVRG	2.0
Trans-1,4-Dichloro 2-Butene	0.264	0.250	0.010	AVRG	-5.3
N-Propyl Benzene	3.306	3.698	0.010	AVRG	11.8
Bromobenzene	0.921	0.952	0.010	AVRG	3.4
Isopropyl Benzene	2.972	3.286	0.010	AVRG	10.6
2-Chloro Toluene	2.286	2.286	0.010	AVRG	0.0
4-Chloro Toluene	2.359	2.511	0.010	AVRG	6.4
T-Butyl Benzene	2.274	2.367	0.010	AVRG	4.1
1,3,5-Trimethyl Benzene	2.369	2.536	0.010	AVRG	7.0
1,2,4-Trimethylbenzene	2.378	2.518	0.010	AVRG	5.9
S-Butyl Benzene	3.171	3.518	0.010	AVRG	10.9
4-Isopropyl Toluene	2.485	2.689	0.010	AVRG	8.2
1,3-Dichlorobenzene	1.616	1.665	0.010	AVRG	3.0
1,4-Dichlorobenzene	1.609	1.625	0.010	AVRG	1.0
N-Butyl Benzene	2.451	2.578	0.010	AVRG	5.2
1,2-Dichlorobenzene	1.515	1.548	0.010	AVRG	2.2
1,2-Dibromo 3-Chloropropane	0.181	0.155	0.010	AVRG	-14.4
1,2,4-Trichlorobenzene	1.081	0.944	0.010	AVRG	-12.7
Hexachloro 1,3-Butadiene	0.621	0.529	0.010	AVRG	-14.8
Naphthalene	2.383	1.935	0.010	AVRG	-18.8
1,2,3-Trichlorobenzene	1.066	0.872	0.010	AVRG	-18.2
Dichlorodifluoromethane	0.507	0.421	0.010	AVRG	-17.0
Methyl tert-Butyl Ether	2.715	2.667	0.010	AVRG	-1.8

<- Exceeds QC limit of 20% D
* RF less than minimum RF

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: FINN5 Cont. Calib. Date: 04/01/11

Init. Calib. Date: 03/09/11 Cont. Calib. Time: 1207

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.550	0.512	0.010	AVRG	-6.9
d8-Toluene	1.130	1.110	0.010	AVRG	-1.8
4-Bromofluorobenzene	0.513	0.491	0.010	AVRG	-4.3
d4-1,2-Dichlorobenzene	0.888	0.888	0.010	AVRG	0.0
Dibromofluoromethane	0.594	0.580	0.010	AVRG	-2.4

<- Exceeds QC limit of 20% D

* RF less than minimum RF

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 0500309 Ical Date: 03/09/11

Instrument ID: FINN5 Project Run Date: 04/01/11

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	91022	6.44	153104	7.45	143720	10.59
	UPPER LIMIT	182044	6.94	306208	7.95	287440	11.09
	LOWER LIMIT	45511	5.94	76552	6.95	71860	10.09
	Sample ID						
01	LCS0401	97102	6.44	166062	7.45	161604	10.59
02	LCS0401	101667	6.43	169771	7.44	159503	10.58
03	MB0401	86838	6.43	149294	7.44	143738	10.58
04	LL-SED1-0-15	86976	6.45	154548	7.46	127096	10.59
05	LL-SED2-0-15	86739	6.46	149495	7.47	129760	10.60
06	LL-SED3-0-15	89209	6.46	153758	7.47	131924	10.60
07	LL-SED4-0-15	88412	6.44	147130	7.45	135585	10.58
08	LL-SED1-0-15	82912	6.45	141137	7.46	119743	10.59
09	LL-SED5-0-15	77625	6.45	136101	7.46	132096	10.60
10	MC-SED1-0-10	89343	6.46	148861	7.46	150041	10.60
11	MC-SED2-0-10	85893	6.46	152169	7.47	151097	10.60
12	MC-SED3-0-10	77741	6.44	136632	7.45	135715	10.59
13	LL-SED-03291	79397	6.44	139491	7.45	135233	10.58
14	LL-SED2-0-15	88939	6.45	143214	7.46	122094	10.59
15	LL-SED2-0-15	93367	6.45	155004	7.46	130763	10.60
16							
17							
18							
19							
20							
21							
22							

IS1 (PFB) = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CLB) = d5-Chlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 0500309 Ical Date: 03/09/11

Instrument ID: FINN5 Project Run Date: 04/01/11

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	77398	13.28				
	UPPER LIMIT	154796	13.78				
	LOWER LIMIT	38699	12.78				
	Sample ID						
01	LCS0401	87710	13.28				
02	LCS0401	86917	13.27				
03	MB0401	73654	13.27				
04	LL-SED1-0-15	36676*	13.28				
05	LL-SED2-0-15	44480	13.29				
06	LL-SED3-0-15	42595	13.29				
07	LL-SED4-0-15	51730	13.27				
08	LL-SED1-0-15	36936*	13.28				
09	LL-SED5-0-15	61596	13.29				
10	MC-SED1-0-10	76681	13.29				
11	MC-SED2-0-10	80041	13.29				
12	MC-SED3-0-10	71635	13.28				
13	LL-SED-03291	71427	13.27				
14	LL-SED2-0-15	39226	13.28				
15	LL-SED2-0-15	46549	13.28				
16							
17							
18							
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22							

IS4 (DCB) = d4-1,4-Dichlorobenzene

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Ical midpoint
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Ical midpoint

* Values outside of QC limits.

SIM PAH Analysis
Report and Summary QC Forms

ARI Job ID: SP34, SQ22

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LL-SED1-0-15-032911-ER
SAMPLE

Lab Sample ID: SP34J
LIMS ID: 11-6959
Matrix: Water
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/01/11
Date Analyzed: 04/09/11 14:29
Instrument/Analyst: NT12/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	61.7%
d14-Dibenzo(a,h)anthracene	91.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
POS-LL

Client ID	MNP	DBA	TOT OUT
MB-040111	66.7%	90.3%	0
LCS-040111	73.7%	95.0%	0
LCSD-040111	70.0%	94.3%	0
LL-SED1-0-15-032911-ER	61.7%	91.7%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(36-101)	(30-106)
(DBA) = d14-Dibenzo(a,h)anthracene	(42-121)	(10-130)

Prep Method: SW3520C
Log Number Range: 11-6959 to 11-6959

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-040111
LAB CONTROL SAMPLE

Lab Sample ID: LCS-040111
LIMS ID: 11-6959
Matrix: Water
Data Release Authorized:
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 04/01/11

Date Analyzed LCS: 04/09/11 10:18
LCSD: 04/09/11 10:45
Instrument/Analyst LCS: NT12/JZ
LCSD: NT12/JZ

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzo(a)anthracene	2.23	3.00	74.3%	2.27	3.00	75.7%	1.8%
Chrysene	2.68	3.00	89.3%	2.70	3.00	90.0%	0.7%
Benzo(a)pyrene	1.67	3.00	55.7%	1.75	3.00	58.3%	4.7%
Indeno(1,2,3-cd)pyrene	2.84	3.00	94.7%	2.96	3.00	98.7%	4.1%
Dibenz(a,h)anthracene	2.86	3.00	95.3%	2.95	3.00	98.3%	3.1%
Total Benzofluoranthenes	4.96	6.00	82.7%	5.26	6.00	87.7%	5.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	73.7%	70.0%
d14-Dibenzo(a,h)anthracene	95.0%	94.3%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

SP33MBW1

Lab Name: ANALYTICAL RESOURCES, INC

Client: HYDROMETRICS, INC.

ARI Job No: SP34

Project: IDAHO POLE GRS SAMPL

Lab File ID: 04091103

Date Extracted: 04/01/11

Instrument ID: NT12

Date Analyzed: 04/09/11

Matrix: LIQUID

Time Analyzed: 0950

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SP33LCSW1	SP33LCSW1	04091104	04/09/11
02	SP33LCSDW1	SP33LCSDW1	04091105	04/09/11
03	LL-SED1-0-15-032	SP34J	04091113	04/09/11
04				
05				
06				
07				
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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: MB-040111
METHOD BLANK

Lab Sample ID: MB-040111
LIMS ID: 11-6959
Matrix: Water
Data Release Authorized: S
Reported: 04/12/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: NA
Date Received: NA

Date Extracted: 04/01/11
Date Analyzed: 04/09/11 09:50
Instrument/Analyst: NT12/JZ

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	0.10	< 0.10 U
218-01-9	Chrysene	0.10	< 0.10 U
50-32-8	Benzo(a)pyrene	0.10	< 0.10 U
193-39-5	Indeno(1,2,3-cd)pyrene	0.10	< 0.10 U
53-70-3	Dibenz(a,h)anthracene	0.10	< 0.10 U
TOTBFA	Total Benzofluoranthenes	0.10	< 0.10 U

Reported in µg/L (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.7%
d14-Dibenzo(a,h)anthracene	90.3%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

Instrument ID: NT12 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/05/11 DFTPP Injection Time: 1743

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	17.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	61.3
70	Less than 2.0% of mass 69	0.4 (0.6)1
127	10.0 - 80.0% of mass 198	52.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 60.0% of mass 198	28.3
365	Greater than 1.0% of mass 198	5.68
441	0.0 - 24.0% of mass 442	10.0 (15.5)2
442	50.0 - 200.0% of mass 198	64.2
443	15.0 - 24.0% of mass 442	12.2 (19.0)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC250405	IC250405	04051102	04/05/11	1852
02	IC010405	IC010405	04051103	04/05/11	1923
03	IC050405	IC050405	04051104	04/05/11	1950
04	IC10405	IC10405	04051105	04/05/11	2018
05	IC050405	IC50405	04051106	04/05/11	2046
06	IC100405	IC100405	04051107	04/05/11	2114
07					
08					
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22					

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

Instrument ID: NT12 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/09/11 DFTPP Injection Time: 0836

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	19.5
68	Less than 2.0% of mass 69	0.4 (0.6)1
69	Mass 69 relative abundance	68.3
70	Less than 2.0% of mass 69	0.4 (0.5)1
127	10.0 - 80.0% of mass 198	53.9
197	Less than 2.0% of mass 198	0.3
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.2
275	10.0 - 60.0% of mass 198	29.7
365	Greater than 1.0% of mass 198	5.53
441	0.0 - 24.0% of mass 442	9.2 (16.0)2
442	50.0 - 200.0% of mass 198	57.4
443	15.0 - 24.0% of mass 442	11.4 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0409	CC0409	04091102	04/09/11	0911
02	SP33MBW1	SP33MBW1	04091103	04/09/11	0950
03	SP33LCSW1	SP33LCSW1	04091104	04/09/11	1018
04	SP33LCSDW1	SP33LCSDW1	04091105	04/09/11	1045
05	LL-SED1-0-15-032	SP34J	04091113	04/09/11	1429
06					
07					
08					
09					
10					
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SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIME

Instrument ID: NT12 Calibration Date: 04/05/11

LAB FILE ID: RRF0.1=04051103 RRF0.5=04051104 RRF1 =04051105
RRF2.5=04051102 RRF5 =04051106 RRF10 =04051107

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.238	1.058	0.995	0.991	0.974	0.829	1.014	13.2
2-Methylnaphthalene	0.805	0.659	0.637	0.613	0.617	0.504	0.639	15.2
Acenaphthylene	2.074	1.865	1.764	1.717	1.719	1.516	1.776	10.4
Acenaphthene	1.387	1.109	1.101	1.071	1.045	0.926	1.106	13.8
Dibenzofuran	1.884	1.531	1.469	1.438	1.450	1.257	1.505	13.8
Fluorene	1.577	1.351	1.211	1.204	1.230	1.094	1.278	13.1
Phenanthrene	1.351	1.105	1.017	0.998	1.014	0.900	1.064	14.6
Anthracene	1.311	1.132	1.069	1.039	1.026	0.915	1.082	12.3
Fluoranthene	1.430	1.219	1.138	1.105	1.112	1.000	1.167	12.6
Pyrene	1.362	1.170	1.112	1.163	1.097	1.012	1.153	10.2
Benzo(a)anthracene	1.230	1.028	0.960	0.983	0.978	0.916	1.016	11.0
Chrysene	1.088	0.971	0.919	0.901	0.902	0.844	0.938	9.0
Benzo(b)fluoranthene	1.529	1.325	1.210	1.170	1.255	1.176	1.278	10.6
Benzo(k)fluoranthene	1.670	1.316	1.310	1.132	1.233	1.075	1.289	16.3
Benzo(j)fluoranthene	1.265	1.307	1.173	1.146	1.140	1.048	1.180	7.9
Benzo(a)pyrene	1.247	1.098	1.004	0.981	1.018	0.943	1.048	10.5
Indeno(1,2,3-cd)pyrene	1.181	1.016	0.964	0.961	0.974	0.944	1.007	8.8
Dibenzo(a,h)anthracene	1.099	0.820	0.822	0.810	0.819	0.788	0.860	13.7
Benzo(g,h,i)perylene	1.082	0.860	0.837	0.818	0.848	0.809	0.876	11.7
1-methylnaphthalene	0.832	0.735	0.674	0.648	0.637	0.530	0.676	15.0
Perylene	1.133	0.903	0.779	0.776	0.831	0.775	0.866	16.1
2-Methylnaphthalene-d10	0.914	0.700	0.699	0.702	0.696	0.577	0.715	15.3
Dibenzo(a,h)anthracene-d14	0.995	0.751	0.727	0.738	0.764	0.732	0.784	13.2

<- Outside QC limits: %RSD <20% or R^2 > 0.990

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: NT12 Cont. Calib. Date: 04/09/11

Init. Calib. Date: 04/05/11 Cont. Calib. Time: 0911

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	1.014	0.951	0.700	AVRG	-6.2
2-Methylnaphthalene	0.639	0.570	0.400	AVRG	-10.8
Acenaphthylene	1.776	1.708	0.900	AVRG	-3.8
Acenaphthene	1.106	1.064	0.900	AVRG	-3.8
Dibenzofuran	1.505	1.458	0.800	AVRG	-3.1
Fluorene	1.278	1.232	0.900	AVRG	-3.6
Phenanthrene	1.064	1.049	0.700	AVRG	-1.4
Anthracene	1.082	1.021	0.700	AVRG	-5.6
Fluoranthene	1.167	1.082	0.600	AVRG	-7.3
Pyrene	1.153	1.052	0.600	AVRG	-8.8
Benzo(a)anthracene	1.016	0.952	0.800	AVRG	-6.3
Chrysene	0.938	0.900	0.700	AVRG	-4.0
Benzo(b)fluoranthene	1.278	1.263	0.700	AVRG	-1.2
Benzo(k)fluoranthene	1.289	1.196	0.700	AVRG	-7.2
Benzo(j)fluoranthene	1.180	1.087	0.010	AVRG	-7.9
Benzo(a)pyrene	1.048	1.001	0.700	AVRG	-4.5
Indeno(1,2,3-cd)pyrene	1.007	1.056	0.500	AVRG	4.9
Dibenzo(a,h)anthracene	0.860	0.870	0.400	AVRG	1.2
Benzo(g,h,i)perylene	0.876	0.860	0.500	AVRG	-1.8
1-methylnaphthalene	0.676	0.578	0.010	AVRG	-14.5
Perylene	0.866	0.803	0.010	AVRG	-7.3
2-Methylnaphthalene-d10	0.715	0.632	0.010	AVRG	-11.6
Dibenzo(a,h)anthracene-d14	0.784	0.819	0.010	AVRG	4.5

<- Exceeds QC limit of 20% D

* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04051102 Ical Date: 04/05/11

Instrument ID: NT12 Cont. Cal Date: 04/09/11

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	441810	4.76	318031	6.99	536157	8.93
	UPPER LIMIT	883620		636062		1072314	
	LOWER LIMIT	220905		159016		268078	
	CCAL	392501	4.65	245884	6.88	439764	8.81
	UPPER LIMIT		5.15		7.38		9.31
	LOWER LIMIT		4.15		6.38		8.31
01	SP33MBW1	259400	4.64	178883	6.88	315653	8.81
02	SP33LCSW1	257491	4.64	180948	6.88	330865	8.80
03	SP33LCSDW1	261578	4.64	181540	6.88	324241	8.80
04	LL-SED1-0-15	253322	4.63	172394	6.87	289835	8.80
05							
06							
07							
08							
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23							
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25							

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOTD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04051102 Ical Date: 04/05/11

Instrument ID: NT12 Cont. Cal Date: 04/09/11

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	511980	13.52	378009	17.14		
	UPPER LIMIT	1023960		756018			
	LOWER LIMIT	255990		189004			
	CCAL	462746	13.32	360668	16.89		
	UPPER LIMIT		13.82		17.39		
	LOWER LIMIT		12.82		16.39		
01	SP33MBW1	346234	13.31	254327	16.89		
02	SP33LCSW1	355209	13.31	275363	16.88		
03	SP33LCSDW1	354937	13.30	280836	16.88		
04	LL-SED1-0-15	325014	13.30	271450	16.87		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: MC-SED1-0-10-032911
SAMPLE

Lab Sample ID: SP34G
LIMS ID: 11-6956
Matrix: Sediment
Data Release Authorized:
Reported: 04/26/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/25/11 17:04
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.80 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 17.2%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	4.6	< 4.6 U
218-01-9	Chrysene	4.6	< 4.6 U
50-32-8	Benzo(a)pyrene	4.6	< 4.6 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	< 4.6 U
53-70-3	Dibenz(a,h)anthracene	4.6	< 4.6 U
TOTBFA	Total Benzofluoranthenes	4.6	< 4.6 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	38.0%
d14-Dibenzo(a,h)anthracen	42.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: MC-SED2-0-10-032911
SAMPLE

Lab Sample ID: SP34H
LIMS ID: 11-6957
Matrix: Sediment
Data Release Authorized:
Reported: 04/26/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/25/11 17:32
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.28 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 14.8%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	4.9	< 4.9 U
218-01-9	Chrysene	4.9	< 4.9 U
50-32-8	Benzo(a)pyrene	4.9	< 4.9 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	< 4.9 U
53-70-3	Dibenz(a,h)anthracene	4.9	< 4.9 U
TOTBFA	Total Benzofluoranthenes	4.9	< 4.9 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	64.7%
d14-Dibenzo(a,h)anthracen	82.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: MC-SED3-0-10-032911
SAMPLE

Lab Sample ID: SP34I
LIMS ID: 11-6958
Matrix: Sediment
Data Release Authorized:
Reported: 04/26/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/25/11 18:00
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.16 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 8.1%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	4.9	< 4.9 U
218-01-9	Chrysene	4.9	< 4.9 U
50-32-8	Benzo(a)pyrene	4.9	< 4.9 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	< 4.9 U
53-70-3	Dibenz(a,h)anthracene	4.9	< 4.9 U
TOTBFA	Total Benzofluoranthenes	4.9	< 4.9 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.3%
d14-Dibenzo(a,h)anthracen	79.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL

Client ID	MNP	DBA	TOT OUT
MB-041111	41.3%	38.0%	0
LCS-041111	68.0%	75.7%	0
LCSD-041111	62.7%	64.3%	0
MC-SED1-0-10-032911	38.0%	42.7%	0
MC-SED2-0-10-032911	64.7%	82.0%	0
MC-SED3-0-10-032911	66.3%	79.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(35-100)	(34-100)
(DBA) = d14-Dibenzo(a,h)anthracene	(37-120)	(10-117)

Prep Method: SW3580A
Log Number Range: 11-6956 to 11-6958

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: LL-SED1-0-15-032911
SAMPLE

Lab Sample ID: SQ22A
LIMS ID: 11-7355
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 19:59
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.10 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 69.4%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	5.0	97
218-01-9	Chrysene	5.0	180
50-32-8	Benzo(a)pyrene	5.0	130
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	100
53-70-3	Dibenz(a,h)anthracene	5.0	25
TOTBFA	Total Benzofluoranthenes	5.0	300

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	67.7%
d14-Dibenzo(a,h)anthracen	58.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LL-SED2-0-15-032911
SAMPLE

Lab Sample ID: SQ22B
LIMS ID: 11-7356
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 20:27
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 6.37 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 81.3%

CAS Number	Analyte	RL	Result
56-55-3	**Benzo(a)anthracene**	**7.8**	**55**
218-01-9	**Chrysene**	**7.8**	**140**
50-32-8	**Benzo(a)pyrene**	**7.8**	**80**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**7.8**	**67**
53-70-3	**Dibenz(a,h)anthracene**	**7.8**	**17**
TOTBFA	**Total Benzofluoranthenes**	**7.8**	**210**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.3%
d14-Dibenzo(a,h)anthracen	55.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: LL-SED3-0-15-032911
SAMPLE

Lab Sample ID: SQ22C
LIMS ID: 11-7357
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 21:50
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 7.67 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 73.8%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	6.5	30
218-01-9	Chrysene	6.5	59
50-32-8	Benzo(a)pyrene	6.5	43
193-39-5	Indeno(1,2,3-cd)pyrene	6.5	32
53-70-3	Dibenz(a,h)anthracene	6.5	10
TOTBFA	Total Benzofluoranthenes	6.5	110

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	70.7%
d14-Dibenzo(a,h)anthracen	67.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LL-SED4-0-15-032911
SAMPLE

Lab Sample ID: SQ22D
LIMS ID: 11-7358
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 22:18
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 75.0%

CAS Number	Analyte	RL	Result
56-55-3	**Benzo(a)anthracene**	**5.0**	**20**
218-01-9	**Chrysene**	**5.0**	**39**
50-32-8	**Benzo(a)pyrene**	**5.0**	**30**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**5.0**	**22**
53-70-3	**Dibenz(a,h)anthracene**	**5.0**	**7.0**
TOTBFA	**Total Benzofluoranthenes**	**5.0**	**73**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.3%
d14-Dibenzo(a,h)anthracen	64.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS
Page 1 of 1

Sample ID: LL-SED1-0-15-032911-D
SAMPLE

Lab Sample ID: SQ22E
LIMS ID: 11-7359
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 22:45
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.28 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 69.0%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	4.9	76
218-01-9	Chrysene	4.9	140
50-32-8	Benzo(a)pyrene	4.9	130
193-39-5	Indeno(1,2,3-cd)pyrene	4.9	73
53-70-3	Dibenz(a,h)anthracene	4.9	21
TOTBFA	Total Benzofluoranthenes	4.9	260

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	72.7%
d14-Dibenzo(a,h)anthracen	62.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: LL-SED5-0-15-032911
SAMPLE

Lab Sample ID: SQ22F
LIMS ID: 11-7360
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 23:13
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.78 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 17.3%

CAS Number	Analyte	RL	Result
56-55-3	**Benzo(a)anthracene**	**4.6**	**25**
218-01-9	**Chrysene**	**4.6**	**66**
50-32-8	**Benzo(a)pyrene**	**4.6**	**34**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.6**	**19**
53-70-3	**Dibenz(a,h)anthracene**	**4.6**	**5.8**
TOTBFA	**Total Benzofluoranthenes**	**4.6**	**84**

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	77.0%
d14-Dibenzo(a,h)anthracen	73.0%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Sediment

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling POS-LL

Client ID	MNP	DBA	TOT OUT
LL-SED1-0-15-032911	67.7%	58.7%	0
MB-041111	41.3%	38.0%	0
LCS-041111	68.0%	75.7%	0
LCSD-041111	62.7%	64.3%	0
LL-SED2-0-15-032911	66.3%	55.0%	0
LL-SED2-0-15-032911 MS	66.0%	55.3%	0
LL-SED2-0-15-032911 MSD	72.0%	70.7%	0
LL-SED3-0-15-032911	70.7%	67.3%	0
LL-SED4-0-15-032911	66.3%	64.0%	0
LL-SED1-0-15-032911-D	72.7%	62.7%	0
LL-SED5-0-15-032911	77.0%	73.0%	0

	LCS/MB LIMITS	QC LIMITS
(MNP) = d10-2-Methylnaphthalene	(35-100)	(34-100)
(DBA) = d14-Dibenzo(a,h)anthracene	(37-120)	(10-117)

Prep Method: SW3546
Log Number Range: 11-7355 to 11-7360

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LL-SED2-0-15-032911
MATRIX SPIKE

Lab Sample ID: SQ22B
LIMS ID: 11-7356
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted MS/MSD: 04/11/11

Date Analyzed MS: 04/22/11 20:54
MSD: 04/22/11 21:22
Instrument/Analyst MS: NT4/JZ
MSD: NT4/JZ

Sample Amount MS: 6.37 g-dry-wt
MSD: 6.45 g-dry-wt
Final Extract Volume MS: 0.50 mL
MSD: 0.50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Benzo(a)anthracene	54.6	185	235	55.5%	263	233	89.4%	34.8%
Chrysene	136	242	235	45.1%	366	233	98.7%	40.8%
Benzo(a)pyrene	79.7	205	235	53.3%	302	233	95.4%	38.3%
Indeno(1,2,3-cd)pyrene	66.6	168	235	43.1%	248	233	77.9%	38.5%
Dibenz(a,h)anthracene	16.8	132	235	49.0%	187	233	73.0%	34.5%
Total Benzofluoranthenes	207	454	471	52.4%	694	465	105%	41.8%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: LL-SED2-0-15-032911
MATRIX SPIKE

Lab Sample ID: SQ22B
LIMS ID: 11-7356
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 20:54
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 6.37 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 81.3%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	7.8	---
218-01-9	Chrysene	7.8	---
50-32-8	Benzo(a)pyrene	7.8	---
193-39-5	Indeno(1,2,3-cd)pyrene	7.8	---
53-70-3	Dibenz(a,h)anthracene	7.8	---
TOTBFA	Total Benzofluoranthenes	7.8	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	66.0%
d14-Dibenzo(a,h)anthracen	55.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: LL-SED2-0-15-032911
MATRIX SPIKE DUPLICATE

Lab Sample ID: SQ22B
LIMS ID: 11-7356
Matrix: Sediment
Data Release Authorized:
Reported: 04/25/11

QC Report No: SQ22-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: 03/29/11
Date Received: 03/30/11

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 21:22
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 6.45 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: 81.3%

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	7.8	---
218-01-9	Chrysene	7.8	---
50-32-8	Benzo(a)pyrene	7.8	---
193-39-5	Indeno(1,2,3-cd)pyrene	7.8	---
53-70-3	Dibenz(a,h)anthracene	7.8	---
TOTBFA	Total Benzofluoranthenes	7.8	---

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	72.0%
d14-Dibenzo(a,h)anthracen	70.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270D-SIM GC/MS

Sample ID: LCS-041111
LAB CONTROL SAMPLE

Lab Sample ID: LCS-041111
LIMS ID: 11-6956
Matrix: Sediment
Data Release Authorized: JB
Reported: 04/26/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: NA
Date Received: NA

Date Extracted: 04/11/11

Date Analyzed LCS: 04/22/11 18:36
LCSD: 04/22/11 19:04
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ

Sample Amount LCS: 10.0 g-dry-wt
LCSD: 10.0 g-dry-wt
Final Extract Volume LCS: 0.50 mL
LCSD: 0.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Benzo(a)anthracene	121	150	80.7%	111	150	74.0%	8.6%
Chrysene	120	150	80.0%	111	150	74.0%	7.8%
Benzo(a)pyrene	106	150	70.7%	99.4	150	66.3%	6.4%
Indeno(1,2,3-cd)pyrene	104	150	69.3%	95.3	150	63.5%	8.7%
Dibenz(a,h)anthracene	104	150	69.3%	96.0	150	64.0%	8.0%
Total Benzofluoranthenes	228	300	76.0%	211	300	70.3%	7.7%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

SIM Semivolatile Surrogate Recovery

	LCS	LCSD
d10-2-Methylnaphthalene	68.0%	62.7%
d14-Dibenzo(a,h)anthracen	75.7%	64.3%

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

SQ22MBS1

Lab Name: ANALYTICAL RESOURCES, INC

Client: FLOYD SNIDER

ARI Job No: SP34

Project: LORA LAKE SURFACE SE

Lab File ID: 04221107

Date Extracted: 04/11/11

Instrument ID: NT4

Date Analyzed: 04/22/11

Matrix: SOLID

Time Analyzed: 1808

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SQ22LCSS1	SQ22LCSS1	04221108	04/22/11
02	SQ22LCSDS1	SQ22LCSDS1	04221109	04/22/11
03	MC-SED1-0-10-032	SP34G	04251104	04/25/11
04	MC-SED2-0-10-032	SP34H	04251105	04/25/11
05	MC-SED3-0-10-032	SP34I	04251106	04/25/11
06				
07				
08				
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4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

SQ22MBS1

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SQ22 Project: LORA LAKE SURFACE SE

Lab File ID: 04221107 Date Extracted: 04/11/11

Instrument ID: NT4 Date Analyzed: 04/22/11

Matrix: SOLID Time Analyzed: 1808

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SQ22LCSS1	SQ22LCSS1	04221108	04/22/11
02	SQ22LCSDS1	SQ22LCSDS1	04221109	04/22/11
03	LL-SED1-0-15-032	SQ22A	04221111	04/22/11
04	LL-SED2-0-15-032	SQ22B	04221112	04/22/11
05	LL-SED2-0-15-03	SQ22BMS	04221113	04/22/11
06	LL-SED2-0-15-03	SQ22BMSD	04221114	04/22/11
07	LL-SED3-0-15-032	SQ22C	04221115	04/22/11
08	LL-SED4-0-15-032	SQ22D	04221116	04/22/11
09	LL-SED1-0-15-032	SQ22E	04221117	04/22/11
10	LL-SED5-0-15-032	SQ22F	04221118	04/22/11
11				
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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SIM SW8270D-SIM GC/MS

Sample ID: MB-041111
METHOD BLANK

Lab Sample ID: MB-041111
LIMS ID: 11-6956
Matrix: Sediment
Data Release Authorized:
Reported: 04/26/11

QC Report No: SP34-Floyd Snider
Project: Lora Lake Surface Sediment Sampling
Event: POS-LL
Date Sampled: NA
Date Received: NA

Date Extracted: 04/11/11
Date Analyzed: 04/22/11 18:08
Instrument/Analyst: NT4/JZ
GPC Cleanup: No
Silica Gel Cleanup: Yes
Alumina Cleanup: No

Sample Amount: 10.00 g-dry-wt
Final Extract Volume: 0.5 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	RL	Result
56-55-3	Benzo(a)anthracene	5.0	< 5.0 U
218-01-9	Chrysene	5.0	< 5.0 U
50-32-8	Benzo(a)pyrene	5.0	< 5.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	5.0	< 5.0 U
53-70-3	Dibenz(a,h)anthracene	5.0	< 5.0 U
TOTBFA	Total Benzofluoranthenes	5.0	< 5.0 U

Reported in µg/kg (ppb)

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	41.3%
d14-Dibenzo(a,h)anthracen	38.0%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

Instrument ID: NT4 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/21/11 DFTPP Injection Time: 1952

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	28.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	34.6
70	Less than 2.0% of mass 69	0.2 (0.6)1
127	10.0 - 80.0% of mass 198	54.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 60.0% of mass 198	24.3
365	Greater than 1.0% of mass 198	2.54
441	0.0 - 24.0% of mass 442	8.3 (8.8)2
442	50.0 - 200.0% of mass 198	94.4
443	15.0 - 24.0% of mass 442	19.2 (20.4)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	IC240521	IC250421	04211102	04/21/11	2007
02	IC010421	IC010421	04211103	04/21/11	2034
03	IC050421	IC050421	04211104	04/21/11	2102
04	IC10421	IC10421	04211105	04/21/11	2130
05	IC50421	IC50421	04211106	04/21/11	2158
06	IC100421	IC100421	04211107	04/21/11	2225
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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

Instrument ID: NT4 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/22/11 DFTPP Injection Time: 1433

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	27.5	
68	Less than 2.0% of mass 69	0.1	(0.2)1
69	Mass 69 relative abundance	32.7	
70	Less than 2.0% of mass 69	0.2	(0.6)1
127	10.0 - 80.0% of mass 198	52.6	
197	Less than 2.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.8	
275	10.0 - 60.0% of mass 198	23.8	
365	Greater than 1.0% of mass 198	2.27	
441	0.0 - 24.0% of mass 442	13.0	(15.0)2
442	50.0 - 200.0% of mass 198	86.5	
443	15.0 - 24.0% of mass 442	16.8	(19.4)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0422	CC0422	04221102	04/22/11	1445
02	SQ22MBS1	SQ22MBS1	04221107	04/22/11	1808
03	SQ22LCSS1	SQ22LCSS1	04221108	04/22/11	1836
04	SQ22LCSDS1	SQ22LCSDS1	04221109	04/22/11	1904
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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD-SNIDER

Instrument ID: NT4 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/22/11 DFTPP Injection Time: 1433

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27.5
68	Less than 2.0% of mass 69	0.1 (0.2)1
69	Mass 69 relative abundance	32.7
70	Less than 2.0% of mass 69	0.2 (0.6)1
127	10.0 - 80.0% of mass 198	52.6
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 60.0% of mass 198	23.8
365	Greater than 1.0% of mass 198	2.27
441	0.0 - 24.0% of mass 442	13.0 (15.0)2
442	50.0 - 200.0% of mass 198	86.5
443	15.0 - 24.0% of mass 442	16.8 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0422	CC0422	04221102	04/22/11	1445
02	SQ22MBS1	SQ22MBS1	04221107	04/22/11	1808
03	SQ22LCSS1	SQ22LCSS1	04221108	04/22/11	1836
04	SQ22LCSDS1	SQ22LCSDS1	04221109	04/22/11	1904
05	LL-SED1-0-15-032	SQ22A	04221111	04/22/11	1959
06	LL-SED2-0-15-032	SQ22B	04221112	04/22/11	2027
07	LL-SED2-0-15-03	SQ22BMS	04221113	04/22/11	2054
08	LL-SED2-0-15-03	SQ22BMSD	04221114	04/22/11	2122
09	LL-SED3-0-15-032	SQ22C	04221115	04/22/11	2150
10	LL-SED4-0-15-032	SQ22D	04221116	04/22/11	2218
11	LL-SED1-0-15-032	SQ22E	04221117	04/22/11	2245
12	LL-SED5-0-15-032	SQ22F	04221118	04/22/11	2313
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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

Instrument ID: NT4 Project: LORA LAKE SURFACE SEDIMENT

DFTPP Injection Date: 04/25/11 DFTPP Injection Time: 1445

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	25.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	30.7
70	Less than 2.0% of mass 69	0.2 (0.5)1
127	10.0 - 80.0% of mass 198	52.2
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 60.0% of mass 198	23.4
365	Greater than 1.0% of mass 198	2.31
441	0.0 - 24.0% of mass 442	11.8 (12.4)2
442	50.0 - 200.0% of mass 198	95.2
443	15.0 - 24.0% of mass 442	19.1 (20.0)2

1-Value is % mass 69 2-Value is % mass 442

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0425	CC0425	04251102	04/25/11	1512
02	MC-SED1-0-10-032	SP34G	04251104	04/25/11	1704
03	MC-SED2-0-10-032	SP34H	04251105	04/25/11	1732
04	MC-SED3-0-10-032	SP34I	04251106	04/25/11	1800
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6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIME

Instrument ID: NT4 Calibration Date: 04/21/11

LAB FILE ID: RRF0.1=04211103 RRF0.5=04211104 RRF1 =04211105
RRF2.5=04211102 RRF5 =04211106 RRF10 =04211107

COMPOUND	RRF 0.1	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	___ RRF	%RSD /R^2
Naphthalene	1.072	0.889	0.858	0.933	0.872	0.785	0.902	10.7
2-Methylnaphthalene	0.589	0.495	0.485	0.526	0.495	0.446	0.506	9.5
Acenaphthylene	1.908	1.520	1.560	1.674	1.621	1.495	1.630	9.3
Acenaphthene	1.142	0.977	0.964	1.017	0.990	0.923	1.002	7.5
Dibenzofuran	1.536	1.304	1.315	1.416	1.376	1.278	1.371	6.9
Fluorene	1.330	1.131	1.108	1.203	1.177	1.108	1.176	7.2
Phenanthrene	1.173	0.930	0.929	0.977	0.966	0.898	0.979	10.2
Anthracene	1.168	0.984	0.974	1.042	1.003	0.916	1.014	8.4
Fluoranthene	1.278	1.030	1.010	1.079	1.074	1.016	1.081	9.3
Pyrene	1.142	0.957	0.906	1.011	1.025	0.992	1.006	7.9
Benzo(a)anthracene	1.036	0.875	0.874	0.962	0.937	0.913	0.933	6.6
Chrysene	1.034	0.852	0.840	0.922	0.906	0.870	0.904	7.9
Benzo(b)fluoranthene	1.247	1.012	1.055	1.088	1.077	1.032	1.085	7.7
Benzo(k)fluoranthene	1.238	1.138	1.047	1.107	1.086	1.083	1.116	6.0
Benzo(j)fluoranthene	1.258	1.034	1.196	1.079	1.018	0.985	1.095	9.9
Benzo(a)pyrene	1.108	0.916	0.889	0.992	0.982	0.940	0.971	8.0
Indeno(1,2,3-cd)pyrene	1.201	1.007	1.110	1.219	1.184	1.132	1.142	6.9
Dibenzo(a,h)anthracene	0.911	0.829	0.912	0.998	0.983	0.925	0.926	6.5
Benzo(g,h,i)perylene	1.073	0.898	0.922	1.008	0.999	0.952	0.975	6.6
1-methylnaphthalene	0.611	0.517	0.505	0.547	0.513	0.462	0.526	9.5
Perylene	0.942	0.773	0.772	0.846	0.823	0.784	0.823	8.0
2-Methylnaphthalene-d10	0.631	0.542	0.556	0.581	0.548	0.496	0.559	8.0
Dibenzo(a,h)anthracene-d14	0.824	0.749	0.799	0.890	0.871	0.831	0.827	6.1

<- Outside QC limits: %RSD <20% or R^2 > 0.990

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: NT4 Cont. Calib. Date: 04/22/11

Init. Calib. Date: 04/21/11 Cont. Calib. Time: 1445

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	0.902	0.913	0.700	AVRG	1.2
2-Methylnaphthalene	0.506	0.515	0.400	AVRG	1.8
Acenaphthylene	1.630	1.612	0.900	AVRG	-1.1
Acenaphthene	1.002	0.981	0.900	AVRG	-2.1
Dibenzofuran	1.371	1.374	0.800	AVRG	0.2
Fluorene	1.176	1.159	0.900	AVRG	-1.4
Phenanthrene	0.979	0.976	0.700	AVRG	-0.3
Anthracene	1.014	1.033	0.700	AVRG	1.9
Fluoranthene	1.081	1.068	0.600	AVRG	-1.2
Pyrene	1.006	1.074	0.600	AVRG	6.8
Benzo(a)anthracene	0.933	0.959	0.800	AVRG	2.8
Chrysene	0.904	0.913	0.700	AVRG	1.0
Benzo(b)fluoranthene	1.085	1.118	0.700	AVRG	3.0
Benzo(k)fluoranthene	1.116	1.101	0.700	AVRG	-1.3
Benzo(j)fluoranthene	1.095	1.070	0.010	AVRG	-2.3
Benzo(a)pyrene	0.971	0.983	0.700	AVRG	1.2
Indeno(1,2,3-cd)pyrene	1.142	1.210	0.500	AVRG	6.0
Dibenzo(a,h)anthracene	0.926	0.984	0.400	AVRG	6.3
Benzo(g,h,i)perylene	0.975	1.066	0.500	AVRG	9.3
1-methylnaphthalene	0.526	0.532	0.010	AVRG	1.1
Perylene	0.823	0.837	0.010	AVRG	1.7
2-Methylnaphthalene-d10	0.559	0.575	0.010	AVRG	2.9
Dibenzo(a,h)anthracene-d14	0.827	0.859	0.010	AVRG	3.9

<- Exceeds QC limit of 20% D
* RF less than minimum RF

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Instrument ID: NT4 Cont. Calib. Date: 04/25/11

Init. Calib. Date: 04/21/11 Cont. Calib. Time: 1512

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
Naphthalene	0.902	0.908	0.700	AVRG	0.7
2-Methylnaphthalene	0.506	0.515	0.400	AVRG	1.8
Acenaphthylene	1.630	1.670	0.900	AVRG	2.4
Acenaphthene	1.002	0.986	0.900	AVRG	-1.6
Dibenzofuran	1.371	1.434	0.800	AVRG	4.6
Fluorene	1.176	1.188	0.900	AVRG	1.0
Phenanthrene	0.979	0.981	0.700	AVRG	0.2
Anthracene	1.014	0.997	0.700	AVRG	-1.7
Fluoranthene	1.081	1.009	0.600	AVRG	-6.7
Pyrene	1.006	1.074	0.600	AVRG	6.8
Benzo(a)anthracene	0.933	0.976	0.800	AVRG	4.6
Chrysene	0.904	0.930	0.700	AVRG	2.9
Benzo(b)fluoranthene	1.085	1.124	0.700	AVRG	3.6
Benzo(k)fluoranthene	1.116	1.118	0.700	AVRG	0.2
Benzo(j)fluoranthene	1.095	1.063	0.010	AVRG	-2.9
Benzo(a)pyrene	0.971	1.020	0.700	AVRG	5.0
Indeno(1,2,3-cd)pyrene	1.142	1.234	0.500	AVRG	8.0
Dibenzo(a,h)anthracene	0.926	1.023	0.400	AVRG	10.5
Benzo(g,h,i)perylene	0.975	1.095	0.500	AVRG	12.3
1-methylnaphthalene	0.526	0.538	0.010	AVRG	2.3
Perylene	0.823	0.838	0.010	AVRG	1.8
2-Methylnaphthalene-d10	0.559	0.591	0.010	AVRG	5.7
Dibenzo(a,h)anthracene-d14	0.827	0.898	0.010	AVRG	8.6

<- Exceeds QC limit of 20% D
* RF less than minimum RF

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/22/11

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	279997	5.49	158527	7.77	277528	9.74
	UPPER LIMIT	559994		317054		555056	
	LOWER LIMIT	139998		79264		138764	
	CCAL	236192	5.45	138646	7.73	226274	9.70
	UPPER LIMIT		5.95		8.23		10.20
	LOWER LIMIT		4.95		7.23		9.20
01	SQ22MBS1	382902	5.44	233658	7.72	395242	9.70
02	SQ22LCSS1	236872	5.44	142219	7.72	241014	9.70
03	SQ22LCSDS1	258549	5.44	154708	7.73	262759	9.70
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/22/11

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	304025	14.98	257984	18.83		
	UPPER LIMIT	608050		515968			
	LOWER LIMIT	152012		128992			
	CCAL	227429	14.91	202990	18.76		
	UPPER LIMIT		15.41		19.26		
	LOWER LIMIT		14.41		18.26		
01	SQ22MBS1	426504	14.91	397058	18.75		
02	SQ22LCSS1	264024	14.91	235776	18.75		
03	SQ22LCSDS1	291359	14.90	263662	18.75		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/25/11

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	279997	5.49	158527	7.77	277528	9.74
	UPPER LIMIT	559994		317054		555056	
	LOWER LIMIT	139998		79264		138764	
	CCAL	295210	5.23	175894	7.50	295599	9.46
	UPPER LIMIT		5.73		8.00		9.96
	LOWER LIMIT		4.73		7.00		8.96
01	MC-SED1-0-10	462576	5.22	288266	7.49	467567	9.45
02	MC-SED2-0-10	277873	5.22	170155	7.49	277077	9.45
03	MC-SED3-0-10	280407	5.21	175618	7.49	292740	9.44
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IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD SNIDER

ARI Job No: SP34 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/25/11

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	304025	14.98	257984	18.83		
	UPPER LIMIT	608050		515968			
	LOWER LIMIT	152012		128992			
	CCAL	280856	14.49	249016	18.28		
	UPPER LIMIT		14.99		18.78		
	LOWER LIMIT		13.99		17.78		
01	MC-SED1-0-10	469790	14.48	433328	18.26		
02	MC-SED2-0-10	287003	14.47	248858	18.26		
03	MC-SED3-0-10	303058	14.47	264815	18.25		
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IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD-SNIDER

ARI Job No: SQ22 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/22/11

		IS1(NPT) AREA #	RT #	IS2(ANT) AREA #	RT #	IS3(PHN) AREA #	RT #
	ICAL MIDPT	279997	5.49	158527	7.77	277528	9.74
	UPPER LIMIT	559994		317054		555056	
	LOWER LIMIT	139998		79264		138764	
	CCAL	236192	5.45	138646	7.73	226274	9.70
	UPPER LIMIT		5.95		8.23		10.20
	LOWER LIMIT		4.95		7.23		9.20
01	SQ22MBS1	382902	5.44	233658	7.72	395242	9.70
02	SQ22LCSS1	236872	5.44	142219	7.72	241014	9.70
03	SQ22LCSDS1	258549	5.44	154708	7.73	262759	9.70
04	LL-SED1-0-15	246102	5.44	151468	7.73	256477	9.70
05	LL-SED2-0-15	262366	5.44	162635	7.73	273412	9.70
06	LL-SED2-0-15	249341	5.44	158190	7.73	266581	9.70
07	LL-SED2-0-15	249858	5.44	146546	7.73	246392	9.71
08	LL-SED3-0-15	225862	5.45	131167	7.73	222736	9.70
09	LL-SED4-0-15	310116	5.44	181449	7.73	305684	9.70
10	LL-SED1-0-15	225038	5.45	131849	7.73	224149	9.71
11	LL-SED5-0-15	686362*	5.45	417573*	7.73	706497*	9.71
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS1 = Naphthalene-d8
IS2 = Acenaphthene-d10
IS3 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES, INC Client: FLOYD-SNIDER

ARI Job No: SQ22 Project: LORA LAKE SURFACE SEDIMENT

Ical Midpoint ID: 04211102 Ical Date: 04/21/11

Instrument ID: NT4 Cont. Cal Date: 04/22/11

		IS4(CRY) AREA #	RT #	IS5(PRY) AREA #	RT #	AREA #	RT #
	ICAL MIDPT	304025	14.98	257984	18.83		
	UPPER LIMIT	608050		515968			
	LOWER LIMIT	152012		128992			
	CCAL	227429	14.91	202990	18.76		
	UPPER LIMIT		15.41		19.26		
	LOWER LIMIT		14.41		18.26		
01	SQ22MBS1	426504	14.91	397058	18.75		
02	SQ22LCSS1	264024	14.91	235776	18.75		
03	SQ22LCSDS1	291359	14.90	263662	18.75		
04	LL-SED1-0-15	295782	14.94	259024	18.80		
05	LL-SED2-0-15	304621	14.94	252764	18.79		
06	LL-SED2-0-15	308135	14.94	256576	18.79		
07	LL-SED2-0-15	266024	14.95	204979	18.80		
08	LL-SED3-0-15	255153	14.93	205186	18.79		
09	LL-SED4-0-15	343063	14.93	273006	18.79		
10	LL-SED1-0-15	243116	14.95	190254	18.81		
11	LL-SED5-0-15	702365*	14.97	490288	18.85		
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS4 = Chrysene-d12
IS5 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area from Ical midpoint
AREA LOWER LIMIT = - 50% of internal standard area from Ical midpoint
RT UPPER LIMIT = + 0.50 minutes of internal standard RT from Cont. Cal
RT LOWER LIMIT = - 0.50 minutes of internal standard RT from Cont. Cal

* Values outside of QC limits.

FORM VIII SV-2

FRONTIER
ANALYTICAL LABORATORY

April 11, 2011

Ms. Sue Dunnihoo
Analytical Resources Incorporated
4611 South 134th Place
Tukwila, WA 98168-3240

Dear Ms. Dunnihoo,

Enclosed are the results for Frontier Analytical Laboratory project **6678**. This corresponds to your **Lora Lake – Subsurface Sediment** project under ARI project number **SN54**. Eight sediment samples were received on 3/18/2011 in good condition. Per your chain of custody request, a matrix spike and matrix spike duplicate (MS/MSD) were analyzed on sample 6678-005-SA (ARI ID: LL-SED2-56-112-031511). All samples were extracted and analyzed by EPA Method 1613 for tetra through octa chlorinated dibenzo dioxins and furans. The 2005 World Health Organizations toxic equivalency factors (TEFs) were used to calculate the toxic equivalents (TEQ) on your report. Analytical Resources Incorporated requested a Level IV data package and a turnaround time of fifteen business days for project **6678**.

The following Level IV report consists of an Analytical Data section, a Sample Receipt section, a Laboratory Raw Data section, and an Instrument Raw Data section. The Analytical Data section contains our project-sample tracking log and the analytical results. The Sample Receipt section contains your chain of custodies, our sample login form and the sample photo. The Laboratory Raw Data section contains our project request sheet, a percent solids sheet, an extraction bench sheet and the cleanup bench sheet. The instrument raw data section contains three sub-sections; the sample results section, the initial calibration section and the continuing/ending calibration section. The sample results sub-section consists of the quantitation summary forms with chromatograms for all samples and QC. The initial calibration sub-section consists of the individual quantitation summary forms and chromatograms for each point of the initial calibration curve as well as an overall quantitation summary form of the initial calibration curve. The continuing/ending calibration sub-section consists of the quantitation summary forms and chromatograms for all beginning and ending calibration injections associated with the samples and QC. You also requested Electronic Data Deliverables (EDD) for this project. The EDD and Level I summary have been sent to you via email. The Level IV report has been sent to you on compact disk. A hardcopy of the data package will not be forwarded unless specifically requested. The attached results are specifically for the samples referenced in this report only. These results meet all NELAC requirements and shall not be reproduced except in full.

If you have any questions regarding project **6678**, please feel free to contact me at (916) 934-0900. Thank you for choosing Frontier Analytical Laboratory for your analytical testing needs.

Sincerely,

Bradley B. Silverbush
Director of Operations

Frontier Analytical Laboratory

Sample Tracking Log

FAL Project ID: **6678**

Received on: **03/18/2011** Project Due: **04/11/2011** Storage: **R1**

FAL Sample ID	Dup	Client Project ID	Client Sample ID	Requested Method	Matrix	Sampling Date	Sampling Time	Hold Time Due Date
6678-001-SA	0	SN54	LL-SED3-0-36-031511	EPA 1613 D/F	Sediment	03/15/2011	12:30 pm	03/14/2012
6678-002-SA	0	SN54	LL-SED3-36-141-031511	EPA 1613 D/F	Sediment	03/15/2011	12:40 pm	03/14/2012
6678-003-SA	0	SN54	LL-SED3-141-167-031511	EPA 1613 D/F	Sediment	03/15/2011	12:50 pm	03/14/2012
6678-004-SA	0	SN54	LL-SED2-0-56-031511	EPA 1613 D/F	Sediment	03/15/2011	02:15 pm	03/14/2012
6678-005-SA	0	SN54	LL-SED2-56-112-031511	EPA 1613 D/F	Sediment	03/15/2011	02:25 pm	03/14/2012
6678-005-MS	0	SN54	LL-SED2-56-112-031511	EPA 1613 D/F	Sediment	03/15/2011	02:25 pm	03/14/2012
6678-005-MSD	0	SN54	LL-SED2-56-112-031511	EPA 1613 D/F	Sediment	03/15/2011	02:25 pm	03/14/2012
6678-006-SA	0	SN54	LL-SED2-112-168-031511	EPA 1613 D/F	Sediment	03/15/2011	02:55 pm	03/14/2012
6678-007-SA	0	SN54	LL-SED2-0-56-031511-D	EPA 1613 D/F	Sediment	03/15/2011	02:15 pm	03/14/2012
6678-008-SA	0	SN54	LL-SED1-0-56-031511	EPA 1613 D/F	Sediment	03/15/2011	06:00 pm	03/14/2012

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-001-MB
Client ID: Method Blank
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: NA
Amount: 5.00 g

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 0.00

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.169		-	0.0259				
1,2,3,7,8-PeCDD	ND	0.256		-	0.0434				
1,2,3,4,7,8-HxCDD	ND	0.280		-	0.0467				
1,2,3,6,7,8-HxCDD	ND	0.353		-	0.0587	Total TCDD	ND	0.169	
1,2,3,7,8,9-HxCDD	ND	0.310		-	0.0529	Total PeCDD	ND	0.256	
1,2,3,4,6,7,8-HpCDD	ND	0.563		-	0.0742	Total HxCDD	ND	0.353	
OCDD	ND	0.982		-	0.144	Total HpCDD	ND	0.564	
2,3,7,8-TCDF	ND	0.117		-	0.0200				
1,2,3,7,8-PeCDF	ND	0.169		-	0.0304				
2,3,4,7,8-PeCDF	ND	0.166		-	0.0322				
1,2,3,4,7,8-HxCDF	ND	0.220		-	0.0365				
1,2,3,6,7,8-HxCDF	ND	0.219		-	0.0357				
2,3,4,6,7,8-HxCDF	ND	0.233		-	0.0399				
1,2,3,7,8,9-HxCDF	ND	0.208		-	0.0386	Total TCDF	ND	0.117	
1,2,3,4,6,7,8-HpCDF	ND	0.414		-	0.0393	Total PeCDF	ND	0.169	
1,2,3,4,7,8,9-HpCDF	ND	0.413		-	0.0418	Total HxCDF	ND	0.233	
OCDF	ND	0.775		-	0.105	Total HpCDF	ND	0.414	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	77.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	78.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	68.5	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	78.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	84.1	23.0 - 140	
13C-OCDD	72.5	17.0 - 157	
13C-2,3,7,8-TCDF	80.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	85.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	86.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	71.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	76.7	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	74.2	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	77.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	78.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	111	26.0 - 138	
13C-OCDF	74.0	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	76.9	35.0 - 197

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-001-OPR
Client ID: OPR
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: NA
Amount: 5.00 g

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: ng/ml

Acquired: 04-07-2011
2005 WHO TEQ: NA

Compound	Conc	QC Limits	Qual
2,3,7,8-TCDD	9.76	6.70 - 15.8	
1,2,3,7,8-PeCDD	52.4	35.0 - 71.0	
1,2,3,4,7,8-HxCDD	49.0	35.0 - 82.0	
1,2,3,6,7,8-HxCDD	48.8	38.0 - 67.0	
1,2,3,7,8,9-HxCDD	53.3	32.0 - 81.0	
1,2,3,4,6,7,8-HpCDD	51.3	35.0 - 70.0	
OCDD	99.0	78.0 - 144	
2,3,7,8-TCDF	9.92	7.50 - 15.8	
1,2,3,7,8-PeCDF	51.1	40.0 - 67.0	
2,3,4,7,8-PeCDF	50.0	34.0 - 80.0	
1,2,3,4,7,8-HxCDF	50.5	36.0 - 67.0	
1,2,3,6,7,8-HxCDF	51.0	42.0 - 65.0	
2,3,4,6,7,8-HxCDF	49.2	35.0 - 78.0	
1,2,3,7,8,9-HxCDF	50.7	39.0 - 65.0	
1,2,3,4,6,7,8-HpCDF	49.9	41.0 - 61.0	
1,2,3,4,7,8,9-HpCDF	50.4	39.0 - 69.0	
OCDF	99.8	63.0 - 170	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	68.3	20.0 - 175	
13C-1,2,3,7,8-PeCDD	71.4	21.0 - 227	
13C-1,2,3,4,7,8-HxCDD	63.0	21.0 - 193	
13C-1,2,3,6,7,8-HxCDD	73.5	25.0 - 163	
13C-1,2,3,4,6,7,8-HpCDD	75.9	26.0 - 166	
13C-OCDD	66.7	13.0 - 198	
13C-2,3,7,8-TCDF	73.8	22.0 - 152	
13C-1,2,3,7,8-PeCDF	79.7	21.0 - 192	
13C-2,3,4,7,8-PeCDF	79.4	13.0 - 328	
13C-1,2,3,4,7,8-HxCDF	66.4	19.0 - 202	
13C-1,2,3,6,7,8-HxCDF	70.3	21.0 - 159	
13C-2,3,4,6,7,8-HxCDF	69.1	22.0 - 176	
13C-1,2,3,7,8,9-HxCDF	73.5	17.0 - 205	
13C-1,2,3,4,6,7,8-HpCDF	75.1	21.0 - 158	
13C-1,2,3,4,7,8,9-HpCDF	98.2	20.0 - 186	
13C-OCDF	69.6	13.0 - 198	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	68.5	31.0 - 191

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-001-SA
Client ID: LL-SED3-0-36-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 2.91 g
% Solids: 7.48

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-08-2011
2005 WHO TEQ: 202

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	15.0	-		15.0	0.0259				
1,2,3,7,8-PeCDD	25.9	-		25.9	0.0434				
1,2,3,4,7,8-HxCDD	58.9	-		5.89	0.0467				
1,2,3,6,7,8-HxCDD	204	-		20.4	0.0587	Total TCDD	176	-	
1,2,3,7,8,9-HxCDD	113	-		11.3	0.0529	Total PeCDD	717	-	
1,2,3,4,6,7,8-HpCDD	6200	-		62.0	0.0742	Total HxCDD	2170	-	
OCDD	53800	-		16.1	0.144	Total HpCDD	13000	-	
2,3,7,8-TCDF	19.7	-	F	1.97	0.0200				
1,2,3,7,8-PeCDF	15.5	-		0.465	0.0304				
2,3,4,7,8-PeCDF	16.3	-		4.89	0.0322				
1,2,3,4,7,8-HxCDF	102	-	D,M	10.2	0.0365				
1,2,3,6,7,8-HxCDF	53.2	-		5.32	0.0357				
2,3,4,6,7,8-HxCDF	68.6	-		6.86	0.0399				
1,2,3,7,8,9-HxCDF	10.6	-		1.06	0.0386	Total TCDF	387	-	D,M
1,2,3,4,6,7,8-HpCDF	1320	-		13.2	0.0393	Total PeCDF	627	-	D,M
1,2,3,4,7,8,9-HpCDF	59.7	-		0.597	0.0418	Total HxCDF	1590	-	D,M
OCDF	3280	-		0.984	0.105	Total HpCDF	3650	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	87.4	25.0 - 164	
13C-1,2,3,7,8-PeCDD	93.6	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	76.0	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	91.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	94.1	23.0 - 140	
13C-OCDD	83.8	17.0 - 157	
13C-2,3,7,8-TCDF	96.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	106	24.0 - 185	
13C-2,3,4,7,8-PeCDF	108	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	78.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	82.3	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	83.0	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	82.8	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	86.5	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	91.7	26.0 - 138	
13C-OCDF	68.8	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	85.9	35.0 - 197

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-002-SA
Client ID: LL-SED3-36-141-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 4.95 g
% Solids: 12.36

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 0.283

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.217		-	0.0259				
1,2,3,7,8-PeCDD	ND	0.294		-	0.0434				
1,2,3,4,7,8-HxCDD	ND	0.296		-	0.0467				
1,2,3,6,7,8-HxCDD	0.608	-	J	0.0608	0.0587	Total TCDD	0.939	-	J
1,2,3,7,8,9-HxCDD	ND	0.335		-	0.0529	Total PeCDD	1.16	-	J
1,2,3,4,6,7,8-HpCDD	14.9	-		0.149	0.0742	Total HxCDD	5.74	-	
OCDD	145	-		0.0435	0.144	Total HpCDD	33.2	-	
2,3,7,8-TCDF	ND	0.182		-	0.0200				
1,2,3,7,8-PeCDF	ND	0.210		-	0.0304				
2,3,4,7,8-PeCDF	ND	0.220		-	0.0322				
1,2,3,4,7,8-HxCDF	ND	0.197		-	0.0365				
1,2,3,6,7,8-HxCDF	ND	0.195		-	0.0357				
2,3,4,6,7,8-HxCDF	ND	0.213		-	0.0399				
1,2,3,7,8,9-HxCDF	ND	0.198		-	0.0386	Total TCDF	2.91	-	
1,2,3,4,6,7,8-HpCDF	2.80	-	J	0.0280	0.0393	Total PeCDF	1.05	-	J
1,2,3,4,7,8,9-HpCDF	ND	0.307		-	0.0418	Total HxCDF	2.88	-	J
OCDF	7.00	-	J	0.00210	0.105	Total HpCDF	7.57	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	90.8	25.0 - 164	
13C-1,2,3,7,8-PeCDD	96.4	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	77.0	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	91.0	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	95.8	23.0 - 140	
13C-OCDD	78.8	17.0 - 157	
13C-2,3,7,8-TCDF	96.7	24.0 - 169	
13C-1,2,3,7,8-PeCDF	111	24.0 - 185	
13C-2,3,4,7,8-PeCDF	110	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	78.8	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	82.7	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	80.5	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	82.4	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	84.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	103	26.0 - 138	
13C-OCDF	74.1	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	90.8	35.0 - 197	

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: GN
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-003-SA
Client ID: LL-SED3-141-167-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 4.11 g
% Solids: 11.82

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 0.00444

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.930		-	0.0259				
1,2,3,7,8-PeCDD	ND	1.16		-	0.0434				
1,2,3,4,7,8-HxCDD	ND	1.05		-	0.0467				
1,2,3,6,7,8-HxCDD	ND	1.27		-	0.0587	Total TCDD	ND	0.930	
1,2,3,7,8,9-HxCDD	ND	1.14		-	0.0529	Total PeCDD	ND	1.16	
1,2,3,4,6,7,8-HpCDD	ND	2.08		-	0.0742	Total HxCDD	ND	1.27	
OCDD	14.8	-		0.00444	0.144	Total HpCDD	ND	2.08	
2,3,7,8-TCDF	ND	0.668		-	0.0200				
1,2,3,7,8-PeCDF	ND	0.835		-	0.0304				
2,3,4,7,8-PeCDF	ND	0.855		-	0.0322				
1,2,3,4,7,8-HxCDF	ND	0.812		-	0.0365				
1,2,3,6,7,8-HxCDF	ND	0.752		-	0.0357				
2,3,4,6,7,8-HxCDF	ND	0.820		-	0.0399				
1,2,3,7,8,9-HxCDF	ND	0.796		-	0.0386	Total TCDF	2.37	-	
1,2,3,4,6,7,8-HpCDF	ND	1.13		-	0.0393	Total PeCDF	ND	0.855	
1,2,3,4,7,8,9-HpCDF	ND	1.54		-	0.0418	Total HxCDF	ND	0.820	
OCDF	ND	3.08		-	0.105	Total HpCDF	ND	1.54	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	66.4	25.0 - 164	
13C-1,2,3,7,8-PeCDD	70.0	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	56.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	68.1	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	69.0	23.0 - 140	
13C-OCDD	52.7	17.0 - 157	
13C-2,3,7,8-TCDF	70.1	24.0 - 169	
13C-1,2,3,7,8-PeCDF	80.9	24.0 - 185	
13C-2,3,4,7,8-PeCDF	81.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	58.1	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	61.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	60.3	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	61.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	62.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	69.3	26.0 - 138	
13C-OCDF	51.4	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	62.0	35.0 - 197

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-004-SA
Client ID: LL-SED2-0-56-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 3.20 g
% Solids: 13.54

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 103

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	7.13	-		7.13	0.0259				
1,2,3,7,8-PeCDD	13.4	-		13.4	0.0434				
1,2,3,4,7,8-HxCDD	28.2	-		2.82	0.0467				
1,2,3,6,7,8-HxCDD	104	-		10.4	0.0587	Total TCDD	71.8	-	
1,2,3,7,8,9-HxCDD	59.3	-		5.93	0.0529	Total PeCDD	337	-	M
1,2,3,4,6,7,8-HpCDD	3090	-		30.9	0.0742	Total HxCDD	972	-	
OCDD	26100	-		7.83	0.144	Total HpCDD	6000	-	
2,3,7,8-TCDF	9.24	-	F	0.924	0.0200				
1,2,3,7,8-PeCDF	7.81	-	J	0.234	0.0304				
2,3,4,7,8-PeCDF	11.4	-		3.42	0.0322				
1,2,3,4,7,8-HxCDF	50.3	-		5.03	0.0365				
1,2,3,6,7,8-HxCDF	31.2	-	D,M	3.12	0.0357				
2,3,4,6,7,8-HxCDF	34.3	-		3.43	0.0399				
1,2,3,7,8,9-HxCDF	5.91	-	J	0.591	0.0386	Total TCDF	203	-	D,M
1,2,3,4,6,7,8-HpCDF	693	-		6.93	0.0393	Total PeCDF	315	-	D,M
1,2,3,4,7,8,9-HpCDF	30.1	-		0.301	0.0418	Total HxCDF	812	-	D,M
OCDF	1780	-		0.534	0.105	Total HpCDF	1960	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	66.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	71.9	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	57.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	68.3	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	74.9	23.0 - 140	
13C-OCDD	70.5	17.0 - 157	
13C-2,3,7,8-TCDF	69.6	24.0 - 169	
13C-1,2,3,7,8-PeCDF	81.1	24.0 - 185	
13C-2,3,4,7,8-PeCDF	80.3	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	57.8	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	62.8	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	63.0	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	63.3	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	66.2	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	73.4	26.0 - 138	
13C-OCDF	58.5	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	64.1	35.0 - 197

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-005-SA
Client ID: LL-SED2-56-112-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 3.51 g
% Solids: 13.18

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 0.648

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.422		-	0.0259				
1,2,3,7,8-PeCDD	ND	0.485		-	0.0434				
1,2,3,4,7,8-HxCDD	ND	0.431		-	0.0467				
1,2,3,6,7,8-HxCDD	1.25	-	J	0.125	0.0587	Total TCDD	ND	0.422	
1,2,3,7,8,9-HxCDD	ND	0.536		-	0.0529	Total PeCDD	2.36	-	J
1,2,3,4,6,7,8-HpCDD	28.9	-		0.289	0.0742	Total HxCDD	9.46	-	
OCDD	232	-		0.0696	0.144	Total HpCDD	55.7	-	
2,3,7,8-TCDF	ND	0.347		-	0.0200				
1,2,3,7,8-PeCDF	ND	0.349		-	0.0304				
2,3,4,7,8-PeCDF	ND	0.380		-	0.0322				
1,2,3,4,7,8-HxCDF	1.00	-	J	0.100	0.0365				
1,2,3,6,7,8-HxCDF	ND	0.475		-	0.0357				
2,3,4,6,7,8-HxCDF	ND	0.491		-	0.0399				
1,2,3,7,8,9-HxCDF	ND	0.464		-	0.0386	Total TCDF	2.95	-	
1,2,3,4,6,7,8-HpCDF	5.98	-	J	0.0598	0.0393	Total PeCDF	2.44	-	J
1,2,3,4,7,8,9-HpCDF	ND	0.527		-	0.0418	Total HxCDF	7.04	-	J
OCDF	14.3	-		0.00429	0.105	Total HpCDF	15.2	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	87.5	25.0 - 164	
13C-1,2,3,7,8-PeCDD	98.1	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	78.2	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	91.4	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	97.9	23.0 - 140	
13C-OCDD	82.3	17.0 - 157	
13C-2,3,7,8-TCDF	99.4	24.0 - 169	
13C-1,2,3,7,8-PeCDF	111	24.0 - 185	
13C-2,3,4,7,8-PeCDF	107	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	81.4	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	85.6	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	85.5	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	85.7	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	88.4	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	108	26.0 - 138	
13C-OCDF	70.5	17.0 - 157	

Cleanup Surrogate		
37Cl-2,3,7,8-TCDD	86.0	35.0 - 197

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-005-MS/MSD
Client ID: LL-SED2-56-112-031511
Matrix: Sediment

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Sample Amount: 3.51 g
MS Amount: 3.19 g
MSD Amount: 3.22 g

ICal: pcddfal3-3-7-11
Batch No: X2264
Units: pg/g

MS Acquired: 2011-04-08
MSD Acquired: 2011-04-08
GC Column: DB5

Compound	Amount Spiked (pg)	Sample Amount	MS Amount	MSD Amount	% RSD	Qual
2,3,7,8-TCDD	200	-	62.4	59.5	3.58	
1,2,3,7,8-PeCDD	1000	-	322	327	1.92	
1,2,3,4,7,8-HxCDD	1000	-	295	296	1.27	
1,2,3,6,7,8-HxCDD	1000	1.25	307	313	3.53	
1,2,3,7,8,9-HxCDD	1000	-	315	324	3.92	
1,2,3,4,6,7,8-HpCDD	1000	28.9	359	388	9.01	
OCDD	2000	232	1150	1280	14.0	
2,3,7,8-TCDF	200	-	58.6	62.2	6.72	
1,2,3,7,8-PeCDF	1000	-	307	308	1.32	
2,3,4,7,8-PeCDF	1000	-	312	307	0.605	
1,2,3,4,7,8-HxCDF	1000	1.00	313	312	0.201	
1,2,3,6,7,8-HxCDF	1000	-	315	309	0.501	
2,3,4,6,7,8-HxCDF	1000	-	310	308	0.303	
1,2,3,7,8,9-HxCDF	1000	-	312	315	1.50	
1,2,3,4,6,7,8-HpCDF	1000	5.98	315	322	3.90	
1,2,3,4,7,8,9-HpCDF	1000	-	310	311	1.11	
OCDF	2000	14.3	639	672	5.85	

Internal Standards		% Rec	% Rec	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	2000	87.5	90.9	89.9	25.0 - 164	
13C-1,2,3,7,8-PeCDD	2000	98.1	101	91.8	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	2000	78.2	81.4	80.0	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	2000	91.4	94.0	92.9	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	2000	97.9	94.9	102	23.0 - 140	
13C-OCDD	4000	82.3	65.0	83.1	17.0 - 157	
13C-2,3,7,8-TCDF	2000	99.4	96.2	97.5	24.0 - 169	
13C-1,2,3,7,8-PeCDF	2000	111	109	106	24.0 - 185	
13C-2,3,4,7,8-PeCDF	2000	107	108	105	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	2000	81.4	80.6	80.7	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	2000	85.6	85.9	87.1	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	2000	85.5	85.0	84.8	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	2000	85.7	83.8	86.0	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	2000	88.4	86.4	89.6	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	2000	108	96.4	101	26.0 - 138	
13C-OCDF	4000	70.5	66.1	75.1	17.0 - 157	

Cleanup Surrogate					
37Cl-2,3,7,8-TCDD	800	86.0	89.5	86.2	35.0 - 197

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-006-SA
Client ID: LL-SED2-112-168-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 4.27 g
% Solids: 12.30

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 0.143

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	ND	0.318		-	0.0259				
1,2,3,7,8-PeCDD	ND	0.308		-	0.0434				
1,2,3,4,7,8-HxCDD	ND	0.392		-	0.0467				
1,2,3,6,7,8-HxCDD	ND	0.463		-	0.0587	Total TCDD	ND	0.318	
1,2,3,7,8,9-HxCDD	ND	0.421		-	0.0529	Total PeCDD	1.33	-	J
1,2,3,4,6,7,8-HpCDD	6.36	-		0.0636	0.0742	Total HxCDD	1.29	-	J
OCDD	49.3	-		0.0148	0.144	Total HpCDD	12.7	-	
2,3,7,8-TCDF	ND	0.311		-	0.0200				
1,2,3,7,8-PeCDF	ND	0.342		-	0.0304				
2,3,4,7,8-PeCDF	ND	0.356		-	0.0322				
1,2,3,4,7,8-HxCDF	0.513	-	J	0.0513	0.0365				
1,2,3,6,7,8-HxCDF	ND	0.400		-	0.0357				
2,3,4,6,7,8-HxCDF	ND	0.425		-	0.0399				
1,2,3,7,8,9-HxCDF	ND	0.408		-	0.0386	Total TCDF	1.72	-	
1,2,3,4,6,7,8-HpCDF	1.25	-	J	0.0125	0.0393	Total PeCDF	0.553	-	J
1,2,3,4,7,8,9-HpCDF	ND	0.643		-	0.0418	Total HxCDF	1.57	-	J
OCDF	3.61	-	J	0.00108	0.105	Total HpCDF	3.43	-	J

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	79.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	91.2	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	74.9	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	90.2	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	93.8	23.0 - 140	
13C-OCDD	76.7	17.0 - 157	
13C-2,3,7,8-TCDF	89.9	24.0 - 169	
13C-1,2,3,7,8-PeCDF	103	24.0 - 185	
13C-2,3,4,7,8-PeCDF	102	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	77.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	81.2	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	81.1	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	82.7	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	87.3	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	96.1	26.0 - 138	
13C-OCDF	75.2	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	76.2	35.0 - 197	

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-007-SA
Client ID: LL-SED2-0-56-031511-D
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 3.83 g
% Solids: 10.94

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 154

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	9.90	-		9.90	0.0259				
1,2,3,7,8-PeCDD	18.2	-		18.2	0.0434				
1,2,3,4,7,8-HxCDD	41.5	-		4.15	0.0467				
1,2,3,6,7,8-HxCDD	170	-		17.0	0.0587	Total TCDD	108	-	
1,2,3,7,8,9-HxCDD	86.4	-		8.64	0.0529	Total PeCDD	559	-	M
1,2,3,4,6,7,8-HpCDD	4720	-		47.2	0.0742	Total HxCDD	1570	-	
OCDD	41000	-		12.3	0.144	Total HpCDD	9490	-	
2,3,7,8-TCDF	14.6	-	F	1.46	0.0200				
1,2,3,7,8-PeCDF	12.1	-		0.363	0.0304				
2,3,4,7,8-PeCDF	14.4	-		4.32	0.0322				
1,2,3,4,7,8-HxCDF	82.9	-	D,M	8.29	0.0365				
1,2,3,6,7,8-HxCDF	42.9	-		4.29	0.0357				
2,3,4,6,7,8-HxCDF	53.3	-		5.33	0.0399				
1,2,3,7,8,9-HxCDF	8.46	-		0.846	0.0386	Total TCDF	302	-	D,M
1,2,3,4,6,7,8-HpCDF	1040	-		10.4	0.0393	Total PeCDF	492	-	D,M
1,2,3,4,7,8,9-HpCDF	49.0	-		0.490	0.0418	Total HxCDF	1310	-	D,M
OCDF	2630	-		0.789	0.105	Total HpCDF	2950	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	82.2	25.0 - 164	
13C-1,2,3,7,8-PeCDD	81.5	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	70.3	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	84.7	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	87.1	23.0 - 140	
13C-OCDD	64.8	17.0 - 157	
13C-2,3,7,8-TCDF	90.2	24.0 - 169	
13C-1,2,3,7,8-PeCDF	97.0	24.0 - 185	
13C-2,3,4,7,8-PeCDF	98.8	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	72.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	76.8	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	74.9	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	75.2	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	79.4	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	81.3	26.0 - 138	
13C-OCDF	57.3	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	78.5	35.0 - 197	

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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EPA Method 1613
PCDD/F

FRONTIER ANALYTICAL LABORATORY

FAL ID: 6678-008-SA
Client ID: LL-SED1-0-56-031511
Matrix: Sediment
Batch No: X2264

Date Extracted: 04-06-2011
Date Received: 03-18-2011
Amount: 5.02 g
% Solids: 50.40

ICal: pcddfal3-3-7-11
GC Column: DB5
Units: pg/g

Acquired: 04-07-2011
2005 WHO TEQ: 23.2

Compound	Conc	DL	Qual	2005 WHO Tox	MDL	Compound	Conc	DL	Qual
2,3,7,8-TCDD	1.48	-		1.48	0.0259				
1,2,3,7,8-PeCDD	2.46	-	J	2.46	0.0434				
1,2,3,4,7,8-HxCDD	6.53	-		0.653	0.0467				
1,2,3,6,7,8-HxCDD	22.9	-		2.29	0.0587	Total TCDD	14.7	-	
1,2,3,7,8,9-HxCDD	13.4	-		1.34	0.0529	Total PeCDD	58.6	-	
1,2,3,4,6,7,8-HpCDD	728	-		7.28	0.0742	Total HxCDD	237	-	
OCDD	7540	-		2.26	0.144	Total HpCDD	1570	-	
2,3,7,8-TCDF	1.73	-		0.173	0.0200				
1,2,3,7,8-PeCDF	1.39	-	J	0.0417	0.0304				
2,3,4,7,8-PeCDF	1.64	-	J	0.492	0.0322				
1,2,3,4,7,8-HxCDF	11.6	-		1.16	0.0365				
1,2,3,6,7,8-HxCDF	6.48	-		0.648	0.0357				
2,3,4,6,7,8-HxCDF	7.58	-		0.758	0.0399				
1,2,3,7,8,9-HxCDF	1.29	-	J	0.129	0.0386	Total TCDF	34.9	-	
1,2,3,4,6,7,8-HpCDF	176	-		1.76	0.0393	Total PeCDF	63.4	-	D,M
1,2,3,4,7,8,9-HpCDF	8.56	-		0.0856	0.0418	Total HxCDF	187	-	D,M
OCDF	516	-		0.155	0.105	Total HpCDF	508	-	

Internal Standards	% Rec	QC Limits	Qual
13C-2,3,7,8-TCDD	82.0	25.0 - 164	
13C-1,2,3,7,8-PeCDD	85.7	25.0 - 181	
13C-1,2,3,4,7,8-HxCDD	71.1	32.0 - 141	
13C-1,2,3,6,7,8-HxCDD	83.9	28.0 - 130	
13C-1,2,3,4,6,7,8-HpCDD	92.5	23.0 - 140	
13C-OCDD	90.4	17.0 - 157	
13C-2,3,7,8-TCDF	84.8	24.0 - 169	
13C-1,2,3,7,8-PeCDF	92.4	24.0 - 185	
13C-2,3,4,7,8-PeCDF	93.4	21.0 - 178	
13C-1,2,3,4,7,8-HxCDF	73.2	26.0 - 152	
13C-1,2,3,6,7,8-HxCDF	79.0	26.0 - 123	
13C-2,3,4,6,7,8-HxCDF	75.8	28.0 - 136	
13C-1,2,3,7,8,9-HxCDF	80.3	29.0 - 147	
13C-1,2,3,4,6,7,8-HpCDF	85.9	28.0 - 143	
13C-1,2,3,4,7,8,9-HpCDF	109	26.0 - 138	
13C-OCDF	86.6	17.0 - 157	

Cleanup Surrogate			
37Cl-2,3,7,8-TCDD	88.0	35.0 - 197	

A	Isotopic Labeled Standard outside QC range but signal to noise ratio is >10:1
B	Analyte is present in Method Blank
C	Chemical Interference
D	Presence of Diphenyl Ethers
E	Analyte concentration is above calibration range
F	Analyte confirmation on secondary column
J	Analyte concentration is below calibration range
M	Maximum possible concentration
ND	Analyte Not Detected
NP	Not Provided
P	Pre-filtered through a Whatman 0.7um GF/F filter
S	Sample acceptance criteria not met
X	Matrix interferences
*	Result taken from dilution or reinjection

Analyst: _____
Date: 4/11/11

Reviewed By: _____
Date: 4/11/11

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SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 03/17/11

ANALYTICAL RESOURCES INCORPORATED

16618 U

ARI Project: SN54

Laboratory: Frontier Analytical Laboratory
Lab Contact: BRAD SILVERBUSH
Lab Address: 5172 Hillsdale Circle
El Dorado Hills, CA 95762
Phone: 916-934-0900
Fax: 916-934-0999

ARI Client: Floyd Snider
Project ID: Lora Lake - Subsurface Sediment
ARI PM: Sue Dunnihoo
Phone: (206)695-6207
Fax: 206-695-6201

Analytical Protocol: PSDDA
Special Instructions:

Requested Turn Around: **03/31/11**
Email Results (Y/N): **Yes**

Limits of Liability. *Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or sucessors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.*

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses
11-5925-SN54A	LL-SED3-0-36-031511	03/15/11 12:30	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					
11-5926-SN54B	LL-SED3-36-141-031511	03/15/11 12:40	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					
11-5927-SN54C	LL-SED3-141-167-031511	03/15/11 12:50	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					
11-5928-SN54D	LL-SED2-0-56-031511	03/15/11 14:15	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					
11-5929-SN54E	LL-SED2-56-112-031511	03/15/11 14:25	Sediment	2	Dioxin/Furans 1613(Sub)
Special Instructions: MS/MSD					
11-5930-SN54F	LL-SED2-112-168-031511	03/15/11 14:55	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					
11-5931-SN54G	LL-SED2-0-56-031511-D	03/15/11 14:15	Sediment	1	Dioxin/Furans 1613(Sub)
Special Instructions: None					

L4 ; EDD,

Carrier UPS	Airbill 1Z 832 695 01 5038 1855		Date 3/17/11
Relinquished by	Company ARI	Date 3/17/11	Time 1600
Received by	Company Frontier	Date 3/18/11	Time 09:40

SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 03/17/11

ANALYTICAL RESOURCES INCORPORATED

4678 0°C

ARI Project: SN54

Laboratory: Frontier Analytical Laboratory
Lab Contact: BRAD SILVERBUSH

ARI Client: Floyd Snider
Project ID: POS-LL

ARI Sample ID	Client Sample ID/ Add'l Sample ID	Sampled	Matrix	Bottles	Analyses
11-5932-SN54H	LL-SED1-0-56-031511	03/15/11 18:00	Sediment	1	Dioxin/Furans 1613(Sub)

Special Instructions: None

Carrier UPS	Airbill 1Z 832 695 01 5058 185		Date 3/17/11
Relinquished by	Company ARI	Date 3/17/11	Time 1600
Received by	Company Frontier	Date 3/18/11	Time 09:40

Frontier Analytical Laboratory

Sample Login Form

FAL Project ID: **6678**

Client:	Analytical Resources Inc. Sue Dunnihoo
Client Project ID:	SN54
Date Received:	03/18/2011
Time Received:	09:40 am
Received By:	TC
Logged In By:	KZ
# of Samples Received:	8
Duplicates:	0
Storage Location:	R1

Method of Delivery:	UPS
Tracking Number:	1Z8326950150381855
Shipping Container Received Intact	Yes
Custody seals(s) present?	No
Custody seals(s) intact?	No
Sample Arrival Temperature (C)	0
Cooling Method	Ice
Chain Of Custody Present?	Yes
Return Shipping Container To Client	Yes
Test for residual Chlorine	No
Thiosulfate Added	No
Earliest Sample Hold Time Expiration	03/14/2012
Adequate Sample Volume	Yes
pH Range	N/A
Anomalies or additional comments:	
L4 DATA PACKAGE & BASIC EDD	

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Frontier Analytical Laboratory

PROJECT REQUEST SHEET

Project #:	6678	Sample #:	1 - 8 MS/MSD	Client Manager:	BS
Client:	Analytical Resources Inc. Sue Dunnihoo			Hold Time:	03/14/2012
Matrix:	Sediment	Extraction Batch:	22604	Due Date:	04/11/2011
Method:	EPA 1613 D/F			Storage:	R1
SOP:	SOPs: EP2A Rev.8 IP2A Rev.9				

COMMENTS/INSTRUCTIONS:

L4 + EDD.

Results: 6678
6678TCDF

Extract/s located in box: "I'm Diene"

Standards: 6678

Instrument:
DB5 Fal3
DB225 Fal1
DB1 ____
Other ____

Frontier Analytical Laboratory
Percent Solids

FAL Project: 6678

	Sample ID	Chemist	Date	Wet Sample Weight (g)	Dry Sample Weight (g)	% Solids	10g Equiv	
1.33	6678-001-0001-SA	GN	3/22/11	4.41	0.33	7.48	~~13.3~~ 133.6	
1.34	6678-002-0001-SA			5.26	0.65	12.36	80.92	2
1.34	6678-003-0001-SA			7.19	0.85	11.82	84.59	3
	6678-004-0001-SA			6.94	0.94	13.54	73.83	4
	6678-005-0001-SA			5.54	0.73	13.18	75.89	5
	6678-005-0002-MS							
	6678-005-0002-MSD							
	6678-006-0001-SA			9.19	1.13	~~12.2~~ 12.30	81.33	6
1.34	6678-007-0001-SA			5.21	0.57	10.94	91.40	7
1.34	6678-008-0001-SA			7.46	3.76	50.40	19.84	8

% Solids Summary:

Non-Filtered Determination

1. Place an aliquot of sample into a pre-weighed aluminum weighing boat. Use approximately two to ten grams for solid samples, approximately 10 mL for aqueous samples.
2. Record the weight.
3. Dry sample overnight at approximately 110 C.

Filtered Determination

1. Pre-weigh a glass fiber filter of appropriate pore size and pressure filter a sample aliquot (200-1000mL) through it.
2. Air dry the filter and record the dry weight.

% Solids calculation

% solids = aliquot after drying/aliquot before drying x 100

- Samples containing one percent solids or less are prepared as aqueous samples.
- Samples containing greater than one percent solids prepared as solid samples.

Frontier Analytical Laboratory

EXTRACTION SHEET

Project #: 6678 Extraction Date: 2011-04-06 Extraction Chemist: GN

Method/Analysis: EPA 1613 D/F

Procedure: SOX/SDS Solvent: Toluene

Sample ID	Wet wt. (g/L)	Dry wt. (g/L)	IS Amt: 10.0uL ID: 100511A Vial: 5 Chemist/Witness/Date	NS Amt: 10.0uL ID: 100511B Vial: 5 Chemist/Witness/Date	CSS Amt: 10.0uL ID: 100511C Vial: 5 Chemist/Witness/Date
0624 2264-001-0001-MB					
2264-001-0001-OPR					
6678-001-0001-SA	38.95	2.91	GN 4/6/11	NA	GN 4/7/11
6678-002-0001-SA	40.03	4.95			
6678-003-0001-SA	34.75	4.11			
6678-004-0001-SA	23.62	3.20			
6678-005-0001-SA	26.60	3.51			
6678-005-0002-MS	24.23	3.19		GN 4/6/11	
6678-005-0002-MSD	24.46	3.22			
6678-006-0001-SA	34.71	4.27		NA	
6678-007-0001-SA	35.01	3.83			
6678-008-0001-SA	9.97	5.02			

AX-21 Charcoal Cleaned	082510	Acetone	107201	Acid Alumina	A0284730	Hexane	107925
Hydrochloric Acid	B08505	Methanol	105561	Methylene Chloride (DCM)	51007	Silica Gel	TA1592834
Sodium Hydroxide	0062836	Sodium Sulfate	1750C277	Sulfuric Acid	106431	Tetradecane	086237
Toluene	108273	Water	50321	C-18 Empore Discs	320552	Cyclohexane	50204

Comments:

Frontier Analytical Laboratory

CLEANUP SHEET

Project #: 6678

Method/Analysis: EPA 1613 D/F

Splits: 0 Split Date: N/A Final Volume: 20.0uL

Sample ID	Cleanup 1 AP Chemist/Date	Cleanup 2 MSG\AA Chemist/Date	Cleanup 3 Charcoal Chemist/Date	RS Amt: 10.0uL ID: 100511D Vial: 7 ~~5~~ GN 4/7/11 Chemist/Witness/Date
2264-001-0001-MB	GN 4/7/11	GN 4/7/11	GN 4/7/11	GN ~~K~~ 4/7/11
2264-001-0001-OPR				
6678-001-0001-SA				
6678-002-0001-SA				
6678-003-0001-SA				
6678-004-0001-SA				
6678-005-0001-SA				
6678-005-0002-MS				
6678-005-0002-MSD				
6678-006-0001-SA				
6678-007-0001-SA				
6678-008-0001-SA				

Comments:

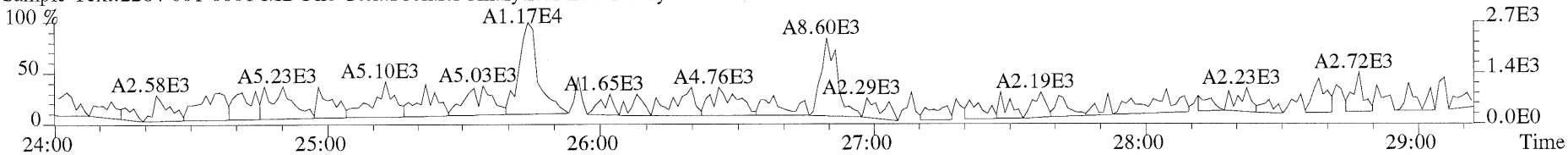
FAL ID: 2264-001-0001-MB Filename: 07APR11M Sam:2 Acquired: 7-APR-11 16:08:34 ICal: pcddfal3-3-7-11
Client ID: Method Blank ConCal: ST040711M1 EndCal: ST040711M2
Results: 2264 GC Column: DB5 Amount: 5.000 NATO 1989 Tox: 0.00
WHO 1998 Tox: 0.00 WHO 2005 Tox: 0.00

Name	Resp	RA		RT	RRF	Conc	Qual	Fac	Noise-1	Noise-2	DL
2,3,7,8-TCDD	*	*	n	NotFnd	1.13	*		2.50	501	625	0.169
1,2,3,7,8-PeCDD	*	*	n	NotFnd	1.02	*		2.50	827	544	0.256
1,2,3,4,7,8-HxCDD	*	*	n	NotFnd	1.45	*		2.50	876	844	0.280
1,2,3,6,7,8-HxCDD	*	*	n	NotFnd	1.45	*		2.50	876	844	0.353
1,2,3,7,8,9-HxCDD	*	*	n	NotFnd	1.47	*		2.50	876	844	0.310
1,2,3,4,6,7,8-HpCDD	*	*	n	NotFnd	1.30	*		2.50	1120	1010	0.563
OCDD	*	*	n	NotFnd	1.45	*		2.50	1010	1020	0.982
2,3,7,8-TCDF	*	*	n	NotFnd	1.15	*		2.50	702	716	0.117
1,2,3,7,8-PeCDF	*	*	n	NotFnd	0.89	*		2.50	632	588	0.169
2,3,4,7,8-PeCDF	*	*	n	NotFnd	0.89	*		2.50	632	588	0.166
1,2,3,4,7,8-HxCDF	*	*	n	NotFnd	1.01	*		2.50	784	728	0.220
1,2,3,6,7,8-HxCDF	*	*	n	NotFnd	0.89	*		2.50	784	728	0.219
2,3,4,6,7,8-HxCDF	*	*	n	NotFnd	1.02	*		2.50	784	728	0.233
1,2,3,7,8,9-HxCDF	*	*	n	NotFnd	1.10	*		2.50	784	728	0.208
1,2,3,4,6,7,8-HpCDF	*	*	n	NotFnd	1.48	*		2.50	1040	1060	0.414
1,2,3,4,7,8,9-HpCDF	*	*	n	NotFnd	1.43	*		2.50	1040	1060	0.413
OCDF	*	*	n	NotFnd	0.84	*		2.50	916	888	0.775
											Rec
13C-2,3,7,8-TCDD	2.79e+07	0.74	y	27:36	1.03	311					77.9
13C-1,2,3,7,8-PeCDD	2.77e+07	1.76	y	33:27	1.01	315					78.8
13C-1,2,3,4,7,8-HxCDD	2.16e+07	1.34	y	38:50	1.19	274					68.5
13C-1,2,3,6,7,8-HxCDD	1.94e+07	1.27	y	38:60	0.94	314					78.4
13C-1,2,3,4,6,7,8-HpCDD	1.84e+07	1.05	y	44:27	0.83	337					84.1
13C-OCDD	2.33e+07	0.94	y	50:05	0.61	580					72.5
13C-2,3,7,8-TCDF	4.66e+07	0.89	y	26:51	0.98	321					80.2
13C-1,2,3,7,8-PeCDF	4.18e+07	1.62	y	31:43	0.83	340					85.0
13C-2,3,4,7,8-PeCDF	4.11e+07	1.65	y	33:02	0.80	345					86.3
13C-1,2,3,4,7,8-HxCDF	3.47e+07	0.48	y	37:26	1.84	285					71.2
13C-1,2,3,6,7,8-HxCDF	4.66e+07	0.48	y	37:38	2.29	307					76.7
13C-2,3,4,6,7,8-HxCDF	3.66e+07	0.48	y	38:34	1.86	297					74.2
13C-1,2,3,7,8,9-HxCDF	4.04e+07	0.48	y	40:01	1.98	308					77.0
13C-1,2,3,4,6,7,8-HpCDF	2.06e+07	0.48	y	42:32	0.99	314					78.6
13C-1,2,3,4,7,8,9-HpCDF	2.25e+07	0.46	y	45:23	0.77	443					111
13C-OCDF	4.57e+07	0.95	y	50:28	1.17	592					74.0
37Cl-2,3,7,8-TCDD	7.82e+06			27:37	0.73	123					76.9
13C-1,2,3,4-TCDD	3.48e+07	0.75	y	27:00	-	18.3					
13C-1,2,3,4-TCDF	5.93e+07	0.88	y	25:44	-	16.5					
13C-1,2,3,7,8,9-HxCDD	2.65e+07	1.32	y	39:26	-	21.4					

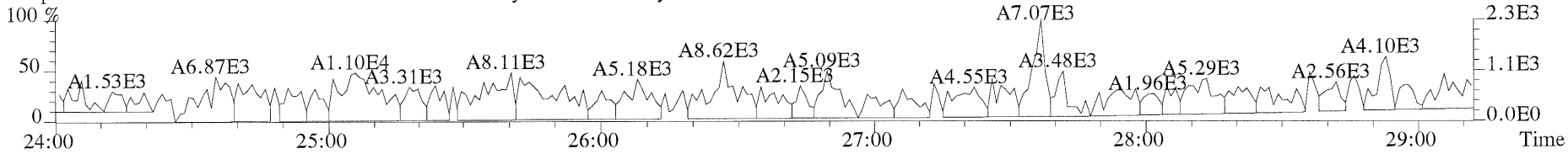
													#Hom
								Fac	Noise-1	Noise-2	DL		
Total Tetra-Dioxins	*			NotFnd	1.13	*		2.50	501	625	0.169		0
Total Penta-Dioxins	*			NotFnd	1.02	*		2.50	827	544	0.256		0
Total Hexa-Dioxins	*			NotFnd	1.46	*		2.50	876	844	0.353		0
Total Hepta-Dioxins	*			NotFnd	1.30	*		2.50	1120	1010	0.564		0
Total Tetra-Furans	*			NotFnd	1.15	*		2.50	702	716	0.117		0
1st Fn. Tot Penta-Furans	*			NotFnd	0.89	*		2.50	632	588	0.169	PeCDF	0
Total Penta-Furans	*			NotFnd	0.89	*		2.50	632	588	0.169	*	0
Total Hexa-Furans	*			NotFnd	1.00	*		2.50	784	728	0.233		0
Total Hepta-Furans	*			NotFnd	1.46	*		2.50	1040	1060	0.414		0

Analyst: _____ Date: 4/8/11

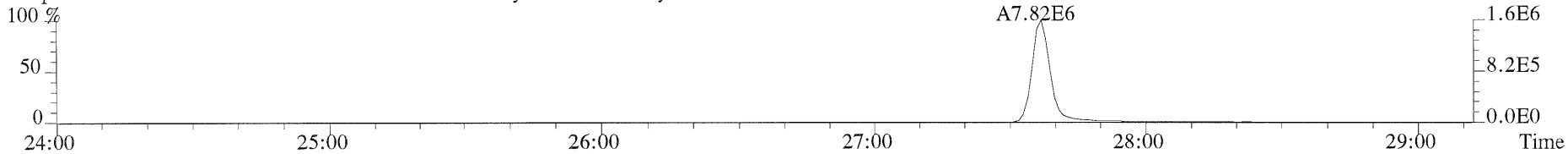
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



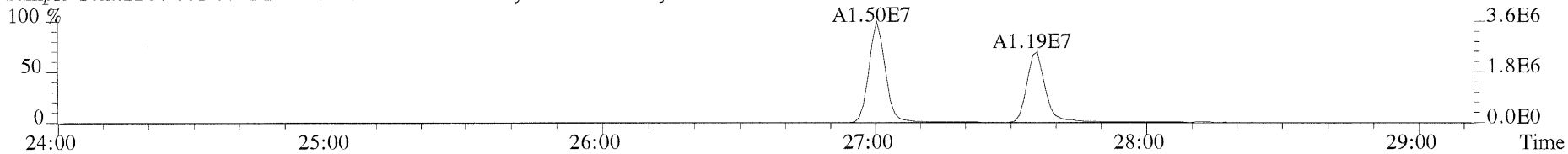
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



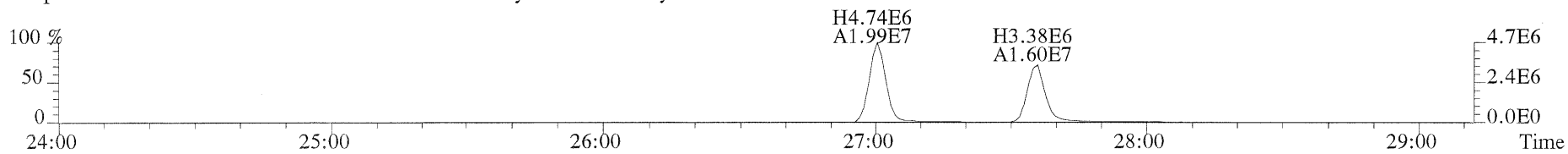
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



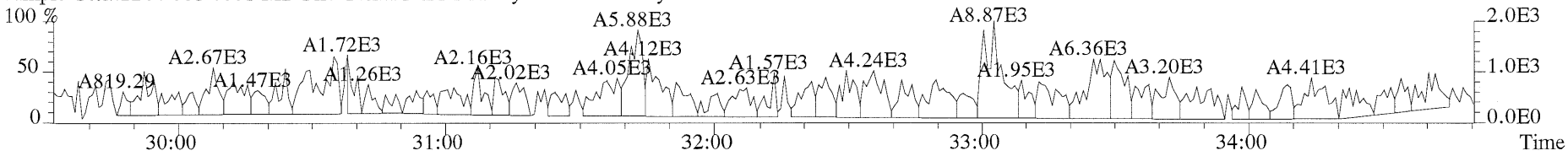
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



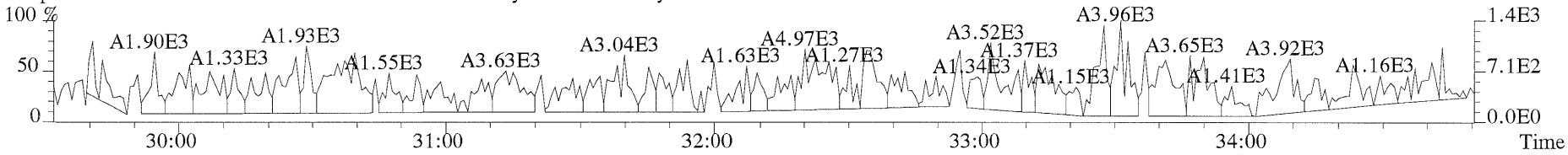
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



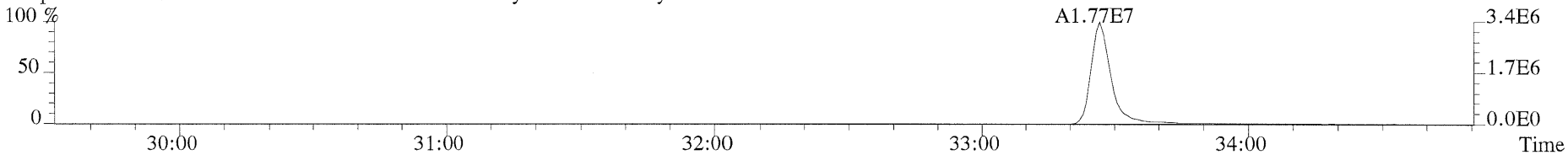
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



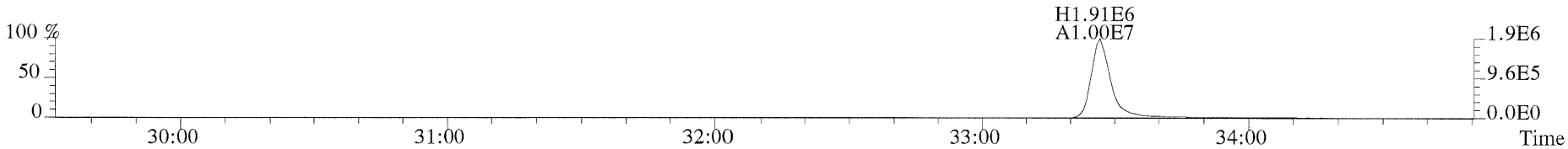
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
357.8517 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



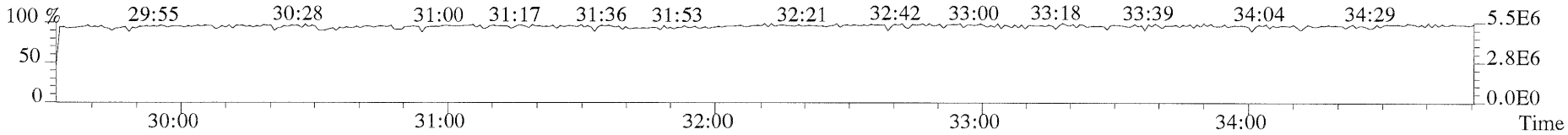
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



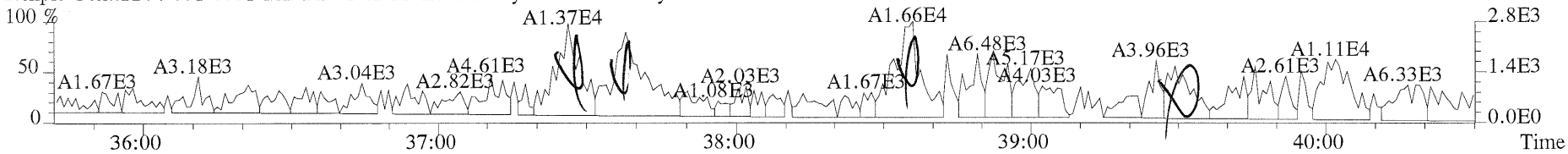
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
369.8919 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



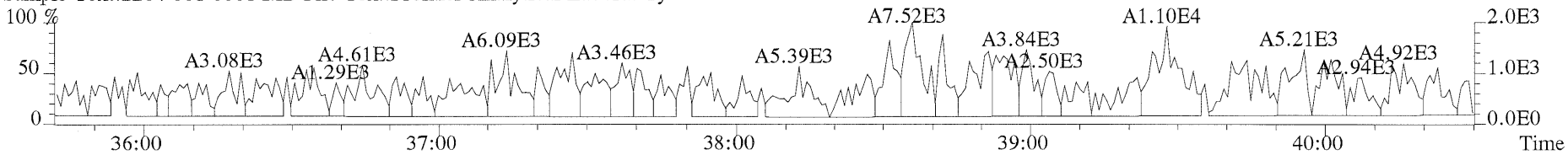
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
366.9792 S:2 F:2 Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



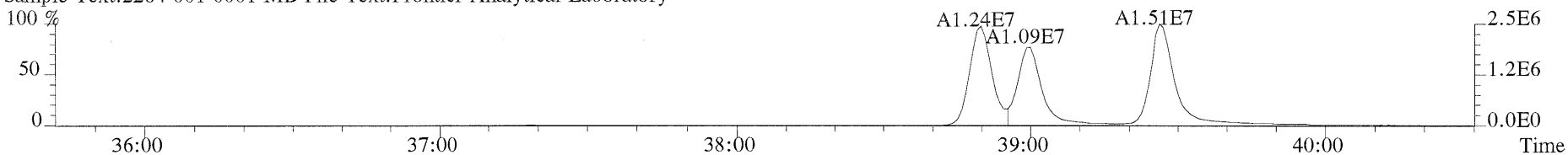
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



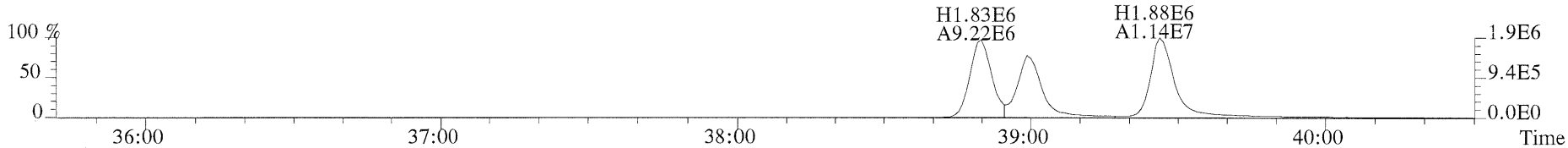
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



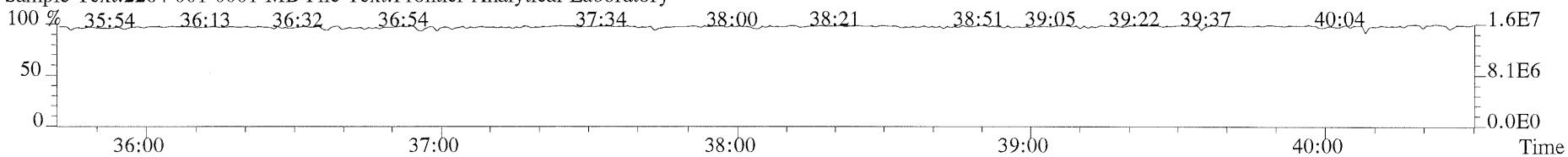
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



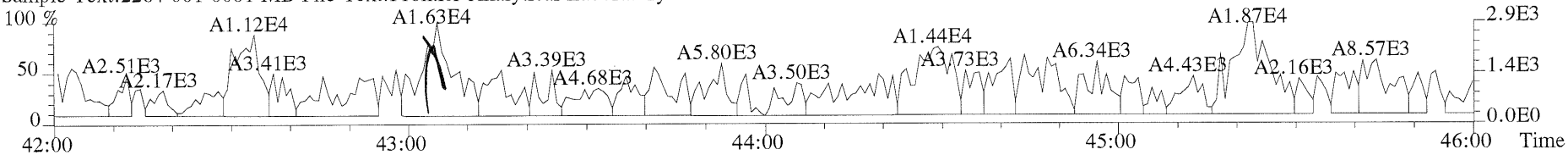
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



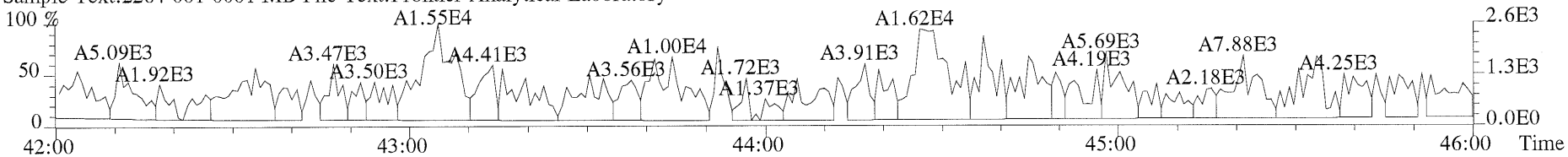
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
380.9760 S:2 F:3 Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



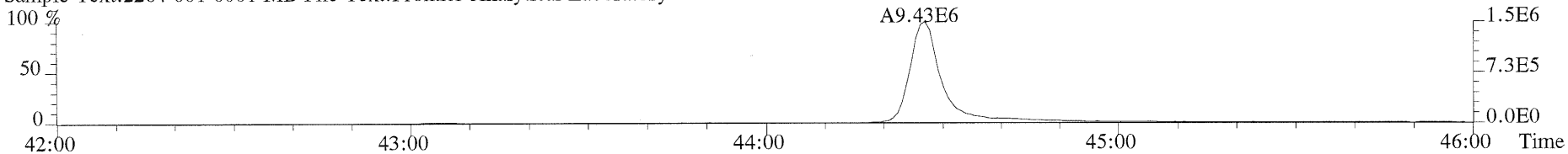
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



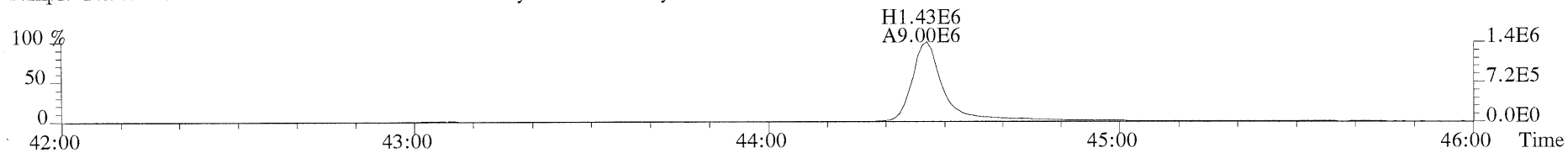
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



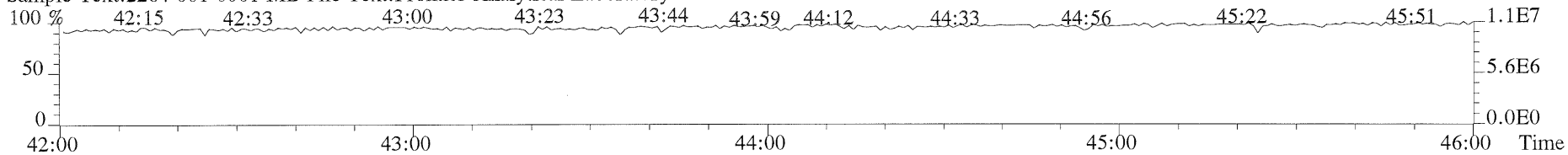
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



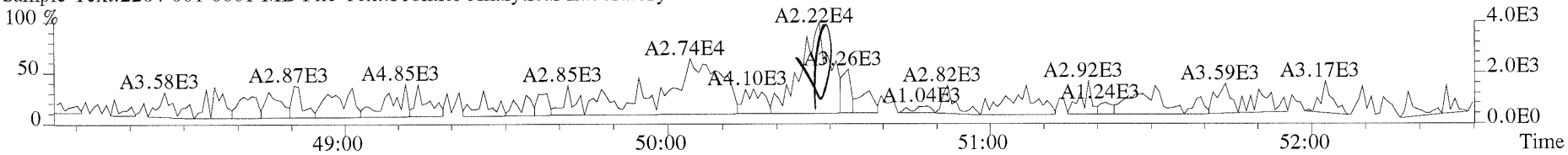
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



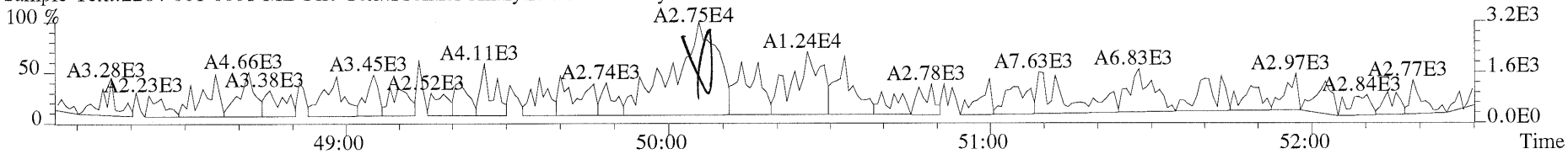
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
430.9728 S:2 F:4 Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



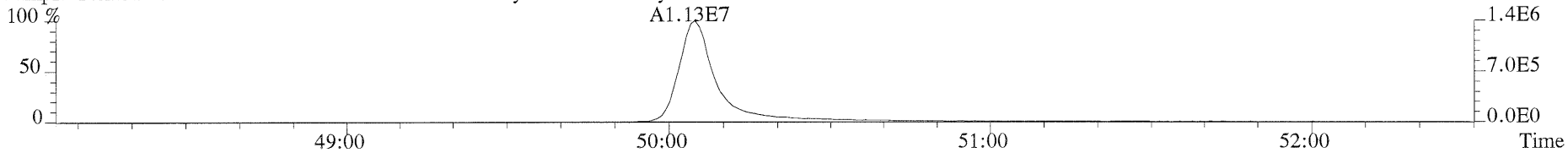
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



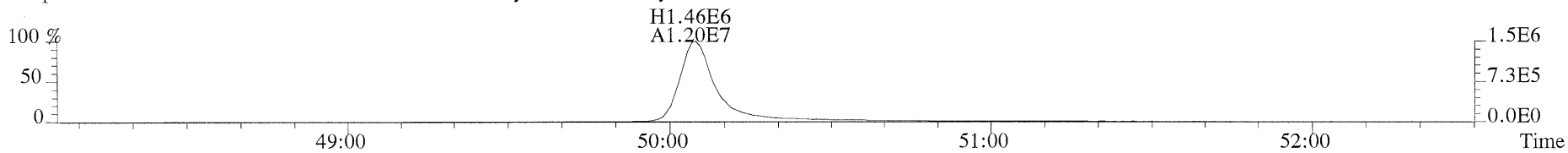
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



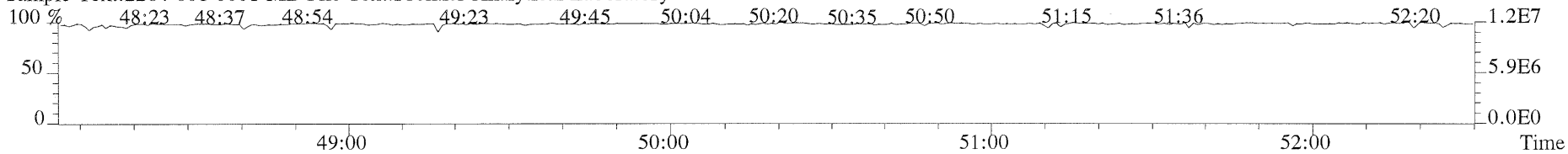
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



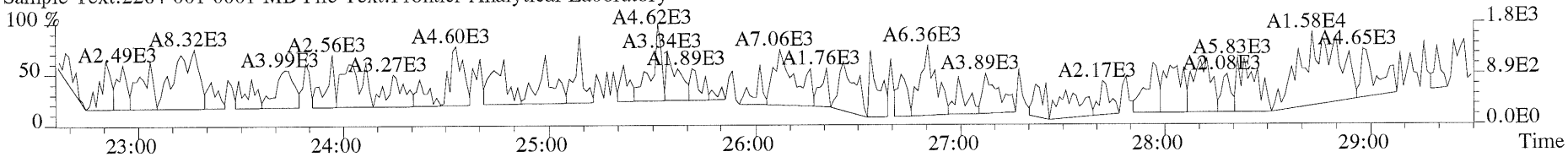
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



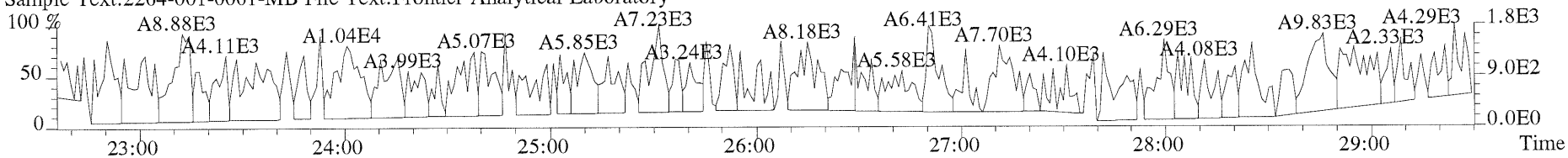
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
454.9728 S:2 F:5 Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



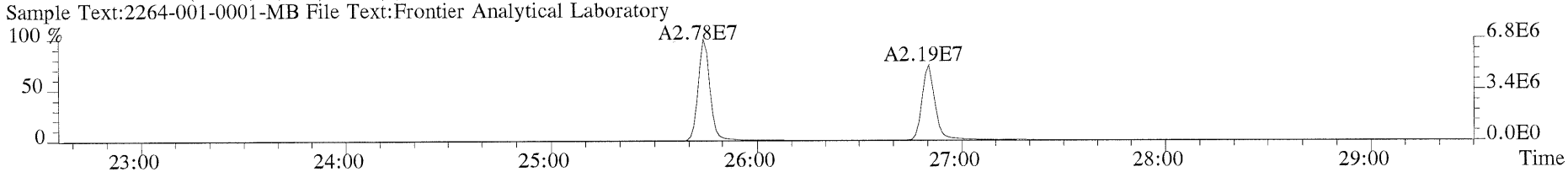
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



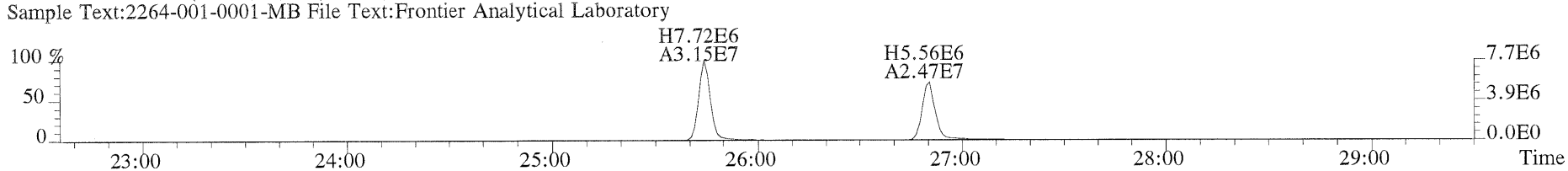
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



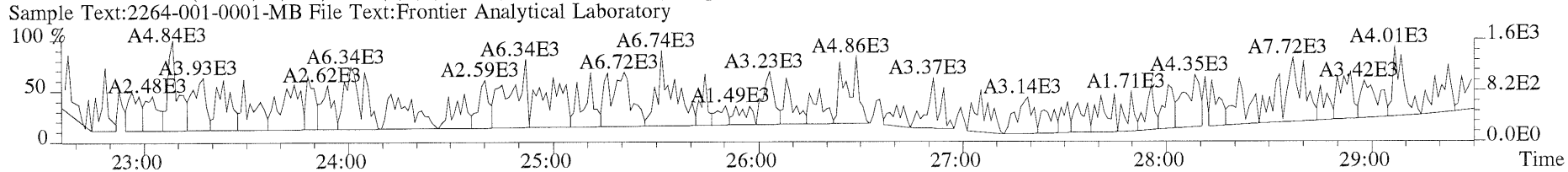
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



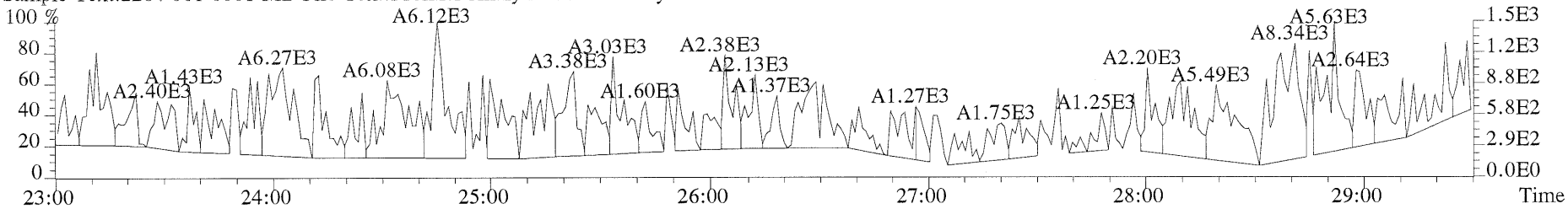
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



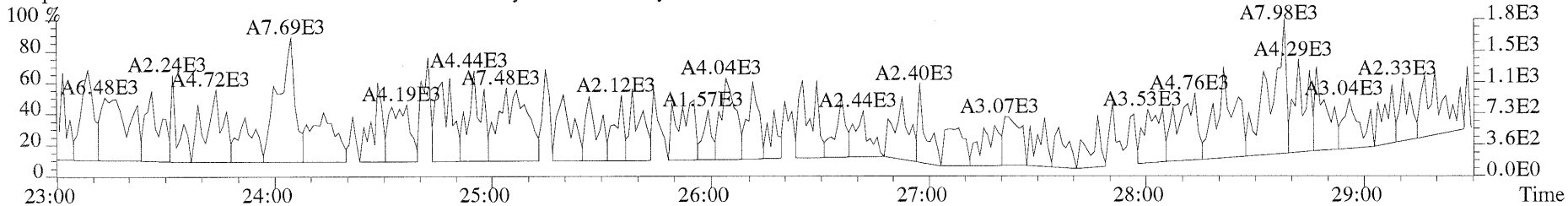
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



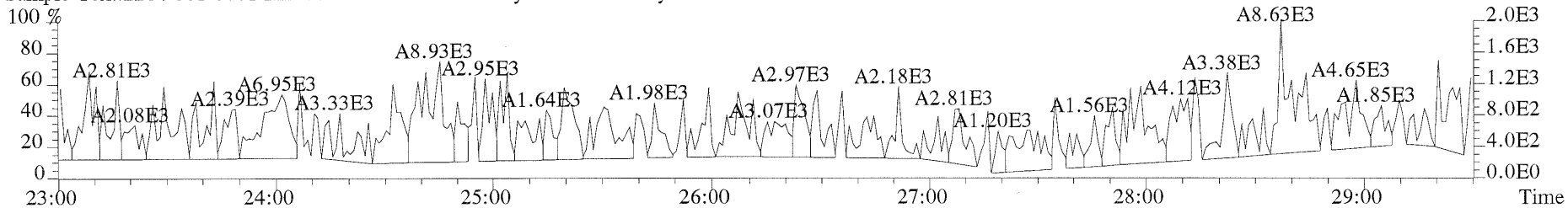
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



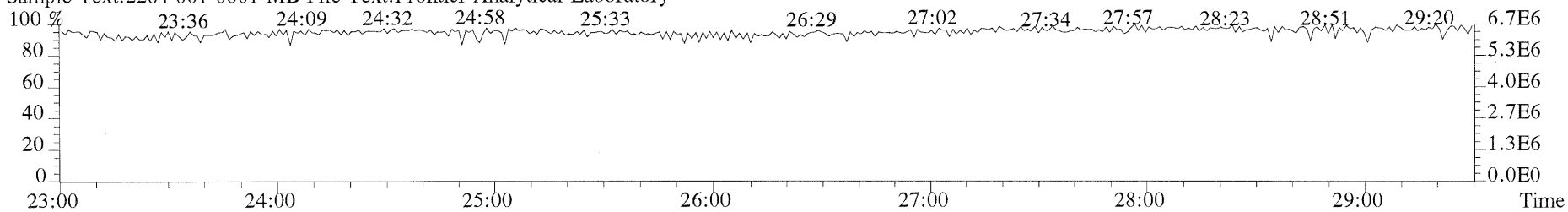
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



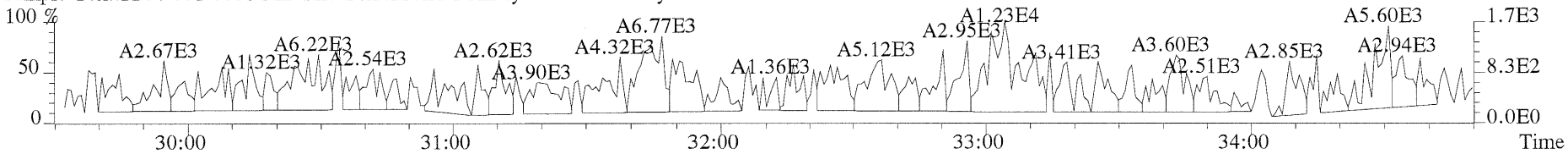
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



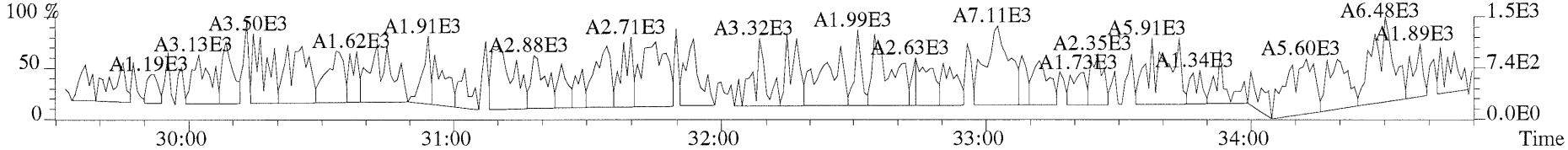
File:07APR11M #1-426 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
316.9824 S:2 Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



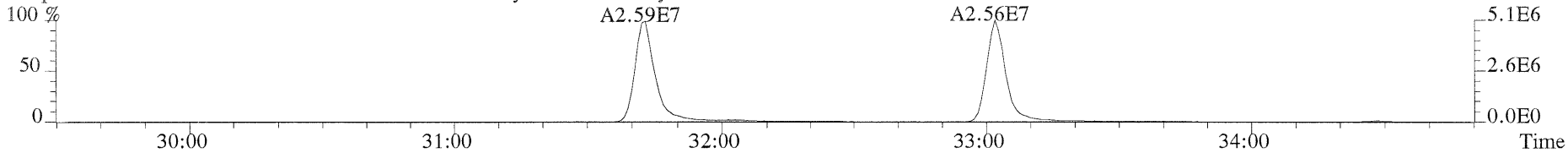
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



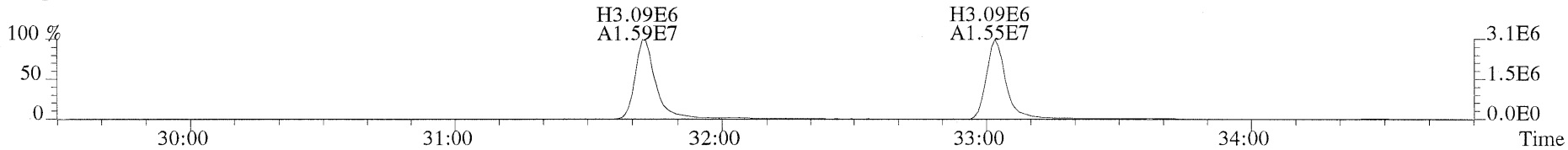
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



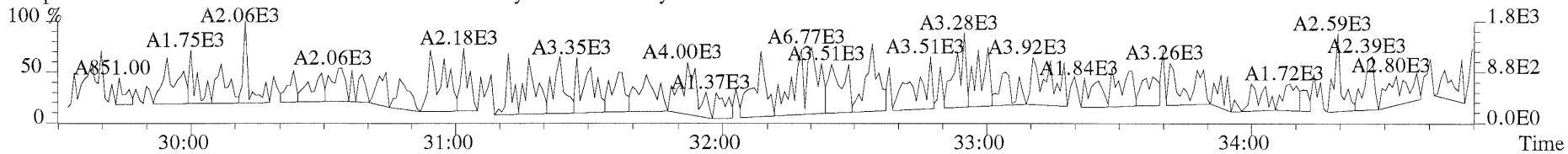
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



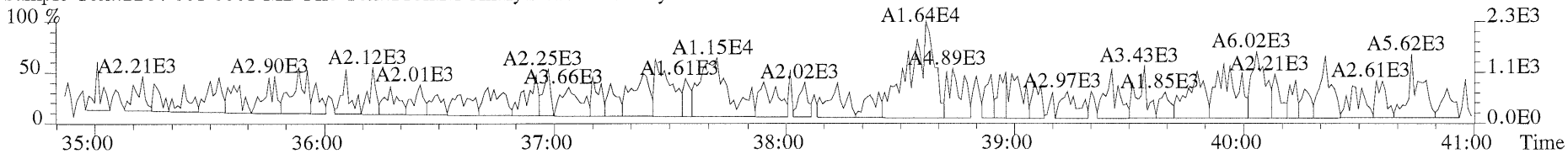
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



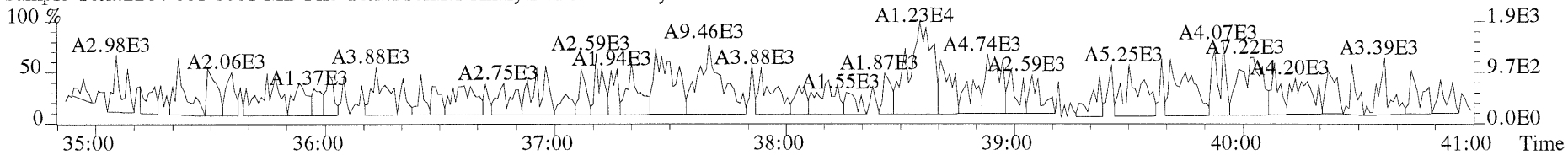
File:07APR11M #1-412 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



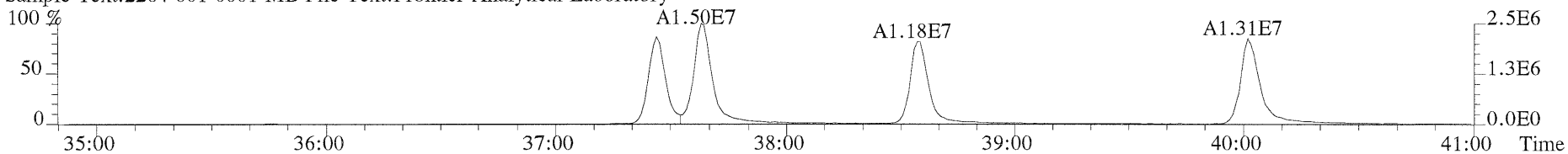
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



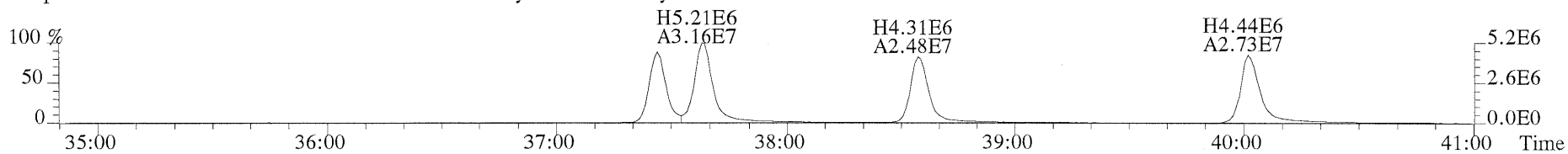
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



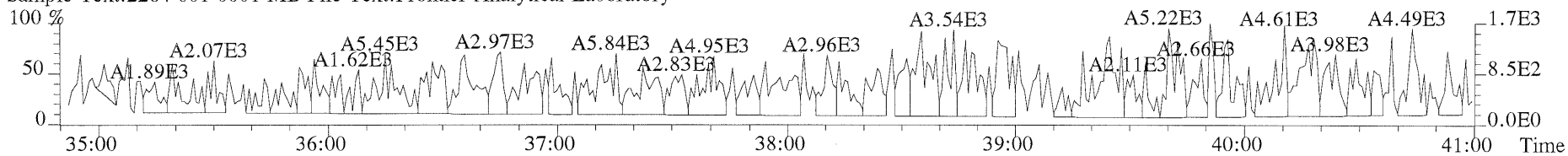
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



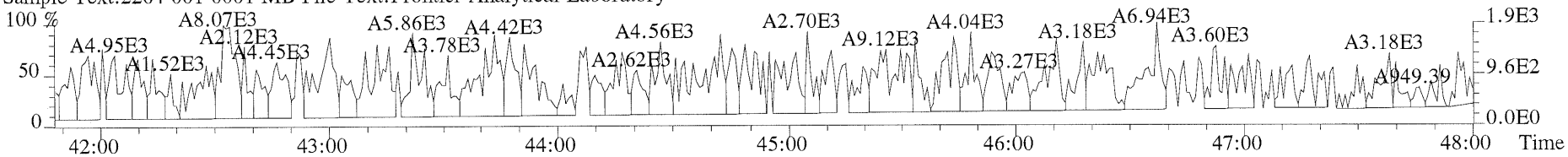
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



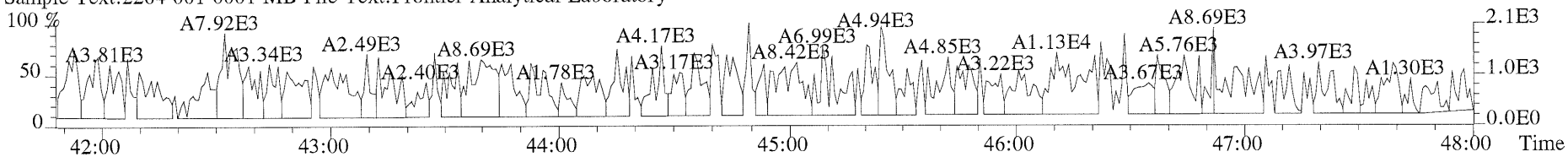
File:07APR11M #1-476 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



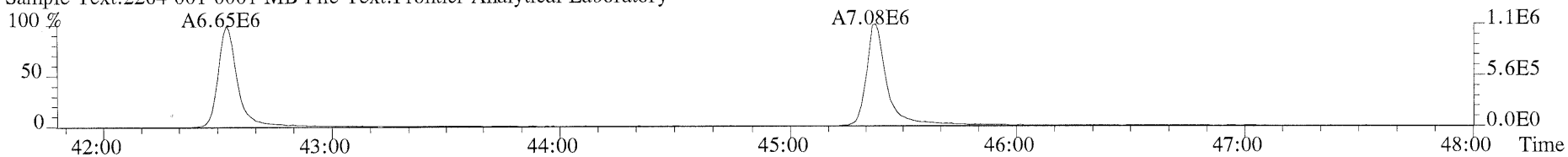
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



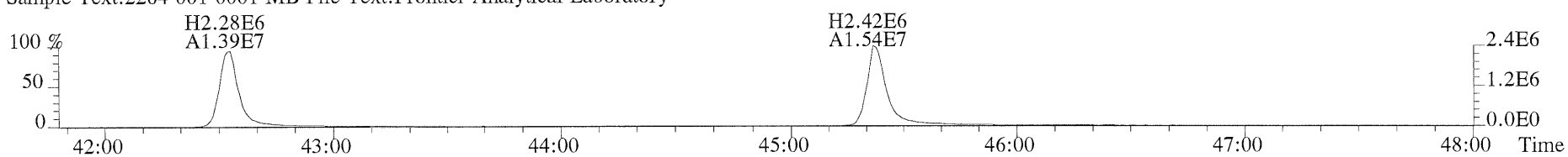
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



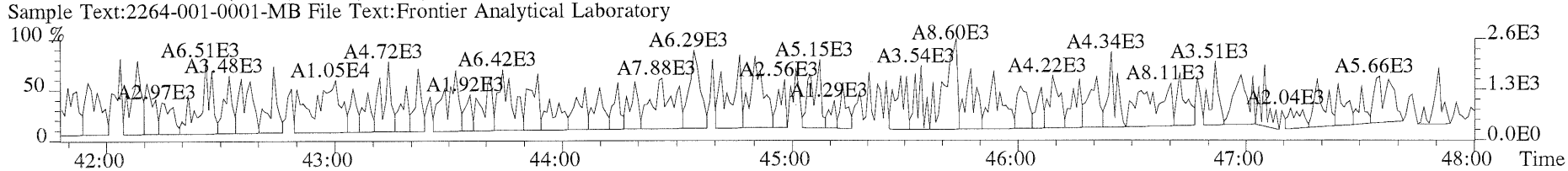
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



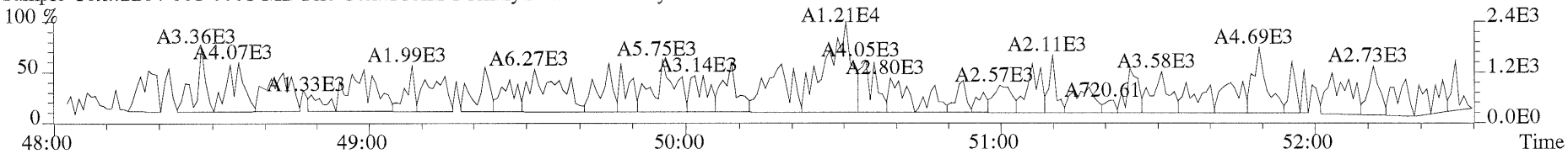
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



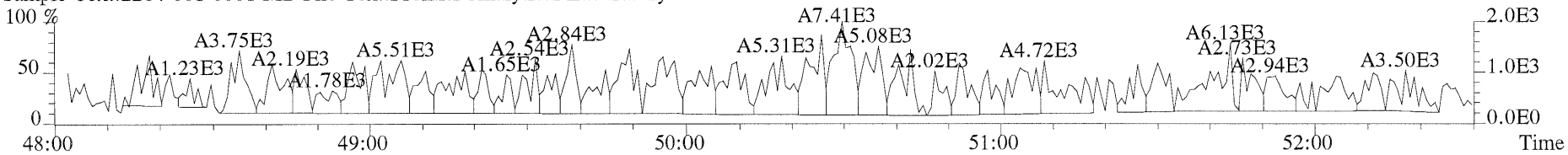
File:07APR11M #1-542 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



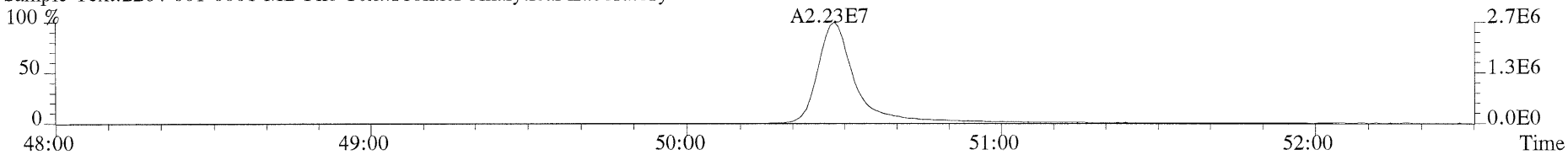
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



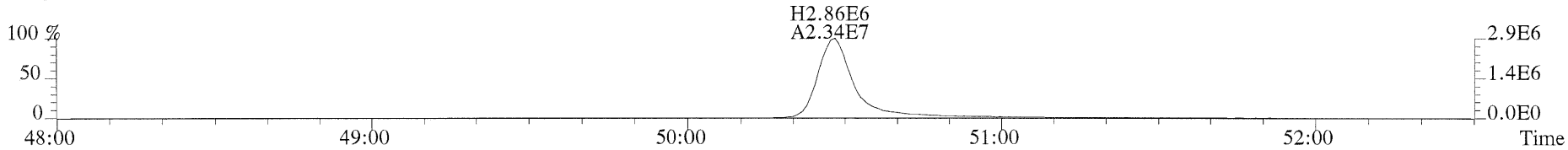
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



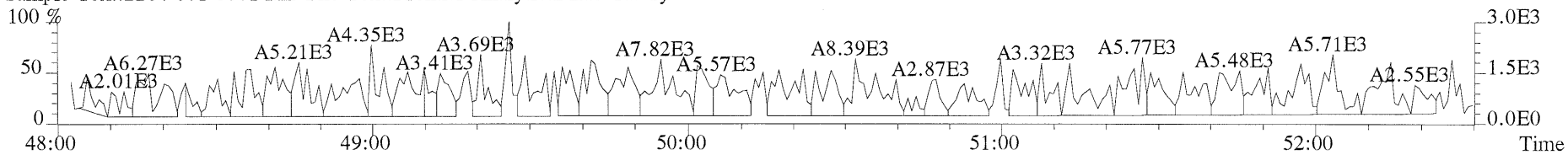
File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



File:07APR11M #1-347 Acq: 7-APR-2011 16:08:34 GC EI+ Voltage SIR Autospec-Ultima
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-MB File Text:Frontier Analytical Laboratory



USEPA - ITD

FORM 8A
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): Soil OPR Data Filename: 07APR11M Sam:3

Ext. Date: 4/6/11 Shift: Day Analysis Date: 7-APR-11 17:03:57

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
NATIVE ANALYTES			
2,3,7,8-TCDD	10	9.76	6.70 - 15.8
1,2,3,7,8-PeCDD	50	52.4	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	49.0	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	48.8	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	53.3	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	51.3	35.0 - 70.0
OCDD	100	99.0	78.0 - 144
2,3,7,8-TCDF	10	9.92	7.50 - 15.8
1,2,3,7,8-PeCDF	50	51.1	40.0 - 67.0
2,3,4,7,8-PeCDF	50	50.0	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	50.5	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	51.0	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	49.2	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	50.7	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	49.9	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	50.4	39.0 - 69.0
OCDF	100	99.8	63.0 - 170

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613

Analyst: _____ Date: 4/8/11

USEPA - ITD

FORM 8B
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Frontier Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): Soil OPR Data Filename: 07APR11M Sam:3

Ext. Date: 4/6/11 Shift: Day Analysis Date: 7-APR-11 17:03:57

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
LABELED COMPOUNDS			
13C-2,3,7,8-TCDD	100	68.3	20.0 - 175
13C-1,2,3,7,8-PeCDD	100	71.4	21.0 - 227
13C-1,2,3,4,7,8-HxCDD	100	63.0	21.0 - 193
13C-1,2,3,6,7,8-HxCDD	100	73.5	25.0 - 163
13C-1,2,3,4,6,7,8-HpCDD	100	75.9	26.0 - 166
13C-OCDD	200	133	26.0 - 397
13C-2,3,7,8-TCDF	100	73.8	22.0 - 152
13C-1,2,3,7,8-PeCDF	100	79.7	21.0 - 192
13C-2,3,4,7,8-PeCDF	100	79.4	13.0 - 328
13C-1,2,3,4,7,8-HxCDF	100	66.4	19.0 - 202
13C-1,2,3,6,7,8-HxCDF	100	70.3	21.0 - 159
13C-2,3,4,6,7,8-HxCDF	100	69.1	22.0 - 176
13C-1,2,3,7,8,9-HxCDF	100	73.5	17.0 - 205
13C-1,2,3,4,6,7,8-HpCDF	100	75.1	21.0 - 158
13C-1,2,3,4,7,8,9-HpCDF	100	98.2	20.0 - 186
13C-OCDF	200	139	26.0 - 397
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	27.4	12.4 - 76.4

(1) Contract-required concentration limits for OPR as specified in Table 6, Method 1613
Labeled compound concentration limits are based on required percent recovery of 25%-150%.

Analyst: _____ Date: 4/8/11

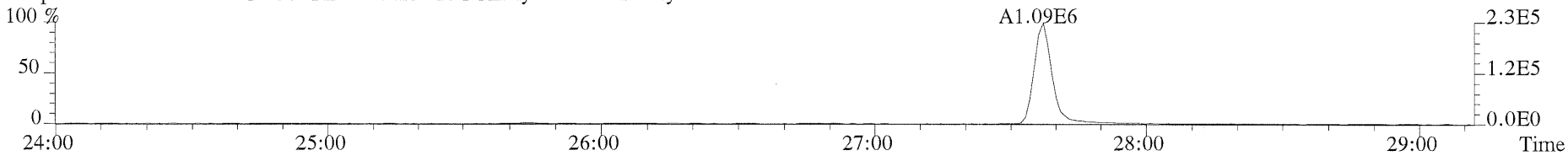
FAL ID: 2264-001-0001-OPR Filename: 07APR11M Sam:3 Acquired: 7-APR-11 17:03:57 ICal: pcddfal3-3-7-11
Client ID: OPR ConCal: ST040711M1 EndCal: ST040711M2
Results: 2264 GC Column: DB5 Amount: 1.000 NATO 1989 Tox: 101
WHO 1998 Tox: 128 WHO 2005 Tox: 117

Name	Resp	RA	RT	RRF	Conc	Qual	Fac	Noise-1	Noise-2	DL
2,3,7,8-TCDD	2.46e+06	0.80 y	27:37	1.13	9.76		2.50	-	-	*
1,2,3,7,8-PeCDD	1.22e+07	1.54 y	33:28	1.02	52.4		2.50	-	-	*
1,2,3,4,7,8-HxCDD	1.24e+07	1.30 y	38:51	1.45	49.0		2.50	-	-	*
1,2,3,6,7,8-HxCDD	1.14e+07	1.30 y	39:01	1.45	48.8		2.50	-	-	*
1,2,3,7,8,9-HxCDD	1.31e+07	1.31 y	39:28	1.47	53.3		2.50	-	-	*
1,2,3,4,6,7,8-HpCDD	9.76e+06	0.93 y	44:28	1.30	51.3		2.50	-	-	*
OCDD	1.35e+07	0.92 y	50:06	1.45	99.0		2.50	-	-	*
2,3,7,8-TCDF	4.41e+06	0.69 y	26:52	1.15	9.92		2.50	-	-	*
1,2,3,7,8-PeCDF	1.60e+07	1.61 y	31:44	0.89	51.1		2.50	-	-	*
2,3,4,7,8-PeCDF	1.52e+07	1.58 y	33:04	0.89	50.0		2.50	-	-	*
1,2,3,4,7,8-HxCDF	1.45e+07	1.24 y	37:27	1.01	50.5		2.50	-	-	*
1,2,3,6,7,8-HxCDF	1.71e+07	1.24 y	37:40	0.89	51.0		2.50	-	-	*
2,3,4,6,7,8-HxCDF	1.50e+07	1.23 y	38:36	1.02	49.2		2.50	-	-	*
1,2,3,7,8,9-HxCDF	1.90e+07	1.27 y	40:03	1.10	50.7		2.50	-	-	*
1,2,3,4,6,7,8-HpCDF	1.28e+07	1.06 y	42:33	1.48	49.9		2.50	-	-	*
1,2,3,4,7,8,9-HpCDF	1.26e+07	1.06 y	45:24	1.43	50.4		2.50	-	-	*
OCDF	1.59e+07	0.92 y	50:29	0.84	99.8		2.50	-	-	*
										Rec
13C-2,3,7,8-TCDD	2.23e+07	0.74 y	27:35	1.03	68.3					68.3
13C-1,2,3,7,8-PeCDD	2.29e+07	1.76 y	33:27	1.01	71.4					71.4
13C-1,2,3,4,7,8-HxCDD	1.75e+07	1.29 y	38:49	1.19	63.0					63.0
13C-1,2,3,6,7,8-HxCDD	1.60e+07	1.30 y	38:59	0.94	73.5					73.5
13C-1,2,3,4,6,7,8-HpCDD	1.46e+07	1.03 y	44:27	0.83	75.9					75.9
13C-OCDD	1.89e+07	0.98 y	50:04	0.61	133					66.7
13C-2,3,7,8-TCDF	3.87e+07	0.86 y	26:51	0.98	73.8					73.8
13C-1,2,3,7,8-PeCDF	3.54e+07	1.65 y	31:43	0.83	79.7					79.7
13C-2,3,4,7,8-PeCDF	3.41e+07	1.62 y	33:02	0.80	79.4					79.4
13C-1,2,3,4,7,8-HxCDF	2.85e+07	0.47 y	37:27	1.84	66.4					66.4
13C-1,2,3,6,7,8-HxCDF	3.76e+07	0.47 y	37:38	2.29	70.3					70.3
13C-2,3,4,6,7,8-HxCDF	3.00e+07	0.47 y	38:35	1.86	69.1					69.1
13C-1,2,3,7,8,9-HxCDF	3.40e+07	0.48 y	40:01	1.98	73.5					73.5
13C-1,2,3,4,6,7,8-HpCDF	1.73e+07	0.46 y	42:33	0.99	75.1					75.1
13C-1,2,3,4,7,8,9-HpCDF	1.75e+07	0.47 y	45:23	0.77	98.2					98.2
13C-OCDF	3.78e+07	0.95 y	50:28	1.17	139					69.6
37Cl-2,3,7,8-TCDD	6.34e+06		27:37	0.73	27.4					68.5
13C-1,2,3,4-TCDD	3.17e+07	0.77 y	27:01	-	83.4					
13C-1,2,3,4-TCDF	5.35e+07	0.89 y	25:45	-	74.3					
13C-1,2,3,7,8,9-HxCDD	2.33e+07	1.27 y	39:27	-	94.0					

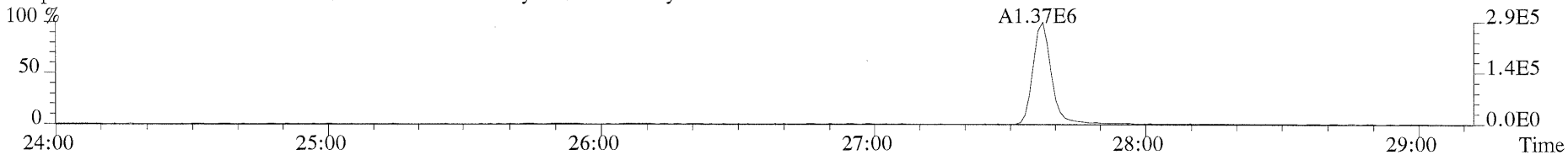
						Fac	Noise-1	Noise-2	DL		#Hom
Total Tetra-Dioxins	2.66e+06		22:38	1.13	10.5	2.50	-	-	*		28
Total Penta-Dioxins	1.22e+07		33:28	1.02	52.6	2.50	-	-	*		3
Total Hexa-Dioxins	3.72e+07		38:51	1.46	152	2.50	-	-	*		8
Total Hepta-Dioxins	1.04e+07		43:06	1.30	54.7	2.50	-	-	*		22
Total Tetra-Furans	4.80e+06		23:00	1.15	10.8	2.50	-	-	*		32
1st Fn. Tot Penta-Furans	1.87e+05		22:44	0.89	0.606	2.50	-	-	*	PeCDF	30
Total Penta-Furans	3.19e+07		30:28	0.89	103	2.50	-	-	*	104	7
Total Hexa-Furans	6.58e+07		35:47	1.00	202	2.50	-	-	*		8
Total Hepta-Furans	2.55e+07		42:33	1.46	101	2.50	-	-	*		5

Analyst: _____ Date: 4/8/11

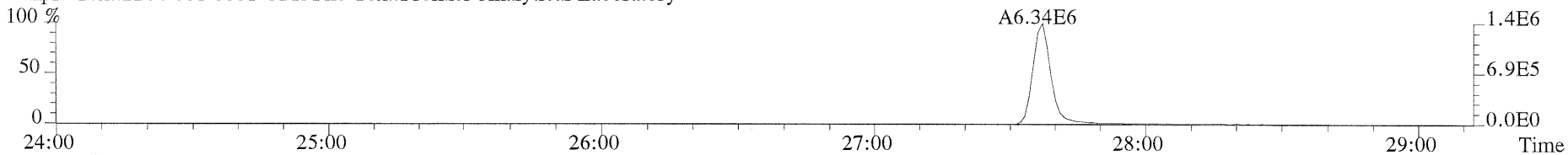
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



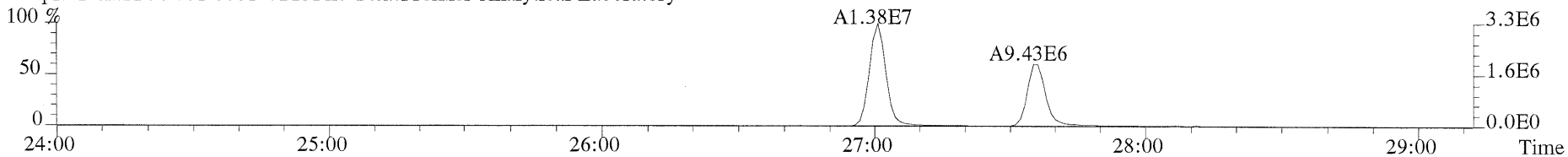
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



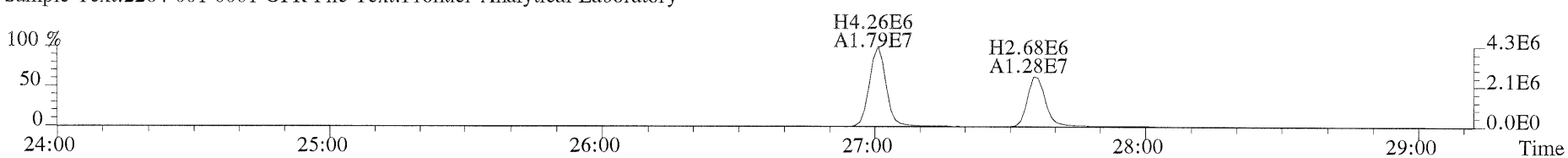
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



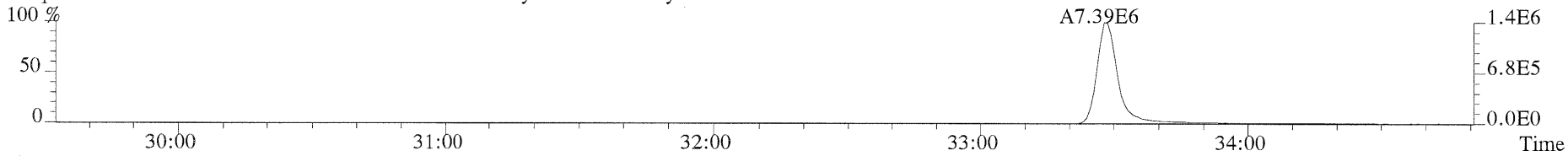
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



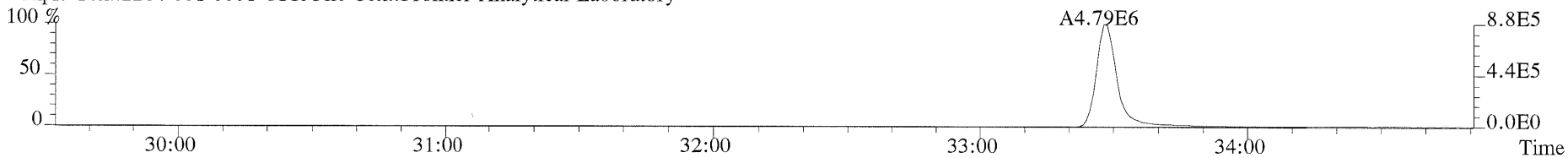
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



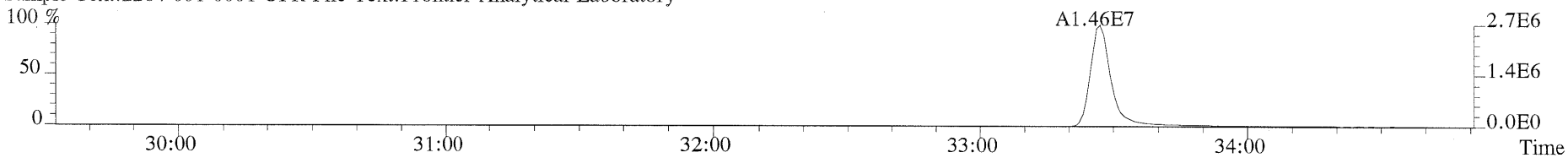
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



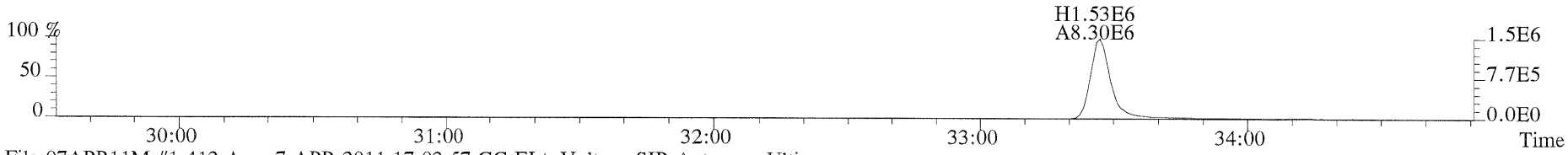
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
357.8517 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



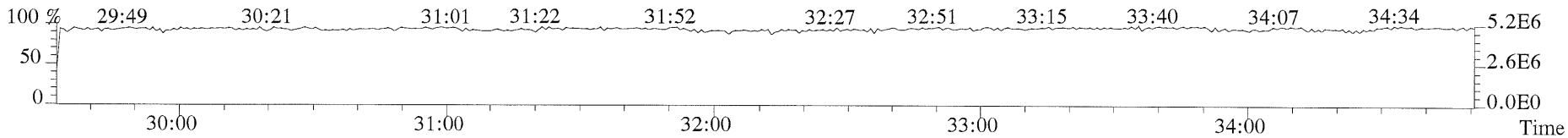
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



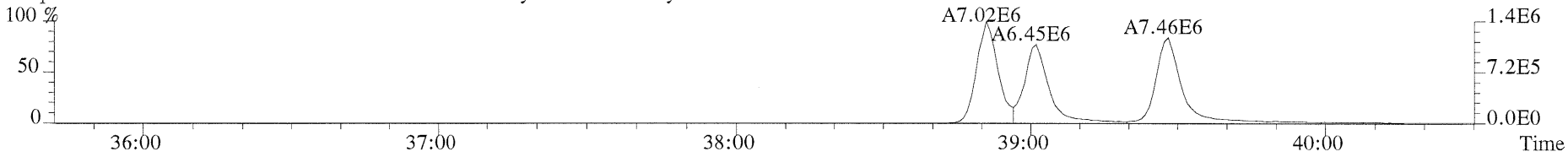
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
369.8919 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



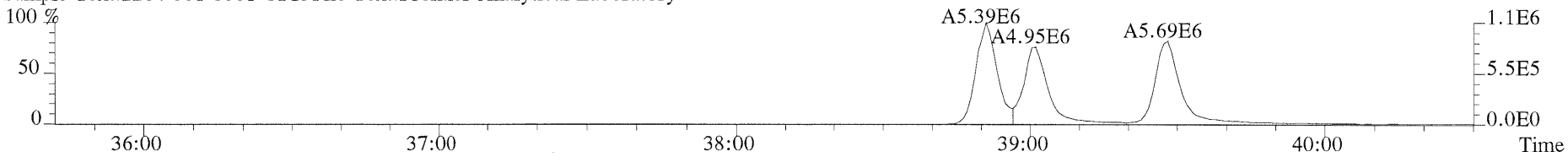
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
366.9792 S:3 F:2 Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



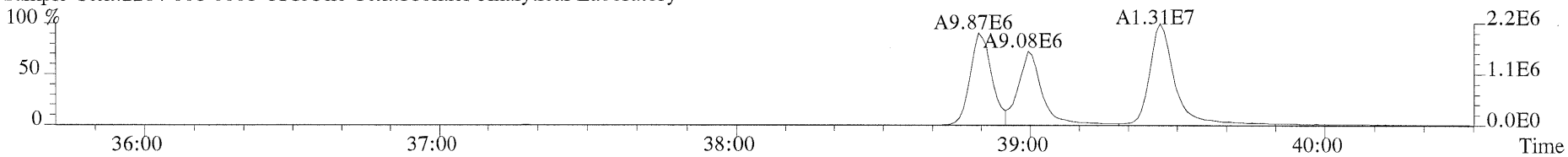
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



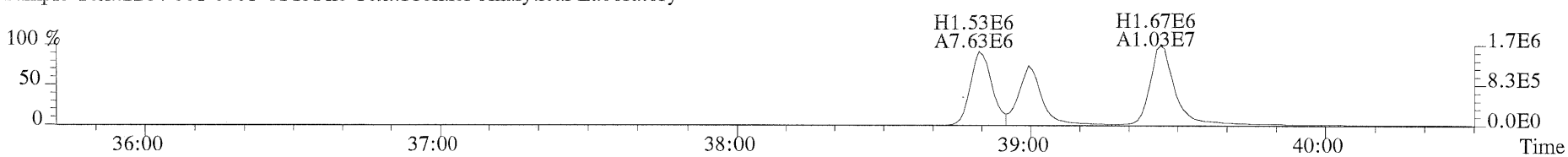
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



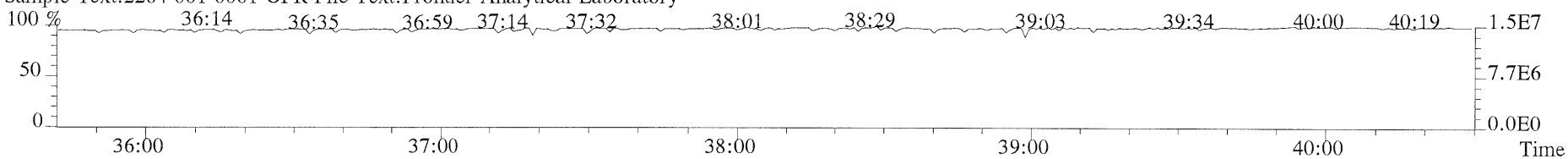
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



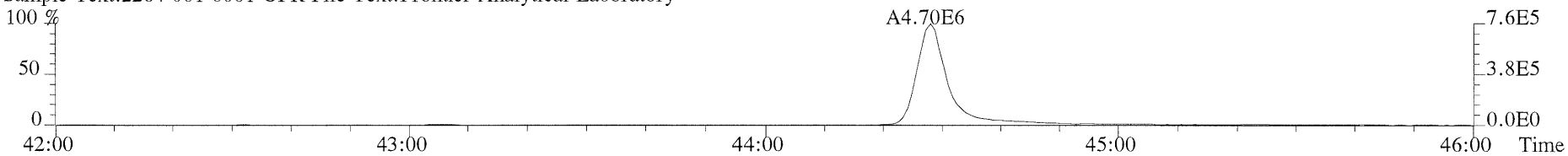
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



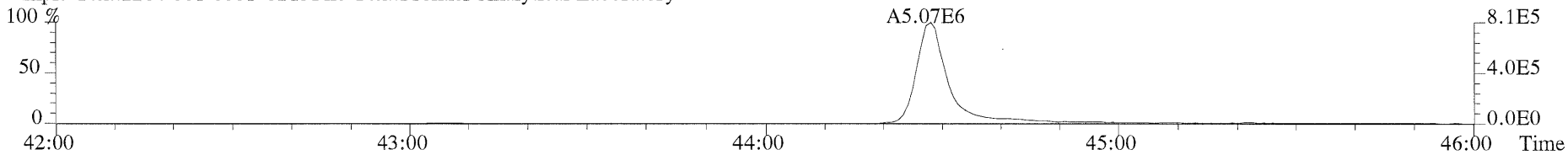
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
380.9760 S:3 F:3 Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



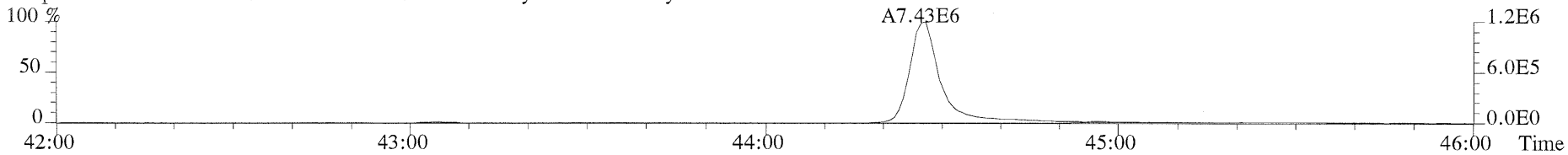
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



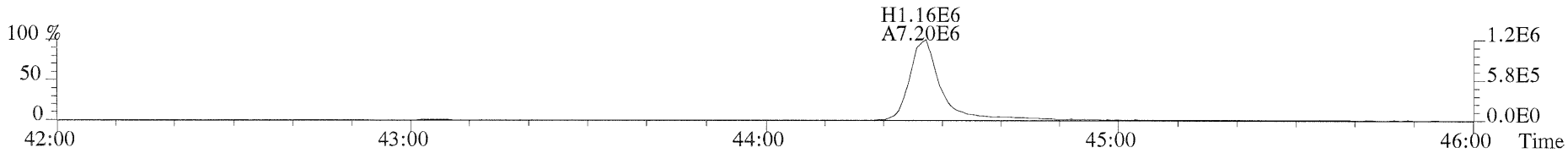
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



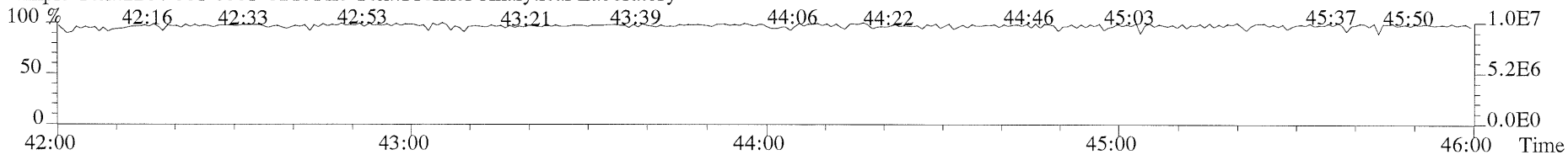
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



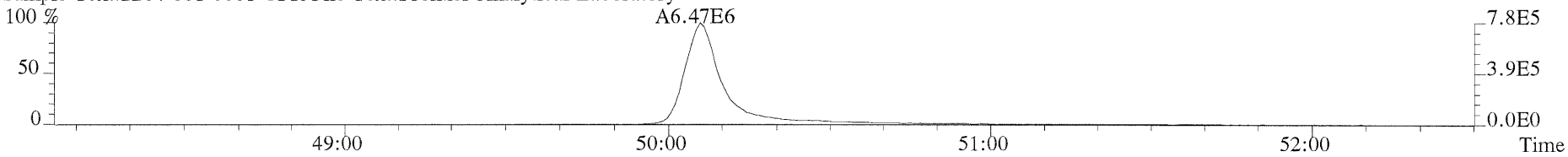
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



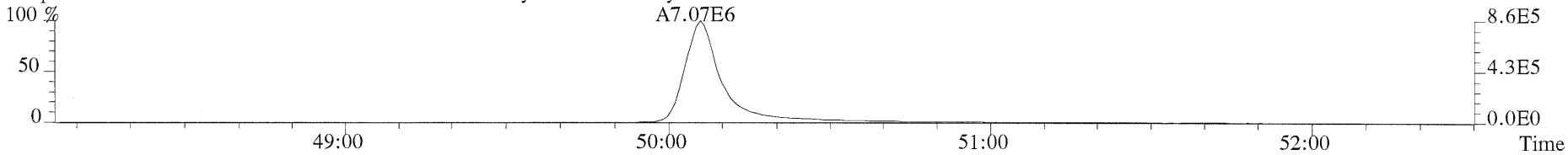
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
430.9728 S:3 F:4 Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



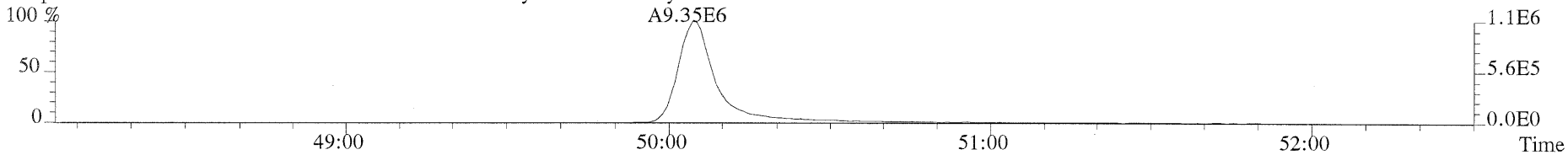
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



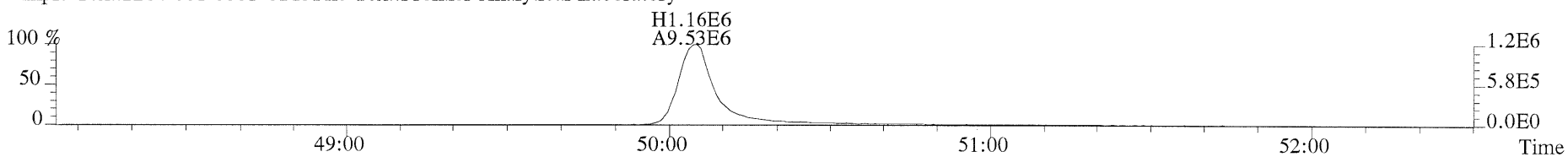
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



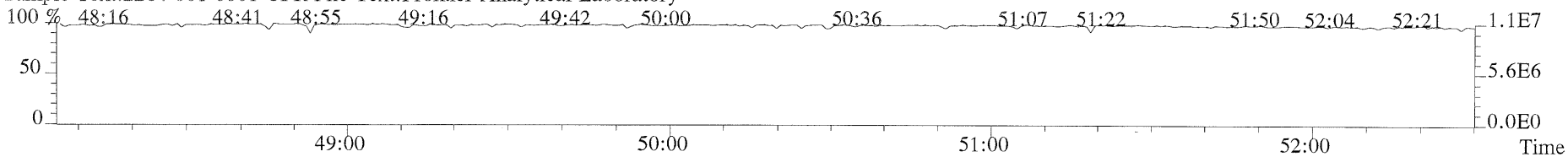
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



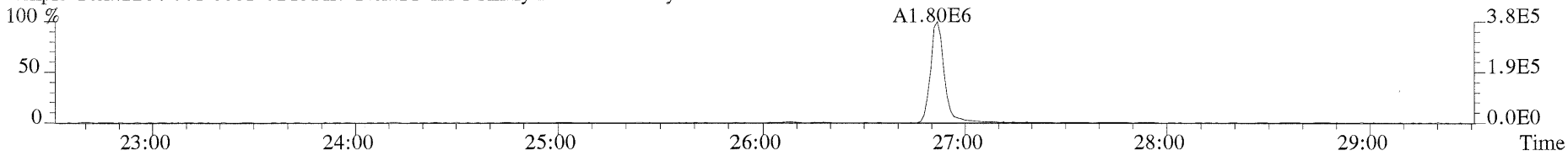
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



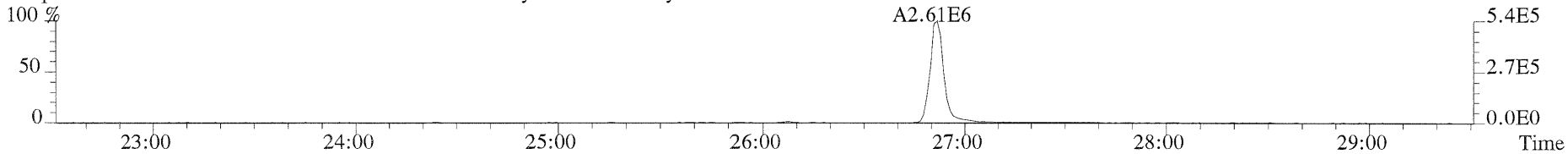
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
454.9728 S:3 F:5 Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



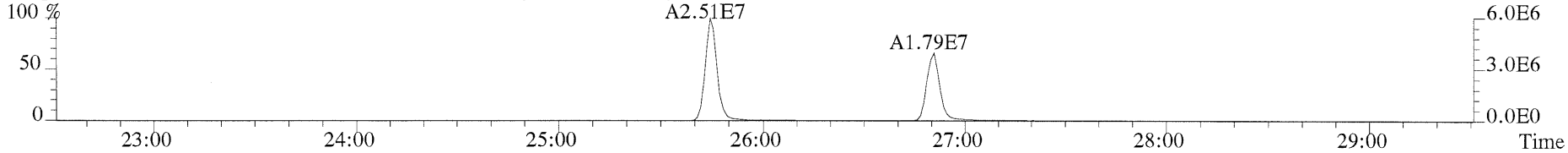
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



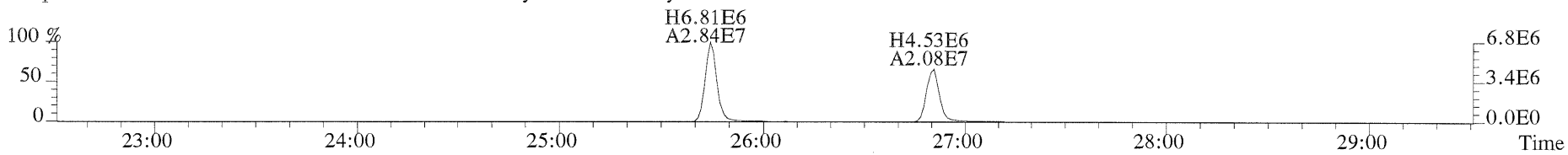
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



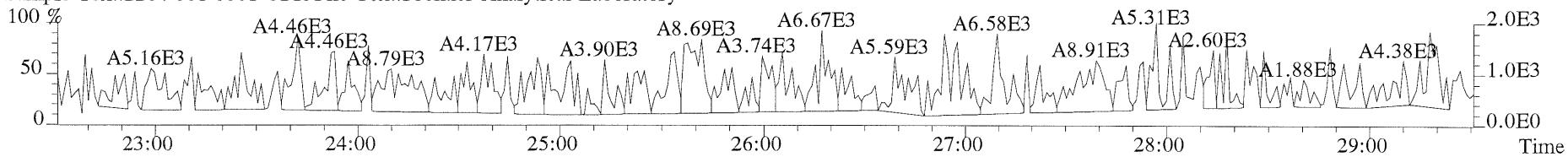
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



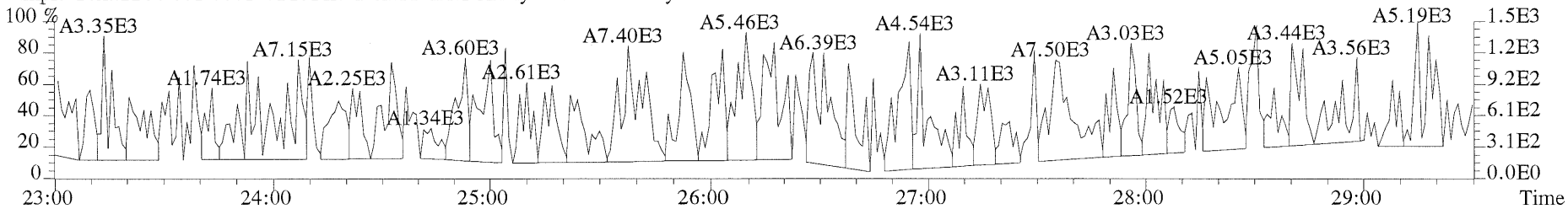
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



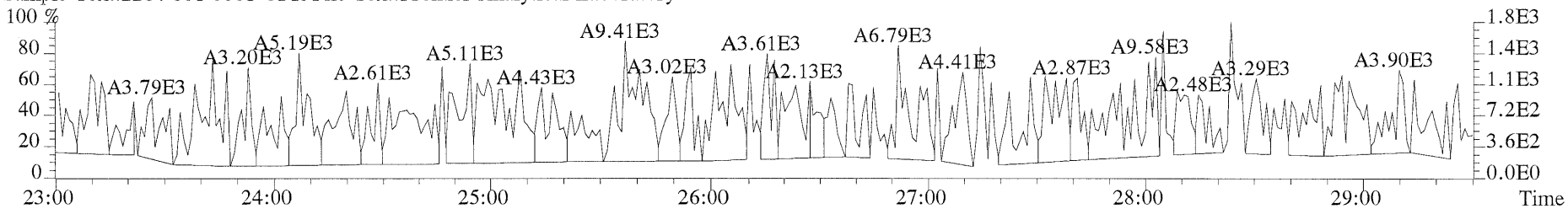
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



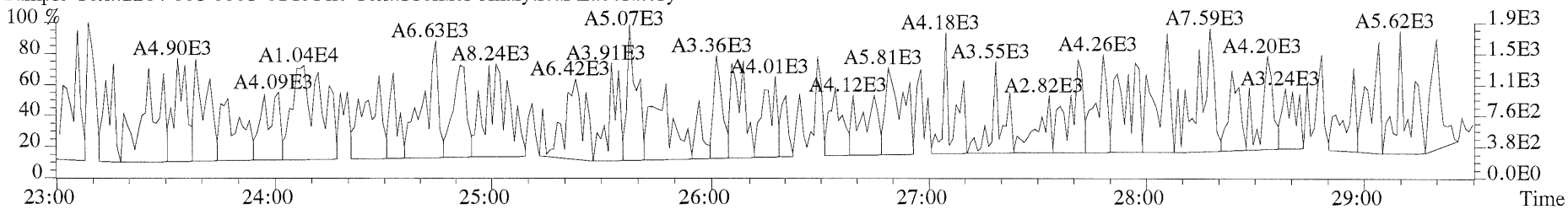
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



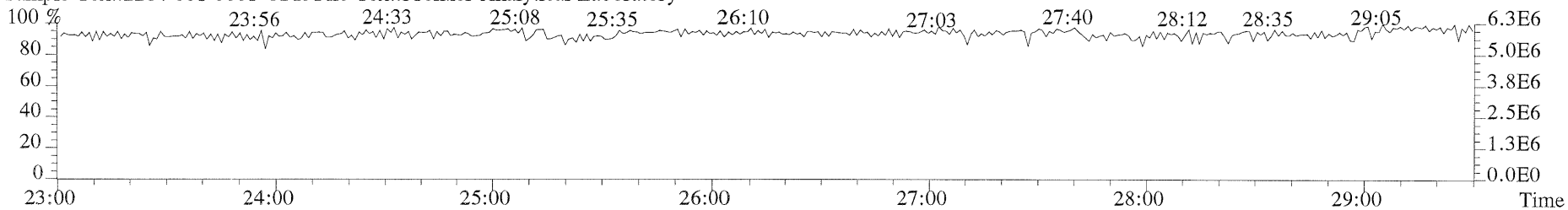
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



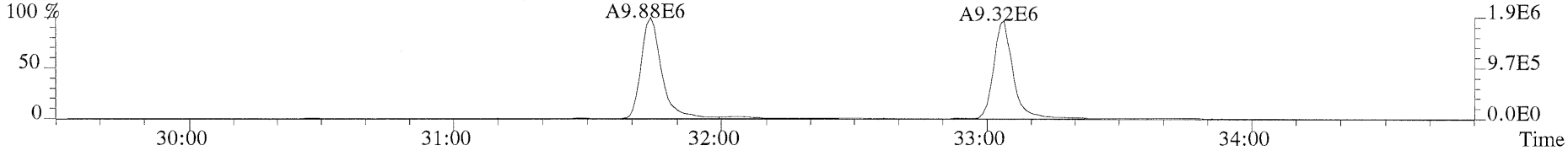
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



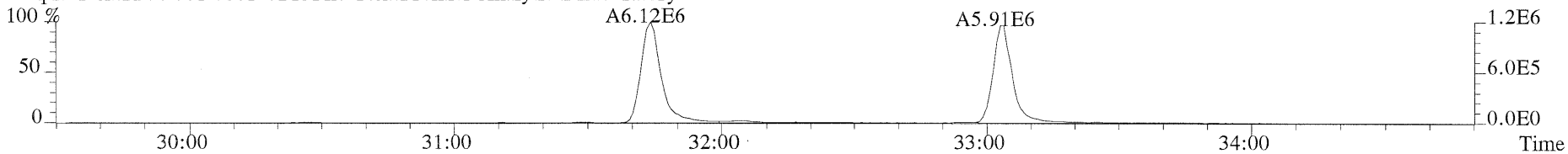
File:07APR11M #1-426 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
316.9824 S:3 Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



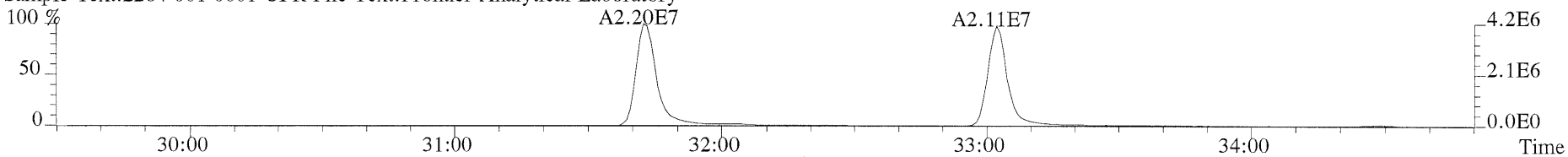
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



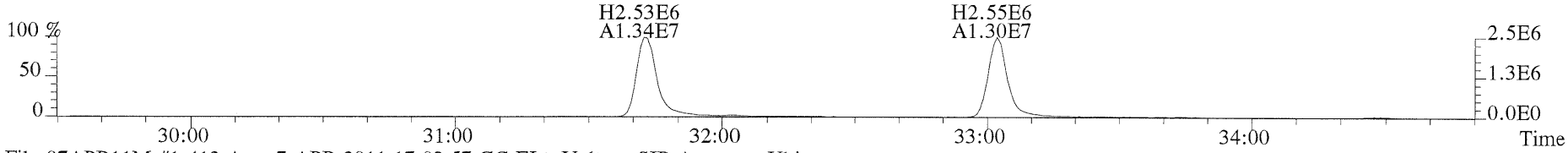
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



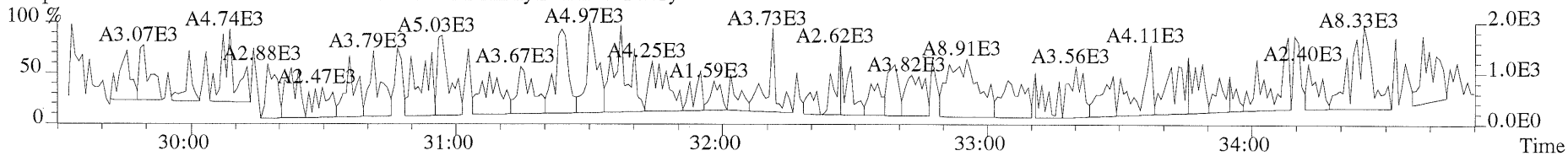
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
351.9000 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



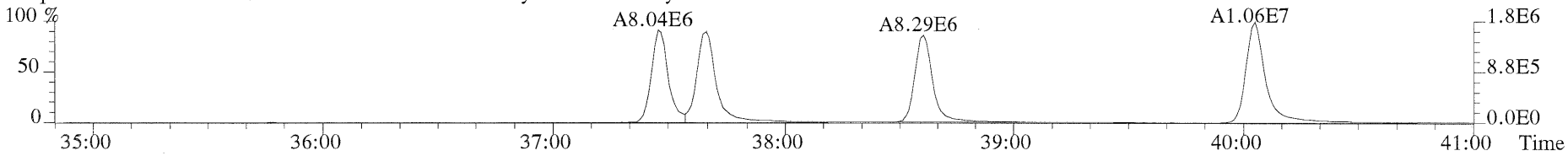
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
353.8970 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



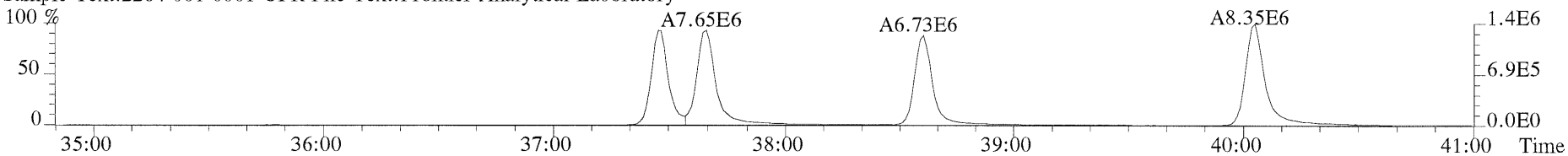
File:07APR11M #1-412 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



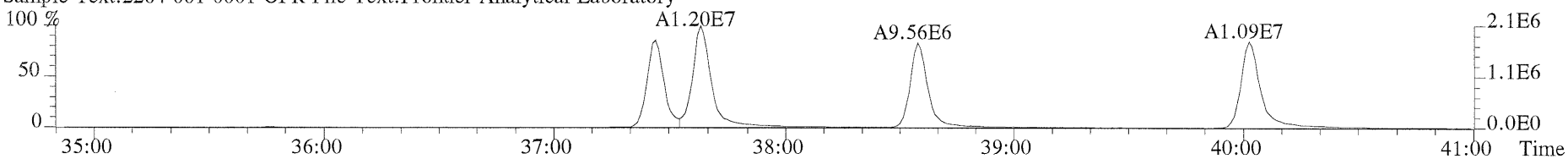
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



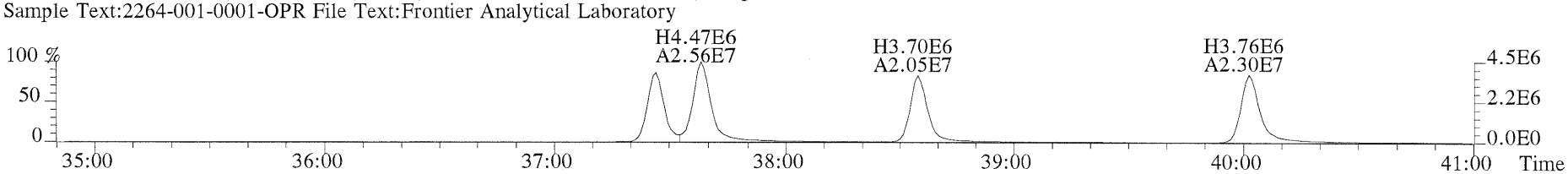
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



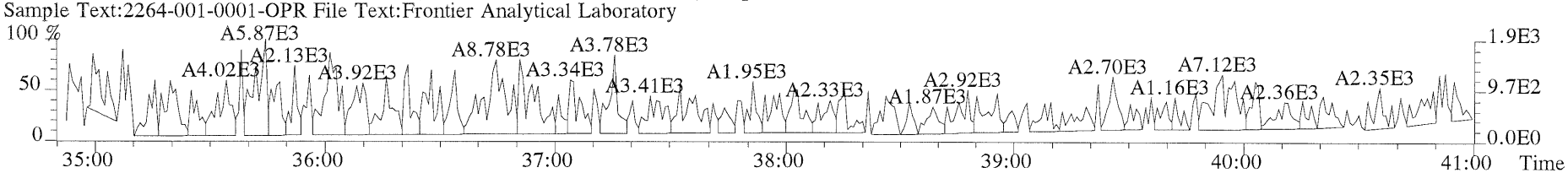
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



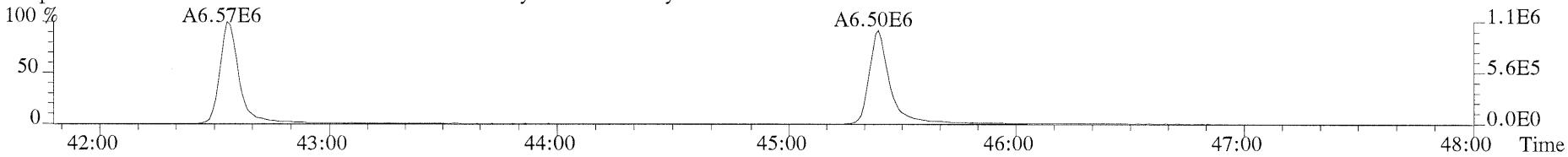
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



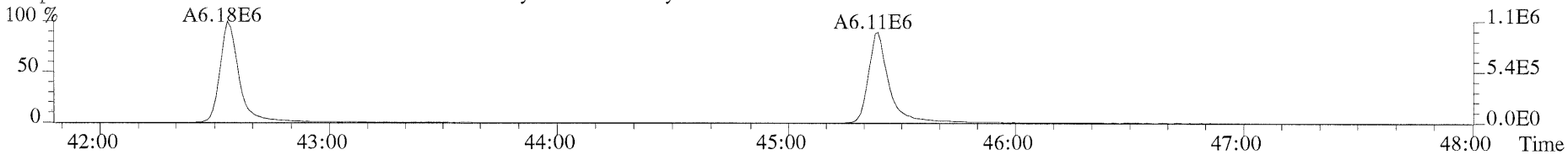
File:07APR11M #1-476 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



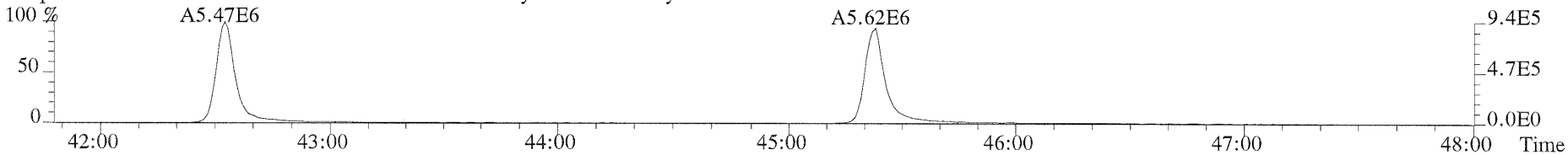
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



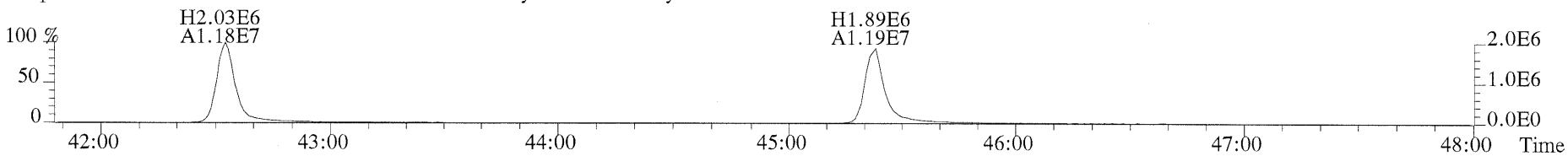
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
409.7788 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



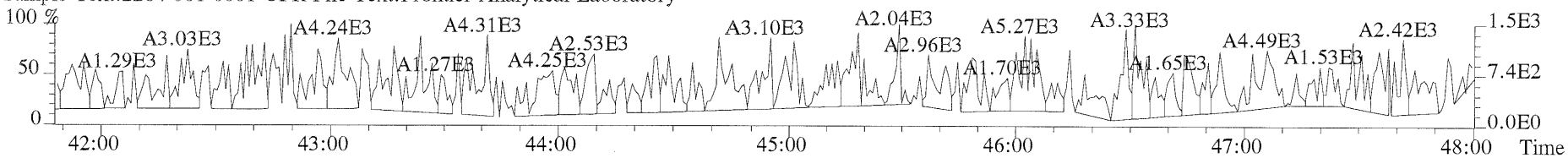
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



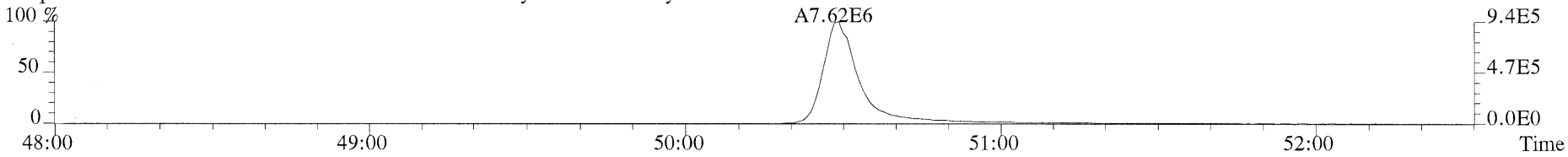
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



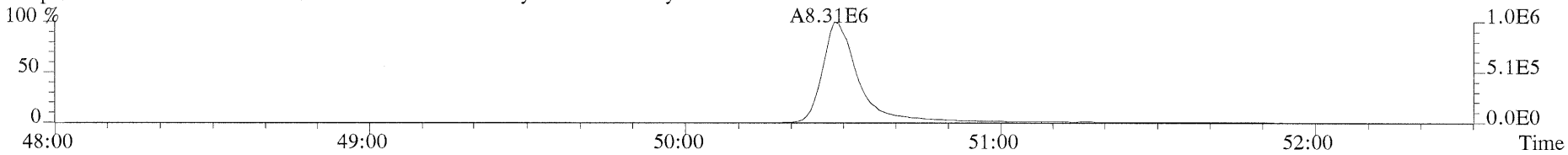
File:07APR11M #1-541 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



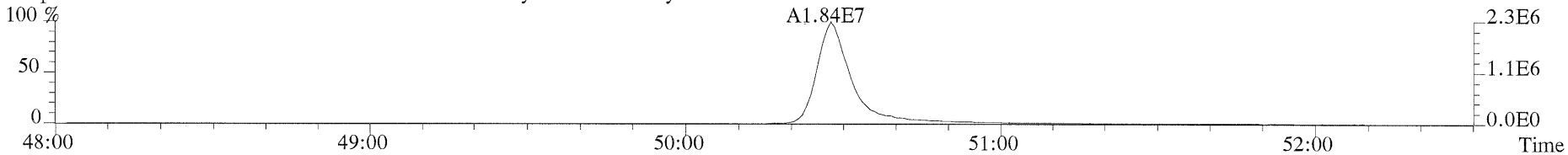
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



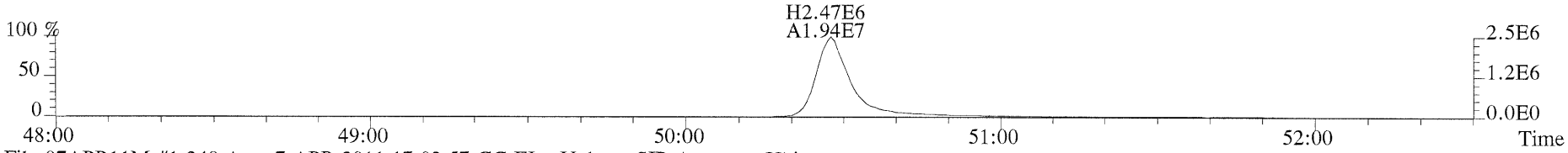
File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
443.7398 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
453.7831 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
455.7801 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory



File:07APR11M #1-348 Acq: 7-APR-2011 17:03:57 GC EI+ Voltage SIR Autospec-Ultima
513.6775 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F) Exp:OCDD
Sample Text:2264-001-0001-OPR File Text:Frontier Analytical Laboratory