Analytical Resources, Incorporated
Analytical Chemists and Consultants

AMEC E&E
Received
SEP 16 2011
SEATTLE ORG. 5009

September 14, 2011

John Long
AMEC/Geomatrix
600 University Suite 1020
Seattle, WA 98101

RE: Client Project: Former Rhone Poulenc- 8769 Shoreline Investigation
ARI Job Number: TK35

Dear John:

Please find enclosed the final data package for samples for the project referenced above. ARI received twenty soil samples and one trip blank on August 29, 2011.

Please refer to the case narrative for details on the analyses of these samples.

A copy of this package will be kept on file at ARI. If you have questions or problems, please feel free to contact me at any time.

Sincerely,

ANALYTICAL RESOURCES, INC.

Kelly Bottem
Client Services Manager
206/695-6211
kellyb@arilabs.com

Enclosures

cc: file TK35

KFB/esj

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

Chain of Custody Documentation

ARI Job ID: TK35

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: TK35	Turn-around Requested: STANDARD
ARI Client Company: AMEC GMX	Phone: (206) 342-1773
Client Contact: JOHN LONG / NIK BACHER	
Client Project Name: FRP SHORELINE INVESTIGATION 2011	
Client Project #: 8704	Samplers: NIK BACHER

Page: 1	of 3
Date: 8/29/11	Ice Present?
No. of Coolers:	Cooler Temps: 2.0 5.4

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

Analysis Requested

Sample ID	Date	Time	Matrix	No. Containers	Metals 6010B	Mercury 7471A	VOCs 8260C	NWTPH-G	NWTPH-Dx	SVOCs 8270 SIM PAH	PCBs 8082	Grain Size D422/4422	Moisture Content D2216	Atterberg D4318	Density D2937 9100 ERA API RP40	Notes/Comments
FRP-082911-001	8/29/11	0945	SOIL	6	X	X	X	X	X	X	X					
FRP-082911-002		0955		6	X	X	X	X	X	X	X					
FRP-082911-003		1005		6	X	X	X	X	X	X	X					
FRP-082911-004		1015		6	X	X	X	X	X	X	X					
FRP-082911-005		1030		2								X	X	X	X	
FRP-082911-006		1050		6	X	X	X	X	X	X	X					
FRP-082911-007		1100		6	X	X	X	X	X	X	X					
FRP-082911-008		1110		6	X	X	X	X	X	X	X					
FRP-082911-009		1120		6	X	X	X	X	X	X	X					
FRP-082911-010		1200		6	X	X	X	X	X	X	X					

Comments/Special Instructions: See QAPP for list of metals.

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature): Nik Bacher	(Signature):	(Signature):	(Signature):
Printed Name: Nik Bacher	Printed Name: Taylor Streeter	Printed Name:	Printed Name:
Company: AMEC	Company: ARI	Company:	Company:
Date & Time: 8/29/11 1650	Date & Time: 8-29-11 1655	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:	Turn-around Requested: STANDARD
ARI Client Company: AMEC GMX	Phone: (206) 342-1773
Client Contact: JOHN LONG / NIK BACHER	
Client Project Name: FRP SHORELINE INVESTIGATION 2011	
Client Project #: 8769	Samplers: NIK BACHER

Page: 2 of 3

Date: 8/29/11 | Ice Present?

No. of Coolers: | Cooler Temps: 2.0 5.4

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

Analysis Requested

Sample ID	Date	Time	Matrix	No. Containers	METALS-6010B	MERCURY-7471A	VOCs-8260C	NWTPH-G	NWTPH-DX	SVOCs-8270/SIM PAH	PCBs-8082	ASTM D421/D422	ASTM D2216	ASTM D4318	~~Notes/Comments~~ ASTM D2937 API RP40 EPA 9100
FRP-082911-011	8/29/11	1210	SOIL	6	X	X	X	X	X	X	X				
FRP-082911-012		1215		6	X	X	X	X	X	X	X				
FRP-082911-013		1220		6	X	X	X	X	X	X	X				
FRP-082911-014		1225		6	X	X	X	X	X	X	X				
FRP-082911-015		1230		2								X	X	X	X
FRP-082911-016		1305		6	X	X	X	X	X	X	X				
FRP-082911-017		1310		6	X	X	X	X	X	X	X				
FRP-082911-018		1315		6	X	X	X	X	X	X	X				
FRP-082911-019		1320		6	X	X	X	X	X	X	X				
FRP-082911-020		1325		6	X	X	X	X	X	X	X				

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
FOLLOW QAP - SEE FOR COMPLETE METALS LIST	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Nik Bacher	Printed Name: Taylor Streeter	Printed Name:	Printed Name:
	Company: AMEC	Company: ARI	Company:	Company:
	Date & Time: 8/29/11 1650	Date & Time: 8-29-11 1655	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: Amec

Project Name: FRP Shoreline investigation 201

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: TK35

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)..... 2.0 5.4 ___ ___ ___ ___

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 90941619

Cooler Accepted by: _____ Date: 8-29-11 Time: 1655

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: Box			
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)	_____	

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

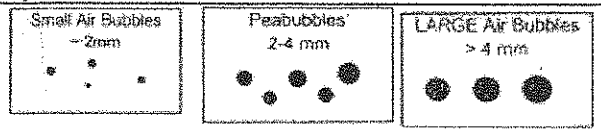
Samples Logged by: AV Date: 8/30/11 Time: 800

***** 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:

By: Date:



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

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: TK35

ANALYTICAL
RESOURCES
INCORPORATED

Case Narrative
Project: 8769 Shoreline Investigation 2011
ARI Job No.: TK35
September 14, 2011

Sample Receipt:

Please find enclosed the original chain of custody (COC) record and analytical results for the project referenced above. Analytical Resources, Inc. accepted twenty soil samples in good condition on August 29, 2011. The samples were received with cooler temperatures of 2.0 and 5.4°C. Please see the Cooler Receipt Form for further details.

Volatiles by Method 8260C:

The Laboratory analyzed the samples on 9/2/11 and 9/5/11 within the method recommended holding time.

Initial calibration (s): Is in control.

Continuing calibration (s): The 9/2/11 CCAL is out of control low for all associated FORM III "Q" flagged analytes with the exception of bromomethane and 2-chloroethylvinylether which are out of control high. All associated samples that contain analyte have been flagged with a "Q" qualifier.

The 9/5/11 CCAL is out of control high for all associated FORM III "Q" flagged analytes. All associated samples that contain analyte have been flagged with a "Q" qualifier.

Samples: There were no anomalies associated with these samples.

Surrogates: All surrogate recoveries were in control.

LCS/LCSD (s): The 9/2/11 LCS and/or LCSD are out of control high for 2-Chloroethylvinylether and Methylene Chloride.

The 9/5/11 LCS is out of control low for 1,2-Dichloroethane.

Method Blank: The 9/2/11 method blank contained methylene chloride. All associated samples that contain analyte have been flagged with a "B" qualifier.

The 9/5/11 method blank contained methylene chloride, acetone and n-Butylbenzene. All associated samples that contain analyte have been flagged with a "B" qualifier.

Semivolatile Organics by Method 8270D:

The Laboratory extracted the samples on 9/2/11 and the extracts were analyzed on 9/6/11 and 9/7/11 within the method recommended holding time.

Initial calibration (s): Are in control.

Continuing calibration (s): The CCAL is out of control high for all associated FORM III "Q" flagged analytes with the exception of Bis(2-chloroethyl)ether which is out of control low. All associated samples that contain analyte have been flagged with a "Q" qualifier. .

Case Narrative
Project: 8769 Shoreline Investigation 2011
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September 14, 2011
Page 2

Samples: There were no anomalies associated with these samples.

Surrogates: Are in control.

Matrix spike/ Matrix spike duplicate/ RPD(s): Are in control.

LCS/LCSD (s): All percent recoveries for the analytes of interest were within compliance.

Method Blank: The method blank contained bis(2-Ethylhexyl)phthalate. All associated samples that contain analyte have been flagged with a "B" qualifier.

PCB Analysis:

The Laboratory extracted the samples on 9/5/11 and the extracts were analyzed on 9/8/11 and 9/9/11 within the method recommended holding time.

Initial calibration (s): Are in control.

Continuing calibration (s): The 1254 CCAL fails low on one column for samples TK35N thru P. The data has been reported from the column in control.

Method Blank (s): All method blanks were free of contamination

Surrogate(s): All sample surrogate recoveries are within control limits.

Samples: There were no anomalies associated with these samples.

LCS/LCSD (s): The LCS is out of control low for aroclor 1016 and 1260 with wide RPDs. The LCSD is in control and no further action was taken.

Matrix spike/ Matrix spike duplicate/ RPD(s): Are in control.

NWTPH-Dx:

The Laboratory extracted the samples on 9/1/11 and the extracts were analyzed between 9/2/11 and 9/5/11 within the method recommended holding time.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes of interest were within method acceptance criteria.

Method Blank (s): All method blanks were free of contamination

Case Narrative
Project: 8769 Shoreline Investigation 2011
ARI Job No.: TK35
September 14, 2011
Page 3

Surrogate(s): Are in control.

Samples: There were no anomalies associated with these samples.

LCS/LCSD (s): All percent recoveries and RPDs were in control.

Matrix spike/ Matrix spike duplicate/ RPD(s): Are in control.

NWTPH-Gx:

The Laboratory analyzed the samples on 9/1/11 within the method recommended holding time.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes of interest were within method acceptance criteria.

Method Blank (s): All method blanks were free of contamination

Surrogate(s): Are in control.

Samples: There were no anomalies associated with these samples.

LCS/LCSD (s): All percent recoveries and RPDs were in control.

Matrix spike/ Matrix spike duplicate/ RPD(s): Are in control.

Total Metals by 200.8, 6010 and 7471A

The samples were digested on 9/2/11 and analyzed on 9/6/11 within the method recommended holding time.

Initial calibration (s): All analytes were within method acceptance criteria.

Continuing calibration (s): All analytes of interest were within method acceptance criteria.

Samples: No anomalies were encountered for these samples.

Method Blank(s): All method blanks were free of contamination.

LCS: Is in control.

Matrix spike/ Matrix spike duplicate/ RPD(s): The matrix spike for sample FRP-082911-001 is out of control high for mercury with wide RPDs for copper and mercury.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Client: AMEC Geomatrix	**ARI Job No.:** TK35
Client Project: FRP Shoreline Investigation 2011	**Client Project No.:** 8769

Case Narrative

1. Two samples were submitted on August 29, 2011 for grain size analysis, Atterberg limits, bulk density and moisture content determination. The samples were in good condition.
2. The Atterberg limits determination was run according to ASTM D4318.
3. Grain size distribution was run according to ASTM D422, sieve and hydrometer analysis. The samples were set up according to ASTM D421. A standard milkshake-type mixer was used to disperse the hydrometer sample. A specific gravity of 2.65 was used in the hydrometer calculations. The samples were run in a single batch, and one sample from this job, FRP-082911-005, was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
4. The moisture content was run according to ASTM D2216.
5. Bulk (wet/dry) density was run according to ASTM D7263. Triplicate analysis was run on sample FRP-082911-005.
6. The data is provided in summary tables and plots.
7. There were no noted anomalies in the samples or methods on this project.

Released by: Suzanne Santo Date: 9/8/11
Title: *Geotechnical Division Manager*

Reviewed by: [illegible] Date: 9-8-2011
Title: *Lead Technician*

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TK35
Client: AMEC Geomatrix
Project Event: 8769
Project Name: FRP Shoreline Investigation 2011

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	FRP-082911-001	TK35A	11-18788	Soil	08/29/11 09:45	08/29/11 16:55
2.	FRP-082911-002	TK35B	11-18789	Soil	08/29/11 09:55	08/29/11 16:55
3.	FRP-082911-003	TK35C	11-18790	Soil	08/29/11 10:05	08/29/11 16:55
4.	FRP-082911-004	TK35D	11-18791	Soil	08/29/11 10:15	08/29/11 16:55
5.	FRP-082911-006	TK35E	11-18792	Soil	08/29/11 10:50	08/29/11 16:55
6.	FRP-082911-007	TK35F	11-18793	Soil	08/29/11 11:00	08/29/11 16:55
7.	FRP-082911-008	TK35G	11-18794	Soil	08/29/11 11:10	08/29/11 16:55
8.	FRP-082911-009	TK35H	11-18795	Soil	08/29/11 11:20	08/29/11 16:55
9.	FRP-082911-010	TK35I	11-18796	Soil	08/29/11 12:00	08/29/11 16:55
10.	FRP-082911-011	TK35J	11-18797	Soil	08/29/11 12:10	08/29/11 16:55
11.	FRP-082911-012	TK35K	11-18798	Soil	08/29/11 12:15	08/29/11 16:55
12.	FRP-082911-013	TK35L	11-18799	Soil	08/29/11 12:20	08/29/11 16:55
13.	FRP-082911-014	TK35M	11-18800	Soil	08/29/11 12:25	08/29/11 16:55
14.	FRP-082911-016	TK35N	11-18801	Soil	08/29/11 13:05	08/29/11 16:55
15.	FRP-082911-017	TK35O	11-18802	Soil	08/29/11 13:10	08/29/11 16:55
16.	FRP-082911-018	TK35P	11-18803	Soil	08/29/11 13:15	08/29/11 16:55
17.	FRP-082911-019	TK35Q	11-18804	Soil	08/29/11 13:20	08/29/11 16:55
18.	FRP-082911-020	TK35R	11-18805	Soil	08/29/11 13:25	08/29/11 16:55
19.	FRP-082911-005	TK35S	11-18806	Soil	08/29/11 10:30	08/29/11 16:55
20.	FRP-082911-015	TK35T	11-18807	Soil	08/29/11 12:30	08/29/11 16:55

Printed 08/30/11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

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).

TK35 : 00012

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)**

TK35 : 00013

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

TK35 : 00014

SURR SOLUTIONS

LABEL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
A	1873-3	ABN	100/150	MEOH	01/05/12
B	1874-2	SIM PNA	15/75	ACETONE	10/05/11
C	NA	SIM ABN	25/37.5	MEOH	NA
D	1870-3	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	1863-2	d8-DIOXANE	100	MEOH	11/19/11
H	1847-2	OP-PEST	25	ACETONE	03/23/12
I	1868-3	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	1862-3	TBT	2.5	MECL2	11/27/11
M	1868-2	EPH	1500	MECL2	09/02/11
N	1876-3	PCB	2	ACETONE	12/16/11
O	1864-2	TPH	450	MECL2	02/04/12
P	1868-1	HCID	2250	MECL2	02/04/12
Q	NA	EDB	1	MEOH	NA
R	1757-3	RESIN ACID	250	ACETONE	08/14/11
S	1864-1	PBDE	.5	MEOH	05/21/12
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

TK35 : 00015

LCS SOLUTIONS

LABL	SOLN ID	TEST	CONC. UG/ML	SOLVENT	EXP.
1	1871-1	PCB 1660	20	ACETONE	06/22/12
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	1853-5	ABN	100	MEOH	11/01/11
8	1785-3	TBT	2.5	MECL2	11/27/11
9	1786-3	PORE TBT	.125/.25	MECL2	11/27/11
10					
11	1860-4	TPHD	15000	ACETONE	05/12/12
12					
13	1838-4	LOW PCB	2	ACETONE	01/31/12
14					
15	1814-2	SIM PNA	15/75	MEOH	01/04/12
16	1834-5	1,4-DIOXANE	100	MEOH	08/25/11
17	1869-4	1248 PCB	10	ACETONE	06/14/12
18	1814-3	LOW SIM PNA	1.5	ACETONE	01/04/12
19	1873-2	AK103	7500	ACETONE	01/02/12
20	1843-3	PNA	100	ACETONE	08/14/11
21	1874-3	SKY/BHT	100	MEOH	01/14/12
22	1864-3	HERB	02 to 2500	MEOH	12/03/11
23					
24					
25#	NA	DIPHENYL	100	MEOH	NA
26	1869-1	OP-PEST	25	MEOH	10/01/11
27	NA	STEROLS	200	MEOH	NA
28#	1807-1	ADD. PEST	2	ACETONE	08/31/11
29#	NA	DECANES	100	MEOH	NA

TK35 : 00016

LCS SOLUTIONS

30	NA	EDB/DBCP	0.2	MEOH	NA
31	1835-2	TERPINEOL	100	MEOH	09/02/11
32	1876-1	GUAIACOL	50-200	ACETONE	01/05/12
33	NA	RETENE	100	MEOH	NA
34	1867-3	CONGENERS	0.5	ACETONE	03/14/12
35	1875-3	ALKYL PNA A	10	MEOH	07/18/12
36	NA	ALKYL PNA B	10	MEOH	NA
37	1773-1	CAR/PERY	100	ACETONE	10/14/11
38	1872-2	ABN ACID	200-450	MEOH	12/29/11
39	1853-4	BENZIDINE	500	MEOH	04/30/12
40	1851-3	PBDE	0.5	MEOH	04/22/12
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	1852-2	DALAPON	50	MEOH	12/03/11
54	1753-1	T-CHLORDANE	10	ACETONE	07/21/11
55	1753-2	TOXAPHENE	50	ACETONE	07/21/11
56	1874-1	ABN BASE	50-200	MEOH	01/05/12
#=PROJECT SPECIFIC SOLUTION					
*=REVERIFIED SOLUTION					

TK35 : 00017

Analytical Resources, Incorporated
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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

TK35:00018

Analytical Resources, Incorporated
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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

TK35 : 00019

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]
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.

TK35 : 00020

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOD[1], LOQ[2] and Control Limits Summary
GC - MS – SVOA Analysis of Sediment
EPA Method 8270 Full Scan & SIM
ARI Analysis: BANDMP

Microwave Extraction (EPA Method 3546) using 10 g sample with extract concentrated to 1 mL final volume

LOD Spike level = LOQ (unless otherwise noted)

	Full Scan Analysis		SIM Analysis		LCS, MS Control Limits	Replicate RPD[3]
Analyte	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**% Recovery**	
Phenol	8.65	20	2.56	5	30 – 160	≤ 40
bis-(2-Chloroethyl)ether	3.35	20	--	--	30 – 160	≤ 40
2-Chlorophenol	2.39	20	--	--	30 – 160	≤ 40
1,3-Dichlorobenzene	2.63	20	1.31	5	30 – 160	≤ 40
1,4-Dichlorobenzene	2.86	20	1.19	5	30 – 160	≤ 40
1,2-Dichlorobenzene	2.50	20	1.10	5	30 – 160	≤ 40
Benzyl alcohol	6.09	20	7.04	20[4]	30 – 160	≤ 40
2,2'-oxy-*bis*-(1-Chloropropane)	3.76	20	--	--	30 – 160	≤ 40
2-Methylphenol	5.25	20	1.81	5	30 – 160	≤ 40
Hexachloroethane	2.94	20	--	--	30 – 160	≤ 40
N-Nitroso-di-n-propylamine	3.36	20	9.48	12[4]	30 – 160	≤ 40
3 & 4-Methylphenol	6.63	40	2.52	10	30 – 160	≤ 40
Nitrobenzene	4.06	20	--	--	30 – 160	≤ 40
Isophorone	2.86	20	--	--	30 – 160	≤ 40
2-Nitrophenol	38.7	100	--	--	30 – 160	≤ 40
2,4-Dimethylphenol	3.46	40	2.89	20	30 – 160	≤ 40
bis-(2-Chloroethoxy)methane	2.00	20	--	--	30 – 160	≤ 40
2,4-Dichlorophenol	21.5	200	--	--	30 – 160	≤ 40
1,2,4-Trichlorobenzene	3.48	20	1.86	5	30 – 160	≤ 40
Naphthalene	2.76	20	--	--	30 – 160	≤ 40
Benzoic acid	101	400[6]	--	--	30 – 160	≤ 40
4-Chloroaniline	22.3	270[5]	--	--	30 – 160	≤ 40
Hexachlorobutadiene	4.57	100	0.96	5	30 – 160	≤ 40
4-Chloro-3-methylphenol	15.1	100	--	--	30 – 160	≤ 40
2-Methylnaphthalene	3.06	20	--	--	30 – 160	≤ 40
Hexachlorocyclopentadiene	66.4	400[5]	--	--	30 – 160	≤ 40
2,4,6-Trichlorophenol	22.4	100	--	--	30 – 160	≤ 40
2,4,5-Trichlorophenol	21.4	100	--	--	30 – 160	≤ 40
2-Chloronaphthalene	2.64	20	--	--	30 – 160	≤ 40
2-Nitroaniline	18.4	100	--	--	30 – 160	≤ 40
Acenaphthylene	5.71	20	--	--	30 – 160	≤ 40
Dimethylphthalate	2.90	20	1.34	5	30 – 160	≤ 40
2,6-Dinitrotoluene	30.6	100	--	--	30 – 160	≤ 40

TK35 : 00021

LOD[1], LOQ[2] and Control Limits Summary
GC - MS – SVOA Analysis of Sediment
EPA Method 8270 Full Scan & SIM
ARI Analysis: BANDMP

Microwave Extraction (EPA Method 3546) using 10 g sample with extract concentrated to 1 mL final volume

LOD Spike level = LOQ (unless otherwise noted)

	Full Scan Analysis		SIM Analysis		LCS, MS Control Limits	Replicate RPD[3]
Analyte	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**% Recovery**	
Acenaphthene	3.28	20	--	--	30 – 160	≤ 40
3-Nitroaniline	22.5	100	--	--	30 – 160	≤ 40
2,4-Dinitrophenol	111	850[5]	--	--	30 – 160	≤ 40
Dibenzofuran	4.10	20	--	--	30 – 160	≤ 40
4-Nitrophenol	34.7	100	--	--	30 – 160	≤ 40
2,4-Dinitrotoluene	19.5	100	--	--	30 – 160	≤ 40
Fluorene	4.35	20	--	--	30 – 160	≤ 40
4-Chlorophenyl-phenylether	5.29	20	--	--	30 – 160	≤ 40
Diethylphthalate	36.6	50[4]	3.26	5.0	30 – 160	≤ 40
4-Nitroaniline	37.9	100	--	--	30 – 160	≤ 40
4,6-Dinitro-2-methylphenol	21.2	200	--	--	30 – 160	≤ 40
N-Nitrosodiphenylamine	5.39	20	1.38	20	30 – 160	≤ 40
4-Bromophenyl-phenylether	5.03	20	--	--	30 – 160	≤ 40
Hexachlorobenzene	4.29	20	1.26	5	30 – 160	≤ 40
Pentachlorophenol	48.5	200[5]	14.3	50	30 – 160	≤ 40
Phenanthrene	3.64	20	--	--	30 – 160	≤ 40
Anthracene	4.50	20	--	--	30 – 160	≤ 40
Carbazole	2.69	20	--	--	30 – 160	≤ 40
Di-n-butylphthalate	8.16	20	--	--	30 – 160	≤ 40
Fluoranthene	2.91	20	--	--	30 – 160	≤ 40
Pyrene	1.94	20	--	--	30 – 160	≤ 40
Butylbenzylphthalate	6.14	20	2.89	5	30 – 160	≤ 40
Benzo(a)anthracene	3.29	20	--	--	30 – 160	≤ 40
3,3'-Dichlorobenzidine	17.8	150[5]	--	--	30 – 160	≤ 40
Chrysene	3.75	20	--	--	30 – 160	≤ 40
bis-(2-Ethylhexyl)phthalate	14.6	25[4]	--	--	30 – 160	≤ 40
Di-n-octylphthalate	5.84	20	--	--	30 – 160	≤ 40
Benzo(b)fluoranthene	3.47	20	--	--	30 – 160	≤ 40
Benzo(k)fluoranthene	4.18	20	--	--	30 – 160	≤ 40
Benzo(a)pyrene	5.45	20	--	--	30 – 160	≤ 40
Indeno(1,2,3-cd)pyrene	4.68	20	--	--	30 – 160	≤ 40
Dibenzo(a,h)anthracene	4.31	20	2.02	5	30 – 160	≤ 40
Benzo(g,h,i)perylene	4.40	20	--	--	30 – 160	≤ 40
N-Nitrosodimethylamine	14.1	100	3.15	25	30 – 160	≤ 40

TK35 : 00022

LOD[1], LOQ[2] and Control Limits Summary
GC - MS – SVOA Analysis of Sediment
EPA Method 8270 Full Scan & SIM
ARI Analysis: BANDMP

Microwave Extraction (EPA Method 3546) using 10 g sample with extract concentrated to 1 mL final volume

LOD Spike level = LOQ (unless otherwise noted)

	Full Scan Analysis		SIM Analysis		LCS, MS Control Limits	Replicate RPD[3]
Analyte	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**LOD[1] µg/kg**	**LOQ[2] µg/kg**	**% Recovery**	
Aniline	40.0	540[5]	--	--	30 – 160	≤ 40
Pyridine	32.7	150[5]	--	--	30 – 160	≤ 40
1-methylnaphthalene	2.68	20	--	--	30 – 160	≤ 40
Azobenzene (1,2-DP-Hydrazine)	2.98	20	--	--	30 – 160	≤ 40
Surrogate Standards				**MB / LCS**	**Samples**	**RPD**
2-Fluorophenol				30 – 160	30 – 160	≤ 40
Phenol-d_5				30 – 160	30 – 160	≤ 40
2-Chlorophenol-d_4				30 – 160	30 – 160	≤ 40
1,2-Dichlorobenzene-d_4				30 – 160	30 – 160	≤ 40
Nitrobenzene-d_5				30 – 160	30 – 160	≤ 40
2-Fluorobiphenyl				30 – 160	30 – 160	≤ 40
2,4,6-Tribromophenol				30 – 160	30 – 160	≤ 40
p-Terphenyl-d_{14}				30 – 160	30 – 160	≤ 40

(1) Limit of Detection as defined in ARI SOP 1018S
(2) Limit of Quantitation as defined in ARI SOP 1018S
(3) Relative Percent Difference between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(4) Spiked at 5 ppb
(5) Spiked at 100 ppb
(6) Spiked at 200 ppb

TK35 : 00023

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Quality Control Criteria for Analysis of Solid Matrix Samples for Aroclors (Polychlorinated Biphenyls – PCB) EPA Method 8082B

Analysis Code	Target RL	Extraction	LOQ[1]	Analyte	LOD[2]	Spike Recovery Control Limits[5]			RPD[4]
						LCS	MB/LCS Surrogate	Sample Surrogate	
Soil / Sediment Samples (Microwave Extraction – EPA Method 3546)									
PCBSMI 15-3067F	33 µg/kg	12g to 4 mL	33 µg/kg	Aroclor 1016	9.83	48 – 106	--	--	≤ 40
				Aroclor 1260	7.06	50 – 121	--	--	
				TCMX	--	--	46 – 111	50 – 114	
				DCBP	--	--	51 – 112	42 – 127	
PCBSMP 05-3017F	20 µg/kg	12.5 g to 2.5 mL[7]	20 µg/kg	Aroclor 1016	9.33	52 – 101	--	--	≤ 40
				Aroclor 1260	10.82	52 – 126	--	--	
				TCMX	--	--	47 – 110	46 – 113	
				DCBP	--	--	48 – 119	40 – 130	
PCBSMM 07-3024F	10 µg/kg	12.5 g to 2.5 mL[7]	10 µg/kg	Aroclor 1016	0.759	53 – **100**	--	--	≤ 40
				Aroclor 1260	1.066	58 – 112	--	--	
				TCMX	--	--	43 – 108	35 – 119	
				DCBP	--	--	48 – 118	33 – 143	
PCBSMM 07-3024F	4 µg/kg	12.5 g to 2.5 mL[7]	4 µg/kg	Aroclor 1016	0.577	37 – 106	--	--	≤ 40
				Aroclor 1260	0.610	50 – 116	--	--	
				TCMX	--	--	35 – 100	38 – 102	
				DCBP	--	--	40 – 109	34 – 141	
Medium Level – Solids, Product, Paint Chips, etc (Vortex Extraction – EPA Method 3580A)-reported on an "as received" basis									
PCBSVX 12-3019F	800 µg/kg	5 g to 40 mL	800 µg/kg	Aroclor 1016	63.3	59 – 108	--	--	≤ 40
				Aroclor 1260	123	43 – 177	--	--	
				TCMX	--	--	49 – 110	28 – 106	
				DCBP	--	--	51 – 127	22 – 168	
Oil (Vortex Extraction – EPA method 3580A) -reported on an "as received" basis									
PCBOVX 13-3020F	1 µg/kg	2 g to 20 mL	1 mg/kg	Aroclor 1016	(6)	30 – 160	--	--	≤ 40
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	
Wipe (Vortex Extraction – EPA method 3580A) -reported as µg per wipe "as received"									
PCBIVX 14-3031F	1 µg/Wipe	10 mL	1 µg/Wipe	Aroclor 1016	(6)	30 – 160	--	--	≤ 40
				Aroclor 1260	(6)	30 – 160	--	--	
				TCMX	--	--	30 – 160	30 – 160	
				DCBP	--	--	30 – 160	30 – 160	

(1) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the LOD.
(2) Limit of Detection as defined in ARI SOP 1018S
(3) Highlighted control limits (**bold font**) are adjusted from the calculated values to reflect that ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) 30 – 160 are default limits used when there is insufficient data to calculate historic control limits
(6) LOD studies in process (5/1/11)
(7) LOQ determined by lowest concentration used to calibrate the GC-ECD instrument.

TK35 : 00024

Analytical Resources, Incorporated
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Quality Control Criteria
Total Petroleum Hydrocarbons
(Diesel & Motor Oil)

Analysis Code	Analyte[5]	LOD[1]	LOQ[2] ppm	Spike % Recovery Control Limits[3]			RPD[4]
				LCS	MB/LCS Surrogate	Sample Surrogate	
HCIWVX	NWTPH-HCID – Water Samples	--	0.50 [7]	--	--	50-150	≤ 40
HCISVX	NWTPH-HCID – Solid Samples	--	50 [7]	--	--	50-150	
Aqueous Samples – No Extract Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL							
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.022	0.1	64-112	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.022	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.044	0.2	64-112	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [8]	0.2	60-120 [6]	60-120	50-150	
Aqueous Samples – With Acid and/or Silica Gel Clean-up – Separatory Funnel Extraction – 500 to 1.0 mL							
DIESWI	DRO – NWTPH-Dext (C_{12}-C_{24})	0.039	0.1	61-104	50-150	50-150	≤ 40
AK2WSI	DRO – AK102 (C_{10}-C_{25})	0.042	0.1	75-125 [6]	60-120	50-150	
OILWSI	RRO – NWTPH-Dext (C_{24}-C_{38})	0.010	0.2	61-104	50-150	50-150	
AK3WSI	RRO – AK103 (C_{25}-C_{36})	0.030 [8]	0.2	60-120 [6]	60-120	50-150	
Solid Matrix Samples – No Extract Clean-up – Microwave Extraction – 10 g to 1 mL							
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.35	5	62-119	50-150	50-150	≤ 40
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.43	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	2.48	10	62-119	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [9]	10	60-120 [6]	60-120	50-150	
Solid Matrix Samples – With Acid and/or Silica Gel Clean-up – Microwave Extraction – 10 g to 1 mL							
DIESMI	DRO – NWTPH-Dext (C_{12}-C_{24})	1.28	5	60-108	50-150	50-150	≤ 40
AK2SMI	DRO – AK102 (C_{10}-C_{25})	2.06	5	75-125 [6]	60-120	50-150	
OILSMI	RRO – NWTPH-Dext (C_{24}-C_{38})	1.57	10	60-108	50-150	50-150	
AK3SMI	RRO – AK103 (C_{25}-C_{36})	0.665 [9]	10	60-120 [6]	60-120	50-150	

(1) Limit of Detection as defined in ARI SOP 1018S.
(2) Limit of Quantitation as defined in ARI SOP 1018S. The spike concentration used to determine the LOD and the concentration of the lowest standard used to calibrate the GC-FID instrument.
(3) All surrogate recovery limits are specified in the published methods (AK102, AK103 & NWTPH-Dext). The surrogate standard is o-Terphenyl.
(4) Acceptance criteria for the relative percent difference (RPD) between analytes in replicate analyzes. If C_O and C_D are the concentrations of the original and duplicate respectively then

$$RPD = \frac{|C_O - C_D|}{\frac{C_O + C_D}{2}} x100$$

(5) DRO = Diesel Range Organics and RRO = Residual Range Organics as defined in the methods referenced in footnote 3.
(6) Method specified LCS acceptance limits.
(7) Method specified reporting limits
(8) MDL study QD55 completed 2/12/10
(9) MDL study QD35 completed 1/29/10

TK35 : 00025

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits BTEX – EPA Method 8021 & Gasoline – Methods NWTPH-G and AK101[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

Sample Matrix:	**Aqueous Samples**		**Soil / Sediment Samples**	
Analytical Method:	Method 8021B	NWTPH-G AK-101	Method 8021B	NWTPH-G AK-101
LCS Spike Recovery [3]				
Benzene	73 - **120**		72 - **120**	
Toluene	73 - **120**		72 - **120**	
Ethyl benzene	69 - **120**		71 - **120**	
m,p-Xylenes	72 - **120**		72 - **120**	
o-Xlyene	73 - **120**		72 - **120**	
MTBE	30 - 182		40 - 163	
Gasoline		75 - 124		74 - 124
Method Blank/LCS Surrogate Recovery				
Trifluorotoluene (TFT)	79 - **120**	**80 - 120**	80 - **120**	**80 - 120**
Bromobenzene	79 - **120**	**80 - 120**	77 - **120**	**80 - 120**
Sample Surrogate Recovery				
Trifluorotoluene (TFT)	**80 - 120**	**80** - 120	68 - 124	66 - 123
Bromobenzene	**80 - 120**	**80** - 120	62 - 134	62 - 130

(1) Control Limits calculated using all data generated 1/1/08 through 12/31/08.
(2) Highlighted control limits (bold font) are adjusted from the calculated values as follows:
a) 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.
b) Control limits for analytes 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.

TK35 : 00026

Analytical Resources,Incorporated
Analytical Chemists and Consultants

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%

TK35 : 00027

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-001**
 SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 18:54

Sample Amount: 5.05 g-dry-wt
Percent Moisture: 11.6%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.26	1.0	< 1.0 U
74-83-9	Bromomethane	0.19	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.23	1.0	< 1.0 U
75-00-3	Chloroethane	0.46	1.0	< 1.0 U
75-09-2	Methylene Chloride	0.63	2.0	< 2.0 U
67-64-1	**Acetone**	**0.48**	**5.0**	**21 ~~U~~ J**
75-15-0	Carbon Disulfide	0.55	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	0.33	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	0.20	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	0.26	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	< 1.0 U
67-66-3	Chloroform	0.23	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	0.19	1.0	< 1.0 U
78-93-3	2-Butanone	0.51	5.0	< 5.0 U J
71-55-6	1,1,1-Trichloroethane	0.22	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	0.21	1.0	< 1.0 U
108-05-4	Vinyl Acetate	0.38	5.0	< 5.0 U
75-27-4	Bromodichloromethane	0.25	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	0.16	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	0.22	1.0	< 1.0 U
79-01-6	Trichloroethene	0.21	1.0	< 1.0 U
124-48-1	Dibromochloromethane	0.26	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	0.28	1.0	< 1.0 U
71-43-2	**Benzene**	**0.29**	**1.0**	**0.7 J**
10061-02-6	trans-1,3-Dichloropropene	0.21	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	0.27	5.0	< 5.0 U
75-25-2	Bromoform	0.29	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.42	5.0	< 5.0 U
591-78-6	2-Hexanone	0.43	5.0	< 5.0 U J
127-18-4	Tetrachloroethene	0.25	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	1.0	< 1.0 U
108-88-3	**Toluene**	**0.15**	**1.0**	**0.5 J**
108-90-7	Chlorobenzene	0.22	1.0	< 1.0 U
100-41-4	Ethylbenzene	0.20	1.0	< 1.0 U
100-42-5	Styrene	0.14	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	0.26	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.28	2.0	< 2.0 U
179601-23-1	m,p-Xylene	0.39	1.0	< 1.0 U
95-47-6	o-Xylene	0.22	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	0.29	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	0.22	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	0.23	1.0	< 1.0 U
107-02-8	Acrolein	3.8	50	< 50 U
74-88-4	Methyl Iodide	0.21	1.0	< 1.0 U
74-96-4	Bromoethane	0.44	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	5.0	< 5.0 U J
563-58-6	1,1-Dichloropropene	0.31	1.0	< 1.0 U
74-95-3	Dibromomethane	0.15	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	0.23	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	0.58	5.0	< 5.0 U J

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-001
SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Date Analyzed: 09/02/11 18:54

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.51	2.0	< 2.0 U
110-57-6	trans-1,4-Dichloro-2-butene	0.43	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	0.25	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	0.23	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	0.41	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	0.17	1.0	< 1.0 U
74-97-5	Bromochloromethane	0.32	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	0.29	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	0.21	1.0	< 1.0 U
98-82-8	Isopropylbenzene	0.23	1.0	< 1.0 U
103-65-1	n-Propylbenzene	0.27	1.0	< 1.0 U
108-86-1	Bromobenzene	0.15	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	0.30	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	0.27	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	0.30	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	0.24	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	0.23	1.0	< 1.0 U
104-51-8	n-Butylbenzene	0.26	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	0.33	5.0	< 5.0 U
91-20-3	Naphthalene	0.42	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	0.30	5.0	< 5.0 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	114%
d8-Toluene	100%
Bromofluorobenzene	87.7%
d4-1,2-Dichlorobenzene	99.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-002**
 SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 19:22

Sample Amount: 4.06 g-dry-wt
Percent Moisture: 16.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.32	1.2	< 1.2 U
74-83-9	Bromomethane	0.23	1.2	< 1.2 U
75-01-4	Vinyl Chloride	0.29	1.2	< 1.2 U
75-00-3	Chloroethane	0.57	1.2	< 1.2 U
75-09-2	Methylene Chloride	0.78	2.5	< 2.5 U
67-64-1	**Acetone**	**0.59**	**6.2**	**33 ~~Q~~ J**
75-15-0	**Carbon Disulfide**	**0.69**	**1.2**	**2.4**
75-35-4	1,1-Dichloroethene	0.41	1.2	< 1.2 U
75-34-3	1,1-Dichloroethane	0.25	1.2	< 1.2 U
156-60-5	trans-1,2-Dichloroethene	0.33	1.2	< 1.2 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.2	< 1.2 U
67-66-3	Chloroform	0.29	1.2	< 1.2 U
107-06-2	1,2-Dichloroethane	0.24	1.2	< 1.2 U
78-93-3	**2-Butanone**	**0.63**	**6.2**	**4.6 J**
71-55-6	1,1,1-Trichloroethane	0.28	1.2	< 1.2 U
56-23-5	Carbon Tetrachloride	0.26	1.2	< 1.2 U
108-05-4	Vinyl Acetate	0.47	6.2	< 6.2 U
75-27-4	Bromodichloromethane	0.31	1.2	< 1.2 U
78-87-5	1,2-Dichloropropane	0.20	1.2	< 1.2 U
10061-01-5	cis-1,3-Dichloropropene	0.28	1.2	< 1.2 U
79-01-6	Trichloroethene	0.26	1.2	< 1.2 U
124-48-1	Dibromochloromethane	0.33	1.2	< 1.2 U
79-00-5	1,1,2-Trichloroethane	0.35	1.2	< 1.2 U
71-43-2	**Benzene**	**0.36**	**1.2**	**0.6 J**
10061-02-6	trans-1,3-Dichloropropene	0.27	1.2	< 1.2 U
110-75-8	2-Chloroethylvinylether	0.34	6.2	< 6.2 U
75-25-2	Bromoform	0.37	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.52	6.2	< 6.2 U
591-78-6	2-Hexanone	0.54	6.2	< 6.2 U J
127-18-4	Tetrachloroethene	0.32	1.2	< 1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.31	1.2	< 1.2 U
108-88-3	**Toluene**	**0.19**	**1.2**	**0.7 J**
108-90-7	Chlorobenzene	0.27	1.2	< 1.2 U
100-41-4	Ethylbenzene	0.25	1.2	< 1.2 U
100-42-5	Styrene	0.17	1.2	< 1.2 U
75-69-4	Trichlorofluoromethane	0.33	1.2	< 1.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.35	2.5	< 2.5 U
179601-23-1	**m,p-Xylene**	**0.48**	**1.2**	**1.5**
95-47-6	o-Xylene	0.28	1.2	< 1.2 U
95-50-1	1,2-Dichlorobenzene	0.36	1.2	< 1.2 U
541-73-1	1,3-Dichlorobenzene	0.28	1.2	< 1.2 U
106-46-7	1,4-Dichlorobenzene	0.29	1.2	< 1.2 U
107-02-8	Acrolein	4.7	62	< 62 U
74-88-4	Methyl Iodide	0.26	1.2	< 1.2 U
74-96-4	Bromoethane	0.54	2.5	< 2.5 U
107-13-1	Acrylonitrile	1.3	6.2	< 6.2 U J
563-58-6	1,1-Dichloropropene	0.38	1.2	< 1.2 U
74-95-3	Dibromomethane	0.18	1.2	< 1.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.29	1.2	< 1.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.72	6.2	< 6.2 U J

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-002**
 SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Date Analyzed: 09/02/11 19:22

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.64	2.5	< 2.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.54	6.2	< 6.2 U
108-67-8	1,3,5-Trimethylbenzene	0.31	1.2	< 1.2 U
95-63-6	1,2,4-Trimethylbenzene	0.28	1.2	< 1.2 U
87-68-3	Hexachlorobutadiene	0.50	6.2	< 6.2 U
106-93-4	Ethylene Dibromide	0.22	1.2	< 1.2 U
74-97-5	Bromochloromethane	0.40	1.2	< 1.2 U
594-20-7	2,2-Dichloropropane	0.36	1.2	< 1.2 U
142-28-9	1,3-Dichloropropane	0.26	1.2	< 1.2 U
98-82-8	Isopropylbenzene	0.29	1.2	< 1.2 U
103-65-1	n-Propylbenzene	0.33	1.2	< 1.2 U
108-86-1	Bromobenzene	0.19	1.2	< 1.2 U
95-49-8	2-Chlorotoluene	0.37	1.2	< 1.2 U
106-43-4	4-Chlorotoluene	0.34	1.2	< 1.2 U
98-06-6	tert-Butylbenzene	0.38	1.2	< 1.2 U
135-98-8	**sec-Butylbenzene**	**0.30**	**1.2**	**0.8 J**
99-87-6	4-Isopropyltoluene	0.29	1.2	< 1.2 U
104-51-8	n-Butylbenzene	0.32	1.2	< 1.2 U
120-82-1	1,2,4-Trichlorobenzene	0.41	6.2	< 6.2 U
91-20-3	**Naphthalene**	**0.53**	**6.2**	**2.5 J**
87-61-6	1,2,3-Trichlorobenzene	0.38	6.2	< 6.2 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	103%
Bromofluorobenzene	92.3%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-003**
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 19:50

Sample Amount: 2.57 g-dry-wt
Percent Moisture: 24.9%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.51	1.9	< 1.9 U
74-83-9	Bromomethane	0.36	1.9	< 1.9 U
75-01-4	Vinyl Chloride	0.46	1.9	< 1.9 U
75-00-3	Chloroethane	0.90	1.9	< 1.9 U
75-09-2	Methylene Chloride	1.2	3.9	< 3.9 U
67-64-1	**Acetone**	**0.94**	**9.7**	**53 ~~J~~** J
75-15-0	**Carbon Disulfide**	**1.1**	**1.9**	**5.3**
75-35-4	1,1-Dichloroethene	0.65	1.9	< 1.9 U
75-34-3	1,1-Dichloroethane	0.39	1.9	< 1.9 U
156-60-5	trans-1,2-Dichloroethene	0.52	1.9	< 1.9 U
156-59-2	cis-1,2-Dichloroethene	0.47	1.9	< 1.9 U
67-66-3	Chloroform	0.46	1.9	< 1.9 U
107-06-2	1,2-Dichloroethane	0.37	1.9	< 1.9 U
78-93-3	**2-Butanone**	**1.0**	**9.7**	**8.6 J**
71-55-6	1,1,1-Trichloroethane	0.44	1.9	< 1.9 U
56-23-5	Carbon Tetrachloride	0.41	1.9	< 1.9 U
108-05-4	Vinyl Acetate	0.74	9.7	< 9.7 U
75-27-4	Bromodichloromethane	0.49	1.9	< 1.9 U
78-87-5	1,2-Dichloropropane	0.32	1.9	< 1.9 U
10061-01-5	cis-1,3-Dichloropropene	0.44	1.9	< 1.9 U
79-01-6	Trichloroethene	0.41	1.9	< 1.9 U
124-48-1	Dibromochloromethane	0.52	1.9	< 1.9 U
79-00-5	1,1,2-Trichloroethane	0.56	1.9	< 1.9 U
71-43-2	**Benzene**	**0.58**	**1.9**	**1.0 J**
10061-02-6	trans-1,3-Dichloropropene	0.42	1.9	< 1.9 U
110-75-8	2-Chloroethylvinylether	0.54	9.7	< 9.7 U
75-25-2	Bromoform	0.58	1.9	< 1.9 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.82	9.7	< 9.7 U
591-78-6	2-Hexanone	0.85	9.7	< 9.7 U J
127-18-4	Tetrachloroethene	0.50	1.9	< 1.9 U
79-34-5	1,1,2,2-Tetrachloroethane	0.49	1.9	< 1.9 U
108-88-3	Toluene	0.29	1.9	< 1.9 U
108-90-7	Chlorobenzene	0.43	1.9	< 1.9 U
100-41-4	Ethylbenzene	0.39	1.9	< 1.9 U
100-42-5	Styrene	0.27	1.9	< 1.9 U
75-69-4	Trichlorofluoromethane	0.52	1.9	< 1.9 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.56	3.9	< 3.9 U
179601-23-1	m,p-Xylene	0.76	1.9	< 1.9 U
95-47-6	o-Xylene	0.44	1.9	< 1.9 U
95-50-1	1,2-Dichlorobenzene	0.57	1.9	< 1.9 U
541-73-1	1,3-Dichlorobenzene	0.44	1.9	< 1.9 U
106-46-7	1,4-Dichlorobenzene	0.45	1.9	< 1.9 U
107-02-8	Acrolein	7.4	97	< 97 U
74-88-4	Methyl Iodide	0.42	1.9	< 1.9 U
74-96-4	Bromoethane	0.86	3.9	< 3.9 U
107-13-1	Acrylonitrile	2.0	9.7	< 9.7 U J
563-58-6	1,1-Dichloropropene	0.61	1.9	< 1.9 U
74-95-3	Dibromomethane	0.29	1.9	< 1.9 U
630-20-6	1,1,1,2-Tetrachloroethane	0.45	1.9	< 1.9 U
96-12-8	1,2-Dibromo-3-chloropropane	1.1	9.7	< 9.7 U J

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-003
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Date Analyzed: 09/02/11 19:50

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	1.0	3.9	< 3.9 U UJ
110-57-6	trans-1,4-Dichloro-2-butene	0.85	9.7	< 9.7 U
108-67-8	1,3,5-Trimethylbenzene	0.49	1.9	< 1.9 U
95-63-6	1,2,4-Trimethylbenzene	0.45	1.9	< 1.9 U
87-68-3	Hexachlorobutadiene	0.80	9.7	< 9.7 U
106-93-4	Ethylene Dibromide	0.34	1.9	< 1.9 U
74-97-5	Bromochloromethane	0.63	1.9	< 1.9 U
594-20-7	2,2-Dichloropropane	0.57	1.9	< 1.9 U
142-28-9	1,3-Dichloropropane	0.41	1.9	< 1.9 U
98-82-8	Isopropylbenzene	0.45	1.9	< 1.9 U
103-65-1	n-Propylbenzene	0.53	1.9	< 1.9 U
108-86-1	Bromobenzene	0.30	1.9	< 1.9 U
95-49-8	2-Chlorotoluene	0.58	1.9	< 1.9 U
106-43-4	4-Chlorotoluene	0.54	1.9	< 1.9 U
98-06-6	tert-Butylbenzene	0.60	1.9	< 1.9 U
135-98-8	sec-Butylbenzene	0.47	1.9	< 1.9 U
99-87-6	4-Isopropyltoluene	0.46	1.9	< 1.9 U
104-51-8	n-Butylbenzene	0.51	1.9	< 1.9 U
120-82-1	1,2,4-Trichlorobenzene	0.65	9.7	< 9.7 U
91-20-3	Naphthalene	0.83	9.7	< 9.7 U
87-61-6	1,2,3-Trichlorobenzene	0.59	9.7	< 9.7 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	102%
Bromofluorobenzene	87.8%
d4-1,2-Dichlorobenzene	105%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-004**
 SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 20:17

Sample Amount: 3.87 g-dry-wt
Percent Moisture: 26.9%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.34	1.3	< 1.3 U
74-83-9	Bromomethane	0.24	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.30	1.3	< 1.3 U
75-00-3	Chloroethane	0.60	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.82	2.6	< 2.6 U
67-64-1	**Acetone**	**0.62**	**6.5**	**12 ~~Q~~ J**
75-15-0	**Carbon Disulfide**	**0.72**	**1.3**	**1.9**
75-35-4	1,1-Dichloroethene	0.43	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.26	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.34	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.31	1.3	< 1.3 U
67-66-3	Chloroform	0.30	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.25	1.3	< 1.3 U
78-93-3	2-Butanone	0.66	6.5	< 6.5 U J
71-55-6	1,1,1-Trichloroethane	0.29	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.28	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.49	6.5	< 6.5 U
75-27-4	Bromodichloromethane	0.33	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.21	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.29	1.3	< 1.3 U
79-01-6	Trichloroethene	0.27	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.34	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.37	1.3	< 1.3 U
71-43-2	Benzene	0.38	1.3	< 1.3 U
10061-02-6	trans-1,3-Dichloropropene	0.28	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.36	6.5	< 6.5 U
75-25-2	Bromoform	0.38	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.54	6.5	< 6.5 U
591-78-6	2-Hexanone	0.57	6.5	< 6.5 U J
127-18-4	Tetrachloroethene	0.33	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.33	1.3	< 1.3 U
108-88-3	Toluene	0.20	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.28	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.26	1.3	< 1.3 U
100-42-5	Styrene	0.18	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.34	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.37	2.6	< 2.6 U
179601-23-1	m,p-Xylene	0.51	1.3	< 1.3 U
95-47-6	o-Xylene	0.29	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.38	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.29	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.30	1.3	< 1.3 U
107-02-8	Acrolein	4.9	65	< 65 U
74-88-4	Methyl Iodide	0.28	1.3	< 1.3 U
74-96-4	Bromoethane	0.57	2.6	< 2.6 U
107-13-1	Acrylonitrile	1.3	6.5	< 6.5 U J
563-58-6	1,1-Dichloropropene	0.40	1.3	< 1.3 U
74-95-3	Dibromomethane	0.19	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.30	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.76	6.5	< 6.5 U J

FORM I

TK35:00035

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-004**
 SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Date Analyzed: 09/02/11 20:17

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.67	2.6	< 2.6 U
110-57-6	trans-1,4-Dichloro-2-butene	0.56	6.5	< 6.5 U
108-67-8	1,3,5-Trimethylbenzene	0.33	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.30	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.53	6.5	< 6.5 U
106-93-4	Ethylene Dibromide	0.23	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.42	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.38	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.27	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.30	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.35	1.3	< 1.3 U
108-86-1	Bromobenzene	0.20	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.39	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.36	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.40	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.31	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.30	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.34	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.43	6.5	< 6.5 U
91-20-3	Naphthalene	0.55	6.5	< 6.5 U
87-61-6	1,2,3-Trichlorobenzene	0.39	6.5	< 6.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	111%
d8-Toluene	103%
Bromofluorobenzene	96.5%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-006**
 SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 20:44

Sample Amount: 4.58 g-dry-wt
Percent Moisture: 7.0%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.29	1.1	< 1.1 U
74-83-9	Bromomethane	0.20	1.1	< 1.1 U
75-01-4	Vinyl Chloride	0.26	1.1	< 1.1 U
75-00-3	Chloroethane	0.50	1.1	< 1.1 U
75-09-2	Methylene Chloride	0.69	2.2	< 2.2 U
67-64-1	**Acetone**	**0.53**	**5.5**	**33 ~~Q~~ J**
75-15-0	Carbon Disulfide	0.61	1.1	< 1.1 U
75-35-4	1,1-Dichloroethene	0.37	1.1	< 1.1 U
75-34-3	1,1-Dichloroethane	0.22	1.1	< 1.1 U
156-60-5	trans-1,2-Dichloroethene	0.29	1.1	< 1.1 U
156-59-2	cis-1,2-Dichloroethene	0.26	1.1	< 1.1 U
67-66-3	Chloroform	0.26	1.1	< 1.1 U
107-06-2	1,2-Dichloroethane	0.21	1.1	< 1.1 U
78-93-3	**2-Butanone**	**0.56**	**5.5**	**2.9 J**
71-55-6	1,1,1-Trichloroethane	0.25	1.1	< 1.1 U
56-23-5	Carbon Tetrachloride	0.23	1.1	< 1.1 U
108-05-4	Vinyl Acetate	0.42	5.5	< 5.5 U
75-27-4	Bromodichloromethane	0.28	1.1	< 1.1 U
78-87-5	1,2-Dichloropropane	0.18	1.1	< 1.1 U
10061-01-5	cis-1,3-Dichloropropene	0.25	1.1	< 1.1 U
79-01-6	Trichloroethene	0.23	1.1	< 1.1 U
124-48-1	Dibromochloromethane	0.29	1.1	< 1.1 U
79-00-5	1,1,2-Trichloroethane	0.31	1.1	< 1.1 U
71-43-2	**Benzene**	**0.32**	**1.1**	**1.2**
10061-02-6	trans-1,3-Dichloropropene	0.24	1.1	< 1.1 U
110-75-8	2-Chloroethylvinylether	0.30	5.5	< 5.5 U
75-25-2	Bromoform	0.32	1.1	< 1.1 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.46	5.5	< 5.5 U
591-78-6	2-Hexanone	0.48	5.5	< 5.5 U J
127-18-4	Tetrachloroethene	0.28	1.1	< 1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.28	1.1	< 1.1 U
108-88-3	**Toluene**	**0.16**	**1.1**	**1.1 J**
108-90-7	Chlorobenzene	0.24	1.1	< 1.1 U
100-41-4	Ethylbenzene	0.22	1.1	< 1.1 U
100-42-5	Styrene	0.15	1.1	< 1.1 U
75-69-4	Trichlorofluoromethane	0.29	1.1	< 1.1 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.31	2.2	< 2.2 U
179601-23-1	**m,p-Xylene**	**0.43**	**1.1**	**0.7 J**
95-47-6	o-Xylene	0.24	1.1	< 1.1 U
95-50-1	1,2-Dichlorobenzene	0.32	1.1	< 1.1 U
541-73-1	1,3-Dichlorobenzene	0.25	1.1	< 1.1 U
106-46-7	1,4-Dichlorobenzene	0.25	1.1	< 1.1 U
107-02-8	Acrolein	4.2	55	< 55 U
74-88-4	Methyl Iodide	0.23	1.1	< 1.1 U
74-96-4	Bromoethane	0.48	2.2	< 2.2 U
107-13-1	Acrylonitrile	1.1	5.5	< 5.5 U J
563-58-6	1,1-Dichloropropene	0.34	1.1	< 1.1 U
74-95-3	Dibromomethane	0.16	1.1	< 1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	0.25	1.1	< 1.1 U
96-12-8	1,2-Dibromo-3-chloropropane	0.64	5.5	< 5.5 U J

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-006**
 SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Date Analyzed: 09/02/11 20:44

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.56	2.2	< 2.2 U UJ
110-57-6	trans-1,4-Dichloro-2-butene	0.48	5.5	< 5.5 U
108-67-8	1,3,5-Trimethylbenzene	0.28	1.1	< 1.1 U
95-63-6	1,2,4-Trimethylbenzene	0.25	1.1	< 1.1 U
87-68-3	Hexachlorobutadiene	0.45	5.5	< 5.5 U
106-93-4	Ethylene Dibromide	0.19	1.1	< 1.1 U
74-97-5	Bromochloromethane	0.35	1.1	< 1.1 U
594-20-7	2,2-Dichloropropane	0.32	1.1	< 1.1 U
142-28-9	1,3-Dichloropropane	0.23	1.1	< 1.1 U
98-82-8	Isopropylbenzene	0.25	1.1	< 1.1 U
103-65-1	n-Propylbenzene	0.30	1.1	< 1.1 U
108-86-1	Bromobenzene	0.17	1.1	< 1.1 U
95-49-8	2-Chlorotoluene	0.33	1.1	< 1.1 U
106-43-4	4-Chlorotoluene	0.30	1.1	< 1.1 U
98-06-6	tert-Butylbenzene	0.33	1.1	< 1.1 U
135-98-8	sec-Butylbenzene	0.26	1.1	< 1.1 U
99-87-6	4-Isopropyltoluene	0.26	1.1	< 1.1 U
104-51-8	n-Butylbenzene	0.29	1.1	< 1.1 U
120-82-1	1,2,4-Trichlorobenzene	0.36	5.5	< 5.5 U
91-20-3	Naphthalene	0.47	5.5	< 5.5 U
87-61-6	1,2,3-Trichlorobenzene	0.33	5.5	< 5.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	114%
d8-Toluene	103%
Bromofluorobenzene	93.4%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-007**
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 21:12

Sample Amount: 4.05 g-dry-wt
Percent Moisture: 7.9%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.32	1.2	< 1.2 U
74-83-9	Bromomethane	0.23	1.2	< 1.2 U
75-01-4	Vinyl Chloride	0.29	1.2	< 1.2 U
75-00-3	Chloroethane	0.57	1.2	< 1.2 U
75-09-2	Methylene Chloride	0.78	2.5	< 2.5 U
67-64-1	**Acetone**	**0.60**	**6.2**	**16 ~~B~~ J**
75-15-0	Carbon Disulfide	0.69	1.2	< 1.2 U
75-35-4	1,1-Dichloroethene	0.41	1.2	< 1.2 U
75-34-3	1,1-Dichloroethane	0.25	1.2	< 1.2 U
156-60-5	trans-1,2-Dichloroethene	0.33	1.2	< 1.2 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.2	< 1.2 U
67-66-3	Chloroform	0.29	1.2	< 1.2 U
107-06-2	1,2-Dichloroethane	0.24	1.2	< 1.2 U
78-93-3	2-Butanone	0.63	6.2	< 6.2 U J
71-55-6	1,1,1-Trichloroethane	0.28	1.2	< 1.2 U
56-23-5	Carbon Tetrachloride	0.26	1.2	< 1.2 U
108-05-4	Vinyl Acetate	0.47	6.2	< 6.2 U
75-27-4	Bromodichloromethane	0.31	1.2	< 1.2 U
78-87-5	1,2-Dichloropropane	0.20	1.2	< 1.2 U
10061-01-5	cis-1,3-Dichloropropene	0.28	1.2	< 1.2 U
79-01-6	Trichloroethene	0.26	1.2	< 1.2 U
124-48-1	Dibromochloromethane	0.33	1.2	< 1.2 U
79-00-5	1,1,2-Trichloroethane	0.35	1.2	< 1.2 U
71-43-2	Benzene	0.37	1.2	< 1.2 U
10061-02-6	trans-1,3-Dichloropropene	0.27	1.2	< 1.2 U
110-75-8	2-Chloroethylvinylether	0.34	6.2	< 6.2 U
75-25-2	Bromoform	0.37	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.52	6.2	< 6.2 U
591-78-6	2-Hexanone	0.54	6.2	< 6.2 U J
127-18-4	Tetrachloroethene	0.32	1.2	< 1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.31	1.2	< 1.2 U
108-88-3	Toluene	0.19	1.2	< 1.2 U
108-90-7	Chlorobenzene	0.27	1.2	< 1.2 U
100-41-4	Ethylbenzene	0.25	1.2	< 1.2 U
100-42-5	Styrene	0.17	1.2	< 1.2 U
75-69-4	Trichlorofluoromethane	0.33	1.2	< 1.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.35	2.5	< 2.5 U
179601-23-1	m,p-Xylene	0.48	1.2	< 1.2 U
95-47-6	o-Xylene	0.28	1.2	< 1.2 U
95-50-1	1,2-Dichlorobenzene	0.36	1.2	< 1.2 U
541-73-1	1,3-Dichlorobenzene	0.28	1.2	< 1.2 U
106-46-7	1,4-Dichlorobenzene	0.29	1.2	< 1.2 U
107-02-8	Acrolein	4.7	62	< 62 U
74-88-4	Methyl Iodide	0.27	1.2	< 1.2 U
74-96-4	Bromoethane	0.54	2.5	< 2.5 U
107-13-1	Acrylonitrile	1.3	6.2	< 6.2 U J
563-58-6	1,1-Dichloropropene	0.39	1.2	< 1.2 U
74-95-3	Dibromomethane	0.18	1.2	< 1.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.29	1.2	< 1.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.72	6.2	< 6.2 U J

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-007
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed: 09/02/11 21:12

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.64	2.5	< 2.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.54	6.2	< 6.2 U
108-67-8	1,3,5-Trimethylbenzene	0.31	1.2	< 1.2 U
95-63-6	1,2,4-Trimethylbenzene	0.28	1.2	< 1.2 U
87-68-3	Hexachlorobutadiene	0.51	6.2	< 6.2 U
106-93-4	Ethylene Dibromide	0.22	1.2	< 1.2 U
74-97-5	Bromochloromethane	0.40	1.2	< 1.2 U
594-20-7	2,2-Dichloropropane	0.36	1.2	< 1.2 U
142-28-9	1,3-Dichloropropane	0.26	1.2	< 1.2 U
98-82-8	Isopropylbenzene	0.29	1.2	< 1.2 U
103-65-1	n-Propylbenzene	0.34	1.2	< 1.2 U
108-86-1	Bromobenzene	0.19	1.2	< 1.2 U
95-49-8	2-Chlorotoluene	0.37	1.2	< 1.2 U
106-43-4	4-Chlorotoluene	0.34	1.2	< 1.2 U
98-06-6	tert-Butylbenzene	0.38	1.2	< 1.2 U
135-98-8	sec-Butylbenzene	0.30	1.2	< 1.2 U
99-87-6	4-Isopropyltoluene	0.29	1.2	< 1.2 U
104-51-8	n-Butylbenzene	0.32	1.2	< 1.2 U
120-82-1	1,2,4-Trichlorobenzene	0.41	6.2	< 6.2 U
91-20-3	Naphthalene	0.53	6.2	< 6.2 U
87-61-6	1,2,3-Trichlorobenzene	0.38	6.2	< 6.2 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	115%
d8-Toluene	105%
Bromofluorobenzene	97.9%
d4-1,2-Dichlorobenzene	101%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-008**
 SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 17:03

Sample Amount: 4.38 g-dry-wt
Percent Moisture: 9.8%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.30	1.1	< 1.1 U
74-83-9	Bromomethane	0.21	1.1	< 1.1 U
75-01-4	Vinyl Chloride	0.27	1.1	< 1.1 U
75-00-3	Chloroethane	0.53	1.1	< 1.1 U
75-09-2	Methylene Chloride	0.72	2.3	< 2.3 U
67-64-1	**Acetone**	**0.55**	**5.7**	**28 B**
75-15-0	Carbon Disulfide	0.64	1.1	< 1.1 U
75-35-4	1,1-Dichloroethene	0.38	1.1	< 1.1 U
75-34-3	1,1-Dichloroethane	0.23	1.1	< 1.1 U
156-60-5	trans-1,2-Dichloroethene	0.30	1.1	< 1.1 U
156-59-2	cis-1,2-Dichloroethene	0.27	1.1	< 1.1 U
67-66-3	Chloroform	0.27	1.1	< 1.1 U
107-06-2	1,2-Dichloroethane	0.22	1.1	< 1.1 U
78-93-3	2-Butanone	0.59	5.7	< 5.7 U
71-55-6	1,1,1-Trichloroethane	0.26	1.1	< 1.1 U
56-23-5	Carbon Tetrachloride	0.24	1.1	< 1.1 U
108-05-4	Vinyl Acetate	0.43	5.7	< 5.7 U
75-27-4	Bromodichloromethane	0.29	1.1	< 1.1 U
78-87-5	1,2-Dichloropropane	0.18	1.1	< 1.1 U
10061-01-5	cis-1,3-Dichloropropene	0.26	1.1	< 1.1 U
79-01-6	Trichloroethene	0.24	1.1	< 1.1 U
124-48-1	Dibromochloromethane	0.30	1.1	< 1.1 U
79-00-5	1,1,2-Trichloroethane	0.33	1.1	< 1.1 U
71-43-2	**Benzene**	**0.34**	**1.1**	**0.7 J**
10061-02-6	trans-1,3-Dichloropropene	0.25	1.1	< 1.1 U
110-75-8	2-Chloroethylvinylether	0.32	5.7	< 5.7 U
75-25-2	Bromoform	0.34	1.1	< 1.1 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.48	5.7	< 5.7 U
591-78-6	2-Hexanone	0.50	5.7	< 5.7 U
127-18-4	Tetrachloroethene	0.29	1.1	< 1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.29	1.1	< 1.1 U
108-88-3	Toluene	0.17	1.1	< 1.1 U
108-90-7	Chlorobenzene	0.25	1.1	< 1.1 U
100-41-4	Ethylbenzene	0.23	1.1	< 1.1 U
100-42-5	Styrene	0.16	1.1	< 1.1 U
75-69-4	Trichlorofluoromethane	0.30	1.1	< 1.1 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.33	2.3	< 2.3 U
179601-23-1	m,p-Xylene	0.45	1.1	< 1.1 U
95-47-6	o-Xylene	0.26	1.1	< 1.1 U
95-50-1	1,2-Dichlorobenzene	0.33	1.1	< 1.1 U
541-73-1	1,3-Dichlorobenzene	0.26	1.1	< 1.1 U
106-46-7	1,4-Dichlorobenzene	0.26	1.1	< 1.1 U
107-02-8	Acrolein	4.3	57	< 57 U
74-88-4	Methyl Iodide	0.25	1.1	< 1.1 U
74-96-4	Bromoethane	0.50	2.3	< 2.3 U
107-13-1	Acrylonitrile	1.2	5.7	< 5.7 U
563-58-6	1,1-Dichloropropene	0.36	1.1	< 1.1 U
74-95-3	Dibromomethane	0.17	1.1	< 1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	0.27	1.1	< 1.1 U
96-12-8	1,2-Dibromo-3-chloropropane	0.67	5.7	< 5.7 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-008
SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Date Analyzed: 09/05/11 17:03

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.59	2.3	< 2.3 U
110-57-6	trans-1,4-Dichloro-2-butene	0.50	5.7	< 5.7 U
108-67-8	1,3,5-Trimethylbenzene	0.29	1.1	< 1.1 U
95-63-6	1,2,4-Trimethylbenzene	0.26	1.1	< 1.1 U
87-68-3	Hexachlorobutadiene	0.47	5.7	< 5.7 U
106-93-4	Ethylene Dibromide	0.20	1.1	< 1.1 U
74-97-5	Bromochloromethane	0.37	1.1	< 1.1 U
594-20-7	2,2-Dichloropropane	0.33	1.1	< 1.1 U
142-28-9	1,3-Dichloropropane	0.24	1.1	< 1.1 U
98-82-8	Isopropylbenzene	0.27	1.1	< 1.1 U
103-65-1	n-Propylbenzene	0.31	1.1	< 1.1 U
108-86-1	Bromobenzene	0.17	1.1	< 1.1 U
95-49-8	2-Chlorotoluene	0.34	1.1	< 1.1 U
106-43-4	4-Chlorotoluene	0.32	1.1	< 1.1 U
98-06-6	tert-Butylbenzene	0.35	1.1	< 1.1 U
135-98-8	sec-Butylbenzene	0.27	1.1	< 1.1 U
99-87-6	4-Isopropyltoluene	0.27	1.1	< 1.1 U
104-51-8	n-Butylbenzene	0.30	1.1	< 1.1 U
120-82-1	1,2,4-Trichlorobenzene	0.38	5.7	< 5.7 U
91-20-3	Naphthalene	0.49	5.7	< 5.7 U
87-61-6	1,2,3-Trichlorobenzene	0.35	5.7	< 5.7 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	101%
Bromofluorobenzene	93.6%
d4-1,2-Dichlorobenzene	99.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-009**
 SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 17:31

Sample Amount: 3.94 g-dry-wt
Percent Moisture: 26.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.33	1.3	< 1.3 U
74-83-9	Bromomethane	0.24	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.30	1.3	< 1.3 U
75-00-3	Chloroethane	0.59	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.81	2.5	< 2.5 U
67-64-1	**Acetone**	**0.61**	**6.3**	**11 B**
75-15-0	Carbon Disulfide	0.71	1.3	< 1.3 U
75-35-4	1,1-Dichloroethene	0.43	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.26	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.34	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.3	< 1.3 U
67-66-3	Chloroform	0.30	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.24	1.3	< 1.3 U
78-93-3	2-Butanone	0.65	6.3	< 6.3 U
71-55-6	1,1,1-Trichloroethane	0.29	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.27	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.48	6.3	< 6.3 U
75-27-4	Bromodichloromethane	0.32	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.21	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.29	1.3	< 1.3 U
79-01-6	Trichloroethene	0.27	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.34	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.36	1.3	< 1.3 U
71-43-2	Benzene	0.38	1.3	< 1.3 U
10061-02-6	trans-1,3-Dichloropropene	0.27	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.35	6.3	< 6.3 U
75-25-2	Bromoform	0.38	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.53	6.3	< 6.3 U
591-78-6	2-Hexanone	0.56	6.3	< 6.3 U
127-18-4	Tetrachloroethene	0.33	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.32	1.3	< 1.3 U
108-88-3	Toluene	0.19	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.28	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.26	1.3	< 1.3 U
100-42-5	Styrene	0.18	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.34	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.36	2.5	< 2.5 U
179601-23-1	m,p-Xylene	0.50	1.3	< 1.3 U
95-47-6	o-Xylene	0.28	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.37	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.29	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.29	1.3	< 1.3 U
107-02-8	Acrolein	4.8	63	< 63 U
74-88-4	Methyl Iodide	0.27	1.3	< 1.3 U
74-96-4	Bromoethane	0.56	2.5	< 2.5 U
107-13-1	Acrylonitrile	1.3	6.3	< 6.3 U
563-58-6	1,1-Dichloropropene	0.40	1.3	< 1.3 U
74-95-3	Dibromomethane	0.19	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.30	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.74	6.3	< 6.3 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-009
SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Date Analyzed: 09/05/11 17:31

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.66	2.5	< 2.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.55	6.3	< 6.3 U
108-67-8	1,3,5-Trimethylbenzene	0.32	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.29	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.52	6.3	< 6.3 U
106-93-4	Ethylene Dibromide	0.22	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.41	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.37	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.27	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.30	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.35	1.3	< 1.3 U
108-86-1	Bromobenzene	0.19	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.38	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.35	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.39	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.30	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.30	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.33	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.42	6.3	< 6.3 U
91-20-3	Naphthalene	0.54	6.3	< 6.3 U
87-61-6	1,2,3-Trichlorobenzene	0.39	6.3	< 6.3 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	101%
Bromofluorobenzene	95.9%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-010**
SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 17:59

Sample Amount: 4.34 g-dry-wt
Percent Moisture: 7.7%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.30	1.2	< 1.2 U
74-83-9	Bromomethane	0.22	1.2	< 1.2 U
75-01-4	Vinyl Chloride	0.27	1.2	< 1.2 U
75-00-3	Chloroethane	0.53	1.2	< 1.2 U
75-09-2	Methylene Chloride	0.73	2.3	< 2.3 U
67-64-1	**Acetone**	**0.56**	**5.8**	**33 ~~B~~ J**
75-15-0	Carbon Disulfide	0.64	1.2	< 1.2 U
75-35-4	1,1-Dichloroethene	0.39	1.2	< 1.2 U
75-34-3	1,1-Dichloroethane	0.23	1.2	< 1.2 U
156-60-5	trans-1,2-Dichloroethene	0.31	1.2	< 1.2 U
156-59-2	cis-1,2-Dichloroethene	0.28	1.2	< 1.2 U
67-66-3	Chloroform	0.27	1.2	< 1.2 U
107-06-2	1,2-Dichloroethane	0.22	1.2	< 1.2 U
78-93-3	**2-Butanone**	**0.59**	**5.8**	**3.3 J**
71-55-6	1,1,1-Trichloroethane	0.26	1.2	< 1.2 U
56-23-5	Carbon Tetrachloride	0.25	1.2	< 1.2 U
108-05-4	Vinyl Acetate	0.44	5.8	< 5.8 U
75-27-4	Bromodichloromethane	0.29	1.2	< 1.2 U
78-87-5	1,2-Dichloropropane	0.19	1.2	< 1.2 U
10061-01-5	cis-1,3-Dichloropropene	0.26	1.2	< 1.2 U
79-01-6	Trichloroethene	0.24	1.2	< 1.2 U
124-48-1	Dibromochloromethane	0.31	1.2	< 1.2 U
79-00-5	1,1,2-Trichloroethane	0.33	1.2	< 1.2 U
71-43-2	**Benzene**	**0.34**	**1.2**	**1.0 J**
10061-02-6	trans-1,3-Dichloropropene	0.25	1.2	< 1.2 U
110-75-8	2-Chloroethylvinylether	0.32	5.8	< 5.8 U
75-25-2	Bromoform	0.34	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.48	5.8	< 5.8 U
591-78-6	2-Hexanone	0.51	5.8	< 5.8 U
127-18-4	Tetrachloroethene	0.30	1.2	< 1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.29	1.2	< 1.2 U
108-88-3	**Toluene**	**0.17**	**1.2**	**1.0 J**
108-90-7	Chlorobenzene	0.25	1.2	< 1.2 U
100-41-4	Ethylbenzene	0.23	1.2	< 1.2 U
100-42-5	Styrene	0.16	1.2	< 1.2 U
75-69-4	Trichlorofluoromethane	0.31	1.2	< 1.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.33	2.3	< 2.3 U
179601-23-1	m,p-Xylene	0.45	1.2	< 1.2 U
95-47-6	o-Xylene	0.26	1.2	< 1.2 U
95-50-1	1,2-Dichlorobenzene	0.34	1.2	< 1.2 U
541-73-1	1,3-Dichlorobenzene	0.26	1.2	< 1.2 U
106-46-7	1,4-Dichlorobenzene	0.27	1.2	< 1.2 U
107-02-8	Acrolein	4.4	58	< 58 U
74-88-4	Methyl Iodide	0.25	1.2	< 1.2 U
74-96-4	Bromoethane	0.51	2.3	< 2.3 U
107-13-1	Acrylonitrile	1.2	5.8	< 5.8 U
563-58-6	1,1-Dichloropropene	0.36	1.2	< 1.2 U
74-95-3	Dibromomethane	0.17	1.2	< 1.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.27	1.2	< 1.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.68	5.8	< 5.8 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-010**
 SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Date Analyzed: 09/05/11 17:59

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.60	2.3	< 2.3 U
110-57-6	trans-1,4-Dichloro-2-butene	0.50	5.8	< 5.8 U
108-67-8	1,3,5-Trimethylbenzene	0.29	1.2	< 1.2 U
95-63-6	1,2,4-Trimethylbenzene	0.26	1.2	< 1.2 U
87-68-3	Hexachlorobutadiene	0.47	5.8	< 5.8 U
106-93-4	Ethylene Dibromide	0.20	1.2	< 1.2 U
74-97-5	Bromochloromethane	0.37	1.2	< 1.2 U
594-20-7	2,2-Dichloropropane	0.34	1.2	< 1.2 U
142-28-9	1,3-Dichloropropane	0.24	1.2	< 1.2 U
98-82-8	Isopropylbenzene	0.27	1.2	< 1.2 U
103-65-1	n-Propylbenzene	0.31	1.2	< 1.2 U
108-86-1	Bromobenzene	0.18	1.2	< 1.2 U
95-49-8	2-Chlorotoluene	0.35	1.2	< 1.2 U
106-43-4	4-Chlorotoluene	0.32	1.2	< 1.2 U
98-06-6	tert-Butylbenzene	0.35	1.2	< 1.2 U
135-98-8	sec-Butylbenzene	0.28	1.2	< 1.2 U
99-87-6	4-Isopropyltoluene	0.27	1.2	< 1.2 U
104-51-8	n-Butylbenzene	0.30	1.2	< 1.2 U
120-82-1	1,2,4-Trichlorobenzene	0.38	5.8	< 5.8 U
91-20-3	Naphthalene	0.49	5.8	< 5.8 U
87-61-6	1,2,3-Trichlorobenzene	0.35	5.8	< 5.8 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	103%
Bromofluorobenzene	93.0%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-011**
 SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 18:26

Sample Amount: 4.36 g-dry-wt
Percent Moisture: 7.8%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.30	1.1	< 1.1 U
74-83-9	Bromomethane	0.21	1.1	< 1.1 U
75-01-4	Vinyl Chloride	0.27	1.1	< 1.1 U
75-00-3	Chloroethane	0.53	1.1	< 1.1 U
75-09-2	Methylene Chloride	0.73	2.3	< 2.3 U
67-64-1	**Acetone**	**0.55**	**5.7**	**73 ~~B~~ J**
75-15-0	Carbon Disulfide	0.64	1.1	< 1.1 U
75-35-4	1,1-Dichloroethene	0.39	1.1	< 1.1 U
75-34-3	1,1-Dichloroethane	0.23	1.1	< 1.1 U
156-60-5	trans-1,2-Dichloroethene	0.31	1.1	< 1.1 U
156-59-2	cis-1,2-Dichloroethene	0.28	1.1	< 1.1 U
67-66-3	Chloroform	0.27	1.1	< 1.1 U
107-06-2	1,2-Dichloroethane	0.22	1.1	< 1.1 U
78-93-3	**2-Butanone**	**0.59**	**5.7**	**6.5**
71-55-6	1,1,1-Trichloroethane	0.26	1.1	< 1.1 U
56-23-5	Carbon Tetrachloride	0.24	1.1	< 1.1 U
108-05-4	Vinyl Acetate	0.44	5.7	< 5.7 U
75-27-4	Bromodichloromethane	0.29	1.1	< 1.1 U
78-87-5	1,2-Dichloropropane	0.19	1.1	< 1.1 U
10061-01-5	cis-1,3-Dichloropropene	0.26	1.1	< 1.1 U
79-01-6	Trichloroethene	0.24	1.1	< 1.1 U
124-48-1	Dibromochloromethane	0.31	1.1	< 1.1 U
79-00-5	1,1,2-Trichloroethane	0.33	1.1	< 1.1 U
71-43-2	**Benzene**	**0.34**	**1.1**	**1.4**
10061-02-6	trans-1,3-Dichloropropene	0.25	1.1	< 1.1 U
110-75-8	2-Chloroethylvinylether	0.32	5.7	< 5.7 U
75-25-2	Bromoform	0.34	1.1	< 1.1 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.48	5.7	< 5.7 U
591-78-6	2-Hexanone	0.50	5.7	< 5.7 U
127-18-4	Tetrachloroethene	0.29	1.1	< 1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.29	1.1	< 1.1 U
108-88-3	**Toluene**	**0.17**	**1.1**	**2.1**
108-90-7	Chlorobenzene	0.25	1.1	< 1.1 U
100-41-4	Ethylbenzene	0.23	1.1	< 1.1 U
100-42-5	Styrene	0.16	1.1	< 1.1 U
75-69-4	Trichlorofluoromethane	0.31	1.1	< 1.1 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.33	2.3	< 2.3 U
179601-23-1	**m,p-Xylene**	**0.45**	**1.1**	**0.7 J**
95-47-6	o-Xylene	0.26	1.1	< 1.1 U
95-50-1	1,2-Dichlorobenzene	0.34	1.1	< 1.1 U
541-73-1	1,3-Dichlorobenzene	0.26	1.1	< 1.1 U
106-46-7	1,4-Dichlorobenzene	0.27	1.1	< 1.1 U
107-02-8	Acrolein	4.4	57	< 57 U
74-88-4	Methyl Iodide	0.25	1.1	< 1.1 U
74-96-4	Bromoethane	0.50	2.3	< 2.3 U
107-13-1	Acrylonitrile	1.2	5.7	< 5.7 U
563-58-6	1,1-Dichloropropene	0.36	1.1	< 1.1 U
74-95-3	Dibromomethane	0.17	1.1	< 1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	0.27	1.1	< 1.1 U
96-12-8	1,2-Dibromo-3-chloropropane	0.67	5.7	< 5.7 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-011**
 SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Date Analyzed: 09/05/11 18:26

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.59	2.3	< 2.3 U
110-57-6	trans-1,4-Dichloro-2-butene	0.50	5.7	< 5.7 U
108-67-8	1,3,5-Trimethylbenzene	0.29	1.1	< 1.1 U
95-63-6	1,2,4-Trimethylbenzene	0.26	1.1	< 1.1 U
87-68-3	Hexachlorobutadiene	0.47	5.7	< 5.7 U
106-93-4	Ethylene Dibromide	0.20	1.1	< 1.1 U
74-97-5	Bromochloromethane	0.37	1.1	< 1.1 U
594-20-7	2,2-Dichloropropane	0.33	1.1	< 1.1 U
142-28-9	1,3-Dichloropropane	0.24	1.1	< 1.1 U
98-82-8	Isopropylbenzene	0.27	1.1	< 1.1 U
103-65-1	n-Propylbenzene	0.31	1.1	< 1.1 U
108-86-1	Bromobenzene	0.18	1.1	< 1.1 U
95-49-8	2-Chlorotoluene	0.34	1.1	< 1.1 U
106-43-4	4-Chlorotoluene	0.32	1.1	< 1.1 U
98-06-6	tert-Butylbenzene	0.35	1.1	< 1.1 U
135-98-8	sec-Butylbenzene	0.28	1.1	< 1.1 U
99-87-6	4-Isopropyltoluene	0.27	1.1	< 1.1 U
104-51-8	n-Butylbenzene	0.30	1.1	< 1.1 U
120-82-1	1,2,4-Trichlorobenzene	0.38	5.7	< 5.7 U
91-20-3	Naphthalene	0.49	5.7	< 5.7 U
87-61-6	1,2,3-Trichlorobenzene	0.35	5.7	< 5.7 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	101%
Bromofluorobenzene	89.7%
d4-1,2-Dichlorobenzene	97.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-012**
SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 18:54

Sample Amount: 4.21 g-dry-wt
Percent Moisture: 6.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.31	1.2	< 1.2 U
74-83-9	Bromomethane	0.22	1.2	< 1.2 U
75-01-4	Vinyl Chloride	0.28	1.2	< 1.2 U
75-00-3	Chloroethane	0.55	1.2	< 1.2 U
75-09-2	Methylene Chloride	0.75	2.4	< 2.4 U
67-64-1	**Acetone**	**0.57**	**5.9**	**26 B**
75-15-0	Carbon Disulfide	0.66	1.2	< 1.2 U
75-35-4	1,1-Dichloroethene	0.40	1.2	< 1.2 U
75-34-3	1,1-Dichloroethane	0.24	1.2	< 1.2 U
156-60-5	trans-1,2-Dichloroethene	0.32	1.2	< 1.2 U
156-59-2	cis-1,2-Dichloroethene	0.29	1.2	< 1.2 U
67-66-3	Chloroform	0.28	1.2	< 1.2 U
107-06-2	1,2-Dichloroethane	0.23	1.2	< 1.2 U
78-93-3	2-Butanone	0.61	5.9	< 5.9 U
71-55-6	1,1,1-Trichloroethane	0.27	1.2	< 1.2 U
56-23-5	Carbon Tetrachloride	0.25	1.2	< 1.2 U
108-05-4	Vinyl Acetate	0.45	5.9	< 5.9 U
75-27-4	Bromodichloromethane	0.30	1.2	< 1.2 U
78-87-5	1,2-Dichloropropane	0.19	1.2	< 1.2 U
10061-01-5	cis-1,3-Dichloropropene	0.27	1.2	< 1.2 U
79-01-6	Trichloroethene	0.25	1.2	< 1.2 U
124-48-1	Dibromochloromethane	0.32	1.2	< 1.2 U
79-00-5	1,1,2-Trichloroethane	0.34	1.2	< 1.2 U
71-43-2	Benzene	0.35	1.2	< 1.2 U
10061-02-6	trans-1,3-Dichloropropene	0.26	1.2	< 1.2 U
110-75-8	2-Chloroethylvinylether	0.33	5.9	< 5.9 U
75-25-2	Bromoform	0.35	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.50	5.9	< 5.9 U
591-78-6	2-Hexanone	0.52	5.9	< 5.9 U
127-18-4	Tetrachloroethene	0.31	1.2	< 1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.30	1.2	< 1.2 U
108-88-3	Toluene	0.18	1.2	< 1.2 U
108-90-7	Chlorobenzene	0.26	1.2	< 1.2 U
100-41-4	Ethylbenzene	0.24	1.2	< 1.2 U
100-42-5	Styrene	0.16	1.2	< 1.2 U
75-69-4	Trichlorofluoromethane	0.32	1.2	< 1.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.34	2.4	< 2.4 U
179601-23-1	m,p-Xylene	0.47	1.2	< 1.2 U
95-47-6	o-Xylene	0.27	1.2	< 1.2 U
95-50-1	1,2-Dichlorobenzene	0.35	1.2	< 1.2 U
541-73-1	1,3-Dichlorobenzene	0.27	1.2	< 1.2 U
106-46-7	1,4-Dichlorobenzene	0.28	1.2	< 1.2 U
107-02-8	Acrolein	4.5	59	< 59 U
74-88-4	Methyl Iodide	0.26	1.2	< 1.2 U
74-96-4	Bromoethane	0.52	2.4	< 2.4 U
107-13-1	Acrylonitrile	1.2	5.9	< 5.9 U
563-58-6	1,1-Dichloropropene	0.37	1.2	< 1.2 U
74-95-3	Dibromomethane	0.17	1.2	< 1.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.28	1.2	< 1.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.70	5.9	< 5.9 U

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-012**
 SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Date Analyzed: 09/05/11 18:54

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.61	2.4	< 2.4 U
110-57-6	trans-1,4-Dichloro-2-butene	0.52	5.9	< 5.9 U
108-67-8	1,3,5-Trimethylbenzene	0.30	1.2	< 1.2 U
95-63-6	1,2,4-Trimethylbenzene	0.27	1.2	< 1.2 U
87-68-3	Hexachlorobutadiene	0.49	5.9	< 5.9 U
106-93-4	Ethylene Dibromide	0.21	1.2	< 1.2 U
74-97-5	Bromochloromethane	0.38	1.2	< 1.2 U
594-20-7	2,2-Dichloropropane	0.35	1.2	< 1.2 U
142-28-9	1,3-Dichloropropane	0.25	1.2	< 1.2 U
98-82-8	Isopropylbenzene	0.28	1.2	< 1.2 U
103-65-1	n-Propylbenzene	0.32	1.2	< 1.2 U
108-86-1	Bromobenzene	0.18	1.2	< 1.2 U
95-49-8	2-Chlorotoluene	0.36	1.2	< 1.2 U
106-43-4	4-Chlorotoluene	0.33	1.2	< 1.2 U
98-06-6	tert-Butylbenzene	0.36	1.2	< 1.2 U
135-98-8	sec-Butylbenzene	0.29	1.2	< 1.2 U
99-87-6	4-Isopropyltoluene	0.28	1.2	< 1.2 U
104-51-8	n-Butylbenzene	0.31	1.2	< 1.2 U
120-82-1	1,2,4-Trichlorobenzene	0.39	5.9	< 5.9 U
91-20-3	Naphthalene	0.51	5.9	< 5.9 U
87-61-6	1,2,3-Trichlorobenzene	0.36	5.9	< 5.9 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	101%
Bromofluorobenzene	94.4%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-013**
 SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 19:21

Sample Amount: 3.98 g-dry-wt
Percent Moisture: 20.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.33	1.3	< 1.3 U
74-83-9	Bromomethane	0.23	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.30	1.3	< 1.3 U
75-00-3	Chloroethane	0.58	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.80	2.5	< 2.5 U
67-64-1	**Acetone**	**0.61**	**6.3**	**140 B**
75-15-0	Carbon Disulfide	0.70	1.3	< 1.3 U
75-35-4	1,1-Dichloroethene	0.42	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.26	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.33	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.3	< 1.3 U
67-66-3	Chloroform	0.29	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.24	1.3	< 1.3 U
78-93-3	**2-Butanone**	**0.64**	**6.3**	**7.5**
71-55-6	1,1,1-Trichloroethane	0.28	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.27	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.48	6.3	< 6.3 U
75-27-4	Bromodichloromethane	0.32	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.20	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.28	1.3	< 1.3 U
79-01-6	Trichloroethene	0.27	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.33	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.36	1.3	< 1.3 U
71-43-2	**Benzene**	**0.37**	**1.3**	**0.8 J**
10061-02-6	trans-1,3-Dichloropropene	0.27	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.35	6.3	< 6.3 U
75-25-2	Bromoform	0.37	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.53	6.3	< 6.3 U
591-78-6	2-Hexanone	0.55	6.3	< 6.3 U
127-18-4	Tetrachloroethene	0.32	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.32	1.3	< 1.3 U
108-88-3	Toluene	0.19	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.28	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.25	1.3	< 1.3 U
100-42-5	Styrene	0.17	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.33	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.36	2.5	< 2.5 U
179601-23-1	m,p-Xylene	0.49	1.3	< 1.3 U
95-47-6	o-Xylene	0.28	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.37	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.29	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.29	1.3	< 1.3 U
107-02-8	Acrolein	4.8	63	< 63 U
74-88-4	Methyl Iodide	0.27	1.3	< 1.3 U
74-96-4	Bromoethane	0.55	2.5	< 2.5 U
107-13-1	Acrylonitrile	1.3	6.3	< 6.3 U
563-58-6	1,1-Dichloropropene	0.39	1.3	< 1.3 U
74-95-3	Dibromomethane	0.18	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.29	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.74	6.3	< 6.3 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-013
SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Date Analyzed: 09/05/11 19:21

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.65	2.5	< 2.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.55	6.3	< 6.3 U
108-67-8	1,3,5-Trimethylbenzene	0.32	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.29	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.52	6.3	< 6.3 U
106-93-4	Ethylene Dibromide	0.22	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.41	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.37	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.26	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.29	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.34	1.3	< 1.3 U
108-86-1	Bromobenzene	0.19	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.38	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.35	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.38	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.30	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.30	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.33	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.42	6.3	< 6.3 U
91-20-3	Naphthalene	0.54	6.3	< 6.3 U
87-61-6	1,2,3-Trichlorobenzene	0.38	6.3	< 6.3 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	104%
Bromofluorobenzene	95.2%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-014**
 SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 19:49

Sample Amount: 3.53 g-dry-wt
Percent Moisture: 27.9%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.37	1.4	< 1.4 U
74-83-9	Bromomethane	0.26	1.4	< 1.4 U
75-01-4	Vinyl Chloride	0.33	1.4	< 1.4 U
75-00-3	Chloroethane	0.65	1.4	< 1.4 U
75-09-2	Methylene Chloride	0.90	2.8	< 2.8 U
67-64-1	**Acetone**	**0.68**	**7.1**	**110 B**
75-15-0	Carbon Disulfide	0.79	1.4	< 1.4 U
75-35-4	1,1-Dichloroethene	0.48	1.4	< 1.4 U
75-34-3	1,1-Dichloroethane	0.29	1.4	< 1.4 U
156-60-5	trans-1,2-Dichloroethene	0.38	1.4	< 1.4 U
156-59-2	cis-1,2-Dichloroethene	0.34	1.4	< 1.4 U
67-66-3	Chloroform	0.33	1.4	< 1.4 U
107-06-2	1,2-Dichloroethane	0.27	1.4	< 1.4 U
78-93-3	**2-Butanone**	**0.73**	**7.1**	**6.3 J**
71-55-6	1,1,1-Trichloroethane	0.32	1.4	< 1.4 U
56-23-5	Carbon Tetrachloride	0.30	1.4	< 1.4 U
108-05-4	Vinyl Acetate	0.54	7.1	< 7.1 U
75-27-4	Bromodichloromethane	0.36	1.4	< 1.4 U
78-87-5	1,2-Dichloropropane	0.23	1.4	< 1.4 U
10061-01-5	cis-1,3-Dichloropropene	0.32	1.4	< 1.4 U
79-01-6	Trichloroethene	0.30	1.4	< 1.4 U
124-48-1	Dibromochloromethane	0.38	1.4	< 1.4 U
79-00-5	1,1,2-Trichloroethane	0.41	1.4	< 1.4 U
71-43-2	**Benzene**	**0.42**	**1.4**	**1.3 J**
10061-02-6	trans-1,3-Dichloropropene	0.31	1.4	< 1.4 U
110-75-8	2-Chloroethylvinylether	0.39	7.1	< 7.1 U
75-25-2	Bromoform	0.42	1.4	< 1.4 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.59	7.1	< 7.1 U
591-78-6	2-Hexanone	0.62	7.1	< 7.1 U
127-18-4	Tetrachloroethene	0.36	1.4	< 1.4 U
79-34-5	1,1,2,2-Tetrachloroethane	0.36	1.4	< 1.4 U
108-88-3	Toluene	0.21	1.4	< 1.4 U
108-90-7	Chlorobenzene	0.31	1.4	< 1.4 U
100-41-4	Ethylbenzene	0.29	1.4	< 1.4 U
100-42-5	Styrene	0.20	1.4	< 1.4 U
75-69-4	Trichlorofluoromethane	0.38	1.4	< 1.4 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.41	2.8	< 2.8 U
179601-23-1	m,p-Xylene	0.56	1.4	< 1.4 U
95-47-6	o-Xylene	0.32	1.4	< 1.4 U
95-50-1	1,2-Dichlorobenzene	0.42	1.4	< 1.4 U
541-73-1	1,3-Dichlorobenzene	0.32	1.4	< 1.4 U
106-46-7	1,4-Dichlorobenzene	0.33	1.4	< 1.4 U
107-02-8	Acrolein	5.4	71	< 71 U
74-88-4	Methyl Iodide	0.30	1.4	< 1.4 U
74-96-4	Bromoethane	0.62	2.8	< 2.8 U
107-13-1	Acrylonitrile	1.5	7.1	< 7.1 U
563-58-6	1,1-Dichloropropene	0.44	1.4	< 1.4 U
74-95-3	Dibromomethane	0.21	1.4	< 1.4 U
630-20-6	1,1,1,2-Tetrachloroethane	0.33	1.4	< 1.4 U
96-12-8	1,2-Dibromo-3-chloropropane	0.83	7.1	< 7.1 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-014**
 SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Date Analyzed: 09/05/11 19:49

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.73	2.8	< 2.8 U
110-57-6	trans-1,4-Dichloro-2-butene	0.62	7.1	< 7.1 U
108-67-8	1,3,5-Trimethylbenzene	0.36	1.4	< 1.4 U
95-63-6	1,2,4-Trimethylbenzene	0.33	1.4	< 1.4 U
87-68-3	Hexachlorobutadiene	0.58	7.1	< 7.1 U
106-93-4	Ethylene Dibromide	0.25	1.4	< 1.4 U
74-97-5	Bromochloromethane	0.46	1.4	< 1.4 U
594-20-7	2,2-Dichloropropane	0.41	1.4	< 1.4 U
142-28-9	1,3-Dichloropropane	0.30	1.4	< 1.4 U
98-82-8	Isopropylbenzene	0.33	1.4	< 1.4 U
103-65-1	n-Propylbenzene	0.39	1.4	< 1.4 U
108-86-1	Bromobenzene	0.22	1.4	< 1.4 U
95-49-8	2-Chlorotoluene	0.42	1.4	< 1.4 U
106-43-4	4-Chlorotoluene	0.39	1.4	< 1.4 U
98-06-6	tert-Butylbenzene	0.43	1.4	< 1.4 U
135-98-8	sec-Butylbenzene	0.34	1.4	< 1.4 U
99-87-6	4-Isopropyltoluene	0.33	1.4	< 1.4 U
104-51-8	n-Butylbenzene	0.37	1.4	< 1.4 U
120-82-1	1,2,4-Trichlorobenzene	0.47	7.1	< 7.1 U
91-20-3	Naphthalene	0.61	7.1	< 7.1 U
87-61-6	1,2,3-Trichlorobenzene	0.43	7.1	< 7.1 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	102%
Bromofluorobenzene	94.9%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-016**
 SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 20:16

Sample Amount: 4.56 g-dry-wt
Percent Moisture: 7.8%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.29	1.1	< 1.1 U
74-83-9	Bromomethane	0.21	1.1	< 1.1 U
75-01-4	Vinyl Chloride	0.26	1.1	< 1.1 U
75-00-3	Chloroethane	0.51	1.1	< 1.1 U
75-09-2	Methylene Chloride	0.70	2.2	< 2.2 U
67-64-1	**Acetone**	**0.53**	**5.5**	**45 B**
75-15-0	**Carbon Disulfide**	**0.61**	**1.1**	**2.8**
75-35-4	1,1-Dichloroethene	0.37	1.1	< 1.1 U
75-34-3	1,1-Dichloroethane	0.22	1.1	< 1.1 U
156-60-5	trans-1,2-Dichloroethene	0.29	1.1	< 1.1 U
156-59-2	cis-1,2-Dichloroethene	0.26	1.1	< 1.1 U
67-66-3	Chloroform	0.26	1.1	< 1.1 U
107-06-2	1,2-Dichloroethane	0.21	1.1	< 1.1 U
78-93-3	**2-Butanone**	**0.56**	**5.5**	**4.9 J**
71-55-6	1,1,1-Trichloroethane	0.25	1.1	< 1.1 U
56-23-5	Carbon Tetrachloride	0.23	1.1	< 1.1 U
108-05-4	Vinyl Acetate	0.42	5.5	< 5.5 U
75-27-4	Bromodichloromethane	0.28	1.1	< 1.1 U
78-87-5	1,2-Dichloropropane	0.18	1.1	< 1.1 U
10061-01-5	cis-1,3-Dichloropropene	0.25	1.1	< 1.1 U
79-01-6	Trichloroethene	0.23	1.1	< 1.1 U
124-48-1	Dibromochloromethane	0.29	1.1	< 1.1 U
79-00-5	1,1,2-Trichloroethane	0.31	1.1	< 1.1 U
71-43-2	**Benzene**	**0.32**	**1.1**	**0.7 J**
10061-02-6	trans-1,3-Dichloropropene	0.24	1.1	< 1.1 U
110-75-8	2-Chloroethylvinylether	0.30	5.5	< 5.5 U
75-25-2	Bromoform	0.33	1.1	< 1.1 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.46	5.5	< 5.5 U
591-78-6	2-Hexanone	0.48	5.5	< 5.5 U
127-18-4	Tetrachloroethene	0.28	1.1	< 1.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.28	1.1	< 1.1 U
108-88-3	**Toluene**	**0.17**	**1.1**	**0.5 J**
108-90-7	Chlorobenzene	0.24	1.1	< 1.1 U
100-41-4	Ethylbenzene	0.22	1.1	< 1.1 U
100-42-5	Styrene	0.15	1.1	< 1.1 U
75-69-4	Trichlorofluoromethane	0.29	1.1	< 1.1 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.31	2.2	< 2.2 U
179601-23-1	m,p-Xylene	0.43	1.1	< 1.1 U
95-47-6	o-Xylene	0.25	1.1	< 1.1 U
95-50-1	1,2-Dichlorobenzene	0.32	1.1	< 1.1 U
541-73-1	1,3-Dichlorobenzene	0.25	1.1	< 1.1 U
106-46-7	1,4-Dichlorobenzene	0.25	1.1	< 1.1 U
107-02-8	Acrolein	4.2	55	< 55 U
74-88-4	Methyl Iodide	0.24	1.1	< 1.1 U
74-96-4	Bromoethane	0.48	2.2	< 2.2 U
107-13-1	Acrylonitrile	1.1	5.5	< 5.5 U
563-58-6	1,1-Dichloropropene	0.34	1.1	< 1.1 U
74-95-3	Dibromomethane	0.16	1.1	< 1.1 U
630-20-6	1,1,1,2-Tetrachloroethane	0.26	1.1	< 1.1 U
96-12-8	1,2-Dibromo-3-chloropropane	0.64	5.5	< 5.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-016
SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Date Analyzed: 09/05/11 20:16

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.57	2.2	< 2.2 U
110-57-6	trans-1,4-Dichloro-2-butene	0.48	5.5	< 5.5 U
108-67-8	1,3,5-Trimethylbenzene	0.28	1.1	< 1.1 U
95-63-6	1,2,4-Trimethylbenzene	0.25	1.1	< 1.1 U
87-68-3	Hexachlorobutadiene	0.45	5.5	< 5.5 U
106-93-4	Ethylene Dibromide	0.19	1.1	< 1.1 U
74-97-5	Bromochloromethane	0.35	1.1	< 1.1 U
594-20-7	2,2-Dichloropropane	0.32	1.1	< 1.1 U
142-28-9	1,3-Dichloropropane	0.23	1.1	< 1.1 U
98-82-8	Isopropylbenzene	0.26	1.1	< 1.1 U
103-65-1	n-Propylbenzene	0.30	1.1	< 1.1 U
108-86-1	Bromobenzene	0.17	1.1	< 1.1 U
95-49-8	2-Chlorotoluene	0.33	1.1	< 1.1 U
106-43-4	4-Chlorotoluene	0.30	1.1	< 1.1 U
98-06-6	tert-Butylbenzene	0.34	1.1	< 1.1 U
135-98-8	sec-Butylbenzene	0.26	1.1	< 1.1 U
99-87-6	4-Isopropyltoluene	0.26	1.1	< 1.1 U
104-51-8	n-Butylbenzene	0.29	1.1	< 1.1 U
120-82-1	1,2,4-Trichlorobenzene	0.36	5.5	< 5.5 U
91-20-3	Naphthalene	0.47	5.5	< 5.5 U
87-61-6	1,2,3-Trichlorobenzene	0.33	5.5	< 5.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	102%
Bromofluorobenzene	91.8%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-017**
 SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 20:44

Sample Amount: 3.81 g-dry-wt
Percent Moisture: 11.0%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.35	1.3	< 1.3 U
74-83-9	Bromomethane	0.25	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.31	1.3	< 1.3 U
75-00-3	Chloroethane	0.61	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.83	2.6	< 2.6 U
67-64-1	**Acetone**	**0.63**	**6.6**	**26 B**
75-15-0	Carbon Disulfide	0.73	1.3	< 1.3 U
75-35-4	1,1-Dichloroethene	0.44	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.27	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.35	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.31	1.3	< 1.3 U
67-66-3	Chloroform	0.31	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.25	1.3	< 1.3 U
78-93-3	2-Butanone	0.67	6.6	< 6.6 U
71-55-6	1,1,1-Trichloroethane	0.30	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.28	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.50	6.6	< 6.6 U
75-27-4	Bromodichloromethane	0.33	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.21	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.30	1.3	< 1.3 U
79-01-6	Trichloroethene	0.28	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.35	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.38	1.3	< 1.3 U
71-43-2	**Benzene**	**0.39**	**1.3**	**0.8 J**
10061-02-6	trans-1,3-Dichloropropene	0.28	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.36	6.6	< 6.6 U
75-25-2	Bromoform	0.39	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.55	6.6	< 6.6 U
591-78-6	2-Hexanone	0.58	6.6	< 6.6 U
127-18-4	Tetrachloroethene	0.34	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.33	1.3	< 1.3 U
108-88-3	Toluene	0.20	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.29	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.27	1.3	< 1.3 U
100-42-5	Styrene	0.18	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.35	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.38	2.6	< 2.6 U
179601-23-1	m,p-Xylene	0.51	1.3	< 1.3 U
95-47-6	o-Xylene	0.29	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.38	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.30	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.30	1.3	< 1.3 U
107-02-8	Acrolein	5.0	66	< 66 U
74-88-4	Methyl Iodide	0.28	1.3	< 1.3 U
74-96-4	Bromoethane	0.58	2.6	< 2.6 U
107-13-1	Acrylonitrile	1.4	6.6	< 6.6 U
563-58-6	1,1-Dichloropropene	0.41	1.3	< 1.3 U
74-95-3	Dibromomethane	0.19	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.31	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.77	6.6	< 6.6 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-017
SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Date Analyzed: 09/05/11 20:44

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.68	2.6	< 2.6 U
110-57-6	trans-1,4-Dichloro-2-butene	0.57	6.6	< 6.6 U
108-67-8	1,3,5-Trimethylbenzene	0.33	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.30	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.54	6.6	< 6.6 U
106-93-4	Ethylene Dibromide	0.23	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.42	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.38	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.27	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.31	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.36	1.3	< 1.3 U
108-86-1	Bromobenzene	0.20	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.39	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.36	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.40	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.31	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.31	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.34	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.44	6.6	< 6.6 U
91-20-3	Naphthalene	0.56	6.6	< 6.6 U
87-61-6	1,2,3-Trichlorobenzene	0.40	6.6	< 6.6 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%
d8-Toluene	103%
Bromofluorobenzene	93.0%
d4-1,2-Dichlorobenzene	99.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-018**
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 21:11

Sample Amount: 3.88 g-dry-wt
Percent Moisture: 10.2%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.34	1.3	< 1.3 U
74-83-9	Bromomethane	0.24	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.30	1.3	< 1.3 U
75-00-3	Chloroethane	0.60	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.82	2.6	< 2.6 U
67-64-1	**Acetone**	**0.62**	**6.4**	**28 B**
75-15-0	**Carbon Disulfide**	**0.72**	**1.3**	**1.4**
75-35-4	1,1-Dichloroethene	0.43	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.26	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.34	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.31	1.3	< 1.3 U
67-66-3	Chloroform	0.30	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.25	1.3	< 1.3 U
78-93-3	**2-Butanone**	**0.66**	**6.4**	**3.4 J**
71-55-6	1,1,1-Trichloroethane	0.29	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.27	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.49	6.4	< 6.4 U
75-27-4	Bromodichloromethane	0.33	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.21	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.29	1.3	< 1.3 U
79-01-6	Trichloroethene	0.27	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.34	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.37	1.3	< 1.3 U
71-43-2	**Benzene**	**0.38**	**1.3**	**0.9 J**
10061-02-6	trans-1,3-Dichloropropene	0.28	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.36	6.4	< 6.4 U
75-25-2	Bromoform	0.38	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.54	6.4	< 6.4 U
591-78-6	2-Hexanone	0.57	6.4	< 6.4 U
127-18-4	Tetrachloroethene	0.33	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.33	1.3	< 1.3 U
108-88-3	Toluene	0.19	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.28	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.26	1.3	< 1.3 U
100-42-5	Styrene	0.18	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.34	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.37	2.6	< 2.6 U
179601-23-1	m,p-Xylene	0.51	1.3	< 1.3 U
95-47-6	o-Xylene	0.29	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.38	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.29	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.30	1.3	< 1.3 U
107-02-8	Acrolein	4.9	64	< 64 U
74-88-4	Methyl Iodide	0.28	1.3	< 1.3 U
74-96-4	Bromoethane	0.57	2.6	< 2.6 U
107-13-1	Acrylonitrile	1.3	6.4	< 6.4 U
563-58-6	1,1-Dichloropropene	0.40	1.3	< 1.3 U
74-95-3	Dibromomethane	0.19	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.30	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.76	6.4	< 6.4 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C

Sample ID: FRP-082911-018
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Date Analyzed: 09/05/11 21:11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.67	2.6	< 2.6 U
110-57-6	trans-1,4-Dichloro-2-butene	0.56	6.4	< 6.4 U
108-67-8	1,3,5-Trimethylbenzene	0.33	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.30	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.53	6.4	< 6.4 U
106-93-4	Ethylene Dibromide	0.23	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.42	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.38	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.27	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.30	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.35	1.3	< 1.3 U
108-86-1	Bromobenzene	0.20	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.39	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.36	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.39	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.31	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.30	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.34	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.43	6.4	< 6.4 U
91-20-3	Naphthalene	0.55	6.4	< 6.4 U
87-61-6	1,2,3-Trichlorobenzene	0.39	6.4	< 6.4 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	116%
d8-Toluene	102%
Bromofluorobenzene	93.0%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-019**
 SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 21:39

Sample Amount: 3.98 g-dry-wt
Percent Moisture: 18.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.33	1.3	< 1.3 U
74-83-9	Bromomethane	0.23	1.3	< 1.3 U
75-01-4	Vinyl Chloride	0.30	1.3	< 1.3 U
75-00-3	Chloroethane	0.58	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.80	2.5	< 2.5 U
67-64-1	**Acetone**	**0.61**	**6.3**	**130 B**
75-15-0	Carbon Disulfide	0.70	1.3	< 1.3 U
75-35-4	1,1-Dichloroethene	0.42	1.3	< 1.3 U
75-34-3	1,1-Dichloroethane	0.26	1.3	< 1.3 U
156-60-5	trans-1,2-Dichloroethene	0.33	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.3	< 1.3 U
67-66-3	Chloroform	0.29	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.24	1.3	< 1.3 U
78-93-3	**2-Butanone**	**0.64**	**6.3**	**3.8 J**
71-55-6	1,1,1-Trichloroethane	0.28	1.3	< 1.3 U
56-23-5	Carbon Tetrachloride	0.27	1.3	< 1.3 U
108-05-4	Vinyl Acetate	0.48	6.3	< 6.3 U
75-27-4	Bromodichloromethane	0.32	1.3	< 1.3 U
78-87-5	1,2-Dichloropropane	0.20	1.3	< 1.3 U
10061-01-5	cis-1,3-Dichloropropene	0.28	1.3	< 1.3 U
79-01-6	Trichloroethene	0.27	1.3	< 1.3 U
124-48-1	Dibromochloromethane	0.33	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.36	1.3	< 1.3 U
71-43-2	**Benzene**	**0.37**	**1.3**	**0.8 J**
10061-02-6	trans-1,3-Dichloropropene	0.27	1.3	< 1.3 U
110-75-8	2-Chloroethylvinylether	0.35	6.3	< 6.3 U
75-25-2	Bromoform	0.37	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.53	6.3	< 6.3 U
591-78-6	2-Hexanone	0.55	6.3	< 6.3 U
127-18-4	Tetrachloroethene	0.32	1.3	< 1.3 U
79-34-5	1,1,2,2-Tetrachloroethane	0.32	1.3	< 1.3 U
108-88-3	Toluene	0.19	1.3	< 1.3 U
108-90-7	Chlorobenzene	0.28	1.3	< 1.3 U
100-41-4	Ethylbenzene	0.25	1.3	< 1.3 U
100-42-5	Styrene	0.17	1.3	< 1.3 U
75-69-4	Trichlorofluoromethane	0.33	1.3	< 1.3 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.36	2.5	< 2.5 U
179601-23-1	m,p-Xylene	0.49	1.3	< 1.3 U
95-47-6	o-Xylene	0.28	1.3	< 1.3 U
95-50-1	1,2-Dichlorobenzene	0.37	1.3	< 1.3 U
541-73-1	1,3-Dichlorobenzene	0.29	1.3	< 1.3 U
106-46-7	1,4-Dichlorobenzene	0.29	1.3	< 1.3 U
107-02-8	Acrolein	4.8	63	< 63 U
74-88-4	Methyl Iodide	0.27	1.3	< 1.3 U
74-96-4	Bromoethane	0.55	2.5	< 2.5 U
107-13-1	Acrylonitrile	1.3	6.3	< 6.3 U
563-58-6	1,1-Dichloropropene	0.39	1.3	< 1.3 U
74-95-3	Dibromomethane	0.18	1.3	< 1.3 U
630-20-6	1,1,1,2-Tetrachloroethane	0.29	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.74	6.3	< 6.3 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-019**
 SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Date Analyzed: 09/05/11 21:39

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.65	2.5	< 2.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.55	6.3	< 6.3 U
108-67-8	1,3,5-Trimethylbenzene	0.32	1.3	< 1.3 U
95-63-6	1,2,4-Trimethylbenzene	0.29	1.3	< 1.3 U
87-68-3	Hexachlorobutadiene	0.52	6.3	< 6.3 U
106-93-4	Ethylene Dibromide	0.22	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.41	1.3	< 1.3 U
594-20-7	2,2-Dichloropropane	0.37	1.3	< 1.3 U
142-28-9	1,3-Dichloropropane	0.26	1.3	< 1.3 U
98-82-8	Isopropylbenzene	0.29	1.3	< 1.3 U
103-65-1	n-Propylbenzene	0.34	1.3	< 1.3 U
108-86-1	Bromobenzene	0.19	1.3	< 1.3 U
95-49-8	2-Chlorotoluene	0.38	1.3	< 1.3 U
106-43-4	4-Chlorotoluene	0.35	1.3	< 1.3 U
98-06-6	tert-Butylbenzene	0.38	1.3	< 1.3 U
135-98-8	sec-Butylbenzene	0.30	1.3	< 1.3 U
99-87-6	4-Isopropyltoluene	0.30	1.3	< 1.3 U
104-51-8	n-Butylbenzene	0.33	1.3	< 1.3 U
120-82-1	1,2,4-Trichlorobenzene	0.42	6.3	< 6.3 U
91-20-3	Naphthalene	0.54	6.3	< 6.3 U
87-61-6	1,2,3-Trichlorobenzene	0.38	6.3	< 6.3 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	102%
Bromofluorobenzene	96.0%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-020**
 SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 22:06

Sample Amount: 3.62 g-dry-wt
Percent Moisture: 29.0%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.36	1.4	< 1.4 U
74-83-9	Bromomethane	0.26	1.4	< 1.4 U
75-01-4	Vinyl Chloride	0.32	1.4	< 1.4 U
75-00-3	Chloroethane	0.64	1.4	< 1.4 U
75-09-2	Methylene Chloride	0.88	2.8	< 2.8 U
67-64-1	**Acetone**	**0.67**	**6.9**	**53 B**
75-15-0	Carbon Disulfide	0.77	1.4	< 1.4 U
75-35-4	1,1-Dichloroethene	0.46	1.4	< 1.4 U
75-34-3	1,1-Dichloroethane	0.28	1.4	< 1.4 U
156-60-5	trans-1,2-Dichloroethene	0.37	1.4	< 1.4 U
156-59-2	cis-1,2-Dichloroethene	0.33	1.4	< 1.4 U
67-66-3	Chloroform	0.32	1.4	< 1.4 U
107-06-2	1,2-Dichloroethane	0.26	1.4	< 1.4 U
78-93-3	**2-Butanone**	**0.71**	**6.9**	**3.6 J**
71-55-6	1,1,1-Trichloroethane	0.31	1.4	< 1.4 U
56-23-5	Carbon Tetrachloride	0.29	1.4	< 1.4 U
108-05-4	Vinyl Acetate	0.53	6.9	< 6.9 U
75-27-4	Bromodichloromethane	0.35	1.4	< 1.4 U
78-87-5	1,2-Dichloropropane	0.22	1.4	< 1.4 U
10061-01-5	cis-1,3-Dichloropropene	0.31	1.4	< 1.4 U
79-01-6	Trichloroethene	0.29	1.4	< 1.4 U
124-48-1	Dibromochloromethane	0.37	1.4	< 1.4 U
79-00-5	1,1,2-Trichloroethane	0.40	1.4	< 1.4 U
71-43-2	**Benzene**	**0.41**	**1.4**	**1.5**
10061-02-6	trans-1,3-Dichloropropene	0.30	1.4	< 1.4 U
110-75-8	2-Chloroethylvinylether	0.38	6.9	< 6.9 U
75-25-2	Bromoform	0.41	1.4	< 1.4 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.58	6.9	< 6.9 U
591-78-6	2-Hexanone	0.61	6.9	< 6.9 U
127-18-4	Tetrachloroethene	0.35	1.4	< 1.4 U
79-34-5	1,1,2,2-Tetrachloroethane	0.35	1.4	< 1.4 U
108-88-3	**Toluene**	**0.21**	**1.4**	**1.0 J**
108-90-7	Chlorobenzene	0.30	1.4	< 1.4 U
100-41-4	Ethylbenzene	0.28	1.4	< 1.4 U
100-42-5	Styrene	0.19	1.4	< 1.4 U
75-69-4	Trichlorofluoromethane	0.37	1.4	< 1.4 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.40	2.8	< 2.8 U
179601-23-1	m,p-Xylene	0.54	1.4	< 1.4 U
95-47-6	o-Xylene	0.31	1.4	< 1.4 U
95-50-1	1,2-Dichlorobenzene	0.40	1.4	< 1.4 U
541-73-1	1,3-Dichlorobenzene	0.31	1.4	< 1.4 U
106-46-7	1,4-Dichlorobenzene	0.32	1.4	< 1.4 U
107-02-8	Acrolein	5.3	69	< 69 U
74-88-4	Methyl Iodide	0.30	1.4	< 1.4 U
74-96-4	Bromoethane	0.61	2.8	< 2.8 U
107-13-1	Acrylonitrile	1.4	6.9	< 6.9 U
563-58-6	1,1-Dichloropropene	0.43	1.4	< 1.4 U
74-95-3	Dibromomethane	0.20	1.4	< 1.4 U
630-20-6	1,1,1,2-Tetrachloroethane	0.32	1.4	< 1.4 U
96-12-8	1,2-Dibromo-3-chloropropane	0.81	6.9	< 6.9 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-082911-020**
 SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Date Analyzed: 09/05/11 22:06

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.71	2.8	< 2.8 U
110-57-6	trans-1,4-Dichloro-2-butene	0.60	6.9	< 6.9 U
108-67-8	1,3,5-Trimethylbenzene	0.35	1.4	< 1.4 U
95-63-6	1,2,4-Trimethylbenzene	0.32	1.4	< 1.4 U
87-68-3	Hexachlorobutadiene	0.57	6.9	< 6.9 U
106-93-4	Ethylene Dibromide	0.24	1.4	< 1.4 U
74-97-5	Bromochloromethane	0.45	1.4	< 1.4 U
594-20-7	2,2-Dichloropropane	0.40	1.4	< 1.4 U
142-28-9	1,3-Dichloropropane	0.29	1.4	< 1.4 U
98-82-8	Isopropylbenzene	0.32	1.4	< 1.4 U
103-65-1	n-Propylbenzene	0.38	1.4	< 1.4 U
108-86-1	Bromobenzene	0.21	1.4	< 1.4 U
95-49-8	2-Chlorotoluene	0.41	1.4	< 1.4 U
106-43-4	4-Chlorotoluene	0.38	1.4	< 1.4 U
98-06-6	tert-Butylbenzene	0.42	1.4	< 1.4 U
135-98-8	sec-Butylbenzene	0.33	1.4	< 1.4 U
99-87-6	4-Isopropyltoluene	0.33	1.4	< 1.4 U
104-51-8	n-Butylbenzene	0.36	1.4	< 1.4 U
120-82-1	1,2,4-Trichlorobenzene	0.46	6.9	< 6.9 U
91-20-3	Naphthalene	0.59	6.9	< 6.9 U
87-61-6	1,2,3-Trichlorobenzene	0.42	6.9	< 6.9 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	101%
Bromofluorobenzene	95.3%
d4-1,2-Dichlorobenzene	99.3%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-090211	Method Blank	Low	88.6%	101%	94.9%	97.8%	0
LCS-090211	Lab Control	Low	86.9%	102%	97.8%	98.3%	0
LCSD-090211	Lab Control Dup	Low	84.5%	102%	98.3%	99.9%	0
TK35A	FRP-082911-001	Low	114%	100%	87.7%	99.4%	0
TK35B	FRP-082911-002	Low	112%	103%	92.3%	101%	0
TK35C	FRP-082911-003	Low	110%	102%	87.8%	105%	0
TK35D	FRP-082911-004	Low	111%	103%	96.5%	102%	0
TK35E	FRP-082911-006	Low	114%	103%	93.4%	100%	0
TK35F	FRP-082911-007	Low	115%	105%	97.9%	101%	0
MB-090511	Method Blank	Low	93.7%	99.8%	94.5%	97.5%	0
LCS-090511	Lab Control	Low	87.6%	101%	97.4%	98.0%	0
LCSD-090511	Lab Control Dup	Low	91.0%	103%	98.2%	98.5%	0
TK35G	FRP-082911-008	Low	110%	101%	93.6%	99.5%	0
TK35H	FRP-082911-009	Low	106%	101%	95.9%	100%	0
TK35I	FRP-082911-010	Low	109%	103%	93.0%	101%	0
TK35J	FRP-082911-011	Low	112%	101%	89.7%	97.5%	0
TK35K	FRP-082911-012	Low	110%	101%	94.4%	100%	0
TK35L	FRP-082911-013	Low	108%	104%	95.2%	102%	0
TK35M	FRP-082911-014	Low	108%	102%	94.9%	101%	0
TK35N	FRP-082911-016	Low	109%	102%	91.8%	100%	0
TK35O	FRP-082911-017	Low	117%	103%	93.0%	99.8%	0
TK35P	FRP-082911-018	Low	116%	102%	93.0%	102%	0
TK35Q	FRP-082911-019	Low	108%	102%	96.0%	101%	0
TK35R	FRP-082911-020	Low	108%	101%	95.3%	99.3%	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: 11-18788 to 11-18805

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-090211**
 METHOD BLANK

Lab Sample ID: MB-090211
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/02/11 13:50

Sample Amount: 5.00 g-dry-wt
Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.26	1.0	< 1.0 U
74-83-9	Bromomethane	0.19	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.24	1.0	< 1.0 U
75-00-3	Chloroethane	0.46	1.0	< 1.0 U
75-09-2	**Methylene Chloride**	**0.64**	**2.0**	**2.7**
67-64-1	Acetone	0.48	5.0	< 5.0 U
75-15-0	Carbon Disulfide	0.56	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	0.34	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	0.20	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	0.27	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	< 1.0 U
67-66-3	Chloroform	0.23	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	0.19	1.0	< 1.0 U
78-93-3	2-Butanone	0.51	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	0.21	1.0	< 1.0 U
108-05-4	Vinyl Acetate	0.38	5.0	< 5.0 U
75-27-4	Bromodichloromethane	0.25	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	0.16	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	0.23	1.0	< 1.0 U
79-01-6	Trichloroethene	0.21	1.0	< 1.0 U
124-48-1	Dibromochloromethane	0.27	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	< 1.0 U
71-43-2	Benzene	0.30	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	0.28	5.0	< 5.0 U
75-25-2	Bromoform	0.30	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.42	5.0	< 5.0 U
591-78-6	2-Hexanone	0.44	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.26	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	1.0	< 1.0 U
108-88-3	Toluene	0.15	1.0	< 1.0 U
108-90-7	Chlorobenzene	0.22	1.0	< 1.0 U
100-41-4	Ethylbenzene	0.20	1.0	< 1.0 U
100-42-5	Styrene	0.14	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	0.27	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.29	2.0	< 2.0 U
179601-23-1	m,p-Xylene	0.39	1.0	< 1.0 U
95-47-6	o-Xylene	0.22	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	0.29	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	0.23	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	0.23	1.0	< 1.0 U
107-02-8	Acrolein	3.8	50	< 50 U
74-88-4	Methyl Iodide	0.22	1.0	< 1.0 U
74-96-4	Bromoethane	0.44	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	5.0	< 5.0 U
563-58-6	1,1-Dichloropropene	0.31	1.0	< 1.0 U
74-95-3	Dibromomethane	0.15	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	0.23	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	0.59	5.0	< 5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-090211**
 METHOD BLANK

Lab Sample ID: MB-090211
LIMS ID: 11-18788
Matrix: Soil
Date Analyzed: 09/02/11 13:50

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.52	2.0	< 2.0 U
110-57-6	trans-1,4-Dichloro-2-butene	0.44	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	0.25	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	0.23	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	0.41	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	0.18	1.0	< 1.0 U
74-97-5	Bromochloromethane	0.32	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	0.29	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	0.21	1.0	< 1.0 U
98-82-8	Isopropylbenzene	0.23	1.0	< 1.0 U
103-65-1	n-Propylbenzene	0.27	1.0	< 1.0 U
108-86-1	Bromobenzene	0.15	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	0.30	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	0.28	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	0.31	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	0.24	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	0.24	1.0	< 1.0 U
104-51-8	n-Butylbenzene	0.26	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	0.33	5.0	< 5.0 U
91-20-3	Naphthalene	0.43	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	0.30	5.0	< 5.0 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	88.6%
d8-Toluene	101%
Bromofluorobenzene	94.9%
d4-1,2-Dichlorobenzene	97.8%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0905

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TK35

Project: FRP

Lab File ID: MB0905

Lab Sample ID: MB0905

Date Analyzed: 09/05/11

Time Analyzed: 1550

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	LCS0905	LCS0905	LCS0905	1448
02	LCS0905	LCS0905	LCS0905A	1522
03	FRP-082911-0	TK35G	TK35G2	1703
04	FRP-082911-0	TK35H	TK35H	1731
05	FRP-082911-0	TK35I	TK35I	1759
06	FRP-082911-0	TK35J	TK35J	1826
07	FRP-082911-0	TK35K	TK35K	1854
08	FRP-082911-0	TK35L	TK35L	1921
09	FRP-082911-0	TK35M	TK35M	1949
10	FRP-082911-0	TK35N	TK35N	2016
11	FRP-082911-0	TK35O	TK35O	2044
12	FRP-082911-0	TK35P	TK35P	2111
13	FRP-082911-0	TK35Q	TK35Q	2139
14	FRP-082911-0	TK35R	TK35R	2206
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COMMENTS:

FORM IV VOA

OLM3.2M

TK35:00068

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-090511**
 METHOD BLANK

Lab Sample ID: MB-090511
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/05/11 15:50

Sample Amount: 5.00 g-dry-wt
Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.26	1.0	< 1.0 U
74-83-9	Bromomethane	0.19	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.24	1.0	< 1.0 U
75-00-3	Chloroethane	0.46	1.0	< 1.0 U
75-09-2	**Methylene Chloride**	**0.64**	**2.0**	**5.7**
67-64-1	**Acetone**	**0.48**	**5.0**	**3.8 J**
75-15-0	Carbon Disulfide	0.56	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	0.34	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	0.20	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	0.27	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	0.24	1.0	< 1.0 U
67-66-3	Chloroform	0.23	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	0.19	1.0	< 1.0 U
78-93-3	2-Butanone	0.51	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.23	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	0.21	1.0	< 1.0 U
108-05-4	Vinyl Acetate	0.38	5.0	< 5.0 U
75-27-4	Bromodichloromethane	0.25	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	0.16	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	0.23	1.0	< 1.0 U
79-01-6	Trichloroethene	0.21	1.0	< 1.0 U
124-48-1	Dibromochloromethane	0.27	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	0.29	1.0	< 1.0 U
71-43-2	Benzene	0.30	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	0.22	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	0.28	5.0	< 5.0 U
75-25-2	Bromoform	0.30	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.42	5.0	< 5.0 U
591-78-6	2-Hexanone	0.44	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.26	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	0.25	1.0	< 1.0 U
108-88-3	Toluene	0.15	1.0	< 1.0 U
108-90-7	Chlorobenzene	0.22	1.0	< 1.0 U
100-41-4	Ethylbenzene	0.20	1.0	< 1.0 U
100-42-5	Styrene	0.14	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	0.27	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.29	2.0	< 2.0 U
179601-23-1	m,p-Xylene	0.39	1.0	< 1.0 U
95-47-6	o-Xylene	0.22	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	0.29	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	0.23	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	0.23	1.0	< 1.0 U
107-02-8	Acrolein	3.8	50	< 50 U
74-88-4	Methyl Iodide	0.22	1.0	< 1.0 U
74-96-4	Bromoethane	0.44	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	5.0	< 5.0 U
563-58-6	1,1-Dichloropropene	0.31	1.0	< 1.0 U
74-95-3	Dibromomethane	0.15	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	0.23	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	0.59	5.0	< 5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-090211**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-090211
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/PAB
LCSD: FINN5/PAB
Date Analyzed LCS: 09/02/11 11:25
LCSD: 09/02/11 11:53

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
Chloromethane	53.2	50.0	106%	51.4	50.0	103%	3.4%
Bromomethane	62.3 Q	50.0	125%	60.2 Q	50.0	120%	3.4%
Vinyl Chloride	48.3	50.0	96.6%	47.0	50.0	94.0%	2.7%
Chloroethane	54.6	50.0	109%	53.2	50.0	106%	2.6%
Methylene Chloride	64.8 B	50.0	130%	62.3 B	50.0	125%	3.9%
Acetone	217 Q	250	86.8%	190 Q	250	76.0%	13.3%
Carbon Disulfide	54.9	50.0	110%	53.6	50.0	107%	2.4%
1,1-Dichloroethene	53.2	50.0	106%	51.4	50.0	103%	3.4%
1,1-Dichloroethane	54.2	50.0	108%	52.2	50.0	104%	3.8%
trans-1,2-Dichloroethene	53.6	50.0	107%	51.1	50.0	102%	4.8%
cis-1,2-Dichloroethene	56.2	50.0	112%	52.4	50.0	105%	7.0%
Chloroform	52.5	50.0	105%	48.7	50.0	97.4%	7.5%
1,2-Dichloroethane	42.5	50.0	85.0%	40.8	50.0	81.6%	4.1%
2-Butanone	229 Q	250	91.6%	206 Q	250	82.4%	10.6%
1,1,1-Trichloroethane	50.3	50.0	101%	48.5	50.0	97.0%	3.6%
Carbon Tetrachloride	47.4	50.0	94.8%	45.8	50.0	91.6%	3.4%
Vinyl Acetate	49.0	50.0	98.0%	49.7	50.0	99.4%	1.4%
Bromodichloromethane	48.9	50.0	97.8%	46.7	50.0	93.4%	4.6%
1,2-Dichloropropane	51.2	50.0	102%	49.8	50.0	99.6%	2.8%
cis-1,3-Dichloropropene	51.7	50.0	103%	49.9	50.0	99.8%	3.5%
Trichloroethene	49.4	50.0	98.8%	49.2	50.0	98.4%	0.4%
Dibromochloromethane	50.2	50.0	100%	49.2	50.0	98.4%	2.0%
1,1,2-Trichloroethane	49.0	50.0	98.0%	46.3	50.0	92.6%	5.7%
Benzene	51.6	50.0	103%	50.7	50.0	101%	1.8%
trans-1,3-Dichloropropene	51.0	50.0	102%	47.5	50.0	95.0%	7.1%
2-Chloroethylvinylether	99.5 Q	50.0	199%	94.3 Q	50.0	189%	5.4%
Bromoform	47.1	50.0	94.2%	45.4	50.0	90.8%	3.7%
4-Methyl-2-Pentanone (MIBK)	230	250	92.0%	211	250	84.4%	8.6%
2-Hexanone	229 Q	250	91.6%	211 Q	250	84.4%	8.2%
Tetrachloroethene	50.7	50.0	101%	50.7	50.0	101%	0.0%
1,1,2,2-Tetrachloroethane	46.3	50.0	92.6%	44.3	50.0	88.6%	4.4%
Toluene	51.6	50.0	103%	50.9	50.0	102%	1.4%
Chlorobenzene	52.7	50.0	105%	51.8	50.0	104%	1.7%
Ethylbenzene	52.1	50.0	104%	52.4	50.0	105%	0.6%
Styrene	51.7	50.0	103%	50.8	50.0	102%	1.8%
Trichlorofluoromethane	55.5	50.0	111%	53.6	50.0	107%	3.5%
1,1,2-Trichloro-1,2,2-trifluoroetha	58.0	50.0	116%	58.5	50.0	117%	0.9%
m,p-Xylene	102	100	102%	106	100	106%	3.8%
o-Xylene	51.9	50.0	104%	52.2	50.0	104%	0.6%
1,2-Dichlorobenzene	51.3	50.0	103%	50.2	50.0	100%	2.2%
1,3-Dichlorobenzene	51.1	50.0	102%	50.7	50.0	101%	0.8%
1,4-Dichlorobenzene	51.4	50.0	103%	51.2	50.0	102%	0.4%
Acrolein	245	250	98.0%	224	250	89.6%	9.0%
Methyl Iodide	60.3	50.0	121%	57.4	50.0	115%	4.9%
Bromoethane	54.8	50.0	110%	52.8	50.0	106%	3.7%
Acrylonitrile	47.4 Q	50.0	94.8%	43.1 Q	50.0	86.2%	9.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-090211**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-090211
LIMS ID: 11-18788
Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1-Dichloropropene	50.0	50.0	100%	48.3	50.0	96.6%	3.5%
Dibromomethane	47.6	50.0	95.2%	44.6	50.0	89.2%	6.5%
1,1,1,2-Tetrachloroethane	49.2	50.0	98.4%	47.9	50.0	95.8%	2.7%
1,2-Dibromo-3-chloropropane	42.6 Q	50.0	85.2%	39.0 Q	50.0	78.0%	8.8%
1,2,3-Trichloropropane	44.2 Q	50.0	88.4%	41.0 Q	50.0	82.0%	7.5%
trans-1,4-Dichloro-2-butene	45.0	50.0	90.0%	41.7	50.0	83.4%	7.6%
1,3,5-Trimethylbenzene	51.1	50.0	102%	50.6	50.0	101%	1.0%
1,2,4-Trimethylbenzene	51.7	50.0	103%	51.5	50.0	103%	0.4%
Hexachlorobutadiene	47.9	50.0	95.8%	47.6	50.0	95.2%	0.6%
Ethylene Dibromide	49.1	50.0	98.2%	45.9	50.0	91.8%	6.7%
Bromochloromethane	53.6	50.0	107%	51.4	50.0	103%	4.2%
2,2-Dichloropropane	51.6	50.0	103%	49.8	50.0	99.6%	3.6%
1,3-Dichloropropane	48.7	50.0	97.4%	46.7	50.0	93.4%	4.2%
Isopropylbenzene	51.7	50.0	103%	51.3	50.0	103%	0.8%
n-Propylbenzene	53.4	50.0	107%	53.7	50.0	107%	0.6%
Bromobenzene	49.1	50.0	98.2%	48.2	50.0	96.4%	1.8%
2-Chlorotoluene	48.1	50.0	96.2%	48.6	50.0	97.2%	1.0%
4-Chlorotoluene	53.5	50.0	107%	51.1	50.0	102%	4.6%
tert-Butylbenzene	48.9	50.0	97.8%	49.3	50.0	98.6%	0.8%
sec-Butylbenzene	52.5	50.0	105%	52.8	50.0	106%	0.6%
4-Isopropyltoluene	50.9	50.0	102%	51.2	50.0	102%	0.6%
n-Butylbenzene	53.4	50.0	107%	52.9	50.0	106%	0.9%
1,2,4-Trichlorobenzene	51.3	50.0	103%	50.3	50.0	101%	2.0%
Naphthalene	45.8	50.0	91.6%	43.6	50.0	87.2%	4.9%
1,2,3-Trichlorobenzene	48.8	50.0	97.6%	48.0	50.0	96.0%	1.7%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	86.9%	84.5%
d8-Toluene	102%	102%
Bromofluorobenzene	97.8%	98.3%
d4-1,2-Dichlorobenzene	98.3%	99.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-090511**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-090511
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/PAB
LCSD: FINN5/PAB
Date Analyzed LCS: 09/05/11 14:48
LCSD: 09/05/11 15:22

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
Chloromethane	43.3	50.0	86.6%	50.0	50.0	100%	14.4%
Bromomethane	48.5	50.0	97.0%	56.0	50.0	112%	14.4%
Vinyl Chloride	40.7	50.0	81.4%	45.5	50.0	91.0%	11.1%
Chloroethane	46.7	50.0	93.4%	56.1	50.0	112%	18.3%
Methylene Chloride	51.6 B	50.0	103%	58.7 B	50.0	117%	12.9%
Acetone	179 B	250	71.6%	192 B	250	76.8%	7.0%
Carbon Disulfide	47.8	50.0	95.6%	54.7	50.0	109%	13.5%
1,1-Dichloroethene	46.1	50.0	92.2%	52.7	50.0	105%	13.4%
1,1-Dichloroethane	47.6	50.0	95.2%	54.2	50.0	108%	13.0%
trans-1,2-Dichloroethene	46.5	50.0	93.0%	52.6	50.0	105%	12.3%
cis-1,2-Dichloroethene	49.8	50.0	99.6%	55.2	50.0	110%	10.3%
Chloroform	46.8	50.0	93.6%	50.8	50.0	102%	8.2%
1,2-Dichloroethane	37.5	50.0	75.0%	41.7	50.0	83.4%	10.6%
2-Butanone	195	250	78.0%	211	250	84.4%	7.9%
1,1,1-Trichloroethane	44.8	50.0	89.6%	50.8	50.0	102%	12.6%
Carbon Tetrachloride	42.2	50.0	84.4%	47.1	50.0	94.2%	11.0%
Vinyl Acetate	44.6	50.0	89.2%	52.1	50.0	104%	15.5%
Bromodichloromethane	44.1	50.0	88.2%	49.2	50.0	98.4%	10.9%
1,2-Dichloropropane	45.0	50.0	90.0%	50.7	50.0	101%	11.9%
cis-1,3-Dichloropropene	46.8	50.0	93.6%	51.6	50.0	103%	9.8%
Trichloroethene	44.4	50.0	88.8%	50.6	50.0	101%	13.1%
Dibromochloromethane	46.2	50.0	92.4%	49.4	50.0	98.8%	6.7%
1,1,2-Trichloroethane	43.7	50.0	87.4%	48.4	50.0	96.8%	10.2%
Benzene	45.3	50.0	90.6%	51.8	50.0	104%	13.4%
trans-1,3-Dichloropropene	45.3	50.0	90.6%	50.6	50.0	101%	11.1%
2-Chloroethylvinylether	89.9 Q	50.0	180%	94.4 Q	50.0	189%	4.9%
Bromoform	44.0	50.0	88.0%	44.7	50.0	89.4%	1.6%
4-Methyl-2-Pentanone (MIBK)	196	250	78.4%	216	250	86.4%	9.7%
2-Hexanone	195	250	78.0%	208	250	83.2%	6.5%
Tetrachloroethene	47.4	50.0	94.8%	51.5	50.0	103%	8.3%
1,1,2,2-Tetrachloroethane	41.0	50.0	82.0%	42.9	50.0	85.8%	4.5%
Toluene	46.0	50.0	92.0%	51.9	50.0	104%	12.1%
Chlorobenzene	47.9	50.0	95.8%	51.8	50.0	104%	7.8%
Ethylbenzene	47.6	50.0	95.2%	51.3	50.0	103%	7.5%
Styrene	47.4	50.0	94.8%	51.3	50.0	103%	7.9%
Trichlorofluoromethane	48.4	50.0	96.8%	55.9	50.0	112%	14.4%
1,1,2-Trichloro-1,2,2-trifluoroetha	51.9	50.0	104%	59.1	50.0	118%	13.0%
m,p-Xylene	93.1	100	93.1%	102	100	102%	9.1%
o-Xylene	47.8	50.0	95.6%	51.9	50.0	104%	8.2%
1,2-Dichlorobenzene	48.0	50.0	96.0%	50.1	50.0	100%	4.3%
1,3-Dichlorobenzene	48.6	50.0	97.2%	50.7	50.0	101%	4.2%
1,4-Dichlorobenzene	49.1	50.0	98.2%	51.1	50.0	102%	4.0%
Acrolein	204	250	81.6%	228	250	91.2%	11.1%
Methyl Iodide	51.1	50.0	102%	58.5	50.0	117%	13.5%
Bromoethane	47.9	50.0	95.8%	54.6	50.0	109%	13.1%
Acrylonitrile	40.5	50.0	81.0%	45.3	50.0	90.6%	11.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-090511**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-090511
LIMS ID: 11-18794
Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1-Dichloropropene	43.8	50.0	87.6%	49.8	50.0	99.6%	12.8%
Dibromomethane	43.3	50.0	86.6%	45.3	50.0	90.6%	4.5%
1,1,1,2-Tetrachloroethane	45.3	50.0	90.6%	48.4	50.0	96.8%	6.6%
1,2-Dibromo-3-chloropropane	38.0	50.0	76.0%	39.6	50.0	79.2%	4.1%
1,2,3-Trichloropropane	39.0	50.0	78.0%	40.5	50.0	81.0%	3.8%
trans-1,4-Dichloro-2-butene	39.7	50.0	79.4%	40.6	50.0	81.2%	2.2%
1,3,5-Trimethylbenzene	47.1	50.0	94.2%	49.7	50.0	99.4%	5.4%
1,2,4-Trimethylbenzene	48.3	50.0	96.6%	50.8	50.0	102%	5.0%
Hexachlorobutadiene	46.4	50.0	92.8%	48.4	50.0	96.8%	4.2%
Ethylene Dibromide	43.2	50.0	86.4%	48.2	50.0	96.4%	10.9%
Bromochloromethane	47.4	50.0	94.8%	54.2	50.0	108%	13.4%
2,2-Dichloropropane	46.1	50.0	92.2%	52.6	50.0	105%	13.2%
1,3-Dichloropropane	43.6	50.0	87.2%	46.3	50.0	92.6%	6.0%
Isopropylbenzene	46.8	50.0	93.6%	50.0	50.0	100%	6.6%
n-Propylbenzene	49.5	50.0	99.0%	52.2	50.0	104%	5.3%
Bromobenzene	45.6	50.0	91.2%	48.0	50.0	96.0%	5.1%
2-Chlorotoluene	47.1	50.0	94.2%	47.2	50.0	94.4%	0.2%
4-Chlorotoluene	46.2	50.0	92.4%	51.2	50.0	102%	10.3%
tert-Butylbenzene	45.6	50.0	91.2%	48.0	50.0	96.0%	5.1%
sec-Butylbenzene	48.9	50.0	97.8%	51.8	50.0	104%	5.8%
4-Isopropyltoluene	48.4	50.0	96.8%	50.7	50.0	101%	4.6%
n-Butylbenzene	51.1 B	50.0	102%	53.4 B	50.0	107%	4.4%
1,2,4-Trichlorobenzene	50.4	50.0	101%	51.9	50.0	104%	2.9%
Naphthalene	42.1	50.0	84.2%	43.2	50.0	86.4%	2.6%
1,2,3-Trichlorobenzene	46.9	50.0	93.8%	48.2	50.0	96.4%	2.7%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	87.6%	91.0%
d8-Toluene	101%	103%
Bromofluorobenzene	97.4%	98.2%
d4-1,2-Dichlorobenzene	98.0%	98.5%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0902A

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TK35

Project: FRP

Lab File ID: MB0902A

Lab Sample ID: MB0902A

Date Analyzed: 09/02/11

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	LCS0902	LCS0902	LCS0902	1125
02	LCS0902	LCS0902	LCS0902A	1153
03	FRP-082911-0	TK35A	TK35A	1854
04	FRP-082911-0	TK35B	TK35B	1922
05	FRP-082911-0	TK35C	TK35C	1950
06	FRP-082911-0	TK35D	TK35D	2017
07	FRP-082911-0	TK35E	TK35E	2044
08	FRP-082911-0	TK35F	TK35F	2112
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COMMENTS:

FORM IV VOA

OLM3.2M

TK35:00074

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-090511**
 METHOD BLANK

Lab Sample ID: MB-090511
LIMS ID: 11-18794
Matrix: Soil
Date Analyzed: 09/05/11 15:50

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.52	2.0	< 2.0 U
110-57-6	trans-1,4-Dichloro-2-butene	0.44	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	0.25	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	0.23	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	0.41	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	0.18	1.0	< 1.0 U
74-97-5	Bromochloromethane	0.32	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	0.29	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	0.21	1.0	< 1.0 U
98-82-8	Isopropylbenzene	0.23	1.0	< 1.0 U
103-65-1	n-Propylbenzene	0.27	1.0	< 1.0 U
108-86-1	Bromobenzene	0.15	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	0.30	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	0.28	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	0.31	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	0.24	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	0.24	1.0	< 1.0 U
104-51-8	**n-Butylbenzene**	**0.26**	**1.0**	**0.6 J**
120-82-1	1,2,4-Trichlorobenzene	0.33	5.0	< 5.0 U
91-20-3	Naphthalene	0.43	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	0.30	5.0	< 5.0 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	93.7%
d8-Toluene	99.8%
Bromofluorobenzene	94.5%
d4-1,2-Dichlorobenzene	97.5%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP SDG No.: TK35

Lab File ID: BFB0817A BFB Injection Date: 08/17/11

Instrument ID: FINN5 BFB Injection Time: 1806

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	26.4
75	30.0 - 66.0% of mass 95	52.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.8 (0.9)1
174	50.0 - 101.0% of mass 95	94.0
175	4.0 - 9.0% of mass 174	6.9 (7.3)1
176	93.0 - 101.0% of mass 174	90.9 (96.7)1
177	5.0 - 9.0% of mass 176	5.4 (5.9)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	IC0817	0010817	08/17/11	1842
02	VSTD5	IC0817	0050817	08/17/11	1932
03	VSTD200	IC0817	2000817	08/17/11	1959
04	VSTD150	IC0817	1500817	08/17/11	2027
05	VSTD100	IC0817	1000817	08/17/11	2054
06	VSTD50	IC0817	0500817	08/17/11	2122
07	VSTD10	IC0817	0100817	08/17/11	2149
08	VSTD2	IC0817	0020817	08/17/11	2244
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FORM V VOA OLM3.2M

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP SDG No.: TK35

Lab File ID: BFB0902 BFB Injection Date: 09/02/11

Instrument ID: FINN5 BFB Injection Time: 0937

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	25.1
75	30.0 - 66.0% of mass 95	49.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.2 (0.2)1
174	50.0 - 101.0% of mass 95	96.8
175	4.0 - 9.0% of mass 174	4.9 (5.0)1
176	93.0 - 101.0% of mass 174	93.5 (96.6)1
177	5.0 - 9.0% of mass 176	5.5 (5.9)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	CC0902	CC0902	CC0902A	09/02/11	1058
02	LCS0902	LCS0902	LCS0902	09/02/11	1125
03	LCS0902	LCS0902	LCS0902A	09/02/11	1153
04	MB0902A	MB0902A	MB0902A	09/02/11	1350
05	FRP-082911-001	TK35A	TK35A	09/02/11	1854
06	FRP-082911-002	TK35B	TK35B	09/02/11	1922
07	FRP-082911-003	TK35C	TK35C	09/02/11	1950
08	FRP-082911-004	TK35D	TK35D	09/02/11	2017
09	FRP-082911-006	TK35E	TK35E	09/02/11	2044
10	FRP-082911-007	TK35F	TK35F	09/02/11	2112
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FORM V VOA OLM3.2M

TK35:00077

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP SDG No.: TK35

Lab File ID: BFB0905 BFB Injection Date: 09/05/11

Instrument ID: FINN5 BFB Injection Time: 1229

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	25.8
75	30.0 - 66.0% of mass 95	50.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.2 (0.2)1
174	50.0 - 101.0% of mass 95	91.2
175	4.0 - 9.0% of mass 174	5.3 (5.8)1
176	93.0 - 101.0% of mass 174	88.5 (97.1)1
177	5.0 - 9.0% of mass 176	5.3 (6.0)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	CC0905	CC0905	CC0905A	09/05/11	1408
02	LCS0905	LCS0905	LCS0905	09/05/11	1448
03	LCS0905	LCS0905	LCS0905A	09/05/11	1522
04	MB0905	MB0905	MB0905	09/05/11	1550
05	FRP-082911-008	TK35G	TK35G2	09/05/11	1703
06	FRP-082911-009	TK35H	TK35H	09/05/11	1731
07	FRP-082911-010	TK35I	TK35I	09/05/11	1759
08	FRP-082911-011	TK35J	TK35J	09/05/11	1826
09	FRP-082911-012	TK35K	TK35K	09/05/11	1854
10	FRP-082911-013	TK35L	TK35L	09/05/11	1921
11	FRP-082911-014	TK35M	TK35M	09/05/11	1949
12	FRP-082911-016	TK35N	TK35N	09/05/11	2016
13	FRP-082911-017	TK35O	TK35O	09/05/11	2044
14	FRP-082911-018	TK35P	TK35P	09/05/11	2111
15	FRP-082911-019	TK35Q	TK35Q	09/05/11	2139
16	FRP-082911-020	TK35R	TK35R	09/05/11	2206
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FORM V VOA OLM3.2M

TK35:00078

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF1: 0010817 RF2: 0020817 RF5: 0050817
RF10: 0100817 RF50: 0500817

COMPOUND	RF1	RF2	RF5	RF10	RF50
Chloromethane	1.220	0.918	0.947	0.990	0.997
Vinyl Chloride	0.915	0.804	0.996	1.151	1.086
Bromomethane	0.452	0.456	0.384	0.483	0.469
Chloroethane	0.446	0.508	0.455	0.515	0.457
Trichlorofluoromethane	0.864	0.785	0.885	0.973	0.951
Acrolein		0.093	0.090	0.095	0.091
112Trichloro122Trifluoroetha	0.525	0.454	0.515	0.548	0.528
Acetone	0.274	0.203	0.225	0.221	0.200
1,1-Dichloroethene	0.461	0.432	0.456	0.482	0.472
Bromoethane	0.335	0.325	0.352	0.391	0.376
Iodomethane	0.638	0.555	0.683	0.630	0.810
Methylene Chloride		0.898	0.735	0.690	0.555
Acrylonitrile		0.168	0.188	0.206	0.197
Carbon Disulfide	1.991	1.688	1.817	1.851	1.822
Trans-1,2-Dichloroethene	0.522	0.486	0.503	0.532	0.503
Vinyl Acetate		1.046	0.938	0.967	0.851
1,1-Dichloroethane	1.143	1.042	1.102	1.186	1.130
2-Butanone	0.282	0.294	0.272	0.327	0.312
2,2-Dichloropropane	0.758	0.646	0.709	0.736	0.741
Cis-1,2-Dichloroethene	0.504	0.496	0.522	0.572	0.535
Chloroform	1.025	0.943	0.985	1.050	1.007
Bromochloromethane	0.216	0.238	0.260	0.274	0.273
1,1,1-Trichloroethane	0.822	0.723	0.774	0.831	0.830
1,1-Dichloropropene	0.613	0.580	0.606	0.659	0.610
Carbon Tetrachloride	0.590	0.527	0.590	0.630	0.591
1,2-Dichloroethane	0.598	0.585	0.621	0.681	0.616
Benzene	1.584	1.460	1.557	1.668	1.477
Trichloroethene	0.486	0.417	0.474	0.485	0.453
1,2-Dichloropropane	0.536	0.495	0.529	0.558	0.514
Bromodichloromethane	0.568	0.526	0.580	0.587	0.568
Dibromomethane	0.244	0.264	0.275	0.288	0.271
2-Chloroethyl Vinyl Ether			0.063	0.087	0.082
4-Methyl-2-Pentanone	0.118	0.126	0.128	0.156	0.142
Cis 1,3-dichloropropene	0.573	0.529	0.574	0.623	0.624
Toluene	0.882	0.761	0.856	0.902	0.826
Trans 1,3-Dichloropropene	0.464	0.424	0.465	0.517	0.521
2-Hexanone	0.337	0.422	0.370	0.521	0.441

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF1: 0010817 RF2: 0020817 RF5: 0050817
RF10: 0100817 RF50: 0500817

COMPOUND	RF1	RF2	RF5	RF10	RF50
1,1,2-Trichloroethane	0.296	0.276	0.295	0.322	0.295
1,3-Dichloropropane	0.574	0.569	0.609	0.673	0.634
Tetrachloroethene	0.568	0.439	0.544	0.544	0.516
Chlorodibromomethane	0.453	0.412	0.443	0.484	0.489
1,2-Dibromoethane	0.306	0.292	0.318	0.357	0.340
Chlorobenzene	0.951	0.955	1.032	1.124	1.020
Ethyl Benzene	1.853	1.704	1.854	1.987	1.779
1,1,1,2-Tetrachloroethane	0.478	0.370	0.409	0.427	0.400
m,p-xylene	0.658	0.599	0.658	0.701	0.637
o-Xylene	0.599	0.575	0.632	0.700	0.645
Styrene	1.042	0.960	1.035	1.137	1.031
Bromoform	0.618	0.547	0.646	0.661	0.690
1,1,2,2-Tetrachloroethane	0.902	0.866	0.886	1.000	0.953
1,2,3-Trichloropropane		0.160	0.183	0.213	0.209
Trans-1,4-Dichloro 2-Butene		0.272	0.311	0.346	0.346
N-Propyl Benzene	4.185	3.727	4.026	4.221	4.044
Bromobenzene	0.940	0.860	0.983	1.018	0.975
Isopropyl Benzene	3.438	3.036	3.345	3.553	3.468
2-Chloro Toluene	2.665	2.299	2.543	2.763	2.455
4-Chloro Toluene	2.736	2.568	2.645	2.735	2.654
T-Butyl Benzene	2.642	2.169	2.458	2.563	2.524
1,3,5-Trimethyl Benzene	2.764	2.479	2.741	2.948	2.800
1,2,4-Trimethylbenzene	2.755	2.428	2.706	2.862	2.748
S-Butyl Benzene	3.658	3.272	3.617	3.755	3.759
4-Isopropyl Toluene	2.789	2.454	2.655	2.844	2.791
1,3-Dichlorobenzene	1.706	1.512	1.623	1.665	1.579
1,4-Dichlorobenzene	1.609	1.461	1.592	1.620	1.534
N-Butyl Benzene	3.138	2.713	2.940	3.017	2.983
1,2-Dichlorobenzene	1.446	1.348	1.470	1.586	1.460
1,2-Dibromo 3-Chloropropane		0.168	0.166	0.214	0.200
1,2,4-Trichlorobenzene		1.154	1.187	1.261	1.127
Hexachloro 1,3-Butadiene	0.826	0.939	0.904	1.008	0.894
Naphthalene		2.139	1.756	2.364	2.035
1,2,3-Trichlorobenzene		1.142	1.063	1.252	1.053
Dichlorodifluoromethane	0.614	0.407	0.498	0.564	0.658
Methyl tert-Butyl Ether	1.226	1.088	1.171	1.282	1.236

TK35:00080

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF1: 0010817 RF2: 0020817 RF5: 0050817
RF10: 0100817 RF50: 0500817

COMPOUND	RF1	RF2	RF5	RF10	RF50
d4-1,2-Dichloroethane	0.646	0.688	0.648	0.671	0.680
d8-Toluene	1.172	1.214	1.191	1.202	1.194
4-Bromofluorobenzene	0.536	0.554	0.545	0.562	0.558
d4-1,2-Dichlorobenzene	0.885	0.897	0.894	0.890	0.913
Dibromofluoromethane	0.545	0.547	0.526	0.529	0.544

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF100: 1000817 RF150: 1500817 RF200: 2000817

COMPOUND	RF100	RF150	RF200
Chloromethane	0.992	0.994	0.916
Vinyl Chloride	1.147	1.064	0.983
Bromomethane	0.443	0.434	0.392
Chloroethane	0.444	0.440	0.427
Trichlorofluoromethane	0.955	0.949	0.921
Acrolein	0.092	0.089	0.088
112Trichloro122Trifluoroetha	0.523	0.523	0.512
Acetone	0.200	0.192	0.188
1,1-Dichloroethene	0.460	0.469	0.455
Bromoethane	0.375	0.377	0.367
Iodomethane	0.812	0.830	0.818
Methylene Chloride	0.548	0.546	0.531
Acrylonitrile	0.200	0.199	0.199
Carbon Disulfide	1.791	1.788	1.695
Trans-1,2-Dichloroethene	0.500	0.502	0.498
Vinyl Acetate	0.849	0.842	0.838
1,1-Dichloroethane	1.134	1.144	1.116
2-Butanone	0.318	0.315	0.311
2,2-Dichloropropane	0.759	0.760	0.738
Cis-1,2-Dichloroethene	0.529	0.539	0.523
Chloroform	1.003	1.013	0.974
Bromochloromethane	0.275	0.283	0.274
1,1,1-Trichloroethane	0.831	0.830	0.811
1,1-Dichloropropene	0.600	0.586	0.579
Carbon Tetrachloride	0.594	0.577	0.577
1,2-Dichloroethane	0.616	0.607	0.602
Benzene	1.440	1.382	1.236
Trichloroethene	0.453	0.443	0.440
1,2-Dichloropropane	0.505	0.496	0.489
Bromodichloromethane	0.572	0.562	0.568
Dibromomethane	0.269	0.261	0.263
2-Chloroethyl Vinyl Ether	0.094	0.097	0.104
4-Methyl-2-Pentanone	0.143	0.138	0.136
Cis 1,3-dichloropropene	0.639	0.647	0.648
Toluene	0.823	0.829	0.810
Trans 1,3-Dichloropropene	0.559	0.566	0.563
2-Hexanone	0.416	0.346	0.277

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF100: 1000817 RF150: 1500817 RF200: 2000817

COMPOUND	RF100	RF150	RF200
1,1,2-Trichloroethane	0.295	0.291	0.289
1,3-Dichloropropane	0.615	0.613	0.588
Tetrachloroethene	0.512	0.510	0.484
Chlorodibromomethane	0.490	0.489	0.477
1,2-Dibromoethane	0.349	0.359	0.354
Chlorobenzene	1.005	1.004	0.956
Ethyl Benzene	1.755	1.679	1.406
1,1,1,2-Tetrachloroethane	0.390	0.380	0.375
m,p-xylene	0.613	0.614	0.573
o-Xylene	0.633	0.640	0.614
Styrene	1.004	1.015	0.962
Bromoform	0.701	0.707	0.691
1,1,2,2-Tetrachloroethane	0.956	0.932	0.871
1,2,3-Trichloropropane	0.209	0.202	0.192
Trans-1,4-Dichloro 2-Butene	0.353	0.345	0.328
N-Propyl Benzene	3.899	3.569	2.917
Bromobenzene	0.955	0.971	0.943
Isopropyl Benzene	3.380	3.400	2.890
2-Chloro Toluene	2.402	2.584	2.213
4-Chloro Toluene	2.483	2.508	2.492
T-Butyl Benzene	2.452	2.528	2.347
1,3,5-Trimethyl Benzene	2.771	2.765	2.502
1,2,4-Trimethylbenzene	2.659	2.725	2.456
S-Butyl Benzene	3.533	3.427	2.925
4-Isopropyl Toluene	2.712	2.812	2.510
1,3-Dichlorobenzene	1.543	1.572	1.520
1,4-Dichlorobenzene	1.495	1.515	1.480
N-Butyl Benzene	2.921	2.889	2.643
1,2-Dichlorobenzene	1.427	1.421	1.385
1,2-Dibromo 3-Chloropropane	0.196	0.190	0.187
1,2,4-Trichlorobenzene	1.041	1.084	1.097
Hexachloro 1,3-Butadiene	0.816	0.865	0.866
Naphthalene	1.831	1.806	1.789
1,2,3-Trichlorobenzene	0.959	0.978	0.979
Dichlorodifluoromethane	0.650	0.632	0.599
Methyl tert-Butyl Ether	1.237	1.236	1.197

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

LAB FILE ID: RF100: 1000817 RF150: 1500817 RF200: 2000817

COMPOUND	RF100	RF150	RF200
d4-1,2-Dichloroethane	0.677	0.670	0.673
d8-Toluene	1.210	1.180	1.225
4-Bromofluorobenzene	0.554	0.550	0.546
d4-1,2-Dichlorobenzene	0.920	0.896	0.913
Dibromofluoromethane	0.540	0.536	0.539

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	0.997	9.7
Vinyl Chloride	AVRG	1.018	11.7
Bromomethane	AVRG	0.439	7.9
Chloroethane	AVRG	0.461	7.0
Trichlorofluoromethane	AVRG	0.910	6.9
Acrolein	AVRG	0.091	2.6
112Trichloro122Trifluoroetha	AVRG	0.516	5.3
Acetone	AVRG	0.213	13.1
1,1-Dichloroethene	AVRG	0.461	3.2
Bromoethane	AVRG	0.362	6.3
Iodomethane	AVRG	0.722	15.0
Methylene Chloride	LINR		0.9991
Acrylonitrile	AVRG	0.194	6.4
Carbon Disulfide	AVRG	1.805	5.3
Trans-1,2-Dichloroethene	AVRG	0.506	2.9
Vinyl Acetate	AVRG	0.904	8.9
1,1-Dichloroethane	AVRG	1.125	3.7
2-Butanone	AVRG	0.304	6.3
2,2-Dichloropropane	AVRG	0.731	5.2
Cis-1,2-Dichloroethene	AVRG	0.528	4.4
Chloroform	AVRG	1.000	3.3
Bromochloromethane	AVRG	0.262	8.8
1,1,1-Trichloroethane	AVRG	0.806	4.8
1,1-Dichloropropene	AVRG	0.604	4.3
Carbon Tetrachloride	AVRG	0.584	4.9
1,2-Dichloroethane	AVRG	0.616	4.7
Benzene	AVRG	1.476	9.0
Trichloroethene	AVRG	0.456	5.3
1,2-Dichloropropane	AVRG	0.515	4.6
Bromodichloromethane	AVRG	0.566	3.2
Dibromomethane	AVRG	0.267	4.8
2-Chloroethyl Vinyl Ether	AVRG	0.088	16.3
4-Methyl-2-Pentanone	AVRG	0.136	8.8
Cis 1,3-dichloropropene	AVRG	0.607	7.1
Toluene	AVRG	0.836	5.3
Trans 1,3-Dichloropropene	AVRG	0.510	10.5
2-Hexanone	AVRG	0.391	19.2

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

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TK35 Project: FRP

Instrument ID: FINN5 Calibration Date: 08/17/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.295	4.3
1,3-Dichloropropane	AVRG	0.609	5.6
Tetrachloroethene	AVRG	0.515	7.8
Chlorodibromomethane	AVRG	0.467	6.1
1,2-Dibromoethane	AVRG	0.334	7.7
Chlorobenzene	AVRG	1.006	5.7
Ethyl Benzene	AVRG	1.752	9.7
1,1,1,2-Tetrachloroethane	AVRG	0.404	8.8
m,p-xylene	AVRG	0.632	6.4
o-Xylene	AVRG	0.630	5.8
Styrene	AVRG	1.023	5.4
Bromoform	AVRG	0.658	8.2
1,1,2,2-Tetrachloroethane	AVRG	0.921	5.2
1,2,3-Trichloropropane	AVRG	0.195	9.8
Trans-1,4-Dichloro 2-Butene	AVRG	0.329	8.7
N-Propyl Benzene	AVRG	3.824	11.2
Bromobenzene	AVRG	0.956	4.8
Isopropyl Benzene	AVRG	3.314	6.9
2-Chloro Toluene	AVRG	2.491	7.4
4-Chloro Toluene	AVRG	2.603	4.0
T-Butyl Benzene	AVRG	2.460	6.0
1,3,5-Trimethyl Benzene	AVRG	2.721	5.7
1,2,4-Trimethylbenzene	AVRG	2.667	5.6
S-Butyl Benzene	AVRG	3.493	8.1
4-Isopropyl Toluene	AVRG	2.696	5.4
1,3-Dichlorobenzene	AVRG	1.590	4.4
1,4-Dichlorobenzene	AVRG	1.538	4.0
N-Butyl Benzene	AVRG	2.906	5.5
1,2-Dichlorobenzene	AVRG	1.443	4.9
1,2-Dibromo 3-Chloropropane	AVRG	0.189	9.2
1,2,4-Trichlorobenzene	AVRG	1.136	6.4
Hexachloro 1,3-Butadiene	AVRG	0.890	7.0
Naphthalene	AVRG	1.960	11.6
1,2,3-Trichlorobenzene	AVRG	1.061	10.0
Dichlorodifluoromethane	AVRG	0.578	14.9
Methyl tert-Butyl Ether	AVRG	1.209	4.8

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

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Calibration Date: 08/17/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.669	2.2
d8-Toluene	AVRG	1.198	1.5
4-Bromofluorobenzene	AVRG	0.550	1.5
d4-1,2-Dichlorobenzene	AVRG	0.901	1.4
Dibromofluoromethane	AVRG	0.538	1.4

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

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/02/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1058

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.997	1.046	0.100	AVRG	4.9	
Vinyl Chloride	1.018	0.964	0.010	AVRG	-5.3	
Bromomethane	0.439	0.535	0.010	AVRG	21.9	<-
Chloroethane	0.462	0.495	0.010	AVRG	7.1	
Trichlorofluoromethane	0.910	1.002	0.010	AVRG	10.1	
Acrolein	0.091	0.074	0.010	AVRG	-18.7	
112Trichloro122Trifluoroetha	0.516	0.602	0.010	AVRG	16.7	
Acetone	0.213	0.148	0.010	AVRG	-30.5	<-
1,1-Dichloroethene	0.461	0.485	0.010	AVRG	5.2	
Bromoethane	0.362	0.390	0.010	AVRG	7.7	
Iodomethane	0.722	0.857	0.010	AVRG	18.7	
Methylene Chloride	50.000	59.525	0.010	LINR	19.0	
Acrylonitrile	0.194	0.154	0.010	AVRG	-20.6	<-
Carbon Disulfide	1.805	1.993	0.010	AVRG	10.4	
Trans-1,2-Dichloroethene	0.506	0.528	0.010	AVRG	4.3	
Vinyl Acetate	0.904	0.936	0.010	AVRG	3.5	
1,1-Dichloroethane	1.125	1.179	0.100	AVRG	4.8	
2-Butanone	0.304	0.231	0.010	AVRG	-24.0	<-
2,2-Dichloropropane	0.731	0.762	0.010	AVRG	4.2	
Cis-1,2-Dichloroethene	0.528	0.561	0.010	AVRG	6.2	
Chloroform	1.000	1.014	0.010	AVRG	1.4	
Bromochloromethane	0.262	0.267	0.010	AVRG	1.9	
1,1,1-Trichloroethane	0.806	0.803	0.010	AVRG	-0.4	
1,1-Dichloropropene	0.604	0.636	0.010	AVRG	5.3	
Carbon Tetrachloride	0.584	0.583	0.010	AVRG	-0.2	
1,2-Dichloroethane	0.616	0.512	0.010	AVRG	-16.9	
Benzene	1.476	1.578	0.010	AVRG	6.9	
Trichloroethene	0.456	0.487	0.010	AVRG	6.8	
1,2-Dichloropropane	0.515	0.533	0.010	AVRG	3.5	
Bromodichloromethane	0.566	0.560	0.010	AVRG	-1.1	
Dibromomethane	0.267	0.243	0.010	AVRG	-9.0	
2-Chloroethyl Vinyl Ether	0.088	0.164	0.010	AVRG	86.4	<-
4-Methyl-2-Pentanone	0.136	0.112	0.010	AVRG	-17.6	
Cis 1,3-dichloropropene	0.607	0.635	0.010	AVRG	4.6	
Toluene	0.836	0.899	0.010	AVRG	7.5	
Trans 1,3-Dichloropropene	0.510	0.510	0.010	AVRG	0.0	
2-Hexanone	0.391	0.310	0.010	AVRG	-20.7	<-

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

FORM VII VOA

TK35:00088

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/02/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1058

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
1,1,2-Trichloroethane	0.295	0.279	0.010	AVRG	-5.4	
1,3-Dichloropropane	0.609	0.569	0.010	AVRG	-6.6	
Tetrachloroethene	0.515	0.558	0.010	AVRG	8.3	
Chlorodibromomethane	0.467	0.460	0.010	AVRG	-1.5	
1,2-Dibromoethane	0.334	0.312	0.010	AVRG	-6.6	
Chlorobenzene	1.006	1.090	0.300	AVRG	8.3	
Ethyl Benzene	1.752	1.904	0.010	AVRG	8.7	
1,1,1,2-Tetrachloroethane	0.404	0.400	0.010	AVRG	-1.0	
m,p-xylene	0.632	0.700	0.010	AVRG	10.8	
o-Xylene	0.630	0.683	0.010	AVRG	8.4	
Styrene	1.023	1.096	0.010	AVRG	7.1	
Bromoform	0.658	0.596	0.100	AVRG	-9.4	
1,1,2,2-Tetrachloroethane	0.921	0.788	0.300	AVRG	-14.4	
1,2,3-Trichloropropane	0.195	0.154	0.010	AVRG	-21.0	<-
Trans-1,4-Dichloro 2-Butene	0.329	0.267	0.010	AVRG	-18.8	
N-Propyl Benzene	3.824	4.349	0.010	AVRG	13.7	
Bromobenzene	0.956	0.952	0.010	AVRG	-0.4	
Isopropyl Benzene	3.314	3.559	0.010	AVRG	7.4	
2-Chloro Toluene	2.490	2.640	0.010	AVRG	6.0	
4-Chloro Toluene	2.603	2.696	0.010	AVRG	3.6	
T-Butyl Benzene	2.460	2.555	0.010	AVRG	3.9	
1,3,5-Trimethyl Benzene	2.721	2.912	0.010	AVRG	7.0	
1,2,4-Trimethylbenzene	2.667	2.905	0.010	AVRG	8.9	
S-Butyl Benzene	3.493	3.887	0.010	AVRG	11.3	
4-Isopropyl Toluene	2.696	2.940	0.010	AVRG	9.0	
1,3-Dichlorobenzene	1.590	1.702	0.010	AVRG	7.0	
1,4-Dichlorobenzene	1.538	1.648	0.010	AVRG	7.2	
N-Butyl Benzene	2.906	3.310	0.010	AVRG	13.9	
1,2-Dichlorobenzene	1.443	1.504	0.010	AVRG	4.2	
1,2-Dibromo 3-Chloropropane	0.189	0.141	0.010	AVRG	-25.4	<-
1,2,4-Trichlorobenzene	1.136	1.216	0.010	AVRG	7.0	
Hexachloro 1,3-Butadiene	0.890	0.912	0.010	AVRG	2.5	
Naphthalene	1.960	1.671	0.010	AVRG	-14.7	
1,2,3-Trichlorobenzene	1.061	1.048	0.010	AVRG	-1.2	
Dichlorodifluoromethane	0.578	0.462	0.010	AVRG	-20.1	<-
Methyl tert-Butyl Ether	1.209	1.006	0.010	AVRG	-16.8	

<- Exceeds QC limit of 20% D

* RF less than minimum RF

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/02/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1058

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
d4-1,2-Dichloroethane	0.669	0.527	0.010	AVRG	-21.2	<-
d8-Toluene	1.198	1.254	0.010	AVRG	4.7	
4-Bromofluorobenzene	0.551	0.534	0.010	AVRG	-3.1	
d4-1,2-Dichlorobenzene	0.901	0.883	0.010	AVRG	-2.0	
Dibromofluoromethane	0.538	0.521	0.010	AVRG	-3.2	

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

FORM VII VOA

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/05/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1408

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.997	0.925	0.100	AVRG	-7.2	
Vinyl Chloride	1.018	0.886	0.010	AVRG	-13.0	
Bromomethane	0.439	0.422	0.010	AVRG	-3.9	
Chloroethane	0.462	0.487	0.010	AVRG	5.4	
Trichlorofluoromethane	0.910	0.956	0.010	AVRG	5.0	
Acrolein	0.091	0.094	0.010	AVRG	3.3	
112Trichloro122Trifluoroetha	0.516	0.581	0.010	AVRG	12.6	
Acetone	0.213	0.196	0.010	AVRG	-8.0	
1,1-Dichloroethene	0.461	0.469	0.010	AVRG	1.7	
Bromoethane	0.362	0.381	0.010	AVRG	5.2	
Iodomethane	0.722	0.794	0.010	AVRG	10.0	
Methylene Chloride	50.000	53.424	0.010	LINR	6.8	
Acrylonitrile	0.194	0.197	0.010	AVRG	1.5	
Carbon Disulfide	1.805	1.892	0.010	AVRG	4.8	
Trans-1,2-Dichloroethene	0.506	0.510	0.010	AVRG	0.8	
Vinyl Acetate	0.904	0.876	0.010	AVRG	-3.1	
1,1-Dichloroethane	1.125	1.159	0.100	AVRG	3.0	
2-Butanone	0.304	0.306	0.010	AVRG	0.6	
2,2-Dichloropropane	0.731	0.733	0.010	AVRG	0.3	
Cis-1,2-Dichloroethene	0.528	0.574	0.010	AVRG	8.7	
Chloroform	1.000	1.008	0.010	AVRG	0.8	
Bromochloromethane	0.262	0.285	0.010	AVRG	8.8	
1,1,1-Trichloroethane	0.806	0.788	0.010	AVRG	-2.2	
1,1-Dichloropropene	0.604	0.564	0.010	AVRG	-6.6	
Carbon Tetrachloride	0.584	0.525	0.010	AVRG	-10.1	
1,2-Dichloroethane	0.616	0.521	0.010	AVRG	-15.4	
Benzene	1.476	1.447	0.010	AVRG	-2.0	
Trichloroethene	0.456	0.438	0.010	AVRG	-3.9	
1,2-Dichloropropane	0.515	0.498	0.010	AVRG	-3.3	
Bromodichloromethane	0.566	0.542	0.010	AVRG	-4.2	
Dibromomethane	0.267	0.253	0.010	AVRG	-5.2	
2-Chloroethyl Vinyl Ether	0.088	0.181	0.010	AVRG	105.7	<-
4-Methyl-2-Pentanone	0.136	0.132	0.010	AVRG	-2.9	
Cis 1,3-dichloropropene	0.607	0.615	0.010	AVRG	1.3	
Toluene	0.836	0.822	0.010	AVRG	-1.7	
Trans 1,3-Dichloropropene	0.510	0.504	0.010	AVRG	-1.2	
2-Hexanone	0.391	0.367	0.010	AVRG	-6.1	

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

FORM VII VOA

TK35:00091

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/05/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1408

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
1,1,2-Trichloroethane	0.295	0.292	0.010	AVRG	-1.0	
1,3-Dichloropropane	0.609	0.592	0.010	AVRG	-2.8	
Tetrachloroethene	0.515	0.506	0.010	AVRG	-1.7	
Chlorodibromomethane	0.467	0.475	0.010	AVRG	1.7	
1,2-Dibromoethane	0.334	0.341	0.010	AVRG	2.1	
Chlorobenzene	1.006	1.008	0.300	AVRG	0.2	
Ethyl Benzene	1.752	1.734	0.010	AVRG	-1.0	
1,1,1,2-Tetrachloroethane	0.404	0.382	0.010	AVRG	-5.4	
m,p-xylene	0.632	0.636	0.010	AVRG	0.6	
o-Xylene	0.630	0.630	0.010	AVRG	0.0	
Styrene	1.023	1.017	0.010	AVRG	-0.6	
Bromoform	0.658	0.633	0.100	AVRG	-3.8	
1,1,2,2-Tetrachloroethane	0.921	0.832	0.300	AVRG	-9.7	
1,2,3-Trichloropropane	0.195	0.171	0.010	AVRG	-12.3	
Trans-1,4-Dichloro 2-Butene	0.329	0.290	0.010	AVRG	-11.8	
N-Propyl Benzene	3.824	3.686	0.010	AVRG	-3.6	
Bromobenzene	0.956	0.871	0.010	AVRG	-8.9	
Isopropyl Benzene	3.314	3.037	0.010	AVRG	-8.4	
2-Chloro Toluene	2.490	2.208	0.010	AVRG	-11.3	
4-Chloro Toluene	2.603	2.401	0.010	AVRG	-7.8	
T-Butyl Benzene	2.460	2.193	0.010	AVRG	-10.8	
1,3,5-Trimethyl Benzene	2.721	2.536	0.010	AVRG	-6.8	
1,2,4-Trimethylbenzene	2.667	2.502	0.010	AVRG	-6.2	
S-Butyl Benzene	3.493	3.304	0.010	AVRG	-5.4	
4-Isopropyl Toluene	2.696	2.516	0.010	AVRG	-6.7	
1,3-Dichlorobenzene	1.590	1.508	0.010	AVRG	-5.2	
1,4-Dichlorobenzene	1.538	1.476	0.010	AVRG	-4.0	
N-Butyl Benzene	2.906	2.830	0.010	AVRG	-2.6	
1,2-Dichlorobenzene	1.443	1.367	0.010	AVRG	-5.3	
1,2-Dibromo 3-Chloropropane	0.189	0.165	0.010	AVRG	-12.7	
1,2,4-Trichlorobenzene	1.136	1.095	0.010	AVRG	-3.6	
Hexachloro 1,3-Butadiene	0.890	0.784	0.010	AVRG	-11.9	
Naphthalene	1.960	1.773	0.010	AVRG	-9.5	
1,2,3-Trichlorobenzene	1.061	0.987	0.010	AVRG	-7.0	
Dichlorodifluoromethane	0.578	0.434	0.010	AVRG	-24.9	<-
Methyl tert-Butyl Ether	1.209	1.155	0.010	AVRG	-4.5	

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

FORM VII VOA

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Instrument ID: FINN5 — Cont. Calib. Date: 09/05/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 1408

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.669	0.668	0.010	AVRG	-0.1
d8-Toluene	1.198	1.216	0.010	AVRG	1.5
4-Bromofluorobenzene	0.551	0.559	0.010	AVRG	1.4
d4-1,2-Dichlorobenzene	0.901	0.889	0.010	AVRG	-1.3
Dibromofluoromethane	0.538	0.597	0.010	AVRG	11.0

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

FORM VII VOA

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Ical Midpoint ID: 0500817 — Ical Date: 08/17/11

Instrument ID: FINN5 — Project Run Date: 09/02/11

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	102251	6.44	137593	7.45	119527	10.59
	UPPER LIMIT	204502	6.94	275186	7.95	239054	11.09
	LOWER LIMIT	51126	5.94	68796	6.95	59764	10.09
	Sample ID						
01	LCS0902	106365	6.43	153225	7.44	136859	10.58
02	LCS0902	109794	6.43	156675	7.44	138576	10.58
03	MB0902A	106492	6.42	150407	7.43	136406	10.57
04	FRP-082911-0	99946	6.43	146307	7.44	124888	10.57
05	FRP-082911-0	102085	6.42	144770	7.43	124723	10.56
06	FRP-082911-0	99624	6.43	144182	7.44	123384	10.57
07	FRP-082911-0	102143	6.44	149159	7.45	137337	10.58
08	FRP-082911-0	100241	6.42	146588	7.43	134895	10.57
09	FRP-082911-0	101937	6.42	148083	7.43	141228	10.57
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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: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Ical Midpoint ID: 0500817 — Ical Date: 08/17/11

Instrument ID: FINN5 — Project Run Date: 09/02/11

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	61044	13.27				
	UPPER LIMIT	122088	13.77				
	LOWER LIMIT	30522	12.77				
	Sample ID						
01	LCS0902	72700	13.27				
02	LCS0902	73255	13.26				
03	MB0902A	69140	13.26				
04	FRP-082911-0	51392	13.26				
05	FRP-082911-0	50622	13.25				
06	FRP-082911-0	49614	13.26				
07	FRP-082911-0	69033	13.27				
08	FRP-082911-0	64988	13.25				
09	FRP-082911-0	73931	13.25				
10							
11							
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17							
18							
19							
20							
21							
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.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Ical Midpoint ID: 0500817 — Ical Date: 08/17/11

Instrument ID: FINN5 — Project Run Date: 09/05/11

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	102251	6.44	137593	7.45	119527	10.59
	UPPER LIMIT	204502	6.94	275186	7.95	239054	11.09
	LOWER LIMIT	51126	5.94	68796	6.95	59764	10.09
	Sample ID						
01	LCS0905	118420	6.45	170104	7.46	150288	10.59
02	LCS0905	115303	6.44	166314	7.45	152691	10.59
03	MB0905	112014	6.43	158776	7.44	144004	10.58
04	FRP-082911-0	113775	6.44	165481	7.45	152001	10.58
05	FRP-082911-0	111370	6.43	159715	7.44	148782	10.57
06	FRP-082911-0	110292	6.43	156567	7.44	141448	10.58
07	FRP-082911-0	106800	6.44	155730	7.45	138778	10.58
08	FRP-082911-0	107008	6.44	156546	7.45	143567	10.58
09	FRP-082911-0	104610	6.43	150642	7.44	142357	10.57
10	FRP-082911-0	107256	6.44	155601	7.45	144808	10.58
11	FRP-082911-0	105370	6.45	152915	7.45	138570	10.59
12	FRP-082911-0	101379	6.43	154001	7.44	142056	10.58
13	FRP-082911-0	101013	6.44	152770	7.45	141389	10.59
14	FRP-082911-0	106699	6.43	156649	7.44	144097	10.57
15	FRP-082911-0	101698	6.43	148205	7.44	137092	10.57
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: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP

Ical Midpoint ID: 0500817 — Ical Date: 08/17/11

Instrument ID: FINN5 — Project Run Date: 09/05/11

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	61044	13.27				
	UPPER LIMIT	122088	13.77				
	LOWER LIMIT	30522	12.77				
	Sample ID						
01	LCS0905	80042	13.28				
02	LCS0905	83069	13.28				
03	MB0905	74392	13.26				
04	FRP-082911-0	73418	13.27				
05	FRP-082911-0	76364	13.26				
06	FRP-082911-0	66536	13.26				
07	FRP-082911-0	60079	13.27				
08	FRP-082911-0	71438	13.27				
09	FRP-082911-0	71597	13.26				
10	FRP-082911-0	72483	13.27				
11	FRP-082911-0	64370	13.28				
12	FRP-082911-0	67640	13.27				
13	FRP-082911-0	66505	13.27				
14	FRP-082911-0	72785	13.26				
15	FRP-082911-0	70013	13.26				
16							
17							
18							
19							
20							
21							
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.

Semivolatile Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-001
SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 18:42
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.6 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 11.9%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.2	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 U
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.7	19	< 19 U
100-51-6	Benzyl Alcohol	5.7	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	4.9	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.5	19	< 19 U
106-44-5	4-Methylphenol	6.2	38	< 38 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.8	19	< 19 U
78-59-1	Isophorone	2.7	19	< 19 U
88-75-5	2-Nitrophenol	36	94	< 94 U
105-67-9	2,4-Dimethylphenol	3.3	38	< 38 U
65-85-0	Benzoic Acid	95	380	< 380 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	20	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.3	19	< 19 U
91-20-3	**Naphthalene**	**2.6**	**19**	**18 J**
106-47-8	4-Chloroaniline	21	250	< 250 U
87-68-3	Hexachlorobutadiene	4.3	94	< 94 U
59-50-7	4-Chloro-3-methylphenol	14	94	< 94 U
91-57-6	**2-Methylnaphthalene**	**2.9**	**19**	**28**
77-47-4	Hexachlorocyclopentadiene	63	380	< 380 U
88-06-2	2,4,6-Trichlorophenol	21	94	< 94 U
95-95-4	2,4,5-Trichlorophenol	20	94	< 94 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	17	94	< 94 U
131-11-3	Dimethylphthalate	2.7	19	< 19 U
208-96-8	Acenaphthylene	5.4	19	< 19 U
99-09-2	3-Nitroaniline	21	94	< 94 U
83-32-9	Acenaphthene	3.1	19	< 19 U
51-28-5	2,4-Dinitrophenol	100	800	< 800 U
100-02-7	4-Nitrophenol	33	94	< 94 U
132-64-9	Dibenzofuran	3.9	19	< 19 U
606-20-2	2,6-Dinitrotoluene	29	94	< 94 U
121-14-2	2,4-Dinitrotoluene	18	94	< 94 U
84-66-2	Diethylphthalate	34	47	< 47 U
7005-72-3	4-Chlorophenyl-phenylether	5.0	19	< 19 U
86-73-7	Fluorene	4.1	19	< 19 U
100-01-6	4-Nitroaniline	36	94	< 94 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-001
SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Date Analyzed: 09/06/11 18:42

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.1	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.7	19	< 19 U
118-74-1	Hexachlorobenzene	4.0	19	< 19 U
87-86-5	**Pentachlorophenol**	**46**	**190**	**210**
85-01-8	**Phenanthrene**	**3.4**	**19**	**34 ~~M~~ J**
86-74-8	Carbazole	2.5	19	< 19 U
120-12-7	Anthracene	4.2	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.7	19	< 19 U
206-44-0	**Fluoranthene**	**2.7**	**19**	**48**
129-00-0	**Pyrene**	**1.8**	**19**	**42**
85-68-7	Butylbenzylphthalate	5.8	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	**Benzo(a)anthracene**	**3.1**	**19**	**28 ~~Q~~ J**
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**84 ~~B~~ U**
218-01-9	**Chrysene**	**3.5**	**19**	**42**
117-84-0	Di-n-Octyl phthalate	5.5	19	< 19 U
50-32-8	**Benzo(a)pyrene**	**5.1**	**19**	**38**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.4**	**19**	**42**
53-70-3	**Dibenz(a,h)anthracene**	**4.1**	**19**	**16 J**
191-24-2	**Benzo(g,h,i)perylene**	**4.1**	**19**	**45**
90-12-0	**1-Methylnaphthalene**	**2.5**	**19**	**16 J**
TOTBFA	**Total Benzofluoranthenes**	**2.6**	**19**	**100**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	90.6%	2-Fluorobiphenyl	78.6%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	73.8%
d5-Phenol	79.5%	2-Fluorophenol	68.4%
2,4,6-Tribromophenol	112%	d4-2-Chlorophenol	84.0%

CW 2/20/12

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-002
SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 19:15
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.4 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 15.5%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.3	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 U
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.8	19	< 19 U
100-51-6	Benzyl Alcohol	5.9	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	5.0	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.6	19	< 19 U
106-44-5	4-Methylphenol	6.4	38	< 38 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.9	19	< 19 U
78-59-1	Isophorone	2.8	19	< 19 U
88-75-5	2-Nitrophenol	37	96	< 96 U
105-67-9	2,4-Dimethylphenol	3.3	38	< 38 U
65-85-0	Benzoic Acid	97	380	< 380 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	21	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.3	19	< 19 U
91-20-3	**Naphthalene**	**2.7**	**19**	**110**
106-47-8	4-Chloroaniline	21	260	< 260 U
87-68-3	Hexachlorobutadiene	4.4	96	< 96 U
59-50-7	4-Chloro-3-methylphenol	15	96	< 96 U
91-57-6	**2-Methylnaphthalene**	**2.9**	**19**	**31**
77-47-4	Hexachlorocyclopentadiene	64	380	< 380 U
88-06-2	2,4,6-Trichlorophenol	22	96	< 96 U
95-95-4	2,4,5-Trichlorophenol	21	96	< 96 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	18	96	< 96 U
131-11-3	Dimethylphthalate	2.8	19	< 19 U
208-96-8	Acenaphthylene	5.5	19	< 19 U
99-09-2	3-Nitroaniline	22	96	< 96 U
83-32-9	**Acenaphthene**	**3.2**	**19**	**28**
51-28-5	2,4-Dinitrophenol	110	820	< 820 U
100-02-7	4-Nitrophenol	33	96	< 96 U
132-64-9	Dibenzofuran	3.9	19	< 19 U
606-20-2	2,6-Dinitrotoluene	29	96	< 96 U
121-14-2	2,4-Dinitrotoluene	19	96	< 96 U
84-66-2	Diethylphthalate	35	48	< 48 U
7005-72-3	4-Chlorophenyl-phenylether	5.1	19	< 19 U
86-73-7	Fluorene	4.2	19	< 19 U
100-01-6	4-Nitroaniline	36	96	< 96 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-002
SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Date Analyzed: 09/06/11 19:15

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.2	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.8	19	< 19 U
118-74-1	Hexachlorobenzene	4.1	19	< 19 U
87-86-5	**Pentachlorophenol**	**47**	**190**	**51 J**
85-01-8	**Phenanthrene**	**3.5**	**19**	**30**
86-74-8	Carbazole	2.6	19	< 19 U
120-12-7	Anthracene	4.3	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.8	19	< 19 U
206-44-0	**Fluoranthene**	**2.8**	**19**	**23**
129-00-0	**Pyrene**	**1.9**	**19**	**17 J**
85-68-7	Butylbenzylphthalate	5.9	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	Benzo(a)anthracene	3.2	19	< 19 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**61 ~~B~~ U**
218-01-9	**Chrysene**	**3.6**	**19**	**11 J**
117-84-0	Di-n-Octyl phthalate	5.6	19	< 19 U
50-32-8	Benzo(a)pyrene	5.2	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.5	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.1	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.2	19	< 19 U
90-12-0	**1-Methylnaphthalene**	**2.6**	**19**	**35**
TOTBFA	**Total Benzofluoranthenes**	**2.6**	**19**	**17 J**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	102%	2-Fluorobiphenyl	92.8%
d14-p-Terphenyl	87.6%	d4-1,2-Dichlorobenzene	87.0%
d5-Phenol	102%	2-Fluorophenol	90.7%
2,4,6-Tribromophenol	132%	d4-2-Chlorophenol	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-003
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 19:49
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.6 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 24.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.1	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	19	< 19 UJ
95-57-8	2-Chlorophenol	2.2	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.7	19	< 19 U
100-51-6	Benzyl Alcohol	5.7	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.3	19	< 19 U
95-48-7	2-Methylphenol	4.9	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.5	19	< 19 U
106-44-5	**4-Methylphenol**	**6.2**	**38**	**22 J**
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.8	19	< 19 U
78-59-1	Isophorone	2.7	19	< 19 U
88-75-5	2-Nitrophenol	36	94	< 94 U
105-67-9	2,4-Dimethylphenol	3.2	38	< 38 U
65-85-0	**Benzoic Acid**	**95**	**380**	**98 J**
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	20	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.3	19	< 19 U
91-20-3	**Naphthalene**	**2.6**	**19**	**42**
106-47-8	4-Chloroaniline	21	250	< 250 U
87-68-3	Hexachlorobutadiene	4.3	94	< 94 U
59-50-7	4-Chloro-3-methylphenol	14	94	< 94 U
91-57-6	**2-Methylnaphthalene**	**2.9**	**19**	**59**
77-47-4	Hexachlorocyclopentadiene	62	380	< 380 U
88-06-2	2,4,6-Trichlorophenol	21	94	< 94 U
95-95-4	2,4,5-Trichlorophenol	20	94	< 94 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	17	94	< 94 U
131-11-3	Dimethylphthalate	2.7	19	< 19 U
208-96-8	Acenaphthylene	5.4	19	< 19 U
99-09-2	3-Nitroaniline	21	94	< 94 U
83-32-9	Acenaphthene	3.1	19	< 19 U
51-28-5	2,4-Dinitrophenol	100	800	< 800 U
100-02-7	4-Nitrophenol	33	94	< 94 U
132-64-9	**Dibenzofuran**	**3.8**	**19**	**29**
606-20-2	2,6-Dinitrotoluene	29	94	< 94 U
121-14-2	2,4-Dinitrotoluene	18	94	< 94 U
84-66-2	Diethylphthalate	34	47	< 47 U
7005-72-3	4-Chlorophenyl-phenylether	5.0	19	< 19 U
86-73-7	**Fluorene**	**4.1**	**19**	**19**
100-01-6	4-Nitroaniline	36	94	< 94 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-003
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Date Analyzed: 09/06/11 19:49

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.1	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.7	19	< 19 U
118-74-1	Hexachlorobenzene	4.0	19	< 19 U
87-86-5	Pentachlorophenol	46	190	< 190 U
85-01-8	**Phenanthrene**	**3.4**	**19**	**81**
86-74-8	Carbazole	2.5	19	< 19 U
120-12-7	**Anthracene**	**4.2**	**19**	**13 J**
84-74-2	Di-n-Butylphthalate	7.7	19	< 19 U
206-44-0	**Fluoranthene**	**2.7**	**19**	**38**
129-00-0	**Pyrene**	**1.8**	**19**	**31**
85-68-7	Butylbenzylphthalate	5.8	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	**Benzo(a)anthracene**	**3.1**	**19**	**16 ~~JQ~~ J**
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**46 ~~B~~ U**
218-01-9	**Chrysene**	**3.5**	**19**	**17 J**
117-84-0	Di-n-Octyl phthalate	5.5	19	< 19 U
50-32-8	Benzo(a)pyrene	5.1	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.4	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.0	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.1	19	< 19 U
90-12-0	**1-Methylnaphthalene**	**2.5**	**19**	**55**
TOTBFA	**Total Benzofluoranthenes**	**2.6**	**19**	**15 J**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	92.8%	2-Fluorobiphenyl	90.6%
d14-p-Terphenyl	92.8%	d4-1,2-Dichlorobenzene	74.6%
d5-Phenol	87.2%	2-Fluorophenol	75.3%
2,4,6-Tribromophenol	136%	d4-2-Chlorophenol	88.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-004
SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 20:24
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.4 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 21.9%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.3	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 U
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.8	19	< 19 U
100-51-6	Benzyl Alcohol	5.9	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	5.1	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.6	19	< 19 U
106-44-5	4-Methylphenol	6.4	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.9	19	< 19 U
78-59-1	Isophorone	2.8	19	< 19 U
88-75-5	2-Nitrophenol	37	96	< 96 U
105-67-9	2,4-Dimethylphenol	3.3	39	< 39 U
65-85-0	Benzoic Acid	97	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	21	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.4	19	< 19 U
91-20-3	Naphthalene	2.7	19	< 19 U
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.4	96	< 96 U
59-50-7	4-Chloro-3-methylphenol	15	96	< 96 U
91-57-6	2-Methylnaphthalene	3.0	19	< 19 U
77-47-4	Hexachlorocyclopentadiene	64	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	96	< 96 U
95-95-4	2,4,5-Trichlorophenol	21	96	< 96 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	18	96	< 96 U
131-11-3	Dimethylphthalate	2.8	19	< 19 U
208-96-8	Acenaphthylene	5.5	19	< 19 U
99-09-2	3-Nitroaniline	22	96	< 96 U
83-32-9	Acenaphthene	3.2	19	< 19 U
51-28-5	2,4-Dinitrophenol	110	820	< 820 U
100-02-7	4-Nitrophenol	33	96	< 96 U
132-64-9	Dibenzofuran	4.0	19	< 19 U
606-20-2	2,6-Dinitrotoluene	30	96	< 96 U
121-14-2	2,4-Dinitrotoluene	19	96	< 96 U
84-66-2	Diethylphthalate	35	48	< 48 U
7005-72-3	4-Chlorophenyl-phenylether	5.1	19	< 19 U
86-73-7	Fluorene	4.2	19	< 19 U
100-01-6	4-Nitroaniline	37	96	< 96 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-004
SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Date Analyzed: 09/06/11 20:24

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.2	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.9	19	< 19 U
118-74-1	Hexachlorobenzene	4.1	19	< 19 U
87-86-5	Pentachlorophenol	47	190	< 190 U
85-01-8	Phenanthrene	3.5	19	< 19 U
86-74-8	Carbazole	2.6	19	< 19 U
120-12-7	Anthracene	4.3	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.9	19	< 19 U
206-44-0	Fluoranthene	2.8	19	< 19 U
129-00-0	Pyrene	1.9	19	< 19 U
85-68-7	Butylbenzylphthalate	5.9	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	Benzo(a)anthracene	3.2	19	< 19 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**50 ~~B~~ U**
218-01-9	Chrysene	3.6	19	< 19 U
117-84-0	Di-n-Octyl phthalate	5.6	19	< 19 U
50-32-8	Benzo(a)pyrene	5.3	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.5	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.2	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.2	19	< 19 U
90-12-0	1-Methylnaphthalene	2.6	19	< 19 U
TOTBFA	Total Benzofluoranthenes	2.7	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	88.0%	2-Fluorobiphenyl	82.0%
d14-p-Terphenyl	86.4%	d4-1,2-Dichlorobenzene	79.4%
d5-Phenol	89.2%	2-Fluorophenol	79.6%
2,4,6-Tribromophenol	109%	d4-2-Chlorophenol	90.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-006
SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 20:57
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.3 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 7.1%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.4	20	< 20 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	< 20 U
95-57-8	2-Chlorophenol	2.3	20	< 20 U
541-73-1	1,3-Dichlorobenzene	2.6	20	< 20 U
106-46-7	1,4-Dichlorobenzene	2.8	20	< 20 U
100-51-6	Benzyl Alcohol	5.9	20	< 20 U
95-50-1	1,2-Dichlorobenzene	2.4	20	< 20 U
95-48-7	2-Methylphenol	5.1	20	< 20 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	< 20 U
106-44-5	4-Methylphenol	6.4	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	< 20 U
67-72-1	Hexachloroethane	2.9	20	< 20 U
98-95-3	Nitrobenzene	3.9	20	< 20 U
78-59-1	Isophorone	2.8	20	< 20 U
88-75-5	2-Nitrophenol	38	97	< 97 U
105-67-9	2,4-Dimethylphenol	3.4	39	< 39 U
65-85-0	Benzoic Acid	98	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	20	< 20 U
120-83-2	2,4-Dichlorophenol	21	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	3.4	20	< 20 U
91-20-3	Naphthalene	2.7	20	< 20 U
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.4	97	< 97 U
59-50-7	4-Chloro-3-methylphenol	15	97	< 97 U
91-57-6	2-Methylnaphthalene	3.0	20	< 20 U
77-47-4	Hexachlorocyclopentadiene	65	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	97	< 97 U
95-95-4	2,4,5-Trichlorophenol	21	97	< 97 U
91-58-7	2-Chloronaphthalene	2.6	20	< 20 U
88-74-4	2-Nitroaniline	18	97	< 97 U
131-11-3	Dimethylphthalate	2.8	20	< 20 U
208-96-8	Acenaphthylene	5.6	20	< 20 U
99-09-2	3-Nitroaniline	22	97	< 97 U
83-32-9	Acenaphthene	3.2	20	< 20 U
51-28-5	2,4-Dinitrophenol	110	830	< 830 U
100-02-7	4-Nitrophenol	34	97	< 97 U
132-64-9	Dibenzofuran	4.0	20	< 20 U
606-20-2	2,6-Dinitrotoluene	30	97	< 97 U
121-14-2	2,4-Dinitrotoluene	19	97	< 97 U
84-66-2	Diethylphthalate	36	49	< 49 U
7005-72-3	4-Chlorophenyl-phenylether	5.1	20	< 20 U
86-73-7	Fluorene	4.2	20	< 20 U
100-01-6	4-Nitroaniline	37	97	< 97 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	< 200 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-006
SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Date Analyzed: 09/06/11 20:57

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.2	20	< 20 U
101-55-3	4-Bromophenyl-phenylether	4.9	20	< 20 U
118-74-1	Hexachlorobenzene	4.2	20	< 20 U
87-86-5	Pentachlorophenol	47	200	< 200 U
85-01-8	**Phenanthrene**	**3.5**	**20**	**15 J**
86-74-8	Carbazole	2.6	20	< 20 U
120-12-7	Anthracene	4.4	20	< 20 U
84-74-2	Di-n-Butylphthalate	7.9	20	< 20 U
206-44-0	Fluoranthene	2.8	20	< 20 U
129-00-0	Pyrene	1.9	20	< 20 U
85-68-7	Butylbenzylphthalate	6.0	20	< 20 U
91-94-1	3,3'-Dichlorobenzidine	17	150	< 150 U
56-55-3	Benzo(a)anthracene	3.2	20	< 20 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**52 ~~B~~** U
218-01-9	Chrysene	3.6	20	< 20 U
117-84-0	Di-n-Octyl phthalate	5.7	20	< 20 U
50-32-8	Benzo(a)pyrene	5.3	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	4.2	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	4.3	20	< 20 U
90-12-0	1-Methylnaphthalene	2.6	20	< 20 U
TOTBFA	**Total Benzofluoranthenes**	**2.7**	**20**	**12 J**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	86.2%	2-Fluorobiphenyl	83.6%
d14-p-Terphenyl	83.0%	d4-1,2-Dichlorobenzene	77.6%
d5-Phenol	78.4%	2-Fluorophenol	66.0%
2,4,6-Tribromophenol	122%	d4-2-Chlorophenol	83.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 21:31
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 8.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.5	20	< 20 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	< 20 U J
95-57-8	2-Chlorophenol	2.3	20	< 20 U
541-73-1	1,3-Dichlorobenzene	2.6	20	< 20 U
106-46-7	1,4-Dichlorobenzene	2.8	20	< 20 U
100-51-6	Benzyl Alcohol	6.0	20	< 20 U
95-50-1	1,2-Dichlorobenzene	2.5	20	< 20 U
95-48-7	2-Methylphenol	5.2	20	< 20 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	< 20 U
106-44-5	4-Methylphenol	6.5	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	< 20 U
67-72-1	Hexachloroethane	2.9	20	< 20 U
98-95-3	Nitrobenzene	4.0	20	< 20 U
78-59-1	Isophorone	2.8	20	< 20 U
88-75-5	2-Nitrophenol	38	98	< 98 U
105-67-9	2,4-Dimethylphenol	3.4	39	< 39 U
65-85-0	Benzoic Acid	99	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	< 20 U
120-83-2	2,4-Dichlorophenol	21	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	3.4	20	< 20 U
91-20-3	Naphthalene	2.7	20	< 20 U
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.5	98	< 98 U
59-50-7	4-Chloro-3-methylphenol	15	98	< 98 U
91-57-6	**2-Methylnaphthalene**	**3.0**	**20**	**17 J**
77-47-4	Hexachlorocyclopentadiene	65	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	98	< 98 U
95-95-4	2,4,5-Trichlorophenol	21	98	< 98 U
91-58-7	2-Chloronaphthalene	2.6	20	< 20 U
88-74-4	2-Nitroaniline	18	98	< 98 U
131-11-3	Dimethylphthalate	2.8	20	< 20 U
208-96-8	Acenaphthylene	5.6	20	< 20 U
99-09-2	3-Nitroaniline	22	98	< 98 U
83-32-9	Acenaphthene	3.2	20	< 20 U
51-28-5	2,4-Dinitrophenol	110	830	< 830 U
100-02-7	4-Nitrophenol	34	98	< 98 U
132-64-9	Dibenzofuran	4.0	20	< 20 U
606-20-2	2,6-Dinitrotoluene	30	98	< 98 U
121-14-2	2,4-Dinitrotoluene	19	98	< 98 U
84-66-2	Diethylphthalate	36	49	< 49 U
7005-72-3	4-Chlorophenyl-phenylether	5.2	20	< 20 U
86-73-7	Fluorene	4.3	20	< 20 U
100-01-6	4-Nitroaniline	37	98	< 98 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	< 200 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed: 09/06/11 21:31

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.3	20	< 20 U
101-55-3	4-Bromophenyl-phenylether	4.9	20	< 20 U
118-74-1	Hexachlorobenzene	4.2	20	< 20 U
87-86-5	Pentachlorophenol	48	200	< 200 U
85-01-8	**Phenanthrene**	**3.6**	**20**	**18 J**
86-74-8	Carbazole	2.6	20	< 20 U
120-12-7	Anthracene	4.4	20	< 20 U
84-74-2	Di-n-Butylphthalate	8.0	20	< 20 U
206-44-0	Fluoranthene	2.9	20	< 20 U
129-00-0	Pyrene	1.9	20	< 20 U
85-68-7	Butylbenzylphthalate	6.0	20	< 20 U
91-94-1	3,3'-Dichlorobenzidine	17	150	< 150 U
56-55-3	Benzo(a)anthracene	3.2	20	< 20 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**51 ~~B~~ U**
218-01-9	Chrysene	3.7	20	< 20 U
117-84-0	Di-n-Octyl phthalate	5.7	20	< 20 U
50-32-8	Benzo(a)pyrene	5.3	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	4.2	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	4.3	20	< 20 U
90-12-0	**1-Methylnaphthalene**	**2.6**	**20**	**22**
TOTBFA	Total Benzofluoranthenes	2.7	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	91.8%	2-Fluorobiphenyl	81.8%
d14-p-Terphenyl	87.4%	d4-1,2-Dichlorobenzene	81.4%
d5-Phenol	78.4%	2-Fluorophenol	67.9%
2,4,6-Tribromophenol	123%	d4-2-Chlorophenol	82.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-008
SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 23:14
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 11.1 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 9.9%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	7.8	18	< 18 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.0	18	< 18 UJ
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.5	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.7	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.4	18	< 18 U
106-44-5	4-Methylphenol	6.0	36	< 36 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.0	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	35	90	< 90 U
105-67-9	2,4-Dimethylphenol	3.1	36	< 36 U
65-85-0	Benzoic Acid	91	360	< 360 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	19	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.1	18	< 18 U
91-20-3	Naphthalene	2.5	18	< 18 U
106-47-8	4-Chloroaniline	20	240	< 240 U
87-68-3	Hexachlorobutadiene	4.1	90	< 90 U
59-50-7	4-Chloro-3-methylphenol	14	90	< 90 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	60	360	< 360 U
88-06-2	2,4,6-Trichlorophenol	20	90	< 90 U
95-95-4	2,4,5-Trichlorophenol	19	90	< 90 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	90	< 90 U
131-11-3	Dimethylphthalate	2.6	18	< 18 U
208-96-8	Acenaphthylene	5.2	18	< 18 U
99-09-2	3-Nitroaniline	20	90	< 90 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	770	< 770 U
100-02-7	4-Nitrophenol	31	90	< 90 U
132-64-9	Dibenzofuran	3.7	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	90	< 90 U
121-14-2	2,4-Dinitrotoluene	18	90	< 90 U
84-66-2	Diethylphthalate	33	45	< 45 U
7005-72-3	4-Chlorophenyl-phenylether	4.8	18	< 18 U
86-73-7	Fluorene	3.9	18	< 18 U
100-01-6	4-Nitroaniline	34	90	< 90 U
534-52-1	4,6-Dinitro-2-Methylphenol	19	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-008
SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Date Analyzed: 09/06/11 23:14

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	4.9	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.5	18	< 18 U
118-74-1	Hexachlorobenzene	3.9	18	< 18 U
87-86-5	Pentachlorophenol	44	180	< 180 U
85-01-8	Phenanthrene	3.3	18	< 18 U
86-74-8	Carbazole	2.4	18	< 18 U
120-12-7	Anthracene	4.1	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.4	18	< 18 U
206-44-0	Fluoranthene	2.6	18	< 18 U
129-00-0	Pyrene	1.8	18	< 18 U
85-68-7	Butylbenzylphthalate	5.6	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**43 ~~B~~ U**
218-01-9	Chrysene	3.4	18	< 18 U
117-84-0	Di-n-Octyl phthalate	5.3	18	< 18 U
50-32-8	Benzo(a)pyrene	4.9	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.2	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	3.9	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.0	18	< 18 U
90-12-0	1-Methylnaphthalene	2.4	18	< 18 U
TOTBFA	Total Benzofluoranthenes	2.5	18	< 18 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	92.8%	2-Fluorobiphenyl	82.2%
d14-p-Terphenyl	83.4%	d4-1,2-Dichlorobenzene	85.0%
d5-Phenol	86.5%	2-Fluorophenol	81.1%
2,4,6-Tribromophenol	124%	d4-2-Chlorophenol	91.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-009
SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 23:48
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.8 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 23.4%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.0	18	< 18 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	18	< 18 U J
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.6	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.8	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.5	18	< 18 U
106-44-5	4-Methylphenol	6.1	37	< 37 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	36	92	< 92 U
105-67-9	2,4-Dimethylphenol	3.2	37	< 37 U
65-85-0	Benzoic Acid	93	370	< 370 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	20	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.2	18	< 18 U
91-20-3	Naphthalene	2.5	18	< 18 U
106-47-8	4-Chloroaniline	21	250	< 250 U
87-68-3	Hexachlorobutadiene	4.2	92	< 92 U
59-50-7	4-Chloro-3-methylphenol	14	92	< 92 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	61	370	< 370 U
88-06-2	2,4,6-Trichlorophenol	21	92	< 92 U
95-95-4	2,4,5-Trichlorophenol	20	92	< 92 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	92	< 92 U
131-11-3	Dimethylphthalate	2.7	18	< 18 U
208-96-8	Acenaphthylene	5.3	18	< 18 U
99-09-2	3-Nitroaniline	21	92	< 92 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	780	< 780 U
100-02-7	4-Nitrophenol	32	92	< 92 U
132-64-9	Dibenzofuran	3.8	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	92	< 92 U
121-14-2	2,4-Dinitrotoluene	18	92	< 92 U
84-66-2	Diethylphthalate	34	46	< 46 U
7005-72-3	4-Chlorophenyl-phenylether	4.9	18	< 18 U
86-73-7	Fluorene	4.0	18	< 18 U
100-01-6	4-Nitroaniline	35	92	< 92 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-009
SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Date Analyzed: 09/06/11 23:48

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.0	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.6	18	< 18 U
118-74-1	Hexachlorobenzene	4.0	18	< 18 U
87-86-5	Pentachlorophenol	45	180	< 180 U
85-01-8	Phenanthrene	3.4	18	< 18 U
86-74-8	Carbazole	2.5	18	< 18 U
120-12-7	Anthracene	4.2	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.5	18	< 18 U
206-44-0	Fluoranthene	2.7	18	< 18 U
129-00-0	Pyrene	1.8	18	< 18 U
85-68-7	Butylbenzylphthalate	5.7	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**45 ~~B~~**
218-01-9	Chrysene	3.5	18	< 18 U
117-84-0	Di-n-Octyl phthalate	5.4	18	< 18 U
50-32-8	Benzo(a)pyrene	5.0	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.3	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	4.0	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.1	18	< 18 U
90-12-0	1-Methylnaphthalene	2.5	18	< 18 U
TOTBFA	Total Benzofluoranthenes	2.5	18	< 18 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	92.6%	2-Fluorobiphenyl	81.8%
d14-p-Terphenyl	86.2%	d4-1,2-Dichlorobenzene	83.2%
d5-Phenol	89.7%	2-Fluorophenol	78.0%
2,4,6-Tribromophenol	127%	d4-2-Chlorophenol	89.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-010
SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 00:22
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.4 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 7.8%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.3	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 U
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.8	19	< 19 U
100-51-6	Benzyl Alcohol	5.9	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	5.1	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.6	19	< 19 U
106-44-5	4-Methylphenol	6.4	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.9	19	< 19 U
78-59-1	Isophorone	2.8	19	< 19 U
88-75-5	2-Nitrophenol	37	96	< 96 U
105-67-9	2,4-Dimethylphenol	3.3	39	< 39 U
65-85-0	Benzoic Acid	97	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	21	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.4	19	< 19 U
91-20-3	**Naphthalene**	**2.7**	**19**	**21**
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.4	96	< 96 U
59-50-7	4-Chloro-3-methylphenol	15	96	< 96 U
91-57-6	**2-Methylnaphthalene**	**3.0**	**19**	**18 J**
77-47-4	Hexachlorocyclopentadiene	64	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	96	< 96 U
95-95-4	2,4,5-Trichlorophenol	21	96	< 96 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	18	96	< 96 U
131-11-3	Dimethylphthalate	2.8	19	< 19 U
208-96-8	Acenaphthylene	5.5	19	< 19 U
99-09-2	3-Nitroaniline	22	96	< 96 U
83-32-9	Acenaphthene	3.2	19	< 19 U
51-28-5	2,4-Dinitrophenol	110	820	< 820 U
100-02-7	4-Nitrophenol	33	96	< 96 U
132-64-9	Dibenzofuran	4.0	19	< 19 U
606-20-2	2,6-Dinitrotoluene	30	96	< 96 U
121-14-2	2,4-Dinitrotoluene	19	96	< 96 U
84-66-2	Diethylphthalate	35	48	< 48 U
7005-72-3	4-Chlorophenyl-phenylether	5.1	19	< 19 U
86-73-7	Fluorene	4.2	19	< 19 U
100-01-6	4-Nitroaniline	37	96	< 96 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-010
SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Date Analyzed: 09/07/11 00:22

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.2	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.9	19	< 19 U
118-74-1	Hexachlorobenzene	4.1	19	< 19 U
87-86-5	Pentachlorophenol	47	190	< 190 U
85-01-8	**Phenanthrene**	**3.5**	**19**	**24**
86-74-8	Carbazole	2.6	19	< 19 U
120-12-7	Anthracene	4.3	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.9	19	< 19 U
206-44-0	**Fluoranthene**	**2.8**	**19**	**38**
129-00-0	**Pyrene**	**1.9**	**19**	**26**
85-68-7	Butylbenzylphthalate	5.9	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	**Benzo(a)anthracene**	**3.2**	**19**	**16 ~~JQ~~ J**
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**65 ~~B~~ J**
218-01-9	**Chrysene**	**3.6**	**19**	**25**
117-84-0	Di-n-Octyl phthalate	5.6	19	< 19 U
50-32-8	**Benzo(a)pyrene**	**5.3**	**19**	**22**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.5**	**19**	**18 J**
53-70-3	Dibenz(a,h)anthracene	4.2	19	< 19 U
191-24-2	**Benzo(g,h,i)perylene**	**4.2**	**19**	**21**
90-12-0	1-Methylnaphthalene	2.6	19	< 19 U
TOTBFA	**Total Benzofluoranthenes**	**2.7**	**19**	**58**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	90.6%	2-Fluorobiphenyl	91.8%
d14-p-Terphenyl	82.8%	d4-1,2-Dichlorobenzene	77.2%
d5-Phenol	88.9%	2-Fluorophenol	72.3%
2,4,6-Tribromophenol	124%	d4-2-Chlorophenol	89.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-011
SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 00:56
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 7.9%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.4	20	< 20 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	< 20 U J
95-57-8	2-Chlorophenol	2.3	20	< 20 U
541-73-1	1,3-Dichlorobenzene	2.6	20	< 20 U
106-46-7	1,4-Dichlorobenzene	2.8	20	< 20 U
100-51-6	Benzyl Alcohol	5.9	20	< 20 U
95-50-1	1,2-Dichlorobenzene	2.4	20	< 20 U
95-48-7	2-Methylphenol	5.1	20	< 20 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	< 20 U
106-44-5	4-Methylphenol	6.5	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	< 20 U
67-72-1	Hexachloroethane	2.9	20	< 20 U
98-95-3	Nitrobenzene	4.0	20	< 20 U
78-59-1	Isophorone	2.8	20	< 20 U
88-75-5	2-Nitrophenol	38	98	< 98 U
105-67-9	2,4-Dimethylphenol	3.4	39	< 39 U
65-85-0	Benzoic Acid	99	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	< 20 U
120-83-2	2,4-Dichlorophenol	21	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	3.4	20	< 20 U
91-20-3	**Naphthalene**	**2.7**	**20**	**15 J**
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.5	98	< 98 U
59-50-7	4-Chloro-3-methylphenol	15	98	< 98 U
91-57-6	**2-Methylnaphthalene**	**3.0**	**20**	**19 J**
77-47-4	Hexachlorocyclopentadiene	65	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	98	< 98 U
95-95-4	2,4,5-Trichlorophenol	21	98	< 98 U
91-58-7	2-Chloronaphthalene	2.6	20	< 20 U
88-74-4	2-Nitroaniline	18	98	< 98 U
131-11-3	Dimethylphthalate	2.8	20	< 20 U
208-96-8	Acenaphthylene	5.6	20	< 20 U
99-09-2	3-Nitroaniline	22	98	< 98 U
83-32-9	Acenaphthene	3.2	20	< 20 U
51-28-5	2,4-Dinitrophenol	110	830	< 830 U
100-02-7	4-Nitrophenol	34	98	< 98 U
132-64-9	**Dibenzofuran**	**4.0**	**20**	**11 J**
606-20-2	2,6-Dinitrotoluene	30	98	< 98 U
121-14-2	2,4-Dinitrotoluene	19	98	< 98 U
84-66-2	Diethylphthalate	36	49	< 49 U
7005-72-3	4-Chlorophenyl-phenylether	5.2	20	< 20 U
86-73-7	Fluorene	4.2	20	< 20 U
100-01-6	4-Nitroaniline	37	98	< 98 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	< 200 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-011
SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Date Analyzed: 09/07/11 00:56

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.3	20	< 20 U
101-55-3	4-Bromophenyl-phenylether	4.9	20	< 20 U
118-74-1	Hexachlorobenzene	4.2	20	< 20 U
87-86-5	Pentachlorophenol	47	200	< 200 U
85-01-8	**Phenanthrene**	**3.6**	**20**	**49**
86-74-8	Carbazole	2.6	20	< 20 U
120-12-7	Anthracene	4.4	20	< 20 U
84-74-2	Di-n-Butylphthalate	8.0	20	< 20 U
206-44-0	**Fluoranthene**	**2.8**	**20**	**55**
129-00-0	**Pyrene**	**1.9**	**20**	**42**
85-68-7	Butylbenzylphthalate	6.0	20	< 20 U
91-94-1	3,3'-Dichlorobenzidine	17	150	< 150 U
56-55-3	**Benzo(a)anthracene**	**3.2**	**20**	**18 ~~JQ~~ J**
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**60 ~~B~~ J**
218-01-9	**Chrysene**	**3.7**	**20**	**26**
117-84-0	Di-n-Octyl phthalate	5.7	20	< 20 U
50-32-8	**Benzo(a)pyrene**	**5.3**	**20**	**22**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.6**	**20**	**19 J**
53-70-3	Dibenz(a,h)anthracene	4.2	20	< 20 U
191-24-2	**Benzo(g,h,i)perylene**	**4.3**	**20**	**19 J**
90-12-0	**1-Methylnaphthalene**	**2.6**	**20**	**13 J**
TOTBFA	**Total Benzofluoranthenes**	**2.7**	**20**	**52**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	91.4%	2-Fluorobiphenyl	86.4%
d14-p-Terphenyl	83.6%	d4-1,2-Dichlorobenzene	81.8%
d5-Phenol	85.9%	2-Fluorophenol	72.7%
2,4,6-Tribromophenol	122%	d4-2-Chlorophenol	88.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-012
SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 01:30
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.6 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 6.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.2	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 UJ
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.7	19	< 19 U
100-51-6	Benzyl Alcohol	5.8	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	5.0	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.6	19	< 19 U
106-44-5	4-Methylphenol	6.3	38	< 38 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.2	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.8	19	< 19 U
78-59-1	Isophorone	2.7	19	< 19 U
88-75-5	2-Nitrophenol	37	95	< 95 U
105-67-9	2,4-Dimethylphenol	3.3	38	< 38 U
65-85-0	Benzoic Acid	96	380	< 380 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	20	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.3	19	< 19 U
91-20-3	Naphthalene	2.6	19	< 19 U
106-47-8	4-Chloroaniline	21	260	< 260 U
87-68-3	Hexachlorobutadiene	4.3	95	< 95 U
59-50-7	4-Chloro-3-methylphenol	14	95	< 95 U
91-57-6	2-Methylnaphthalene	2.9	19	< 19 U
77-47-4	Hexachlorocyclopentadiene	63	380	< 380 U
88-06-2	2,4,6-Trichlorophenol	21	95	< 95 U
95-95-4	2,4,5-Trichlorophenol	20	95	< 95 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	17	95	< 95 U
131-11-3	Dimethylphthalate	2.7	19	< 19 U
208-96-8	Acenaphthylene	5.4	19	< 19 U
99-09-2	3-Nitroaniline	21	95	< 95 U
83-32-9	Acenaphthene	3.1	19	< 19 U
51-28-5	2,4-Dinitrophenol	110	800	< 800 U
100-02-7	4-Nitrophenol	33	95	< 95 U
132-64-9	Dibenzofuran	3.9	19	< 19 U
606-20-2	2,6-Dinitrotoluene	29	95	< 95 U
121-14-2	2,4-Dinitrotoluene	18	95	< 95 U
84-66-2	Diethylphthalate	35	47	< 47 U
7005-72-3	4-Chlorophenyl-phenylether	5.0	19	< 19 U
86-73-7	Fluorene	4.1	19	< 19 U
100-01-6	4-Nitroaniline	36	95	< 95 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-012
SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Date Analyzed: 09/07/11 01:30

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.1	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.8	19	< 19 U
118-74-1	Hexachlorobenzene	4.1	19	< 19 U
87-86-5	Pentachlorophenol	46	190	< 190 U
85-01-8	Phenanthrene	3.4	19	< 19 U
86-74-8	Carbazole	2.5	19	< 19 U
120-12-7	Anthracene	4.3	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.7	19	< 19 U
206-44-0	Fluoranthene	2.8	19	< 19 U
129-00-0	Pyrene	1.8	19	< 19 U
85-68-7	Butylbenzylphthalate	5.8	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	Benzo(a)anthracene	3.1	19	< 19 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**60 ~~B~~ U**
218-01-9	Chrysene	3.5	19	< 19 U
117-84-0	Di-n-Octyl phthalate	5.5	19	< 19 U
50-32-8	Benzo(a)pyrene	5.2	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.4	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.1	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.2	19	< 19 U
90-12-0	1-Methylnaphthalene	2.5	19	< 19 U
TOTBFA	Total Benzofluoranthenes	2.6	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	91.4%	2-Fluorobiphenyl	86.2%
d14-p-Terphenyl	84.8%	d4-1,2-Dichlorobenzene	77.0%
d5-Phenol	84.8%	2-Fluorophenol	78.0%
2,4,6-Tribromophenol	120%	d4-2-Chlorophenol	85.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-013
SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 02:04
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.3 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 21.0%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.4	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.2	19	< 19 UJ
95-57-8	2-Chlorophenol	2.3	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.8	19	< 19 U
100-51-6	Benzyl Alcohol	5.9	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.4	19	< 19 U
95-48-7	2-Methylphenol	5.1	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.6	19	< 19 U
106-44-5	4-Methylphenol	6.4	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	19	< 19 U
67-72-1	Hexachloroethane	2.8	19	< 19 U
98-95-3	Nitrobenzene	3.9	19	< 19 U
78-59-1	Isophorone	2.8	19	< 19 U
88-75-5	2-Nitrophenol	38	97	< 97 U
105-67-9	2,4-Dimethylphenol	3.4	39	< 39 U
65-85-0	Benzoic Acid	98	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	21	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.4	19	< 19 U
91-20-3	Naphthalene	2.7	19	< 19 U
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.4	97	< 97 U
59-50-7	4-Chloro-3-methylphenol	15	97	< 97 U
91-57-6	2-Methylnaphthalene	3.0	19	< 19 U
77-47-4	Hexachlorocyclopentadiene	64	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	97	< 97 U
95-95-4	2,4,5-Trichlorophenol	21	97	< 97 U
91-58-7	2-Chloronaphthalene	2.6	19	< 19 U
88-74-4	2-Nitroaniline	18	97	< 97 U
131-11-3	Dimethylphthalate	2.8	19	< 19 U
208-96-8	Acenaphthylene	5.5	19	< 19 U
99-09-2	3-Nitroaniline	22	97	< 97 U
83-32-9	Acenaphthene	3.2	19	< 19 U
51-28-5	2,4-Dinitrophenol	110	820	< 820 U
100-02-7	4-Nitrophenol	34	97	< 97 U
132-64-9	Dibenzofuran	4.0	19	< 19 U
606-20-2	2,6-Dinitrotoluene	30	97	< 97 U
121-14-2	2,4-Dinitrotoluene	19	97	< 97 U
84-66-2	Diethylphthalate	35	48	< 48 U
7005-72-3	4-Chlorophenyl-phenylether	5.1	19	< 19 U
86-73-7	Fluorene	4.2	19	< 19 U
100-01-6	4-Nitroaniline	37	97	< 97 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-013
SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Date Analyzed: 09/07/11 02:04

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.2	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.9	19	< 19 U
118-74-1	Hexachlorobenzene	4.2	19	< 19 U
87-86-5	Pentachlorophenol	47	190	< 190 U
85-01-8	Phenanthrene	3.5	19	< 19 U
86-74-8	Carbazole	2.6	19	< 19 U
120-12-7	Anthracene	4.4	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.9	19	< 19 U
206-44-0	Fluoranthene	2.8	19	< 19 U
129-00-0	Pyrene	1.9	19	< 19 U
85-68-7	Butylbenzylphthalate	5.9	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	Benzo(a)anthracene	3.2	19	< 19 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**48 B**
218-01-9	Chrysene	3.6	19	< 19 U
117-84-0	Di-n-Octyl phthalate	5.7	19	< 19 U
50-32-8	Benzo(a)pyrene	5.3	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.5	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.2	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.3	19	< 19 U
90-12-0	1-Methylnaphthalene	2.6	19	< 19 U
TOTBFA	Total Benzofluoranthenes	2.7	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	91.0%	2-Fluorobiphenyl	81.2%
d14-p-Terphenyl	93.0%	d4-1,2-Dichlorobenzene	84.8%
d5-Phenol	89.1%	2-Fluorophenol	82.3%
2,4,6-Tribromophenol	123%	d4-2-Chlorophenol	90.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-014
SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 02:38
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.9 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 23.5%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	7.9	18	< 18 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	18	< 18 U J
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.6	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.8	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.4	18	< 18 U
106-44-5	4-Methylphenol	6.1	37	< 37 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	35	92	< 92 U
105-67-9	2,4-Dimethylphenol	3.2	37	< 37 U
65-85-0	Benzoic Acid	93	370	< 370 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	20	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.2	18	< 18 U
91-20-3	Naphthalene	2.5	18	< 18 U
106-47-8	4-Chloroaniline	20	250	< 250 U
87-68-3	Hexachlorobutadiene	4.2	92	< 92 U
59-50-7	4-Chloro-3-methylphenol	14	92	< 92 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	61	370	< 370 U
88-06-2	2,4,6-Trichlorophenol	21	92	< 92 U
95-95-4	2,4,5-Trichlorophenol	20	92	< 92 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	92	< 92 U
131-11-3	Dimethylphthalate	2.7	18	< 18 U
208-96-8	Acenaphthylene	5.2	18	< 18 U
99-09-2	3-Nitroaniline	21	92	< 92 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	780	< 780 U
100-02-7	4-Nitrophenol	32	92	< 92 U
132-64-9	Dibenzofuran	3.8	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	92	< 92 U
121-14-2	2,4-Dinitrotoluene	18	92	< 92 U
84-66-2	Diethylphthalate	34	46	< 46 U
7005-72-3	4-Chlorophenyl-phenylether	4.8	18	< 18 U
86-73-7	Fluorene	4.0	18	< 18 U
100-01-6	4-Nitroaniline	35	92	< 92 U
534-52-1	4,6-Dinitro-2-Methylphenol	19	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-014
SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Date Analyzed: 09/07/11 02:38

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	4.9	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.6	18	< 18 U
118-74-1	Hexachlorobenzene	3.9	18	< 18 U
87-86-5	Pentachlorophenol	44	180	< 180 U
85-01-8	Phenanthrene	3.3	18	< 18 U
86-74-8	Carbazole	2.5	18	< 18 U
120-12-7	Anthracene	4.1	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.5	18	< 18 U
206-44-0	Fluoranthene	2.7	18	< 18 U
129-00-0	Pyrene	1.8	18	< 18 U
85-68-7	Butylbenzylphthalate	5.6	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**49 ~~B~~**
218-01-9	Chrysene	3.4	18	< 18 U
117-84-0	Di-n-Octyl phthalate	5.4	18	< 18 U
50-32-8	Benzo(a)pyrene	5.0	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.3	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	4.0	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.0	18	< 18 U
90-12-0	1-Methylnaphthalene	2.5	18	< 18 U
TOTBFA	Total Benzofluoranthenes	2.5	18	< 18 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	93.2%	2-Fluorobiphenyl	85.6%
d14-p-Terphenyl	85.8%	d4-1,2-Dichlorobenzene	84.0%
d5-Phenol	95.2%	2-Fluorophenol	84.0%
2,4,6-Tribromophenol	125%	d4-2-Chlorophenol	92.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-016
SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 03:12
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 8.1%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.4	20	< 20 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	< 20 U J
95-57-8	2-Chlorophenol	2.3	20	< 20 U
541-73-1	1,3-Dichlorobenzene	2.6	20	< 20 U
106-46-7	1,4-Dichlorobenzene	2.8	20	< 20 U
100-51-6	Benzyl Alcohol	5.9	20	< 20 U
95-50-1	1,2-Dichlorobenzene	2.4	20	< 20 U
95-48-7	2-Methylphenol	5.1	20	< 20 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	< 20 U
106-44-5	4-Methylphenol	6.5	39	< 39 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	< 20 U
67-72-1	Hexachloroethane	2.9	20	< 20 U
98-95-3	Nitrobenzene	4.0	20	< 20 U
78-59-1	Isophorone	2.8	20	< 20 U
88-75-5	2-Nitrophenol	38	98	< 98 U
105-67-9	2,4-Dimethylphenol	3.4	39	< 39 U
65-85-0	Benzoic Acid	99	390	< 390 U
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	< 20 U
120-83-2	2,4-Dichlorophenol	21	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	3.4	20	< 20 U
91-20-3	**Naphthalene**	**2.7**	**20**	**16 J**
106-47-8	4-Chloroaniline	22	260	< 260 U
87-68-3	Hexachlorobutadiene	4.5	98	< 98 U
59-50-7	4-Chloro-3-methylphenol	15	98	< 98 U
91-57-6	**2-Methylnaphthalene**	**3.0**	**20**	**100**
77-47-4	Hexachlorocyclopentadiene	65	390	< 390 U
88-06-2	2,4,6-Trichlorophenol	22	98	< 98 U
95-95-4	2,4,5-Trichlorophenol	21	98	< 98 U
91-58-7	2-Chloronaphthalene	2.6	20	< 20 U
88-74-4	2-Nitroaniline	18	98	< 98 U
131-11-3	Dimethylphthalate	2.8	20	< 20 U
208-96-8	Acenaphthylene	5.6	20	< 20 U
99-09-2	3-Nitroaniline	22	98	< 98 U
83-32-9	Acenaphthene	3.2	20	< 20 U
51-28-5	2,4-Dinitrophenol	110	830	< 830 U
100-02-7	4-Nitrophenol	34	98	< 98 U
132-64-9	**Dibenzofuran**	**4.0**	**20**	**120**
606-20-2	2,6-Dinitrotoluene	30	98	< 98 U
121-14-2	2,4-Dinitrotoluene	19	98	< 98 U
84-66-2	Diethylphthalate	36	49	< 49 U
7005-72-3	4-Chlorophenyl-phenylether	5.2	20	< 20 U
86-73-7	Fluorene	4.2	20	< 20 U
100-01-6	4-Nitroaniline	37	98	< 98 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	< 200 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-016
SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Date Analyzed: 09/07/11 03:12

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.3	20	< 20 U
101-55-3	4-Bromophenyl-phenylether	4.9	20	< 20 U
118-74-1	Hexachlorobenzene	4.2	20	< 20 U
87-86-5	**Pentachlorophenol**	**47**	**200**	**51 J**
85-01-8	**Phenanthrene**	**3.6**	**20**	**110**
86-74-8	Carbazole	2.6	20	< 20 U
120-12-7	Anthracene	4.4	20	< 20 U
84-74-2	Di-n-Butylphthalate	8.0	20	< 20 U
206-44-0	**Fluoranthene**	**2.8**	**20**	**28**
129-00-0	**Pyrene**	**1.9**	**20**	**23**
85-68-7	Butylbenzylphthalate	6.0	20	< 20 U
91-94-1	3,3'-Dichlorobenzidine	17	150	< 150 U
56-55-3	**Benzo(a)anthracene**	**3.2**	**20**	**14 ~~JQ~~ J**
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**24**	**58 ~~B~~ V**
218-01-9	**Chrysene**	**3.7**	**20**	**24**
117-84-0	Di-n-Octyl phthalate	5.7	20	< 20 U
50-32-8	**Benzo(a)pyrene**	**5.3**	**20**	**20**
193-39-5	**Indeno(1,2,3-cd)pyrene**	**4.6**	**20**	**17 J**
53-70-3	Dibenz(a,h)anthracene	4.2	20	< 20 U
191-24-2	**Benzo(g,h,i)perylene**	**4.3**	**20**	**17 J**
90-12-0	**1-Methylnaphthalene**	**2.6**	**20**	**100**
TOTBFA	**Total Benzofluoranthenes**	**2.7**	**20**	**41**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	86.4%	2-Fluorobiphenyl	88.4%
d14-p-Terphenyl	94.2%	d4-1,2-Dichlorobenzene	77.6%
d5-Phenol	81.6%	2-Fluorophenol	66.5%
2,4,6-Tribromophenol	116%	d4-2-Chlorophenol	86.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-017
SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 13:12
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.9 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 10.8%

CAS Number	Analyte	MDL	RL	Result
108-95-2	**Phenol**	**8.0**	**18**	**150**
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	18	< 18 U J
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.6	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.8	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.5	18	< 18 U
106-44-5	4-Methylphenol	6.1	37	< 37 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	36	92	< 92 U
105-67-9	2,4-Dimethylphenol	3.2	37	< 37 U
65-85-0	Benzoic Acid	93	370	< 370 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	20	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.2	18	< 18 U
91-20-3	**Naphthalene**	**2.5**	**18**	**11 J**
106-47-8	4-Chloroaniline	20	250	< 250 U
87-68-3	Hexachlorobutadiene	4.2	92	< 92 U
59-50-7	4-Chloro-3-methylphenol	14	92	< 92 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	61	370	< 370 U
88-06-2	2,4,6-Trichlorophenol	21	92	< 92 U
95-95-4	2,4,5-Trichlorophenol	20	92	< 92 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	92	< 92 U
131-11-3	Dimethylphthalate	2.7	18	< 18 U
208-96-8	Acenaphthylene	5.2	18	< 18 U
99-09-2	3-Nitroaniline	21	92	< 92 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	780	< 780 U
100-02-7	4-Nitrophenol	32	92	< 92 U
132-64-9	Dibenzofuran	3.8	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	92	< 92 U
121-14-2	2,4-Dinitrotoluene	18	92	< 92 U
84-66-2	Diethylphthalate	34	46	< 46 U
7005-72-3	4-Chlorophenyl-phenylether	4.9	18	< 18 U
86-73-7	Fluorene	4.0	18	< 18 U
100-01-6	4-Nitroaniline	35	92	< 92 U
534-52-1	4,6-Dinitro-2-Methylphenol	19	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-017
SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Date Analyzed: 09/07/11 13:12

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.0	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.6	18	< 18 U
118-74-1	Hexachlorobenzene	3.9	18	< 18 U
87-86-5	Pentachlorophenol	45	180	< 180 U
85-01-8	**Phenanthrene**	**3.3**	**18**	**13 J**
86-74-8	Carbazole	2.5	18	< 18 U
120-12-7	Anthracene	4.1	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.5	18	< 18 U
206-44-0	**Fluoranthene**	**2.7**	**18**	**11 J**
129-00-0	Pyrene	1.8	18	< 18 U
85-68-7	Butylbenzylphthalate	5.6	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**77 ~~B~~ U**
218-01-9	**Chrysene**	**3.4**	**18**	**10 J**
117-84-0	Di-n-Octyl phthalate	5.4	18	< 18 U
50-32-8	Benzo(a)pyrene	5.0	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.3	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	4.0	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.0	18	< 18 U
90-12-0	1-Methylnaphthalene	2.5	18	< 18 U
TOTBFA	**Total Benzofluoranthenes**	**2.5**	**18**	**13 J**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	91.4%	2-Fluorobiphenyl	82.6%
d14-p-Terphenyl	98.8%	d4-1,2-Dichlorobenzene	80.4%
d5-Phenol	87.3%	2-Fluorophenol	82.1%
2,4,6-Tribromophenol	120%	d4-2-Chlorophenol	88.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-018
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 13:46
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.9 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 10.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	**Phenol**	**7.9**	**18**	**35**
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	18	< 18 U J
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.6	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.8	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.4	18	< 18 U
106-44-5	4-Methylphenol	6.1	37	< 37 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	35	92	< 92 U
105-67-9	2,4-Dimethylphenol	3.2	37	< 37 U
65-85-0	Benzoic Acid	92	370	< 370 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	20	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.2	18	< 18 U
91-20-3	Naphthalene	2.5	18	< 18 U
106-47-8	4-Chloroaniline	20	250	< 250 U
87-68-3	Hexachlorobutadiene	4.2	92	< 92 U
59-50-7	4-Chloro-3-methylphenol	14	92	< 92 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	61	370	< 370 U
88-06-2	2,4,6-Trichlorophenol	20	92	< 92 U
95-95-4	2,4,5-Trichlorophenol	20	92	< 92 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	92	< 92 U
131-11-3	Dimethylphthalate	2.7	18	< 18 U
208-96-8	Acenaphthylene	5.2	18	< 18 U
99-09-2	3-Nitroaniline	21	92	< 92 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	780	< 780 U
100-02-7	4-Nitrophenol	32	92	< 92 U
132-64-9	Dibenzofuran	3.8	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	92	< 92 U
121-14-2	2,4-Dinitrotoluene	18	92	< 92 U
84-66-2	Diethylphthalate	33	46	< 46 U
7005-72-3	4-Chlorophenyl-phenylether	4.8	18	< 18 U
86-73-7	Fluorene	4.0	18	< 18 U
100-01-6	4-Nitroaniline	35	92	< 92 U
534-52-1	4,6-Dinitro-2-Methylphenol	19	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-018
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Date Analyzed: 09/07/11 13:46

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	4.9	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.6	18	< 18 U
118-74-1	Hexachlorobenzene	3.9	18	< 18 U
87-86-5	Pentachlorophenol	44	180	< 180 U
85-01-8	**Phenanthrene**	**3.3**	**18**	**14 J**
86-74-8	Carbazole	2.5	18	< 18 U
120-12-7	Anthracene	4.1	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.5	18	< 18 U
206-44-0	**Fluoranthene**	**2.7**	**18**	**13 J**
129-00-0	**Pyrene**	**1.8**	**18**	**10 J**
85-68-7	Butylbenzylphthalate	5.6	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**51 ~~B~~** U
218-01-9	Chrysene	3.4	18	< 18 U
117-84-0	Di-n-Octyl phthalate	5.3	18	< 18 U
50-32-8	Benzo(a)pyrene	5.0	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.3	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	3.9	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.0	18	< 18 U
90-12-0	1-Methylnaphthalene	2.5	18	< 18 U
TOTBFA	**Total Benzofluoranthenes**	**2.5**	**18**	**15 J**

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	86.8%	2-Fluorobiphenyl	83.2%
d14-p-Terphenyl	84.0%	d4-1,2-Dichlorobenzene	73.8%
d5-Phenol	80.5%	2-Fluorophenol	71.5%
2,4,6-Tribromophenol	120%	d4-2-Chlorophenol	83.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-019
SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 14:21
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.7 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 19.3%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.1	19	< 19 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	19	< 19 UJ
95-57-8	2-Chlorophenol	2.2	19	< 19 U
541-73-1	1,3-Dichlorobenzene	2.5	19	< 19 U
106-46-7	1,4-Dichlorobenzene	2.7	19	< 19 U
100-51-6	Benzyl Alcohol	5.7	19	< 19 U
95-50-1	1,2-Dichlorobenzene	2.3	19	< 19 U
95-48-7	2-Methylphenol	4.9	19	< 19 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.5	19	< 19 U
106-44-5	4-Methylphenol	6.2	37	< 37 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	19	< 19 U
67-72-1	Hexachloroethane	2.7	19	< 19 U
98-95-3	Nitrobenzene	3.8	19	< 19 U
78-59-1	Isophorone	2.7	19	< 19 U
88-75-5	2-Nitrophenol	36	93	< 93 U
105-67-9	2,4-Dimethylphenol	3.2	37	< 37 U
65-85-0	Benzoic Acid	94	370	< 370 U
111-91-1	bis(2-Chloroethoxy) Methane	1.9	19	< 19 U
120-83-2	2,4-Dichlorophenol	20	190	< 190 U
120-82-1	1,2,4-Trichlorobenzene	3.2	19	< 19 U
91-20-3	Naphthalene	2.6	19	< 19 U
106-47-8	4-Chloroaniline	21	250	< 250 U
87-68-3	Hexachlorobutadiene	4.3	93	< 93 U
59-50-7	4-Chloro-3-methylphenol	14	93	< 93 U
91-57-6	2-Methylnaphthalene	2.9	19	< 19 U
77-47-4	Hexachlorocyclopentadiene	62	370	< 370 U
88-06-2	2,4,6-Trichlorophenol	21	93	< 93 U
95-95-4	2,4,5-Trichlorophenol	20	93	< 93 U
91-58-7	2-Chloronaphthalene	2.5	19	< 19 U
88-74-4	2-Nitroaniline	17	93	< 93 U
131-11-3	Dimethylphthalate	2.7	19	< 19 U
208-96-8	Acenaphthylene	5.3	19	< 19 U
99-09-2	3-Nitroaniline	21	93	< 93 U
83-32-9	Acenaphthene	3.1	19	< 19 U
51-28-5	2,4-Dinitrophenol	100	790	< 790 U
100-02-7	4-Nitrophenol	32	93	< 93 U
132-64-9	Dibenzofuran	3.8	19	< 19 U
606-20-2	2,6-Dinitrotoluene	29	93	< 93 U
121-14-2	2,4-Dinitrotoluene	18	93	< 93 U
84-66-2	Diethylphthalate	34	47	< 47 U
7005-72-3	4-Chlorophenyl-phenylether	4.9	19	< 19 U
86-73-7	Fluorene	4.1	19	< 19 U
100-01-6	4-Nitroaniline	35	93	< 93 U
534-52-1	4,6-Dinitro-2-Methylphenol	20	190	< 190 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-019
SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Date Analyzed: 09/07/11 14:21

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.0	19	< 19 U
101-55-3	4-Bromophenyl-phenylether	4.7	19	< 19 U
118-74-1	Hexachlorobenzene	4.0	19	< 19 U
87-86-5	Pentachlorophenol	45	190	< 190 U
85-01-8	Phenanthrene	3.4	19	< 19 U
86-74-8	Carbazole	2.5	19	< 19 U
120-12-7	Anthracene	4.2	19	< 19 U
84-74-2	Di-n-Butylphthalate	7.6	19	< 19 U
206-44-0	Fluoranthene	2.7	19	< 19 U
129-00-0	Pyrene	1.8	19	< 19 U
85-68-7	Butylbenzylphthalate	5.7	19	< 19 U
91-94-1	3,3'-Dichlorobenzidine	17	140	< 140 U
56-55-3	Benzo(a)anthracene	3.1	19	< 19 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**14**	**23**	**48 ~~B~~** U
218-01-9	Chrysene	3.5	19	< 19 U
117-84-0	Di-n-Octyl phthalate	5.5	19	< 19 U
50-32-8	Benzo(a)pyrene	5.1	19	< 19 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.4	19	< 19 U
53-70-3	Dibenz(a,h)anthracene	4.0	19	< 19 U
191-24-2	Benzo(g,h,i)perylene	4.1	19	< 19 U
90-12-0	1-Methylnaphthalene	2.5	19	< 19 U
TOTBFA	Total Benzofluoranthenes	2.6	19	< 19 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	93.6%	2-Fluorobiphenyl	87.6%
d14-p-Terphenyl	94.2%	d4-1,2-Dichlorobenzene	83.4%
d5-Phenol	90.9%	2-Fluorophenol	86.3%
2,4,6-Tribromophenol	130%	d4-2-Chlorophenol	94.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-020
SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/07/11 14:55
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 11.0 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 28.6%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	7.9	18	< 18 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.1	18	< 18 U J
95-57-8	2-Chlorophenol	2.2	18	< 18 U
541-73-1	1,3-Dichlorobenzene	2.4	18	< 18 U
106-46-7	1,4-Dichlorobenzene	2.6	18	< 18 U
100-51-6	Benzyl Alcohol	5.6	18	< 18 U
95-50-1	1,2-Dichlorobenzene	2.3	18	< 18 U
95-48-7	2-Methylphenol	4.8	18	< 18 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.4	18	< 18 U
106-44-5	4-Methylphenol	6.1	36	< 36 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.1	18	< 18 U
67-72-1	Hexachloroethane	2.7	18	< 18 U
98-95-3	Nitrobenzene	3.7	18	< 18 U
78-59-1	Isophorone	2.6	18	< 18 U
88-75-5	2-Nitrophenol	35	91	< 91 U
105-67-9	2,4-Dimethylphenol	3.2	36	< 36 U
65-85-0	Benzoic Acid	92	360	< 360 U
111-91-1	bis(2-Chloroethoxy) Methane	1.8	18	< 18 U
120-83-2	2,4-Dichlorophenol	20	180	< 180 U
120-82-1	1,2,4-Trichlorobenzene	3.2	18	< 18 U
91-20-3	Naphthalene	2.5	18	< 18 U
106-47-8	4-Chloroaniline	20	250	< 250 U
87-68-3	Hexachlorobutadiene	4.2	91	< 91 U
59-50-7	4-Chloro-3-methylphenol	14	91	< 91 U
91-57-6	2-Methylnaphthalene	2.8	18	< 18 U
77-47-4	Hexachlorocyclopentadiene	61	360	< 360 U
88-06-2	2,4,6-Trichlorophenol	20	91	< 91 U
95-95-4	2,4,5-Trichlorophenol	20	91	< 91 U
91-58-7	2-Chloronaphthalene	2.4	18	< 18 U
88-74-4	2-Nitroaniline	17	91	< 91 U
131-11-3	Dimethylphthalate	2.6	18	< 18 U
208-96-8	Acenaphthylene	5.2	18	< 18 U
99-09-2	3-Nitroaniline	21	91	< 91 U
83-32-9	Acenaphthene	3.0	18	< 18 U
51-28-5	2,4-Dinitrophenol	100	780	< 780 U
100-02-7	4-Nitrophenol	32	91	< 91 U
132-64-9	Dibenzofuran	3.7	18	< 18 U
606-20-2	2,6-Dinitrotoluene	28	91	< 91 U
121-14-2	2,4-Dinitrotoluene	18	91	< 91 U
84-66-2	Diethylphthalate	33	46	< 46 U
7005-72-3	4-Chlorophenyl-phenylether	4.8	18	< 18 U
86-73-7	Fluorene	4.0	18	< 18 U
100-01-6	4-Nitroaniline	35	91	< 91 U
534-52-1	4,6-Dinitro-2-Methylphenol	19	180	< 180 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-020
SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Date Analyzed: 09/07/11 14:55

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	4.9	18	< 18 U
101-55-3	4-Bromophenyl-phenylether	4.6	18	< 18 U
118-74-1	Hexachlorobenzene	3.9	18	< 18 U
87-86-5	Pentachlorophenol	44	180	< 180 U
85-01-8	Phenanthrene	3.3	18	< 18 U
86-74-8	Carbazole	2.5	18	< 18 U
120-12-7	Anthracene	4.1	18	< 18 U
84-74-2	Di-n-Butylphthalate	7.5	18	< 18 U
206-44-0	Fluoranthene	2.7	18	< 18 U
129-00-0	Pyrene	1.8	18	< 18 U
85-68-7	Butylbenzylphthalate	5.6	18	< 18 U
91-94-1	3,3'-Dichlorobenzidine	16	140	< 140 U
56-55-3	Benzo(a)anthracene	3.0	18	< 18 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**13**	**23**	**48 B**
218-01-9	Chrysene	3.4	18	< 18 U
117-84-0	Di-n-Octyl phthalate	5.3	18	< 18 U
50-32-8	Benzo(a)pyrene	5.0	18	< 18 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.3	18	< 18 U
53-70-3	Dibenz(a,h)anthracene	3.9	18	< 18 U
191-24-2	Benzo(g,h,i)perylene	4.0	18	< 18 U
90-12-0	1-Methylnaphthalene	2.4	18	< 18 U
TOTBFA	Total Benzofluoranthenes	2.5	18	< 18 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	88.8%	2-Fluorobiphenyl	83.8%
d14-p-Terphenyl	100%	d4-1,2-Dichlorobenzene	82.6%
d5-Phenol	93.7%	2-Fluorophenol	85.1%
2,4,6-Tribromophenol	118%	d4-2-Chlorophenol	93.3%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
FRP-082911-001	90.6%	78.6%	84.8%	73.8%	79.5%	68.4%	112%	84.0%	0
FRP-082911-002	102%	92.8%	87.6%	87.0%	102%	90.7%	132%	100%	0
FRP-082911-003	92.8%	90.6%	92.8%	74.6%	87.2%	75.3%	136%	88.8%	0
FRP-082911-004	88.0%	82.0%	86.4%	79.4%	89.2%	79.6%	109%	90.1%	0
FRP-082911-006	86.2%	83.6%	83.0%	77.6%	78.4%	66.0%	122%	83.5%	0
MB-090211	90.0%	80.2%	87.4%	83.0%	86.9%	84.0%	111%	102%	0
LCS-090211	107%	94.8%	93.0%	98.8%	105%	99.6%	130%	107%	0
LCSD-090211	99.6%	85.6%	87.0%	84.4%	90.3%	79.6%	123%	97.5%	0
FRP-082911-007	91.8%	81.8%	87.4%	81.4%	78.4%	67.9%	123%	82.4%	0
FRP-082911-007 MS	87.6%	81.0%	83.0%	73.6%	72.5%	63.1%	122%	80.8%	0
FRP-082911-007 MSD	92.2%	86.2%	84.6%	86.4%	94.0%	85.5%	129%	95.3%	0
FRP-082911-008	92.8%	82.2%	83.4%	85.0%	86.5%	81.1%	124%	91.6%	0
FRP-082911-009	92.6%	81.8%	86.2%	83.2%	89.7%	78.0%	127%	89.5%	0
FRP-082911-010	90.6%	91.8%	82.8%	77.2%	88.9%	72.3%	124%	89.5%	0
FRP-082911-011	91.4%	86.4%	83.6%	81.8%	85.9%	72.7%	122%	88.0%	0
FRP-082911-012	91.4%	86.2%	84.8%	77.0%	84.8%	78.0%	120%	85.5%	0
FRP-082911-013	91.0%	81.2%	93.0%	84.8%	89.1%	82.3%	123%	90.9%	0
FRP-082911-014	93.2%	85.6%	85.8%	84.0%	95.2%	84.0%	125%	92.4%	0
FRP-082911-016	86.4%	88.4%	94.2%	77.6%	81.6%	66.5%	116%	86.9%	0
FRP-082911-017	91.4%	82.6%	98.8%	80.4%	87.3%	82.1%	120%	88.4%	0
FRP-082911-018	86.8%	83.2%	84.0%	73.8%	80.5%	71.5%	120%	83.3%	0
FRP-082911-019	93.6%	87.6%	94.2%	83.4%	90.9%	86.3%	130%	94.7%	0
FRP-082911-020	88.8%	83.8%	100%	82.6%	93.7%	85.1%	118%	93.3%	0

	LCS/MB LIMITS	QC LIMITS
(NBZ) = d5-Nitrobenzene	(30-160)	(30-160)
(FBP) = 2-Fluorobiphenyl	(30-160)	(30-160)
(TPH) = d14-p-Terphenyl	(30-160)	(30-160)
(DCB) = d4-1,2-Dichlorobenzene	(30-160)	(30-160)
(PHL) = d5-Phenol	(30-160)	(30-160)
(2FP) = 2-Fluorophenol	(30-160)	(30-160)
(TBP) = 2,4,6-Tribromophenol	(30-160)	(30-160)
(2CP) = d4-2-Chlorophenol	(30-160)	(30-160)

Prep Method: SW3546
Log Number Range: 11-18788 to 11-18805

FORM-II SW8270

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MS/MSD

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted MS/MSD: 09/02/11

Date Analyzed MS: 09/06/11 22:06
MSD: 09/06/11 22:40
Instrument/Analyst MS: NT10/VTS
MSD: NT10/VTS
GPC Cleanup: No

Sample Amount MS: 10.2 g-dry-wt
MSD: 10.2 g-dry-wt
Final Extract Volume MS: 1.0 mL
MSD: 1.0 mL
Dilution Factor MS: 1.00
MSD: 1.00
Percent Moisture: 8.2 %

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 19.6 U	311	488	63.7%	373	490	76.1%	18.1%
Bis-(2-Chloroethyl) Ether	< 19.6 U	232 Q	488	47.5%	266 Q	490	54.3%	13.7%
2-Chlorophenol	< 19.6 U	316	488	64.8%	368	490	75.1%	15.2%
1,3-Dichlorobenzene	< 19.6 U	281	488	57.6%	330	490	67.3%	16.0%
1,4-Dichlorobenzene	< 19.6 U	291	488	59.6%	342	490	69.8%	16.1%
Benzyl Alcohol	< 19.6 U	351	488	71.9%	390	490	79.6%	10.5%
1,2-Dichlorobenzene	< 19.6 U	300	488	61.5%	334	490	68.2%	10.7%
2-Methylphenol	< 19.6 U	390	488	79.9%	441	490	90.0%	12.3%
2,2'-Oxybis(1-Chloropropane	< 19.6 U	320	488	65.6%	363	490	74.1%	12.6%
4-Methylphenol	< 39.3 U	708	977	72.5%	834	980	85.1%	16.3%
N-Nitroso-Di-N-Propylamine	< 19.6 U	353	488	72.3%	413	490	84.3%	15.7%
Hexachloroethane	< 19.6 U	328	488	67.2%	398	490	81.2%	19.3%
Nitrobenzene	< 19.6 U	365	488	74.8%	378	490	77.1%	3.5%
Isophorone	< 19.6 U	374	488	76.6%	395	490	80.6%	5.5%
2-Nitrophenol	< 98.1 U	359	488	73.6%	365	490	74.5%	1.7%
2,4-Dimethylphenol	< 39.3 U	1160	1460	79.5%	1210	1470	82.3%	4.2%
Benzoic Acid	< 393 U	1810	2690	67.3%	1950	2700	72.2%	7.4%
bis(2-Chloroethoxy) Methane	< 19.6 U	367	488	75.2%	388	490	79.2%	5.6%
2,4-Dichlorophenol	< 196 U	1260	1460	86.3%	1260	1470	85.7%	0.0%
1,2,4-Trichlorobenzene	< 19.6 U	365	488	74.8%	370	490	75.5%	1.4%
Naphthalene	< 19.6 U	342	488	70.1%	373	490	76.1%	8.7%
4-Chloroaniline	< 265 U	1130	1460	77.4%	903	1470	61.4%	22.3%
Hexachlorobutadiene	< 98.1 U	395 Q	488	80.9%	400 Q	490	81.6%	1.3%
4-Chloro-3-methylphenol	< 98.1 U	1390 Q	1460	95.2%	1430 Q	1470	97.3%	2.8%
2-Methylnaphthalene	16.7 J	384	488	75.3%	384	490	75.0%	0.0%
Hexachlorocyclopentadiene	< 393 U	509	1460	34.9%	590	1470	40.1%	14.7%
2,4,6-Trichlorophenol	< 98.1 U	1270	1460	87.0%	1360	1470	92.5%	6.8%
2,4,5-Trichlorophenol	< 98.1 U	1280	1460	87.7%	1390	1470	94.6%	8.2%
2-Chloronaphthalene	< 19.6 U	338	488	69.3%	367	490	74.9%	8.2%
2-Nitroaniline	< 98.1 U	1390	1460	95.2%	1500	1470	102%	7.6%
Dimethylphthalate	< 19.6 U	386	488	79.1%	414	490	84.5%	7.0%
Acenaphthylene	< 19.6 U	375	488	76.8%	400	490	81.6%	6.5%
3-Nitroaniline	< 98.1 U	1190	1460	81.5%	1080	1470	73.5%	9.7%
Acenaphthene	< 19.6 U	368	488	75.4%	387	490	79.0%	5.0%
2,4-Dinitrophenol	< 834 U	1720	2690	63.9%	1860	2700	68.9%	7.8%
4-Nitrophenol	< 98.1 U	1510	1460	103%	1630	1470	111%	7.6%
Dibenzofuran	< 19.6 U	389	488	79.7%	415	490	84.7%	6.5%
2,6-Dinitrotoluene	< 98.1 U	1160	1460	79.5%	1200	1470	81.6%	3.4%
2,4-Dinitrotoluene	< 98.1 U	1350	1460	92.5%	1390	1470	94.6%	2.9%
Diethylphthalate	< 49.1 U	428 Q	488	87.7%	482 Q	490	98.4%	11.9%
4-Chlorophenyl-phenylether	< 19.6 U	366	488	75.0%	346	490	70.6%	5.6%
Fluorene	< 19.6 U	396	488	81.1%	416	490	84.9%	4.9%
4-Nitroaniline	< 98.1 U	1390	1460	95.2%	1320	1470	89.8%	5.2%
4,6-Dinitro-2-Methylphenol	< 196 U	2110	2690	78.4%	2220	2700	82.2%	5.1%
N-Nitrosodiphenylamine	< 19.6 U	396	488	81.1%	430	490	87.8%	8.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MS/MSD

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed MS: 09/06/11 22:06
MSD: 09/06/11 22:40

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
4-Bromophenyl-phenylether	< 19.6 U	382	488	78.3%	403	490	82.2%	5.4%
Hexachlorobenzene	< 19.6 U	419 Q	488	85.9%	487 Q	490	99.4%	15.0%
Pentachlorophenol	< 196 U	1270	1460	87.0%	1290	1470	87.8%	1.6%
Phenanthrene	17.7 J	434	488	85.3%	471	490	92.5%	8.2%
Carbazole	< 19.6 U	452	488	92.6%	465	490	94.9%	2.8%
Anthracene	< 19.6 U	401	488	82.2%	422	490	86.1%	5.1%
Di-n-Butylphthalate	< 19.6 U	439	488	90.0%	474	490	96.7%	7.7%
Fluoranthene	< 19.6 U	465	488	95.3%	470	490	95.9%	1.1%
Pyrene	< 19.6 U	375	488	76.8%	376	490	76.7%	0.3%
Butylbenzylphthalate	< 19.6 U	390	488	79.9%	395	490	80.6%	1.3%
3,3'-Dichlorobenzidine	< 147 U	627	1460	42.9%	425	1470	28.9%	38.4%
Benzo(a)anthracene	< 19.6 U	440 Q	488	90.2%	462 Q	490	94.3%	4.9%
bis(2-Ethylhexyl)phthalate	51.0 B	464 B	488	84.6%	448 B	490	81.0%	3.5%
Chrysene	< 19.6 U	379	488	77.7%	389	490	79.4%	2.6%
Di-n-Octyl phthalate	< 19.6 U	392	488	80.3%	397	490	81.0%	1.3%
Benzo(a)pyrene	< 19.6 U	383	488	78.5%	386	490	78.8%	0.8%
Indeno(1,2,3-cd)pyrene	< 19.6 U	424	488	86.9%	415	490	84.7%	2.1%
Dibenz(a,h)anthracene	< 19.6 U	391	488	80.1%	386	490	78.8%	1.3%
Benzo(g,h,i)perylene	< 19.6 U	399	488	81.8%	391	490	79.8%	2.0%
1-Methylnaphthalene	21.6	371	488	71.6%	379	490	72.9%	2.1%
Total Benzofluoranthenes	< 19.6 U	874	977	89.5%	843	980	86.0%	3.6%

Reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MATRIX SPIKE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 22:06
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 8.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.4	20	---
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	---
95-57-8	2-Chlorophenol	2.3	20	---
541-73-1	1,3-Dichlorobenzene	2.6	20	---
106-46-7	1,4-Dichlorobenzene	2.8	20	---
100-51-6	Benzyl Alcohol	5.9	20	---
95-50-1	1,2-Dichlorobenzene	2.4	20	---
95-48-7	2-Methylphenol	5.1	20	---
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	---
106-44-5	4-Methylphenol	6.5	39	---
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	---
67-72-1	Hexachloroethane	2.9	20	---
98-95-3	Nitrobenzene	4.0	20	---
78-59-1	Isophorone	2.8	20	---
88-75-5	2-Nitrophenol	38	98	---
105-67-9	2,4-Dimethylphenol	3.4	39	---
65-85-0	Benzoic Acid	99	390	---
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	---
120-83-2	2,4-Dichlorophenol	21	200	---
120-82-1	1,2,4-Trichlorobenzene	3.4	20	---
91-20-3	Naphthalene	2.7	20	---
106-47-8	4-Chloroaniline	22	260	---
87-68-3	Hexachlorobutadiene	4.5	98	---
59-50-7	4-Chloro-3-methylphenol	15	98	---
91-57-6	2-Methylnaphthalene	3.0	20	---
77-47-4	Hexachlorocyolopentadiene	65	390	---
88-06-2	2,4,6-Trichlorophenol	22	98	---
95-95-4	2,4,5-Trichlorophenol	21	98	---
91-58-7	2-Chloronaphthalene	2.6	20	---
88-74-4	2-Nitroaniline	18	98	---
131-11-3	Dimethylphthalate	2.8	20	---
208-96-8	Acenaphthylene	5.6	20	---
99-09-2	3-Nitroaniline	22	98	---
83-32-9	Acenaphthene	3.2	20	---
51-28-5	2,4-Dinitrophenol	110	830	---
100-02-7	4-Nitrophenol	34	98	---
132-64-9	Dibenzofuran	4.0	20	---
606-20-2	2,6-Dinitrotoluene	30	98	---
121-14-2	2,4-Dinitrotoluene	19	98	---
84-66-2	Diethylphthalate	36	49	---
7005-72-3	4-Chlorophenyl-phenylether	5.2	20	---
86-73-7	Fluorene	4.2	20	---
100-01-6	4-Nitroaniline	37	98	---
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	---

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MATRIX SPIKE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed: 09/06/11 22:06

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.3	20	---
101-55-3	4-Bromophenyl-phenylether	4.9	20	---
118-74-1	Hexachlorobenzene	4.2	20	---
87-86-5	Pentachlorophenol	47	200	---
85-01-8	Phenanthrene	3.6	20	---
86-74-8	Carbazole	2.6	20	---
120-12-7	Anthracene	4.4	20	---
84-74-2	Di-n-Butylphthalate	8.0	20	---
206-44-0	Fluoranthene	2.8	20	---
129-00-0	Pyrene	1.9	20	---
85-68-7	Butylbenzylphthalate	6.0	20	---
91-94-1	3,3'-Dichlorobenzidine	17	150	---
56-55-3	Benzo(a)anthracene	3.2	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	14	24	---
218-01-9	Chrysene	3.7	20	---
117-84-0	Di-n-Octyl phthalate	5.7	20	---
50-32-8	Benzo(a)pyrene	5.3	20	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	20	---
53-70-3	Dibenz(a,h)anthracene	4.2	20	---
191-24-2	Benzo(g,h,i)perylene	4.3	20	---
90-12-0	1-Methylnaphthalene	2.6	20	---
TOTBFA	Total Benzofluoranthenes	2.7	20	---

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	87.6%	2-Fluorobiphenyl	81.0%
d14-p-Terphenyl	83.0%	d4-1,2-Dichlorobenzene	73.6%
d5-Phenol	72.5%	2-Fluorophenol	63.1%
2,4,6-Tribromophenol	122%	d4-2-Chlorophenol	80.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MATRIX SPIKE DUPLICATE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 22:40
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.2 g-dry-wt
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: 8.2%

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.5	20	---
111-44-4	Bis-(2-Chloroethyl) Ether	3.3	20	---
95-57-8	2-Chlorophenol	2.3	20	---
541-73-1	1,3-Dichlorobenzene	2.6	20	---
106-46-7	1,4-Dichlorobenzene	2.8	20	---
100-51-6	Benzyl Alcohol	6.0	20	---
95-50-1	1,2-Dichlorobenzene	2.5	20	---
95-48-7	2-Methylphenol	5.1	20	---
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.7	20	---
106-44-5	4-Methylphenol	6.5	39	---
621-64-7	N-Nitroso-Di-N-Propylamine	3.3	20	---
67-72-1	Hexachloroethane	2.9	20	---
98-95-3	Nitrobenzene	4.0	20	---
78-59-1	Isophorone	2.8	20	---
88-75-5	2-Nitrophenol	38	98	---
105-67-9	2,4-Dimethylphenol	3.4	39	---
65-85-0	Benzoic Acid	99	390	---
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	---
120-83-2	2,4-Dichlorophenol	21	200	---
120-82-1	1,2,4-Trichlorobenzene	3.4	20	---
91-20-3	Naphthalene	2.7	20	---
106-47-8	4-Chloroaniline	22	260	---
87-68-3	Hexachlorobutadiene	4.5	98	---
59-50-7	4-Chloro-3-methylphenol	15	98	---
91-57-6	2-Methylnaphthalene	3.0	20	---
77-47-4	Hexachlorocyclopentadiene	65	390	---
88-06-2	2,4,6-Trichlorophenol	22	98	---
95-95-4	2,4,5-Trichlorophenol	21	98	---
91-58-7	2-Chloronaphthalene	2.6	20	---
88-74-4	2-Nitroaniline	18	98	---
131-11-3	Dimethylphthalate	2.8	20	---
208-96-8	Acenaphthylene	5.6	20	---
99-09-2	3-Nitroaniline	22	98	---
83-32-9	Acenaphthene	3.2	20	---
51-28-5	2,4-Dinitrophenol	110	830	---
100-02-7	4-Nitrophenol	34	98	---
132-64-9	Dibenzofuran	4.0	20	---
606-20-2	2,6-Dinitrotoluene	30	98	---
121-14-2	2,4-Dinitrotoluene	19	98	---
84-66-2	Diethylphthalate	36	49	---
7005-72-3	4-Chlorophenyl-phenylether	5.2	20	---
86-73-7	Fluorene	4.3	20	---
100-01-6	4-Nitroaniline	37	98	---
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	---

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: FRP-082911-007
MATRIX SPIKE DUPLICATE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed: 09/06/11 22:40

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.3	20	---
101-55-3	4-Bromophenyl-phenylether	4.9	20	---
118-74-1	Hexachlorobenzene	4.2	20	---
87-86-5	Pentachlorophenol	48	200	---
85-01-8	Phenanthrene	3.6	20	---
86-74-8	Carbazole	2.6	20	---
120-12-7	Anthracene	4.4	20	---
84-74-2	Di-n-Butylphthalate	8.0	20	---
206-44-0	Fluoranthene	2.9	20	---
129-00-0	Pyrene	1.9	20	---
85-68-7	Butylbenzylphthalate	6.0	20	---
91-94-1	3,3'-Dichlorobenzidine	17	150	---
56-55-3	Benzo(a)anthracene	3.2	20	---
117-81-7	bis(2-Ethylhexyl)phthalate	14	24	---
218-01-9	Chrysene	3.7	20	---
117-84-0	Di-n-Octyl phthalate	5.7	20	---
50-32-8	Benzo(a)pyrene	5.3	20	---
193-39-5	Indeno(1,2,3-cd)pyrene	4.6	20	---
53-70-3	Dibenz(a,h)anthracene	4.2	20	---
191-24-2	Benzo(g,h,i)perylene	4.3	20	---
90-12-0	1-Methylnaphthalene	2.6	20	---
TOTBFA	Total Benzofluoranthenes	2.7	20	---

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	92.2%	2-Fluorobiphenyl	86.2%
d14-p-Terphenyl	84.6%	d4-1,2-Dichlorobenzene	86.4%
d5-Phenol	94.0%	2-Fluorophenol	85.5%
2,4,6-Tribromophenol	129%	d4-2-Chlorophenol	95.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: LCS-090211
LCS/LCSD

Lab Sample ID: LCS-090211
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted LCS/LCSD: 09/02/11

Date Analyzed LCS: 09/06/11 17:00
LCSD: 09/06/11 17:34
Instrument/Analyst LCS: NT10/VTS
LCSD: NT10/VTS
GPC Cleanup: No

Sample Amount LCS: 10.0 g
LCSD: 10.0 g
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	434	500	86.8%	390	500	78.0%	10.7%
Bis-(2-Chloroethyl) Ether	320 Q	500	64.0%	256 Q	500	51.2%	22.2%
2-Chlorophenol	432	500	86.4%	389	500	77.8%	10.5%
1,3-Dichlorobenzene	364	500	72.8%	310	500	62.0%	16.0%
1,4-Dichlorobenzene	389	500	77.8%	332	500	66.4%	15.8%
Benzyl Alcohol	351	500	70.2%	339	500	67.8%	3.5%
1,2-Dichlorobenzene	404	500	80.8%	339	500	67.8%	17.5%
2-Methylphenol	427	500	85.4%	413	500	82.6%	3.3%
2,2'-Oxybis(1-Chloropropane)	390	500	78.0%	358	500	71.6%	8.6%
4-Methylphenol	901	1000	90.1%	795	1000	79.5%	12.5%
N-Nitroso-Di-N-Propylamine	457	500	91.4%	385	500	77.0%	17.1%
Hexachloroethane	422	500	84.4%	379	500	75.8%	10.7%
Nitrobenzene	425	500	85.0%	420	500	84.0%	1.2%
Isophorone	445	500	89.0%	420	500	84.0%	5.8%
2-Nitrophenol	429	500	85.8%	409	500	81.8%	4.8%
2,4-Dimethylphenol	1230	1500	82.0%	1090	1500	72.7%	12.1%
Benzoic Acid	977	2750	35.5%	1950	2750	70.9%	66.5%
bis(2-Chloroethoxy) Methane	432	500	86.4%	420	500	84.0%	2.8%
2,4-Dichlorophenol	1270	1500	84.7%	1210	1500	80.7%	4.8%
1,2,4-Trichlorobenzene	414	500	82.8%	384	500	76.8%	7.5%
Naphthalene	415	500	83.0%	386	500	77.2%	7.2%
4-Chloroaniline	1260	1500	84.0%	1100	1500	73.3%	13.6%
Hexachlorobutadiene	473 Q	500	94.6%	445 Q	500	89.0%	6.1%
4-Chloro-3-methylphenol	1560 Q	1500	104%	1510 Q	1500	101%	3.3%
2-Methylnaphthalene	429	500	85.8%	413	500	82.6%	3.8%
Hexachlorocyclopentadiene	1040	1500	69.3%	928	1500	61.9%	11.4%
2,4,6-Trichlorophenol	1380	1500	92.0%	1300	1500	86.7%	6.0%
2,4,5-Trichlorophenol	1440	1500	96.0%	1320	1500	88.0%	8.7%
2-Chloronaphthalene	395	500	79.0%	368	500	73.6%	7.1%
2-Nitroaniline	1510	1500	101%	1510	1500	101%	0.0%
Dimethylphthalate	451	500	90.2%	430	500	86.0%	4.8%
Acenaphthylene	428	500	85.6%	405	500	81.0%	5.5%
3-Nitroaniline	1280	1500	85.3%	1170	1500	78.0%	9.0%
Acenaphthene	434	500	86.8%	399	500	79.8%	8.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: LCSD-090211
LCS/LCSD

Lab Sample ID: LCS-090211
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed LCS: 09/06/11 17:00
LCSD: 09/06/11 17:34

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
2,4-Dinitrophenol	1750	2750	63.6%	1740	2750	63.3%	0.6%
4-Nitrophenol	1640	1500	109%	1570	1500	105%	4.4%
Dibenzofuran	440	500	88.0%	417	500	83.4%	5.4%
2,6-Dinitrotoluene	1300	1500	86.7%	1260	1500	84.0%	3.1%
2,4-Dinitrotoluene	1520	1500	101%	1480	1500	98.7%	2.7%
Diethylphthalate	467 Q	500	93.4%	453 Q	500	90.6%	3.0%
4-Chlorophenyl-phenylether	409	500	81.8%	348	500	69.6%	16.1%
Fluorene	446	500	89.2%	425	500	85.0%	4.8%
4-Nitroaniline	1610	1500	107%	1540	1500	103%	4.4%
4,6-Dinitro-2-Methylphenol	2190	2750	79.6%	2270	2750	82.5%	3.6%
N-Nitrosodiphenylamine	417	500	83.4%	403	500	80.6%	3.4%
4-Bromophenyl-phenylether	446	500	89.2%	433	500	86.6%	3.0%
Hexachlorobenzene	510 Q	500	102%	495 Q	500	99.0%	3.0%
Pentachlorophenol	1230	1500	82.0%	1220	1500	81.3%	0.8%
Phenanthrene	466	500	93.2%	459	500	91.8%	1.5%
Carbazole	501	500	100%	489	500	97.8%	2.4%
Anthracene	443	500	88.6%	435	500	87.0%	1.8%
Di-n-Butylphthalate	465	500	93.0%	481	500	96.2%	3.4%
Fluoranthene	504	500	101%	500	500	100%	0.8%
Pyrene	407	500	81.4%	390	500	78.0%	4.3%
Butylbenzylphthalate	424	500	84.8%	410	500	82.0%	3.4%
3,3'-Dichlorobenzidine	668	1500	44.5%	617	1500	41.1%	7.9%
Benzo(a)anthracene	484 Q	500	96.8%	476 Q	500	95.2%	1.7%
bis(2-Ethylhexyl)phthalate	492 B	500	98.4%	503 B	500	101%	2.2%
Chrysene	407	500	81.4%	389	500	77.8%	4.5%
Di-n-Octyl phthalate	436	500	87.2%	428	500	85.6%	1.9%
Benzo(a)pyrene	432	500	86.4%	438	500	87.6%	1.4%
Indeno(1,2,3-cd)pyrene	453	500	90.6%	473	500	94.6%	4.3%
Dibenz(a,h)anthracene	406	500	81.2%	412	500	82.4%	1.5%
Benzo(g,h,i)perylene	426	500	85.2%	450	500	90.0%	5.5%
1-Methylnaphthalene	425	500	85.0%	403	500	80.6%	5.3%
Total Benzofluoranthenes	974	1000	97.4%	988	1000	98.8%	1.4%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	107%	99.6%
2-Fluorobiphenyl	94.8%	85.6%
d14-p-Terphenyl	93.0%	87.0%
d4-1,2-Dichlorobenzene	98.8%	84.4%
d5-Phenol	105%	90.3%
2-Fluorophenol	99.6%	79.6%
2,4,6-Tribromophenol	130%	123%
d4-2-Chlorophenol	107%	97.5%

Reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

TK35:00143

4B

SEMIVOLATILE METHOD BLANK SUMMARY

BLANK NO.

TK35MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TK35

Project: FRP SHORELINE INVEST

Lab File ID: TK35MB

Date Extracted: 09/02/11

Instrument ID: NT10

Date Analyzed: 09/06/11

Matrix: SOLID

Time Analyzed: 1626

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	TK35LCSS1	TK35LCSS1	TK35SB	09/06/11
02	TK35LCSDS1	TK35LCSDS1	TK35SBD	09/06/11
03	FRP-082911-001	TK35A	TK35A	09/06/11
04	FRP-082911-002	TK35B	TK35B	09/06/11
05	FRP-082911-003	TK35C	TK35C	09/06/11
06	FRP-082911-004	TK35D	TK35D	09/06/11
07	FRP-082911-006	TK35E	TK35E	09/06/11
08	FRP-082911-007	TK35F	TK35F	09/06/11
09	FRP-082911-007 M	TK35FMS	TK35FMS	09/06/11
10	FRP-082911-007 M	TK35FMSD	TK35FMSD	09/06/11
11	FRP-082911-008	TK35G	TK35G	09/06/11
12	FRP-082911-009	TK35H	TK35H	09/06/11
13	FRP-082911-010	TK35I	TK35I	09/07/11
14	FRP-082911-011	TK35J	TK35J	09/07/11
15	FRP-082911-012	TK35K	TK35K	09/07/11
16	FRP-082911-013	TK35L	TK35L	09/07/11
17	FRP-082911-014	TK35M	TK35M	09/07/11
18	FRP-082911-016	TK35N	TK35N	09/07/11
19	FRP-082911-017	TK35O	TK35O	09/07/11
20	FRP-082911-018	TK35P	TK35P	09/07/11
21	FRP-082911-019	TK35Q	TK35Q	09/07/11
22	FRP-082911-020	TK35R	TK35R	09/07/11
23				
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FORM IV SV

TK35:00144

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: MB-090211
METHOD BLANK

Lab Sample ID: MB-090211
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Date Extracted: 09/02/11
Date Analyzed: 09/06/11 16:26
Instrument/Analyst: NT10/VTS
GPC Cleanup: No

Sample Amount: 10.0 g
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00
Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
108-95-2	Phenol	8.6	20	< 20 U
111-44-4	Bis-(2-Chloroethyl) Ether	3.4	20	< 20 U
95-57-8	2-Chlorophenol	2.4	20	< 20 U
541-73-1	1,3-Dichlorobenzene	2.6	20	< 20 U
106-46-7	1,4-Dichlorobenzene	2.9	20	< 20 U
100-51-6	Benzyl Alcohol	6.1	20	< 20 U
95-50-1	1,2-Dichlorobenzene	2.5	20	< 20 U
95-48-7	2-Methylphenol	5.2	20	< 20 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	3.8	20	< 20 U
106-44-5	4-Methylphenol	6.6	40	< 40 U
621-64-7	N-Nitroso-Di-N-Propylamine	3.4	20	< 20 U
67-72-1	Hexachloroethane	2.9	20	< 20 U
98-95-3	Nitrobenzene	4.1	20	< 20 U
78-59-1	Isophorone	2.9	20	< 20 U
88-75-5	2-Nitrophenol	39	100	< 100 U
105-67-9	2,4-Dimethylphenol	3.5	40	< 40 U
65-85-0	Benzoic Acid	100	400	< 400 U
111-91-1	bis(2-Chloroethoxy) Methane	2.0	20	< 20 U
120-83-2	2,4-Dichlorophenol	22	200	< 200 U
120-82-1	1,2,4-Trichlorobenzene	3.5	20	< 20 U
91-20-3	Naphthalene	2.8	20	< 20 U
106-47-8	4-Chloroaniline	22	270	< 270 U
87-68-3	Hexachlorobutadiene	4.6	100	< 100 U
59-50-7	4-Chloro-3-methylphenol	15	100	< 100 U
91-57-6	2-Methylnaphthalene	3.1	20	< 20 U
77-47-4	Hexachlorocyclopentadiene	66	400	< 400 U
88-06-2	2,4,6-Trichlorophenol	22	100	< 100 U
95-95-4	2,4,5-Trichlorophenol	21	100	< 100 U
91-58-7	2-Chloronaphthalene	2.6	20	< 20 U
88-74-4	2-Nitroaniline	18	100	< 100 U
131-11-3	Dimethylphthalate	2.9	20	< 20 U
208-96-8	Acenaphthylene	5.7	20	< 20 U
99-09-2	3-Nitroaniline	22	100	< 100 U
83-32-9	Acenaphthene	3.3	20	< 20 U
51-28-5	2,4-Dinitrophenol	110	850	< 850 U
100-02-7	4-Nitrophenol	35	100	< 100 U
132-64-9	Dibenzofuran	4.1	20	< 20 U
606-20-2	2,6-Dinitrotoluene	31	100	< 100 U
121-14-2	2,4-Dinitrotoluene	20	100	< 100 U
84-66-2	Diethylphthalate	37	50	< 50 U
7005-72-3	4-Chlorophenyl-phenylether	5.3	20	< 20 U
86-73-7	Fluorene	4.4	20	< 20 U
100-01-6	4-Nitroaniline	38	100	< 100 U
534-52-1	4,6-Dinitro-2-Methylphenol	21	200	< 200 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA Semivolatiles by SW8270D GC/MS

Sample ID: MB-090211
METHOD BLANK

Lab Sample ID: MB-090211
LIMS ID: 11-18793
Matrix: Soil
Date Analyzed: 09/06/11 16:26

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

CAS Number	Analyte	MDL	RL	Result
86-30-6	N-Nitrosodiphenylamine	5.4	20	< 20 U
101-55-3	4-Bromophenyl-phenylether	5.0	20	< 20 U
118-74-1	Hexachlorobenzene	4.3	20	< 20 U
87-86-5	Pentachlorophenol	48	200	< 200 U
85-01-8	Phenanthrene	3.6	20	< 20 U
86-74-8	Carbazole	2.7	20	< 20 U
120-12-7	Anthracene	4.5	20	< 20 U
84-74-2	Di-n-Butylphthalate	8.2	20	< 20 U
206-44-0	Fluoranthene	2.9	20	< 20 U
129-00-0	Pyrene	1.9	20	< 20 U
85-68-7	Butylbenzylphthalate	6.1	20	< 20 U
91-94-1	3,3'-Dichlorobenzidine	18	150	< 150 U
56-55-3	Benzo(a)anthracene	3.3	20	< 20 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**15**	**25**	**62**
218-01-9	Chrysene	3.8	20	< 20 U
117-84-0	Di-n-Octyl phthalate	5.8	20	< 20 U
50-32-8	Benzo(a)pyrene	5.4	20	< 20 U
193-39-5	Indeno(1,2,3-cd)pyrene	4.7	20	< 20 U
53-70-3	Dibenz(a,h)anthracene	4.3	20	< 20 U
191-24-2	Benzo(g,h,i)perylene	4.4	20	< 20 U
90-12-0	1-Methylnaphthalene	2.7	20	< 20 U
TOTBFA	Total Benzofluoranthenes	2.8	20	< 20 U

Reported in µg/kg (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	90.0%	2-Fluorobiphenyl	80.2%
d14-p-Terphenyl	87.4%	d4-1,2-Dichlorobenzene	83.0%
d5-Phenol	86.9%	2-Fluorophenol	84.0%
2,4,6-Tribromophenol	111%	d4-2-Chlorophenol	102%

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

Instrument ID: NT10 Project: FRP SHORELINE INVESTIGATION

DFTPP Injection Date: 08/05/11 DFTPP Injection Time: 1329

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	22.0
68	Less than 2.0% of mass 69	0.4 (1.0)1
69	Mass 69 relative abundance	36.1
70	Less than 2.0% of mass 69	0.4 (1.1)1
127	10.0 - 80.0% of mass 198	47.2
197	Less than 2.0% of mass 198	0.1
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	27.2
365	Greater than 1.0% of mass 198	5.38
441	0.0 - 24.0% of mass 442	17.8 (16.0)2
442	50.0 - 200.0% of mass 198	111.2
443	15.0 - 24.0% of mass 442	21.8 (19.6)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		IC0805A	IC0805A	08/05/11	1329
02		IC0805B	IC0805B	08/05/11	1403
03		IC0805C	IC0805C	08/05/11	1437
04		IC0805D	IC0805D	08/05/11	1511
05		IC0805E	IC0805E	08/05/11	1545
06		IC0805F	IC0805F	08/05/11	1619
07		IC0805G	IC0805G	08/05/11	1653
08					
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22					

FORM V SV

TK35:00147

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

Instrument ID: NT10 Project: FRP SHORELINE INVESTIGATION

DFTPP Injection Date: 09/06/11 DFTPP Injection Time: 1552

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27.4
68	Less than 2.0% of mass 69	0.4 (1.2)1
69	Mass 69 relative abundance	37.9
70	Less than 2.0% of mass 69	0.4 (1.1)1
127	10.0 - 80.0% of mass 198	44.4
197	Less than 2.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 60.0% of mass 198	28.8
365	Greater than 1.0% of mass 198	6.42
441	0.0 - 24.0% of mass 442	19.5 (13.6)2
442	50.0 - 200.0% of mass 198	143.9
443	15.0 - 24.0% of mass 442	25.1 (17.5)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		CC0906	CC0906	09/06/11	1552
02	TK35MBS1	TK35MBS1	TK35MB	09/06/11	1626
03	TK35LCSS1	TK35LCSS1	TK35SB	09/06/11	1700
04	TK35LCSDS1	TK35LCSDS1	TK35SBD	09/06/11	1734
05	FRP-082911-001	TK35A	TK35A	09/06/11	1842
06	FRP-082911-002	TK35B	TK35B	09/06/11	1915
07	FRP-082911-003	TK35C	TK35C	09/06/11	1949
08	FRP-082911-004	TK35D	TK35D	09/06/11	2024
09	FRP-082911-006	TK35E	TK35E	09/06/11	2057
10	FRP-082911-007	TK35F	TK35F	09/06/11	2131
11	FRP-082911-007 M	TK35FMS	TK35FMS	09/06/11	2206
12	FRP-082911-007 M	TK35FMSD	TK35FMSD	09/06/11	2240
13	FRP-082911-008	TK35G	TK35G	09/06/11	2314
14	FRP-082911-009	TK35H	TK35H	09/06/11	2348
15	FRP-082911-010	TK35I	TK35I	09/07/11	0022
16	FRP-082911-011	TK35J	TK35J	09/07/11	0056
17	FRP-082911-012	TK35K	TK35K	09/07/11	0130
18	FRP-082911-013	TK35L	TK35L	09/07/11	0204
19	FRP-082911-014	TK35M	TK35M	09/07/11	0238
20	FRP-082911-016	TK35N	TK35N	09/07/11	0312
21					
22					

FORM V SV

TK35:00148

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

Instrument ID: NT10 Project: FRP SHORELINE INVESTIGATION

DFTPP Injection Date: 09/07/11 DFTPP Injection Time: 1234

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	26.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	34.3
70	Less than 2.0% of mass 69	0.4 (1.1)1
127	10.0 - 80.0% of mass 198	44.9
197	Less than 2.0% of mass 198	0.9
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	27.2
365	Greater than 1.0% of mass 198	5.78
441	0.0 - 24.0% of mass 442	23.0 (15.8)2
442	50.0 - 200.0% of mass 198	145.7
443	15.0 - 24.0% of mass 442	27.9 (19.1)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		CC0907	CC0907	09/07/11	1234
02	FRP-082911-017	TK35O	TK35O	09/07/11	1312
03	FRP-082911-018	TK35P	TK35P	09/07/11	1346
04	FRP-082911-019	TK35Q	TK35Q	09/07/11	1421
05	FRP-082911-020	TK35R	TK35R	09/07/11	1455
06					
07					
08					
09					
10					
11					
12					
13					
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18					
19					
20					
21					
22					

FORM V SV

TK35 : 00149

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGAT

Instrument ID: NT10 — Calibration Date: 08/05/11

LAB FILE ID: RRF0.2=IC0805C RRF0.5=IC0805E RRF1 =IC0805G
RRF2.5=IC0805F RRF5 =IC0805A RRF10 =IC0805D
RRF20 =IC0805B

COMPOUND	RRF 0.2	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	RRF 20	___ RRF	%RSD /R^2
Phenol	1.770	1.558	1.513	1.869	1.752	1.843	1.393	1.671	10.9
Bis(2-Chloroethyl)ether	1.545	1.204	1.302	1.459	1.552	1.590	1.426	1.440	9.9
2-Chlorophenol	1.378	1.179	1.260	1.487	1.498	1.548	1.408	1.394	9.6
1,3-Dichlorobenzene	1.903	1.564	1.615	1.821	1.767	1.896	1.664	1.747	7.7
1,4-Dichlorobenzene	1.749	1.442	1.497	1.742	1.792	1.879	1.639	1.677	9.5
1,2-Dichlorobenzene	1.581	1.511	1.547	1.711	1.703	1.783	1.557	1.628	6.3
Benzyl alcohol	0.646	0.583	0.614	0.796	0.922	0.926	0.896	0.769	19.7
2,2'-oxybis(1-Chloropropane)	0.489	0.417	0.396	0.487	0.488	0.505	0.455	0.462	9.0
2-Methylphenol	1.158	0.995	1.018	1.218	1.245	1.325	1.265	1.175	10.7
Hexachloroethane	0.689	0.603	0.663	0.737	0.739	0.784	0.663	0.697	8.7
N-Nitroso-di-n-propylamine	1.068	0.918	0.898	1.130	1.094	1.144	0.967	1.031	9.9
4-Methylphenol	1.024	1.101	1.048	1.339	1.360	1.427	1.212	1.216	13.4
Nitrobenzene	0.412	0.359	0.336	0.427	0.419	0.424	0.390	0.395	9.0
Isophorone	0.601	0.605	0.570	0.717	0.689	0.718	0.662	0.652	9.2
2-Nitrophenol	0.174	0.158	0.166	0.237	0.218	0.247	0.206	0.201	17.6
2,4-Dimethylphenol	0.309	0.285	0.307	0.368	0.411	0.378	0.373	0.347	13.4
Bis(2-Chloroethoxy)methane	0.420	0.393	0.407	0.490	0.490	0.489	0.450	0.448	9.4
2,4-Dichlorophenol		0.287	0.285	0.365	0.363	0.360	0.340	0.333	11.4
1,2,4-Trichlorobenzene	0.384	0.333	0.345	0.408	0.387	0.396	0.362	0.374	7.4
Naphthalene	0.991	0.903	0.890	1.099	1.064	1.107	1.015	1.010	8.7
Benzoic acid		0.136	0.135	0.218	0.262	0.273	0.259	0.214	0.998
4-Chloroaniline		0.320	0.320	0.405	0.412	0.427	0.394	0.380	12.5
Hexachlorobutadiene	0.261	0.230	0.223	0.264	0.260	0.260	0.238	0.248	6.8
4-Chloro-3-methylphenol		0.230	0.254	0.323	0.329	0.329	0.310	0.296	14.5
2-Methylnaphthalene	0.642	0.591	0.611	0.747	0.743	0.752	0.701	0.684	10.0
Hexachlorocyclopentadiene		0.122	0.202	0.325	0.395	0.438	0.422	0.317	0.998
2,4,6-Trichlorophenol		0.307	0.322	0.418	0.446	0.441	0.410	0.391	15.6
2,4,5-Trichlorophenol		0.351	0.352	0.417	0.468	0.452	0.428	0.411	12.1
2-Chloronaphthalene	1.178	1.130	1.116	1.308	1.335	1.322	1.178	1.224	7.7
2-Nitroaniline		0.213	0.251	0.302	0.322	0.321	0.284	0.282	15.2
Acenaphthylene	1.726	1.593	1.541	1.820	1.862	1.834	1.623	1.714	7.6
Dimethylphthalate	1.389	1.314	1.270	1.423	1.454	1.434	1.252	1.362	6.1
2,6-Dinitrotoluene		0.282	0.286	0.326	0.349	0.336	0.309	0.315	8.5
Acenaphthene	1.103	1.068	1.092	1.230	1.226	1.234	1.113	1.152	6.4
3-Nitroaniline		0.248	0.247	0.305	0.294	0.304	0.275	0.279	9.5
2,4-Dinitrophenol		0.039	0.081	0.174	0.223	0.253	0.254	0.171	0.998
Dibenzofuran	1.549	1.539	1.483	1.680	1.750	1.736	1.552	1.613	6.6

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

FORM VI SV-1

TK35 : 00150

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGAT

Instrument ID: NT10 — Calibration Date: 08/05/11

LAB FILE ID: RRF0.2=IC0805C RRF0.5=IC0805E RRF1 =IC0805G
RRF2.5=IC0805F RRF5 =IC0805A RRF10 =IC0805D
RRF20 =IC0805B

COMPOUND	RRF 0.2	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	RRF 20	___ RRF	%RSD /R^2
4-Nitrophenol		0.145	0.071	0.164	0.183	0.184	0.180	0.154	0.999
2,4-Dinitrotoluene	0.290	0.342	0.361	0.432	0.454	0.442	0.402	0.389	15.5
Fluorene	1.266	1.299	1.204	1.385	1.395	1.339	1.387	1.325	5.5
4-Chlorophenyl-phenylether	0.879	0.844	0.766	0.867	0.863	0.826	0.722	0.824	7.1
Diethylphthalate	1.310	1.383	1.232	1.383	1.411	1.561	1.358	1.377	7.3
4-Nitroaniline		0.260	0.238	0.281	0.309	0.289	0.279	0.276	8.8
4,6-Dinitro-2-methylphenol		0.096	0.111	0.161	0.166	0.177	0.155	0.144	0.998
N-Nitrosodiphenylamine (1)	0.501	0.550	0.506	0.598	0.578	0.589	0.514	0.548	7.6
4-Bromophenyl-phenylether	0.267	0.268	0.237	0.293	0.285	0.292	0.257	0.271	7.5
Hexachlorobenzene	0.295	0.318	0.285	0.346	0.319	0.319	0.287	0.310	7.1
Pentachlorophenol	0.065	0.090	0.094	0.144	0.169	0.170	0.162	0.128	0.999
Phenanthrene	1.064	1.095	0.950	1.170	1.103	1.147	0.993	1.074	7.4
Anthracene	1.017	1.104	0.986	1.240	1.212	1.198	1.095	1.122	8.8
Carbazole	0.935	1.032	0.907	1.057	0.957	0.845	0.840	0.939	9.0
Di-n-butylphthalate	1.165	1.285	1.136	1.440	1.450	1.452	1.316	1.320	10.2
Fluoranthene	1.179	1.299	1.077	1.355	1.334	1.348	1.208	1.257	8.4
Pyrene	1.174	1.183	1.056	1.297	1.322	1.326	1.131	1.213	8.6
Butylbenzylphthalate	0.488	0.462	0.429	0.525	0.541	0.546	0.488	0.497	8.7
Benzo(a)anthracene	1.072	1.058	0.963	1.109	1.174	1.178	1.018	1.082	7.3
3,3'-Dichlorobenzidine		0.568	0.536	0.605	0.552	0.524	0.546	0.555	5.1
Chrysene	1.011	1.021	0.918	1.074	1.065	1.066	0.974	1.018	5.6
bis(2-Ethylhexyl)phthalate	0.560	0.595	0.540	0.641	0.624	0.648	0.585	0.599	6.8
Di-n-octylphthalate	1.062	1.009	0.936	1.122	1.093	1.116	0.980	1.045	6.9
Benzo(b)fluoranthene	1.160	1.340	1.042	1.168	1.330	1.337	1.055	1.204	10.9
Benzo(k)fluoranthene	1.142	1.102	1.238	1.418	1.315	1.323	1.288	1.261	8.7
Benzo(a)pyrene	1.034	1.114	0.999	1.146	1.164	1.168	1.053	1.097	6.2
Indeno(1,2,3-cd)pyrene	1.250	1.279	1.194	1.397	1.404	1.451	1.312	1.327	7.0
Dibenzo(a,h)anthracene	1.031	1.074	0.990	1.126	1.133	1.161	1.049	1.080	5.7
Benzo(g,h,i)perylene	1.111	1.124	1.061	1.200	1.195	1.240	1.116	1.150	5.5
N-Nitrosodimethylamine		0.856	0.822	0.935	0.952	1.004	0.850	0.903	7.9
Aniline	2.002	1.766	1.894	2.187	2.224	2.342	2.063	2.068	9.7
Benzidine	0.459	0.444	0.418	0.382	0.202	0.283	0.284	0.353	0.990
Perylene		1.061	0.954	0.998	1.016	1.001	0.895	0.988	5.8
Pyridine		1.377	1.420	1.635	1.655	1.740	1.511	1.556	9.2
1-methylnaphthalene	0.686	0.620	0.605	0.741	0.746	0.753	0.692	0.692	8.7
Azobenzene (1,2-DP-Hydrazine	1.184	1.232	1.224	1.423	1.449	1.416	1.260	1.312	8.5
Total Benzofluoranthenes	1.088	1.144	1.053	1.194	1.226	1.226	1.077	1.144	6.4

(1) Cannot be seperated from Diphenylamine

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

FORM VI SV-2

6B

SEMIVOLATILE 8270-D INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGAT

Instrument ID: NT10 — Calibration Date: 08/05/11

LAB FILE ID: RRF0.2=IC0805C RRF0.5=IC0805E RRF1 =IC0805G
RRF2.5=IC0805F RRF5 =IC0805A RRF10 =IC0805D
RRF20 =IC0805B

COMPOUND	RRF 0.2	RRF 0.5	RRF 1	RRF 2.5	RRF 5	RRF 10	RRF 20	___ RRF	%RSD /R^2
2-Fluorophenol	1.126	1.052	0.930	1.078	1.124	1.162	1.046	1.074	7.1
Phenol-d5	1.279	1.364	1.288	1.504	1.559	1.586	1.436	1.431	8.8
2-Chlorophenol-d4	1.113	1.020	1.053	1.197	1.234	1.268	1.172	1.151	8.0
1,2-Dichlorobenzene-d4	0.940	0.832	0.803	0.877	0.926	0.925	0.812	0.874	6.6
Nitrobenzene-d5	0.310	0.308	0.309	0.362	0.369	0.368	0.343	0.338	8.5
2-Fluorobiphenyl	1.280	1.167	1.141	1.273	1.324	1.284	1.148	1.231	6.2
2,4,6-Tribromophenol	0.218	0.233	0.209	0.236	0.259	0.242	0.222	0.231	7.3
Terphenyl-d14	0.782	0.758	0.649	0.709	0.712	0.680	0.603	0.699	8.8

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

FORM VI SV-3

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/06/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1552

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Phenol	1.671	1.596	0.800	AVRG	-4.5	
Bis(2-Chloroethyl)ether	1.697	1.318	0.700	AVRG	-22.3	<-
2-Chlorophenol	1.394	1.477	0.800	AVRG	6.0	
1,3-Dichlorobenzene	1.747	1.727	0.010	AVRG	-1.1	
1,4-Dichlorobenzene	1.677	1.683	0.010	AVRG	0.4	
1,2-Dichlorobenzene	1.628	1.649	0.010	AVRG	1.3	
Benzyl alcohol	0.769	0.726	0.010	AVRG	-5.6	
2,2'-oxybis(1-Chloropropane)	0.462	0.456	0.010	AVRG	-1.3	
2-Methylphenol	1.175	1.179	0.700	AVRG	0.3	
Hexachloroethane	0.697	0.789	0.300	AVRG	13.2	
N-Nitroso-di-n-propylamine	1.031	1.176	0.500	AVRG	14.1	
4-Methylphenol	1.216	1.208	0.600	AVRG	-0.6	
Nitrobenzene	0.395	0.449	0.200	AVRG	13.7	
Isophorone	0.652	0.729	0.400	AVRG	11.8	
2-Nitrophenol	0.201	0.204	0.100	AVRG	1.5	
2,4-Dimethylphenol	0.347	0.376	0.200	AVRG	8.4	
Bis(2-Chloroethoxy)methane	0.448	0.515	0.300	AVRG	15.0	
2,4-Dichlorophenol	0.333	0.335	0.200	AVRG	0.6	
1,2,4-Trichlorobenzene	0.374	0.410	0.010	AVRG	9.6	
Naphthalene	1.010	1.060	0.700	AVRG	5.0	
Benzoic acid	20.00	21.58	0.010	2ORDR	7.9	
4-Chloroaniline	0.380	0.424	0.010	AVRG	11.6	
Hexachlorobutadiene	0.248	0.302	0.010	AVRG	21.8	<-
4-Chloro-3-methylphenol	0.296	0.365	0.200	AVRG	23.3	<-
2-Methylnaphthalene	0.684	0.748	0.400	AVRG	9.4	
Hexachlorocyclopentadiene	10.00	8.506	0.050	2ORDR	-14.9	
2,4,6-Trichlorophenol	0.391	0.418	0.200	AVRG	6.9	
2,4,5-Trichlorophenol	0.411	0.448	0.200	AVRG	9.0	
2-Chloronaphthalene	1.224	1.207	0.800	AVRG	-1.4	
2-Nitroaniline	0.282	0.312	0.010	AVRG	10.6	
Acenaphthylene	1.714	1.715	0.900	AVRG	0.0	
Dimethylphthalate	1.362	1.452	0.010	AVRG	6.6	
2,6-Dinitrotoluene	0.315	0.322	0.200	AVRG	2.2	
Acenaphthene	1.152	1.156	0.900	AVRG	0.3	
3-Nitroaniline	0.279	0.288	0.010	AVRG	3.2	
2,4-Dinitrophenol	20.00	19.10	0.010	2ORDR	-4.5	
Dibenzofuran	1.613	1.659	0.800	AVRG	2.8	

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

FORM VII SV-1

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/06/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1552

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	10.00	10.86	0.010	2ORDR	8.6	
2,4-Dinitrotoluene	0.389	0.456	0.200	AVRG	17.2	
Fluorene	1.325	1.386	0.900	AVRG	4.6	
4-Chlorophenyl-phenylether	0.824	0.842	0.400	AVRG	2.2	
Diethylphthalate	1.377	1.669	0.010	AVRG	21.2	<-
4-Nitroaniline	0.276	0.287	0.010	AVRG	4.0	
4,6-Dinitro-2-methylphenol	20.00	18.49	0.010	2ORDR	-7.6	
N-Nitrosodiphenylamine(1)	0.548	0.594	0.010	AVRG	8.4	
4-Bromophenyl-phenylether	0.271	0.308	0.100	AVRG	13.6	
Hexachlorobenzene	0.310	0.420	0.100	AVRG	35.5	<-
Pentachlorophenol	10.00	9.626	0.050	2ORDR	-3.7	
Phenanthrene	1.074	1.127	0.700	AVRG	4.9	
Anthracene	1.122	1.203	0.700	AVRG	7.2	
Carbazole	0.939	0.962	0.010	AVRG	2.4	
Di-n-butylphthalate	1.320	1.476	0.010	AVRG	11.8	
Fluoranthene	1.257	1.384	0.600	AVRG	10.1	
Pyrene	1.213	1.228	0.600	AVRG	1.2	
Butylbenzylphthalate	0.497	0.543	0.010	AVRG	9.2	
Benzo(a)anthracene	1.082	1.342	0.800	AVRG	24.0	<-
3,3'-Dichlorobenzidine	0.555	0.500	0.010	AVRG	-9.9	
Chrysene	1.018	1.048	0.700	AVRG	2.9	
bis(2-Ethylhexyl)phthalate	0.599	0.630	0.010	AVRG	5.2	
Di-n-octylphthalate	1.045	1.085	0.010	AVRG	3.8	
Benzo(b)fluoranthene	1.204	1.317	0.700	AVRG	9.4	
Benzo(k)fluoranthene	1.261	1.411	0.700	AVRG	11.9	
Benzo(a)pyrene	1.097	1.159	0.700	AVRG	5.6	
Indeno(1,2,3-cd)pyrene	1.327	1.320	0.500	AVRG	-0.5	
Dibenzo(a,h)anthracene	1.080	1.063	0.400	AVRG	-1.6	
Benzo(g,h,i)perylene	1.150	1.112	0.500	AVRG	-3.3	
N-Nitrosodimethylamine	0.903	0.962	0.010	AVRG	6.5	
Aniline	2.068	1.950	0.010	AVRG	-5.7	
Benzidine	10.00	9.392	0.010	2ORDR	-6.1	
Perylene	0.988	0.958	0.010	AVRG	-3.0	
Pyridine	1.556	1.556	0.010	AVRG	0.0	
1-methylnaphthalene	0.692	0.750	0.010	AVRG	8.4	
Azobenzene (1,2-DP-Hydrazine	1.312	1.638	0.010	AVRG	24.8	<-

(1) Cannot be separated from Diphenylamine
<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII SV-2

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/06/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1552

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Total Benzofluoranthenes	1.144	1.249	0.010	AVRG	9.2	
2-Fluorophenol	1.074	0.984	0.010	AVRG	-8.4	
Phenol-d5	1.431	1.428	0.010	AVRG	-0.2	
2-Chlorophenol-d4	1.148	1.099	0.010	AVRG	-4.3	
1,2-Dichlorobenzene-d4	0.874	0.918	0.010	AVRG	5.0	
Nitrobenzene-d5	0.338	0.383	0.010	AVRG	13.3	
2-Fluorobiphenyl	1.231	1.236	0.010	AVRG	0.4	
2,4,6-Tribromophenol	0.231	0.289	0.010	AVRG	25.1	<-
Terphenyl-d14	0.699	0.703	0.010	AVRG	0.6	

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

FORM VII SV-3

TK35:00155

7B

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/07/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1234

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Phenol	1.671	1.434	0.800	AVRG	-14.2	
Bis(2-Chloroethyl)ether	1.697	1.250	0.700	AVRG	-26.3	<-
2-Chlorophenol	1.394	1.515	0.800	AVRG	8.7	
1,3-Dichlorobenzene	1.747	1.703	0.010	AVRG	-2.5	
1,4-Dichlorobenzene	1.677	1.744	0.010	AVRG	4.0	
1,2-Dichlorobenzene	1.628	1.686	0.010	AVRG	3.6	
Benzyl alcohol	0.769	0.876	0.010	AVRG	13.9	
2,2'-oxybis(1-Chloropropane)	0.462	0.469	0.010	AVRG	1.5	
2-Methylphenol	1.175	1.356	0.700	AVRG	15.4	
Hexachloroethane	0.697	0.792	0.300	AVRG	13.6	
N-Nitroso-di-n-propylamine	1.031	1.159	0.500	AVRG	12.4	
4-Methylphenol	1.216	1.246	0.600	AVRG	2.5	
Nitrobenzene	0.395	0.448	0.200	AVRG	13.4	
Isophorone	0.652	0.731	0.400	AVRG	12.1	
2-Nitrophenol	0.201	0.214	0.100	AVRG	6.5	
2,4-Dimethylphenol	0.347	0.372	0.200	AVRG	7.2	
Bis(2-Chloroethoxy)methane	0.448	0.545	0.300	AVRG	21.6	<-
2,4-Dichlorophenol	0.333	0.349	0.200	AVRG	4.8	
1,2,4-Trichlorobenzene	0.374	0.431	0.010	AVRG	15.2	
Naphthalene	1.010	1.064	0.700	AVRG	5.3	
Benzoic acid	20.00	21.09	0.010	2ORDR	5.4	
4-Chloroaniline	0.380	0.431	0.010	AVRG	13.4	
Hexachlorobutadiene	0.248	0.312	0.010	AVRG	25.8	<-
4-Chloro-3-methylphenol	0.296	0.364	0.200	AVRG	23.0	<-
2-Methylnaphthalene	0.684	0.765	0.400	AVRG	11.8	
Hexachlorocyclopentadiene	10.00	8.525	0.050	2ORDR	-14.8	
2,4,6-Trichlorophenol	0.391	0.428	0.200	AVRG	9.5	
2,4,5-Trichlorophenol	0.411	0.458	0.200	AVRG	11.4	
2-Chloronaphthalene	1.224	1.257	0.800	AVRG	2.7	
2-Nitroaniline	0.282	0.327	0.010	AVRG	16.0	
Acenaphthylene	1.714	1.771	0.900	AVRG	3.3	
Dimethylphthalate	1.362	1.451	0.010	AVRG	6.5	
2,6-Dinitrotoluene	0.315	0.332	0.200	AVRG	5.4	
Acenaphthene	1.152	1.190	0.900	AVRG	3.3	
3-Nitroaniline	0.279	0.290	0.010	AVRG	3.9	
2,4-Dinitrophenol	20.00	20.19	0.010	2ORDR	1.0	
Dibenzofuran	1.613	1.727	0.800	AVRG	7.1	

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

FORM VII SV-1

TK35:00156

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/07/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1234

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
4-Nitrophenol	10.00	10.01	0.010	2ORDR	0.1	
2,4-Dinitrotoluene	0.389	0.447	0.200	AVRG	14.9	
Fluorene	1.325	1.421	0.900	AVRG	7.2	
4-Chlorophenyl-phenylether	0.824	0.763	0.400	AVRG	-7.4	
Diethylphthalate	1.377	1.663	0.010	AVRG	20.8	<-
4-Nitroaniline	0.276	0.243	0.010	AVRG	-12.0	
4,6-Dinitro-2-methylphenol	20.00	17.50	0.010	2ORDR	-12.5	
N-Nitrosodiphenylamine(1)	0.548	0.571	0.010	AVRG	4.2	
4-Bromophenyl-phenylether	0.271	0.297	0.100	AVRG	9.6	
Hexachlorobenzene	0.310	0.359	0.100	AVRG	15.8	
Pentachlorophenol	10.00	8.219	0.050	2ORDR	-17.8	
Phenanthrene	1.074	1.081	0.700	AVRG	0.6	
Anthracene	1.122	1.170	0.700	AVRG	4.3	
Carbazole	0.939	0.976	0.010	AVRG	3.9	
Di-n-butylphthalate	1.320	1.420	0.010	AVRG	7.6	
Fluoranthene	1.257	1.325	0.600	AVRG	5.4	
Pyrene	1.213	1.242	0.600	AVRG	2.4	
Butylbenzylphthalate	0.497	0.562	0.010	AVRG	13.1	
Benzo(a)anthracene	1.082	1.314	0.800	AVRG	21.4	<-
3,3'-Dichlorobenzidine	0.555	0.534	0.010	AVRG	-3.8	
Chrysene	1.018	1.066	0.700	AVRG	4.7	
bis(2-Ethylhexyl)phthalate	0.599	0.636	0.010	AVRG	6.2	
Di-n-octylphthalate	1.045	1.097	0.010	AVRG	5.0	
Benzo(b)fluoranthene	1.204	1.397	0.700	AVRG	16.0	
Benzo(k)fluoranthene	1.261	1.223	0.700	AVRG	-3.0	
Benzo(a)pyrene	1.097	1.111	0.700	AVRG	1.3	
Indeno(1,2,3-cd)pyrene	1.327	1.437	0.500	AVRG	8.3	
Dibenzo(a,h)anthracene	1.080	1.148	0.400	AVRG	6.3	
Benzo(g,h,i)perylene	1.150	1.223	0.500	AVRG	6.3	
N-Nitrosodimethylamine	0.903	0.896	0.010	AVRG	-0.8	
Aniline	2.068	1.994	0.010	AVRG	-3.6	
Benzidine	10.00	7.576	0.010	2ORDR	-24.2	<-
Perylene	0.988	0.946	0.010	AVRG	-4.2	
Pyridine	1.556	1.464	0.010	AVRG	-5.9	
1-methylnaphthalene	0.692	0.742	0.010	AVRG	7.2	
Azobenzene (1,2-DP-Hydrazine	1.312	1.674	0.010	AVRG	27.6	<-

(1) Cannot be separated from Diphenylamine
<- Exceeds QC limit of 20% D
* RF less than minimum RF

FORM VII SV-2

TK35:00157

7C

SEMIVOLATILE 8270-D CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: NT10 — Cont. Calib. Date: 09/07/11

Init. Calib. Date: 08/05/11 — Cont. Calib. Time: 1234

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Total Benzofluoranthenes	1.144	1.181	0.010	AVRG	3.2	
2-Fluorophenol	1.074	0.971	0.010	AVRG	-9.6	
Phenol-d5	1.431	1.440	0.010	AVRG	0.6	
2-Chlorophenol-d4	1.148	1.169	0.010	AVRG	1.8	
1,2-Dichlorobenzene-d4	0.874	0.967	0.010	AVRG	10.6	
Nitrobenzene-d5	0.338	0.386	0.010	AVRG	14.2	
2-Fluorobiphenyl	1.231	1.259	0.010	AVRG	2.3	
2,4,6-Tribromophenol	0.231	0.297	0.010	AVRG	28.6	<-
Terphenyl-d14	0.699	0.721	0.010	AVRG	3.1	

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

FORM VII SV-3

TK35:00158

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/06/11

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	275538	7.24	1032135	9.63	604541	13.14
	UPPER LIMIT	551076		2064270		1209082	
	LOWER LIMIT	137769		516068		302270	
	CCAL	215795	6.51	807013	8.87	532116	12.31
	UPPER LIMIT		7.01		9.37		12.81
	LOWER LIMIT		6.01		8.37		11.81
01	TK35MBS1	202615	6.51	773804	8.87	492641	12.31
02	TK35LCSS1	193450	6.51	763718	8.87	493563	12.31
03	TK35LCSDS1	208077	6.51	754019	8.87	495945	12.30
04	FRP-082911-0	195262	6.51	742987	8.87	497543	12.32
05	FRP-082911-0	194294	6.51	739938	8.87	477429	12.31
06	FRP-082911-0	192590	6.51	747277	8.86	465200	12.31
07	FRP-082911-0	187687	6.50	758671	8.86	471874	12.30
08	FRP-082911-0	193918	6.51	746787	8.87	455539	12.31
09	FRP-082911-0	191157	6.50	737690	8.86	452088	12.30
10	FRP-082911-0	191387	6.50	718747	8.86	469063	12.31
11	FRP-082911-0	178145	6.50	728000	8.86	440490	12.31
12	FRP-082911-0	182464	6.50	731898	8.86	457395	12.30
13	FRP-082911-0	183596	6.51	722577	8.86	449159	12.31
14	FRP-082911-0	185535	6.50	719942	8.86	416448	12.31
15	FRP-082911-0	185738	6.50	725755	8.86	441148	12.30
16	FRP-082911-0	186489	6.51	696739	8.86	425471	12.30
17	FRP-082911-0	162219	6.51	642322	8.86	412813	12.31
18	FRP-082911-0	176026	6.50	690458	8.86	422979	12.31
19	FRP-082911-0	170719	6.50	675659	8.86	407159	12.31
20							
21							
22							
23							
24							
25							

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-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.

FORM VIII SV-1

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/06/11

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	1059570	16.07	1122672	21.01	1040136	23.23
	UPPER LIMIT	2119140		2245344		2080272	
	LOWER LIMIT	529785		561336		520068	
	CCAL	918579	15.20	1077577	20.19	1012716	22.40
	UPPER LIMIT		15.70		20.69		22.90
	LOWER LIMIT		14.70		19.69		21.90
01	TK35MBS1	873460	15.19	1157404	20.18	932013	22.40
02	TK35LCSS1	899610	15.19	1151668	20.19	989797	22.40
03	TK35LCSDS1	880378	15.20	1188271	20.19	962345	22.41
04	FRP-082911-0	744887	15.23	987256	20.21	988947	22.45
05	FRP-082911-0	835291	15.20	1102001	20.19	976152	22.42
06	FRP-082911-0	878492	15.20	986167	20.20	946361	22.42
07	FRP-082911-0	796063	15.19	1093207	20.19	900857	22.41
08	FRP-082911-0	795936	15.20	1055355	20.19	939206	22.41
09	FRP-082911-0	804764	15.20	1018844	20.19	906988	22.41
10	FRP-082911-0	839211	15.19	1100274	20.19	935702	22.41
11	FRP-082911-0	766722	15.20	1039154	20.19	945414	22.41
12	FRP-082911-0	808303	15.19	1105237	20.19	966711	22.41
13	FRP-082911-0	793480	15.19	1047529	20.19	923998	22.41
14	FRP-082911-0	753261	15.20	1020133	20.19	876870	22.41
15	FRP-082911-0	759413	15.19	1037509	20.19	936335	22.41
16	FRP-082911-0	757777	15.20	1020843	20.19	892407	22.41
17	FRP-082911-0	730597	15.20	872195	20.19	848715	22.41
18	FRP-082911-0	755886	15.20	1033863	20.18	912952	22.41
19	FRP-082911-0	709656	15.20	874290	20.19	863714	22.41
20							
21							
22							
23							
24							
25							

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = 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: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/06/11

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	1419293	22.23				
	UPPER LIMIT	2838586					
	LOWER LIMIT	709646					
	CCAL	1325840	21.49				
	UPPER LIMIT		21.99				
	LOWER LIMIT		20.99				
01	TK35MBS1	1257049	21.49				
02	TK35LCSS1	1294967	21.49				
03	TK35LCSDS1	1284722	21.49				
04	FRP-082911-0	1362987	21.53				
05	FRP-082911-0	1277962	21.49				
06	FRP-082911-0	1237873	21.49				
07	FRP-082911-0	1234679	21.49				
08	FRP-082911-0	1224179	21.49				
09	FRP-082911-0	1192254	21.49				
10	FRP-082911-0	1241628	21.49				
11	FRP-082911-0	1228679	21.49				
12	FRP-082911-0	1219902	21.49				
13	FRP-082911-0	1177888	21.49				
14	FRP-082911-0	1187166	21.49				
15	FRP-082911-0	1202379	21.49				
16	FRP-082911-0	1167177	21.49				
17	FRP-082911-0	1086323	21.49				
18	FRP-082911-0	1183086	21.49				
19	FRP-082911-0	1114170	21.49				
20							
21							
22							
23							
24							
25							

IS7 = Di-n-octylphthalate-d4

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-3

TK35:00161

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/07/11

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	ICAL MIDPT	275538	7.24	1032135	9.63	604541	13.14
	UPPER LIMIT	551076		2064270		1209082	
	LOWER LIMIT	137769		516068		302270	
	CCAL	203906	6.51	759578	8.87	500424	12.31
	UPPER LIMIT		7.01		9.37		12.81
	LOWER LIMIT		6.01		8.37		11.81
01	FRP-082911-0	185212	6.51	699359	8.86	450767	12.31
02	FRP-082911-0	194834	6.51	726715	8.86	460383	12.31
03	FRP-082911-0	185560	6.50	723836	8.86	442268	12.31
04	FRP-082911-0	180363	6.50	716777	8.86	437345	12.31
05							
06							
07							
08							
09							
10							
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19							
20							
21							
22							
23							
24							
25							

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-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.

FORM VIII SV-1

TK35:00162

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/07/11

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	ICAL MIDPT	1059570	16.07	1122672	21.01	1040136	23.23
	UPPER LIMIT	2119140		2245344		2080272	
	LOWER LIMIT	529785		561336		520068	
	CCAL	903653	15.20	971922	20.19	918428	22.41
	UPPER LIMIT		15.70		20.69		22.91
	LOWER LIMIT		14.70		19.69		21.91
01	FRP-082911-0	755785	15.20	839727	20.19	819050	22.42
02	FRP-082911-0	781780	15.20	956259	20.19	861827	22.42
03	FRP-082911-0	799158	15.20	914478	20.19	837053	22.41
04	FRP-082911-0	750960	15.20	819010	20.19	840102	22.41
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = 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

TK35 : 00163

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TK35 — Project: FRP SHORELINE INVESTIGATION

Ical Midpoint ID: IC0805A — Ical Date: 08/05/11

Instrument ID: NT10 — Cont. Cal Date: 09/07/11

		IS7 AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	1419293	22.23				
	UPPER LIMIT	2838586					
	LOWER LIMIT	709646					
	CCAL	1197443	21.49				
	UPPER LIMIT		21.99				
	LOWER LIMIT		20.99				
01	FRP-082911-0	1086367	21.49				
02	FRP-082911-0	1093831	21.49				
03	FRP-082911-0	1077188	21.49				
04	FRP-082911-0	1031447	21.49				
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

IS7 = Di-n-octylphthalate-d4

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-3

TK35:00164

PCB Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-001
SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 13:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 8.95 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 200
Silica Gel: Yes

Percent Moisture: 11.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	280	1,100	< 1,100 U
53469-21-9	Aroclor 1242	380	1,100	< 1,100 U
12672-29-6	Aroclor 1248	380	1,400	< 1,400 U
11097-69-1	**Aroclor 1254**	**380**	**1,100**	**5,900**
11096-82-5	Aroclor 1260	380	1,700	< 1,700 U
11104-28-2	Aroclor 1221	380	1,100	< 1,100 U
11141-16-5	Aroclor 1232	380	1,100	< 1,100 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	D
Tetrachlorometaxylene	D

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-002
SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/09/11 12:29
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 15.5%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	10	39	< 39 U
53469-21-9	Aroclor 1242	13	39	< 39 U
12672-29-6	Aroclor 1248	13	78	< 78 U
11097-69-1	**Aroclor 1254**	**13**	**39**	**420**
11096-82-5	Aroclor 1260	13	78	< 78 U
11104-28-2	Aroclor 1221	13	39	< 39 U
11141-16-5	Aroclor 1232	13	39	< 39 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	102%
Tetrachlorometaxylene	86.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-003
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 14:37
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.0 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 24.2%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.98	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	3.8	< 3.8 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.8**	**3.5 J**
11096-82-5	Aroclor 1260	1.3	3.8	< 3.8 U
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.0%
Tetrachlorometaxylene	68.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-004
SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 15:00
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.4 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 21.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.95	3.7	< 3.7 U
53469-21-9	Aroclor 1242	1.3	3.7	< 3.7 U
12672-29-6	Aroclor 1248	1.3	7.4	< 7.4 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.7**	**38**
11096-82-5	Aroclor 1260	1.3	7.4	< 7.4 U
11104-28-2	Aroclor 1221	1.3	3.7	< 3.7 U
11141-16-5	Aroclor 1232	1.3	3.7	< 3.7 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	83.8%
Tetrachlorometaxylene	65.5%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-006
SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 15:23
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 5.00
Silica Gel: Yes

Percent Moisture: 7.1%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	4.9	19	< 19 U
53469-21-9	Aroclor 1242	6.5	19	< 19 U
12672-29-6	Aroclor 1248	6.5	140	< 140 ~~U~~
11097-69-1	**Aroclor 1254**	**6.5**	**19**	**630**
11096-82-5	**Aroclor 1260**	**6.5**	**19**	**160**
11104-28-2	Aroclor 1221	6.5	19	< 19 U
11141-16-5	Aroclor 1232	6.5	19	< 19 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.9%
Tetrachlorometaxylene	77.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-007
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 15:46
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.9 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 8.2%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.99	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	80.5%
Tetrachlorometaxylene	62.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-008
SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 16:54
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 9.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	89.0%
Tetrachlorometaxylene	73.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-009
SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 18:03
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 23.4%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.97	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	3.8	< 3.8 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.8**	**4.9**
11096-82-5	Aroclor 1260	1.3	3.8	< 3.8 U
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	78.5%
Tetrachlorometaxylene	65.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-010
SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/09/11 12:52
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 7.8%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	9.8	38	< 38 U
53469-21-9	Aroclor 1242	13	38	< 38 U
12672-29-6	Aroclor 1248	13	38	< 38 U
11097-69-1	**Aroclor 1254**	**13**	**38**	**290**
11096-82-5	**Aroclor 1260**	**13**	**38**	**300**
11104-28-2	Aroclor 1221	13	38	< 38 U
11141-16-5	Aroclor 1232	13	38	< 38 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	87.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-011
SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/09/11 13:15
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 10.0
Silica Gel: Yes

Percent Moisture: 7.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	9.8	38	< 38 U J
53469-21-9	Aroclor 1242	13	38	< 38 U J
12672-29-6	Aroclor 1248	13	77	< 77 ~~U~~ UJ
11097-69-1	**Aroclor 1254**	**13**	**38**	**360** J
11096-82-5	**Aroclor 1260**	**13**	**38**	**290** J
11104-28-2	Aroclor 1221	13	38	< 38 U J
11141-16-5	Aroclor 1232	13	38	< 38 U J

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	NR
Tetrachlorometaxylene	90.5%

FORM I

TK35:66175

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-012
SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 19:11
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.3 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 6.2%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.96	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	38	< 38 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.8**	**72**
11096-82-5	Aroclor 1260	1.3	9.4	< 9.4 U
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	50.2%
Tetrachlorometaxylene	74.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-013
SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 19:34
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 21.0%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	88.2%
Tetrachlorometaxylene	67.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-014
SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 19:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.2 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 23.5%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.97	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	3.8	< 3.8 U
11097-69-1	Aroclor 1254	1.3	3.8	< 3.8 U
11096-82-5	Aroclor 1260	1.3	3.8	< 3.8 U
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.8%
Tetrachlorometaxylene	70.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-016
SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 21:05
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 8.1%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.98	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	48	< 48 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.8**	**180**
11096-82-5	**Aroclor 1260**	**1.3**	**3.8**	**100**
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	97.2%
Tetrachlorometaxylene	75.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-017
SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 21:28
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.6 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 10.8%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.94	3.7	< 3.7 U
53469-21-9	Aroclor 1242	1.3	3.7	< 3.7 U
12672-29-6	Aroclor 1248	1.3	5.5	< 5.5 U
11097-69-1	**Aroclor 1254**	**1.3**	**3.7**	**39**
11096-82-5	**Aroclor 1260**	**1.3**	**3.7**	**18**
11104-28-2	Aroclor 1221	1.3	3.7	< 3.7 U
11141-16-5	Aroclor 1232	1.3	3.7	< 3.7 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	71.2%
Tetrachlorometaxylene	78.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-018
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 21:51
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.8 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 10.2%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	7.8	< 7.8 UJ
11097-69-1	**Aroclor 1254**	**1.3**	**3.9**	**41**
11096-82-5	**Aroclor 1260**	**1.3**	**3.9**	**32**
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	93.8%
Tetrachlorometaxylene	76.8%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-019
SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 22:14
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 13.1 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 19.3%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.97	3.8	< 3.8 U
53469-21-9	Aroclor 1242	1.3	3.8	< 3.8 U
12672-29-6	Aroclor 1248	1.3	3.8	< 3.8 U
11097-69-1	Aroclor 1254	1.3	5.7	< 5.7 U
11096-82-5	Aroclor 1260	1.3	3.8	< 3.8 U
11104-28-2	Aroclor 1221	1.3	3.8	< 3.8 U
11141-16-5	Aroclor 1232	1.3	3.8	< 3.8 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	60.5%
Tetrachlorometaxylene	63.2%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-020
SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 22:36
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.9 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 28.6%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	0.98	3.9	< 3.9 U
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	< 3.9 U
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	75.5%
Tetrachlorometaxylene	60.2%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB SOIL/SEDIMENT SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client ID	DCBP % REC	DCBP LCL-UCL	TCMX % REC	TCMX LCL-UCL	TOT OUT
FRP-082911-001	D	34-141	D	38-102	0
FRP-082911-002	102%	34-141	86.8%	38-102	0
FRP-082911-003	78.0%	34-141	68.2%	38-102	0
FRP-082911-004	83.8%	34-141	65.5%	38-102	0
FRP-082911-006	97.9%	34-141	77.0%	38-102	0
FRP-082911-007	80.5%	34-141	62.2%	38-102	0
MB-090511	88.2%	40-109	72.5%	35-100	0
LCS-090511	89.2%	40-109	69.5%	35-100	0
LCSD-090511	88.8%	40-109	71.0%	35-100	0
FRP-082911-008	89.0%	34-141	73.8%	38-102	0
FRP-082911-008 MS	83.0%	34-141	68.0%	38-102	0
FRP-082911-008 MSD	82.2%	34-141	69.8%	38-102	0
FRP-082911-009	78.5%	34-141	65.8%	38-102	0
FRP-082911-010	NR	34-141	87.0%	38-102	0
FRP-082911-011	NR	34-141	90.5%	38-102	0
FRP-082911-012	50.2%	34-141	74.2%	38-102	0
FRP-082911-013	88.2%	34-141	67.5%	38-102	0
FRP-082911-014	82.8%	34-141	70.8%	38-102	0
FRP-082911-016	97.2%	34-141	75.8%	38-102	0
FRP-082911-017	71.2%	34-141	78.0%	38-102	0
FRP-082911-018	93.8%	34-141	76.8%	38-102	0
FRP-082911-019	60.5%	34-141	63.2%	38-102	0
FRP-082911-020	75.5%	34-141	60.2%	38-102	0

Microwave (MARS) Control Limits PCBSMM
Prep Method: SW3546
Log Number Range: 11-18788 to 11-18805

FORM-II SW8082

TK35:00184

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-008
MS/MSD

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted MS/MSD: 09/05/11

Date Analyzed MS: 09/08/11 17:17
MSD: 09/08/11 17:40
Instrument/Analyst MS: ECD7/JGR
MSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount MS: 12.7 g-dry-wt
MSD: 12.7 g-dry-wt
Final Extract Volume MS: 2.5 mL
MSD: 2.5 mL
Dilution Factor MS: 1.00
MSD: 1.00
Silica Gel: Yes

Percent Moisture: 9.9%

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Aroclor 1016	< 3.9 U	71.9	99.1	72.6%	71.7	99.1	72.4%	0.3%
Aroclor 1260	< 3.9 U	85.2	99.1	86.0%	85.8	99.1	86.6%	0.7%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-008
MATRIX SPIKE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 17:17
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 9.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	3.9	---
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	---
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	83.0%
Tetrachlorometaxylene	68.0%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: FRP-082911-008
MATRIX SPIKE DUP

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 17:40
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.7 g-dry-wt
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: 9.9%

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	3.9	---
53469-21-9	Aroclor 1242	1.3	3.9	< 3.9 U
12672-29-6	Aroclor 1248	1.3	3.9	< 3.9 U
11097-69-1	Aroclor 1254	1.3	3.9	< 3.9 U
11096-82-5	Aroclor 1260	1.3	3.9	---
11104-28-2	Aroclor 1221	1.3	3.9	< 3.9 U
11141-16-5	Aroclor 1232	1.3	3.9	< 3.9 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	82.2%
Tetrachlorometaxylene	69.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: LCS-090511
LCS/LCSD

Lab Sample ID: LCS-090511
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Date Extracted LCS/LCSD: 09/05/11

Date Analyzed LCS: 09/08/11 12:20
LCSD: 09/08/11 12:43
Instrument/Analyst LCS: ECD7/JGR
LCSD: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes
Florisil Cleanup: No

Sample Amount LCS: 12.5 g-dry-wt
LCSD: 12.5 g-dry-wt
Final Extract Volume LCS: 2.50 mL
LCSD: 2.50 mL
Dilution Factor LCS: 1.00
LCSD: 1.00
Silica Gel: Yes

Percent Moisture: NA

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Aroclor 1016	32.1	101	31.8%	76.6	101	75.8%	81.9%
Aroclor 1260	41.2	101	40.8%	93.8	101	92.9%	77.9%

PCB Surrogate Recovery

	LCS	LCSD
Decachlorobiphenyl	89.2%	88.8%
Tetrachlorometaxylene	69.5%	71.0%

Results reported in µg/kg (ppb)
RPD calculated using sample concentrations per SW846.

PCB METHOD BLANK SUMMARY

BLANK NO.

TK35MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE INVEST

Lab Sample ID: TK35MBS1

Lab File ID: 0908A005

Date Extracted: 09/05/11

Matrix: SOLID

Date Analyzed: 09/08/11

Instrument ID: ECD7

Time Analyzed: 1157

GC Columns: ZB5/ZB35

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	TK35LCSS1	TK35LCSS1	09/08/11
02	TK35LCSDS1	TK35LCSDS1	09/08/11
03	FRP-082911-001	TK35A	09/08/11
04	FRP-082911-002	TK35B	09/08/11
05	FRP-082911-003	TK35C	09/08/11
06	FRP-082911-004	TK35D	09/08/11
07	FRP-082911-006	TK35E	09/08/11
08	FRP-082911-007	TK35F	09/08/11
09	FRP-082911-008	TK35G	09/08/11
10	FRP-082911-008 MS	TK35GMS	09/08/11
11	FRP-082911-008 MSD	TK35GMSD	09/08/11
12	FRP-082911-009	TK35H	09/08/11
13	FRP-082911-010	TK35I	09/08/11
14	FRP-082911-011	TK35J	09/08/11
15	FRP-082911-012	TK35K	09/08/11
16	FRP-082911-013	TK35L	09/08/11
17	FRP-082911-014	TK35M	09/08/11
18	FRP-082911-016	TK35N	09/08/11
19	FRP-082911-017	TK35O	09/08/11
20	FRP-082911-018	TK35P	09/08/11
21	FRP-082911-019	TK35Q	09/08/11
22	FRP-082911-020	TK35R	09/08/11

ALL RUNS ARE DUAL COLUMN

FORM IV PCB

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PSDDA PCB by GC/ECD

Sample ID: MB-090511
METHOD BLANK

Lab Sample ID: MB-090511
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Date Extracted: 09/05/11
Date Analyzed: 09/08/11 11:57
Instrument/Analyst: ECD7/JGR
GPC Cleanup: No
Sulfur Cleanup: Yes
Acid Cleanup: Yes

Sample Amount: 12.5 g
Final Extract Volume: 2.5 mL
Dilution Factor: 1.00
Silica Gel: Yes

Percent Moisture: NA

CAS Number	Analyte	MDL	RL	Result
12674-11-2	Aroclor 1016	1.0	4.0	< 4.0 U
53469-21-9	Aroclor 1242	1.4	4.0	< 4.0 U
12672-29-6	Aroclor 1248	1.4	4.0	< 4.0 U
11097-69-1	Aroclor 1254	1.4	4.0	< 4.0 U
11096-82-5	Aroclor 1260	1.4	4.0	< 4.0 U
11104-28-2	Aroclor 1221	1.4	4.0	< 4.0 U
11141-16-5	Aroclor 1232	1.4	4.0	< 4.0 U

Reported in µg/kg (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	88.2%
Tetrachlorometaxylene	72.5%

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB5

Instrument ID: ECD7

Calibration Date: 08/24/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.19- 6.39	1.0452	1.0550	1.0899	1.0981	1.1101	1.1018	1.0833	2.5
DCB 14.78-14.98	1.0145	1.0347	1.0720	1.0497	1.0484	0.9901	1.0349	2.8

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.20- 8.40	0.0292	0.0271	0.0267	0.0252	0.0251	0.0241	0.0262	6.9
2	8.69- 8.89	0.0967	0.0933	0.0918	0.0866	0.0865	0.0833	0.0897	5.6
3	8.86- 9.06	0.0385	0.0365	0.0356	0.0333	0.0330	0.0316	0.0347	7.4
4	8.99- 9.19	0.0268	0.0251	0.0244	0.0230	0.0229	0.0221	0.0240	7.3

AROCLOR AVERAGE %RSD = 6.8

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	11.75-11.95	0.0814	0.0751	0.0725	0.0686	0.0680	0.0636	0.0715	8.7
2	12.36-12.56	0.0504	0.0482	0.0471	0.0446	0.0444	0.0414	0.0460	7.0
3	12.67-12.87	0.0506	0.0485	0.0477	0.0456	0.0455	0.0427	0.0468	5.9
4	13.40-13.60	0.0626	0.0616	0.0610	0.0584	0.0590	0.0551	0.0596	4.5
5	13.51-13.71	0.0258	0.0248	0.0240	0.0225	0.0224	0.0206	0.0234	8.0

AROCLOR AVERAGE %RSD = 6.8

6F

8082 INITIAL CALIBRATION OF AROCLOR 1016/1260

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB35

Instrument ID: ECD7

Calibration Date: 08/24/11

SURROGATES

RT WIN	LVL1	LVL2	LVL3	LVL4	LVL5	LVL6	MEAN	%RSD
TCX 6.33- 6.53	1.2159	1.1448	1.1451	1.1065	1.1123	1.0836	1.1347	4.1
DCB 15.13-15.33	1.2209	1.0778	1.0560	0.9837	0.9792	0.9360	1.0423	9.8

Aroclor-1016 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	8.47- 8.67	0.0549	0.0500	0.0464	0.0410	0.0400	0.0375	0.0450	14.8
2	9.20- 9.40	0.1086	0.0972	0.0932	0.0840	0.0847	0.0809	0.0914	11.4
3	9.63- 9.83	0.0315	0.0268	0.0247	0.0215	0.0213	0.0200	0.0243	17.8
4	9.73- 9.93	0.0336	0.0300	0.0280	0.0237	0.0234	0.0217	0.0267	17.2

AROCLOR AVERAGE %RSD = 15.3

Aroclor-1260 Peak	RT WIN	LVL1 .02	LVL2 0.05	LVL3 0.1	LVL4 .25	LVL5 0.5	LVL6 1.0	MEAN	%RSD R^2
1	13.20-13.40	0.0662	0.0604	0.0576	0.0505	0.0507	0.0477	0.0555	0.9980
2	13.44-13.64	0.1286	0.1175	0.1140	0.1038	0.1061	0.1024	0.1121	0.9994
3	13.93-14.13	0.1046	0.0858	0.0795	0.0704	0.0700	0.0663	0.0794	0.9980
4	14.49-14.69	0.0429	0.0327	0.0306	0.0265	0.0255	0.0245	0.0304	0.9977

AROCLOR AVERAGE R^2 = 0.9983

FORM VI PCB-1

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No.: TK35 — Project: FRP SHORELINE

GC Column: ZB5 — Instrument ID: ECD7

Calibration Date: 08/25/11

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	6.736	6.64- 6.84	0.01083
2	6.948	6.85- 7.05	0.00810
3	7.072	6.97- 7.17	0.02658

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.297	8.20- 8.40	0.01094
2	8.783	8.68- 8.88	0.03717
3	8.958	8.86- 9.06	0.01462
4	10.272	10.17-10.37	0.01317

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.303	8.20- 8.40	0.02085
2	8.789	8.69- 8.89	0.07132
3	8.963	8.86- 9.06	0.02751
4	10.583	10.48-10.68	0.02573

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.361	9.26- 9.46	0.02708
2	9.693	9.59- 9.79	0.03254
3	10.277	10.18-10.38	0.03911
4	10.583	10.48-10.68	0.03697

TK35:00193

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No.: TK35 — Project: FRP SHORELINE

GC Column: ZB5 — Instrument ID: ECD7

Calibration Date: 08/25/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.345	10.24-10.44	0.04350
2	10.667	10.57-10.77	0.06046
3	11.052	10.95-11.15	0.03802
4	11.191	11.09-11.29	0.07199
5	11.909	11.81-12.01	0.04843

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.451	12.35-12.55	0.07959
2	12.767	12.67-12.87	0.06441
3	13.130	13.03-13.23	0.15006
4	13.601	13.50-13.70	0.05961
5	13.665	13.56-13.76	0.06042

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.601	13.50-13.70	0.16932
2	13.663	13.56-13.76	0.15253
3	13.986	13.89-14.09	0.13022
4	14.588	14.49-14.69	0.39235

TK35:00194

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No.: TK35 — Project: FRP SHORELINE

GC Column: ZB35 — Instrument ID: ECD7

Calibration Date: 08/25/11

Aroclor-1221			
Peak	RT	RT WIN	Cal Factor
1	7.255	7.15- 7.35	0.01302
2	7.557	7.46- 7.66	0.00788
3	7.697	7.60- 7.80	0.02386
4	7.784	7.68- 7.88	0.00396

Aroclor-1232			
Peak	RT	RT WIN	Cal Factor
1	8.566	8.47- 8.67	0.02088
2	9.294	9.19- 9.39	0.03916
3	9.723	9.62- 9.82	0.01069
4	11.189	11.09-11.29	0.01779

Aroclor-1242			
Peak	RT	RT WIN	Cal Factor
1	8.567	8.47- 8.67	0.03454
2	9.298	9.20- 9.40	0.07104
3	9.725	9.62- 9.82	0.01873
4	11.190	11.09-11.29	0.02957

Aroclor-1248			
Peak	RT	RT WIN	Cal Factor
1	9.834	9.73- 9.93	0.03184
2	10.281	10.18-10.38	0.03614
3	10.829	10.73-10.93	0.03495
4	11.191	11.09-11.29	0.04400

TK35:00195

6G

8082 INITIAL CALIBRATION OF SINGLE POINT PCBs

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 Instrument ID: ECD7

Calibration Date: 08/25/11

Aroclor-1254			
Peak	RT	RT WIN	Cal Factor
1	10.898	10.80-11.00	0.03528
2	11.068	10.97-11.17	0.04597
3	11.606	11.51-11.71	0.03633
4	11.758	11.66-11.86	0.07690
5	12.543	12.44-12.64	0.04678

Aroclor-1262			
Peak	RT	RT WIN	Cal Factor
1	12.859	12.76-12.96	0.07350
2	13.303	13.20-13.40	0.06955
3	13.539	13.44-13.64	0.13788
4	13.983	13.88-14.08	0.06248
5	14.035	13.93-14.13	0.09176

Aroclor-1268			
Peak	RT	RT WIN	Cal Factor
1	13.982	13.88-14.08	0.15335
2	14.037	13.94-14.14	0.14423
3	14.350	14.25-14.45	0.11829
4	14.938	14.84-15.04	0.36923

TK35:00196

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: AMEC GEOMATRIX

ARI Job No.: TK35
Project: FRP SHORELINE

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1248
Time Analyzed :1112

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.36	9.26	9.46	243.9	250.0	-2.4
Aroclor-1248-2	9.69	9.59	9.79	246.8	250.0	-1.3
Aroclor-1248-3	10.27	10.18	10.38	244.2	250.0	-2.3
Aroclor-1248-4	10.58	10.48	10.68	240.9	250.0	-3.6

AVERAGE %D = 2.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1248 Time Analyzed :1112

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.83	9.73	9.93	248.9	250.0	-0.4
Aroclor-1248-2	10.28	10.18	10.38	241.2	250.0	-3.5
Aroclor-1248-3	10.83	10.73	10.93	247.4	250.0	-1.0
Aroclor-1248-4	11.19	11.09	11.29	254.7	250.0	1.9

AVERAGE %D = 1.7

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :1135

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.30	8.20	8.40	247.1	250.0	-1.1
Aroclor-1016-2	8.78	8.69	8.89	249.4	250.0	-0.2
Aroclor-1016-3	8.96	8.86	9.06	249.0	250.0	-0.4
Aroclor-1016-4	9.09	8.99	9.19	246.2	250.0	-1.5

AVERAGE %D = 0.8

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :1135

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	256.7	250.0	2.7
Aroclor-1260-2	12.45	12.36	12.56	262.9	250.0	5.2
Aroclor-1260-3	12.77	12.67	12.87	264.2	250.0	5.7
Aroclor-1260-4	13.51	13.40	13.60	269.9	250.0	8.0
Aroclor-1260-5	13.61	13.51	13.71	266.0	250.0	6.4

AVERAGE %D = 5.6

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: AMEC GEOMATRIX

ARI Job No.: TK35
Project: FRP SHORELINE

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1135

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.56	8.47	8.67	238.4	250.0	-4.6
Aroclor-1016-2	9.29	9.20	9.40	245.1	250.0	-1.9
Aroclor-1016-3	9.72	9.63	9.83	237.9	250.0	-4.8
Aroclor-1016-4	9.83	9.73	9.93	245.1	250.0	-2.0

AVERAGE %D = 3.3

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1135

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	297.9	250.0	19.2
Aroclor-1260-2	13.54	13.44	13.64	281.1	250.0	12.4
Aroclor-1260-3	14.03	13.93	14.13	293.1	250.0	17.2
Aroclor-1260-4	14.59	14.49	14.69	299.1	250.0	19.6

AVERAGE %D = 17.1

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1254

Time Analyzed :1609

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.34	10.24	10.44	247.0	250.0	-1.2
Aroclor-1254-2	10.67	10.57	10.77	244.2	250.0	-2.3
Aroclor-1254-3	11.05	10.95	11.15	243.6	250.0	-2.5
Aroclor-1254-4	11.19	11.09	11.29	247.9	250.0	-0.8
Aroclor-1254-5	11.91	11.81	12.01	243.8	250.0	-2.5

AVERAGE %D = 1.9

FORM VII PCB

7F

PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1254

Time Analyzed :1609

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.90	10.80	11.00	246.6	250.0	-1.3
Aroclor-1254-2	11.07	10.97	11.17	243.1	250.0	-2.8
Aroclor-1254-3	11.61	11.51	11.71	240.5	250.0	-3.8
Aroclor-1254-4	11.76	11.66	11.86	245.5	250.0	-1.8
Aroclor-1254-5	12.54	12.44	12.64	243.6	250.0	-2.6

AVERAGE %D = 2.5

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: AMEC GEOMATRIX

ARI Job No.: TK35
Project: FRP SHORELINE

GC Column: ZB5
Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1631

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.30	8.20	8.40	245.6	250.0	-1.7
Aroclor-1016-2	8.79	8.69	8.89	247.4	250.0	-1.0
Aroclor-1016-3	8.96	8.86	9.06	247.6	250.0	-1.0
Aroclor-1016-4	9.09	8.99	9.19	245.4	250.0	-1.8

AVERAGE %D = 1.4

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1631

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	249.3	250.0	-0.3
Aroclor-1260-2	12.46	12.36	12.56	254.9	250.0	2.0
Aroclor-1260-3	12.77	12.67	12.87	255.9	250.0	2.3
Aroclor-1260-4	13.51	13.40	13.60	261.9	250.0	4.8
Aroclor-1260-5	13.61	13.51	13.71	258.0	250.0	3.2

AVERAGE %D = 2.5

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC
Client: AMEC GEOMATRIX

ARI Job No.: TK35
Project: FRP SHORELINE

GC Column: ZB35
Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1631

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.57	8.47	8.67	238.3	250.0	-4.7
Aroclor-1016-2	9.30	9.20	9.40	245.5	250.0	-1.8
Aroclor-1016-3	9.73	9.63	9.83	238.6	250.0	-4.5
Aroclor-1016-4	9.83	9.73	9.93	244.8	250.0	-2.1

AVERAGE %D = 3.3

Date Analyzed :09/08/11

Lab Standard ID: AR1660
Time Analyzed :1631

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	295.9	250.0	18.4
Aroclor-1260-2	13.54	13.44	13.64	278.8	250.0	11.5
Aroclor-1260-3	14.03	13.93	14.13	291.1	250.0	16.4
Aroclor-1260-4	14.59	14.49	14.69	297.9	250.0	19.2

AVERAGE %D = 16.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB5

Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1248

Time Analyzed :2020

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.36	9.26	9.46	241.0	250.0	-3.6
Aroclor-1248-2	9.69	9.59	9.79	242.6	250.0	-3.0
Aroclor-1248-3	10.28	10.18	10.38	241.7	250.0	-3.3
Aroclor-1248-4	10.58	10.48	10.68	236.0	250.0	-5.6

AVERAGE %D = 3.9

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1248 Time Analyzed :2020

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1248-1	9.83	9.73	9.93	244.6	250.0	-2.2
Aroclor-1248-2	10.28	10.18	10.38	236.3	250.0	-5.5
Aroclor-1248-3	10.83	10.73	10.93	242.2	250.0	-3.1
Aroclor-1248-4	11.19	11.09	11.29	244.7	250.0	-2.1

AVERAGE %D = 3.2

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :2042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.30	8.20	8.40	242.5	250.0	-3.0
Aroclor-1016-2	8.79	8.69	8.89	244.6	250.0	-2.1
Aroclor-1016-3	8.96	8.86	9.06	243.9	250.0	-2.4
Aroclor-1016-4	9.09	8.99	9.19	239.5	250.0	-4.2

AVERAGE %D = 2.9

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :2042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	250.4	250.0	0.2
Aroclor-1260-2	12.46	12.36	12.56	256.5	250.0	2.6
Aroclor-1260-3	12.77	12.67	12.87	255.5	250.0	2.2
Aroclor-1260-4	13.51	13.40	13.60	262.9	250.0	5.2
Aroclor-1260-5	13.61	13.51	13.71	259.2	250.0	3.7

AVERAGE %D = 2.8

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :2042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.57	8.47	8.67	238.1	250.0	-4.8
Aroclor-1016-2	9.30	9.20	9.40	241.9	250.0	-3.2
Aroclor-1016-3	9.73	9.63	9.83	228.2	250.0	-8.7
Aroclor-1016-4	9.83	9.73	9.93	238.5	250.0	-4.6

AVERAGE %D = 5.3

Date Analyzed :09/08/11

Lab Standard ID: AR1660 Time Analyzed :2042

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	287.0	250.0	14.8
Aroclor-1260-2	13.54	13.44	13.64	275.7	250.0	10.3
Aroclor-1260-3	14.04	13.93	14.13	271.9	250.0	8.8
Aroclor-1260-4	14.59	14.49	14.69	258.7	250.0	3.5

AVERAGE %D = 9.4

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/09/11

Lab Standard ID: AR1254 Time Analyzed :0053

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.34	10.24	10.44	209.0	250.0	-16.4
Aroclor-1254-2	10.67	10.57	10.77	200.2	250.0	-19.9
Aroclor-1254-3	11.05	10.95	11.15	201.4	250.0	-19.4
Aroclor-1254-4	11.19	11.09	11.29	209.8	250.0	-16.1
Aroclor-1254-5	11.91	11.81	12.01	247.0	250.0	-1.2

AVERAGE %D = 14.6

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No.: TK35

Project: FRP SHORELINE

GC Column: ZB35

Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/09/11

Lab Standard ID: AR1254

Time Analyzed :0053

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1254-1	10.90	10.80	11.00	196.8	250.0	-21.3
Aroclor-1254-2	11.07	10.97	11.17	188.3	250.0	-24.7
Aroclor-1254-3	11.61	11.51	11.71	192.7	250.0	-22.9
Aroclor-1254-4	11.76	11.66	11.86	200.7	250.0	-19.7
Aroclor-1254-5	12.54	12.44	12.64	195.8	250.0	-21.7

AVERAGE %D = 22.1

FORM VII PCB

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/09/11

Lab Standard ID: AR1660 Time Analyzed :0116

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.30	8.20	8.40	242.1	250.0	-3.2
Aroclor-1016-2	8.79	8.69	8.89	241.9	250.0	-3.2
Aroclor-1016-3	8.96	8.86	9.06	241.4	250.0	-3.4
Aroclor-1016-4	9.09	8.99	9.19	240.2	250.0	-3.9

AVERAGE %D = 3.4

Date Analyzed :09/09/11

Lab Standard ID: AR1660 Time Analyzed :0116

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	11.85	11.75	11.95	264.6	250.0	5.8
Aroclor-1260-2	12.46	12.36	12.56	266.8	250.0	6.7
Aroclor-1260-3	12.77	12.67	12.87	263.5	250.0	5.4
Aroclor-1260-4	13.51	13.40	13.60	255.3	250.0	2.1
Aroclor-1260-5	13.61	13.51	13.71	258.2	250.0	3.3

AVERAGE %D = 4.7

TK35:00211

7F
PCB CALIBRATION VERIFICATION SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 Intrument: ECD7

Init. Calib. Date: 08/24/11

Date Analyzed :09/09/11

Lab Standard ID: AR1660 Time Analyzed :0116

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1016-1	8.57	8.47	8.67	231.3	250.0	-7.5
Aroclor-1016-2	9.30	9.20	9.40	233.4	250.0	-6.6
Aroclor-1016-3	9.73	9.63	9.83	223.4	250.0	-10.6
Aroclor-1016-4	9.83	9.73	9.93	229.7	250.0	-8.1

AVERAGE %D = 8.2

Date Analyzed :09/09/11

Lab Standard ID: AR1660 Time Analyzed :0116

COMPOUND/PEAK NO.	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng)	NOM AMOUNT (ng)	%D
Aroclor-1260-1	13.30	13.20	13.40	272.1	250.0	8.8
Aroclor-1260-2	13.54	13.44	13.64	255.9	250.0	2.4
Aroclor-1260-3	14.04	13.93	14.13	273.9	250.0	9.5
Aroclor-1260-4	14.59	14.49	14.69	258.8	250.0	3.5

AVERAGE %D = 6.1

FORM VII PCB

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/24/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	6999182	3.302	6201786	15.135
UPPER LIMIT	13998364	3.402	12403572	15.235
LOWER LIMIT	3499591	3.202	3100893	15.035

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/24/11	2126	6370680	3.302	5776154	15.133
02		0.25 PPM AR1	08/24/11	2149	6999182	3.302	6201786	15.135
03		0.02 PPM AR1	08/24/11	2212	6743940	3.302	5938219	15.134
04		0.05 PPM AR1	08/24/11	2234	6714372	3.301	5991859	15.134
05		1 PPM AR1660	08/24/11	2257	7017523	3.304	6490078	15.134
06		0.1 PPM AR16	08/24/11	2320	6927904	3.302	6211945	15.134
07		0.5 PPM AR16	08/24/11	2343	6956794	3.300	6245762	15.135
08		AR1242	08/25/11	0006	6922055	3.301	6140500	15.134
09		AR1248	08/25/11	0029	4888507	3.304	4437388	15.134
10		AR1254	08/25/11	0051	4814982	3.303	4383330	15.134
11		AR2162	08/25/11	0114	6940165	3.304	6190231	15.134
12		AR3268	08/25/11	0137	4800678	3.304	4364333	15.135
13	ZZZZZ	ZZZZZ	08/25/11	0200	4846715	3.302	4474421	15.134
14	ZZZZZ	ZZZZZ	08/25/11	0223	4947162	3.306	4549464	15.135
15	ZZZZZ	ZZZZZ	08/25/11	0246	4715805	3.306	4355331	15.135
16	ZZZZZ	ZZZZZ	08/25/11	0308	4847196	3.305	4504071	15.135
17	ZZZZZ	ZZZZZ	08/25/11	0331	4836275	3.306	4497278	15.135
18	ZZZZZ	ZZZZZ	08/25/11	0354	4780999	3.305	4442349	15.135
19		AR1248	09/08/11	1112	5422224	3.304	4717580	15.139
20		AR1660	09/08/11	1135	5381988	3.304	4839426	15.138
21	TK35MBS1	TK35MBS1	09/08/11	1157	5013847	3.306	4733523	15.138
22	TK35LCSS1	TK35LCSS1	09/08/11	1220	5156430	3.308	4851441	15.138
23	TK35LCSDS1	TK35LCSDS1	09/08/11	1243	5045959	3.308	4779366	15.137
24	ZZZZZ	ZZZZZ	09/08/11	1306	5171167	3.306	4885787	15.138
25	FRP-082911-0	TK35A	09/08/11	1352	5548342	3.307	5152054	15.137
26	FRP-082911-0	TK35B	09/08/11	1414	5337633	3.306	4534619	15.137
27	FRP-082911-0	TK35C	09/08/11	1437	5241401	3.307	4283115	15.137
28	FRP-082911-0	TK35D	09/08/11	1500	5236227	3.307	4502315	15.137
29	FRP-082911-0	TK35E	09/08/11	1523	5186789	3.308	4782954	15.138
30	FRP-082911-0	TK35F	09/08/11	1546	5414022	3.308	4908605	15.137
31		AR1254	09/08/11	1609	5588049	3.308	4925626	15.138
32		AR1660	09/08/11	1631	5503596	3.308	5033126	15.138

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB5 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/24/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	6999182	3.302	6201786	15.135
UPPER LIMIT	13998364	3.402	12403572	15.235
LOWER LIMIT	3499591	3.202	3100893	15.035

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	FRP-082911-0	TK35G	09/08/11	1654	5175671	3.310	4911247	15.137
34	FRP-082911-0	TK35GMS	09/08/11	1717	5581432	3.310	5249708	15.137
35	FRP-082911-0	TK35GMSD	09/08/11	1740	5361650	3.308	4948026	15.137
36	FRP-082911-0	TK35H	09/08/11	1803	5366602	3.308	4961002	15.137
37	FRP-082911-0	TK35I	09/08/11	1826	5196898	3.308	6483985	15.137
38	FRP-082911-0	TK35J	09/08/11	1848	5426003	3.310	11464586	15.136
39	FRP-082911-0	TK35K	09/08/11	1911	5400694	3.309	10936220	15.137
40	FRP-082911-0	TK35L	09/08/11	1934	5480018	3.310	5094625	15.137
41	FRP-082911-0	TK35M	09/08/11	1957	5167826	3.308	4762912	15.138
42		AR1248	09/08/11	2020	5724014	3.312	5063171	15.138
43		AR1660	09/08/11	2042	5510215	3.309	4972256	15.138
44	FRP-082911-0	TK35N	09/08/11	2105	5378462	3.307	5349105	15.137
45	FRP-082911-0	TK35O	09/08/11	2128	5296883	3.309	6366502	15.137
46	FRP-082911-0	TK35P	09/08/11	2151	5216733	3.308	4636329	15.137
47	FRP-082911-0	TK35Q	09/08/11	2214	5647536	3.310	6239167	15.137
48	FRP-082911-0	TK35R	09/08/11	2236	5574048	3.309	4845221	15.137
49		AR1254	09/09/11	0053	5787160	3.310	4830074	15.138
50		AR1660	09/09/11	0116	5433491	3.311	4135049	15.139

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/24/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	10528498	4.169	8878287	15.809
UPPER LIMIT	21056996	4.269	17756574	15.909
LOWER LIMIT	5264249	4.069	4439144	15.709

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
01	ZZZZZ	ZZZZZ	08/24/11	2126	9923751	4.170	8517683	15.808
02		0.25 PPM AR1	08/24/11	2149	10528498	4.169	8878287	15.809
03		0.02 PPM AR1	08/24/11	2212	10209316	4.170	8509957	15.810
04		0.05 PPM AR1	08/24/11	2234	10206583	4.168	8485148	15.809
05		1 PPM AR1660	08/24/11	2257	10632599	4.171	9146678	15.809
06		0.1 PPM AR16	08/24/11	2320	10462782	4.169	8732994	15.809
07		0.5 PPM AR16	08/24/11	2343	10430908	4.169	8809442	15.809
08		AR1242	08/25/11	0006	10304853	4.168	8743921	15.809
09		AR1248	08/25/11	0029	7380800	4.170	6266898	15.809
10		AR1254	08/25/11	0051	7265381	4.171	6174204	15.809
11		AR2162	08/25/11	0114	10334293	4.170	8793015	15.809
12		AR3268	08/25/11	0137	7176174	4.170	6167962	15.809
13	ZZZZZ	ZZZZZ	08/25/11	0200	7325326	4.170	6278126	15.809
14	ZZZZZ	ZZZZZ	08/25/11	0223	7478110	4.171	6372925	15.810
15	ZZZZZ	ZZZZZ	08/25/11	0246	7100471	4.172	6111559	15.810
16	ZZZZZ	ZZZZZ	08/25/11	0308	7361017	4.172	6278878	15.809
17	ZZZZZ	ZZZZZ	08/25/11	0331	7285743	4.171	6285010	15.809
18	ZZZZZ	ZZZZZ	08/25/11	0354	7199969	4.172	6172296	15.809
19		AR1248	09/08/11	1112	8133401	4.167	6702322	15.809
20		AR1660	09/08/11	1135	8209948	4.168	6803898	15.810
21	TK35MBS1	TK35MBS1	09/08/11	1157	7639282	4.172	6707781	15.809
22	TK35LCSS1	TK35LCSS1	09/08/11	1220	7832826	4.172	6873012	15.810
23	TK35LCSDS1	TK35LCSDS1	09/08/11	1243	7718987	4.173	6657394	15.809
24	ZZZZZ	ZZZZZ	09/08/11	1306	7909525	4.171	6814226	15.810
25	FRP-082911-0	TK35A	09/08/11	1352	8422030	4.172	7254967	15.809
26	FRP-082911-0	TK35B	09/08/11	1414	8089600	4.171	6984190	15.809
27	FRP-082911-0	TK35C	09/08/11	1437	7765882	4.172	6988372	15.809
28	FRP-082911-0	TK35D	09/08/11	1500	7874131	4.171	6632497	15.809
29	FRP-082911-0	TK35E	09/08/11	1523	7830042	4.173	6834170	15.809
30	FRP-082911-0	TK35F	09/08/11	1546	8210296	4.172	7201720	15.808
31		AR1254	09/08/11	1609	8487960	4.173	7115976	15.810
32		AR1660	09/08/11	1631	8317859	4.174	6892518	15.809

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

FORM 8
PCB INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No.: TK35 Project: FRP SHORELINE

GC Column: ZB35 ID: 0.53(mm) Instrument ID: ECD7

Init. Calib. Date: 08/24/11

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

	IS1 AREA	RT	IS2 AREA	RT
ICAL MIDPT	10528498	4.169	8878287	15.809
UPPER LIMIT	21056996	4.269	17756574	15.909
LOWER LIMIT	5264249	4.069	4439144	15.709

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME	IS1 AREA	RT	IS2 AREA	RT
33	FRP-082911-0	TK35G	09/08/11	1654	7719617	4.175	6741089	15.809
34	FRP-082911-0	TK35GMS	09/08/11	1717	8471745	4.174	7338471	15.809
35	FRP-082911-0	TK35GMSD	09/08/11	1740	7887456	4.173	6864086	15.809
36	FRP-082911-0	TK35H	09/08/11	1803	8090134	4.173	6840421	15.809
37	FRP-082911-0	TK35I	09/08/11	1826	7718854	4.173	30154367*	15.801
38	FRP-082911-0	TK35J	09/08/11	1848	8004160	4.174	79607929*	15.722
39	FRP-082911-0	TK35K	09/08/11	1911	7932851	4.173	28082426*	15.723
40	FRP-082911-0	TK35L	09/08/11	1934	8209200	4.174	8623190	15.809
41	FRP-082911-0	TK35M	09/08/11	1957	7773701	4.173	6985065	15.809
42		AR1248	09/08/11	2020	8611169	4.175	7421448	15.810
43		AR1660	09/08/11	2042	8250947	4.174	6926155	15.810
44	FRP-082911-0	TK35N	09/08/11	2105	8066191	4.172	14971706	15.890
45	FRP-082911-0	TK35O	09/08/11	2128	7932091	4.174	23504050*	15.724
46	FRP-082911-0	TK35P	09/08/11	2151	7775908	4.173	13030541	15.809
47	FRP-082911-0	TK35Q	09/08/11	2214	8465730	4.174	13510118	15.810
48	FRP-082911-0	TK35R	09/08/11	2236	8190503	4.174	7225257	15.809
49		AR1254	09/09/11	0053	8798991	4.175	9537503	15.810
50		AR1660	09/09/11	0116	8273501	4.174	6288854	15.811

IS1 = 1-Bromo-2-Nitrobenzene RT Window = RT +/- 0.1 min
IS2 = Hexabromobiphenyl

* Indicates value outside QC Limits

TPHD Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID-Silica and Acid Cleaned

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 201 8769

Data Release Authorized:
Reported: 09/13/11

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range	MDL	RL	Result
TK35A	FRP-082911-001	09/01/11	09/05/11	1.00	**Diesel**	**14**	**56**	**1000**
11-18788	HC ID: **DIESEL/MOTOR OIL**		FID4A	10	**Motor Oil**	**18**	**110**	**430**
					o-Terphenyl			69.3%
TK35B	FRP-082911-002	09/01/11	09/02/11	1.00	**Diesel**	**1.5**	**5.9**	**37**
11-18789	HC ID: **DIESEL/MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.8**	**12**	**18**
					o-Terphenyl			78.3%
TK35C	FRP-082911-003	09/01/11	09/02/11	1.00	**Diesel**	**1.7**	**6.4**	**14**
11-18790	HC ID: **DIESEL/MOTOR OIL**		FID3B	1.0	**Motor Oil**	**2.0**	**13**	**14**
					o-Terphenyl			75.1%
TK35D	FRP-082911-004	09/01/11	09/02/11	1.00	Diesel	1.6	6.3	< 6.3 U
11-18791	HC ID: ---		FID3B	1.0	Motor Oil	2.0	13	< 13 U
					o-Terphenyl			87.6%
MB-090111	Method Blank	09/01/11	09/02/11	1.00	Diesel	1.3	5.0	< 5.0 U
11-18792	HC ID: ---		FID3B	1.0	Motor Oil	1.6	10	< 10 U
					o-Terphenyl			92.3%
TK35E	FRP-082911-006	09/01/11	09/02/11	1.00	**Diesel**	**1.4**	**5.3**	**7.2**
11-18792	HC ID: **DRO/MOTOR OIL**		FID3B	1.0	Motor Oil	1.7	11	< 11 U
					o-Terphenyl			79.4%
TK35F	FRP-082911-007	09/01/11	09/03/11	1.00	Diesel	1.4	5.4	< 5.4 U
11-18793	HC ID: ---		FID3B	1.0	Motor Oil	1.7	11	< 11 U
					o-Terphenyl			89.6%
TK35G	FRP-082911-008	09/01/11	09/03/11	1.00	Diesel	1.4	5.5	< 5.5 U
11-18794	HC ID: ---		FID3B	1.0	Motor Oil	1.7	11	< 11 U
					o-Terphenyl			89.2%
TK35H	FRP-082911-009	09/01/11	09/03/11	1.00	Diesel	1.6	6.4	< 6.4 U
11-18795	HC ID: ---		FID3B	1.0	Motor Oil	2.0	13	< 13 U
					o-Terphenyl			86.4%
TK35I	FRP-082911-010	09/01/11	09/03/11	1.00	Diesel	1.4	5.4	< 5.4 U
11-18796	HC ID: **MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.7**	**11**	**18**
					o-Terphenyl			80.0%
TK35J	FRP-082911-011	09/01/11	09/03/11	1.00	Diesel	1.4	5.4	< 5.4 U
11-18797	HC ID: **MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.7**	**11**	**17**
					o-Terphenyl			83.1%
TK35K	FRP-082911-012	09/01/11	09/03/11	1.00	Diesel	1.3	5.2	< 5.2 U
11-18798	HC ID: ---		FID3B	1.0	Motor Oil	1.6	10	< 10 U
					o-Terphenyl			89.2%
TK35L	FRP-082911-013	09/01/11	09/03/11	1.00	Diesel	1.6	6.3	< 6.3 U
11-18799	HC ID: ---		FID3B	1.0	Motor Oil	2.0	13	< 13 U
					o-Terphenyl			82.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID-Silica and Acid Cleaned

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 201
8769

Data Release Authorized:
Reported: 09/13/11

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range	MDL	RL	Result
TK35M	FRP-082911-014	09/01/11	09/03/11	1.00	Diesel	1.6	6.4	< 6.4 U
11-18800	HC ID: ---		FID3B	1.0	Motor Oil	2.0	13	< 13 U
					o-Terphenyl			86.8%
TK35N	FRP-082911-016	09/01/11	09/03/11	1.00	**Diesel**	**1.4**	**5.4**	**9.2**
11-18801	HC ID: **DRO/MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.7**	**11**	**17**
					o-Terphenyl			83.8%
TK35O	FRP-082911-017	09/01/11	09/03/11	1.00	**Diesel**	**1.4**	**5.5**	**6.0**
11-18802	HC ID: **DRO/MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.7**	**11**	**13**
					o-Terphenyl			81.6%
TK35P	FRP-082911-018	09/01/11	09/03/11	1.00	Diesel	1.4	5.5	< 5.5 U
11-18803	HC ID: **MOTOR OIL**		FID3B	1.0	**Motor Oil**	**1.7**	**11**	**14**
					o-Terphenyl			82.9%
TK35Q	FRP-082911-019	09/01/11	09/03/11	1.00	Diesel	1.6	6.2	< 6.2 U
11-18804	HC ID: ---		FID3B	1.0	Motor Oil	1.9	12	< 12 U
					o-Terphenyl			88.3%
TK35R	FRP-082911-020	09/01/11	09/03/11	1.00	Diesel	1.8	6.9	< 6.9 U
11-18805	HC ID: ---		FID3B	1.0	Motor Oil	2.2	14	< 14 U
					o-Terphenyl			77.7%

Reported in mg/kg (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.
RL-Reporting limit.

Diesel quantitation on total peaks in the range from C12 to C24.
Motor Oil quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

ANALYTICAL RESOURCES INCORPORATED

CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client ID	OTER	TOT OUT
FRP-082911-001	69.3%	0
FRP-082911-002	78.3%	0
FRP-082911-003	75.1%	0
FRP-082911-004	87.6%	0
MB-090111	92.3%	0
LCS-090111	91.1%	0
LCSD-090111	88.2%	0
FRP-082911-006	79.4%	0
FRP-082911-006 MS	83.2%	0
FRP-082911-006 MSD	82.9%	0
FRP-082911-007	89.6%	0
FRP-082911-008	89.2%	0
FRP-082911-009	86.4%	0
FRP-082911-010	80.0%	0
FRP-082911-011	83.1%	0
FRP-082911-012	89.2%	0
FRP-082911-013	82.8%	0
FRP-082911-014	86.8%	0
FRP-082911-016	83.8%	0
FRP-082911-017	81.6%	0
FRP-082911-018	82.9%	0
FRP-082911-019	88.3%	0
FRP-082911-020	77.7%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terpheny1	(50-150)	(50-150)

Prep Method: SW3546
Log Number Range: 11-18788 to 11-18805

FORM-II TPHD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID-Silica and Acid Cleaned **Sample ID: FRP-082911-006**
 MS/MSD

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/13/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted MS/MSD: 09/01/11

Date Analyzed MS: 09/02/11 23:16
MSD: 09/02/11 23:39
Instrument/Analyst MS: FID/MS
MSD: FID/MS

Sample Amount MS: 9.45 g-dry-wt
MSD: 9.42 g-dry-wt
Final Extract Volume MS: 1.0 mL
MSD: 1.0 mL
Dilution Factor MS: 1.0
MSD: 1.0
Percent Moisture: 7.1%

Range	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Diesel	7.2	128	159	76.0%	126	159	74.7%	1.6%

TPHD Surrogate Recovery

	MS	MSD
o-Terphenyl	83.2%	82.9%

Results reported in mg/kg
RPD calculated using sample concentrations per SW846.

FORM III

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID-Silica and Acid Cleaned **Sample ID: LCS-090111**
 LCS/LCSD

Lab Sample ID: LCS-090111
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/13/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Extracted LCS/LCSD: 09/01/11

Date Analyzed LCS: 09/02/11 20:13
LCSD: 09/02/11 20:35
Instrument/Analyst LCS: FID/MS
LCSD: FID/MS

Sample Amount LCS: 10.0 g
LCSD: 10.0 g
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.0
LCSD: 1.0

Range	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Diesel	128	150	85.3%	122	150	81.3%	4.8%

TPHD Surrogate Recovery

	LCS	LCSD
o-Terphenyl	91.1%	88.2%

Results reported in mg/kg
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: TK35
Project: FRP Shoreline Investigation 2011
8769

Matrix: Soil
Date Received: 08/29/11

ARI ID	Client ID	Client Amt	Final Vol	Basis	Prep Date
11-18788-TK35A	FRP-082911-001	8.91 g	1.00 mL	D	09/01/11
11-18789-TK35B	FRP-082911-002	8.51 g	1.00 mL	D	09/01/11
11-18790-TK35C	FRP-082911-003	7.75 g	1.00 mL	D	09/01/11
11-18791-TK35D	FRP-082911-004	7.90 g	1.00 mL	D	09/01/11
11-18792-090111MB1	Method Blank	10.0 g	1.00 mL	-	09/01/11
11-18792-090111LCS1	Lab Control	10.0 g	1.00 mL	-	09/01/11
11-18792-090111LCSD1	Lab Control Dup	10.0 g	1.00 mL	-	09/01/11
11-18792-TK35E	FRP-082911-006	9.46 g	1.00 mL	D	09/01/11
11-18792-TK35EMS	FRP-082911-006	9.45 g	1.00 mL	D	09/01/11
11-18792-TK35EMSD	FRP-082911-006	9.42 g	1.00 mL	D	09/01/11
11-18793-TK35F	FRP-082911-007	9.28 g	1.00 mL	D	09/01/11
11-18794-TK35G	FRP-082911-008	9.10 g	1.00 mL	D	09/01/11
11-18795-TK35H	FRP-082911-009	7.87 g	1.00 mL	D	09/01/11
11-18796-TK35I	FRP-082911-010	9.28 g	1.00 mL	D	09/01/11
11-18797-TK35J	FRP-082911-011	9.33 g	1.00 mL	D	09/01/11
11-18798-TK35K	FRP-082911-012	9.56 g	1.00 mL	D	09/01/11
11-18799-TK35L	FRP-082911-013	7.94 g	1.00 mL	D	09/01/11
11-18800-TK35M	FRP-082911-014	7.85 g	1.00 mL	D	09/01/11
11-18801-TK35N	FRP-082911-016	9.33 g	1.00 mL	D	09/01/11
11-18802-TK35O	FRP-082911-017	9.07 g	1.00 mL	D	09/01/11
11-18803-TK35P	FRP-082911-018	9.13 g	1.00 mL	D	09/01/11
11-18804-TK35Q	FRP-082911-019	8.12 g	1.00 mL	D	09/01/11
11-18805-TK35R	FRP-082911-020	7.24 g	1.00 mL	D	09/01/11

Basis: D=Dry Weight W=As Received

TPH METHOD BLANK SUMMARY

BLANK NO.

TK35MBS1

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX INC.

SDG No.: TK35

Project No.: FRP SHORELINE

Date Extracted: 09/01/11

Matrix: SOLID

Date Analyzed : 09/02/11,9/05/11

Instrument ID : FID3B and FID4A

Time Analyzed : 1950

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	TK35LCSS1	TK35LCSS1	09/02/11
02	TK35LCSDS1	TK35LCSDS1	09/02/11
03	FRP-082911-0	TK35B	09/02/11
04	FRP-082911-0	TK35C	09/02/11
05	FRP-082911-0	TK35D	09/02/11
06	FRP-082911-0	TK35E	09/02/11
07	FRP-082911-0	TK35EMS	09/02/11
08	FRP-082911-0	TK35EMSD	09/02/11
09	FRP-082911-0	TK35F	09/03/11
10	FRP-082911-0	TK35G	09/03/11
11	FRP-082911-0	TK35H	09/03/11
12	FRP-082911-0	TK35I	09/03/11
13	FRP-082911-0	TK35J	09/03/11
14	FRP-082911-0	TK35K	09/03/11
15	FRP-082911-0	TK35L	09/03/11
16	FRP-082911-0	TK35M	09/03/11
17	FRP-082911-0	TK35N	09/03/11
18	FRP-082911-0	TK35O	09/03/11
19	FRP-082911-0	TK35P	09/03/11
20	FRP-082911-0	TK35Q	09/03/11
21	FRP-082911-0	TK35R	09/03/11
22	FRP-082911-0	TK35A	09/05/11

FORM IV TPH

6a
DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: AMEC GEOMATRIX

Instrument: FID3B.I Project: FRP SHORELINE

Calibration Date: 30-JUL-2011 SDG No.:TK35

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	13473	12128	12174	12310	12797	11730	12435	4.9
AK Diesel	16984	15039	14733	14741	15204	13876	15096	6.8
OR Diesel	17143	15161	14815	14809	15296	13946	15195	7.0
Cal Diesel	16496	14769	14596	14659	15136	13828	14914	5.9
o-Terph	18113	16476	16189	15503	15274	14628	16031	7.6

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges : WA Diesel C12-C24 (2.194-5.847)
AK Diesel C10-C25 (1.461-6.099)
OR Diesel C10-C28 (1.461-6.807)
Cal Diesel C10-C24 (1.461-5.847)

Calibration Files	Analysis Time
0730b005.d	30-JUL-2011 15:25
0730b006.d	30-JUL-2011 15:48
0730b007.d	30-JUL-2011 16:11
0730b008.d	30-JUL-2011 16:33
0730b009.d	30-JUL-2011 16:56
0730b010.d	30-JUL-2011 17:19

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

Instrument: FID3B.I

Project: FRP SHORELINE

Calibration Date: 30-JUL-2011

SDG No.: TK35

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	11964	10900	10874	11210	11357	11373	11280	3.5
Triac Surr	14847	14087	14286	14742	14766	14432	14527	2.1

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files	Analysis Time
0730b011.d	30-JUL-2011 17:41
0730b012.d	30-JUL-2011 18:04
0730b013.d	30-JUL-2011 18:26
0730b014.d	30-JUL-2011 18:49
0730b015.d	30-JUL-2011 19:11
0730b016.d	30-JUL-2011 19:34

FORM VI-M.Oil

6a
DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

Instrument: FID4A.I
Project: FRP SHORELINE

Calibration Date: 31-AUG-2011
SDG No.: TK35

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	12641	12072	11648	12571	12324	12770	12338	3.4
AK Diesel	15257	14389	13827	14863	14553	15017	14651	3.5
OR Diesel	16937	14676	14128	14966	14646	15094	15074	6.4
Cal Diesel	14964	14315	13748	14816	14505	14977	14554	3.3
o-Terph	15864	15779	15304	17641	17146	17344	16513	5.9

<- Indicates %RSD outside limits
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges :

WA Diesel	C12-C24	(4.450-8.217)
AK Diesel	C10-C25	(3.454-8.471)
OR Diesel	C10-C28	(3.454-9.219)
Cal Diesel	C10-C24	(3.454-8.217)

Calibration Files	Analysis Time
0831a014.d	31-AUG-2011 18:22
0831a015.d	31-AUG-2011 18:46
0831a016.d	31-AUG-2011 19:09
0831a017.d	31-AUG-2011 19:32
0831a018.d	31-AUG-2011 19:56
0831a019.d	31-AUG-2011 20:19

6a

NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

Instrument: FID4A.I

Project: FRP SHORELINE

Calibration Date: 05-AUG-2011

SDG No.: TK35

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	12204	11236	11461	11349	11170	9799	11203	7.0
Triac Surr	16464	15921	16623	16093	16929	----*	16406	2.4

<- Indicates %RSD outside limits
Surrogate areas are not included in Motor Oil RF calculation.

*The n-Triacontane high point (450ppm) is dropped because it shifts out of RT control limits of +/-.05min.

Calibration Files	Analysis Time
0805a011.d	05-AUG-2011 16:42
0805a012.d	05-AUG-2011 17:05
0805a013.d	05-AUG-2011 17:28
0805a014.d	05-AUG-2011 17:51
0805a015.d	05-AUG-2011 18:14
0805a016.d	05-AUG-2011 18:38

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 02-SEP-2011

SDG No.: TK35

Analysis Time: 19:05

Lab ID: DIESEL#2

Instrument: FID3B.I

Lab File Name: 0902b028.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3174357	255.3	250	2.1
AK102 (C10-C25)	3782129	250.5	250	0.2
Terphenyl	738429	46.1	45	2.4

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 02-SEP-2011

SDG No.: TK35

Analysis Time: 19:27

Lab ID: MOIL#2

Instrument: FID3B.I

Lab File Name: 0902b029.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	6222505	551.6	500	10.3
AK103 (C25-C36)	5326458	610.3	500	22.1
n-Triacontane	721016	49.6	45	10.3

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 03-SEP-2011

SDG No.: TK35

Analysis Time: 01:11

Lab ID: DIESEL#3

Instrument: FID3B.I

Lab File Name: 0902b044.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3083646	248.0	250	-0.8
AK102 (C10-C25)	3688044	244.3	250	-2.3
Terphenyl	751941	46.9	45	4.2

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 03-SEP-2011

SDG No.: TK35

Analysis Time: 01:34

Lab ID: MOIL#3

Instrument: FID3B.I

Lab File Name: 0902b045.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	6223929	551.8	500	10.4
AK103 (C25-C36)	5324534	610.1	500	22.0
n-Triacontane	732826	50.4	45	12.1

* Surrogate areas are subtracted from range areas

<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 03-SEP-2011

SDG No.: TK35

Analysis Time: 05:46

Lab ID: DIESEL#4

Instrument: FID3B.I

Lab File Name: 0902b056.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	3135055	252.1	250	0.8
AK102 (C10-C25)	3735899	247.5	250	-1.0
Terphenyl	744274	46.4	45	3.2

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: AMEC GEOMATRIX

ICal Date: 30-JULY-2011

Project: FRP SHORELINE

CCal Date: 03-SEP-2011

SDG No.: TK35

Analysis Time: 06:08

Lab ID: MOIL#4

Instrument: FID3B.I

Lab File Name: 0902b057.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D
WAMoil(C24-C38)	6255059	554.5	500	10.9
AK103 (C25-C36)	5349637	613.0	500	22.6
n-Triacontane	740926	51.0	45	13.3

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

ICal Date: 31-AUG-2011

CCal Date: 05-SEP-2011

Analysis Time: 16:43

Instrument: FID4A.I

Client: AMEC GEOMATRIX

Project: FRP SHORELINE

SDG No.: TK35

Lab ID: DIESEL#1

Lab File Name: 0905a007.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	2691135	218.1	250	-12.8
AK102 (C10-C25)	3196511	218.2	250	-12.7
Terphenyl	651418	39.4	45	-12.3

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

ICal Date: 05-AUG-2011

CCal Date: 05-SEP-2011

Analysis Time: 17:07

Instrument: FID4A.I

Client: AMEC GEOMATRIX

Project: FRP SHORELINE

SDG No.: TK35

Lab ID: MOIL#1

Lab File Name: 0905a008.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D	
WAMoil(C24-C38)	5563252	496.6	500	-0.7	
AK103 (C25-C36)	4744289	687.4	500	37.5	<-
CRUDE(Tol-C40)	6561300	868.7	500	73.7	
n-Triacontane	710639	43.3	45	-3.7	

* Surrogate areas are subtracted from range areas

<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

7a

DIESEL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

ICal Date: 31-AUG-2011

CCal Date: 05-SEP-2011

Analysis Time: 21:23

Instrument: FID4A.I

Client: AMEC GEOMATRIX

Project: FRP SHORELINE

SDG No.: TK35

Lab ID: DIESEL#2

Lab File Name: 0905a019.d

Diesel Range	Area*	CalcAmnt	NomAmnt	% D
WADies(C12-C24)	2769048	224.4	250	-10.2
AK102 (C10-C25)	3279336	223.8	250	-10.5
Terphenyl	665643	40.3	45	-10.4

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA Diesel C12-C24
AK Diesel C10-C25

7a

MOTOR OIL CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

ICal Date: 05-AUG-2011

CCal Date: 05-SEP-2011

Analysis Time: 21:46

Instrument: FID4A.I

Client: AMEC GEOMATRIX

Project: FRP SHORELINE

SDG No.: TK35

Lab ID: MOIL#2

Lab File Name: 0905a020.d

M.oil Range	Area*	CalcAmnt	NomAmnt	% D	
WAMoil(C24-C38)	5809019	518.5	500	3.7	
AK103 (C25-C36)	4942334	716.1	500	43.2	<-
CRUDE(Tol-C40)	6857802	908.0	500	81.6	
n-Triacontane	762967	46.5	45	3.3	

* Surrogate areas are subtracted from range areas
<- Indicates a %D outside QC limits

Quant Ranges : WA M.Oil C24-C38
AK M.Oil C25-C36

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX INC.

SDG No.: TK35 Project: FRP SHORELINE

Instrument ID: FID3B GC Column: RTX-1

Run Date: 09/02/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 4.30 TRIAC: 7.27

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	RT	RT	09/02/11	1236	4.30	7.27
02	IB	IB	09/02/11	1258	4.30	7.27
03	FRP SHORELIN	DIESEL#2	09/02/11	1905	4.30	7.27
04	FRP SHORELIN	MOIL#2	09/02/11	1927	4.29	7.28
05	TK35MBS1	TK35MBS1	09/02/11	1950	4.29	7.27
06	TK35LCSS1	TK35LCSS1	09/02/11	2013	4.30	7.27
07	TK35LCSDS1	TK35LCSDS1	09/02/11	2035	4.30	7.27
08	ZZZZZ	ZZZZZ	09/02/11	2058	4.29	7.27
09	ZZZZZ	ZZZZZ	09/02/11	2121	4.29	7.26
10	FRP-082911-0	TK35B	09/02/11	2144	4.30	7.27
11	FRP-082911-0	TK35C	09/02/11	2207	4.30	7.27
12	FRP-082911-0	TK35D	09/02/11	2230	4.30	7.27
13	FRP-082911-0	TK35E	09/02/11	2253	4.29	7.27
14	FRP-082911-0	TK35EMS	09/02/11	2316	4.30	7.27
15	FRP-082911-0	TK35EMSD	09/02/11	2339	4.30	7.27
16	FRP-082911-0	TK35F	09/03/11	0002	4.30	7.27
17	FRP-082911-0	TK35G	09/03/11	0025	4.29	7.27
18	FRP-082911-0	TK35H	09/03/11	0048	4.29	7.27
19	FRP SHORELIN	DIESEL#3	09/03/11	0111	4.30	7.27
20	FRP SHORELIN	MOIL#3	09/03/11	0134	4.29	7.27
21	FRP-082911-0	TK35I	09/03/11	0157	4.29	7.27
22	FRP-082911-0	TK35J	09/03/11	0220	4.29	7.27
23	FRP-082911-0	TK35K	09/03/11	0243	4.29	7.27
24	FRP-082911-0	TK35L	09/03/11	0306	4.29	7.27
25	FRP-082911-0	TK35M	09/03/11	0329	4.29	7.27
26	FRP-082911-0	TK35N	09/03/11	0352	4.29	7.27
27	FRP-082911-0	TK35O	09/03/11	0414	4.29	7.27
28	FRP-082911-0	TK35P	09/03/11	0437	4.29	7.27
29	FRP-082911-0	TK35Q	09/03/11	0500	4.29	7.27
30	FRP-082911-0	TK35R	09/03/11	0523	4.29	7.27
31	FRP SHORELIN	DIESEL#4	09/03/11	0546	4.30	7.27
32	FRP SHORELIN	MOIL#4	09/03/11	0608	4.29	7.28

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX INC.

SDG No.: TK35 Project: FRP SHORELINE

Instrument ID: FID4A GC Column: RTX-1

Run Date: 09/05/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.65 TRIAC: 9.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	FRP SHORELIN	DIESEL#1	09/05/11	1643	6.65	9.74
02	FRP SHORELIN	MOIL#1	09/05/11	1707	6.65	9.73
03	FRP-082911-0	TK35A	09/05/11	1730	6.65	9.71
04	ZZZZZ	ZZZZZ	09/05/11	1753	6.65	9.72
05	ZZZZZ	ZZZZZ	09/05/11	1816	6.65	9.72
06	ZZZZZ	ZZZZZ	09/05/11	1840	6.66	9.72
07	ZZZZZ	ZZZZZ	09/05/11	1903	6.66	9.72
08	ZZZZZ	ZZZZZ	09/05/11	1926	6.66	9.72
09	ZZZZZ	ZZZZZ	09/05/11	1949	6.65	9.72
10	ZZZZZ	ZZZZZ	09/05/11	2013	6.65	9.71
11	ZZZZZ	ZZZZZ	09/05/11	2036	6.65	9.71
12	ZZZZZ	ZZZZZ	09/05/11	2059	6.65	9.71
13	FRP SHORELIN	DIESEL#2	09/05/11	2123	6.66	9.74
14	FRP SHORELIN	MOIL#2	09/05/11	2146	6.65	9.73

	QC LIMITS
TERPH = o-terph	(+/- 0.05 MINUTES)
TRIAC = Triacon Surr	(+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35 Project: FRP SHORELINE

Instrument ID: FID3B GC Column: RTX-1

Run Date: 07/30/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 4.31 TRIAC: 7.30

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01		RT	07/30/11	1440	4.31	7.30
02		IB	07/30/11	1503	4.32	7.30
03	DIESEL 50	DIESEL 50	07/30/11	1525	4.31	7.29
04	DIESEL 100	DIESEL 100	07/30/11	1548	4.31	7.31
05	DIESEL 250	DIESEL 250	07/30/11	1611	4.32	7.31
06	DIESEL 500	DIESEL 500	07/30/11	1633	4.32	7.31
07	DIESEL 1000	DIESEL 1000	07/30/11	1656	4.34	7.29
08	DIESEL 2500	DIESEL 2500	07/30/11	1719	4.36	7.31
09	MOIL 100	MOIL 100	07/30/11	1741	4.32	7.29
10	MOIL 250	MOIL 250	07/30/11	1804	4.30	7.29
11	MOIL 500	MOIL 500	07/30/11	1826	4.30	7.30
12	MOIL 1000	MOIL 1000	07/30/11	1849	4.30	7.32
13	MOIL 2500	MOIL 2500	07/30/11	1911	4.30	7.35
14	MOIL 5000	MOIL 5000	07/30/11	1934	4.32	7.38*

	QC LIMITS
TERPH = o-terph	(+/- 0.05 MINUTES)
TRIAC = Triacon Surr	(+/- 0.05 MINUTES)

* Values outside of QC limits.
*Peak shifting occurs when column plates are close to overloaded. Sample surrogates are spiked at 45ppm. n-Triacontane quants %2.1RSD and meets Ical criteria. No further corrective action needed.

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35 Project: FRP SHORELINE

Instrument ID: FID4A GC Column: RTX-1

Run Date: 08/05/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.68 TRIAC: 9.77

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	RT	RT	08/05/11	1312	6.68	9.77
02	IB	IB	08/05/11	1335	6.68	9.76
03	DIESEL 50	DIESEL 50	08/05/11	1359	6.67	9.77
04	DIESEL 100	DIESEL 100	08/05/11	1422	6.67	9.77
05	DIESEL 250	DIESEL 250	08/05/11	1446	6.68	9.77
06	DIESEL 500	DIESEL 500	08/05/11	1509	6.69	9.77
07	DIESEL 1000	DIESEL 1000	08/05/11	1532	6.70	9.76
08	DIESEL 2500	DIESEL 2500	08/05/11	1555	6.72	9.77
09	MOIL 100	MOIL 100	08/05/11	1642	6.67	9.74
10	MOIL 250	MOIL 250	08/05/11	1705	6.73	9.75
11	MOIL 500	MOIL 500	08/05/11	1728	6.73	9.77
12	MOIL 1000	MOIL 1000	08/05/11	1751	6.73	9.78
13	MOIL 2500	MOIL 2500	08/05/11	1814	6.73	9.81
14	MOIL 5000	MOIL 5000	08/05/11	1838	6.73	9.84*

	QC LIMITS
TERPH = o-terph	(+/- 0.05 MINUTES)
TRIAC = Triacon Surr	(+/- 0.05 MINUTES)

* Values outside of QC limits.

*The n-Triacontane high point (450ppm) is dropped because it shifts out of RT control limits of +/-.05min.

TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35 Project: FRP SHORELINE

Instrument ID: FID4A GC Column: RTX-1

Run Date: 08/31/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD
TERPH: 6.67 TRIAC: 9.75

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #
01	RT	RT	08/31/11	1452	6.67	9.75
02		IB	08/31/11	1515	6.67	9.75
03	DIESEL 50	DIESEL 50	08/31/11	1822	6.66	9.76
04	DIESEL 100	DIESEL 100	08/31/11	1846	6.66	9.76
05	DIESEL 250	DIESEL 250	08/31/11	1909	6.67	9.76
06	DIESEL 500	DIESEL 500	08/31/11	1932	6.68	9.75
07	DIESEL 1000	DIESEL 1000	08/31/11	1956	6.69	9.75
08	DIESEL 2500	DIESEL 2500	08/31/11	2019	6.71	9.76
09		DIESEL ICV	08/31/11	2042	6.67	9.76

QC LIMITS

TERPH = o-terph (+/- 0.05 MINUTES)
TRIAC = Triacon Surr (+/- 0.05 MINUTES)

* Values outside of QC limits.

FORM VIII TPH

TK35 : 00243

TPHG Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Soil

Data Release Authorized: MW
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

ARI ID	Client ID	Analysis Date	Range	Result	RL	MDL
MB-090111	Method Blank	09/01/11	Gasoline	< 5.0 U	5.0	2.4
11-18788		PID2	HC ID	---		
			Trifluorotoluene	99.5%		
			Bromobenzene	94.0%		
TK35A	FRP-082911-001	09/01/11	Gasoline	< 6.6 U	6.6	3.1
11-18788		PID2	HC ID	---		
			Trifluorotoluene	106%		
			Bromobenzene	99.5%		
TK35B	FRP-082911-002	09/01/11	Gasoline	< 7.9 U	7.9	3.8
11-18789		PID2	HC ID	---		
			Trifluorotoluene	100%		
			Bromobenzene	97.7%		
TK35C	FRP-082911-003	09/01/11	Gasoline	< 9.1 U	9.1	4.3
11-18790		PID2	HC ID	---		
			Trifluorotoluene	96.1%		
			Bromobenzene	93.8%		
TK35D	FRP-082911-004	09/01/11	Gasoline	< 8.0 U	8.0	3.8
11-18791		PID2	HC ID	---		
			Trifluorotoluene	99.8%		
			Bromobenzene	97.7%		
TK35E	FRP-082911-006	09/01/11	Gasoline	< 5.6 U	5.6	2.7
11-18792		PID2	HC ID	---		
			Trifluorotoluene	97.0%		
			Bromobenzene	94.9%		
TK35F	FRP-082911-007	09/01/11	Gasoline	< 6.8 U	6.8	3.3
11-18793		PID2	HC ID	---		
			Trifluorotoluene	98.1%		
			Bromobenzene	96.2%		
TK35G	FRP-082911-008	09/01/11	Gasoline	< 6.5 U	6.5	3.1
11-18794		PID2	HC ID	---		
			Trifluorotoluene	98.5%		
			Bromobenzene	95.6%		
TK35H	FRP-082911-009	09/01/11	Gasoline	< 8.2 U	8.2	3.9
11-18795		PID2	HC ID	---		
			Trifluorotoluene	97.3%		
			Bromobenzene	94.6%		
TK35I	FRP-082911-010	09/01/11	Gasoline	< 6.2 U	6.2	3.0
11-18796		PID2	HC ID	---		
			Trifluorotoluene	96.8%		
			Bromobenzene	95.2%		

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Soil

Data Release Authorized: MW
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

ARI ID	Client ID	Analysis Date	Range	Result	RL	MDL
TK35J	FRP-082911-011	09/01/11	Gasoline	< 6.1 U	6.1	2.9
11-18797		PID2	HC ID	---		
			Trifluorotoluene	99.4%		
			Bromobenzene	96.4%		
TK35K	FRP-082911-012	09/01/11	Gasoline	< 6.2 U	6.2	3.0
11-18798		PID2	HC ID	---		
			Trifluorotoluene	96.4%		
			Bromobenzene	95.4%		
TK35L	FRP-082911-013	09/01/11	Gasoline	< 8.6 U	8.6	4.1
11-18799		PID2	HC ID	---		
			Trifluorotoluene	96.1%		
			Bromobenzene	94.1%		
TK35M	FRP-082911-014	09/01/11	Gasoline	< 9.4 U	9.4	4.5
11-18800		PID2	HC ID	---		
			Trifluorotoluene	94.9%		
			Bromobenzene	94.9%		
TK35N	FRP-082911-016	09/01/11	Gasoline	< 5.8 U	5.8	2.8
11-18801		PID2	HC ID	---		
			Trifluorotoluene	94.6%		
			Bromobenzene	94.2%		
TK35O	FRP-082911-017	09/01/11	Gasoline	< 7.1 U	7.1	3.4
11-18802		PID2	HC ID	---		
			Trifluorotoluene	95.3%		
			Bromobenzene	96.3%		
TK35P	FRP-082911-018	09/01/11	Gasoline	< 7.0 U	7.0	3.3
11-18803		PID2	HC ID	---		
			Trifluorotoluene	93.5%		
			Bromobenzene	92.9%		
MB-090611	Method Blank	09/06/11	Gasoline	< 5.0 U	5.0	2.4
11-18804		PID3	HC ID	---		
			Trifluorotoluene	96.9%		
			Bromobenzene	92.9%		
TK35Q	FRP-082911-019	09/06/11	Gasoline	< 7.4 U	7.4	3.6
11-18804		PID3	HC ID	---		
			Trifluorotoluene	94.8%		
			Bromobenzene	88.9%		
TK35R	FRP-082911-020	09/06/11	Gasoline	< 8.5 U	8.5	4.1
11-18805		PID3	HC ID	---		
			Trifluorotoluene	112%		
			Bromobenzene	104%		

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Soil

Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

ARI ID	Client ID	Analysis Date	Range	Result	RL	MDL

Gasoline values reported in mg/kg (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

Results corrected for soil moisture content per Section 11.10.5 of EPA Method 8000C.

ANALYTICAL RESOURCES INCORPORATED

TPHG SOIL SURROGATE RECOVERY SUMMARY

ARI Job: TK35
Matrix: Soil

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769

Client ID	BFB	TFT	BBZ	TOT OUT
MB-090111	NA	99.5%	94.0%	0
LCS-090111	NA	106%	102%	0
LCSD-090111	NA	104%	101%	0
FRP-082911-001	NA	106%	99.5%	0
FRP-082911-002	NA	100%	97.7%	0
FRP-082911-003	NA	96.1%	93.8%	0
FRP-082911-004	NA	99.8%	97.7%	0
FRP-082911-006	NA	97.0%	94.9%	0
FRP-082911-007	NA	98.1%	96.2%	0
FRP-082911-008	NA	98.5%	95.6%	0
FRP-082911-009	NA	97.3%	94.6%	0
FRP-082911-010	NA	96.8%	95.2%	0
FRP-082911-011	NA	99.4%	96.4%	0
FRP-082911-012	NA	96.4%	95.4%	0
FRP-082911-013	NA	96.1%	94.1%	0
FRP-082911-014	NA	94.9%	94.9%	0
FRP-082911-016	NA	94.6%	94.2%	0
FRP-082911-017	NA	95.3%	96.3%	0
FRP-082911-018	NA	93.5%	92.9%	0
MB-090611	NA	96.9%	92.9%	0
LCS-090611	NA	99.3%	95.6%	0
LCSD-090611	NA	104%	99.8%	0
FRP-082911-019	NA	94.8%	88.9%	0
FRP-082911-019 MS	NA	106%	100%	0
FRP-082911-019 MSD	NA	107%	101%	0
FRP-082911-020	NA	112%	104%	0

	LCS/MB LIMITS	QC LIMITS
(BFB) = Bromofluorobenzene	(70-130)	(70-130)
(TFT) = Trifluorotoluene	(80-120)	(66-123)
(BBZ) = Bromobenzene	(80-120)	(62-130)

Log Number Range: 11-18788 to 11-18805

FORM II TPHG

TK35:00248

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG

Sample ID: FRP-082911-019
MATRIX SPIKE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized: MW
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Date Analyzed MS: 09/06/11 10:59
MSD: 09/06/11 11:25
Instrument/Analyst MS: PID3/MH
MSD: PID3/MH

Purge Volume: 5.0 mL

Sample Amount MS: 67.3 mg-dry-wt
MSD: 67.3 mg-dry-wt

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Gasoline Range Hydrocarbons	< 7.43 U	70.9	74.3	95.4%	73.1	74.3	98.4%	3.1%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	MS	MSD
Trifluorotoluene	106%	107%
Bromobenzene	100%	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG

Sample ID: LCS-090111
LAB CONTROL SAMPLE

Lab Sample ID: LCS-090111
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized: MW
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 09/01/11 07:26
LCSD: 09/01/11 07:54
Instrument/Analyst LCS: PID2/MH
LCSD: PID2/MH

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	48.8	50.0	97.6%	47.4	50.0	94.8%	2.9%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	106%	104%
Bromobenzene	102%	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG

Sample ID: LCS-090611
LAB CONTROL SAMPLE

Lab Sample ID: LCS-090611
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
Event: 8769
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 09/06/11 08:57
LCSD: 09/06/11 09:24
Instrument/Analyst LCS: PID3/MH
LCSD: PID3/MH

Purge Volume: 5.0 mL

Sample Amount LCS: 100 mg-dry-wt
LCSD: 100 mg-dry-wt

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	46.4	50.0	92.8%	49.4	50.0	98.8%	6.3%

Reported in mg/kg (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	99.3%	104%
Bromobenzene	95.6%	99.8%

BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0901S1

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

SDG No.: TK35

Project No.: FRP SHORELINE INVEST

Date Analyzed : 09/01/11

Matrix: SOIL

Time Analyzed : 0822

Instrument ID : PID2

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS0901S1	LCS0901	09/01/11
02	LCSD0901S1	LCSD0901	09/01/11
03	FRP-082911-0	TK35A	09/01/11
04	FRP-082911-0	TK35B	09/01/11
05	FRP-082911-0	TK35C	09/01/11
06	FRP-082911-0	TK35D	09/01/11
07	FRP-082911-0	TK35E	09/01/11
08	FRP-082911-0	TK35F	09/01/11
09	FRP-082911-0	TK35G	09/01/11
10	FRP-082911-0	TK35H	09/01/11
11	FRP-082911-0	TK35I	09/01/11
12	FRP-082911-0	TK35J	09/01/11
13	FRP-082911-0	TK35K	09/01/11
14	FRP-082911-0	TK35L	09/01/11
15	FRP-082911-0	TK35M	09/01/11
16	FRP-082911-0	TK35N	09/01/11
17	FRP-082911-0	TK35O	09/01/11
18	FRP-082911-0	TK35P	09/01/11
19			
20			
21			
22			
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24			
25			
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27			
28			
29			
30			

BETX/GAS METHOD BLANK SUMMARY

BLANK NO.

MB0906S1

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35-TK37 Project No.: FRP

Date Analyzed : 09/06/11 Matrix: SOIL

Time Analyzed : 0950 Instrument ID : PID3

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED
01	LCS0906S1	LCS0906	09/06/11
02	LCSD0906S1	LCSD0906	09/06/11
03	FRP-082911-0	TK35Q	09/06/11
04	FRP-082911-0	TK35QMS	09/06/11
05	FRP-082911-0	TK35QMSD	09/06/11
06	FRP-082911-0	TK35R	09/06/11
07	FRP-082911-0	TK37A	09/06/11
08	FRP-082911-0	TK37B	09/06/11
09	FRP-082911-0	TK37C	09/06/11
10	FRP-082911-0	TK37D	09/06/11
11	FRP-082911-0	TK37E	09/06/11
12	FRP-082911-0	TK37EMS	09/06/11
13	FRP-082911-0	TK37EMSD	09/06/11
14	FRP-082911-0	TK37F	09/06/11
15	FRP-082911-0	TK37G	09/06/11
16	FRP-082911-0	TK37H	09/06/11
17	FRP-082911-0	TK37I	09/06/11
18			
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30			

FORM IV BETX/GAS

6a
GAS INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC. Client: AMEC GEOMATRIX

Instrument/Det: PID2.I/RTX 502-2 FID Project: FRP

Calibration Date: 30-AUG-2011 SDG No.: TK35

Gas Range	RF1 0.1	RF2 0.25	RF3 1.0	RF4 2.5	RF5 5.0	RF6 10	Ave RF	%RSD
WA Gas	577200	606336	469321	506077	525220	525818	534995	9.2
AK Gas	834160	878384	789668	833960	879938	881885	849666	4.4
NW Gas	626615	641688	488050	524514	543286	544463	561436	10.7
Cal Gas	1076305	1118928	960612	1021894	1074295	1074920	1054492	5.2
Surrogates Rel. Rec.	RF1/RF7 22/200	RF2 44	RF3 67	RF4 100	RF5 133	RF6 178	Ave RF	%RSD
$ TFT(Surr)	42.50000 39.01000	42.11364	37.92537	41.06000	39.96992	39.40449	40.28335	4.169
$ BB(Surr)	22.45455 20.32000	21.00000	19.25373	21.14000	20.51880	20.42697	20.73058	4.701

10H

<- Indicates %RSD outside limits
Surrogate areas are not included in RF calculation.

Quant Ranges :
WA Gas Toluene - nC12
AK Gas nC6 - nC10
NW Gas Toluene - Naphthalene
Cal Gas nC6 - nC12
8015 Gas 2-Methylpentane - 1,2,4-Trimethylbenzene

Calibration Files	Analysis Time
0830a004.d	30-AUG-2011 07:06
0830a005.d	30-AUG-2011 07:34
0830a006.d	30-AUG-2011 08:03
0830a007.d	30-AUG-2011 08:31
0830a008.d	30-AUG-2011 08:59
0830a009.d	30-AUG-2011 09:27

SURR Calibration Files	Analysis Time
0713a015.d	13-JUL-2011 12:35
0713a014.d	13-JUL-2011 12:07
0713a013.d	13-JUL-2011 11:39
0713a016.d	13-JUL-2011 13:04
0713a017.d	13-JUL-2011 13:32
0713a018.d	13-JUL-2011 14:00
0713a019.d	13-JUL-2011 14:28

BETX INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: 20110808-1 Project No.: FRP

Instrument/Det: PID3 /RTX 502-2 PID Calibration Date: 08/08/11

COMPOUND	CALIBRATION FACTORS 0.25	0.5	5	25	50	MEAN	%RSD
Benzene	2492	2536	2535	2477	2596		
Toluene	2900	2136	2463	2340	2498		
Ethylbenzene	2400	2340	2462	2294	2385		
M/P-Xylene	2836	2454	2618	2435	2579		
O-Xylene	2364	2298	2295	2140	2266		
MTBE	886	864	858	893			
TFT(Surr)	410	381	364	377	393		
BB(Surr)	932	827	792	819	856		

Calibration Files

/chem3/pid3.i/20110808-1.b/0808a005.d
/chem3/pid3.i/20110808-1.b/0808a006.d
/chem3/pid3.i/20110808-1.b/0808a007.d
/chem3/pid3.i/20110808-1.b/0808a008.d
/chem3/pid3.i/20110808-1.b/0808a009.d
/chem3/pid3.i/20110808-1.b/0808a010.d
/chem3/pid3.i/20110808-1.b/0808a011.d

BETX INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: 20110808-1 Project No.: FRP

Instrument/Det: PID3 /RTX 502-2 PID Calibration Date: 08/08/11

COMPOUND	CALIBRATION FACTORS 100	200	MEAN	%RSD			
Benzene	2537	2462	2519	1.82			
Toluene	2434	2387	2451	9.42			
Ethylbenzene	2332	2262	2354	2.87			
M/P-Xylene	2529	2432	2555	5.63			
O-Xylene	2226	2164	2250	3.52			
MTBE	879	873	1124	1.52			
TFT(Surr)	393	387	386	3.71			
BB(Surr)	849	837	844	5.20			

FORM VI BETX-2

TK35:00256

7a

GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.

ICal Date: 30-AUG-2011

CCal Date: 01-SEP-2011

Lab File Name: 0901a003.d

Client: AMEC GEOMATRIX

Project: FRP SHORELINE INVES

SDG No.: TK35

Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1265418	2.37	2.50	-5.4
AKGas (C6-C10)	2089740	2.46	2.50	-1.6
NWGas (Tol-Nap)	1311146	2.34	2.50	-6.6
8015C (2MP-TMB)	2593573	2.45	2.50	-1.9

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 30-AUG-2011
Project: FRP SHORELINE INVES

CCal Date: 01-SEP-2011
SDG No.: TK35

Lab File Name: 0901a003.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	65396	109.6	100.0	9.6
Bromoflrbenz	29158	111.5	100.0	11.5

FORM VII-Surr

TK35:00258

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 30-AUG-2011
Project: FRP SHORELINE INVES

CCal Date: 01-SEP-2011
SDG No.: TK35

Lab File Name: 0901a014.d
Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1203773	2.25	2.50	-10.0
AKGas (C6-C10)	1987125	2.34	2.50	-6.5
NWGas (Tol-Nap)	1249778	2.23	2.50	-11.0
8015C (2MP-TMB)	2469834	2.34	2.50	-6.5

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 30-AUG-2011
Project: FRP SHORELINE INVES

CCal Date: 01-SEP-2011
SDG No.: TK35

Lab File Name: 0901a014.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	63252	109.8	100.0	9.8
Bromoflrbenz	25237	102.7	100.0	2.7

FORM VII-Surr

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
ICal Date: 30-AUG-2011
CCal Date: 01-SEP-2011
Lab File Name: 0901a026.d

Client: AMEC GEOMATRIX
Project: FRP SHORELINE INVES
SDG No.: TK35
Inst/Det: PID2.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	1209736	2.26	2.50	-9.6
AKGas (C6-C10)	2010914	2.37	2.50	-5.3
NWGas (Tol-Nap)	1252944	2.23	2.50	-10.7
8015C (2MP-TMB)	2494092	2.36	2.50	-5.6

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 30-AUG-2011
Project: FRP SHORELINE INVES

CCal Date: 01-SEP-2011
SDG No.: TK35

Lab File Name: 0901a026.d
Inst/Det: PID2.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	63841	109.6	100.0	9.6
Bromoflrbenz	28599	110.0	100.0	10.0

FORM VII-Surr

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a003.d
Inst/Det: PID3.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	2423472	2.37	2.50	-5.0
AKGas (C6-C10)	3856068	2.33	2.50	-6.9
NWGas (Tol-Nap)	2522276	2.36	2.50	-5.6
CAGas (C6-C12)	4803746	2.35	2.50	-6.0
8015B (2MP-TMB)	4805120	2.34	2.50	-6.2

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

FORM VII-GAS

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a003.d
Inst/Det: PID3.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	154083	103.4	100.0	3.4
Bromoflrbenz	52481	99.2	100.0	-0.8

FORM VII-Surr

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a014.d
Inst/Det: PID3.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	2564554	2.51	2.50	0.5
AKGas (C6-C10)	4174885	2.52	2.50	0.8
NWGas (Tol-Nap)	2666537	2.49	2.50	-0.2
CAGas (C6-C12)	5175739	2.53	2.50	1.3
8015B (2MP-TMB)	5249858	2.56	2.50	2.5

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

FORM VII-GAS

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a014.d
Inst/Det: PID3.I/RTX 502-2 FID

Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	165998	111.6	100.0	11.6
Bromoflrbenz	54296	108.1	100.0	8.1

FORM VII-Surr

7a
GAS CONTINUING CALIBRATION VERIFICATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a025.d
Inst/Det: PID3.I/RTX 502-2 FID

Gas Range	Area*	CalcAmnt	NomAmnt	%D
WAGas (Tol-C12)	2286522	2.24	2.50	-10.4
AKGas (C6-C10)	3651161	2.20	2.50	-11.8
NWGas (Tol-Nap)	2390286	2.24	2.50	-10.6
CAGas (C6-C12)	4540752	2.22	2.50	-11.2
8015B (2MP-TMB)	4593078	2.24	2.50	-10.4

* Surrogate areas are subtracted from Total Area
<- Indicates an RPD outside QC limits

FORM VII-GAS

7b
FID SURROGATE CONTINUING CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.
Client: AMEC GEOMATRIX

ICal Date: 05-SEP-2011
Project: FRP

CCal Date: 06-SEP-2011
SDG No.: TK35-TK37

Lab File Name: 0906a025.d
Inst/Det: PID3.I/RTX 502-2 FID

* Surrogate	Area	CalcAmnt	NomAmnt	RPD
Trifluorotol	149813	101.4	100.0	1.4
Bromoflrbenz	52173	101.5	100.0	1.5

*

*

FORM VII-Surr

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35 Project: FRP

Instrument ID: PID2 GC Detector: RTX 502-2 PID

Run Date: 07/13/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.16 S2 : 13.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		BETX 5	07/13/11	1139	7.16	13.73
02		BETX .5	07/13/11	1207	7.16	13.73
03		BETX .25	07/13/11	1235	7.16	13.73
04		BETX 25	07/13/11	1304	7.15	13.72
05		BETX 50	07/13/11	1332	7.16	13.72
06		BETX 100	07/13/11	1400	7.16	13.72
07		BETX 200	07/13/11	1428	7.16	13.72
08		BETX ICV	07/13/11	1456	7.16	13.73

	QC LIMITS
S1 = TFT(Surr)	(+/- 0.05 MINUTES)
S2 = BB(Surr)	(+/- 0.05 MINUTES)

* Values outside of QC limits.

TK35:00269

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: 083011-2 Project: FRP SHORELINE

Instrument ID: PID2 GC Detector: RTX 502-2 PID

Run Date: 08/30/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.16 S2 : 13.72

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		RINSE	08/30/11	0542		
02		RT+BCAL 1	08/30/11	0610	7.18	13.73
03		RINSE	08/30/11	0638		
04		GAS .1	08/30/11	0706	7.18	13.73
05		GAS .25	08/30/11	0734	7.18	13.73
06		GAS 1	08/30/11	0803	7.18	13.74
07		GAS 2.5	08/30/11	0831	7.18	13.74
08		GAS 5	08/30/11	0859	7.18	13.74
09		GAS 20	08/30/11	0927	7.18	13.74
10		RINSE	08/30/11	0955		
11		GAS ICV	08/30/11	1023	7.18	13.73

	QC LIMITS
S1 = TFT(Surr)	(+/- 0.05 MINUTES)
S2 = BB(Surr)	(+/- 0.05 MINUTES)

* Values outside of QC limits.

TK35:00270

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35 Project: FRP SHORELINE INVEST

Instrument ID: PID2 GC Detector: RTX 502-2 FID

Run Date: 09/01/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 7.16 S2 : 13.71

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	ZZZZZ	09/01/11	0601		13.73
02	RT+BCAL 1	RT+BCAL 1	09/01/11	0630	7.17	13.72
03	FRP SHORELIN	GCAL 1	09/01/11	0658	7.17	13.72
04	LCS0901S1	LCS0901	09/01/11	0726	7.16	13.72
05	LCSD0901S1	LCSD0901	09/01/11	0754	7.17	13.72
06	MB0901S1	MB0901	09/01/11	0822	7.16	13.72
07	FRP-082911-0	TK35A	09/01/11	0932	7.17	13.72
08	FRP-082911-0	TK35B	09/01/11	1000	7.16	13.71
09	FRP-082911-0	TK35C	09/01/11	1028	7.16	13.71
10	FRP-082911-0	TK35D	09/01/11	1056	7.16	13.71
11	FRP-082911-0	TK35E	09/01/11	1125	7.16	13.70
12	FRP-082911-0	TK35F	09/01/11	1153	7.15	13.70
13	ZZZZZ	ZZZZZ	09/01/11	1221		
14	FRP SHORELIN	GCAL 2	09/01/11	1249	7.16	13.70
15	FRP-082911-0	TK35G	09/01/11	1317	7.16	13.71
16	FRP-082911-0	TK35H	09/01/11	1346	7.16	13.71
17	FRP-082911-0	TK35I	09/01/11	1414	7.16	13.71
18	FRP-082911-0	TK35J	09/01/11	1442	7.16	13.71
19	FRP-082911-0	TK35K	09/01/11	1510	7.16	13.71
20	FRP-082911-0	TK35L	09/01/11	1538	7.16	13.71
21	FRP-082911-0	TK35M	09/01/11	1606	7.16	13.71
22	FRP-082911-0	TK35N	09/01/11	1635	7.16	13.71
23	FRP-082911-0	TK35O	09/01/11	1702	7.16	13.71
24	FRP-082911-0	TK35P	09/01/11	1731	7.16	13.71
25	ZZZZZ	ZZZZZ	09/01/11	1759	7.16	13.71
26	FRP SHORELIN	GCAL 3	09/01/11	1827	7.16	13.71

	QC LIMITS
S1 = TFT(Surr)	(+/- 0.07 MINUTES)
S2 = BB(Surr)	(+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII-2 BETX

TK35:00271

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: 20110808-1 Project: FRP

Instrument ID: PID3 GC Detector: RTX 502-2 PID

Run Date: 08/08/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 9.66 S2 : 16.99

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		RINSE	08/08/11	0454		
02		RT+BCAL 2	08/08/11	0520	9.66	16.99
03		GCAL 2	08/08/11	0547	9.66	16.99
04		RINSE	08/08/11	0652		
05		BETX .25	08/08/11	0719	9.66	16.99
06		BETX .5	08/08/11	0745	9.66	16.99
07		BETX 5	08/08/11	0811	9.66	16.99
08		BETX 25	08/08/11	0837	9.66	16.99
09		BETX 50	08/08/11	0903	9.66	16.99
10		BETX 100	08/08/11	0930	9.66	16.99
11		BETX 200	08/08/11	0956	9.66	16.99
12		BETX ICV	08/08/11	1022	9.66	16.99

	QC LIMITS
S1 = TFT(Surr)	(+/- 0.07 MINUTES)
S2 = BB(Surr)	(+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII-2 BETX

TK35:00272

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: 20110905-1 Project: FRP

Instrument ID: PID3 GC Detector: RTX 502-2 PID

Run Date: 09/05/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 9.66 S2 : 16.99

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01		RT+BCAL 1	09/05/11	0924	9.66	16.99
02		RINSE	09/05/11	0951		
03		GAS .1	09/05/11	1044	9.66	16.99
04		GAS .25	09/05/11	1110	9.66	16.99
05		GAS 1	09/05/11	1136	9.66	16.99
06		GAS 2.5	09/05/11	1203	9.66	16.99
07		GAS 5	09/05/11	1229	9.66	16.99
08		GAS 10	09/05/11	1255	9.66	16.99
09		RINSE	09/05/11	1321		17.05
10		GAS ICV	09/05/11	1347	9.66	16.99

		QC LIMITS
S1	= TFT(Surr)	(+/- 0.07 MINUTES)
S2	= BB(Surr)	(+/- 0.07 MINUTES)

* Values outside of QC limits.

FORM VIII-2 BETX

TK35:00273

BETX/GAS ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

SDG No.: TK35-TK37 Project: FRP

Instrument ID: PID3 GC Detector: RTX 502-2 FID

Run Date: 09/06/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS, IS GIVEN BELOW:

METHOD SURROGATE RT
S1 : 9.66 S2 : 16.98

	CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #
01	ZZZZZ	ZZZZZ	09/06/11	0739		17.03
02	RT+BCAL 1	RT+BCAL 1	09/06/11	0805	9.66	16.99
03	FRP	GCAL 1	09/06/11	0831	9.66	16.99
04	LCS0906S1	LCS0906	09/06/11	0857	9.66	16.99
05	LCSD0906S1	LCSD0906	09/06/11	0924	9.66	16.99
06	MB0906S1	MB0906	09/06/11	0950	9.66	16.99
07	FRP-082911-0	TK35Q	09/06/11	1033	9.66	16.99
08	FRP-082911-0	TK35QMS	09/06/11	1059	9.66	16.99
09	FRP-082911-0	TK35QMSD	09/06/11	1125	9.66	16.99
10	FRP-082911-0	TK35R	09/06/11	1152	9.66	16.99
11	FRP-082911-0	TK37A	09/06/11	1218	9.66	16.99
12	FRP-082911-0	TK37B	09/06/11	1244	9.66	16.99
13	ZZZZZ	ZZZZZ	09/06/11	1310		
14	FRP	GCAL 2	09/06/11	1336	9.66	16.99
15	FRP-082911-0	TK37C	09/06/11	1403	9.66	16.99
16	FRP-082911-0	TK37D	09/06/11	1429	9.66	16.99
17	FRP-082911-0	TK37E	09/06/11	1455	9.66	16.99
18	FRP-082911-0	TK37EMS	09/06/11	1521	9.66	16.98
19	FRP-082911-0	TK37EMSD	09/06/11	1547	9.66	16.99
20	FRP-082911-0	TK37F	09/06/11	1614	9.66	16.99
21	FRP-082911-0	TK37G	09/06/11	1640	9.66	16.98
22	FRP-082911-0	TK37H	09/06/11	1706	9.66	16.98
23	FRP-082911-0	TK37I	09/06/11	1732	9.66	16.98
24	ZZZZZ	ZZZZZ	09/06/11	1758		
25	FRP	GCAL 3	09/06/11	1825	9.66	16.98

		QC LIMITS
S1	= TFT(Surr)	(+/- 0.07 MINUTES)
S2	= BB(Surr)	(+/- 0.07 MINUTES)

* Values outside of QC limits.

Metals Analysis
Report and Summary QC Forms

ARI Job ID: TK35

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
FRP-082911-001	TK35A	11-18788	
FRP-082911-001D	TK35ADUP	11-18788	
FRP-082911-001S	TK35ASPK	11-18788	
FRP-082911-002	TK35B	11-18789	
PBS	TK35MB1	11-18789	
LCSS	TK35MB1SPK	11-18789	
FRP-082911-003	TK35C	11-18790	
FRP-082911-004	TK35D	11-18791	
FRP-082911-006	TK35E	11-18792	
FRP-082911-007	TK35F	11-18793	
FRP-082911-008	TK35G	11-18794	
FRP-082911-009	TK35H	11-18795	
FRP-082911-010	TK35I	11-18796	
FRP-082911-011	TK35J	11-18797	
FRP-082911-012	TK35K	11-18798	
FRP-082911-013	TK35L	11-18799	
FRP-082911-014	TK35M	11-18800	
FRP-082911-016	TK35N	11-18801	
FRP-082911-017	TK35O	11-18802	
FRP-082911-018	TK35P	11-18803	
FRP-082911-019	TK35Q	11-18804	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 9/9/11 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
FRP-082911-020	TK35R	11-18805	

Were ICP interelement corrections applied ?	Yes/No	YES
Were ICP background corrections applied ?	Yes/No	YES
If yes - were raw data generated before application of background corrections ?	Yes/No	NO

Comments: _____

THIS DATA PACKAGE HAS BEEN REVIEWED AND AUTHORIZED FOR RELEASE BY:

Signature: _____ Name: Jay Kuhn

Date: 9/8/11 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-001
SAMPLE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 88.4%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.9	5	**11,400**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.093	0.2	**4.4**	
3050B	09/02/11	6010B	09/06/11	**7440-43-9**	**Cadmium**	0.12	0.2	**0.3**	
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.30	0.5	**19.7**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.055	0.2	**2,180**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.14	2	**19**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.35**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.33	1	**18**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.71	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.58	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.066	0.3	**51.5**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.13	1	**65**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

CM 2/14/12

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-002
SAMPLE

Lab Sample ID: TK35B
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 83.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.9	6	**12,700**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.10	0.2	**3.8**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.12	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.30	0.6	**18.2**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.056	0.2	**216**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.14	2	**4**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.14**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.33	1	**13**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.72	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.59	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.067	0.3	**45.6**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.13	1	**37**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-003
SAMPLE

Lab Sample ID: TK35C
LIMS ID: 11-18790
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 75.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.3	6	**14,500**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.11	0.3	**3.9**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.33	0.6	**18.6**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.061	0.2	**21.8**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.16	2	**4**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0014	0.03	**0.07**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.36	1	**13**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.79	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.64	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.073	0.4	**51.9**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.15	1	**38**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-004
SAMPLE

Lab Sample ID: TK35D
LIMS ID: 11-18791
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 73.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.6	7	**9,370**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.11	0.3	**1.1**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.14	0.3	0.3	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.35	0.7	**14.3**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.065	0.3	**53.6**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.17	3	3	U
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0013	0.02	**0.06**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.39	1	**7**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.85	7	7	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.69	7	7	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.078	0.4	**48.6**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.16	1	**22**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-006
SAMPLE

Lab Sample ID: TK35E
LIMS ID: 11-18792
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 93.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.7	5	**9,550**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.087	0.2	**3.2**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.12	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.28	0.5	**13.2**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.053	0.2	**202**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.14	2	**8**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.10**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.32	1	**11**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.69	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.56	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.063	0.3	**43.4**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.13	1	**35**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-007
SAMPLE

Lab Sample ID: TK35F
LIMS ID: 11-18793
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 92.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.7	5	**9,740**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.089	0.2	**2.6**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.28	0.5	**13.0**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.052	0.2	**12.0**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.14	2	**2**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.02**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.31	1	**9**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.68	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.55	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.062	0.3	**43.2**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**29**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-008
SAMPLE

Lab Sample ID: TK35G
LIMS ID: 11-18794
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 90.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.8	5	**9,380**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.094	0.2	**2.0**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.12	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.29	0.5	**12.1**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.054	0.2	**12.1**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.14	2	2	U
CLP	09/02/11	7471A	09/06/11	7439-97-6	Mercury	0.0013	0.03	0.03	UJ
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.32	1	**8**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.70	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.57	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.065	0.3	**43.3**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.13	1	**23**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-009
SAMPLE

Lab Sample ID: TK35H
LIMS ID: 11-18795
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 73.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.6	6	**7,180**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.12	0.3	**1.3**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.14	0.3	0.3	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.35	0.6	**12.8**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.065	0.3	**10.9**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.17	3	3	U
CLP	09/02/11	7471A	09/06/11	7439-97-6	Mercury	0.0013	0.02	0.02	UJ
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.39	1	**6**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.84	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.69	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.078	0.4	**43.1**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.16	1	**19**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-010
SAMPLE

Lab Sample ID: TK35I
LIMS ID: 11-18796
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 92.3%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.6	5	**10,600**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.091	0.2	**4.2**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.28	0.5	**16.3**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.051	0.2	**51.7**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.13	2	**12**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.45**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.31	1	**13**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.66	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.54	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.061	0.3	**47.2**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**45**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-011
SAMPLE

Lab Sample ID: TK35J
LIMS ID: 11-18797
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 92.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.6	5	**11,300**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.090	0.2	**3.6**	
3050B	09/02/11	6010B	09/06/11	**7440-43-9**	**Cadmium**	0.11	0.2	**0.2**	
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.28	0.5	**17.3**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.051	0.2	**47.9** J	
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.13	2	**11**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.67** J	
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.31	1	**14**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.66	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.54	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.061	0.3	**49.2**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**46**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-012
SAMPLE

Lab Sample ID: TK35K
LIMS ID: 11-18798
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 93.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.5	5	**9,750**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.088	0.2	**2.7**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.27	0.5	**13.8**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.049	0.2	**33.3**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.13	2	**5**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0013	0.03	**0.05**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.30	1	**10**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.64	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.52	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.059	0.3	**44.6**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**32**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-013
SAMPLE

Lab Sample ID: TK35L
LIMS ID: 11-18799
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 79.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.3	6	**14,600**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.11	0.2	**3.7**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.33	0.6	**17.1**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.061	0.2	**22.0**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.16	2	**2**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.04**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.36	1	**11**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.79	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.64	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.073	0.4	**56.4**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.15	1	**26**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-014
SAMPLE

Lab Sample ID: TK35M
LIMS ID: 11-18800
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 72.1%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.8	7	**13,000**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.12	0.3	**3.2**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.15	0.3	0.3	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.36	0.7	**15.2**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.067	0.3	**18.4**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.17	3	3	U
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0014	0.03	**0.03**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.40	1	**9**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.87	7	7	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.71	7	7	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.081	0.4	**53.7**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.16	1	**23**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-016
SAMPLE

Lab Sample ID: TK35N
LIMS ID: 11-18801
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 92.2%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.6	5	**11,000**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.094	0.2	**5.7**	
3050B	09/02/11	6010B	09/06/11	**7440-43-9**	**Cadmium**	0.11	0.2	**0.2**	
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.27	0.5	**17.3**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.051	0.2	**54.2**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.13	2	**18**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.19**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.30	1	**13**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.66	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.54	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.061	0.3	**46.6**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**59**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-017
SAMPLE

Lab Sample ID: TK35O
LIMS ID: 11-18802
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 89.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.9	6	**11,500**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.097	0.2	**3.6**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.12	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.30	0.6	**15.8**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.055	0.2	**37.2**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.14	2	**10**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.14**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.33	1	**12**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.72	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.59	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.066	0.3	**46.6**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.13	1	**39**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-018
SAMPLE

Lab Sample ID: TK35P
LIMS ID: 11-18803
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 89.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	3.6	5	**11,300**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.091	0.2	**3.8**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.27	0.5	**14.8**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.051	0.2	**28.2**	J
3050B	09/02/11	6010B	09/06/11	**7439-92-1**	**Lead**	0.13	2	**10**	
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.15**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.31	1	**12**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.66	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.54	5	5	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.061	0.3	**45.7**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.12	1	**37**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-019
SAMPLE

Lab Sample ID: TK35Q
LIMS ID: 11-18804
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 81.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.3	6	**11,900**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.10	0.2	**3.2**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.32	0.6	**14.7**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.060	0.2	**17.2**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.16	2	2	U
CLP	09/02/11	7471A	09/06/11	7439-97-6	Mercury	0.0015	0.03	0.03	UJ
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.36	1	**9**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.78	6	6	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.64	6	6	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.072	0.4	**49.8**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.14	1	**24**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-020
SAMPLE

Lab Sample ID: TK35R
LIMS ID: 11-18805
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

Percent Total Solids: 71.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	**7429-90-5**	**Aluminum**	4.6	7	**11,800**	
3050B	09/02/11	200.8	09/06/11	**7440-38-2**	**Arsenic**	0.11	0.3	**2.9**	
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.14	0.3	0.3	U
3050B	09/02/11	6010B	09/06/11	**7440-47-3**	**Chromium**	0.35	0.7	**14.9**	
3050B	09/02/11	6010B	09/06/11	**7440-50-8**	**Copper**	0.065	0.3	**19.2**	J
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.17	3	3	U
CLP	09/02/11	7471A	09/06/11	**7439-97-6**	**Mercury**	0.0014	0.03	**0.03**	J
3050B	09/02/11	6010B	09/06/11	**7440-02-0**	**Nickel**	0.39	1	**9**	
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.85	7	7	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.69	7	7	U
3050B	09/02/11	6010B	09/06/11	**7440-62-2**	**Vanadium**	0.078	0.4	**48.4**	
3050B	09/02/11	6010B	09/06/11	**7440-66-6**	**Zinc**	0.16	1	**24**	

Reported in mg/kg-dry (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-001
MATRIX SPIKE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010B	11,400	12,900	219	685%	H
Arsenic	200.8	4.4	31.9	26.6	103%	
Cadmium	6010B	0.3	56.9	54.8	103%	
Chromium	6010B	19.7	74.9	54.8	101%	
Copper	6010B	2,180	3,890	54.8	3120%	H
Lead	6010B	19	238	219	100%	
Mercury	7471A	0.35	0.66	0.226	137%	N
Nickel	6010B	18	70	54.8	94.9%	
Selenium	6010B	5 U	211	219	96.3%	
Thallium	6010B	5 U	202	219	92.2%	
Vanadium	6010B	51.5	108	54.8	103%	
Zinc	6010B	65	119	54.8	98.5%	

Reported in mg/kg-dry

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked

Percent Recovery Limits: 75-125%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-082911-001
DUPLICATE

Lab Sample ID: TK35A
LIMS ID: 11-18788
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: 08/29/11
Date Received: 08/29/11

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010B	11,400	12,400	8.4%	+/- 20%	
Arsenic	200.8	4.4	4.3	2.3%	+/- 20%	
Cadmium	6010B	0.3	0.3	0.0%	+/- 0.2	L
Chromium	6010B	19.7	17.9	9.6%	+/- 20%	
Copper	6010B	2,180	3,350	42.3%	+/- 20%	*
Lead	6010B	19	23	19.0%	+/- 20%	
Mercury	7471A	0.35	0.44	22.8%	+/- 20%	*
Nickel	6010B	18	20	10.5%	+/- 20%	
Selenium	6010B	5 U	5 U	0.0%	+/- 5	L
Thallium	6010B	5 U	5 U	0.0%	+/- 5	L
Vanadium	6010B	51.5	60.2	15.6%	+/- 20%	
Zinc	6010B	65	64	1.6%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

TK35 : 00297

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: TK35LCS
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010B	204	200	102%	
Arsenic	200.8	29.6	25.0	118%	
Cadmium	6010B	50.8	50.0	102%	
Chromium	6010B	51.5	50.0	103%	
Copper	6010B	49.6	50.0	99.2%	
Lead	6010B	194	200	97.0%	
Mercury	7471A	0.53	0.50	106%	
Nickel	6010B	48	50	96.0%	
Selenium	6010B	195	200	97.5%	
Thallium	6010B	194	200	97.0%	
Vanadium	6010B	51.5	50.0	103%	
Zinc	6010B	49	50	98.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: TK35MB
LIMS ID: 11-18789
Matrix: Soil
Data Release Authorized:
Reported: 09/07/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769
Date Sampled: NA
Date Received: NA

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/02/11	6010B	09/06/11	7429-90-5	Aluminum	3.6	5	5	U
3050B	09/02/11	200.8	09/06/11	7440-38-2	Arsenic	0.087	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	09/02/11	6010B	09/06/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	09/02/11	6010B	09/06/11	7439-92-1	Lead	0.13	2	2	U
CLP	09/02/11	7471A	09/06/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	09/02/11	6010B	09/06/11	7440-02-0	Nickel	0.30	1	1	U
3050B	09/02/11	6010B	09/06/11	7782-49-2	Selenium	0.65	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-28-0	Thallium	0.53	5	5	U
3050B	09/02/11	6010B	09/06/11	7440-62-2	Vanadium	0.060	0.3	0.3	U
3050B	09/02/11	6010B	09/06/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS:ug/L

SDG: TK35

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Aluminum	AL	ICP	IP090671	2000.0	2004.93	100.2	2000.0	2038.55	101.9	1980.96	99.0	2019.69	101.0	1989.60	99.5	2005.24	100.3
Arsenic	AS	PMS	MS090681	50.0	50.18	100.4	50.0	50.33	100.7	50.36	100.7	50.03	100.1	50.49	101.0	50.14	100.3
Cadmium	CD	ICP	IP090671	1000.0	1042.50	104.3	1000.0	1038.38	103.8	1031.62	103.2	1026.07	102.6	1029.12	102.9	1024.29	102.4
Chromium	CR	ICP	IP090671	1000.0	1037.61	103.8	1000.0	1051.87	105.2	1020.13	102.0	1022.04	102.2	1020.73	102.1	1027.87	102.8
Copper	CU	ICP	IP090671	1000.0	1027.44	102.7	1000.0	1024.56	102.5	1031.24	103.1	1029.38	102.9	1030.38	103.0	1021.79	102.2
Lead	PB	ICP	IP090671	2000.0	1993.11	99.7	2000.0	1988.91	99.4	1954.78	97.7	1937.87	96.9	1929.48	96.5	1935.42	96.8
Mercury	HG	CVA	HG090601	8.0	8.29	103.6	4.0	4.18	104.5	4.16	104.0	4.19	104.8	4.21	105.3	4.25	106.3
Nickel	NI	ICP	IP090671	1000.0	1015.88	101.6	1000.0	1015.32	101.5	978.01	97.8	968.88	96.9	965.35	96.5	969.66	97.0
Selenium	SE	ICP	IP090671	2000.0	2022.45	101.1	2000.0	2016.43	100.8	1975.21	98.8	1946.81	97.3	1931.08	96.6	1942.54	97.1
Thallium	TL	ICP	IP090671	2000.0	1987.21	99.4	2000.0	1978.83	98.9	1937.62	96.9	1916.27	95.8	1900.09	95.0	1903.37	95.2
Vanadium	V	ICP	IP090671	1000.0	1008.10	100.8	1000.0	1002.84	100.3	1007.47	100.7	1000.11	100.0	1006.08	100.6	1000.65	100.1
Zinc	ZN	ICP	IP090671	1000.0	998.43	99.8	1000.0	1007.45	100.7	977.63	97.8	979.45	97.9	978.69	97.9	988.18	98.8

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

1C35.0060

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS: ug/L

SDG: TK35

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Aluminum	AL	ICP	IP090671	2000.0	1997.96	99.9	1987.52	99.4	1936.58	96.8	1957.12	97.9				
Arsenic	AS	PMS	MS090681	50.0	50.04	100.1	49.95	99.9	50.25	100.5						
Cadmium	CD	ICP	IP090671	1000.0	1008.86	100.9	1016.88	101.7	1024.73	102.5	1012.62	101.3				
Chromium	CR	ICP	IP090671	1000.0	1008.05	100.8	1014.84	101.5	1015.31	101.5	1020.14	102.0				
Copper	CU	ICP	IP090671	1000.0	1010.80	101.1	1016.38	101.6	1022.94	102.3	1016.18	101.6				
Lead	PB	ICP	IP090671	2000.0	1907.19	95.4	1920.41	96.0	1927.30	96.4	1912.23	95.6				
Mercury	HG	CVA	HG090601	4.0	4.27	106.8	4.32	108.0	4.39	109.8	4.41	110.3	4.45	111.3	4.44	111.0
Nickel	NI	ICP	IP090671	1000.0	953.66	95.4	956.70	95.7	963.03	96.3	968.41	96.8				
Selenium	SE	ICP	IP090671	2000.0	1910.99	95.5	1934.88	96.7	1925.30	96.3	1910.11	95.5				
Thallium	TL	ICP	IP090671	2000.0	1881.02	94.1	1896.75	94.8	1906.37	95.3	1887.56	94.4				
Vanadium	V	ICP	IP090671	1000.0	989.24	98.9	994.47	99.4	999.16	99.9	994.89	99.5				
Zinc	ZN	ICP	IP090671	1000.0	968.00	96.8	971.64	97.2	971.98	97.2	980.16	98.0				

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

TK35 : 000001

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS:ug/L

SDG: TK35

ANALYTE	EL	M	RUN	CCVTV	CCV12	%R	CCV13	%R	CCV14	%R	CCV15	%R	CCV16	%R	CCV17	%R
Aluminum	AL	ICP	IP090671	2000.0												
Arsenic	AS	PMS	MS090681	50.0												
Cadmium	CD	ICP	IP090671	1000.0												
Chromium	CR	ICP	IP090671	1000.0												
Copper	CU	ICP	IP090671	1000.0												
Lead	PB	ICP	IP090671	2000.0												
Mercury	HG	CVA	HG090601	4.0	4.46	111.5										
Nickel	NI	ICP	IP090671	1000.0												
Selenium	SE	ICP	IP090671	2000.0												
Thallium	TL	ICP	IP090671	2000.0												
Vanadium	V	ICP	IP090671	1000.0												
Zinc	ZN	ICP	IP090671	1000.0												

Control Limits: Mercury 80-120; Other Metals 90-110

TK35 : 00302

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS:ug/L

SDG: TK35

ANALYTE	EL	M	RUN	CRA/I TV	CR-1	%R	CR-2	%R	CR-3	%R	CR-4	%R	CR-5	%R	CR-6	%R
Aluminum	AL	ICP	IP090671	50.0	58.39	116.8	47.22	94.4	51.87	103.7						
Arsenic	AS	PMS	MS090681	0.2	0.18	90.0										
Cadmium	CD	ICP	IP090671	2.0	1.79	89.5	1.98	99.0	2.23	111.5						
Chromium	CR	ICP	IP090671	5.0	6.21	124.2	5.12	102.4	6.00	120.0						
Copper	CU	ICP	IP090671	2.0	2.23	111.5	1.94	97.0	1.94	97.0						
Lead	PB	ICP	IP090671	20.0	21.61	108.1	19.87	99.4	20.44	102.2						
Mercury	HG	CVA	HG090601	0.1	0.09	90.0										
Nickel	NI	ICP	IP090671	10.0	8.06	80.6	10.87	108.7	9.94	99.4						
Selenium	SE	ICP	IP090671	50.0	57.96	115.9	53.98	108.0	51.71	103.4						
Thallium	TL	ICP	IP090671	50.0	49.60	99.2	48.98	98.0	51.38	102.8						
Vanadium	V	ICP	IP090671	3.0	2.94	98.0	3.00	100.0	2.96	98.7						
Zinc	ZN	ICP	IP090671	10.0	10.56	105.6	9.54	95.4	9.78	97.8						

Control Limits: no control limits have been established by the EPA at this time.

FORM II (2)

TK35 : 000365

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS: ug/L

SDG: TK35

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Aluminum	AL	ICP	IP090671	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Arsenic	AS	PMS	MS090681	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	CD	ICP	IP090671	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Chromium	CR	ICP	IP090671	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Copper	CU	ICP	IP090671	25.0	2.0	2.0	U	2.0	U	2.0	U	3.2	B	2.0	U	2.0	U
Lead	PB	ICP	IP090671	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U	20.0	U
Mercury	HG	CVA	HG090601	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	NI	ICP	IP090671	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U
Selenium	SE	ICP	IP090671	5.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Thallium	TL	ICP	IP090671	10.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U	50.0	U
Vanadium	V	ICP	IP090671	50.0	3.0	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U
Zinc	ZN	ICP	IP090671	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS:ug/L

SDG: TK35

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Aluminum	AL	ICP	IP090671	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Arsenic	AS	PMS	MS090681	10.0	0.2	0.2	U	0.2	U	0.2	U						
Cadmium	CD	ICP	IP090671	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U				
Chromium	CR	ICP	IP090671	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U				
Copper	CU	ICP	IP090671	25.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U				
Lead	PB	ICP	IP090671	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U				
Mercury	HG	CVA	HG090601	0.2	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Nickel	NI	ICP	IP090671	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U				
Selenium	SE	ICP	IP090671	5.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Thallium	TL	ICP	IP090671	10.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Vanadium	V	ICP	IP090671	50.0	3.0	3.0	U	3.0	U	3.0	U	3.0	U				
Zinc	ZN	ICP	IP090671	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U				

TK35 : 000305

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

UNITS: ug/L

SDG: TK35

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB12	C	CCB13	C	CCB14	C	CCB15	C	CCB16	C	CCB17	C
Aluminum	AL	ICP	IP090671	200.0	50.0												
Arsenic	AS	PMS	MS090681	10.0	0.2												
Cadmium	CD	ICP	IP090671	5.0	2.0												
Chromium	CR	ICP	IP090671	10.0	5.0												
Copper	CU	ICP	IP090671	25.0	2.0												
Lead	PB	ICP	IP090671	3.0	20.0												
Mercury	HG	CVA	HG090601	0.2	0.1	0.1	U										
Nickel	NI	ICP	IP090671	40.0	10.0												
Selenium	SE	ICP	IP090671	5.0	50.0												
Thallium	TL	ICP	IP090671	10.0	50.0												
Vanadium	V	ICP	IP090671	50.0	3.0												
Zinc	ZN	ICP	IP090671	20.0	10.0												

TK35.00385

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ICS SOURCE: I.V.

PROJECT: FRP Shoreline Invest

RUNID: IP090671

SDG: TK35

INSTRUMENT ID: OPTIMA ICP 2

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	200000	200000	197591.6	194997.3	**97.5**	193988.4	194993.9	**97.5**			
Antimony		1000	-2.6	939.2	**93.9**	-3.6	922.2	**92.2**			
Arsenic		1000	12.2	1014.6	**101.5**	11.9	980.1	**98.0**			
Barium		1000	0.1	986.9	**98.7**	-1.0	965.8	**96.6**			
Beryllium		1000	0.1	975.4	**97.5**	0.1	957.8	**95.8**			
Boron			-6.7	-6.7		-9.1	-8.3				
Cadmium		1000	1.4	1002.6	**100.3**	1.6	996.3	**99.6**			
Calcium	100000	100000	101272.6	99974.9	**100.0**	99832.4	100525.5	**100.5**			
Chromium		1000	1.6	1005.4	**100.5**	-0.2	1003.4	**100.3**			
Cobalt		1000	1.1	982.3	**98.2**	1.1	970.9	**97.1**			
Copper		1000	-2.3	1017.1	**101.7**	-2.2	1027.7	**102.8**			
Iron	200000	200000	195338.4	189678.5	**94.8**	187907.9	186165.6	**93.1**			
Lead		1000	1.4	971.6	**97.2**	-0.4	946.0	**94.6**			
Magnesium	100000	100000	101649.3	96406.2	**96.4**	100114.8	96357.0	**96.4**			
Manganese		1000	0.2	942.3	**94.2**	-0.2	919.8	**92.0**			
Molybdenum			1.1	0.6		1.2	0.9				
Nickel		1000	1.6	941.7	**94.2**	3.0	919.4	**91.9**			
Potassium			64.8	297.2		33.8	269.0				
Selenium		1000	20.1	1014.2	**101.4**	12.9	972.3	**97.2**			
Silicon			6.4	-3.9		-7.4	-1.4				
Silver		1000	-0.5	1006.5	**100.7**	-0.3	972.5	**97.3**			
Sodium			2.7	1.3		9.7	5.4				
Strontium			10.4	10.2		10.4	10.2				
Thallium		1000	10.3	963.7	**96.4**	8.8	928.8	**92.9**			
Tin			0.5	0.3		-1.3	-2.0				
Titanium			9.1	9.9		7.9	8.0				
Vanadium		1000	9.3	973.5	**97.4**	7.4	978.4	**97.8**			
Zinc		1000	-6.2	925.6	**92.6**	-7.2	923.5	**92.4**			

TK35 : 000307

ICP Interference
Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35

ICS SOURCE: I.V.

RUNID: MS090681

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Aluminum	20000	20000	19996.5	19808.1	**99.0**						
Antimony			0.1	0.1							
Arsenic		20	0.0	19.5	**97.5**						
Cadmium		20	0.0	19.9	**99.5**						
Chromium		20	0.5	20.6	**103.0**						
Cobalt		20	0.1	19.6	**98.0**						
Copper		20	0.5	20.5	**102.5**						
Iron	20000	20000	20137.2	20309.4	**101.5**						
Manganese		20	0.7	20.6	**103.0**						
Molybdenum	400	400	417.9	421.0	**105.3**						
Nickel		20	0.6	20.1	**100.5**						
Selenium			0.0	-0.1							
Silver		20	0.0	19.2	**96.0**						
Vanadium			0.0	-0.4							
Zinc		20	1.0	20.5	**102.5**						

TK35 : 00308

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

ANALYSIS METHOD: ICP

SDG: TK35

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFERENCE	Q
Aluminum	FRP-082911-001L	TK35A-L	Soil	IP090671	103835.68		102673.75		1.1	
Cadmium	FRP-082911-001L	TK35A-L	Soil	IP090671	3.18	B	10.00	U	100.0	
Chromium	FRP-082911-001L	TK35A-L	Soil	IP090671	180.08		194.20		7.8	
Copper	FRP-082911-001L	TK35A-L	Soil	IP090671	19961.03		19517.70		2.2	
Lead	FRP-082911-001L	TK35A-L	Soil	IP090671	177.46		176.65		0.5	
Nickel	FRP-082911-001L	TK35A-L	Soil	IP090671	165.60		165.20	B	0.2	
Selenium	FRP-082911-001L	TK35A-L	Soil	IP090671	16.96	U	250.00	U		
Thallium	FRP-082911-001L	TK35A-L	Soil	IP090671	11.85	U	250.00	U		
Vanadium	FRP-082911-001L	TK35A-L	Soil	IP090671	470.97		481.85		2.3	
Zinc	FRP-082911-001L	TK35A-L	Soil	IP090671	597.98		615.85		3.0	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

ANALYSIS METHOD: PMS

SDG: TK35

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Arsenic	FRP-082911-001L	TK35A-L	Soil	MS090681	4.18	B	4.25	B	1.7	

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35 UNITS: ug/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ug/L)	ICP LR DATE
Aluminum	AL	ICP	OPTIMA ICP 2	308.22		200	50.0	4/1/2011	250000.0	8/3/2011
Arsenic	AS	PMS	PE ELAN 6000 MS	0.00		10	0.2	4/1/2011		
Cadmium	CD	ICP	OPTIMA ICP 2	228.80		5	2.0	4/1/2011	20000.0	8/3/2011
Chromium	CR	ICP	OPTIMA ICP 2	267.72		10	5.0	4/1/2011	100000.0	8/3/2011
Copper	CU	ICP	OPTIMA ICP 2	324.75		25	2.0	4/1/2011	40000.0	8/3/2011
Lead	PB	ICP	OPTIMA ICP 2	220.35		3	20.0	4/1/2011	300000.0	8/3/2011
Mercury	HG	CVA	CETAC MERCURY	253.70		0.2	0.1	4/1/2011		
Nickel	NI	ICP	OPTIMA ICP 2	231.60		40	10.0	4/1/2011	100000.0	8/3/2011
Selenium	SE	ICP	OPTIMA ICP 2	196.02		5	50.0	4/1/2011	20000.0	8/3/2011
Thallium	TL	ICP	OPTIMA ICP 2	190.86		10	50.0	4/1/2011	30000.0	8/3/2011
Vanadium	V	ICP	OPTIMA ICP 2	292.40		50	3.0	4/1/2011	50000.0	8/3/2011
Zinc	ZN	ICP	OPTIMA ICP 2	213.86		20	10.0	4/1/2011	100000.0	8/3/2011

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

IEC DATE: 7/29/2011

SDG: TK35

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	AL	AS	BA	BE	CA	CD	CO	CR	CU	FE
Aluminum	308.22	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	10.6149000	0.0000000	0.0000000
Arsenic	188.98	0.0000000	0.0000000	0.0000000	0.0000000	0.0782700	0.0000000	-0.8345790	1.1215100	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1892080	0.0000000	0.0000000	0.0725549
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	5.2418600	0.0000000	0.0000000	0.0000000	0.0000000	0.1195910	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.5252460	0.0000000	0.0000000
Chromium	267.72	0.0000000	0.0000000	0.0000000	0.0000000	0.0153433	0.0000000	0.0000000	0.0000000	0.0000000	-0.0413852
Cobalt	228.62	0.0000000	0.0000000	0.1238430	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.2279050	-0.0318969	0.0000000	-0.0576582
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-1.6163900	0.0000000	0.0000000
Lead	220.35	-0.1933070	0.0000000	0.0000000	0.0000000	-0.0313291	0.0000000	0.0000000	-2.3072100	1.2452600	0.0604941
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1350880	0.0000000	-1.6380600	-1.2519300	0.0000000	0.6248050
Manganese	257.61	0.0065894	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0058926
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0213077	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0729253	0.0000000	0.3514040	0.0000000	0.0000000	0.0000000
Silicon	288.16	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.4885200	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	12.3032000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0697991	0.0000000	1.7836600	0.3510820	0.0000000	-0.1057610
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1956000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1325580	0.0000000	0.0000000	0.1632010	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-3.9361800	0.0000000	0.0656240
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1475900	0.0000000	0.0387756

TK35-000312

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

IEC DATE: 7/29/2011

SDG: TK35

INSTRUMENT ID: OPTIMA ICP 2

ANALYTE	WAVELENGTH	MG	MN	MO	NI	PB	SB	TI	TL	V	ZN
Aluminum	308.22	0.0000000	0.0000000	15.3131000	0.0000000	0.0000000	0.0000000	1.5167500	0.0000000	17.6996000	0.0000000
Antimony	206.84	0.0000000	0.0000000	0.0000000	-0.4730780	0.0000000	0.0000000	-0.8897510	0.0000000	-3.3546800	0.0000000
Arsenic	188.98	0.0000000	0.0000000	2.3330800	0.0000000	0.0000000	0.0000000	-5.4412000	0.0000000	0.0000000	0.0000000
Barium	233.53	0.0000000	0.0000000	0.0000000	0.0766262	0.0000000	0.0000000	0.0000000	0.0000000	0.6419380	0.0000000
Beryllium	313.04	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2960780	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	-0.7324130	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	267.72	0.0546494	0.0000000	0.1395070	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.2773470	0.0000000
Cobalt	228.62	0.0000000	0.0000000	-0.1579570	0.1588330	0.0000000	0.0000000	1.8115900	0.0000000	0.0000000	0.0000000
Copper	324.75	0.0041446	0.0000000	0.2688440	0.0000000	0.0000000	0.0000000	0.2461180	0.0000000	0.0000000	0.0000000
Iron	273.96	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	8.4403600	0.0000000
Lead	220.35	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	279.08	0.0000000	0.0000000	-4.6256200	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0052560	0.0000000	0.0000000	0.0000000	-0.2175850	0.0000000	0.0000000	0.0000000	-0.0271775	0.0000000
Molybdenum	202.03	0.0117204	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.7744280	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.03	0.0551056	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	-0.1370260	0.0000000	-2.7358100	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.07	0.0000000	0.2442620	0.2419260	0.0000000	0.0000000	0.0000000	-0.0470302	0.0000000	-0.2758080	0.0000000
Sodium	589.59	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	242.4230000	0.0000000	0.0000000	318.1570000
Thallium	190.80	0.0000000	-1.4179000	1.9562000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	1.2892100	0.0000000
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.5848020	-0.3044710	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.9873960	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	-0.1398510	-0.6804250	0.0000000	0.0000000	0.0000000	0.6004670	0.0000000	0.0000000	0.0000000
Zinc	206.20	0.0000000	0.0000000	0.2377960	0.0000000	-0.0708227	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ANALYSIS METHOD: ICP

PROJECT: FRP Shoreline Invest

ARI PREP CODE: SWC

SDG: TK35

PREPDATE: 9/2/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-082911-001	TK35A	1.034	0.0	50.0
FRP-082911-001D	TK35ADUP	1.036	0.0	50.0
FRP-082911-001S	TK35ASPK	1.031	0.0	50.0
FRP-082911-002	TK35B	1.076	0.0	50.0
FRP-082911-003	TK35C	1.095	0.0	50.0
FRP-082911-004	TK35D	1.046	0.0	50.0
FRP-082911-006	TK35E	1.020	0.0	50.0
FRP-082911-007	TK35F	1.044	0.0	50.0
FRP-082911-008	TK35G	1.027	0.0	50.0
FRP-082911-009	TK35H	1.051	0.0	50.0
FRP-082911-010	TK35I	1.062	0.0	50.0
FRP-082911-011	TK35J	1.060	0.0	50.0
FRP-082911-012	TK35K	1.083	0.0	50.0
FRP-082911-013	TK35L	1.038	0.0	50.0
FRP-082911-014	TK35M	1.033	0.0	50.0
PBS	TK35MB1	1.000	0.0	50.0
LCSS	TK35MB1SPK	1.000	0.0	50.0
FRP-082911-016	TK35N	1.073	0.0	50.0
FRP-082911-017	TK35O	1.015	0.0	50.0
FRP-082911-018	TK35P	1.095	0.0	50.0
FRP-082911-019	TK35Q	1.021	0.0	50.0
FRP-082911-020	TK35R	1.077	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35

ANALYSIS METHOD: PMS

ARI PREP CODE: SWN

PREPDATE: 9/2/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-082911-001	TK35A	1.062	0.0	50.0
FRP-082911-001D	TK35ADUP	1.063	0.0	50.0
FRP-082911-001S	TK35ASPK	1.064	0.0	50.0
FRP-082911-002	TK35B	1.020	0.0	50.0
FRP-082911-003	TK35C	1.065	0.0	50.0
FRP-082911-004	TK35D	1.044	0.0	50.0
FRP-082911-006	TK35E	1.079	0.0	50.0
FRP-082911-007	TK35F	1.066	0.0	50.0
FRP-082911-008	TK35G	1.023	0.0	50.0
FRP-082911-009	TK35H	1.028	0.0	50.0
FRP-082911-010	TK35I	1.031	0.0	50.0
FRP-082911-011	TK35J	1.052	0.0	50.0
FRP-082911-012	TK35K	1.057	0.0	50.0
FRP-082911-013	TK35L	1.012	0.0	50.0
FRP-082911-014	TK35M	1.015	0.0	50.0
PBS	TK35MB1	1.000	0.0	50.0
LCSS	TK35MB1SPK	1.000	0.0	50.0
FRP-082911-016	TK35N	1.001	0.0	50.0
FRP-082911-017	TK35O	1.004	0.0	50.0
FRP-082911-018	TK35P	1.066	0.0	50.0
FRP-082911-019	TK35Q	1.033	0.0	50.0
FRP-082911-020	TK35R	1.070	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest

SDG: TK35

ANALYSIS METHOD: CVA

ARI PREP CODE: SMM

PREPDATE: 9/2/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-082911-001	TK35A	0.254	0.0	50.0
FRP-082911-001D	TK35ADUP	0.249	0.0	50.0
FRP-082911-001S	TK35ASPK	0.250	0.0	50.0
FRP-082911-002	TK35B	0.269	0.0	50.0
FRP-082911-003	TK35C	0.246	0.0	50.0
FRP-082911-004	TK35D	0.283	0.0	50.0
FRP-082911-006	TK35E	0.258	0.0	50.0
FRP-082911-007	TK35F	0.244	0.0	50.0
FRP-082911-008	TK35G	0.220	0.0	50.0
FRP-082911-009	TK35H	0.278	0.0	50.0
FRP-082911-010	TK35I	0.245	0.0	50.0
FRP-082911-011	TK35J	0.232	0.0	50.0
FRP-082911-012	TK35K	0.209	0.0	50.0
FRP-082911-013	TK35L	0.290	0.0	50.0
FRP-082911-014	TK35M	0.263	0.0	50.0
PBS	TK35MB1	0.200	0.0	50.0
LCSW	TK35MB1SPK	0.200	0.0	50.0
FRP-082911-016	TK35N	0.230	0.0	50.0
FRP-082911-017	TK35O	0.244	0.0	50.0
FRP-082911-018	TK35P	0.267	0.0	50.0
FRP-082911-019	TK35Q	0.213	0.0	50.0
FRP-082911-020	TK35R	0.261	0.0	50.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/6/2011

SDG: TK35 RUNID: IP090671 METHOD: ICP END DATE: 9/6/2011

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	10154			X						X		X	X								X	X		X				X		X	X
S2	S2	1.00	10195									X		X	X																	X	
S3	S3	1.00	10214																				X	X		X				X			X
S4	S4	1.00	10240																														
S5	S5	1.00	10262			X																											
ICV	ICV	1.00	10311			X						X		X	X								X	X		X				X		X	X
ICB	ICB	1.00	10351			X						X		X	X								X	X		X				X		X	X
CRI	CRII	1.00	10392			X						X		X	X								X	X		X				X		X	X
ICSA	ICSAI	1.00	10433			X						X		X	X								X	X		X				X		X	X
ICSAB	ICSABI	1.00	10474			X						X		X	X								X	X		X				X		X	X
CCV	CCV1	1.00	10512			X						X		X	X								X	X		X				X		X	X
CCB	CCB1	1.00	10552			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	TK72MB	5.00	10593																														
ZZZZZZ	TK72ADUP	5.00	11040																														
ZZZZZZ	TK72A	5.00	11082																														
ZZZZZZ	TK72ASPK	5.00	11123																														
FRP-082911-002	TK35B	2.00	11165			X						X		X	X								X	X		X				X		X	X
FRP-082911-003	TK35C	2.00	11204			X						X		X	X								X	X		X				X		X	X
FRP-082911-004	TK35D	2.00	11244			X						X		X	X								X	X		X				X		X	X
FRP-082911-006	TK35E	2.00	11284			X						X		X	X								X	X		X				X		X	X
FRP-082911-007	TK35F	2.00	11324			X						X		X	X								X	X		X				X		X	X
FRP-082911-008	TK35G	2.00	11363			X						X		X	X								X	X		X				X		X	X
CCV	CCV2	1.00	11403			X						X		X	X								X	X		X				X		X	X
CCB	CCB2	1.00	11443			X						X		X	X								X	X		X				X		X	X
PBS	TK35MB1	2.00	11484																														
ZZZZZZ	ZZZZZZ	10.00	11525																														
FRP-082911-001	TK35A	2.00	11565																														
FRP-082911-001D	TK35ADUP	2.00	12010																														
FRP-082911-001S	TK35ASPK	2.00	12050																														
ZZZZZZ	ZZZZZZ	2.00	12092																														
FRP-082911-009	TK35H	2.00	12132																														
FRP-082911-010	TK35I	2.00	12172																														
FRP-082911-011	TK35J	2.00	12211																														
LCSS	TK35MB1SPK	2.00	12251																														
CCV	CCV3	1.00	12291			X						X		X	X								X	X		X				X		X	X

FORM XIV

K25 : 0093 17

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/6/2011

SDG: TK35 RUNID: IP090671 METHOD: ICP END DATE: 9/6/2011

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
CCB	CCB3	1.00	12331			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	TK51B	2.00	12372																														
ZZZZZZ	TK51C	2.00	12412																														
FRP-082911-012	TK35K	2.00	12451																														
FRP-082911-013	TK35L	2.00	12491																														
FRP-082911-014	TK35M	2.00	12531																														
FRP-082911-016	TK35N	2.00	12570																														
FRP-082911-017	TK35O	2.00	13010																														
FRP-082911-018	TK35P	2.00	13050																														
FRP-082911-019	TK35Q	2.00	13090																														
CCV	CCV4	1.00	13260			X						X		X	X								X	X		X				X		X	X
CCB	CCB4	1.00	13300			X						X		X	X								X	X		X				X		X	X
PBS	TK35MB1	2.00	13341			X						X		X	X								X	X		X				X		X	X
FRP-082911-001L	TK35A-L	10.00	13382			X						X		X	X								X	X		X				X		X	X
FRP-082911-001	TK35A	2.00	13421			X						X		X	X								X	X		X				X		X	X
FRP-082911-001D	TK35ADUP	2.00	13461			X						X		X	X								X	X		X				X		X	X
FRP-082911-001S	TK35ASPK	2.00	13502			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	D1	2.00	13580																														
ZZZZZZ	D2	2.00	14021																														
ZZZZZZ	D3	2.00	14063																														
LCSS	TK35MB1SPK	2.00	14103			X						X		X	X								X	X		X				X		X	X
CCV	CCV5	1.00	14142			X						X		X	X								X	X		X				X		X	X
CCB	CCB5	1.00	14182			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	TK51B	2.00	14223																														
ZZZZZZ	TK51C	2.00	14263																														
FRP-082911-012	TK35K	2.00	14303			X						X		X	X								X	X		X				X		X	X
FRP-082911-013	TK35L	2.00	14343			X						X		X	X								X	X		X				X		X	X
FRP-082911-014	TK35M	2.00	14382			X						X		X	X								X	X		X				X		X	X
FRP-082911-016	TK35N	2.00	14422			X						X		X	X								X	X		X				X		X	X
FRP-082911-017	TK35O	2.00	14462			X						X		X	X								X	X		X				X		X	X
FRP-082911-018	TK35P	2.00	14501			X						X		X	X								X	X		X				X		X	X
FRP-082911-019	TK35Q	2.00	14541			X						X		X	X								X	X		X				X		X	X
FRP-082911-020	TK35R	2.00	14581			X						X		X	X								X	X		X				X		X	X
CCV	CCV6	1.00	15021			X						X		X	X								X	X		X				X		X	X
CCB	CCB6	1.00	15060			X						X		X	X								X	X		X				X		X	X

FORM XIV

TK35-00218

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/6/2011

SDG: TK35 RUNID: IP090671 METHOD: ICP END DATE: 9/6/2011

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
FRP-082911-009	TK35H	2.00	15102			X						X		X	X								X	X		X				X		X	X
FRP-082911-010	TK35I	2.00	15141			X						X		X	X								X	X		X				X		X	X
FRP-082911-011	TK35J	2.00	15181			X						X		X	X								X	X		X				X		X	X
CCV	CCV7	1.00	15221			X						X		X	X								X	X		X				X		X	X
CCB	CCB7	1.00	15261			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	ZZZZZZ	1.00	15302																														
S0	S0	1.00	15350			X						X		X	X								X	X		X				X		X	X
CCV	CCV8	1.00	15385			X						X		X	X								X	X		X				X		X	X
CCB	CCB8	1.00	15425			X						X		X	X								X	X		X				X		X	X
CRI	CRIF	1.00	15470			X						X		X	X								X	X		X				X		X	X
ICSA	ICSAF	1.00	15512			X						X		X	X								X	X		X				X		X	X
ICSAB	ICSABF	1.00	15553			X						X		X	X								X	X		X				X		X	X
CCV	CCV9	1.00	15591			X						X		X	X								X	X		X				X		X	X
CCB	CCB9	1.00	16031			X						X		X	X								X	X		X				X		X	X

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/6/2011

SDG: TK35 RUNID: MS090681 METHOD: PMS END DATE: 9/6/2011

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	09090				X																										
S1	S1	1.00	09170				X																										
S2	S2	1.00	09240				X																										
S3	S3	1.00	09320				X																										
S4	S4	1.00	09400				X																										
ZZZZZZ	Rinse Sampl	1.00	09470																														
ICV	MICV	1.00	09570				X																										
ICB	ICB	1.00	10040				X																										
CCV	MCCV1	1.00	10110				X																										
CCB	CCB1	1.00	10190				X																										
CRI	MCRI	1.00	10260				X																										
ICSA	ICSAI	1.00	10330				X																										
ICSAB	ICSABI	1.00	10410				X																										
ZZZZZZ	LR200	1.00	10490																														
ZZZZZZ	LR300	1.00	10560																														
CCV	MCCV2	1.00	11040				X																										
CCB	CCB2	1.00	11110				X																										
ZZZZZZ	TJ71RMB2	2.00	11190																														
ZZZZZZ	TK36MB1	2.00	11260																														
ZZZZZZ	TK36MB1SPK	2.00	11320																														
ZZZZZZ	TK36A-L	10.00	11390																														
ZZZZZZ	TK36A	2.00	11460																														
ZZZZZZ	TK36ADUP	2.00	11520																														
ZZZZZZ	TK36ASPK	2.00	11590																														
ZZZZZZ	TK24A	2.00	12060																														
ZZZZZZ	TK24B	2.00	12130																														
ZZZZZZ	TK24C	2.00	12190																														
CCV	MCCV3	1.00	12260				X																										
CCB	CCB3	1.00	12330				X																										
ZZZZZZ	TK24MB1	2.00	12410																														
ZZZZZZ	TK24MB1SPK	2.00	12480																														
ZZZZZZ	TK24G-L	10.00	12540																														
ZZZZZZ	TK24G	2.00	13010																														
ZZZZZZ	TK24GDUP	2.00	13080																														
ZZZZZZ	TK24GSPK	2.00	13140																														

FORM XIV

TK35 : 00320

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/6/2011

SDG: TK35 RUNID: MS090681 METHOD: PMS END DATE: 9/6/2011

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
ZZZZZZ	TK24N-L	10.00	13210																														
ZZZZZZ	TK24N	2.00	13280																														
ZZZZZZ	TK24NDUP	2.00	13340																														
ZZZZZZ	TK24NSPK	2.00	13410																														
CCV	MCCV4	1.00	13480				X																										
CCB	CCB4	1.00	13550				X																										
ZZZZZZ	TK24MB2	2.00	14040																														
ZZZZZZ	TK24MB2SPK	2.00	14100																														
ZZZZZZ	TK24D	2.00	14170																														
ZZZZZZ	TK24E	2.00	14240																														
ZZZZZZ	TK24F	2.00	14310																														
ZZZZZZ	TK24H	2.00	14370																														
ZZZZZZ	TK24I	2.00	14440																														
ZZZZZZ	TK24J	2.00	14510																														
ZZZZZZ	TK24K	2.00	14580																														
ZZZZZZ	TK24L	2.00	15040																														
CCV	MCCV5	1.00	15110				X																										
CCB	CCB5	1.00	15180				X																										
PBS	TK35MB1	20.00	15280				X																										
LCSS	TK35MB1SPK	20.00	15350				X																										
ZZZZZZ	TK24M	2.00	15420																														
FRP-082911-002	TK35B	20.00	15480				X																										
FRP-082911-003	TK35C	20.00	15550				X																										
FRP-082911-004	TK35D	20.00	16020				X																										
FRP-082911-006	TK35E	20.00	16080				X																										
FRP-082911-007	TK35F	20.00	16150				X																										
FRP-082911-008	TK35G	20.00	16220				X																										
FRP-082911-009	TK35H	20.00	16280				X																										
CCV	MCCV6	1.00	16350				X																										
CCB	CCB6	1.00	16430				X																										
FRP-082911-001L	TK35A-L	100.00	16500				X																										
FRP-082911-001	TK35A	20.00	16570				X																										
FRP-082911-001D	TK35ADUP	20.00	17030				X																										
FRP-082911-001S	TK35ASPK	20.00	17100				X																										
ZZZZZZ	ZZZZZZ	20.00	17170																														

FORM XIV

TK35-00821

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/6/2011

SDG: TK35 RUNID: MS090681 METHOD: PMS END DATE: 9/6/2011

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
FRP-082911-010	TK35I	20.00	17230				X																										
FRP-082911-011	TK35J	20.00	17300				X																										
FRP-082911-012	TK35K	20.00	17370				X																										
FRP-082911-013	TK35L	20.00	17430				X																										
FRP-082911-014	TK35M	20.00	17500				X																										
CCV	MCCV7	1.00	17570				X																										
CCB	CCB7	1.00	18040				X																										
FRP-082911-016	TK35N	20.00	18120				X																										
FRP-082911-017	TK35O	20.00	18180				X																										
FRP-082911-018	TK35P	20.00	18250				X																										
FRP-082911-019	TK35Q	20.00	18320				X																										
FRP-082911-020	TK35R	20.00	18380				X																										
ZZZZZZ	TK37B	20.00	18450																														
ZZZZZZ	TK37C	20.00	18520																														
ZZZZZZ	TK37D	20.00	18590																														
ZZZZZZ	TK37E	20.00	19050																														
ZZZZZZ	TK37F	20.00	19120																														
CCV	MCCV8	1.00	19190				X																										
CCB	CCB8	1.00	19260				X																										

TK35 : 00322

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: CETAC MERCURY START DATE: 9/6/2011

SDG: TK35 RUNID: HG090601 METHOD: CVA END DATE: 9/6/2011

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	09295														X																
S0.1	S0.1	1.00	09313														X																
S0.5	S0.5	1.00	09330														X																
S1	S1	1.00	09344														X																
S2	S2	1.00	09362														X																
S5	S5	1.00	09380														X																
S10	S10	1.00	09394														X																
ICV	AICV	1.00	09425														X																
ICB	ICB	1.00	09442														X																
CCV	ACCV1	1.00	09460														X																
CCB	CCB1	1.00	09474														X																
CRA	CRA	1.00	09492														X																
ZZZZZZ	TJ59MB1	1.00	09505																														
ZZZZZZ	TJ59MB1SPK	1.00	09523																														
ZZZZZZ	TJ59REF1	5.00	09541																														
ZZZZZZ	TJ59B	1.00	09554																														
ZZZZZZ	TJ59BDUP	1.00	09572																														
ZZZZZZ	TJ59BSPK	1.00	09590																														
ZZZZZZ	TJ60A	1.00	10003																														
ZZZZZZ	TJ60B	1.00	10021																														
ZZZZZZ	TJ60C	1.00	10035																														
CCV	ACCV2	1.00	10053														X																
CCB	CCB2	1.00	10071														X																
ZZZZZZ	TJ60D	1.00	10085																														
ZZZZZZ	TK20MB1	1.00	10102																														
ZZZZZZ	TK20MB1SPK	1.00	10120																														
ZZZZZZ	TK20REF1	5.00	10133																														
ZZZZZZ	TK20A	1.00	10151																														
ZZZZZZ	TK20ADUP	1.00	10165																														
ZZZZZZ	TK20ASPK	1.00	10182																														
ZZZZZZ	TK37MB1	1.00	10200																														
ZZZZZZ	TK37MB1SPK	1.00	10214																														
ZZZZZZ	TK37A	1.00	10231																														
CCV	ACCV3	1.00	10245														X																
CCB	CCB3	1.00	10263														X																

FORM XIV

TK35 : 00323

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: CETAC MERCURY START DATE: 9/6/2011

SDG: TK35 RUNID: HG090601 METHOD: CVA END DATE: 9/6/2011

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
ZZZZZZ	TK37ADUP	1.00	10281																														
ZZZZZZ	TK37ASPK	1.00	10295																														
ZZZZZZ	TK37B	1.00	10313																														
ZZZZZZ	TK37C	1.00	10330																														
ZZZZZZ	TK37D	1.00	10344																														
ZZZZZZ	TK37E	1.00	10362																														
ZZZZZZ	TK37F	1.00	10375																														
ZZZZZZ	TK37G	1.00	10393																														
ZZZZZZ	TK37H	1.00	10411																														
ZZZZZZ	TK37I	1.00	10424																														
CCV	ACCV4	1.00	10442														X																
CCB	CCB4	1.00	10460														X																
ZZZZZZ	TK51MB1	1.00	10474																														
ZZZZZZ	TK51MB1SPK	1.00	10492																														
ZZZZZZ	TK51A	1.00	10510																														
ZZZZZZ	TK51ADUP	1.00	10524																														
ZZZZZZ	TK51ASPK	1.00	10542																														
ZZZZZZ	TK51B	1.00	10555																														
ZZZZZZ	TK51C	1.00	10573																														
ZZZZZZ	TK51D	1.00	10590																														
ZZZZZZ	TK51E	1.00	11004																														
ZZZZZZ	TK51F	1.00	11022																														
CCV	ACCV5	1.00	11040														X																
CCB	CCB5	1.00	11054														X																
ZZZZZZ	TK51G	1.00	11072																														
ZZZZZZ	TK51H	1.00	11090																														
ZZZZZZ	TK51I	1.00	11103																														
CCV	ACCV6	1.00	11121														X																
CCB	CCB6	1.00	11135														X																
ZZZZZZ	TJ59B	1.00	11155																														
ZZZZZZ	TJ59BDUP	1.00	11172																														
ZZZZZZ	TJ59BSPK	1.00	11190																														
ZZZZZZ	TK20A	1.00	11203																														
ZZZZZZ	TK20ADUP	1.00	11221																														
ZZZZZZ	TK20ASPK	1.00	11234																														

FORM XIV

1C35 : 0083219

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest INSTRUMENT ID: CETAC MERCURY START DATE: 9/6/2011

SDG: TK35 RUNID: HG090601 METHOD: CVA END DATE: 9/6/2011

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
ZZZZZZ	TK51A	1.00	11252																														
ZZZZZZ	TK51ADUP	1.00	11270																														
ZZZZZZ	TK51ASPK	1.00	11283																														
CCV	ACCV7	1.00	11301														X																
CCB	CCB7	1.00	11315														X																
PBW	TK35MB1	1.00	11334														X																
LCSW	TK35MB1SPK	1.00	11352														X																
FRP-082911-001	TK35A	1.00	11365														X																
FRP-082911-001D	TK35ADUP	1.00	11383														X																
FRP-082911-001S	TK35ASPK	1.00	11400														X																
FRP-082911-002	TK35B	1.00	11414														X																
FRP-082911-003	TK35C	1.00	11432														X																
FRP-082911-004	TK35D	1.00	11445														X																
FRP-082911-006	TK35E	1.00	11463														X																
FRP-082911-007	TK35F	1.00	11481														X																
CCV	ACCV8	1.00	11495														X																
CCB	CCB8	1.00	11513														X																
FRP-082911-008	TK35G	1.00	11531														X																
FRP-082911-009	TK35H	1.00	11544														X																
FRP-082911-010	TK35I	1.00	11562														X																
FRP-082911-011	TK35J	1.00	11580														X																
FRP-082911-012	TK35K	1.00	11593														X																
FRP-082911-013	TK35L	1.00	12011														X																
FRP-082911-014	TK35M	1.00	12024														X																
FRP-082911-016	TK35N	1.00	12042														X																
FRP-082911-017	TK35O	1.00	12060														X																
FRP-082911-018	TK35P	1.00	12073														X																
CCV	ACCV9	1.00	12091														X																
CCB	CCB9	1.00	12105														X																
FRP-082911-019	TK35Q	1.00	12123														X																
FRP-082911-020	TK35R	1.00	12141														X																
CCV	ACCV10	1.00	12155														X																
CCB	CCB10	1.00	12173														X																
ZZZZZZ	TK26MB	1.00	12191																														
ZZZZZZ	TK26MBSPK	1.00	12205																														

FORM XIV

TK35 : 00325

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP Shoreline Invest | INSTRUMENT ID: CETAC MERCURY | START DATE: 9/6/2011

SDG: TK35 | RUNID: HG090601 METHOD: CVA | END DATE: 9/6/2011

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
ZZZZZZ	TK26A	1.00	12222																														
ZZZZZZ	TK39MB	1.00	12240																														
ZZZZZZ	TK39MBSPK	1.00	12254																														
ZZZZZZ	TK39A	1.00	12271																														
CCV	ACCV11	1.00	12285														X																
CCB	CCB11	1.00	12303														X																
FRP-082911-001	TK35A	1.00	12335																														
FRP-082911-001D	TK35ADUP	1.00	12352																														
FRP-082911-001S	TK35ASPK	1.00	12370																														
CCV	ACCV12	1.00	12383														X																
CCB	CCB12	1.00	12401														X																

TK35 : 00020

Geotechnical Analysis
Report and Summary QC Forms

ARI Job ID: TK35

ANALYTICAL RESOURCES INCORPORATED

GEOTECHNICAL ANALYSIS DATA SHEET
Moisture Content by Method ASTM D2216

Data Release Authorized:
Reported: 09/08/11
Date Received: 08/29/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	Result	RPD
FRP-082911-005 TK35S 11-18806	08/29/11	Soil	09/01/11 15:19	26.12	
FRP-082911-005 TK35SLR	08/29/11	Soil	09/01/11 15:19	26.46	1.3 %
FRP-082911-005 TK35SLT	08/29/11	Soil	09/01/11 15:19	26.67	2.1 %
FRP-082911-015 TK35T 11-18807	08/29/11	Soil	09/01/11 15:19	25.32	

Reported in Percent

ANALYTICAL RESOURCES INCORPORATED

GEOTECHNICAL ANALYSIS DATA SHEET
Wet Density by Method ASTM D7263

Data Release Authorized:
Reported: 09/08/11
Date Received: 08/29/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	Result	RPD
FRP-082911-005 TK35S 11-18806	08/29/11	Soil	09/01/11 15:19	115.9	
FRP-082911-015 TK35T 11-18807	08/29/11	Soil	09/01/11 15:19	113.8	

Reported in lb/ft3

TK35 : 00329

ANALYTICAL RESOURCES INCORPORATED

GEOTECHNICAL ANALYSIS DATA SHEET
Dry Density by Method ASTM D7263

Data Release Authorized: gs
Reported: 09/08/11
Date Received: 08/29/11

QC Report No: TK35-AMEC Geomatrix
Project: FRP Shoreline Investigation 2011
8769

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	Result	RPD
FRP-082911-005 TK35S 11-18806	08/29/11	Soil	09/01/11 15:19	91.9	
FRP-082911-005 TK35SLR	08/29/11	Soil	09/01/11 15:19	87.5	4.9 %
FRP-082911-005 TK35SLT	08/29/11	Soil	09/01/11 15:19	90.2	1.9 %
FRP-082911-015 TK35T 11-18807	08/29/11	Soil	09/01/11 15:19	90.8	

Reported in lb/ft3

AMEC Geomatrix
6769
FRP Shorline Investigation 2011

Percent Finer (Passing) Than the Indicated Size

Sieve Size (microns)	3"	2"	1 1/2"	1"	3/4"	1/2"	3/8"	#4 (4750)	#10 (2000)	#20 (850)	#40 (425)	#60 (250)	#100 (150)	#200 (75)	32	22	13	9	7	3.2	1.3
FRP-082911-005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.2	61.8	22.9	6.9	6.0	4.1	3.7	2.8	1.8	1.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.2	61.1	21.4	6.9	6.0	4.6	3.7	3.2	1.8	1.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	91.8	61.2	23.3	7.8	6.4	4.6	4.6	3.2	1.8	1.4
FRP-082911-015	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.3	89.1	49.4	20.6	15.9	12.0	10.0	6.0	5.3	3.3

Testing performed according to ASTM D421/D422

TK35

TK35 : 00031

AMEC Geomatrix
8769
FRP Shorline Investigation 2011

Percent Retained in Each Size Fraction

Description	%Coarse Gravel				% Gravel			% Coarse Sand	% Medium Sand		% Fine Sand			% Very Coarse Silt	% Coarse Silt	% Medium Silt	% Fine Silt	% Fine Silt	% Very Fine Silt	% Clay
Particle Size (microns)	3-2"	2-1 1/2"	1 1/2"-1"	1-3/4"	3/4-1/2"	1/2-3/8"	3/8"-4750	4750-2000	2000-650	850-425	425-250	250-150	150-75	75-32	32-22	22-13	13-9	9-7	7-3.2	<3.2
FRP-082911-005	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.6	30.4	38.8	16.1	0.9	1.8	0.5	0.9	0.9	1.8
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	7.5	31.1	39.7	14.8	0.9	1.4	0.9	0.5	1.4	1.8
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	8.0	30.5	37.9	15.5	1.4	1.8	0.0	1.4	1.4	1.8
FRP-082911-015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	10.3	39.7	28.8	4.6	4.0	2.0	2.0	2.7	5.3

TK35

TK35 : 00332

Client:	AMEC Geomatrix	Project No.:	6789
		Project:	FRP Shorline Investigation 2011
ARI Triplicate Sample ID:	TK35S	Batch No.:	TK35-01
Client Triplicate Sample ID:	FRP-082911-005	Page:	1 of 1

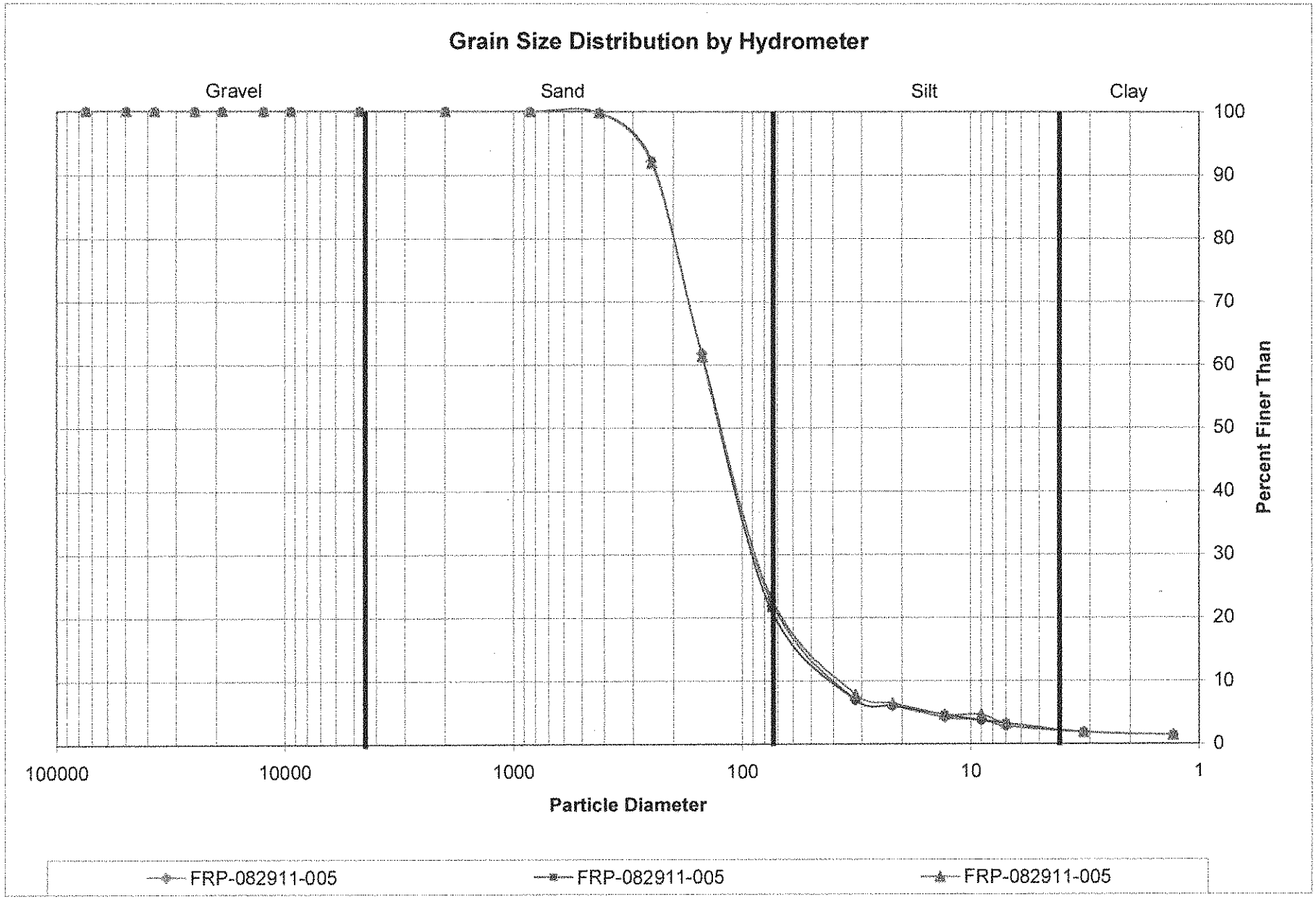
Relative Standard Deviation, By Size

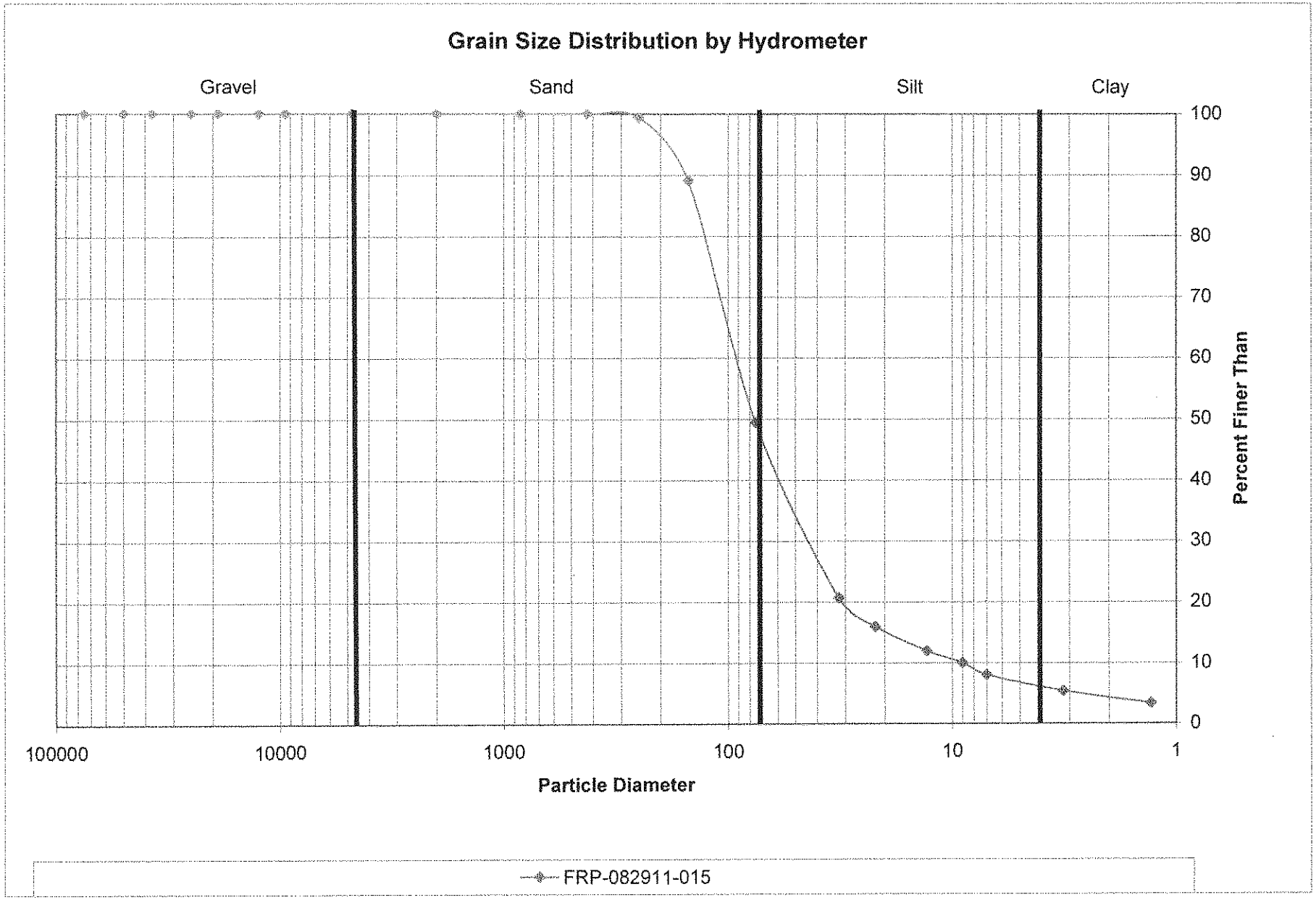
Sample ID	75000	50000	37500	25000	19000	12500	9500	4750	2000	850	425	250	150	75	32	22	13	9	7	3.2	1.3
FRP-082911-005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	92.2	61.6	22.9	6.9	6.0	4.1	3.7	2.6	1.8	1.4
FRP-082911-005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	92.2	61.1	21.4	6.9	6.0	4.6	3.7	3.2	1.8	1.4
FRP-082911-005	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.6	91.8	61.2	23.3	7.6	6.4	4.6	4.8	3.2	1.8	1.4
AVE	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.77	92.06	61.37	22.57	7.20	6.13	4.44	3.98	3.06	1.84	1.38
STDEV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.24	0.34	1.00	0.54	0.27	0.26	0.54	0.26	0.00	0.00
%RSD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.26	0.56	4.44	7.49	4.45	5.90	13.45	8.59	0.19	0.19

This Triplicate applies to the Batch Containing the Following Samples

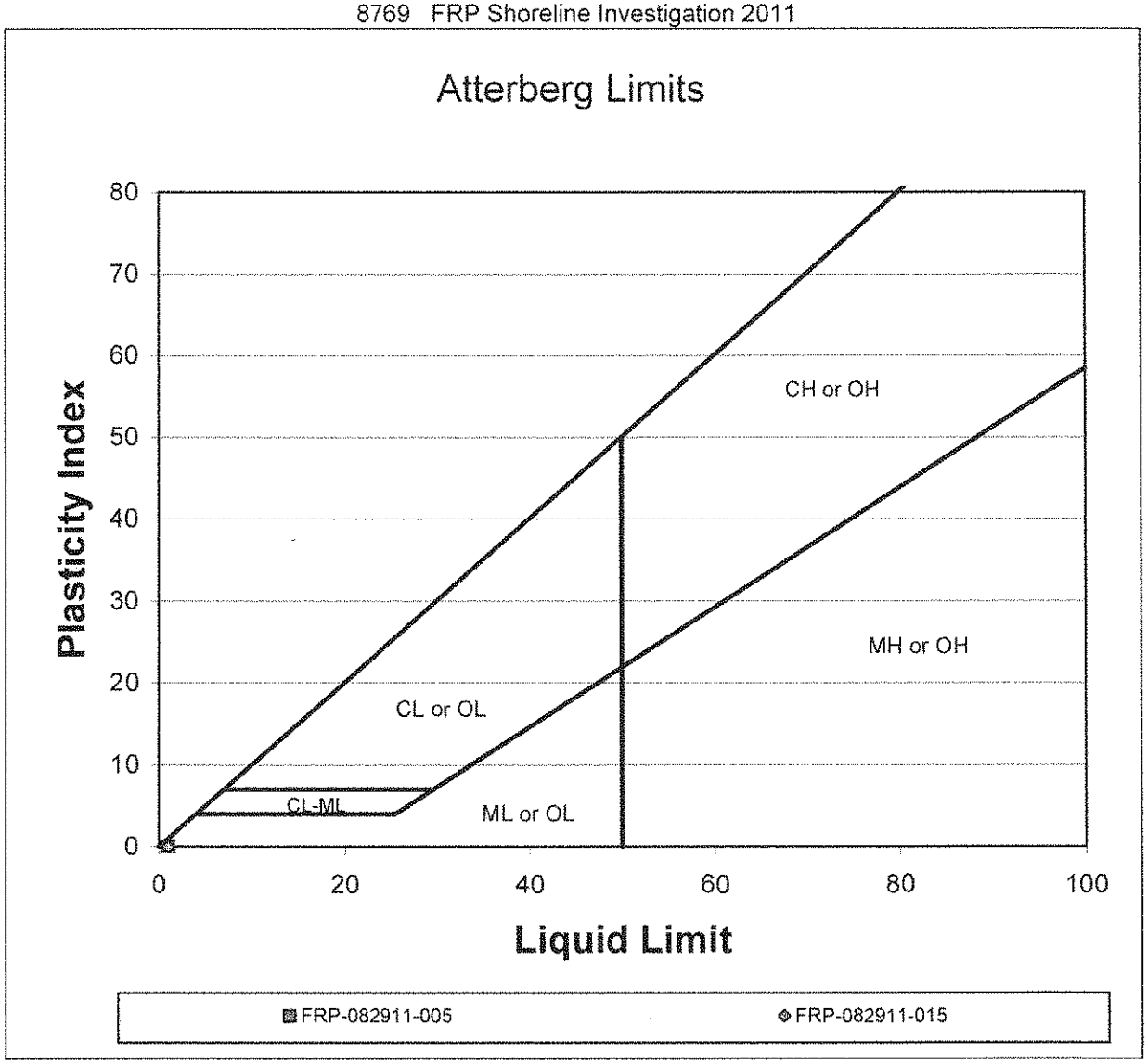
Sample ID	Date Sampled	Date Set up	Date Started	Date Complete	Data Qualifiers
FRP-082911-005	6/29/2011	9/1/2011	9/6/2011	9/8/2011	
	8/29/2011	9/1/2011	9/6/2011	9/8/2011	
	8/29/2011	9/1/2011	9/6/2011	9/8/2011	
FRP-082911-015	8/29/2011	9/1/2011	9/6/2011	9/8/2011	

TK35 : 00333


Grain Size Distribution by Hydrometer
Gravel
Sand
Silt
Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer Than
100000
10000
1000
100
10
1
Particle Diameter
FRP-082911-005
FRP-082911-005
FRP-082911-005


Grain Size Distribution by Hydrometer
Gravel
Sand
Silt
Clay
100
90
80
70
60
50
40
30
20
10
0
Percent Finer Than
100000
10000
1000
100
10
1
Particle Diameter
FRP-082911-015

AMEC Geomatrix
8769 FRP Shoreline Investigation 2011



Sample Identification	As-Received Moisture Content	Plasticity Index	Liquid Limit	Plastic Limit	USCS
FRP-082911-005	26.12	NA	NA	NA	Non-Plastic
FRP-082911-015	25.32	NA	NA	NA	Non-Plastic

TK35

TK35 : 08336

Total Solids

ARI Job ID: TK35

Volatiles Total Solids-voats
Data By: Pat Basilio
Created: 9/ 6/11

Worklist: 3522
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. TK35A 11-18788				% 88.45
2. TK35B 11-18789				% 83.55
3. TK35C 11-18790				% 75.07
4. TK35D 11-18791				% 73.14
5. TK35E 11-18792				% 93.00
6. TK35F 11-18793				% 92.10
7. TK35G 11-18794				% 90.22
8. TK35H 11-18795				% 73.59
9. TK35I 11-18796				% 92.26
10. TK35J 11-18797				% 92.24
11. TK35K 11-18798				% 93.63
12. TK35L 11-18799				% 79.59
13. TK35M 11-18800				% 72.12
14. TK35N 11-18801				% 92.16
15. TK35O 11-18802				% 89.05
16. TK35P 11-18803				% 89.78
17. TK35Q 11-18804				% 81.57

Worklist ID: 3522 Page: 1
* - VOA TS Copied From BETX TS
% - VOA TS Copied From Metals TS
$ - VOA TS Copied From Extraction TS

Volatiles Total Solids-voats
Data By: Pat Basilio
Created: 9/ 6/11

Worklist: 3522
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
18. TK35R 11-18805	_____	_____		% 71.04

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

Extractions Total Solids-extts
Data By: Yen Luu
Created: 8/30/11

Worklist: 1787
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.	TK35A 11-18788 FRP-082911-001	1.17	13.26	11.82	88.1	NR
2.	TK35B 11-18789 FRP-082911-002	1.17	13.12	11.27	84.5	NR
3.	TK35C 11-18790 FRP-082911-003	1.16	12.70	9.91	75.8	NR
4.	TK35D 11-18791 FRP-082911-004	1.16	12.14	9.74	78.1	NR
5.	TK35E 11-18792 FRP-082911-006	1.17	11.86	11.10	92.9	NR
6.	TK35F 11-18793 FRP-082911-007	1.16	12.55	11.62	91.8	NR
7.	TK35G 11-18794 FRP-082911-008	1.17	13.13	11.94	90.1	NR
8.	TK35H 11-18795 FRP-082911-009	1.16	12.72	10.02	76.6	NR
9.	TK35I 11-18796 FRP-082911-010	1.16	11.82	10.99	92.2	NR
10.	TK35J 11-18797 FRP-082911-011	1.16	11.61	10.78	92.1	NR
11.	TK35K 11-18798 FRP-082911-012	1.17	12.22	11.53	93.8	NR
12.	TK35L 11-18799 FRP-082911-013	1.17	12.33	9.99	79.0	NR
13.	TK35M 11-18800 FRP-082911-014	1.17	11.83	9.32	76.5	NR

TK35 : 00340

Extractions Total Solids-extts
Data By: Yen Luu
Created: 8/30/11

Worklist: 1787
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
14.	TK35N 11-18801 FRP-082911-016	1.17	12.01	11.13	91.9	NR
15.	TK35O 11-18802 FRP-082911-017	1.18	12.48	11.26	89.2	NR
16.	TK35P 11-18803 FRP-082911-018	1.16	12.13	11.01	89.8	NR
17.	TK35Q 11-18804 FRP-082911-019	1.17	11.63	9.61	80.7	NR
18.	TK35R 11-18805 FRP-082911-020	1.18	12.40	9.19	71.4	NR

TK35:00341

Extractions Total Solids-extts
Data By: Yen Luu
Created: 8/30/11

Worklist: 1787
Analyst: YL
Comments:

Oven ID: 015

Balance ID: 2175452b

Samples In: Date: 8/30/11 Time: 21:15 Temp: 105 Analyst: YL

Samples Out: Date: 8/31/11 Time: 10:15 Temp: 105° Analyst: RR

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
1.	TK35A 11-18788 FRP-082911-001	1.17	13.26	11.82		NR
2.	TK35B 11-18789 FRP-082911-002	1.17	13.12	11.27		NR
3.	TK35C 11-18790 FRP-082911-003	1.16	12.70	9.91		NR
4.	TK35D 11-18791 FRP-082911-004	1.16	12.14	9.74		NR
5.	TK35E 11-18792 FRP-082911-006	1.17	11.86	11.10		NR
6.	TK35F 11-18793 FRP-082911-007	1.16	12.55	11.62		NR
7.	TK35G 11-18794 FRP-082911-008	1.17	13.13	11.94		NR
8.	TK35H 11-18795 FRP-082911-009	1.16	12.72	10.82		NR
9.	TK35I 11-18796 FRP-082911-010	1.16	11.82	10.99		NR
10.	TK35J 11-18797 FRP-082911-011	1.16	11.61	10.78		NR
11.	TK35K 11-18798 FRP-082911-012	1.17	12.22	11.53		NR
12.	TK35L 11-18799 FRP-082911-013	~~1.17~~ 1.17 8/30/11	12.33	9.99		NR
13.	TK35M 11-18800 FRP-082911-014	1.17	11.83	9.32		NR

Extractions Total Solids-extts
Data By: Yen Luu
Created: 8/30/11

Worklist: 1787
Analyst: YL
Comments:

Oven ID: 015

Balance ID: 2175452P

Samples In: Date: 8/30/11 Time: 21:15 Temp: 105 Analyst: YL

Samples Out: Date: 8/31/11 Time: 10:15 Temp: 105° Analyst: RR

	ARI ID CLIENT ID	Tare Wt (g)	Wet Wt (g)	Dry Wt (g)	% Solids	pH
14.	TK35N 11-18801 FRP-082911-016	1.17	12.01	11.13		NR
15.	TK35O 11-18802 FRP-082911-017	1.18	12.48	11.26		NR
16.	TK35P 11-18803 FRP-082911-018	1.16	12.13	11.01		NR
17.	TK35Q 11-18804 FRP-082911-019	1.17	11.63	9.61		NR
18.	TK35R 11-18805 FRP-082911-020	1.18	12.40	9.19		NR

TK35:00343

BETX/TPHG Total Solids-betxts
Data By: Monica Herbert
Created: 9/ 9/11

Worklist: 4461
Analyst: MH
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. TK35A 11-18788			*	88.4
2. TK35B 11-18789			*	83.6
3. TK35C 11-18790			*	75.1
4. TK35D 11-18791			*	73.1
5. TK35E 11-18792			*	93.0
6. TK35F 11-18793			*	92.1
7. TK35G 11-18794			*	90.2
8. TK35H 11-18795			*	73.6
9. TK35I 11-18796			*	92.3
10. TK35J 11-18797			*	92.2
11. TK35K 11-18798			*	93.6
12. TK35L 11-18799			*	79.6
13. TK35M 11-18800			*	72.1
14. TK35N 11-18801			*	92.2
15. TK35O 11-18802			*	89.0
16. TK35P 11-18803			*	89.8
17. TK35Q 11-18804			*	81.6

Worklist ID: 4461 Page: 1
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
$ - BETX TS Copied From Extraction TS

BETX/TPHG Total Solids-betxts
Data By: Monica Herbert
Created: 9/ 9/11

Worklist: 4461
Analyst: MH
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
18. TK35R 11-18805	_____	_____	*	71.0

Worklist ID: 4461 Page: 2
* - BETX TS Copied From VOA TS
% - BETX TS Copied From Metals TS
$ - BETX TS Copied From Extraction TS

Solids Data Entry Report Checked by: DM Date: 9/6/11
Date: 09/05/11 Data Analyst: KM

Solids Determination performed on 09/04/11 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
TK35	A	FRP-082911-001	0.977	10.777	9.645	88.45
TK35	B	FRP-082911-002	0.991	10.667	9.075	83.55
TK35	C	FRP-082911-003	1.002	10.611	8.215	75.07
TK35	D	FRP-082911-004	0.982	10.875	8.218	73.14
TK35	E	FRP-082911-006	0.989	10.819	10.131	93.00
TK35	F	FRP-082911-007	0.939	10.104	9.380	92.10
TK35	G	FRP-082911-008	0.982	10.395	9.474	90.22
TK35	H	FRP-082911-009	0.995	10.992	8.352	73.59
TK35	I	FRP-082911-010	0.977	10.817	10.055	92.26
TK35	J	FRP-082911-011	0.978	10.501	9.762	92.24
TK35	K	FRP-082911-012	1.011	10.597	9.986	93.63
TK35	L	FRP-082911-013	0.987	10.324	8.418	79.59
TK35	M	FRP-082911-014	0.968	10.978	8.187	72.12
TK35	N	FRP-082911-016	1.014	10.042	9.334	92.16
TK35	O	FRP-082911-017	0.990	10.938	9.849	89.05
TK35	P	FRP-082911-018	1.005	10.913	9.900	89.78
TK35	Q	FRP-082911-019	0.967	10.364	8.632	81.57
TK35	R	FRP-082911-020	1.019	10.921	8.053	71.04

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

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

Samples in Oven: Date: 9-4-11 Time: 1010 Temp: 100°C Analyst: DM

Removed from Oven: Date: 9/05/11 Time: 0945 Temp: 101°C Analyst: KM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
TK35 A	0.977	10.777	9.645	—	✓
" B	0.991	10.667	9.075	—	✓
" C	1.002	10.611	8.215	—	✓
" D	0.982	10.875	8.218	—	✓
" E	0.989	10.819	10.131	—	✓
" F	0.939	10.104	9.380	—	✓
" G	0.982	10.395	9.474	—	✓
" H	0.995	10.992	8.352	—	✓
" I	0.977	10.817	10.055	—	✓
" J	0.978	10.501	9.762	—	✓
" K	1.011	10.597	9.986	—	✓
" L	0.987	10.324	8.418	—	✓
" M	0.968	10.978	8.187	—	✓
" N	1.014	10.042	9.334	—	✓
" O	0.990	10.938	9.849	—	✓
" P	1.005	10.913	9.900	—	✓
" Q	0.967	10.364	8.632	—	✓
" R	1.019	10.921	8.053	—	✓
		9-4-11	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.

Volatile Raw Data
Preparation Log

ARI Job ID: TK35

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Volatile Organics Extraction Bench Sheet

(8260B, 8260B-SIM, 8021, NWTPH-Gx, AK-101, TPH-G, VPH, TCLP-ZHE)

ARI Project No. TK35/TK51 | Client ID/Project | Extraction Date | MeOH Lot No. | Analyst

1st Extraction: 9/5/11 | 2nd Extraction:

	Lab ID	Vial No.	Preservative		Method 5035 Sample Weight					Comments
			$NaHSO_3$	CH_3OH	Vial Weight	Tare (from vial)	Sample Weight	Extract Volume	MeOH Spilt Volume	
	MB:									
	LCS:									
	LCSD:									
1	TK35G	5	X		37.05	32.197	4.853	5		
2	A	5			37.42	32.060	5.36			
3	B	4			36.84	32.136	4.704			
4	J	4			36.99	32.264	4.726			
5	K	4			36.73	32.228	4.502			
6	L	5			37.16	32.165	4.995			
7	M	4			36.97	32.069	4.901			
8	N	4			36.99	32.043	4.947			
9	O	5			36.44	32.164	4.276			
10	P	4			36.37	32.052	4.318			
11	Q	4			37.20	32.316	4.884			
12	R	4			37.14	32.050	5.09			
13	TK51 A	1			37.13	32.101	5.029			
14	B	1			35.68	32.101	3.579			
15	C	1			35.67	31.879	3.791			
16	D	1			37.14	32.141	4.999			
17	E	2			35.79	31.820	3.97			
18	F	3			36.89	31.747	5.143			
19										
20										
	Balance ID:									

	Solution ID	Concentration	Amount Spiked	Analyst	Witness
Surrogate:					
Spike:					

TK35 : 00045

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Volatile Organics Extraction Bench Sheet

(8260B, 8260B-SIM, 8021, NWTPH-Gx, AK-101, TPH-G, VPH, TCLP-ZHE)

ARI Project No.: TK37/TK35
Client ID/Project:
1st Extraction: Extraction Date: 9/2/11
2nd Extraction:
MeOH Lot No.:
Analyst: KC

	Lab ID	Vial No.	Preservative		Method 5035 Sample Weight					Comments
			$NaHSO_3$	CH_3OH	Vial Weight	Tare (from vial)	Sample Weight	Extract Volume	MeOH Spilt Volume	
	MB:									
	LCS:									
	LCSD:									
1	TK37A	4		X	37.041	31.979	5.061	X		
2	B	4			37.131	32.022	5.108			
3	C	4			36.861	31.811	5.029			
4	D	4			37.42	32.125	5.295			
5	E	3			36.95	31.839	5.111			
6	F	4			36.40	32.039	4.361			
7	G	4			36.48	32.030	4.45			
8	H	4			36.78	31.930	4.83			
9	I	4			37.65	32.361	5.299			
10	TK35A	5			37.841	32.131	5.71			
11	B	4			37.16	32.304	4.856			
12	C	5			35.74	32.311	3.429			
13	D	4			36.90	31.606	5.294			
14	E	4			37.07	32.137	4.933			
15	F	4			36.36	31.956	4.404			
16	G	4			36.60	32.030	4.57			
17										
18										
19										
20										
	Balance ID:									

	Solution ID	Concentration	Amount Spiked	Analyst	Witness
Surrogate:					
Spike:					

TK35 : 088358