Analytical Resources, Incorporated
Analytical Chemists and Consultants

AMEC Received OCT 6 2011 SEATTLE ORG. 5009

October 3, 2011

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

RE: Client Project: Former Rhone Poulenc- 8769 Shoreline Investigation
ARI Job Numbers: TL50, TL56

Dear John:

Please find enclosed the final data package for samples for the project referenced above. ARI received thirteen soil samples, five water samples and a trip blank on September 8, 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 TL50_TL56

KFB/ esj

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

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Client: AMEC Geomatrix

Project: 8769 FRP 2011 Shoreline Investigation

AMEC E&E Received OCT 6 2011 SEATTLE ORG. 5008

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Signature

September-19-2011
Date

Chain of Custody Documentation

ARI Job ID: TL50, TL56

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: TL50	Turn-around Requested: STANDARD
ARI Client Company: AMEC	Phone: (206) 342-1773
Client Contact: NIK BACHER / JOHN LONG	
Client Project Name: FRP 2011 SHORELINE INVESTIGATION	
Client Project #: 8769	Samplers: TREVOR LOUVIERE, DEVIN O'NEILLY

Page: 1 of 2	
Date: 9/8/11	Ice Present? Y
No. of Coolers: 2	Cooler Temps: 3.8, 5.9

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

Sample ID	Date	Time	Matrix	No. Containers	Metals (Total) 6010B	Mercury (Total) 7471A	VOCs 8260C	pH 9045D	Mercury (Total) 7470A	pH 150.1			Notes/Comments
FRP-090811-001	9/8/11	0845	SOIL	4	X	X	X	X					
FRP-090811-002		0850		4	X	X	X	X					
FRP-090811-003		0855		4	X	X	X	X					
FRP-090811-004		0900		4	X	X	X	X					
FRP-090811-005		0905		4	X	X	X	X					
FRP-090811-006		0910		4	X	X	X	X					
FRP-090811-007		0915		4	X	X	X	X					
FRP-090811-008		0920		4	X	X	X	X					
FRP-090811-009		0925		4	X	X	X	X					
FRP-090811-010		0930		4	X	X	X	X					

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
METALS INCLUDE: As, Cd, Cr, Cu, Pb, Ni, Se, Tl, V, Zn	Printed Name: Trevor Louviere	Printed Name: Jennifer Milkop	Printed Name:	Printed Name:
H2O VOAS NOT PRESERVED	Company: AMEC	Company: ARI	Company:	Company:
	Date & Time: 9/8/11 1610	Date & Time: 9/8/11 1610	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: TL50	Turn-around Requested: STANDARD
ARI Client Company: AMEC	Phone: (206) 342-1773
Client Contact: NIK BACHER/ JOHN LONG	
Client Project Name: FRP 2011 SHORELINE INVESTIGATION	
Client Project #: 8769	Samplers: TREVOR LOUVIERE, DEVIN O'REILLY

Page: 2 of 2	
Date: 9/8/11	Ice Present? Y
No. of Coolers: 2	Cooler Temps: 3.8, 5.9

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

Sample ID	Date	Time	Matrix	No. Containers	METALS (TOTAL) 6010B	MERCURY (TOTAL) 7471A	VOCs 8260C	pH 9045D	MERCURY (TOTAL) 7470A	pH 150.1			Notes/Comments
FRP-090811-011	9/8/11	0935	SOIL	4	X	X	X	X					
FRP-090811-012	↓	0940	SOIL	4	X	X	X	X					
FRP-090811-013	↓	0945	SOIL	4	X	X	X	X					
FRP-090811-014	↓	1300	H_2O	5	X		X		X	X			
FRP-090811-015	↓	1340	H_2O	5	X		X		X	X			
FRP-090811-016	↓	1435	H_2O	5	X		X		X	X			
FRP-090811-017	↓	1530	H_2O	5	X		X		X	X			
FRP-090811-018	↓	1545	H_2O	5	X		X		X	X			
TRIP BLANK	↓			2			X						

Analysis Requested

Comments/Special Instructions
METALS INCLUDE: Al, As, Cd, Cr, Cu, Pb, Ni, Se, Tl, V, Zn
H_2O JOBS NOT PRESERVED

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)	(Signature)	(Signature)	(Signature)
Printed Name: Trevor Louviere	Printed Name: Jennifer Millsap	Printed Name:	Printed Name:
Company: AMEC	Company: ARI	Company:	Company:
Date & Time: 9/8/11 1610	Date & Time: 9/8/11 1610	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: ERP 2011 Shooting Investigation

COC No(s): _____ (NA)

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

Assigned ARI Job No: TL50

Tracking No: _____ NA

Preliminary Examination Phase:

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

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 3.8 5.9 ___ ___

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

Temp Gun ID#: 90941619

Cooler Accepted by: JM Date: 9/8/11 Time: 1610

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	8-25-11	

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

Samples Logged by: TS Date: 9-9-11 Time: 900

*** 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:

Trip blanks were unlabled but made on 8-25-11 according to bottle order request form

Trip blank 2 "pb1"

By: TS Date: 9-9-11

Small Air Bubbles <2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	
			Small → "sm"
			Peabubbles → "pb"
			Large → "lg"
			Headspace → "hs"

PRESERVATION VERIFICATION 09/09/11

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **TL50**

Inquiry Number: NONE
Analysis Requested: 09/09/11
Contact: Long, John
Client: AMEC Geomatrix
Logged by: TS
Sample Set Used: Yes-490
Validatable Package: No
Deliverables:

PC: Kelly
VTSR: 09/08/11

Project #: 8769
Project: FRP 2011 Shoreline Investigation
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
11-19591 **TL50N**	FRP-090811-014						TOT (GS)															
11-19592 **TL50O**	FRP-090811-015						TOT															
11-19593 **TL50P**	FRP-090811-016						TOT															
11-19594 **TL50Q**	FRP-090811-017						TOT															
11-19595 **TL50R**	FRP-090811-018						TOT															

Checked By TS Date 9-9-11

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: AMEC

Project Name: FRP 2011 Shooting Investigation

COC No(s): _____ (NA)

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

Assigned ARI Job No: _____

Tracking No: _____ NA

Preliminary Examination Phase:

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

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 3.8 5.9 ___ ___

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

Temp Gun ID#: 90941619

Cooler Accepted by: JM Date: 9/8/11 Time: 1610

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: Bag			
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) TS
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: _____

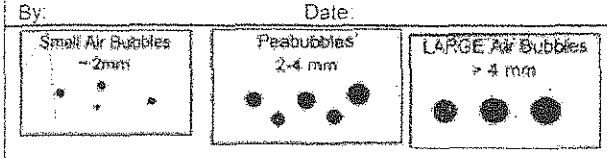
Samples Logged by: TS Date: 9-9-11 Time: 941

*** 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"

TL50 : 00007

PRESERVATION VERIFICATION 09/09/11

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **TL56**

Inquiry Number: NONE
Analysis Requested: 09/09/11
Contact: Long, John
Client: AMEC Geomatrix
Logged by: TS
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Kelly
VTSR: 09/08/11

Project #: 8769
Project: FRP 2011 Shoreline Investigation
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
11-19614 **TL56A**	FRP-090811-014						TOT pas															
11-19615 **TL56B**	FRP-090811-015						TOT															
11-19616 **TL56C**	FRP-090811-016						TOT															
11-19617 **TL56D**	FRP-090811-017						TOT															
11-19618 **TL56E**	FRP-090811-018						TOT															

Checked By TS Date 9-9-11

Case Narrative, Data Qualifiers, Control Limits

ARI Job ID: TL50, TL56

Case Narrative

AMEC/Geomatrix
Client Project: Former Rhone Poulenc- 8769 Shoreline Investigation
ARI Job Numbers: TL50, TL56
October 3, 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 thirteen soil samples, five water samples and a trip blank in good condition on September 8, 2011. Please see the enclosed Cooler Receipt Form for further details.

Volatiles by 8260C

The water samples were analyzed on 9/12/11 - within the method recommended holding time and the soil samples were analyzed on 9/14/11 and 9/15/11 - within the method recommended holding time.

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

Continuing calibration(s): The water 9/12/11 VOCs CCAL is out of control low for acrolein. All associated samples that contain this analyte have been flagged with a "Q" qualifier.

The soil 9/14/11 VOCs CCAL is out of control for 2-chloroethylvinylether (high), 1,1,2-trichloro-1,2,2-trifluoroethane (high), chloroethane (high), and bromomethane (low). All associated samples that contain these analytes have been flagged with a "Q" qualifier.

The soil 9/15/11 VOCs CCAL is out of control for 2-chloroethylvinylether (high), chloroethane (high), 1,1,2-trichloro-1,2,2-trifluoroethane (high. All associated samples that contain these analytes have been flagged with a "Q" qualifier.

LCS/LCSD/RPDs: The 9/12/11 water LCS and LCSD are out of control low for acrolein.

The 9/14/11 soil LCS is out of control low for bromomethane, carbon tetrachloride and 1,2-dichloroethane and high for acetone The LCSD is out of control high for chloroethane and 1,1,2-trichloro-1,2,2-trifluoroethane. The LCS and LCSD are out of control high for 2-chloroethylvinylether.
The 9/15/11 soil LCS and LCSD are out of control high for 2-chloroethylvinylether and the LCS is out of control high for acetone.

Surrogates: All surrogate recoveries were within control limits.

Method Blank (s): The water method blank on 9/12/11 contained Hexachlorobutadiene, 1,2,4-Trichlorobenzene, Naphthalene and 1,2,3-Trichlorobenze. All associated samples that contain these analytes have been flagged with a "B" qualifier.

The soil method blank on 9/14/11 contained acetone and 1,2-Dichlorobenzene. All associated samples that contain this analyte have been flagged with a "B" qualifier.

The soil method blank on 9/15/11 contained acetone, 1,2-Dichlorobenzene and n-Butylbenzene. All associated samples that contain this analyte have been flagged with a "B" qualifier.

Samples: There were no anomalies associated with these samples.

Matrix spike/ Matrix spike duplicate/RPD(s): The water matrix spike and matrix spike duplicate are out of control both high and low for several compounds. No corrective action is necessary for matrix QC.

Metals Analysis (6010, 200.8 and 7000 series)

The samples were digested on 9/12/11, and 9/14/11, - within the method recommended holding time and analyzed between 9/15/11 and 9/29/11.

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

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

Internal Standards: Internal standard areas were in control.

LCS/LCSD/RPDs: Are in control.

Method Blank (s): The method blank were free of contamination.

Samples: There were no anomalies associated with these samples.

Matrix spike/ Sample duplicate/ RPD(s): All recoveries are in control.

pH by method 150.1 and 9045:

The samples were analyzed on 9/8/11 and 9/9/11 within method recommended holding time.

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

LCS/LCSD/RPDs: Are in control.

Sample duplicate/ RPD(s): Are in control.

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TL50
Client: AMEC Geomatrix
Project Event: 8769
Project Name: FRP 2011 Shoreline Investigation

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	FRP-090811-001	TL50A	11-19578	Soil	09/08/11 08:45	09/08/11 16:10
2.	FRP-090811-002	TL50B	11-19579	Soil	09/08/11 08:50	09/08/11 16:10
3.	FRP-090811-003	TL50C	11-19580	Soil	09/08/11 08:55	09/08/11 16:10
4.	FRP-090811-004	TL50D	11-19581	Soil	09/08/11 09:00	09/08/11 16:10
5.	FRP-090811-005	TL50E	11-19582	Soil	09/08/11 09:05	09/08/11 16:10
6.	FRP-090811-006	TL50F	11-19583	Soil	09/08/11 09:10	09/08/11 16:10
7.	FRP-090811-007	TL50G	11-19584	Soil	09/08/11 09:15	09/08/11 16:10
8.	FRP-090811-008	TL50H	11-19585	Soil	09/08/11 09:20	09/08/11 16:10
9.	FRP-090811-009	TL50I	11-19586	Soil	09/08/11 09:25	09/08/11 16:10
10.	FRP-090811-010	TL50J	11-19587	Soil	09/08/11 09:30	09/08/11 16:10
11.	FRP-090811-011	TL50K	11-19588	Soil	09/08/11 09:35	09/08/11 16:10
12.	FRP-090811-012	TL50L	11-19589	Soil	09/08/11 09:40	09/08/11 16:10
13.	FRP-090811-013	TL50M	11-19590	Soil	09/08/11 09:45	09/08/11 16:10
14.	FRP-090811-014	TL50N	11-19591	Water	09/08/11 13:00	09/08/11 16:10
15.	FRP-090811-015	TL50O	11-19592	Water	09/08/11 13:40	09/08/11 16:10
16.	FRP-090811-016	TL50P	11-19593	Water	09/08/11 14:35	09/08/11 16:10
17.	FRP-090811-017	TL50Q	11-19594	Water	09/08/11 15:30	09/08/11 16:10
18.	FRP-090811-018	TL50R	11-19595	Water	09/08/11 15:45	09/08/11 16:10
19.	Trip Blanks	TL50S	11-19596	Water	09/08/11	09/08/11 16:10

Printed 09/09/11

Sample ID Cross Reference Report

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: TL56
Client: AMEC Geomatrix
Project Event: 8769
Project Name: FRP 2011 Shoreline Investigation

	Sample ID	ARI Lab ID	ARI LIMS ID	Matrix	Sample Date/Time	VTSR
1.	FRP-090811-014	TL56A	11-19614	Water	09/08/11 13:00	09/08/11 16:10
2.	FRP-090811-015	TL56B	11-19615	Water	09/08/11 13:40	09/08/11 16:10
3.	FRP-090811-016	TL56C	11-19616	Water	09/08/11 14:35	09/08/11 16:10
4.	FRP-090811-017	TL56D	11-19617	Water	09/08/11 15:30	09/08/11 16:10
5.	FRP-090811-018	TL56E	11-19618	Water	09/08/11 15:45	09/08/11 16:10

Printed 09/09/11

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).

TL50 : 0001 U

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)**

TL50 : 00015

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

TL56 : 00016

Analytical Resources,Incorporated
Analytical Chemists and Consultants

Spike Recovery Control Limits for Analysis of Aqueous Samples Volatile Organic Compounds (VOA) EPA SW-846 Methods 8260C 10 mL Purge Volume [1,6]

Effective: 8/30/2010

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

	ARI Control Limits	ARI ME Control Limits[2]
LCS Spike Recovery [5]		
Dichlorodifluoromethane	69 - 122	60 - 131
Chloromethane	76 - **120**	69 - 123
Vinyl Chloride	**80 - 120**	75 - 123
Bromomethane	71 - 120	63 - 129
Chloroethane	**80 - 120**	75 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	**80** - 121	76 - 128
Acrolein	69 - 126	60 - 136
Acetone	71 - **120**	64 - **120**
1,1-Dichloroethene	**80 - 120**	79 - 122
Bromoethane	**80 - 120**	80 - 121
Methyl Iodide	76 - 120	69 - 127
Methylene Chloride	**80 - 120**	77 - **120**
Acrylonitrile	79 - **120**	74 - **120**
Methyl tert-Butyl Ether	**80 - 120**	77 - 121
Carbon Disulfide	**80 - 120**	78 - 121
trans-1,2-Dichloroethene	**80 - 120**	**80 - 120**
Vinyl Acetate	**80 - 120**	76 - **120**
1,1-Dichloroethane	**80 - 120**	**80 - 120**
2-Butanone	**80 - 120**	76 - **120**
2,2-Dichloropropane	**80 - 120**	77 - 120
cis-1,2-Dichloroethene	**80 - 120**	**80 - 120**
Chloroform	**80 - 120**	**80 - 120**
Bromodichloromethane	**80 - 120**	**80 - 120**
1,1,1-Trichloroethane	**80 - 120**	**80 - 120**
1,1-Dichloropropene	**80 - 120**	**80 - 120**
Carbon Tetrachloride	**80 - 120**	**80** - 123
1,2-Dichloroethane	**80 - 120**	**80 - 120**
Benzene	**80 - 120**	**80 - 120**
Trichloroethene	**80 - 120**	**80** - 120
1,2-Dichloropropane	**80 - 120**	**80 - 120**
Bromochloromethane	**80 - 120**	**80 - 120**
Dibromomethane	**80 - 120**	**80 - 120**
2-Chloroethylvinylether	**80 - 120**	75 - **120**
4-Methyl-2-Pentanone	**80 - 120**	78 - **120**
cis-1,3-Dichloropropene	**80 - 120**	**80 - 120**
Toluene	**80 - 120**	**80 - 120**
trans-1,3-Dichloropropene	**80 - 120**	**80 - 120**

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2-Hexanone	80 - 120	75 - 120
1,1,2-Trichloroethane	80 - 120	80 - 120
1,3-Dichloropropane	80 - 120	80 - 120
Tetrachloroethene	80 - 120	80 - 120
Dibromochloromethane	80 - 120	80 - 120
Ethylene Dibromide	80 - 120	80 - 120
Chlorobenzene	80 - 120	80 - 120
Ethylbenzene	80 - 120	80 - 121
1,1,2,2-Tetrachloroethane	80 - 120	78 - 120
m,p-Xylene	80 - 120	80 - 120
o-Xylene	80 - 120	80 - 120
Styrene	80 - 120	80 - 122
Trichlorofluoromethane	80 - 120	78 123
Isopropylbenzene	80 - 120	79 - 121
Bromoform	80 - 120	79 - 120
1,1,1,2-Tetrachloroethane	80 - 120	80 - 120
1,2,3-Trichloropropane	80 - 120	77 - 120
trans-1,4-Dichloro-2-butene	74 - 122	66 - 130
n-Propylbenzene	80 - 120	80 - 120
Bromobenzene	80 - 120	78 - 120
1,3,5-Trimethylbenzene	80 - 120	80 - 120
2-Chlorotoluene	80 - 120	80 - 120
4-Chlorotoluene	80 - 120	80 - 120
tert-Butylbenzene	80 - 120	80 - 121
1,2,4-Trimethylbenzene	80 - 120	80 - 120
sec-Butylbenzene	80 - 120	80 - 121
4-Isopropyltoluene	80 - 120	80 - 123
1,3-Dichlorobenzene	80 - 120	80 - 120
1,4-Dichlorobenzene	80 - 120	80 - 120
n-Butylbenzene	80 - 120	80 - 122
1,2-Dichlorobenzene	80 - 120	80 - 120
1,2-Dibromo-3-chloropropane	76 - 120	71 - 120
1,2,4-Trichlorobenzene	77 - 120	71 - 120
Hexachloro-1,3-butadiene	77 - 120	70 - 127
Naphthalene	76 - 120	70 - 120
1,2,3-Trichlorobenzene	79 - 120	74 - 120
MB/LCS Surrogate Recovery		
Dibromofluoromethane	80 - 120	(3)
d4-1,2-Dichloroethane	80 - 120	(3)
d8-Toluene	80 - 120	(3)
4-Bromofluorobenzene	80 - 120	(3)
d4-1,2-Dichlorobenzene	80 - 120	(3)
Sample Surrogate Recovery		
Dibromofluoromethane	80 - 120	(3)

TL50 : 00019

d4-1,2-Dichloroethane	**80 - 120**	(3)
d8-Toluene	**80 - 120**	(3)
4-Bromofluorobenzene	**80 - 120**	(3)
D4-1,2-Dichlorobenzene	**80 - 120**	(3)

(1) Control Limits calculated using all data generated 7/1/09 through 6/30/10.
(2) **ME** = A **marginal exceedance** defined in the NELAC Standard[4] 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.
(3) Marginal Exceedances not allowed for surrogate standards. A corrective action is required for each surrogate recovery outside of the control limit range.
(4) **2003 NELAC Standard (EPA/600/R-04/003), July 2003**, Chapter 5, pages 251-252.
(5) 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.
(6) Highlighted control limits (**bold font**) are adjusted from the calculated values as follows:

a) ARI does not use control limits < 10 for the lower limit or < 100 for the upper limit.
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.

TL50 : 00019

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

TL50 : 00026

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

TLS0 : 00021

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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]
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.

TL56 : 00022

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

Effective 5/1/09

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

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

TL50 : 00023

Analytical Resources,Incorporated
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Spike Recovery Control Limits for Conventional Wet Chemistry

Effective 5/1/09

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

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

TL50 : 00002H

Volatile Analysis
Report and Summary QC Forms

ARI Job ID: TL50, TL56

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-014**
 SAMPLE

Lab Sample ID: TL50N
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 12:24

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	Methylene Chloride	0.39	0.5	< 0.5 U
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	Carbon Disulfide	0.09	0.2	< 0.2 U
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	**cis-1,2-Dichloroethene**	**0.10**	**0.2**	**0.2 J**
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 U R
108-88-3	Toluene	0.06	0.2	< 0.2 U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 U J
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-014**
 SAMPLE

Lab Sample ID: TL50N
LIMS ID: 11-19591
Matrix: Water
Date Analyzed: 09/12/11 12:24

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	97.4%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-015**
 SAMPLE

Lab Sample ID: TL50O
LIMS ID: 11-19592
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 12:51

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	Methylene Chloride	0.39	0.5	< 0.5 U
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	Carbon Disulfide	0.09	0.2	< 0.2 U
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	< 0.2 U
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 U R
108-88-3	Toluene	0.06	0.2	< 0.2 U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 U
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-015**
 SAMPLE

Lab Sample ID: TL50O
LIMS ID: 11-19592
Matrix: Water
Date Analyzed: 09/12/11 12:51

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	94.9%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

TL50 : 00029

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-016**
 SAMPLE

Lab Sample ID: TL50P
LIMS ID: 11-19593
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 13:18

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	Methylene Chloride	0.39	0.5	< 0.5 U
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	**Carbon Disulfide**	**0.09**	**0.2**	**0.2**
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	**cis-1,2-Dichloroethene**	**0.10**	**0.2**	**0.2 J**
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 U R
108-88-3	**Toluene**	**0.06**	**0.2**	**~~0.1 J~~** 0.2U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 UJ
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-016**
 SAMPLE

Lab Sample ID: TL50P
LIMS ID: 11-19593
Matrix: Water
Date Analyzed: 09/12/11 13:18

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	96.0%
Bromofluorobenzene	99.6%
d4-1,2-Dichlorobenzene	103%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 SAMPLE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 13:45

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 UJ
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	Methylene Chloride	0.39	0.5	< 0.5 U
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	**Carbon Disulfide**	**0.09**	**0.2**	**0.4**
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	< 0.2 U
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 UJ
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 UJ
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	**Benzene**	**0.06**	**0.2**	**0.1 J**
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 UR
108-88-3	**Toluene**	**0.06**	**0.2**	**0.2** U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 UJ
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 UJ
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 SAMPLE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Date Analyzed: 09/12/11 13:45

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U J
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U J
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	95.3%
Bromofluorobenzene	103%
d4-1,2-Dichlorobenzene	105%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

9/20/11

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-018**
 SAMPLE

Lab Sample ID: TL50R
LIMS ID: 11-19595
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 14:12

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	**Methylene Chloride**	**0.39**	**0.5**	**1.3**
67-64-1	**Acetone**	**0.72**	**5.0**	**1.0 J**
75-15-0	Carbon Disulfide	0.09	0.2	< 0.2 U
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	< 0.2 U
67-66-3	**Chloroform**	**0.08**	**0.2**	**4.8**
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 UR
108-88-3	**Toluene**	**0.06**	**0.2**	**0.2**
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 UJ
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-018**
 SAMPLE

Lab Sample ID: TL50R
LIMS ID: 11-19595
Matrix: Water
Date Analyzed: 09/12/11 14:12

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	96.7%
Bromofluorobenzene	96.7%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

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

Lab Sample ID: TL50S
LIMS ID: 11-19596
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 11:57

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	**Methylene Chloride**	**0.39**	**0.5**	**0.5**
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	Carbon Disulfide	0.09	0.2	< 0.2 U
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	< 0.2 U
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 U R
108-88-3	Toluene	0.06	0.2	< 0.2 U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 U J
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

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

Lab Sample ID: TL50S
LIMS ID: 11-19596
Matrix: Water
Date Analyzed: 09/12/11 11:57

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	Hexachlorobutadiene	0.11	0.5	< 0.5 U
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	< 0.5 U
91-20-3	Naphthalene	0.07	0.5	< 0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	< 0.5 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	95.9%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	102%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

TL50:00036A

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-091211	Method Blank	10	99.3%	96.6%	99.7%	99.7%	0
LCS-091211	Lab Control	10	98.7%	98.0%	101%	101%	0
LCSD-091211	Lab Control Dup	10	96.1%	99.0%	100%	101%	0
TL50N	FRP-090811-014	10	102%	97.4%	101%	103%	0
TL50O	FRP-090811-015	10	105%	94.9%	100%	102%	0
TL50P	FRP-090811-016	10	102%	96.0%	99.6%	103%	0
TL50Q	FRP-090811-017	10	109%	95.3%	103%	105%	0
TL50QMS	FRP-090811-017	10	103%	97.7%	100%	102%	0
TL50QMSD	FRP-090811-017	10	104%	95.9%	101%	102%	0
TL50R	FRP-090811-018	10	102%	96.7%	96.7%	102%	0
TL50S	Trip Blanks	10	102%	95.9%	101%	102%	0

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

Prep Method: SW5030B
Log Number Range: 11-19591 to 11-19596

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst MS: NT3/PKC
MSD: NT3/PKC
Date Analyzed MS: 09/12/11 20:26
MSD: 09/12/11 20:53

Sample Amount MS: 10.0 mL
MSD: 10.0 mL
Purge Volume MS: 10.0 mL
MSD: 10.0 mL

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Chloromethane	< 0.5 U	9.0	10.0	90.0%	8.2	10.0	82.0%	9.3%
Bromomethane	< 1.0 U	7.1	10.0	71.0%	4.2	10.0	42.0%	51.3%
Vinyl Chloride	< 0.2 U	8.8	10.0	88.0%	8.8	10.0	88.0%	0.0%
Chloroethane	< 0.2 U	8.4	10.0	84.0%	7.8	10.0	78.0%	7.4%
Methylene Chloride	< 0.5 U	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Acetone	< 5.0 U	123	50.0	246%	130	50.0	260%	5.5%
Carbon Disulfide	0.4	9.8	10.0	94.0%	9.8	10.0	94.0%	0.0%
1,1-Dichloroethene	< 0.2 U	8.8	10.0	88.0%	8.5	10.0	85.0%	3.5%
1,1-Dichloroethane	< 0.2 U	9.3	10.0	93.0%	9.1	10.0	91.0%	2.2%
trans-1,2-Dichloroethene	< 0.2 U	9.0	10.0	90.0%	8.7	10.0	87.0%	3.4%
cis-1,2-Dichloroethene	< 0.2 U	9.3	10.0	93.0%	9.1	10.0	91.0%	2.2%
Chloroform	< 0.2 U	9.6	10.0	96.0%	9.3	10.0	93.0%	3.2%
1,2-Dichloroethane	< 0.2 U	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
2-Butanone	< 5.0 U	87.8	50.0	176%	91.9	50.0	184%	4.6%
1,1,1-Trichloroethane	< 0.2 U	9.2	10.0	92.0%	8.8	10.0	88.0%	4.4%
Carbon Tetrachloride	< 0.2 U	8.5	10.0	85.0%	7.2	10.0	72.0%	16.6%
Vinyl Acetate	< 1.0 U	2.8	10.0	28.0%	2.4	10.0	24.0%	15.4%
Bromodichloromethane	< 0.2 U	9.5	10.0	95.0%	9.2	10.0	92.0%	3.2%
1,2-Dichloropropane	< 0.2 U	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
cis-1,3-Dichloropropene	< 0.2 U	7.6	10.0	76.0%	2.9	10.0	29.0%	89.5%
Trichloroethene	< 0.2 U	10.9	10.0	109%	10.8	10.0	108%	0.9%
Dibromochloromethane	< 0.2 U	10.1	10.0	101%	9.3	10.0	93.0%	8.2%
1,1,2-Trichloroethane	< 0.2 U	10.1	10.0	101%	9.8	10.0	98.0%	3.0%
Benzene	0.1 J	9.9	10.0	98.0%	9.7	10.0	96.0%	2.0%
trans-1,3-Dichloropropene	< 0.2 U	8.7	10.0	87.0%	5.4	10.0	54.0%	46.8%
2-Chloroethylvinylether	< 1.0 U	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
Bromoform	< 0.2 U	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
4-Methyl-2-Pentanone (MIBK)	< 5.0 U	57.0	50.0	114%	57.2	50.0	114%	0.4%
2-Hexanone	< 5.0 U	90.5	50.0	181%	96.7	50.0	193%	6.6%
Tetrachloroethene	< 0.2 U	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
1,1,2,2-Tetrachloroethane	< 0.2 U	8.1	10.0	81.0%	8.2	10.0	82.0%	1.2%
Toluene	0.2	9.9	10.0	97.0%	9.4	10.0	92.0%	5.2%
Chlorobenzene	< 0.2 U	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
Ethylbenzene	< 0.2 U	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Styrene	< 0.2 U	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Trichlorofluoromethane	< 0.2 U	8.8	10.0	88.0%	8.4	10.0	84.0%	4.7%
1,1,2-Trichloro-1,2,2-trifl	< 0.2 U	8.8	10.0	88.0%	8.7	10.0	87.0%	1.1%
m,p-Xylene	< 0.4 U	19.9	20.0	99.5%	19.4	20.0	97.0%	2.5%
o-Xylene	< 0.2 U	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
1,2-Dichlorobenzene	< 0.2 U	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,3-Dichlorobenzene	< 0.2 U	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
1,4-Dichlorobenzene	< 0.2 U	9.9	10.0	99.0%	9.5	10.0	95.0%	4.1%
Acrolein	< 5.0 U	37.6 Q	50.0	75.2%	30.0 Q	50.0	60.0%	22.5%
Methyl Iodide	< 1.0 U	7.9	10.0	79.0%	4.9	10.0	49.0%	46.9%
Bromoethane	< 0.2 U	9.8	10.0	98.0%	9.2	10.0	92.0%	6.3%
Acrylonitrile	< 1.0 U	10.2	10.0	102%	9.0	10.0	90.0%	12.5%
1,1-Dichloropropene	< 0.2 U	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Dibromomethane	< 0.2 U	10.7	10.0	107%	10.0	10.0	100%	6.8%
1,1,1,2-Tetrachloroethane	< 0.2 U	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
1,2-Dibromo-3-chloropropane	< 0.5 U	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
1,2,3-Trichloropropane	< 0.5 U	10.0	10.0	100%	10.0	10.0	100%	0.0%
trans-1,4-Dichloro-2-butene	< 1.0 U	6.4	10.0	64.0%	2.8	10.0	28.0%	78.3%
1,3,5-Trimethylbenzene	< 0.2 U	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
1,2,4-Trimethylbenzene	< 0.2 U	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Hexachlorobutadiene	< 0.5 U	9.6 B	10.0	96.0%	9.5 B	10.0	95.0%	1.0%
Ethylene Dibromide	< 0.2 U	10.3	10.0	103%	9.9	10.0	99.0%	4.0%
Bromochloromethane	< 0.2 U	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
2,2-Dichloropropane	< 0.2 U	7.9	10.0	79.0%	7.6	10.0	76.0%	3.9%
1,3-Dichloropropane	< 0.2 U	10.5	10.0	105%	10.4	10.0	104%	1.0%
Isopropylbenzene	< 0.2 U	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
n-Propylbenzene	< 0.2 U	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Bromobenzene	< 0.2 U	10.1	10.0	101%	9.9	10.0	99.0%	2.0%
2-Chlorotoluene	< 0.2 U	9.9	10.0	99.0%	9.4	10.0	94.0%	5.2%
4-Chlorotoluene	< 0.2 U	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
tert-Butylbenzene	< 0.2 U	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
sec-Butylbenzene	< 0.2 U	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
4-Isopropyltoluene	< 0.2 U	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
n-Butylbenzene	< 0.2 U	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,2,4-Trichlorobenzene	< 0.5 U	10.5 B	10.0	105%	10.4 B	10.0	104%	1.0%
Naphthalene	< 0.5 U	11.3 B	10.0	113%	11.1 B	10.0	111%	1.8%
1,2,3-Trichlorobenzene	< 0.5 U	11.0 B	10.0	110%	10.6 B	10.0	106%	3.7%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 20:26

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	---
74-83-9	Bromomethane	0.04	1.0	---
75-01-4	Vinyl Chloride	0.08	0.2	---
75-00-3	Chloroethane	0.15	0.2	---
75-09-2	Methylene Chloride	0.39	0.5	---
67-64-1	Acetone	0.72	5.0	---
75-15-0	Carbon Disulfide	0.09	0.2	---
75-35-4	1,1-Dichloroethene	0.09	0.2	---
75-34-3	1,1-Dichloroethane	0.05	0.2	---
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	---
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	---
67-66-3	Chloroform	0.08	0.2	---
107-06-2	1,2-Dichloroethane	0.08	0.2	---
78-93-3	2-Butanone	0.81	5.0	---
71-55-6	1,1,1-Trichloroethane	0.09	0.2	---
56-23-5	Carbon Tetrachloride	0.08	0.2	---
108-05-4	Vinyl Acetate	0.07	1.0	---
75-27-4	Bromodichloromethane	0.05	0.2	---
78-87-5	1,2-Dichloropropane	0.09	0.2	---
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	---
79-01-6	Trichloroethene	0.08	0.2	---
124-48-1	Dibromochloromethane	0.09	0.2	---
79-00-5	1,1,2-Trichloroethane	0.04	0.2	---
71-43-2	Benzene	0.06	0.2	---
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	---
110-75-8	2-Chloroethylvinylether	0.09	1.0	---
75-25-2	Bromoform	0.07	0.2	---
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	---
591-78-6	2-Hexanone	0.31	5.0	---
127-18-4	Tetrachloroethene	0.09	0.2	---
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	---
108-88-3	Toluene	0.06	0.2	---
108-90-7	Chlorobenzene	0.04	0.2	---
100-41-4	Ethylbenzene	0.09	0.2	---
100-42-5	Styrene	0.07	0.2	---
75-69-4	Trichlorofluoromethane	0.09	0.2	---
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	---
179601-23-1	m,p-Xylene	0.14	0.4	---
95-47-6	o-Xylene	0.06	0.2	---
95-50-1	1,2-Dichlorobenzene	0.06	0.2	---
541-73-1	1,3-Dichlorobenzene	0.04	0.2	---
106-46-7	1,4-Dichlorobenzene	0.06	0.2	---
107-02-8	Acrolein	0.29	5.0	---
74-88-4	Methyl Iodide	0.04	1.0	---
74-96-4	Bromoethane	0.09	0.2	---
107-13-1	Acrylonitrile	0.18	1.0	---
563-58-6	1,1-Dichloropropene	0.09	0.2	---
74-95-3	Dibromomethane	0.08	0.2	---
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	---
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	---

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Date Analyzed: 09/12/11 20:26

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	---
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	---
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	---
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	---
87-68-3	Hexachlorobutadiene	0.11	0.5	---
106-93-4	Ethylene Dibromide	0.08	0.2	---
74-97-5	Bromochloromethane	0.07	0.2	---
594-20-7	2,2-Dichloropropane	0.08	0.2	---
142-28-9	1,3-Dichloropropane	0.02	0.2	---
98-82-8	Isopropylbenzene	0.06	0.2	---
103-65-1	n-Propylbenzene	0.08	0.2	---
108-86-1	Bromobenzene	0.05	0.2	---
95-49-8	2-Chlorotoluene	0.04	0.2	---
106-43-4	4-Chlorotoluene	0.07	0.2	---
98-06-6	tert-Butylbenzene	0.06	0.2	---
135-98-8	sec-Butylbenzene	0.08	0.2	---
99-87-6	4-Isopropyltoluene	0.08	0.2	---
104-51-8	n-Butylbenzene	0.11	0.2	---
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	---
91-20-3	Naphthalene	0.07	0.5	---
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	---

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	97.7%
Bromofluorobenzene	100%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE DUPLICATE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 20:53

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	---
74-83-9	Bromomethane	0.04	1.0	---
75-01-4	Vinyl Chloride	0.08	0.2	---
75-00-3	Chloroethane	0.15	0.2	---
75-09-2	Methylene Chloride	0.39	0.5	---
67-64-1	Acetone	0.72	5.0	---
75-15-0	Carbon Disulfide	0.09	0.2	---
75-35-4	1,1-Dichloroethene	0.09	0.2	---
75-34-3	1,1-Dichloroethane	0.05	0.2	---
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	---
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	---
67-66-3	Chloroform	0.08	0.2	---
107-06-2	1,2-Dichloroethane	0.08	0.2	---
78-93-3	2-Butanone	0.81	5.0	---
71-55-6	1,1,1-Trichloroethane	0.09	0.2	---
56-23-5	Carbon Tetrachloride	0.08	0.2	---
108-05-4	Vinyl Acetate	0.07	1.0	---
75-27-4	Bromodichloromethane	0.05	0.2	---
78-87-5	1,2-Dichloropropane	0.09	0.2	---
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	---
79-01-6	Trichloroethene	0.08	0.2	---
124-48-1	Dibromochloromethane	0.09	0.2	---
79-00-5	1,1,2-Trichloroethane	0.04	0.2	---
71-43-2	Benzene	0.06	0.2	---
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	---
110-75-8	2-Chloroethylvinylether	0.09	1.0	---
75-25-2	Bromoform	0.07	0.2	---
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	---
591-78-6	2-Hexanone	0.31	5.0	---
127-18-4	Tetrachloroethene	0.09	0.2	---
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	---
108-88-3	Toluene	0.06	0.2	---
108-90-7	Chlorobenzene	0.04	0.2	---
100-41-4	Ethylbenzene	0.09	0.2	---
100-42-5	Styrene	0.07	0.2	---
75-69-4	Trichlorofluoromethane	0.09	0.2	---
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	---
179601-23-1	m,p-Xylene	0.14	0.4	---
95-47-6	o-Xylene	0.06	0.2	---
95-50-1	1,2-Dichlorobenzene	0.06	0.2	---
541-73-1	1,3-Dichlorobenzene	0.04	0.2	---
106-46-7	1,4-Dichlorobenzene	0.06	0.2	---
107-02-8	Acrolein	0.29	5.0	---
74-88-4	Methyl Iodide	0.04	1.0	---
74-96-4	Bromoethane	0.09	0.2	---
107-13-1	Acrylonitrile	0.18	1.0	---
563-58-6	1,1-Dichloropropene	0.09	0.2	---
74-95-3	Dibromomethane	0.08	0.2	---
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	---
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	---

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-017**
 MATRIX SPIKE DUPLICATE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Date Analyzed: 09/12/11 20:53

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	---
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	---
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	---
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	---
87-68-3	Hexachlorobutadiene	0.11	0.5	---
106-93-4	Ethylene Dibromide	0.08	0.2	---
74-97-5	Bromochloromethane	0.07	0.2	---
594-20-7	2,2-Dichloropropane	0.08	0.2	---
142-28-9	1,3-Dichloropropane	0.02	0.2	---
98-82-8	Isopropylbenzene	0.06	0.2	---
103-65-1	n-Propylbenzene	0.08	0.2	---
108-86-1	Bromobenzene	0.05	0.2	---
95-49-8	2-Chlorotoluene	0.04	0.2	---
106-43-4	4-Chlorotoluene	0.07	0.2	---
98-06-6	tert-Butylbenzene	0.06	0.2	---
135-98-8	sec-Butylbenzene	0.08	0.2	---
99-87-6	4-Isopropyltoluene	0.08	0.2	---
104-51-8	n-Butylbenzene	0.11	0.2	---
120-82-1	1,2,4-Trichlorobenzene	0.10	0.5	---
91-20-3	Naphthalene	0.07	0.5	---
87-61-6	1,2,3-Trichlorobenzene	0.09	0.5	---

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	95.9%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091211**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-091211
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT3/PKC
LCSD: NT3/PKC
Date Analyzed LCS: 09/12/11 10:04
LCSD: 09/12/11 10:31

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
Bromomethane	9.2	10.0	92.0%	9.1	10.0	91.0%	1.1%
Vinyl Chloride	9.8	10.0	98.0%	9.1	10.0	91.0%	7.4%
Chloroethane	9.3	10.0	93.0%	9.0	10.0	90.0%	3.3%
Methylene Chloride	9.7	10.0	97.0%	9.6	10.0	96.0%	1.0%
Acetone	50.5	50.0	101%	46.8	50.0	93.6%	7.6%
Carbon Disulfide	9.9	10.0	99.0%	9.3	10.0	93.0%	6.2%
1,1-Dichloroethene	9.6	10.0	96.0%	9.3	10.0	93.0%	3.2%
1,1-Dichloroethane	9.7	10.0	97.0%	9.5	10.0	95.0%	2.1%
trans-1,2-Dichloroethene	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
cis-1,2-Dichloroethene	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
Chloroform	10.0	10.0	100%	9.5	10.0	95.0%	5.1%
1,2-Dichloroethane	9.6	10.0	96.0%	9.2	10.0	92.0%	4.3%
2-Butanone	50.5	50.0	101%	48.8	50.0	97.6%	3.4%
1,1,1-Trichloroethane	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
Carbon Tetrachloride	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Vinyl Acetate	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
Bromodichloromethane	10.1	10.0	101%	10.2	10.0	102%	1.0%
1,2-Dichloropropane	10.1	10.0	101%	9.7	10.0	97.0%	4.0%
cis-1,3-Dichloropropene	10.3	10.0	103%	10.2	10.0	102%	1.0%
Trichloroethene	9.5	10.0	95.0%	9.3	10.0	93.0%	2.1%
Dibromochloromethane	10.4	10.0	104%	10.2	10.0	102%	1.9%
1,1,2-Trichloroethane	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
Benzene	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
trans-1,3-Dichloropropene	10.3	10.0	103%	10.2	10.0	102%	1.0%
2-Chloroethylvinylether	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Bromoform	10.6	10.0	106%	10.6	10.0	106%	0.0%
4-Methyl-2-Pentanone (MIBK)	50.9	50.0	102%	50.5	50.0	101%	0.8%
2-Hexanone	52.8	50.0	106%	51.3	50.0	103%	2.9%
Tetrachloroethene	9.6	10.0	96.0%	9.1	10.0	91.0%	5.3%
1,1,2,2-Tetrachloroethane	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
Toluene	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
Chlorobenzene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
Ethylbenzene	10.1	10.0	101%	9.9	10.0	99.0%	2.0%
Styrene	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
Trichlorofluoromethane	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
1,1,2-Trichloro-1,2,2-trifluoroetha	9.7	10.0	97.0%	9.1	10.0	91.0%	6.4%
m,p-Xylene	20.2	20.0	101%	19.7	20.0	98.5%	2.5%
o-Xylene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
1,2-Dichlorobenzene	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
1,3-Dichlorobenzene	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,4-Dichlorobenzene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
Acrolein	37.2 Q	50.0	74.4%	37.0 Q	50.0	74.0%	0.5%
Methyl Iodide	9.8	10.0	98.0%	9.4	10.0	94.0%	4.2%
Bromoethane	10.1	10.0	101%	9.7	10.0	97.0%	4.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091211**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-091211 QC Report No: TL50-AMEC Geomatrix
LIMS ID: 11-19591 Project: FRP 2011 Shoreline Investigation
Matrix: Water 8769

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Acrylonitrile	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
1,1-Dichloropropene	9.9	10.0	99.0%	9.6	10.0	96.0%	3.1%
Dibromomethane	9.8	10.0	98.0%	9.3	10.0	93.0%	5.2%
1,1,1,2-Tetrachloroethane	10.2	10.0	102%	9.7	10.0	97.0%	5.0%
1,2-Dibromo-3-chloropropane	10.0	10.0	100%	9.4	10.0	94.0%	6.2%
1,2,3-Trichloropropane	9.8	10.0	98.0%	9.6	10.0	96.0%	2.1%
trans-1,4-Dichloro-2-butene	9.3	10.0	93.0%	8.7	10.0	87.0%	6.7%
1,3,5-Trimethylbenzene	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,2,4-Trimethylbenzene	10.3	10.0	103%	10.1	10.0	101%	2.0%
Hexachlorobutadiene	10.6 B	10.0	106%	10.0 B	10.0	100%	5.8%
Ethylene Dibromide	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
Bromochloromethane	9.4	10.0	94.0%	9.7	10.0	97.0%	3.1%
2,2-Dichloropropane	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,3-Dichloropropane	10.1	10.0	101%	9.9	10.0	99.0%	2.0%
Isopropylbenzene	10.2	10.0	102%	10.0	10.0	100%	2.0%
n-Propylbenzene	10.3	10.0	103%	10.4	10.0	104%	1.0%
Bromobenzene	10.0	10.0	100%	10.0	10.0	100%	0.0%
2-Chlorotoluene	10.3	10.0	103%	9.9	10.0	99.0%	4.0%
4-Chlorotoluene	10.3	10.0	103%	10.1	10.0	101%	2.0%
tert-Butylbenzene	10.2	10.0	102%	10.1	10.0	101%	1.0%
sec-Butylbenzene	10.4	10.0	104%	10.3	10.0	103%	1.0%
4-Isopropyltoluene	10.3	10.0	103%	10.1	10.0	101%	2.0%
n-Butylbenzene	10.6	10.0	106%	10.2	10.0	102%	3.8%
1,2,4-Trichlorobenzene	10.4 B	10.0	104%	10.1 B	10.0	101%	2.9%
Naphthalene	10.4 B	10.0	104%	10.2 B	10.0	102%	1.9%
1,2,3-Trichlorobenzene	10.3 B	10.0	103%	10.3 B	10.0	103%	0.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	98.7%	96.1%
d8-Toluene	98.0%	99.0%
Bromofluorobenzene	101%	100%
d4-1,2-Dichlorobenzene	101%	101%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0912

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TL50

Project: FRP 2011 SHORELINE INVE

Lab File ID: MB0912

Lab Sample ID: MB0912

Date Analyzed: 09/12/11

Time Analyzed: 1058

Instrument ID: NT3

Heated Purge: (Y/N) N

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS0912	LCS0912	LCS0912	1004
02	LCS0912	LCS0912	LCS0912A	1031
03	TRIP BLANKS	TL50S	TL50S	1157
04	FRP-090811-0	TL50N	TL50N	1224
05	FRP-090811-0	TL50O	TL50O	1251
06	FRP-090811-0	TL50P	TL50P	1318
07	FRP-090811-0	TL50Q	TL50Q	1345
08	FRP-090811-0	TL50R	TL50R	1412
09	FRP-090811-0	TL50Q	TL50QMS	2026
10	FRP-090811-0	TL50Q	TL50QMSD	2053
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COMMENTS:

FORM IV VOA

OLM3.2M

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-091211**
 METHOD BLANK

Lab Sample ID: MB-091211
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/13/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT3/PKC
Date Analyzed: 09/12/11 10:58

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.10	0.5	< 0.5 U
74-83-9	Bromomethane	0.04	1.0	< 1.0 U
75-01-4	Vinyl Chloride	0.08	0.2	< 0.2 U
75-00-3	Chloroethane	0.15	0.2	< 0.2 U
75-09-2	Methylene Chloride	0.39	0.5	< 0.5 U
67-64-1	Acetone	0.72	5.0	< 5.0 U
75-15-0	Carbon Disulfide	0.09	0.2	< 0.2 U
75-35-4	1,1-Dichloroethene	0.09	0.2	< 0.2 U
75-34-3	1,1-Dichloroethane	0.05	0.2	< 0.2 U
156-60-5	trans-1,2-Dichloroethene	0.08	0.2	< 0.2 U
156-59-2	cis-1,2-Dichloroethene	0.10	0.2	< 0.2 U
67-66-3	Chloroform	0.08	0.2	< 0.2 U
107-06-2	1,2-Dichloroethane	0.08	0.2	< 0.2 U
78-93-3	2-Butanone	0.81	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	0.09	0.2	< 0.2 U
56-23-5	Carbon Tetrachloride	0.08	0.2	< 0.2 U
108-05-4	Vinyl Acetate	0.07	1.0	< 1.0 U
75-27-4	Bromodichloromethane	0.05	0.2	< 0.2 U
78-87-5	1,2-Dichloropropane	0.09	0.2	< 0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.06	0.2	< 0.2 U
79-01-6	Trichloroethene	0.08	0.2	< 0.2 U
124-48-1	Dibromochloromethane	0.09	0.2	< 0.2 U
79-00-5	1,1,2-Trichloroethane	0.04	0.2	< 0.2 U
71-43-2	Benzene	0.06	0.2	< 0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.06	0.2	< 0.2 U
110-75-8	2-Chloroethylvinylether	0.09	1.0	< 1.0 U
75-25-2	Bromoform	0.07	0.2	< 0.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.38	5.0	< 5.0 U
591-78-6	2-Hexanone	0.31	5.0	< 5.0 U
127-18-4	Tetrachloroethene	0.09	0.2	< 0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	0.2	< 0.2 U
108-88-3	Toluene	0.06	0.2	< 0.2 U
108-90-7	Chlorobenzene	0.04	0.2	< 0.2 U
100-41-4	Ethylbenzene	0.09	0.2	< 0.2 U
100-42-5	Styrene	0.07	0.2	< 0.2 U
75-69-4	Trichlorofluoromethane	0.09	0.2	< 0.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.11	0.2	< 0.2 U
179601-23-1	m,p-Xylene	0.14	0.4	< 0.4 U
95-47-6	o-Xylene	0.06	0.2	< 0.2 U
95-50-1	1,2-Dichlorobenzene	0.06	0.2	< 0.2 U
541-73-1	1,3-Dichlorobenzene	0.04	0.2	< 0.2 U
106-46-7	1,4-Dichlorobenzene	0.06	0.2	< 0.2 U
107-02-8	Acrolein	0.29	5.0	< 5.0 U
74-88-4	Methyl Iodide	0.04	1.0	< 1.0 U
74-96-4	Bromoethane	0.09	0.2	< 0.2 U
107-13-1	Acrylonitrile	0.18	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	0.09	0.2	< 0.2 U
74-95-3	Dibromomethane	0.08	0.2	< 0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.07	0.2	< 0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.21	0.5	< 0.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-091211**
 METHOD BLANK

Lab Sample ID: MB-091211
LIMS ID: 11-19591
Matrix: Water
Date Analyzed: 09/12/11 10:58

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.23	0.5	< 0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	0.24	1.0	< 1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.06	0.2	< 0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.06	0.2	< 0.2 U
87-68-3	**Hexachlorobutadiene**	**0.11**	**0.5**	**0.3 J**
106-93-4	Ethylene Dibromide	0.08	0.2	< 0.2 U
74-97-5	Bromochloromethane	0.07	0.2	< 0.2 U
594-20-7	2,2-Dichloropropane	0.08	0.2	< 0.2 U
142-28-9	1,3-Dichloropropane	0.02	0.2	< 0.2 U
98-82-8	Isopropylbenzene	0.06	0.2	< 0.2 U
103-65-1	n-Propylbenzene	0.08	0.2	< 0.2 U
108-86-1	Bromobenzene	0.05	0.2	< 0.2 U
95-49-8	2-Chlorotoluene	0.04	0.2	< 0.2 U
106-43-4	4-Chlorotoluene	0.07	0.2	< 0.2 U
98-06-6	tert-Butylbenzene	0.06	0.2	< 0.2 U
135-98-8	sec-Butylbenzene	0.08	0.2	< 0.2 U
99-87-6	4-Isopropyltoluene	0.08	0.2	< 0.2 U
104-51-8	n-Butylbenzene	0.11	0.2	< 0.2 U
120-82-1	**1,2,4-Trichlorobenzene**	**0.10**	**0.5**	**0.2 J**
91-20-3	**Naphthalene**	**0.07**	**0.5**	**0.3 J**
87-61-6	**1,2,3-Trichlorobenzene**	**0.09**	**0.5**	**0.4 J**

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.3%
d8-Toluene	96.6%
Bromofluorobenzene	99.7%
d4-1,2-Dichlorobenzene	99.7%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP 2011 SHORELINE INVESTIGATION SDG No.: TL50

Lab File ID: BFB0901 BFB Injection Date: 09/01/11

Instrument ID: NT3 BFB Injection Time: 1058

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	16.3	
75	30.0 - 66.0% of mass 95	48.7	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	6.2	
173	Less than 2.0% of mass 174	0.3	(0.4)1
174	50.0 - 101.0% of mass 95	76.7	
175	4.0 - 9.0% of mass 174	5.5	(7.1)1
176	93.0 - 101.0% of mass 174	74.2	(96.7)1
177	5.0 - 9.0% of mass 176	4.9	(6.7)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	VSTD0.2	VSTD0.2	00_20901	09/01/11	1147
02	VSTD0.5	VSTD0.5	00_50901	09/01/11	1214
03	VSTD01	VSTD01	01_00901	09/01/11	1241
04	VSTD02	VSTD02	02_00901	09/01/11	1308
05	VSTD10	VSTD10	10_00901	09/01/11	1334
06	VSTD20	VSTD20	20_00901	09/01/11	1402
07	VSTD40	VSTD40	40_00901	09/01/11	1428
08	VSTD80	VSTD80	80_00901	09/01/11	1455
09	ICV10	ICV10	ICV0901	09/01/11	1548
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FORM V VOA OLM3.2M

TL50:00049

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP 2011 SHORELINE INVESTIGATION SDG No.: TL50

Lab File ID: BFB0912 BFB Injection Date: 09/12/11

Instrument ID: NT3 BFB Injection Time: 0904

GC Column: RTXVMS ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	16.0
75	30.0 - 66.0% of mass 95	48.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.5
173	Less than 2.0% of mass 174	0.5 (0.6)1
174	50.0 - 101.0% of mass 95	82.6
175	4.0 - 9.0% of mass 174	5.7 (6.9)1
176	93.0 - 101.0% of mass 174	78.3 (94.9)1
177	5.0 - 9.0% of mass 176	5.2 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CC0912	CC0912	CC0912	09/12/11	0937
02	LCS0912	LCS0912	LCS0912	09/12/11	1004
03	LCS0912	LCS0912	LCS0912A	09/12/11	1031
04	MB0912	MB0912	MB0912	09/12/11	1058
05	TRIP BLANKS	TL50S	TL50S	09/12/11	1157
06	FRP-090811-014	TL50N	TL50N	09/12/11	1224
07	FRP-090811-015	TL50O	TL50O	09/12/11	1251
08	FRP-090811-016	TL50P	TL50P	09/12/11	1318
09	FRP-090811-017	TL50Q	TL50Q	09/12/11	1345
10	FRP-090811-018	TL50R	TL50R	09/12/11	1412
11	FRP-090811-017 M	TL50Q	TL50QMS	09/12/11	2026
12	FRP-090811-017 M	TL50Q	TL50QMSD	09/12/11	2053
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FORM V VOA OLM3.2M

TL50:00050

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF0.2: 00_20901 RF0.5: 00_50901 RF1: 01_00901
RF2: 02_00901 RF10: 10_00901

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
Chloromethane	0.531	0.556	0.498	0.490	0.489
Vinyl Chloride	0.652	0.660	0.641	0.595	0.596
Bromomethane		0.375	0.409	0.351	0.381
Chloroethane	0.444	0.412	0.401	0.368	0.370
Trichlorofluoromethane	0.870	0.860	0.849	0.829	0.828
Acrolein		0.025	0.028	0.025	0.026
112Trichloro122Trifluoroetha	0.745	0.629	0.583	0.568	0.573
Acetone		0.042	0.039	0.035	0.037
1,1-Dichloroethene	0.553	0.517	0.524	0.474	0.486
Bromoethane	0.406	0.461	0.396	0.400	0.423
Iodomethane		0.902	0.907	0.823	0.870
Methylene Chloride		0.882	0.683	0.546	0.478
Acrylonitrile			0.030	0.050	0.048
Carbon Disulfide	2.027	1.704	1.684	1.574	1.647
Trans-1,2-Dichloroethene	0.640	0.576	0.566	0.546	0.553
Vinyl Acetate			0.281	0.259	0.282
1,1-Dichloroethane	0.940	0.837	0.872	0.823	0.846
2-Butanone		0.051	0.059	0.052	0.055
2,2-Dichloropropane	0.900	0.794	0.826	0.754	0.760
Cis-1,2-Dichloroethene	0.614	0.563	0.543	0.530	0.531
Chloroform	0.814	0.900	0.873	0.843	0.860
Bromochloromethane	0.194	0.191	0.207	0.190	0.208
1,1,1-Trichloroethane	0.977	0.932	0.909	0.856	0.912
1,1-Dichloropropene	0.480	0.475	0.450	0.422	0.451
Carbon Tetrachloride	0.497	0.497	0.462	0.445	0.486
1,2-Dichloroethane	0.276	0.280	0.282	0.265	0.256
Benzene	1.241	1.298	1.268	1.244	1.249
Trichloroethene	0.420	0.372	0.378	0.370	0.367
1,2-Dichloropropane	0.225	0.274	0.249	0.244	0.251
Bromodichloromethane	0.333	0.316	0.333	0.310	0.317
Dibromomethane	0.101	0.116	0.112	0.116	0.105
2-Chloroethyl Vinyl Ether		0.076	0.079	0.068	0.082
4-Methyl-2-Pentanone		0.094	0.090	0.095	0.099
Cis 1,3-dichloropropene	0.348	0.355	0.359	0.338	0.362
Toluene	0.935	0.850	0.873	0.870	0.844
Trans 1,3-Dichloropropene	0.277	0.304	0.269	0.271	0.289
2-Hexanone		0.058	0.064	0.066	0.067

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF0.2: 00_20901 RF0.5: 00_50901 RF1: 01_00901
RF2: 02_00901 RF10: 10_00901

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
1,1,2-Trichloroethane	0.153	0.160	0.163	0.168	0.161
1,3-Dichloropropane	0.278	0.260	0.291	0.280	0.283
Tetrachloroethene	0.466	0.416	0.422	0.398	0.398
Chlorodibromomethane	0.174	0.188	0.192	0.188	0.205
1,2-Dibromoethane	0.134	0.157	0.152	0.152	0.162
Chlorobenzene	1.013	1.012	1.035	1.002	0.984
Ethyl Benzene	1.976	1.852	1.847	1.803	1.820
1,1,1,2-Tetrachloroethane	0.283	0.327	0.316	0.307	0.315
m,p-xylene	0.781	0.742	0.704	0.716	0.727
o-Xylene	0.725	0.681	0.728	0.707	0.716
Styrene	1.071	0.954	1.053	1.028	1.080
Bromoform	0.172	0.149	0.156	0.161	0.169
1,1,2,2-Tetrachloroethane	0.292	0.316	0.349	0.313	0.309
1,2,3-Trichloropropane		0.103	0.103	0.108	0.096
Trans-1,4-Dichloro 2-Butene			0.082	0.074	0.076
N-Propyl Benzene	4.033	3.815	3.775	3.775	3.693
Bromobenzene	0.622	0.714	0.702	0.660	0.670
Isopropyl Benzene	3.644	3.370	3.421	3.240	3.226
2-Chloro Toluene	2.361	2.429	2.335	2.289	2.303
4-Chloro Toluene	2.378	2.364	2.370	2.287	2.284
T-Butyl Benzene	2.674	2.679	2.543	2.534	2.536
1,3,5-Trimethyl Benzene	2.939	2.931	2.863	2.861	2.862
1,2,4-Trimethylbenzene	3.083	3.024	2.922	2.872	2.905
S-Butyl Benzene	3.988	3.888	3.750	3.756	3.652
4-Isopropyl Toluene	3.593	3.238	3.210	3.209	3.160
1,3-Dichlorobenzene	1.715	1.599	1.551	1.541	1.525
1,4-Dichlorobenzene	1.654	1.631	1.556	1.504	1.494
N-Butyl Benzene	2.998	2.865	2.818	2.743	2.737
1,2-Dichlorobenzene	1.335	1.374	1.330	1.326	1.293
1,2-Dibromo 3-Chloropropane		0.057	0.053	0.053	0.050
1,2,4-Trichlorobenzene		0.872	0.839	0.855	0.867
Hexachloro 1,3-Butadiene		0.488	0.508	0.458	0.416
Naphthalene		0.977	1.064	1.052	1.157
1,2,3-Trichlorobenzene		0.641	0.618	0.640	0.648
Dichlorodifluoromethane	0.589	0.606	0.551	0.516	0.540
Methyl tert butyl ether	0.748	0.932	1.000	0.903	0.946

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF0.2: 00_20901 RF0.5: 00_50901 RF1: 01_00901
RF2: 02_00901 RF10: 10_00901

COMPOUND	RF0.2	RF0.5	RF1	RF2	RF10
d4-1,2-Dichloroethane	0.336	0.366	0.360	0.365	0.365
d8-Toluene	1.309	1.268	1.258	1.255	1.269
4-Bromofluorobenzene	0.484	0.504	0.507	0.515	0.508
d4-1,2-Dichlorobenzene	0.822	0.865	0.848	0.851	0.846
Dibromofluoromethane	0.418	0.444	0.432	0.439	0.439

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF20: 20_00901 RF40: 40_00901 RF80: 80_00901

COMPOUND	RF20	RF40	RF80
Chloromethane	0.498	0.520	0.483
Vinyl Chloride	0.605	0.635	0.610
Bromomethane	0.368	0.389	0.357
Chloroethane	0.381	0.404	0.353
Trichlorofluoromethane	0.850	0.881	0.822
Acrolein	0.027	0.029	0.028
112Trichloro122Trifluoroetha	0.585	0.616	0.567
Acetone	0.039	0.041	0.040
1,1-Dichloroethene	0.491	0.526	0.488
Bromoethane	0.424	0.443	0.412
Iodomethane	0.891	0.913	0.852
Methylene Chloride	0.470	0.487	0.456
Acrylonitrile	0.052	0.056	0.054
Carbon Disulfide	1.670	1.746	1.596
Trans-1,2-Dichloroethene	0.566	0.591	0.558
Vinyl Acetate	0.296	0.317	0.332
1,1-Dichloroethane	0.854	0.895	0.846
2-Butanone	0.056	0.059	0.059
2,2-Dichloropropane	0.756	0.800	0.707
Cis-1,2-Dichloroethene	0.544	0.570	0.539
Chloroform	0.874	0.905	0.866
Bromochloromethane	0.202	0.210	0.203
1,1,1-Trichloroethane	0.906	0.968	0.895
1,1-Dichloropropene	0.452	0.470	0.443
Carbon Tetrachloride	0.488	0.518	0.482
1,2-Dichloroethane	0.256	0.267	0.252
Benzene	1.231	1.282	1.158
Trichloroethene	0.360	0.374	0.350
1,2-Dichloropropane	0.247	0.260	0.249
Bromodichloromethane	0.324	0.346	0.333
Dibromomethane	0.109	0.114	0.108
2-Chloroethyl Vinyl Ether	0.084	0.086	0.086
4-Methyl-2-Pentanone	0.096	0.101	0.095
Cis 1,3-dichloropropene	0.368	0.396	0.378
Toluene	0.854	0.884	0.810
Trans 1,3-Dichloropropene	0.297	0.317	0.302
2-Hexanone	0.067	0.068	0.066

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF20: 20_00901 RF40: 40_00901 RF80: 80_00901

COMPOUND	RF20	RF40	RF80
1,1,2-Trichloroethane	0.162	0.169	0.160
1,3-Dichloropropane	0.273	0.288	0.279
Tetrachloroethene	0.390	0.405	0.386
Chlorodibromomethane	0.208	0.223	0.222
1,2-Dibromoethane	0.162	0.169	0.162
Chlorobenzene	0.978	0.997	0.920
Ethyl Benzene	1.793	1.796	1.545
1,1,1,2-Tetrachloroethane	0.318	0.338	0.330
m,p-xylene	0.720	0.729	0.648
o-Xylene	0.705	0.742	0.703
Styrene	1.075	1.116	1.043
Bromoform	0.178	0.193	0.195
1,1,2,2-Tetrachloroethane	0.313	0.322	0.314
1,2,3-Trichloropropane	0.099	0.103	0.100
Trans-1,4-Dichloro 2-Butene	0.079	0.081	0.084
N-Propyl Benzene	3.617	3.527	2.893
Bromobenzene	0.656	0.679	0.655
Isopropyl Benzene	3.189	3.150	2.675
2-Chloro Toluene	2.252	2.240	2.056
4-Chloro Toluene	2.268	2.284	2.054
T-Butyl Benzene	2.503	2.540	2.236
1,3,5-Trimethyl Benzene	2.864	2.850	2.439
1,2,4-Trimethylbenzene	2.897	2.903	2.457
S-Butyl Benzene	3.612	3.555	2.890
4-Isopropyl Toluene	3.150	3.109	2.591
1,3-Dichlorobenzene	1.502	1.539	1.435
1,4-Dichlorobenzene	1.476	1.506	1.402
N-Butyl Benzene	2.767	2.770	2.359
1,2-Dichlorobenzene	1.280	1.300	1.225
1,2-Dibromo 3-Chloropropane	0.051	0.055	0.055
1,2,4-Trichlorobenzene	0.894	0.906	0.881
Hexachloro 1,3-Butadiene	0.446	0.452	0.442
Naphthalene	1.217	1.228	1.184
1,2,3-Trichlorobenzene	0.662	0.666	0.645
Dichlorodifluoromethane	0.550	0.574	0.524
Methyl tert butyl ether	0.955	0.993	0.932

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 Calibration Date: 09/01/11

LAB FILE ID: RF20: 20_00901 RF40: 40_00901 RF80: 80_00901

COMPOUND	RF20	RF40	RF80
d4-1,2-Dichloroethane	0.360	0.363	0.377
d8-Toluene	1.263	1.294	1.269
4-Bromofluorobenzene	0.516	0.509	0.518
d4-1,2-Dichlorobenzene	0.832	0.836	0.827
Dibromofluoromethane	0.455	0.451	0.459

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TL50 — Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 — Calibration Date: 09/01/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
Chloromethane	AVRG	0.508	5.0
Vinyl Chloride	AVRG	0.624	4.2
Bromomethane	AVRG	0.376	5.2
Chloroethane	AVRG	0.392	7.5
Trichlorofluoromethane	AVRG	0.849	2.5
Acrolein	AVRG	0.027	5.5
112Trichloro122Trifluoroetha	AVRG	0.608	9.8
Acetone	AVRG	0.039	6.5
1,1-Dichloroethene	AVRG	0.508	5.2
Bromoethane	AVRG	0.421	5.3
Iodomethane	AVRG	0.880	3.8
Methylene Chloride	LINR		0.9987
Acrylonitrile	AVRG	0.048	19.6
Carbon Disulfide	AVRG	1.706	8.3
Trans-1,2-Dichloroethene	AVRG	0.575	5.2
Vinyl Acetate	AVRG	0.294	9.0
1,1-Dichloroethane	AVRG	0.864	4.3
2-Butanone	AVRG	0.056	6.1
2,2-Dichloropropane	AVRG	0.787	7.4
Cis-1,2-Dichloroethene	AVRG	0.554	5.1
Chloroform	AVRG	0.867	3.4
Bromochloromethane	AVRG	0.200	4.0
1,1,1-Trichloroethane	AVRG	0.919	4.3
1,1-Dichloropropene	AVRG	0.455	4.2
Carbon Tetrachloride	AVRG	0.484	4.6
1,2-Dichloroethane	AVRG	0.267	4.3
Benzene	AVRG	1.246	3.4
Trichloroethene	AVRG	0.374	5.6
1,2-Dichloropropane	AVRG	0.250	5.6
Bromodichloromethane	AVRG	0.326	3.6
Dibromomethane	AVRG	0.110	4.9
2-Chloroethyl Vinyl Ether	AVRG	0.080	8.1
4-Methyl-2-Pentanone	AVRG	0.096	3.5
Cis 1,3-dichloropropene	AVRG	0.363	5.0
Toluene	AVRG	0.865	4.2
Trans 1,3-Dichloropropene	AVRG	0.291	5.9
2-Hexanone	AVRG	0.065	5.3

<- 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: TL50 — Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 — Calibration Date: 09/01/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
1,1,2-Trichloroethane	AVRG	0.162	3.1
1,3-Dichloropropane	AVRG	0.279	3.4
Tetrachloroethene	AVRG	0.410	6.2
Chlorodibromomethane	AVRG	0.200	8.7
1,2-Dibromoethane	AVRG	0.156	6.8
Chlorobenzene	AVRG	0.993	3.5
Ethyl Benzene	AVRG	1.804	6.7
1,1,1,2-Tetrachloroethane	AVRG	0.317	5.3
m,p-xylene	AVRG	0.721	5.2
o-Xylene	AVRG	0.713	2.6
Styrene	AVRG	1.053	4.6
Bromoform	AVRG	0.172	9.6
1,1,2,2-Tetrachloroethane	AVRG	0.316	5.0
1,2,3-Trichloropropane	AVRG	0.102	3.6
Trans-1,4-Dichloro 2-Butene	AVRG	0.080	4.6
N-Propyl Benzene	AVRG	3.641	9.3
Bromobenzene	AVRG	0.670	4.3
Isopropyl Benzene	AVRG	3.239	8.6
2-Chloro Toluene	AVRG	2.283	4.8
4-Chloro Toluene	AVRG	2.286	4.6
T-Butyl Benzene	AVRG	2.531	5.4
1,3,5-Trimethyl Benzene	AVRG	2.826	5.7
1,2,4-Trimethylbenzene	AVRG	2.883	6.5
S-Butyl Benzene	AVRG	3.636	9.2
4-Isopropyl Toluene	AVRG	3.158	8.7
1,3-Dichlorobenzene	AVRG	1.551	5.2
1,4-Dichlorobenzene	AVRG	1.528	5.4
N-Butyl Benzene	AVRG	2.757	6.6
1,2-Dichlorobenzene	AVRG	1.308	3.4
1,2-Dibromo 3-Chloropropane	AVRG	0.053	4.8
1,2,4-Trichlorobenzene	AVRG	0.873	2.6
Hexachloro 1,3-Butadiene	AVRG	0.458	6.7
Naphthalene	AVRG	1.126	8.5
1,2,3-Trichlorobenzene	AVRG	0.646	2.4
Dichlorodifluoromethane	AVRG	0.556	5.6
Methyl tert butyl ether	AVRG	0.926	8.5

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

TL50:00058

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC | Client: AMEC GEOMATRIX

ARI Job No: TL50 | Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 | Calibration Date: 09/01/11

COMPOUND	CURVE TYPE	AVE RF	%RSD OR R^2
d4-1,2-Dichloroethane	AVRG	0.362	3.2
d8-Toluene	AVRG	1.273	1.5
4-Bromofluorobenzene	AVRG	0.508	2.1
d4-1,2-Dichlorobenzene	AVRG	0.841	1.7
Dibromofluoromethane	AVRG	0.442	3.0

<- 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: TL50 — Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 — Cont. Calib. Date: 09/12/11

Init. Calib. Date: 09/01/11 — Cont. Calib. Time: 0937

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.508	0.500	0.100	AVRG	-1.6	
Vinyl Chloride	0.624	0.586	0.010	AVRG	-6.1	
Bromomethane	0.376	0.333	0.010	AVRG	-11.4	
Chloroethane	0.392	0.356	0.010	AVRG	-9.2	
Trichlorofluoromethane	0.849	0.802	0.010	AVRG	-5.5	
Acrolein	0.027	0.017	0.010	AVRG	-37.0	<-
112Trichloro122Trifluoroetha	0.608	0.578	0.010	AVRG	-4.9	
Acetone	0.039	0.039	0.010	AVRG	0.0	
1,1-Dichloroethene	0.507	0.474	0.010	AVRG	-6.5	
Bromoethane	0.421	0.421	0.010	AVRG	0.0	
Iodomethane	0.880	0.833	0.010	AVRG	-5.3	
Methylene Chloride	10.000	9.312	0.010	LINR	-6.9	
Acrylonitrile	0.048	0.045	0.010	AVRG	-6.2	
Carbon Disulfide	1.706	1.645	0.010	AVRG	-3.6	
Trans-1,2-Dichloroethene	0.574	0.537	0.010	AVRG	-6.4	
Vinyl Acetate	0.294	0.270	0.010	AVRG	-8.2	
1,1-Dichloroethane	0.864	0.818	0.100	AVRG	-5.3	
2-Butanone	0.056	0.054	0.010	AVRG	-3.6	
2,2-Dichloropropane	0.787	0.776	0.010	AVRG	-1.4	
Cis-1,2-Dichloroethene	0.554	0.513	0.010	AVRG	-7.4	
Chloroform	0.867	0.820	0.010	AVRG	-5.4	
Bromochloromethane	0.201	0.184	0.010	AVRG	-8.4	
1,1,1-Trichloroethane	0.919	0.869	0.010	AVRG	-5.4	
1,1-Dichloropropene	0.455	0.444	0.010	AVRG	-2.4	
Carbon Tetrachloride	0.484	0.478	0.010	AVRG	-1.2	
1,2-Dichloroethane	0.267	0.242	0.010	AVRG	-9.4	
Benzene	1.246	1.205	0.010	AVRG	-3.3	
Trichloroethene	0.374	0.358	0.010	AVRG	-4.3	
1,2-Dichloropropane	0.250	0.244	0.010	AVRG	-2.4	
Bromodichloromethane	0.326	0.306	0.010	AVRG	-6.1	
Dibromomethane	0.110	0.102	0.010	AVRG	-7.3	
2-Chloroethyl Vinyl Ether	0.080	0.078	0.010	AVRG	-2.5	
4-Methyl-2-Pentanone	0.096	0.092	0.010	AVRG	-4.2	
Cis 1,3-dichloropropene	0.363	0.357	0.010	AVRG	-1.6	
Toluene	0.865	0.829	0.010	AVRG	-4.2	
Trans 1,3-Dichloropropene	0.291	0.292	0.010	AVRG	0.3	
2-Hexanone	0.065	0.063	0.010	AVRG	-3.1	

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

FORM VII VOA

TL50:00050

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TL50 — Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 — Cont. Calib. Date: 09/12/11

Init. Calib. Date: 09/01/11 — Cont. Calib. Time: 0937

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
1,1,2-Trichloroethane	0.162	0.149	0.010	AVRG	-8.0	
1,3-Dichloropropane	0.279	0.268	0.010	AVRG	-3.9	
Tetrachloroethene	0.410	0.389	0.010	AVRG	-5.1	
Chlorodibromomethane	0.200	0.198	0.010	AVRG	-1.0	
1,2-Dibromoethane	0.156	0.148	0.010	AVRG	-5.1	
Chlorobenzene	0.993	0.960	0.300	AVRG	-3.3	
Ethyl Benzene	1.804	1.796	0.010	AVRG	-0.4	
1,1,1,2-Tetrachloroethane	0.317	0.303	0.010	AVRG	-4.4	
m,p-xylene	0.721	0.717	0.010	AVRG	-0.6	
o-Xylene	0.713	0.696	0.010	AVRG	-2.4	
Styrene	1.052	1.032	0.010	AVRG	-1.9	
Bromoform	0.172	0.178	0.100	AVRG	3.5	
1,1,2,2-Tetrachloroethane	0.316	0.297	0.300	AVRG	-6.0	*
1,2,3-Trichloropropane	0.102	0.095	0.010	AVRG	-6.9	
Trans-1,4-Dichloro 2-Butene	0.079	0.066	0.010	AVRG	-16.4	
N-Propyl Benzene	3.641	3.853	0.010	AVRG	5.8	
Bromobenzene	0.670	0.646	0.010	AVRG	-3.6	
Isopropyl Benzene	3.239	3.333	0.010	AVRG	2.9	
2-Chloro Toluene	2.283	2.298	0.010	AVRG	0.6	
4-Chloro Toluene	2.286	2.338	0.010	AVRG	2.3	
T-Butyl Benzene	2.531	2.555	0.010	AVRG	0.9	
1,3,5-Trimethyl Benzene	2.826	2.936	0.010	AVRG	3.9	
1,2,4-Trimethylbenzene	2.883	2.986	0.010	AVRG	3.6	
S-Butyl Benzene	3.636	3.812	0.010	AVRG	4.8	
4-Isopropyl Toluene	3.158	3.298	0.010	AVRG	4.4	
1,3-Dichlorobenzene	1.551	1.500	0.010	AVRG	-3.3	
1,4-Dichlorobenzene	1.528	1.488	0.010	AVRG	-2.6	
N-Butyl Benzene	2.757	2.968	0.010	AVRG	7.6	
1,2-Dichlorobenzene	1.308	1.246	0.010	AVRG	-4.7	
1,2-Dibromo 3-Chloropropane	0.053	0.051	0.010	AVRG	-3.8	
1,2,4-Trichlorobenzene	0.873	0.852	0.010	AVRG	-2.4	
Hexachloro 1,3-Butadiene	0.458	0.473	0.010	AVRG	3.3	
Naphthalene	1.126	1.063	0.010	AVRG	-5.6	
1,2,3-Trichlorobenzene	0.646	0.629	0.010	AVRG	-2.6	
Dichlorodifluoromethane	0.556	0.483	0.010	AVRG	-13.1	
Methyl tert butyl ether	0.926	0.839	0.010	AVRG	-9.4	

<- 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: TL50 — Project: FRP 2011 SHORELINE INVESTIG

Instrument ID: NT3 — Cont. Calib. Date: 09/12/11

Init. Calib. Date: 09/01/11 — Cont. Calib. Time: 0937

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.362	0.349	0.010	AVRG	-3.6
d8-Toluene	1.273	1.293	0.010	AVRG	1.6
4-Bromofluorobenzene	0.508	0.505	0.010	AVRG	-0.6
d4-1,2-Dichlorobenzene	0.841	0.835	0.010	AVRG	-0.7
Dibromofluoromethane	0.442	0.433	0.010	AVRG	-2.0

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

FORM VII VOA

TL50:00052

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TL50 — Project: FRP 2011 SHORELINE INVESTIGA

Ical Midpoint ID: 10_00901 — Ical Date: 09/01/11

Instrument ID: NT3 — Project Run Date: 09/12/11

		IS1(PFB) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CLB) AREA #	RT #
	ICAL MIDPT	220246	5.25	342057	5.64	343287	7.71
	UPPER LIMIT	440492	5.75	684114	6.14	686574	8.21
	LOWER LIMIT	110123	4.75	171028	5.14	171644	7.21
	Sample ID						
01	LCS0912	218642	5.25	346974	5.64	337623	7.71
02	LCS0912	222322	5.25	348068	5.65	343712	7.72
03	MB0912	222907	5.26	339782	5.65	332673	7.71
04	TRIP BLANKS	218400	5.26	338661	5.65	323026	7.71
05	FRP-090811-0	222383	5.25	335969	5.65	329801	7.72
06	FRP-090811-0	220071	5.25	345722	5.64	334552	7.71
07	FRP-090811-0	215275	5.25	331580	5.65	331573	7.72
08	FRP-090811-0	213704	5.26	336953	5.64	324218	7.71
09	FRP-090811-0	216298	5.26	334799	5.64	330517	7.71
10	FRP-090811-0	226475	5.26	351568	5.65	338196	7.71
11	FRP-090811-0	228055	5.25	349450	5.64	334945	7.71
12							
13							
14							
15							
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: TL50 — Project: FRP 2011 SHORELINE INVESTIGA

Ical Midpoint ID: 10_00901 — Ical Date: 09/01/11

Instrument ID: NT3 — Project Run Date: 09/12/11

		IS4(DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	ICAL MIDPT	212149	9.41				
	UPPER LIMIT	424298	9.91				
	LOWER LIMIT	106074	8.91				
	Sample ID						
01	LCS0912	206639	9.41				
02	LCS0912	204179	9.41				
03	MB0912	202697	9.41				
04	TRIP BLANKS	197012	9.41				
05	FRP-090811-0	196230	9.41				
06	FRP-090811-0	204146	9.41				
07	FRP-090811-0	200616	9.41				
08	FRP-090811-0	200614	9.41				
09	FRP-090811-0	200671	9.41				
10	FRP-090811-0	205737	9.41				
11	FRP-090811-0	204098	9.41				
12							
13							
14							
15							
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.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-001**
 SAMPLE

Lab Sample ID: TL50A
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 17:16

Sample Amount: 4.78 g-dry-wt
Percent Moisture: 10.4%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.28	1.0	< 1.0 U
74-83-9	Bromomethane	0.20	1.0	< 1.0 UJ
75-01-4	Vinyl Chloride	0.25	1.0	< 1.0 U
75-00-3	Chloroethane	0.48	1.0	< 1.0 U
75-09-2	**Methylene Chloride**	**0.66**	**2.1**	~~**0.8 J**~~ 2.1U
67-64-1	**Acetone**	**0.50**	**5.2**	**35 B**
75-15-0	**Carbon Disulfide**	**0.58**	**1.0**	**1.1**
75-35-4	1,1-Dichloroethene	0.35	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	0.21	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	0.28	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	0.25	1.0	< 1.0 U
67-66-3	Chloroform	0.24	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	0.20	1.0	< 1.0 U
78-93-3	**2-Butanone**	**0.54**	**5.2**	**4.2 J**
71-55-6	1,1,1-Trichloroethane	0.24	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	0.22	1.0	< 1.0 U
108-05-4	Vinyl Acetate	0.40	5.2	< 5.2 U
75-27-4	Bromodichloromethane	0.27	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	0.17	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	0.24	1.0	< 1.0 U
79-01-6	Trichloroethene	0.22	1.0	< 1.0 U
124-48-1	Dibromochloromethane	0.28	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	0.30	1.0	< 1.0 U
71-43-2	**Benzene**	**0.31**	**1.0**	**1.1**
10061-02-6	trans-1,3-Dichloropropene	0.23	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	0.29	5.2	< 5.2 U
75-25-2	Bromoform	0.31	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.44	5.2	< 5.2 U
591-78-6	2-Hexanone	0.46	5.2	< 5.2 U
127-18-4	Tetrachloroethene	0.27	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	0.26	1.0	< 1.0 U
108-88-3	**Toluene**	**0.16**	**1.0**	**2.0**
108-90-7	Chlorobenzene	0.23	1.0	< 1.0 U
100-41-4	Ethylbenzene	0.21	1.0	< 1.0 U
100-42-5	Styrene	0.14	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	0.28	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.30	2.1	< 2.1 U
179601-23-1	m,p-Xylene	0.41	1.0	< 1.0 U
95-47-6	o-Xylene	0.23	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	0.31	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	0.24	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	0.24	1.0	< 1.0 U
107-02-8	Acrolein	4.0	52	< 52 U
74-88-4	Methyl Iodide	0.22	1.0	< 1.0 U
74-96-4	Bromoethane	0.46	2.1	< 2.1 U
107-13-1	Acrylonitrile	1.1	5.2	< 5.2 U
563-58-6	1,1-Dichloropropene	0.33	1.0	< 1.0 U
74-95-3	Dibromomethane	0.15	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	0.24	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	0.61	5.2	< 5.2 U

TL59:00055

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-001**
 SAMPLE

Lab Sample ID: TL50A
LIMS ID: 11-19578
Matrix: Soil
Date Analyzed: 09/14/11 17:16

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.54	2.1	< 2.1 U
110-57-6	trans-1,4-Dichloro-2-butene	0.46	5.2	< 5.2 U
108-67-8	1,3,5-Trimethylbenzene	0.27	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	0.24	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	0.43	5.2	< 5.2 U
106-93-4	Ethylene Dibromide	0.18	1.0	< 1.0 U
74-97-5	Bromochloromethane	0.34	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	0.31	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	0.22	1.0	< 1.0 U
98-82-8	Isopropylbenzene	0.24	1.0	< 1.0 U
103-65-1	n-Propylbenzene	0.28	1.0	< 1.0 U
108-86-1	Bromobenzene	0.16	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	0.31	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	0.29	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	0.32	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	0.25	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	0.25	1.0	< 1.0 U
104-51-8	n-Butylbenzene	0.27	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	0.35	5.2	< 5.2 U
91-20-3	Naphthalene	0.45	5.2	< 5.2 U
87-61-6	1,2,3-Trichlorobenzene	0.32	5.2	< 5.2 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	97.5%
Bromofluorobenzene	87.6%
d4-1,2-Dichlorobenzene	100%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-002**
 SAMPLE

Lab Sample ID: TL50B
LIMS ID: 11-19579
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 17:43

Sample Amount: 3.99 g-dry-wt
Percent Moisture: 6.2%

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	0.29	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**	**~~1.0 J~~** 2.5U
67-64-1	**Acetone**	**0.60**	**6.3**	**21 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	0.25	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**	**2.9 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	< 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	0.37	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**	**~~0.9 J~~** 1.3U
108-90-7	Chlorobenzene	0.27	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	0.28	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	0.73	6.3	< 6.3 U

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: FRP-090811-002
SAMPLE

Lab Sample ID: TL50B
LIMS ID: 11-19579
Matrix: Soil
Date Analyzed: 09/14/11 17:43

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	0.51	6.3	< 6.3 U
106-93-4	Ethylene Dibromide	0.22	1.3	< 1.3 U
74-97-5	Bromochloromethane	0.40	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	111%
d8-Toluene	102%
Bromofluorobenzene	94.2%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-003**
 SAMPLE

Lab Sample ID: TL50C
LIMS ID: 11-19580
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 18:11

Sample Amount: 3.64 g-dry-wt
Percent Moisture: 15.5%

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	0.63	1.4	< 1.4 U
75-09-2	Methylene Chloride	0.87	2.7	< 2.7 U
67-64-1	**Acetone**	**0.66**	**6.9**	**18 B**
75-15-0	**Carbon Disulfide**	**0.77**	**1.4**	**2.9**
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	0.70	6.9	< 6.9 U
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	0.52	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	0.39	1.4	< 1.4 U
71-43-2	**Benzene**	**0.41**	**1.4**	**0.8 J**
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	0.60	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	< 1.4 U
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	0.39	2.7	< 2.7 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	5.2	69	< 69 U
74-88-4	Methyl Iodide	0.30	1.4	< 1.4 U
74-96-4	Bromoethane	0.60	2.7	< 2.7 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	0.80	6.9	< 6.9 U

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: FRP-090811-003
SAMPLE

Lab Sample ID: TL50C
LIMS ID: 11-19580
Matrix: Soil
Date Analyzed: 09/14/11 18:11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.71	2.7	< 2.7 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	0.56	6.9	< 6.9 U
106-93-4	Ethylene Dibromide	0.24	1.4	< 1.4 U
74-97-5	Bromochloromethane	0.44	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	0.37	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	0.32	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	110%
d8-Toluene	101%
Bromofluorobenzene	92.6%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-004**
 SAMPLE

Lab Sample ID: TL50D
LIMS ID: 11-19581
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 18:38

Sample Amount: 3.64 g-dry-wt
Percent Moisture: 19.1%

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 J
75-01-4	Vinyl Chloride	0.32	1.4	< 1.4 U
75-00-3	Chloroethane	0.63	1.4	< 1.4 U
75-09-2	**Methylene Chloride**	**0.87**	**2.7**	**~~1.8 J~~ 2.7 U**
67-64-1	**Acetone**	**0.66**	**6.9**	**24 ~~B~~**
75-15-0	**Carbon Disulfide**	**0.77**	**1.4**	**8.4**
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	0.70	6.9	< 6.9 U
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	0.52	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	0.39	1.4	< 1.4 U
71-43-2	Benzene	0.41	1.4	< 1.4 U
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	0.60	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	< 1.4 U
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	0.39	2.7	< 2.7 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	5.2	69	< 69 U
74-88-4	Methyl Iodide	0.30	1.4	< 1.4 U
74-96-4	Bromoethane	0.60	2.7	< 2.7 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	0.80	6.9	< 6.9 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-004**
 SAMPLE

Lab Sample ID: TL50D
LIMS ID: 11-19581
Matrix: Soil
Date Analyzed: 09/14/11 18:38

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.71	2.7	< 2.7 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	0.56	6.9	< 6.9 U
106-93-4	Ethylene Dibromide	0.24	1.4	< 1.4 U
74-97-5	Bromochloromethane	0.44	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	0.37	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	0.32	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	114%
d8-Toluene	103%
Bromofluorobenzene	94.7%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-005**
 SAMPLE

Lab Sample ID: TL50E
LIMS ID: 11-19582
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 19:06

Sample Amount: 4.54 g-dry-wt
Percent Moisture: 17.4%

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 UJ
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**	~~0.9 J~~ 2.2U
67-64-1	**Acetone**	**0.53**	**5.5**	**18 ~~B~~**
75-15-0	**Carbon Disulfide**	**0.62**	**1.1**	**7.5**
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	< 5.5 U
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	0.33	1.1	< 1.1 U
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**	~~0.7 J~~ 1.1U
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	0.32	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	0.26	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	0.65	5.5	< 5.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-005**
 SAMPLE

Lab Sample ID: TL50E
LIMS ID: 11-19582
Matrix: Soil
Date Analyzed: 09/14/11 19:06

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	0.36	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	0.31	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	0.37	5.5	< 5.5 U
91-20-3	Naphthalene	0.47	5.5	< 5.5 U
87-61-6	1,2,3-Trichlorobenzene	0.34	5.5	< 5.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	103%
Bromofluorobenzene	92.9%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-006**
 SAMPLE

Lab Sample ID: TL50F
LIMS ID: 11-19583
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 19:33

Sample Amount: 5.78 g-dry-wt
Percent Moisture: 17.5%

CAS Number	Analyte	MDL	RL	Result
74-87-3	Chloromethane	0.23	0.9	< 0.9 U
74-83-9	Bromomethane	0.16	0.9	< 0.9 UJ
75-01-4	Vinyl Chloride	0.20	0.9	< 0.9 U
75-00-3	Chloroethane	0.40	0.9	< 0.9 U
75-09-2	**Methylene Chloride**	**0.55**	**1.7**	~~**0.8 J**~~
67-64-1	**Acetone**	**0.42**	**4.3**	**29 B**
75-15-0	**Carbon Disulfide**	**0.48**	**0.9**	**9.2**
75-35-4	1,1-Dichloroethene	0.29	0.9	< 0.9 U
75-34-3	1,1-Dichloroethane	0.18	0.9	< 0.9 U
156-60-5	trans-1,2-Dichloroethene	0.23	0.9	< 0.9 U
156-59-2	cis-1,2-Dichloroethene	0.21	0.9	< 0.9 U
67-66-3	Chloroform	0.20	0.9	< 0.9 U
107-06-2	1,2-Dichloroethane	0.17	0.9	< 0.9 U
78-93-3	**2-Butanone**	**0.44**	**4.3**	**4.4**
71-55-6	1,1,1-Trichloroethane	0.20	0.9	< 0.9 U
56-23-5	Carbon Tetrachloride	0.18	0.9	< 0.9 U
108-05-4	Vinyl Acetate	0.33	4.3	< 4.3 U
75-27-4	Bromodichloromethane	0.22	0.9	< 0.9 U
78-87-5	1,2-Dichloropropane	0.14	0.9	< 0.9 U
10061-01-5	cis-1,3-Dichloropropene	0.20	0.9	< 0.9 U
79-01-6	Trichloroethene	0.18	0.9	< 0.9 U
124-48-1	Dibromochloromethane	0.23	0.9	< 0.9 U
79-00-5	1,1,2-Trichloroethane	0.25	0.9	< 0.9 U
71-43-2	**Benzene**	**0.26**	**0.9**	**0.6 J**
10061-02-6	trans-1,3-Dichloropropene	0.19	0.9	< 0.9 U
110-75-8	2-Chloroethylvinylether	0.24	4.3	< 4.3 U
75-25-2	Bromoform	0.26	0.9	< 0.9 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.36	4.3	< 4.3 U
591-78-6	2-Hexanone	0.38	4.3	< 4.3 U
127-18-4	Tetrachloroethene	0.22	0.9	< 0.9 U
79-34-5	1,1,2,2-Tetrachloroethane	0.22	0.9	< 0.9 U
108-88-3	**Toluene**	**0.13**	**0.9**	**4.5**
108-90-7	Chlorobenzene	0.19	0.9	< 0.9 U
100-41-4	Ethylbenzene	0.17	0.9	< 0.9 U
100-42-5	Styrene	0.12	0.9	< 0.9 U
75-69-4	Trichlorofluoromethane	0.23	0.9	< 0.9 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.25	1.7	< 1.7 U
179601-23-1	**m,p-Xylene**	**0.34**	**0.9**	**0.5 J**
95-47-6	o-Xylene	0.19	0.9	< 0.9 U
95-50-1	1,2-Dichlorobenzene	0.25	0.9	< 0.9 U
541-73-1	1,3-Dichlorobenzene	0.20	0.9	< 0.9 U
106-46-7	1,4-Dichlorobenzene	0.20	0.9	< 0.9 U
107-02-8	Acrolein	3.3	43	< 43 U
74-88-4	Methyl Iodide	0.19	0.9	< 0.9 U
74-96-4	Bromoethane	0.38	1.7	< 1.7 U
107-13-1	Acrylonitrile	0.89	4.3	< 4.3 U
563-58-6	1,1-Dichloropropene	0.27	0.9	< 0.9 U
74-95-3	Dibromomethane	0.13	0.9	< 0.9 U
630-20-6	1,1,1,2-Tetrachloroethane	0.20	0.9	< 0.9 U
96-12-8	1,2-Dibromo-3-chloropropane	0.51	4.3	< 4.3 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-006**
 SAMPLE

Lab Sample ID: TL50F
LIMS ID: 11-19583
Matrix: Soil
Date Analyzed: 09/14/11 19:33

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.45	1.7	< 1.7 U
110-57-6	trans-1,4-Dichloro-2-butene	0.38	4.3	< 4.3 U
108-67-8	1,3,5-Trimethylbenzene	0.22	0.9	< 0.9 U
95-63-6	1,2,4-Trimethylbenzene	0.20	0.9	< 0.9 U
87-68-3	Hexachlorobutadiene	0.35	4.3	< 4.3 U
106-93-4	Ethylene Dibromide	0.15	0.9	< 0.9 U
74-97-5	Bromochloromethane	0.28	0.9	< 0.9 U
594-20-7	2,2-Dichloropropane	0.25	0.9	< 0.9 U
142-28-9	1,3-Dichloropropane	0.18	0.9	< 0.9 U
98-82-8	Isopropylbenzene	0.20	0.9	< 0.9 U
103-65-1	n-Propylbenzene	0.24	0.9	< 0.9 U
108-86-1	Bromobenzene	0.13	0.9	< 0.9 U
95-49-8	2-Chlorotoluene	0.26	0.9	< 0.9 U
106-43-4	4-Chlorotoluene	0.24	0.9	< 0.9 U
98-06-6	tert-Butylbenzene	0.26	0.9	< 0.9 U
135-98-8	sec-Butylbenzene	0.21	0.9	< 0.9 U
99-87-6	4-Isopropyltoluene	0.20	0.9	< 0.9 U
104-51-8	n-Butylbenzene	0.23	0.9	< 0.9 U
120-82-1	1,2,4-Trichlorobenzene	0.29	4.3	< 4.3 U
91-20-3	Naphthalene	0.37	4.3	< 4.3 U
87-61-6	1,2,3-Trichlorobenzene	0.26	4.3	< 4.3 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	111%
d8-Toluene	101%
Bromofluorobenzene	89.7%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-007**
 SAMPLE

Lab Sample ID: TL50G
LIMS ID: 11-19584
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 11:41

Sample Amount: 3.82 g-dry-wt
Percent Moisture: 21.2%

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	0.31	1.3	< 1.3 U
75-00-3	Chloroethane	0.60	1.3	< 1.3 U
75-09-2	**Methylene Chloride**	**0.83**	**2.6**	~~**1.1 J**~~ 2.6U
67-64-1	**Acetone**	**0.63**	**6.5**	**11 ~~B~~** U
75-15-0	**Carbon Disulfide**	**0.73**	**1.3**	**3.6**
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	6.5	< 6.5 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	6.5	< 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	0.30	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	0.37	1.3	< 1.3 U
71-43-2	Benzene	0.39	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	0.39	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.55	6.5	< 6.5 U
591-78-6	2-Hexanone	0.57	6.5	< 6.5 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**	~~**1.2 J**~~ 1.3U
108-90-7	Chlorobenzene	0.29	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	0.35	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	65	< 65 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	1.3	6.5	< 6.5 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	0.30	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.77	6.5	< 6.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-007**
 SAMPLE

Lab Sample ID: TL50G
LIMS ID: 11-19584
Matrix: Soil
Date Analyzed: 09/15/11 11:41

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	6.5	< 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	0.54	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	0.36	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	0.43	6.5	< 6.5 U
91-20-3	Naphthalene	0.56	6.5	< 6.5 U
87-61-6	1,2,3-Trichlorobenzene	0.40	6.5	< 6.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	101%
Bromofluorobenzene	93.8%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-008**
 SAMPLE

Lab Sample ID: TL50H
LIMS ID: 11-19585
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 12:11

Sample Amount: 3.87 g-dry-wt
Percent Moisture: 23.0%

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**	**~~1.6 J~~** 2.6U
67-64-1	**Acetone**	**0.62**	**6.5**	**11 ~~B~~** U
75-15-0	**Carbon Disulfide**	**0.72**	**1.3**	**4.2**
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
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
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**	**2.9**
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
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

TL50:96879

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-008**
 SAMPLE

Lab Sample ID: TL50H
LIMS ID: 11-19585
Matrix: Soil
Date Analyzed: 09/15/11 12:11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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**	**1.8**
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	107%
d8-Toluene	105%
Bromofluorobenzene	93.9%
d4-1,2-Dichlorobenzene	101%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-009**
 SAMPLE

Lab Sample ID: TL50I
LIMS ID: 11-19586
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 12:39

Sample Amount: 4.21 g-dry-wt
Percent Moisture: 20.0%

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**	~~**1.1 J**~~ 2.9 U
67-64-1	**Acetone**	**0.57**	**5.9**	**27 ~~B~~**
75-15-0	**Carbon Disulfide**	**0.66**	**1.2**	**2.5**
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**	**4.1 J**
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**	**1.1 J**
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**	**14**
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

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-009**
 SAMPLE

Lab Sample ID: TL50I
LIMS ID: 11-19586
Matrix: Soil
Date Analyzed: 09/15/11 12:39

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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**	**2.0**
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	106%
d8-Toluene	101%
Bromofluorobenzene	90.3%
d4-1,2-Dichlorobenzene	99.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-010**
 SAMPLE

Lab Sample ID: TL50J
LIMS ID: 11-19587
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 13:07

Sample Amount: 4.28 g-dry-wt
Percent Moisture: 20.2%

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	0.27	1.2	< 1.2 U
75-00-3	Chloroethane	0.54	1.2	< 1.2 U
75-09-2	**Methylene Chloride**	**0.74**	**2.3**	**~~0.9 J~~** 2.3U
67-64-1	**Acetone**	**0.56**	**5.8**	**13 ~~B~~**
75-15-0	**Carbon Disulfide**	**0.65**	**1.2**	**2.3**
75-35-4	1,1-Dichloroethene	0.39	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	0.31	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	0.60	5.8	< 5.8 U
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	0.45	5.8	< 5.8 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	0.26	1.2	< 1.2 U
79-01-6	Trichloroethene	0.25	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	0.35	1.2	< 1.2 U
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	0.35	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.49	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	0.30	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	0.31	1.2	< 1.2 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.34	2.3	< 2.3 U
179601-23-1	m,p-Xylene	0.46	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	0.27	1.2	< 1.2 U
106-46-7	1,4-Dichlorobenzene	0.27	1.2	< 1.2 U
107-02-8	Acrolein	4.5	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-090811-010**
 SAMPLE

Lab Sample ID: TL50J
LIMS ID: 11-19587
Matrix: Soil
Date Analyzed: 09/15/11 13:07

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	0.51	5.8	< 5.8 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	0.48	5.8	< 5.8 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	0.34	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	0.32	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	0.36	1.2	< 1.2 U
135-98-8	sec-Butylbenzene	0.28	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	5.8	< 5.8 U
91-20-3	Naphthalene	0.50	5.8	< 5.8 U
87-61-6	1,2,3-Trichlorobenzene	0.36	5.8	< 5.8 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	102%
Bromofluorobenzene	95.4%
d4-1,2-Dichlorobenzene	104%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-011**
 SAMPLE

Lab Sample ID: TL50K
LIMS ID: 11-19588
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 13:34

Sample Amount: 4.13 g-dry-wt
Percent Moisture: 20.1%

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	0.28	1.2	< 1.2 U
75-00-3	Chloroethane	0.56	1.2	< 1.2 U
75-09-2	**Methylene Chloride**	**0.77**	**2.4**	~~**1.3 J**~~ 2.9 U
67-64-1	**Acetone**	**0.58**	**6.1**	**11 ~~B~~** U
75-15-0	**Carbon Disulfide**	**0.68**	**1.2**	**2.0**
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	0.32	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	0.62	6.1	< 6.1 U
71-55-6	1,1,1-Trichloroethane	0.27	1.2	< 1.2 U
56-23-5	Carbon Tetrachloride	0.26	1.2	< 1.2 U
108-05-4	Vinyl Acetate	0.46	6.1	< 6.1 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	0.27	1.2	< 1.2 U
79-01-6	Trichloroethene	0.26	1.2	< 1.2 U
124-48-1	Dibromochloromethane	0.32	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	< 1.2 U
10061-02-6	trans-1,3-Dichloropropene	0.26	1.2	< 1.2 U
110-75-8	2-Chloroethylvinylether	0.33	6.1	< 6.1 U
75-25-2	Bromoform	0.36	1.2	< 1.2 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.51	6.1	< 6.1 U
591-78-6	2-Hexanone	0.53	6.1	< 6.1 U
127-18-4	Tetrachloroethene	0.31	1.2	< 1.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.31	1.2	< 1.2 U
108-88-3	Toluene	0.18	1.2	< 1.2 U
108-90-7	Chlorobenzene	0.27	1.2	< 1.2 U
100-41-4	Ethylbenzene	0.24	1.2	< 1.2 U
100-42-5	Styrene	0.17	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	0.35	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	4.6	61	< 61 U
74-88-4	Methyl Iodide	0.26	1.2	< 1.2 U
74-96-4	Bromoethane	0.53	2.4	< 2.4 U
107-13-1	Acrylonitrile	1.2	6.1	< 6.1 U
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	0.28	1.2	< 1.2 U
96-12-8	1,2-Dibromo-3-chloropropane	0.71	6.1	< 6.1 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-011**
 SAMPLE

Lab Sample ID: TL50K
LIMS ID: 11-19588
Matrix: Soil
Date Analyzed: 09/15/11 13:34

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

CAS Number	Analyte	MDL	RL	Result
96-18-4	1,2,3-Trichloropropane	0.63	2.4	< 2.4 U
110-57-6	trans-1,4-Dichloro-2-butene	0.53	6.1	< 6.1 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	6.1	< 6.1 U
106-93-4	Ethylene Dibromide	0.21	1.2	< 1.2 U
74-97-5	Bromochloromethane	0.39	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	0.33	1.2	< 1.2 U
108-86-1	Bromobenzene	0.19	1.2	< 1.2 U
95-49-8	2-Chlorotoluene	0.36	1.2	< 1.2 U
106-43-4	4-Chlorotoluene	0.34	1.2	< 1.2 U
98-06-6	tert-Butylbenzene	0.37	1.2	< 1.2 U
135-98-8	sec-Butylbenzene	0.29	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	0.40	6.1	< 6.1 U
91-20-3	Naphthalene	0.52	6.1	< 6.1 U
87-61-6	1,2,3-Trichlorobenzene	0.37	6.1	< 6.1 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	106%
d8-Toluene	102%
Bromofluorobenzene	92.5%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-012**
 SAMPLE

Lab Sample ID: TL50L
LIMS ID: 11-19589
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 14:02

Sample Amount: 3.97 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	0.24	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**	**23 B**
75-15-0	**Carbon Disulfide**	**0.70**	**1.3**	**5.5**
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	0.34	1.3	< 1.3 U
156-59-2	cis-1,2-Dichloroethene	0.30	1.3	< 1.3 U
67-66-3	Chloroform	0.29	1.3	< 1.3 U
107-06-2	1,2-Dichloroethane	0.24	1.3	< 1.3 U
78-93-3	**2-Butanone**	**0.65**	**6.3**	**3.2 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	0.34	1.3	< 1.3 U
79-00-5	1,1,2-Trichloroethane	0.36	1.3	< 1.3 U
71-43-2	Benzene	0.37	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	0.37	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	0.34	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	0.49	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	0.19	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-090811-012**
 SAMPLE

Lab Sample ID: TL50L
LIMS ID: 11-19589
Matrix: Soil
Date Analyzed: 09/15/11 14:02

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	0.39	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	0.38	6.3	< 6.3 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	105%
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-090811-013**
 SAMPLE

Lab Sample ID: TL50M
LIMS ID: 11-19590
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 14:29

Sample Amount: 3.82 g-dry-wt
Percent Moisture: 20.5%

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	0.31	1.3	< 1.3 U
75-00-3	Chloroethane	0.60	1.3	< 1.3 U
75-09-2	Methylene Chloride	0.83	2.6	< 2.6 U
67-64-1	**Acetone**	**0.63**	**6.5**	**18 B**
75-15-0	**Carbon Disulfide**	**0.73**	**1.3**	**2.8**
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	6.5	< 6.5 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	6.5	< 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	0.30	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	0.37	1.3	< 1.3 U
71-43-2	Benzene	0.39	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	0.39	1.3	< 1.3 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.55	6.5	< 6.5 U
591-78-6	2-Hexanone	0.57	6.5	< 6.5 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	0.26	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	65	< 65 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	1.3	6.5	< 6.5 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	0.30	1.3	< 1.3 U
96-12-8	1,2-Dibromo-3-chloropropane	0.77	6.5	< 6.5 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: FRP-090811-013**
 SAMPLE

Lab Sample ID: TL50M
LIMS ID: 11-19590
Matrix: Soil
Date Analyzed: 09/15/11 14:29

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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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	6.5	< 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	0.54	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	0.36	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	0.43	6.5	< 6.5 U
91-20-3	Naphthalene	0.56	6.5	< 6.5 U
87-61-6	1,2,3-Trichlorobenzene	0.40	6.5	< 6.5 U

Reported in µg/kg (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	113%
d8-Toluene	100%
Bromofluorobenzene	95.5%
d4-1,2-Dichlorobenzene	102%

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Soil

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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ARI ID	Client ID	Level	DCE	TOL	BFB	DCB	TOT OUT
MB-091411	Method Blank	Low	100%	102%	94.2%	98.8%	0
LCS-091411	Lab Control	Low	93.4%	100%	94.6%	99.1%	0
LCSD-091411	Lab Control Dup	Low	94.7%	100%	95.3%	99.8%	0
TL50A	FRP-090811-001	Low	112%	97.5%	87.6%	100%	0
TL50B	FRP-090811-002	Low	111%	102%	94.2%	104%	0
TL50C	FRP-090811-003	Low	110%	101%	92.6%	103%	0
TL50D	FRP-090811-004	Low	114%	103%	94.7%	101%	0
TL50E	FRP-090811-005	Low	110%	103%	92.9%	103%	0
TL50F	FRP-090811-006	Low	111%	101%	89.7%	101%	0
MB-091511	Method Blank	Low	92.3%	101%	93.0%	100%	0
LCS-091511	Lab Control	Low	92.9%	101%	94.1%	102%	0
LCSD-091511	Lab Control Dup	Low	94.7%	102%	95.9%	101%	0
TL50G	FRP-090811-007	Low	110%	101%	93.8%	102%	0
TL50H	FRP-090811-008	Low	107%	105%	93.9%	101%	0
TL50I	FRP-090811-009	Low	106%	101%	90.3%	99.8%	0
TL50J	FRP-090811-010.	Low	110%	102%	95.4%	104%	0
TL50K	FRP-090811-011	Low	106%	102%	92.5%	102%	0
TL50L	FRP-090811-012	Low	108%	105%	93.0%	99.8%	0
TL50M	FRP-090811-013	Low	113%	100%	95.5%	102%	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: 11-19578 to 11-19590

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091411**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-091411
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/PAB
LCSD: FINN5/PAB
Date Analyzed LCS: 09/14/11 09:47
LCSD: 09/14/11 10:21

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	47.8	50.0	95.6%	54.4	50.0	109%	12.9%
Bromomethane	34.6 Q	50.0	69.2%	40.9 Q	50.0	81.8%	16.7%
Vinyl Chloride	42.0	50.0	84.0%	47.3	50.0	94.6%	11.9%
Chloroethane	58.9 Q	50.0	118%	66.1 Q	50.0	132%	11.5%
Methylene Chloride	51.8	50.0	104%	58.6	50.0	117%	12.3%
Acetone	319 B	250	128%	267 B	250	107%	17.7%
Carbon Disulfide	50.7	50.0	101%	57.7	50.0	115%	12.9%
1,1-Dichloroethene	47.9	50.0	95.8%	56.0	50.0	112%	15.6%
1,1-Dichloroethane	48.6	50.0	97.2%	54.6	50.0	109%	11.6%
trans-1,2-Dichloroethene	48.9	50.0	97.8%	56.2	50.0	112%	13.9%
cis-1,2-Dichloroethene	50.1	50.0	100%	56.4	50.0	113%	11.8%
Chloroform	46.1	50.0	92.2%	52.3	50.0	105%	12.6%
1,2-Dichloroethane	39.3	50.0	78.6%	43.0	50.0	86.0%	9.0%
2-Butanone	284	250	114%	273	250	109%	3.9%
1,1,1-Trichloroethane	42.9	50.0	85.8%	49.7	50.0	99.4%	14.7%
Carbon Tetrachloride	38.6	50.0	77.2%	44.7	50.0	89.4%	14.6%
Vinyl Acetate	46.4	50.0	92.8%	53.9	50.0	108%	15.0%
Bromodichloromethane	45.3	50.0	90.6%	48.8	50.0	97.6%	7.4%
1,2-Dichloropropane	47.1	50.0	94.2%	52.9	50.0	106%	11.6%
cis-1,3-Dichloropropene	48.4	50.0	96.8%	52.8	50.0	106%	8.7%
Trichloroethene	43.4	50.0	86.8%	50.2	50.0	100%	14.5%
Dibromochloromethane	46.3	50.0	92.6%	51.1	50.0	102%	9.9%
1,1,2-Trichloroethane	47.2	50.0	94.4%	52.0	50.0	104%	9.7%
Benzene	46.5	50.0	93.0%	53.0	50.0	106%	13.1%
trans-1,3-Dichloropropene	47.7	50.0	95.4%	51.6	50.0	103%	7.9%
2-Chloroethylvinylether	103 Q	50.0	206%	110 Q	50.0	220%	6.6%
Bromoform	48.6	50.0	97.2%	52.3	50.0	105%	7.3%
4-Methyl-2-Pentanone (MIBK)	232	250	92.8%	255	250	102%	9.4%
2-Hexanone	237	250	94.8%	248	250	99.2%	4.5%
Tetrachloroethene	43.8	50.0	87.6%	49.8	50.0	99.6%	12.8%
1,1,2,2-Tetrachloroethane	49.7	50.0	99.4%	53.5	50.0	107%	7.4%
Toluene	47.1	50.0	94.2%	53.9	50.0	108%	13.5%
Chlorobenzene	46.7	50.0	93.4%	52.3	50.0	105%	11.3%
Ethylbenzene	45.5	50.0	91.0%	52.1	50.0	104%	13.5%
Styrene	46.6	50.0	93.2%	51.7	50.0	103%	10.4%
Trichlorofluoromethane	49.7	50.0	99.4%	57.0	50.0	114%	13.7%
1,1,2-Trichloro-1,2,2-trifluoroetha	55.0 Q	50.0	110%	63.6 Q	50.0	127%	14.5%
m,p-Xylene	91.9	100	91.9%	103	100	103%	11.4%
o-Xylene	47.2	50.0	94.4%	52.6	50.0	105%	10.8%
1,2-Dichlorobenzene	48.6 B	50.0	97.2%	53.2 B	50.0	106%	9.0%
1,3-Dichlorobenzene	48.9	50.0	97.8%	53.7	50.0	107%	9.4%
1,4-Dichlorobenzene	49.4	50.0	98.8%	53.4	50.0	107%	7.8%
Acrolein	273	250	109%	289	250	116%	5.7%
Methyl Iodide	41.5	50.0	83.0%	48.4	50.0	96.8%	15.4%
Bromoethane	49.0	50.0	98.0%	55.7	50.0	111%	12.8%
Acrylonitrile	52.5	50.0	105%	56.4	50.0	113%	7.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091411**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-091411
LIMS ID: 11-19578
Matrix: Soil

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1-Dichloropropene	41.6	50.0	83.2%	49.4	50.0	98.8%	17.1%
Dibromomethane	45.2	50.0	90.4%	49.9	50.0	99.8%	9.9%
1,1,1,2-Tetrachloroethane	43.0	50.0	86.0%	46.5	50.0	93.0%	7.8%
1,2-Dibromo-3-chloropropane	43.7	50.0	87.4%	47.8	50.0	95.6%	9.0%
1,2,3-Trichloropropane	45.8	50.0	91.6%	49.3	50.0	98.6%	7.4%
trans-1,4-Dichloro-2-butene	46.3	50.0	92.6%	49.4	50.0	98.8%	6.5%
1,3,5-Trimethylbenzene	46.7	50.0	93.4%	52.0	50.0	104%	10.7%
1,2,4-Trimethylbenzene	47.5	50.0	95.0%	52.0	50.0	104%	9.0%
Hexachlorobutadiene	39.6	50.0	79.2%	45.0	50.0	90.0%	12.8%
Ethylene Dibromide	49.7	50.0	99.4%	52.8	50.0	106%	6.0%
Bromochloromethane	53.2	50.0	106%	58.5	50.0	117%	9.5%
2,2-Dichloropropane	44.8	50.0	89.6%	51.4	50.0	103%	13.7%
1,3-Dichloropropane	46.2	50.0	92.4%	50.0	50.0	100%	7.9%
Isopropylbenzene	47.3	50.0	94.6%	52.8	50.0	106%	11.0%
n-Propylbenzene	49.2	50.0	98.4%	55.6	50.0	111%	12.2%
Bromobenzene	47.5	50.0	95.0%	51.8	50.0	104%	8.7%
2-Chlorotoluene	45.4	50.0	90.8%	50.4	50.0	101%	10.4%
4-Chlorotoluene	47.7	50.0	95.4%	53.5	50.0	107%	11.5%
tert-Butylbenzene	43.9	50.0	87.8%	49.9	50.0	99.8%	12.8%
sec-Butylbenzene	47.3	50.0	94.6%	54.0	50.0	108%	13.2%
4-Isopropyltoluene	46.5	50.0	93.0%	52.1	50.0	104%	11.4%
n-Butylbenzene	49.1	50.0	98.2%	54.1	50.0	108%	9.7%
1,2,4-Trichlorobenzene	47.5	50.0	95.0%	50.5	50.0	101%	6.1%
Naphthalene	45.2	50.0	90.4%	48.1	50.0	96.2%	6.2%
1,2,3-Trichlorobenzene	44.8	50.0	89.6%	47.8	50.0	95.6%	6.5%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	93.4%	94.7%
d8-Toluene	100%	100%
Bromofluorobenzene	94.6%	95.3%
d4-1,2-Dichlorobenzene	99.1%	99.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091511**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-091511
LIMS ID: 11-19584
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/PAB
LCSD: FINN5/PAB
Date Analyzed LCS: 09/15/11 10:06
LCSD: 09/15/11 10:40

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	50.4	50.0	101%	48.3	50.0	96.6%	4.3%
Bromomethane	42.3	50.0	84.6%	39.8	50.0	79.6%	6.1%
Vinyl Chloride	44.4	50.0	88.8%	41.5	50.0	83.0%	6.8%
Chloroethane	59.9 Q	50.0	120%	59.2 Q	50.0	118%	1.2%
Methylene Chloride	55.0	50.0	110%	54.5	50.0	109%	0.9%
Acetone	302 B	250	121%	267 B	250	107%	12.3%
Carbon Disulfide	55.1	50.0	110%	52.4	50.0	105%	5.0%
1,1-Dichloroethene	53.4	50.0	107%	50.1	50.0	100%	6.4%
1,1-Dichloroethane	51.8	50.0	104%	49.3	50.0	98.6%	4.9%
trans-1,2-Dichloroethene	52.8	50.0	106%	50.5	50.0	101%	4.5%
cis-1,2-Dichloroethene	54.5	50.0	109%	53.4	50.0	107%	2.0%
Chloroform	48.7	50.0	97.4%	48.2	50.0	96.4%	1.0%
1,2-Dichloroethane	40.3	50.0	80.6%	40.1	50.0	80.2%	0.5%
2-Butanone	275	250	110%	274	250	110%	0.4%
1,1,1-Trichloroethane	46.7	50.0	93.4%	43.7	50.0	87.4%	6.6%
Carbon Tetrachloride	43.0	50.0	86.0%	39.3	50.0	78.6%	9.0%
Vinyl Acetate	50.8	50.0	102%	45.1	50.0	90.2%	11.9%
Bromodichloromethane	47.6	50.0	95.2%	45.6	50.0	91.2%	4.3%
1,2-Dichloropropane	50.6	50.0	101%	48.8	50.0	97.6%	3.6%
cis-1,3-Dichloropropene	50.3	50.0	101%	48.7	50.0	97.4%	3.2%
Trichloroethene	48.8	50.0	97.6%	45.5	50.0	91.0%	7.0%
Dibromochloromethane	47.2	50.0	94.4%	47.7	50.0	95.4%	1.1%
1,1,2-Trichloroethane	48.7	50.0	97.4%	49.7	50.0	99.4%	2.0%
Benzene	50.7	50.0	101%	48.2	50.0	96.4%	5.1%
trans-1,3-Dichloropropene	49.3	50.0	98.6%	48.8	50.0	97.6%	1.0%
2-Chloroethylvinylether	102 Q	50.0	204%	104 Q	50.0	208%	1.9%
Bromoform	49.4	50.0	98.8%	49.5	50.0	99.0%	0.2%
4-Methyl-2-Pentanone (MIBK)	228	250	91.2%	251	250	100%	9.6%
2-Hexanone	231	250	92.4%	242	250	96.8%	4.7%
Tetrachloroethene	48.9	50.0	97.8%	45.1	50.0	90.2%	8.1%
1,1,2,2-Tetrachloroethane	50.5	50.0	101%	51.3	50.0	103%	1.6%
Toluene	49.8	50.0	99.6%	47.1	50.0	94.2%	5.6%
Chlorobenzene	49.8	50.0	99.6%	47.3	50.0	94.6%	5.1%
Ethylbenzene	49.3	50.0	98.6%	46.4	50.0	92.8%	6.1%
Styrene	49.6	50.0	99.2%	47.7	50.0	95.4%	3.9%
Trichlorofluoromethane	53.6	50.0	107%	49.5	50.0	99.0%	8.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	60.0 Q	50.0	120%	54.7 Q	50.0	109%	9.2%
m,p-Xylene	100	100	100%	93.3	100	93.3%	6.9%
o-Xylene	50.5	50.0	101%	47.8	50.0	95.6%	5.5%
1,2-Dichlorobenzene	52.2 B	50.0	104%	48.4 B	50.0	96.8%	7.6%
1,3-Dichlorobenzene	52.9	50.0	106%	48.5	50.0	97.0%	8.7%
1,4-Dichlorobenzene	53.5	50.0	107%	48.4	50.0	96.8%	10.0%
Acrolein	262	250	105%	290	250	116%	10.1%
Methyl Iodide	48.3	50.0	96.6%	45.1	50.0	90.2%	6.9%
Bromoethane	53.1	50.0	106%	51.0	50.0	102%	4.0%
Acrylonitrile	50.9	50.0	102%	56.7	50.0	113%	10.8%

TL50:00094

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-091511**

LAB CONTROL SAMPLE

Lab Sample ID: LCS-091511
LIMS ID: 11-19584
Matrix: Soil

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1-Dichloropropene	47.5	50.0	95.0%	43.4	50.0	86.8%	9.0%
Dibromomethane	47.6	50.0	95.2%	48.4	50.0	96.8%	1.7%
1,1,1,2-Tetrachloroethane	45.7	50.0	91.4%	43.6	50.0	87.2%	4.7%
1,2-Dibromo-3-chloropropane	43.2	50.0	86.4%	45.9	50.0	91.8%	6.1%
1,2,3-Trichloropropane	45.8	50.0	91.6%	47.0	50.0	94.0%	2.6%
trans-1,4-Dichloro-2-butene	45.9	50.0	91.8%	47.0	50.0	94.0%	2.4%
1,3,5-Trimethylbenzene	51.8	50.0	104%	46.0	50.0	92.0%	11.9%
1,2,4-Trimethylbenzene	52.0	50.0	104%	46.7	50.0	93.4%	10.7%
Hexachlorobutadiene	45.1	50.0	90.2%	38.8	50.0	77.6%	15.0%
Ethylene Dibromide	49.4	50.0	98.8%	50.0	50.0	100%	1.2%
Bromochloromethane	54.7	50.0	109%	55.2	50.0	110%	0.9%
2,2-Dichloropropane	48.2	50.0	96.4%	44.9	50.0	89.8%	7.1%
1,3-Dichloropropane	48.0	50.0	96.0%	47.6	50.0	95.2%	0.8%
Isopropylbenzene	51.5	50.0	103%	46.3	50.0	92.6%	10.6%
n-Propylbenzene	54.9	50.0	110%	48.5	50.0	97.0%	12.4%
Bromobenzene	50.8	50.0	102%	47.5	50.0	95.0%	6.7%
2-Chlorotoluene	50.1	50.0	100%	46.9	50.0	93.8%	6.6%
4-Chlorotoluene	50.4	50.0	101%	46.1	50.0	92.2%	8.9%
tert-Butylbenzene	49.0	50.0	98.0%	44.2	50.0	88.4%	10.3%
sec-Butylbenzene	53.3	50.0	107%	47.2	50.0	94.4%	12.1%
4-Isopropyltoluene	51.7	50.0	103%	45.5	50.0	91.0%	12.8%
n-Butylbenzene	55.0 B	50.0	110%	47.5 B	50.0	95.0%	14.6%
1,2,4-Trichlorobenzene	51.3	50.0	103%	46.6	50.0	93.2%	9.6%
Naphthalene	46.2	50.0	92.4%	46.2	50.0	92.4%	0.0%
1,2,3-Trichlorobenzene	48.0	50.0	96.0%	45.2	50.0	90.4%	6.0%

Reported in µg/kg (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	92.9%	94.7%
d8-Toluene	101%	102%
Bromofluorobenzene	94.1%	95.9%
d4-1,2-Dichlorobenzene	102%	101%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0914

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TL50

Project: FRP SHORELINE INVESTIGA

Lab File ID: MB0914

Lab Sample ID: MB0914

Date Analyzed: 09/14/11

Time Analyzed: 1049

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	LCS0914	LCS0914	LCS0914	0947
02	LCS0914	LCS0914	LCS0914A	1021
03	FRP-090811-0	TL50A	TL50A	1716
04	FRP-090811-0	TL50B	TL50B	1743
05	FRP-090811-0	TL50C	TL50C	1811
06	FRP-090811-0	TL50D	TL50D	1838
07	FRP-090811-0	TL50E	TL50E	1906
08	FRP-090811-0	TL50F	TL50F	1933
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COMMENTS:

FORM IV VOA

OLM3.2M

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-091411**
 METHOD BLANK

Lab Sample ID: MB-091411
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/14/11 10:49

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	< 2.0 U
67-64-1	**Acetone**	**0.48**	**5.0**	**3.0 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**	**0.5 J**
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-091411**
 METHOD BLANK

Lab Sample ID: MB-091411
LIMS ID: 11-19578
Matrix: Soil
Date Analyzed: 09/14/11 10:49

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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	100%
d8-Toluene	102%
Bromofluorobenzene	94.2%
d4-1,2-Dichlorobenzene	98.8%

4A
VOLATILE METHOD BLANK SUMMARY

Method Blank ID.

MB0915

Lab Name: ANALYTICAL RESOURCES INC

Client: AMEC GEOMATRIX

ARI Job No: TL50

Project: FRP SHORELINE INVESTIGA

Lab File ID: MB0915

Lab Sample ID: MB0915

Date Analyzed: 09/15/11

Time Analyzed: 1108

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	LCS0915	LCS0915	LCS0915	1006
02	LCS0915	LCS0915	LCS0915A	1040
03	FRP-090811-0	TL50G	TL50G	1141
04	FRP-090811-0	TL50H	TL50H	1211
05	FRP-090811-0	TL50I	TL50I	1239
06	FRP-090811-0	TL50J	TL50J	1307
07	FRP-090811-0	TL50K	TL50K	1334
08	FRP-090811-0	TL50L	TL50L	1402
09	FRP-090811-0	TL50M	TL50M	1429
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COMMENTS:

FORM IV VOA

OLM3.2M

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-091511**
 METHOD BLANK

Lab Sample ID: MB-091511
LIMS ID: 11-19584
Matrix: Soil
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/PAB
Date Analyzed: 09/15/11 11:08

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	< 2.0 U
67-64-1	**Acetone**	**0.48**	**5.0**	**2.5 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**	**0.6 J**
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-091511**
 METHOD BLANK

Lab Sample ID: MB-091511
LIMS ID: 11-19584
Matrix: Soil
Date Analyzed: 09/15/11 11:08

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
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**	**0.5 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	92.3%
d8-Toluene	101%
Bromofluorobenzene	93.0%
d4-1,2-Dichlorobenzene	100%

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP SHORELINE INVESTIGATION SDG No.: TL50

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 SHORELINE INVESTIGATION SDG No.: TL50

Lab File ID: BFB0914 BFB Injection Date: 09/14/11

Instrument ID: FINN5 BFB Injection Time: 0843

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	26.1
75	30.0 - 66.0% of mass 95	49.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.5 (0.5)1
174	50.0 - 101.0% of mass 95	83.4
175	4.0 - 9.0% of mass 174	4.2 (5.0)1
176	93.0 - 101.0% of mass 174	81.9 (98.2)1
177	5.0 - 9.0% of mass 176	4.5 (5.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	CC0914	0500914	09/14/11	0910
02	LCS0914	LCS0914	LCS0914	09/14/11	0947
03	LCS0914	LCS0914	LCS0914A	09/14/11	1021
04	MB0914	MB0914	MB0914	09/14/11	1049
05	FRP-090811-001	TL50A	TL50A	09/14/11	1716
06	FRP-090811-002	TL50B	TL50B	09/14/11	1743
07	FRP-090811-003	TL50C	TL50C	09/14/11	1811
08	FRP-090811-004	TL50D	TL50D	09/14/11	1838
09	FRP-090811-005	TL50E	TL50E	09/14/11	1906
10	FRP-090811-006	TL50F	TL50F	09/14/11	1933
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FORM V VOA OLM3.2M

TL50:00163

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ANALYTICAL RESOURCES INC Contract: AMEC GEOMATRIX

Lab Code: ARI Case No.: FRP SHORELINE INVESTIGATION SDG No.: TL50

Lab File ID: BFB0915 BFB Injection Date: 09/15/11

Instrument ID: FINN5 BFB Injection Time: 0902

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	25.4	
75	30.0 - 66.0% of mass 95	48.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0% of mass 95	6.4	
173	Less than 2.0% of mass 174	0.2	(0.2)1
174	50.0 - 101.0% of mass 95	84.4	
175	4.0 - 9.0% of mass 174	4.6	(5.4)1
176	93.0 - 101.0% of mass 174	83.5	(98.9)1
177	5.0 - 9.0% of mass 176	4.4	(5.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	CC0915	0500915	09/15/11	0929
02	LCS0915	LCS0915	LCS0915	09/15/11	1006
03	LCS0915	LCS0915	LCS0915A	09/15/11	1040
04	MB0915	MB0915	MB0915	09/15/11	1108
05	FRP-090811-007	TL50G	TL50G	09/15/11	1141
06	FRP-090811-008	TL50H	TL50H	09/15/11	1211
07	FRP-090811-009	TL50I	TL50I	09/15/11	1239
08	FRP-090811-010	TL50J	TL50J	09/15/11	1307
09	FRP-090811-011	TL50K	TL50K	09/15/11	1334
10	FRP-090811-012	TL50L	TL50L	09/15/11	1402
11	FRP-090811-013	TL50M	TL50M	09/15/11	1429
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA OLM3.2M

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP SHORELINE INVESTIGATION

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: TL50 Project: FRP SHORELINE INVESTIGATION

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

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ANALYTICAL RESOURCES INC Client: AMEC GEOMATRIX

ARI Job No: TL50 Project: FRP SHORELINE INVESTIGATION

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: TL50 Project: FRP SHORELINE INVESTIGATION

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: TL50 Project: FRP SHORELINE INVESTIGATION

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: TL50 Project: FRP SHORELINE INVESTIGATION

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: TL50 — Project: FRP SHORELINE INVESTIGATION

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: TL50 — Project: FRP SHORELINE INVESTIGATION

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: TL50 — Project: FRP SHORELINE INVESTIGATION

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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/14/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0910

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.997	1.094	0.100	AVRG	9.7	
Vinyl Chloride	1.018	0.983	0.010	AVRG	-3.4	
Bromomethane	0.439	0.301	0.010	AVRG	-31.4	<-
Chloroethane	0.462	0.613	0.010	AVRG	32.7	<-
Trichlorofluoromethane	0.910	1.054	0.010	AVRG	15.8	
Acrolein	0.091	0.104	0.010	AVRG	14.3	
112Trichloro122Trifluoroetha	0.516	0.665	0.010	AVRG	28.9	<-
Acetone	0.213	0.205	0.010	AVRG	-3.8	
1,1-Dichloroethene	0.461	0.508	0.010	AVRG	10.2	
Bromoethane	0.362	0.406	0.010	AVRG	12.2	
Iodomethane	0.722	0.640	0.010	AVRG	-11.4	
Methylene Chloride	50.000	57.414	0.010	LINR	14.8	
Acrylonitrile	0.194	0.214	0.010	AVRG	10.3	
Carbon Disulfide	1.805	2.106	0.010	AVRG	16.7	
Trans-1,2-Dichloroethene	0.506	0.564	0.010	AVRG	11.5	
Vinyl Acetate	0.904	0.939	0.010	AVRG	3.9	
1,1-Dichloroethane	1.125	1.240	0.100	AVRG	10.2	
2-Butanone	0.304	0.312	0.010	AVRG	2.6	
2,2-Dichloropropane	0.731	0.757	0.010	AVRG	3.6	
Cis-1,2-Dichloroethene	0.528	0.618	0.010	AVRG	17.0	
Chloroform	1.000	1.066	0.010	AVRG	6.6	
Bromochloromethane	0.262	0.302	0.010	AVRG	15.3	
1,1,1-Trichloroethane	0.806	0.813	0.010	AVRG	0.9	
1,1-Dichloropropene	0.604	0.597	0.010	AVRG	-1.2	
Carbon Tetrachloride	0.584	0.545	0.010	AVRG	-6.7	
1,2-Dichloroethane	0.616	0.542	0.010	AVRG	-12.0	
Benzene	1.476	1.616	0.010	AVRG	9.5	
Trichloroethene	0.456	0.480	0.010	AVRG	5.3	
1,2-Dichloropropane	0.515	0.567	0.010	AVRG	10.1	
Bromodichloromethane	0.566	0.571	0.010	AVRG	0.9	
Dibromomethane	0.267	0.274	0.010	AVRG	2.6	
2-Chloroethyl Vinyl Ether	0.088	0.195	0.010	AVRG	121.6	<-
4-Methyl-2-Pentanone	0.136	0.140	0.010	AVRG	2.9	
Cis 1,3-dichloropropene	0.607	0.654	0.010	AVRG	7.7	
Toluene	0.836	0.911	0.010	AVRG	9.0	
Trans 1,3-Dichloropropene	0.510	0.547	0.010	AVRG	7.2	
2-Hexanone	0.391	0.366	0.010	AVRG	-6.4	

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/14/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0910

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.295	0.322	0.010	AVRG	9.2
1,3-Dichloropropane	0.609	0.624	0.010	AVRG	2.5
Tetrachloroethene	0.515	0.514	0.010	AVRG	-0.2
Chlorodibromomethane	0.467	0.481	0.010	AVRG	3.0
1,2-Dibromoethane	0.334	0.367	0.010	AVRG	9.9
Chlorobenzene	1.006	1.073	0.300	AVRG	6.7
Ethyl Benzene	1.752	1.814	0.010	AVRG	3.5
1,1,1,2-Tetrachloroethane	0.404	0.389	0.010	AVRG	-3.7
m,p-xylene	0.632	0.659	0.010	AVRG	4.3
o-Xylene	0.630	0.669	0.010	AVRG	6.2
Styrene	1.023	1.060	0.010	AVRG	3.6
Bromoform	0.658	0.664	0.100	AVRG	0.9
1,1,2,2-Tetrachloroethane	0.921	0.942	0.300	AVRG	2.3
1,2,3-Trichloropropane	0.195	0.181	0.010	AVRG	-7.2
Trans-1,4-Dichloro 2-Butene	0.329	0.312	0.010	AVRG	-5.2
N-Propyl Benzene	3.824	4.154	0.010	AVRG	8.6
Bromobenzene	0.956	0.972	0.010	AVRG	1.7
Isopropyl Benzene	3.314	3.445	0.010	AVRG	4.0
2-Chloro Toluene	2.490	2.446	0.010	AVRG	-1.8
4-Chloro Toluene	2.603	2.738	0.010	AVRG	5.2
T-Butyl Benzene	2.460	2.430	0.010	AVRG	-1.2
1,3,5-Trimethyl Benzene	2.721	2.767	0.010	AVRG	1.7
1,2,4-Trimethylbenzene	2.667	2.782	0.010	AVRG	4.3
S-Butyl Benzene	3.493	3.725	0.010	AVRG	6.6
4-Isopropyl Toluene	2.696	2.765	0.010	AVRG	2.6
1,3-Dichlorobenzene	1.590	1.659	0.010	AVRG	4.3
1,4-Dichlorobenzene	1.538	1.613	0.010	AVRG	4.9
N-Butyl Benzene	2.906	3.118	0.010	AVRG	7.3
1,2-Dichlorobenzene	1.443	1.508	0.010	AVRG	4.5
1,2-Dibromo 3-Chloropropane	0.189	0.170	0.010	AVRG	-10.0
1,2,4-Trichlorobenzene	1.136	1.111	0.010	AVRG	-2.2
Hexachloro 1,3-Butadiene	0.890	0.795	0.010	AVRG	-10.7
Naphthalene	1.960	1.800	0.010	AVRG	-8.2
1,2,3-Trichlorobenzene	1.061	1.000	0.010	AVRG	-5.7
Dichlorodifluoromethane	0.578	0.512	0.010	AVRG	-11.4
Methyl tert-Butyl Ether	1.209	1.173	0.010	AVRG	-3.0

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/14/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0910

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.669	0.626	0.010	AVRG	-6.4
d8-Toluene	1.198	1.277	0.010	AVRG	6.6
4-Bromofluorobenzene	0.551	0.535	0.010	AVRG	-2.9
d4-1,2-Dichlorobenzene	0.901	0.910	0.010	AVRG	1.0
Dibromofluoromethane	0.538	0.571	0.010	AVRG	6.1

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/15/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0929

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift	
Chloromethane	0.997	1.087	0.100	AVRG	9.0	
Vinyl Chloride	1.018	0.988	0.010	AVRG	-2.9	
Bromomethane	0.439	0.356	0.010	AVRG	-18.9	
Chloroethane	0.462	0.612	0.010	AVRG	32.5	<-
Trichlorofluoromethane	0.910	1.039	0.010	AVRG	14.2	
Acrolein	0.091	0.102	0.010	AVRG	12.1	
112Trichloro122Trifluoroetha	0.516	0.648	0.010	AVRG	25.6	<-
Acetone	0.213	0.212	0.010	AVRG	-0.5	
1,1-Dichloroethene	0.461	0.524	0.010	AVRG	13.7	
Bromoethane	0.362	0.416	0.010	AVRG	14.9	
Iodomethane	0.722	0.737	0.010	AVRG	2.1	
Methylene Chloride	50.000	58.934	0.010	LINR	17.9	
Acrylonitrile	0.194	0.213	0.010	AVRG	9.8	
Carbon Disulfide	1.805	2.150	0.010	AVRG	19.1	
Trans-1,2-Dichloroethene	0.506	0.579	0.010	AVRG	14.4	
Vinyl Acetate	0.904	0.943	0.010	AVRG	4.3	
1,1-Dichloroethane	1.125	1.252	0.100	AVRG	11.3	
2-Butanone	0.304	0.313	0.010	AVRG	3.0	
2,2-Dichloropropane	0.731	0.757	0.010	AVRG	3.6	
Cis-1,2-Dichloroethene	0.528	0.618	0.010	AVRG	17.0	
Chloroform	1.000	1.058	0.010	AVRG	5.8	
Bromochloromethane	0.262	0.312	0.010	AVRG	19.1	
1,1,1-Trichloroethane	0.806	0.803	0.010	AVRG	-0.4	
1,1-Dichloropropene	0.604	0.599	0.010	AVRG	-0.8	
Carbon Tetrachloride	0.584	0.535	0.010	AVRG	-8.4	
1,2-Dichloroethane	0.616	0.521	0.010	AVRG	-15.4	
Benzene	1.476	1.583	0.010	AVRG	7.2	
Trichloroethene	0.456	0.458	0.010	AVRG	0.4	
1,2-Dichloropropane	0.515	0.541	0.010	AVRG	5.0	
Bromodichloromethane	0.566	0.554	0.010	AVRG	-2.1	
Dibromomethane	0.267	0.265	0.010	AVRG	-0.7	
2-Chloroethyl Vinyl Ether	0.088	0.187	0.010	AVRG	112.5	<-
4-Methyl-2-Pentanone	0.136	0.128	0.010	AVRG	-5.9	
Cis 1,3-dichloropropene	0.607	0.642	0.010	AVRG	5.8	
Toluene	0.836	0.862	0.010	AVRG	3.1	
Trans 1,3-Dichloropropene	0.510	0.525	0.010	AVRG	2.9	
2-Hexanone	0.391	0.356	0.010	AVRG	-9.0	

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/15/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0929

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
1,1,2-Trichloroethane	0.295	0.302	0.010	AVRG	2.4
1,3-Dichloropropane	0.609	0.614	0.010	AVRG	0.8
Tetrachloroethene	0.515	0.520	0.010	AVRG	1.0
Chlorodibromomethane	0.467	0.472	0.010	AVRG	1.1
1,2-Dibromoethane	0.334	0.347	0.010	AVRG	3.9
Chlorobenzene	1.006	1.060	0.300	AVRG	5.4
Ethyl Benzene	1.752	1.818	0.010	AVRG	3.8
1,1,1,2-Tetrachloroethane	0.404	0.393	0.010	AVRG	-2.7
m,p-xylene	0.632	0.655	0.010	AVRG	3.6
o-Xylene	0.630	0.663	0.010	AVRG	5.2
Styrene	1.023	1.058	0.010	AVRG	3.4
Bromoform	0.658	0.678	0.100	AVRG	3.0
1,1,2,2-Tetrachloroethane	0.921	0.962	0.300	AVRG	4.4
1,2,3-Trichloropropane	0.195	0.185	0.010	AVRG	-5.1
Trans-1,4-Dichloro 2-Butene	0.329	0.314	0.010	AVRG	-4.6
N-Propyl Benzene	3.824	4.181	0.010	AVRG	9.3
Bromobenzene	0.956	0.999	0.010	AVRG	4.5
Isopropyl Benzene	3.314	3.492	0.010	AVRG	5.4
2-Chloro Toluene	2.490	2.568	0.010	AVRG	3.1
4-Chloro Toluene	2.603	2.646	0.010	AVRG	1.6
T-Butyl Benzene	2.460	2.503	0.010	AVRG	1.7
1,3,5-Trimethyl Benzene	2.721	2.846	0.010	AVRG	4.6
1,2,4-Trimethylbenzene	2.667	2.773	0.010	AVRG	4.0
S-Butyl Benzene	3.493	3.777	0.010	AVRG	8.1
4-Isopropyl Toluene	2.696	2.772	0.010	AVRG	2.8
1,3-Dichlorobenzene	1.590	1.684	0.010	AVRG	5.9
1,4-Dichlorobenzene	1.538	1.633	0.010	AVRG	6.2
N-Butyl Benzene	2.906	3.096	0.010	AVRG	6.5
1,2-Dichlorobenzene	1.443	1.526	0.010	AVRG	5.8
1,2-Dibromo 3-Chloropropane	0.189	0.164	0.010	AVRG	-13.2
1,2,4-Trichlorobenzene	1.136	1.091	0.010	AVRG	-4.0
Hexachloro 1,3-Butadiene	0.890	0.782	0.010	AVRG	-12.1
Naphthalene	1.960	1.750	0.010	AVRG	-10.7
1,2,3-Trichlorobenzene	1.061	0.957	0.010	AVRG	-9.8
Dichlorodifluoromethane	0.578	0.508	0.010	AVRG	-12.1
Methyl tert-Butyl Ether	1.209	1.194	0.010	AVRG	-1.2

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

Instrument ID: FINN5 — Cont. Calib. Date: 09/15/11

Init. Calib. Date: 08/17/11 — Cont. Calib. Time: 0929

COMPOUND	CalAmt or ARF	CC Amt or RF	MIN RRF	CURVE TYPE	%D or Drift
d4-1,2-Dichloroethane	0.669	0.616	0.010	AVRG	-7.9
d8-Toluene	1.198	1.199	0.010	AVRG	0.1
4-Bromofluorobenzene	0.551	0.523	0.010	AVRG	-5.1
d4-1,2-Dichlorobenzene	0.901	0.909	0.010	AVRG	0.9
Dibromofluoromethane	0.538	0.567	0.010	AVRG	5.4

<- 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: TL50 — Project: FRP SHORELINE INVESTIGATION

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

Instrument ID: FINN5 — Project Run Date: 09/14/11

		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	LCS0914	120311	6.43	177871	7.44	162128	10.58
02	LCS0914	117499	6.44	173446	7.45	158116	10.59
03	MB0914	115265	6.44	167816	7.45	153125	10.58
04	FRP-090811-0	107253	6.43	160604	7.44	139602	10.58
05	FRP-090811-0	107532	6.43	160869	7.44	146928	10.57
06	FRP-090811-0	102760	6.43	154178	7.44	142522	10.57
07	FRP-090811-0	98793	6.44	149495	7.44	136771	10.58
08	FRP-090811-0	102544	6.44	153269	7.45	141558	10.59
09	FRP-090811-0	101498	6.44	154643	7.45	138696	10.58
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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: TL50 — Project: FRP SHORELINE INVESTIGATION

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

Instrument ID: FINN5 — Project Run Date: 09/14/11

		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	LCS0914	81880	13.27				
02	LCS0914	79966	13.28				
03	MB0914	78339	13.27				
04	FRP-090811-0	58383	13.26				
05	FRP-090811-0	73151	13.26				
06	FRP-090811-0	66781	13.26				
07	FRP-090811-0	67865	13.27				
08	FRP-090811-0	67174	13.27				
09	FRP-090811-0	59854	13.27				
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22							

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

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

* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ANALYTICAL RESOURCES INC — Client: AMEC GEOMATRIX

ARI Job No: TL50 — Project: FRP SHORELINE INVESTIGATION

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

Instrument ID: FINN5 — Project Run Date: 09/15/11

		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	LCS0915	136032	6.44	196817	7.45	180217	10.59
02	LCS0915	131566	6.44	192457	7.45	175425	10.58
03	MB0915	125866	6.44	184224	7.44	164067	10.58
04	FRP-090811-0	121966	6.44	184852	7.45	162713	10.59
05	FRP-090811-0	121701	6.43	175438	7.44	164532	10.57
06	FRP-090811-0	131232	6.45	191877	7.46	168440	10.59
07	FRP-090811-0	123106	6.44	182613	7.45	167054	10.58
08	FRP-090811-0	121646	6.44	179881	7.45	162150	10.59
09	FRP-090811-0	120308	6.44	177382	7.45	164458	10.58
10	FRP-090811-0	117554	6.43	177221	7.44	163234	10.58
11							
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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: TL50 — Project: FRP SHORELINE INVESTIGATION

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

Instrument ID: FINN5 — Project Run Date: 09/15/11

		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	LCS0915	89309	13.27				
02	LCS0915	89961	13.27				
03	MB0915	82146	13.27				
04	FRP-090811-0	80757	13.27				
05	FRP-090811-0	83946	13.26				
06	FRP-090811-0	73134	13.28				
07	FRP-090811-0	85016	13.27				
08	FRP-090811-0	77680	13.27				
09	FRP-090811-0	78443	13.27				
10	FRP-090811-0	82758	13.26				
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12							
13							
14							
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18							
19							
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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.

Metals Analysis
Report and Summary QC Forms

ARI Job ID: TL50, TL56

TL50:08124

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
FRP-090811-001	TL50A	11-19578	
FRP-090811-001D	TL50ADUP	11-19578	
FRP-090811-001S	TL50ASPK	11-19578	
FRP-090811-002	TL50B	11-19579	
PBS	TL50MB1	11-19579	
LCSS	TL50MB1SPK	11-19579	
FRP-090811-003	TL50C	11-19580	
FRP-090811-004	TL50D	11-19581	
FRP-090811-005	TL50E	11-19582	
FRP-090811-006	TL50F	11-19583	
FRP-090811-007	TL50G	11-19584	
FRP-090811-008	TL50H	11-19585	
FRP-090811-009	TL50I	11-19586	
FRP-090811-010	TL50J	11-19587	
FRP-090811-011	TL50K	11-19588	
FRP-090811-012	TL50L	11-19589	
FRP-090811-013	TL50M	11-19590	
FRP-090811-014	TL50N	11-19591	
FRP-090811-014D	TL50NDUP	11-19591	
FRP-090811-014S	TL50NSPK	11-19591	
PBW	TL50MB2	11-19592	

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: 10/3/11 Title: Inorganics Director

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
LCSW	TL50MB2SPK	11-19592	
FRP-090811-015	TL50O	11-19592	
FRP-090811-016	TL50P	11-19593	
FRP-090811-017	TL50Q	11-19594	
FRP-090811-018	TL50R	11-19595	

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: 10/3/11 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-001
SAMPLE

Lab Sample ID: TL50A
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 89.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	3.7	5	**10,000**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.092	0.2	**3.5**	
3050B	09/14/11	6010B	09/15/11	**7440-43-9**	**Cadmium**	0.11	0.2	**0.3**	
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.28	0.5	**15.5**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.052	0.2	**27.9**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.14	2	**8**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.13**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.31	1	**12**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.68	5	5	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.55	5	5	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.062	0.3	**44.2**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.12	1	**41**	

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-090811-001
DUPLICATE

Lab Sample ID: TL50A
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010B	10,000	10,000	0.0%	+/- 20%	
Arsenic	200.8	3.5	3.5	0.0%	+/- 20%	
Cadmium	6010B	0.3	0.2	40.0%	+/- 0.2	L
Chromium	6010B	15.5	13.6	13.1%	+/- 20%	
Copper	6010B	27.9	27.8	0.4%	+/- 20%	
Lead	6010B	8	7	13.3%	+/- 2	L
Mercury	7471A	0.13	0.11	16.7%	+/- 0.02	L
Nickel	6010B	12	11	8.7%	+/- 20%	
Selenium	6010B	5 U	5 U	0.0%	+/- 5	L
Thallium	6010B	5 U	5 U	0.0%	+/- 5	L
Vanadium	6010B	44.2	41.2	7.0%	+/- 20%	
Zinc	6010B	41	40	2.5%	+/- 20%	

Reported in mg/kg-dry

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-001
MATRIX SPIKE

Lab Sample ID: TL50A
LIMS ID: 11-19578
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010B	10,000	10,000	209	0.0%	H
Arsenic	200.8	3.5	29.8	26.4	99.6%	
Cadmium	6010B	0.3	54.8	52.2	104%	
Chromium	6010B	15.5	67.9	52.2	100%	
Copper	6010B	27.9	75.5	52.2	91.2%	
Lead	6010B	8	211	209	97.1%	
Mercury	7471A	0.13	0.33	0.216	92.6%	
Nickel	6010B	12	61	52.2	93.9%	
Selenium	6010B	5 U	202	209	96.7%	
Thallium	6010B	5 U	196	209	93.8%	
Vanadium	6010B	44.2	91.3	52.2	90.2%	
Zinc	6010B	41	92	52.2	97.7%	

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-090811-002
SAMPLE

Lab Sample ID: TL50B
LIMS ID: 11-19579
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 93.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	3.6	5	**8,580**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.088	0.2	**1.6**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.28	0.5	**14.2**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.051	0.2	**25.4**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.13	2	**5**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.05**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.31	1	**12**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.67	5	5	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.54	5	5	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.061	0.3	**36.4**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.12	1	**27**	

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-090811-003
SAMPLE

Lab Sample ID: TL50C
LIMS ID: 11-19580
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 84.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.0	6	**11,400**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.096	0.2	**2.5**	
3050B	09/14/11	6010B	09/15/11	**7440-43-9**	**Cadmium**	0.12	0.2	**0.4**	
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.30	0.6	**15.9**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.056	0.2	**29.6**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.15	2	**19**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0012	0.02	**0.07**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.34	1	**10**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.73	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.60	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.068	0.3	**39.4**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	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-090811-004
SAMPLE

Lab Sample ID: TL50D
LIMS ID: 11-19581
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 80.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.1	6	**8,690**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**3.3**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.31	0.6	**12.1**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.058	0.2	**24.2**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.15	2	**10**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0011	0.02	**0.05**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.35	1	**15**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.76	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.62	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.070	0.3	**39.9**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	1	**41**	

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-090811-005
SAMPLE

Lab Sample ID: TL50E
LIMS ID: 11-19582
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 82.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.0	6	**7,990**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**3.2**	
3050B	09/14/11	6010B	09/15/11	**7440-43-9**	**Cadmium**	0.12	0.2	**0.2**	
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.30	0.6	**12.5**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.056	0.2	**22.7**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.15	2	**5**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0014	0.03	**0.04**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.34	1	**15**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.73	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.60	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.067	0.3	**38.1**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.13	1	**40**	

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-090811-006
SAMPLE

Lab Sample ID: TL50F
LIMS ID: 11-19583
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 82.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	3.9	6	**7,920**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**3.6**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.12	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.30	0.6	**12.1**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.055	0.2	**22.0**	
3050B	09/14/11	6010B	09/15/11	**7439-92-1**	**Lead**	0.14	2	**5**	
CLP	09/14/11	7471A	09/16/11	**7439-97-6**	**Mercury**	0.0014	0.03	**0.05**	
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.33	1	**12**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.72	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.59	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.066	0.3	**37.8**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.13	1	**42**	

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-090811-007
SAMPLE

Lab Sample ID: TL50G
LIMS ID: 11-19584
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 78.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.4	6	**6,890**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**0.9**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.14	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.34	0.6	**12.6**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.062	0.2	**8.9**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.16	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0012	0.02	0.02	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.37	1	**7**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.81	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.66	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.075	0.4	**38.6**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.15	1	**22**	

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-090811-008
SAMPLE

Lab Sample ID: TL50H
LIMS ID: 11-19585
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 77.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.4	6	**5,980**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.11	0.2	**1.0**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.14	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.33	0.6	**10.8**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.061	0.2	**8.0**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.16	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.37	1	**6**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.80	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.65	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.074	0.4	**34.7**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.15	1	**18**	

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-090811-009
SAMPLE

Lab Sample ID: TL50I
LIMS ID: 11-19586
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 80.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.2	6	**9,780**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**2.1**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.32	0.6	**11.2**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.059	0.2	**14.0**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.15	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0014	0.03	0.03	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.35	1	**7**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.76	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.62	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.070	0.4	**39.8**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	1	**22**	

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-090811-010
SAMPLE

Lab Sample ID: TL50J
LIMS ID: 11-19587
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 79.8%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.3	6	**7,450**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.11	0.2	**1.5**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.33	0.6	**10.1**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.061	0.2	**9.3**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.16	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0013	0.03	0.03	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.37	1	**6**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.79	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.65	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.073	0.4	**33.2**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.15	1	**16**	

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-090811-011
SAMPLE

Lab Sample ID: TL50K
LIMS ID: 11-19588
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 79.9%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.1	6	**7,410**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.11	0.2	**1.3**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.31	0.6	**8.3**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.058	0.2	**10.5**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.15	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0014	0.03	0.03	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.35	1	**5**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.76	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.62	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.070	0.3	**32.8**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	1	**16**	

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-090811-012
SAMPLE

Lab Sample ID: TL50L
LIMS ID: 11-19589
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 79.6%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.1	6	**6,720**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.11	0.2	**1.1**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.31	0.6	**8.1**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.058	0.2	**8.8**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.15	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0012	0.02	0.02	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.35	1	**5**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.75	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.61	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.070	0.3	**30.7**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	1	**15**	

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-090811-013
SAMPLE

Lab Sample ID: TL50M
LIMS ID: 11-19590
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Percent Total Solids: 79.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3050B	09/14/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	4.2	6	**8,950**	
3050B	09/14/11	200.8	09/19/11	**7440-38-2**	**Arsenic**	0.10	0.2	**1.8**	
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.13	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	**7440-47-3**	**Chromium**	0.32	0.6	**10.0**	
3050B	09/14/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.060	0.2	**14.3**	
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.15	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0012	0.02	0.02	U
3050B	09/14/11	6010B	09/15/11	**7440-02-0**	**Nickel**	0.36	1	**6**	
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.77	6	6	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.63	6	6	U
3050B	09/14/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.072	0.4	**36.9**	
3050B	09/14/11	6010B	09/15/11	**7440-66-6**	**Zinc**	0.14	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: METHOD BLANK

Lab Sample ID: TL50MB
LIMS ID: 11-19579
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 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	09/14/11	6010B	09/15/11	7429-90-5	Aluminum	3.6	5	5	U
3050B	09/14/11	200.8	09/19/11	7440-38-2	Arsenic	0.087	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	7440-43-9	Cadmium	0.11	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	7440-47-3	Chromium	0.27	0.5	0.5	U
3050B	09/14/11	6010B	09/15/11	7440-50-8	Copper	0.050	0.2	0.2	U
3050B	09/14/11	6010B	09/15/11	7439-92-1	Lead	0.13	2	2	U
CLP	09/14/11	7471A	09/16/11	7439-97-6	Mercury	0.0013	0.02	0.02	U
3050B	09/14/11	6010B	09/15/11	7440-02-0	Nickel	0.30	1	1	U
3050B	09/14/11	6010B	09/15/11	7782-49-2	Selenium	0.65	5	5	U
3050B	09/14/11	6010B	09/15/11	7440-28-0	Thallium	0.53	5	5	U
3050B	09/14/11	6010B	09/15/11	7440-62-2	Vanadium	0.060	0.3	0.3	U
3050B	09/14/11	6010B	09/15/11	7440-66-6	Zinc	0.12	1	1	U

Reported in mg/kg (ppm).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: TL50LCS
LIMS ID: 11-19579
Matrix: Soil
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010B	197	200	98.5%	
Arsenic	200.8	26.6	25.0	106%	
Cadmium	6010B	48.6	50.0	97.2%	
Chromium	6010B	49.6	50.0	99.2%	
Copper	6010B	47.7	50.0	95.4%	
Lead	6010B	185	200	92.5%	
Mercury	7471A	0.48	0.50	96.0%	
Nickel	6010B	46	50	92.0%	
Selenium	6010B	188	200	94.0%	
Thallium	6010B	188	200	94.0%	
Vanadium	6010B	48.8	50.0	97.6%	
Zinc	6010B	47	50	94.0%	

Reported in mg/kg-dry

N-Control limit not met
NA-Not Applicable, Analyte Not Spiked
Control Limits: 80-120%

TL50:96149

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-014
SAMPLE

Lab Sample ID: TL50N
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	25.7	50	**3,950**	
200.8	09/12/11	200.8	09/29/11	**7440-38-2**	**Arsenic**	0.120	0.5	**5.4**	
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	**7440-47-3**	**Chromium**	1.24	5	**9**	
3010A	09/12/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.92	2	**28**	
200.8	09/12/11	200.8	09/20/11	**7439-92-1**	**Lead**	0.046	0.1	**9.6**	
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.27	3	**17**	
3010A	09/12/11	6010B	09/15/11	**7440-66-6**	**Zinc**	1.4	10	**20**	

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-014
DUPLICATE

Lab Sample ID: TL50N
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

MATRIX DUPLICATE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Duplicate	RPD	Control Limit	Q
Aluminum	6010B	3,950	3,930	0.5%	+/- 20%	
Arsenic	200.8	5.4	5.6	3.6%	+/- 20%	
Cadmium	6010B	2 U	2 U	0.0%	+/- 2	L
Chromium	6010B	9	9	0.0%	+/- 5	L
Copper	6010B	28	27	3.6%	+/- 20%	
Lead	200.8	9.6	9.7	1.0%	+/- 20%	
Nickel	6010B	10 U	10 U	0.0%	+/- 10	L
Selenium	6010B	50 U	50 U	0.0%	+/- 50	L
Thallium	6010B	50 U	50 U	0.0%	+/- 50	L
Vanadium	6010B	17	17	0.0%	+/- 20%	
Zinc	6010B	20	20	0.0%	+/- 10	L

Reported in µg/L

*-Control Limit Not Met
L-RPD Invalid, Limit = Detection Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-014
MATRIX SPIKE

Lab Sample ID: TL50N
LIMS ID: 11-19591
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

MATRIX SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Sample	Spike	Spike Added	% Recovery	Q
Aluminum	6010B	3,950	6,430	2,000	124%	
Arsenic	200.8	5.40	32.8	25.0	110%	
Cadmium	6010B	2.00 U	533	500	107%	
Chromium	6010B	9.18	532	500	105%	
Copper	6010B	28.2	554	500	105%	
Lead	200.8	9.55	34.8	25.0	101%	
Nickel	6010B	10.0 U	492	500	98.4%	
Selenium	6010B	50.0 U	2,060	2,000	103%	
Thallium	6010B	50.0 U	1,920	2,000	96.0%	
Vanadium	6010B	16.8	543	500	105%	
Zinc	6010B	15.0	521	500	101%	

Reported in µg/L

N-Control Limit Not Met
H-% Recovery Not Applicable, Sample Concentration Too High
NA-Not Applicable, Analyte Not Spiked
NR-Not Recovered

Percent Recovery Limits: 75-125%

TL50:001NS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-015
SAMPLE

Lab Sample ID: TL50O
LIMS ID: 11-19592
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	25.7	50	**1,290**	
200.8	09/12/11	200.8	09/20/11	**7440-38-2**	**Arsenic**	0.048	0.5	**3.2**	
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	**7440-47-3**	**Chromium**	1.24	5	**7**	
3010A	09/12/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.92	2	**5**	
200.8	09/12/11	200.8	09/20/11	**7439-92-1**	**Lead**	0.046	0.1	**0.6**	
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.27	3	**24**	
3010A	09/12/11	6010B	09/15/11	7440-66-6	Zinc	1.4	10	10	U

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-016
SAMPLE

Lab Sample ID: TL50P
LIMS ID: 11-19593
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	25.7	50	**4,720**	
200.8	09/12/11	200.8	09/20/11	**7440-38-2**	**Arsenic**	0.048	0.5	**4.4**	
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	**7440-47-3**	**Chromium**	1.24	5	**11**	
3010A	09/12/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.92	2	**6**	
200.8	09/12/11	200.8	09/20/11	**7439-92-1**	**Lead**	0.046	0.1	**0.9**	
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.27	3	**18**	
3010A	09/12/11	6010B	09/15/11	7440-66-6	Zinc	1.4	10	10	U

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-017
SAMPLE

Lab Sample ID: TL50Q
LIMS ID: 11-19594
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	**7429-90-5**	**Aluminum**	25.7	50	**12,300**	
200.8	09/12/11	200.8	09/20/11	**7440-38-2**	**Arsenic**	0.048	0.5	**2.8**	
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	**7440-47-3**	**Chromium**	1.24	5	**26**	
3010A	09/12/11	6010B	09/15/11	**7440-50-8**	**Copper**	0.92	2	**13**	
200.8	09/12/11	200.8	09/20/11	**7439-92-1**	**Lead**	0.046	0.1	**1.4**	
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	**7440-62-2**	**Vanadium**	0.27	3	**54**	
3010A	09/12/11	6010B	09/15/11	**7440-66-6**	**Zinc**	1.4	10	**40**	

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: FRP-090811-018
SAMPLE

Lab Sample ID: TL50R
LIMS ID: 11-19595
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	7429-90-5	Aluminum	25.7	50	50	U
200.8	09/12/11	200.8	09/19/11	7440-38-2	Arsenic	0.048	0.2	0.2	U
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	7440-47-3	Chromium	1.24	5	5	U
3010A	09/12/11	6010B	09/15/11	7440-50-8	Copper	0.92	2	2	U
200.8	09/12/11	200.8	09/20/11	7439-92-1	Lead	0.046	0.1	0.1	U
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-62-2	Vanadium	0.27	3	3	U
3010A	09/12/11	6010B	09/15/11	7440-66-6	Zinc	1.4	10	10	U

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: TL50MB
LIMS ID: 11-19592
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	MDL	RL	Result	Q
3010A	09/12/11	6010B	09/15/11	7429-90-5	Aluminum	25.7	50	50	U
200.8	09/12/11	200.8	09/19/11	7440-38-2	Arsenic	0.048	0.2	0.2	U
3010A	09/12/11	6010B	09/15/11	7440-43-9	Cadmium	0.18	2	2	U
3010A	09/12/11	6010B	09/15/11	7440-47-3	Chromium	1.24	5	5	U
3010A	09/12/11	6010B	09/15/11	7440-50-8	Copper	0.92	2	2	U
200.8	09/12/11	200.8	09/20/11	7439-92-1	Lead	0.046	0.1	0.1	U
3010A	09/12/11	6010B	09/15/11	7440-02-0	Nickel	3.9	10	10	U
3010A	09/12/11	6010B	09/15/11	7782-49-2	Selenium	5.0	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-28-0	Thallium	3.1	50	50	U
3010A	09/12/11	6010B	09/15/11	7440-62-2	Vanadium	0.27	3	3	U
3010A	09/12/11	6010B	09/15/11	7440-66-6	Zinc	1.4	10	10	U

Reported in ug/L (ppb).
U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: TL50LCS
LIMS ID: 11-19592
Matrix: Water
Data Release Authorized:
Reported: 09/30/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Aluminum	6010B	2010	2000	100%	
Arsenic	200.8	24.1	25.0	96.4%	
Cadmium	6010B	513	500	103%	
Chromium	6010B	508	500	102%	
Copper	6010B	479	500	95.8%	
Lead	200.8	26.1	25.0	104%	
Nickel	6010B	480	500	96.0%	
Selenium	6010B	1950	2000	97.5%	
Thallium	6010B	1950	2000	97.5%	
Vanadium	6010B	512	500	102%	
Zinc	6010B	480	500	96.0%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Aluminum	AL	ICP	IP091571	2000.0	2005.27	100.3	2000.0	2020.11	101.0	2027.71	101.4	2020.10	101.0	1955.53	97.8	1984.19	99.2
Arsenic	AS	PMS	MS091981	50.0	49.74	99.5	50.0	50.04	100.1	50.93	101.9	51.14	102.3	50.70	101.4	50.10	100.2
Cadmium	CD	ICP	IP091571	1000.0	1042.74	104.3	1000.0	1053.77	105.4	1059.89	106.0	1053.65	105.4	1043.06	104.3	1037.29	103.7
Chromium	CR	ICP	IP091571	1000.0	1024.59	102.5	1000.0	1029.87	103.0	1037.91	103.8	1036.07	103.6	1008.26	100.8	1011.44	101.1
Copper	CU	ICP	IP091571	1000.0	1011.24	101.1	1000.0	1016.49	101.6	1012.07	101.2	1004.79	100.5	1005.46	100.5	996.56	99.7
Lead	PB	ICP	IP091571	2000.0	1914.05	95.7	2000.0	1943.35	97.2	1947.26	97.4	1926.71	96.3	1910.40	95.5	1898.22	94.9
Mercury	HG	CVA	HG091601	8.0	8.13	101.6	4.0	4.10	102.5	4.16	104.0	4.11	102.8	4.08	102.0	4.03	100.8
Nickel	NI	ICP	IP091571	1000.0	997.99	99.8	1000.0	993.04	99.3	1001.71	100.2	992.96	99.3	959.16	95.9	967.90	96.8
Selenium	SE	ICP	IP091571	2000.0	1985.11	99.3	2000.0	1986.31	99.3	2005.75	100.3	1982.10	99.1	1949.77	97.5	1942.79	97.1
Thallium	TL	ICP	IP091571	2000.0	1956.49	97.8	2000.0	1955.59	97.8	1972.33	98.6	1945.65	97.3	1914.15	95.7	1901.83	95.1
Vanadium	V	ICP	IP091571	1000.0	1002.24	100.2	1000.0	1016.29	101.6	1009.25	100.9	1009.07	100.9	1009.22	100.9	1000.41	100.0
Zinc	ZN	ICP	IP091571	1000.0	982.07	98.2	1000.0	991.77	99.2	1002.91	100.3	1001.08	100.1	974.29	97.4	979.51	98.0

Control Limits: Mercury 80-120; Other Metals 90-110

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Aluminum	AL	ICP	IP091571	2000.0	1989.76	99.5	1977.20	98.9	1954.26	97.7	1989.58	99.5				
Arsenic	AS	PMS	MS091981	50.0	51.04	102.1	48.59	97.2	48.65	97.3						
Cadmium	CD	ICP	IP091571	1000.0	1055.37	105.5	1030.92	103.1	1048.09	104.8	1049.16	104.9				
Chromium	CR	ICP	IP091571	1000.0	1027.38	102.7	1018.05	101.8	1025.85	102.6	1042.50	104.3				
Copper	CU	ICP	IP091571	1000.0	1014.46	101.4	988.46	98.8	1004.38	100.4	1011.57	101.2				
Lead	PB	ICP	IP091571	2000.0	1934.03	96.7	1893.96	94.7	1961.87	98.1	1965.54	98.3				
Mercury	HG	CVA	HG091601	4.0	4.04	101.0	4.02	100.5	4.01	100.3						
Nickel	NI	ICP	IP091571	1000.0	967.28	96.7	963.76	96.4	971.07	97.1	979.45	97.9				
Selenium	SE	ICP	IP091571	2000.0	1962.08	98.1	1938.84	96.9	1961.61	98.1	1954.30	97.7				
Thallium	TL	ICP	IP091571	2000.0	1915.08	95.8	1885.83	94.3	1913.16	95.7	1911.35	95.6				
Vanadium	V	ICP	IP091571	1000.0	1015.07	101.5	996.29	99.6	1010.64	101.1	1021.42	102.1				
Zinc	ZN	ICP	IP091571	1000.0	989.87	99.0	986.28	98.6	989.79	99.0	1009.06	100.9				

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

TL50 : 009151

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

UNITS:ug/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS092081	50.0	49.50	99.0	50.0	49.71	99.4	50.64	101.3	50.13	100.3	50.49	101.0	49.25	98.5
Lead	PB	PMS	MS092081	50.0	50.98	102.0	50.0	50.92	101.8	50.62	101.2	52.04	104.1	51.72	103.4	52.53	105.1

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

TL50 : 09155

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	M	RUN	CCVTV	CCV6	%R	CCV7	%R	CCV8	%R	CCV9	%R	CCV10	%R	CCV11	%R
Arsenic	AS	PMS	MS092081	50.0	50.17	100.3	49.27	98.5								
Lead	PB	PMS	MS092081	50.0	51.53	103.1	52.13	104.3								

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

TL50 : 095155

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS092182	50.0	50.34	100.7	50.0	50.24	100.5	49.59	99.2	50.35	100.7	50.23	100.5	50.27	100.5

Control Limits: Mercury 80-120; Other Metals 90-110

TL50:00157

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Arsenic	AS	PMS	MS092981	50.0	50.87	101.7	50.0	50.57	101.1	50.67	101.3	50.54	101.1				

Control Limits: Mercury 80-120; Other Metals 90-110

FORM II (1)

TL50 : 000159

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

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	IP091571	50.0	49.31	**98.6**	75.27	**150.5**	34.12	**68.2**						
Arsenic	AS	PMS	MS091981	0.2	0.20	**100.0**										
Cadmium	CD	ICP	IP091571	2.0	2.60	**130.0**	2.29	**114.5**	2.28	**114.0**						
Chromium	CR	ICP	IP091571	5.0	3.90	**78.0**	4.07	**81.4**	4.68	**93.6**						
Copper	CU	ICP	IP091571	2.0	2.11	**105.5**	2.30	**115.0**	2.06	**103.0**						
Lead	PB	ICP	IP091571	20.0	20.34	**101.7**	19.68	**98.4**	20.22	**101.1**						
Mercury	HG	CVA	HG091601	0.1	0.11	**110.0**										
Nickel	NI	ICP	IP091571	10.0	8.47	**84.7**	9.23	**92.3**	10.21	**102.1**						
Selenium	SE	ICP	IP091571	50.0	56.68	**113.4**	59.44	**118.9**	51.28	**102.6**						
Thallium	TL	ICP	IP091571	50.0	49.20	**98.4**	47.39	**94.8**	47.23	**94.5**						
Vanadium	V	ICP	IP091571	3.0	3.08	**102.7**	3.02	**100.7**	2.94	**98.0**						
Zinc	ZN	ICP	IP091571	10.0	9.84	**98.4**	10.37	**103.7**	9.35	**93.5**						
Arsenic	AS	PMS	MS092081	0.2	0.19	**95.0**										
Lead	PB	PMS	MS092081	0.1	0.12	**120.0**										
Arsenic	AS	PMS	MS092182	0.2	0.19	**95.0**										
Arsenic	AS	PMS	MS092981	0.2	0.22	**110.0**										

Control Limits: no control limits have been established by the EPA at this time.

TL50 : 00155

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS:ug/L

SDG: TL50

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Aluminum	AL	ICP	IP091571	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	MS091981	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	IP091571	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	IP091571	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	IP091571	25.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U
Lead	PB	ICP	IP091571	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	HG091601	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	IP091571	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	IP091571	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	IP091571	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	IP091571	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	IP091571	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 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Aluminum	AL	ICP	IP091571	200.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Arsenic	AS	PMS	MS091981	10.0	0.2	0.2	U	0.2	U	0.2	U						
Cadmium	CD	ICP	IP091571	5.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U				
Chromium	CR	ICP	IP091571	10.0	5.0	5.0	U	5.0	U	5.0	U	5.0	U				
Copper	CU	ICP	IP091571	25.0	2.0	2.0	U	2.0	U	2.0	U	2.0	U				
Lead	PB	ICP	IP091571	3.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U				
Mercury	HG	CVA	HG091601	0.2	0.1	0.1	U	0.1	U	0.1	U						
Nickel	NI	ICP	IP091571	40.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U				
Selenium	SE	ICP	IP091571	5.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Thallium	TL	ICP	IP091571	10.0	50.0	50.0	U	50.0	U	50.0	U	50.0	U				
Vanadium	V	ICP	IP091571	50.0	3.0	3.0	U	3.0	U	3.0	U	3.0	U				
Zinc	ZN	ICP	IP091571	20.0	10.0	10.0	U	10.0	U	10.0	U	10.0	U				

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS092081	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Lead	PB	PMS	MS092081	3.0	0.1	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

TL50:00192

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

UNITS: ug/L

ANALYTE	EL	METH	RUN	CRDL	IDL	CCB6	C	CCB7	C	CCB8	C	CCB9	C	CCB10	C	CCB11	C
Arsenic	AS	PMS	MS092081	10.0	0.2	0.2	U	0.2	U								
Lead	PB	PMS	MS092081	3.0	0.1	0.1	U	0.1	U								

TL50 : 00165

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS092182	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ug/L

SDG: TL50

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Arsenic	AS	PMS	MS092981	10.0	0.2	0.2	U	0.2	U	0.2	U	0.2	U				

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ICS SOURCE: I.V.

RUNID: IP091571

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	195360.1	196159.5	**98.1**	193960.3	193854.2	**96.9**	195595.5	194448.2	**97.2**
Antimony		1000	-5.3	943.0	**94.3**	-4.5	946.7	**94.7**	-2.9	933.2	**93.3**
Arsenic		1000	10.5	985.0	**98.5**	11.4	986.4	**98.6**	13.3	982.6	**98.3**
Barium		1000	0.3	985.1	**98.5**	0.8	976.8	**97.7**	0.6	970.9	**97.1**
Beryllium		1000	0.1	980.2	**98.0**	0.1	964.6	**96.5**	0.1	956.2	**95.6**
Boron			-2.9	-4.9		-3.9	-5.9		-6.7	-7.2	
Cadmium		1000	2.0	1003.8	**100.4**	1.9	1012.8	**101.3**	1.8	1009.1	**100.9**
Calcium	100000	100000	101225.6	101323.1	**101.3**	101809.3	102079.8	**102.1**	104127.1	103217.3	**103.2**
Chromium		1000	-2.2	994.4	**99.4**	-1.3	999.9	**100.0**	-2.0	1009.5	**101.0**
Cobalt		1000	1.1	964.5	**96.5**	0.9	980.2	**98.0**	0.8	952.3	**95.2**
Copper		1000	-1.0	998.4	**99.8**	-0.6	1000.6	**100.1**	-0.6	1002.5	**100.3**
Iron	200000	200000	194436.8	191790.1	**95.9**	191414.4	189485.4	**94.7**	192091.0	187895.5	**93.9**
Lead		1000	-2.0	949.2	**94.9**	-4.0	952.5	**95.3**	-3.9	947.1	**94.7**
Magnesium	100000	100000	101842.7	98117.5	**98.1**	102151.2	98087.6	**98.1**	102991.4	98691.6	**98.7**
Manganese		1000	0.3	939.6	**94.0**	0.2	925.4	**92.5**	0.2	912.2	**91.2**
Molybdenum			0.9	1.4		0.4	0.8		0.7	0.3	
Nickel		1000	-1.4	923.1	**92.3**	-0.3	915.6	**91.6**	0.2	906.8	**90.7**
Potassium			14.9	228.6		54.8	273.5		18.1	234.0	
Selenium		1000	18.7	999.7	**100.0**	19.1	987.2	**98.7**	15.3	967.7	**96.8**
Silicon			-0.6	2.0		5.6	-2.3		13.6	0.1	
Silver		1000	-1.1	992.9	**99.3**	-0.6	982.0	**98.2**	-0.9	958.2	**95.8**
Sodium			14.6	14.9		30.0	26.5		30.8	21.4	
Strontium			10.1	10.0		10.3	10.0		10.2	10.0	
Thallium		1000	15.8	936.5	**93.7**	16.0	934.2	**93.4**	15.5	915.9	**91.6**
Tin			-6.6	-7.0		-8.5	-8.6		-8.6	-8.9	
Titanium			3.9	3.6		3.6	2.7		2.4	1.8	
Vanadium		1000	3.1	966.7	**96.7**	1.9	971.6	**97.2**	1.1	979.8	**98.0**
Zinc		1000	0.6	925.7	**92.6**	-0.4	933.7	**93.4**	0.6	939.8	**94.0**

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ICS SOURCE: I.V.

PROJECT: FRP 2011 Shoreline I

RUNID: MS091981

SDG: TL50

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Cadmium		20	0.0	19.4	97.0						
Chromium		20	0.9	21.7	108.5						
Cobalt		20	0.0	20.7	103.5						
Copper		20	0.5	20.3	101.5						
Manganese		20	0.9	22.1	110.5						
Molybdenum	400	400	406.0	412.1	103.0						
Nickel		20	0.6	19.4	97.0						
Selenium			-0.1	-0.1							
Silver		20	0.0	18.7	93.5						
Vanadium			0.0	-0.3							
Zinc		20	0.9	20.0	100.0						

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ICS SOURCE: I.V.

RUNID: MS092081

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.1	0.1							
Cadmium		20	0.0	20.1	100.5						
Chromium		20	0.9	20.7	103.5						
Cobalt		20	0.0	19.6	98.0						
Copper		20	0.5	20.0	100.0						
Manganese		20	0.7	20.6	103.0						
Molybdenum	400	400	415.5	417.9	104.5						
Nickel		20	0.6	19.7	98.5						
Selenium			0.0	-0.1							
Silver		20	0.0	19.0	95.0						
Vanadium			0.0	-0.5							
Zinc		20	1.0	19.9	99.5						

TL50 : 095 / 05

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ICS SOURCE: I.V.

RUNID: MS092182

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.0	0.1							
Cadmium		20	0.1	19.9	99.5						
Chromium		20	0.8	20.6	103.0						
Cobalt		20	0.0	19.5	97.5						
Copper		20	0.5	19.5	97.5						
Manganese		20	0.8	20.1	100.5						
Molybdenum	400	400	415.9	417.6	104.4						
Nickel		20	0.5	18.9	94.5						
Silver		20	0.0	19.1	95.5						
Vanadium			0.0	-0.4							
Zinc		20	1.2	19.7	98.5						

TL50:09159

ICP Interference Check Sample

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ICS SOURCE: I.V.

PROJECT: FRP 2011 Shoreline I

RUNID: MS092981

SDG: TL50

INSTRUMENT ID: PE ELAN 6000

UNITS: ug/L

ANALYTE	ICSA TV	ICSAB TV	ICSA1	ICSAB1	%R	ICSA2	ICSAB2	%R	ICSA3	ICSAB3	%R
Antimony			0.1	0.1							
Cadmium		20	0.0	19.5	97.5						
Chromium		20	0.9	20.6	103.0						
Cobalt		20	0.0	19.5	97.5						
Copper		20	0.5	20.4	102.0						
Manganese		20	0.7	20.6	103.0						
Molybdenum	400	400	414.4	410.3	102.6						
Nickel		20	0.5	19.8	99.0						
Selenium			0.0	-0.1							
Silver		20	0.0	19.2	96.0						
Vanadium			0.0	-0.5							
Zinc		20	1.0	19.7	98.5						

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

ANALYSIS METHOD: ICP

SDG: TL50

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Aluminum	FRP-090811-001L	TL50A-L	Soil	IP091571	96267.12		94139.85		2.2	
Cadmium	FRP-090811-001L	TL50A-L	Soil	IP091571	2.59	B	10.00	U	100.0	
Chromium	FRP-090811-001L	TL50A-L	Soil	IP091571	148.64		147.80		0.6	
Copper	FRP-090811-001L	TL50A-L	Soil	IP091571	268.07		263.40		1.7	
Lead	FRP-090811-001L	TL50A-L	Soil	IP091571	74.16		100.00	U	100.0	
Nickel	FRP-090811-001L	TL50A-L	Soil	IP091571	117.13		120.35	B	2.7	
Selenium	FRP-090811-001L	TL50A-L	Soil	IP091571	12.64	U	250.00	U		
Thallium	FRP-090811-001L	TL50A-L	Soil	IP091571	13.72	U	250.00	U		
Vanadium	FRP-090811-001L	TL50A-L	Soil	IP091571	424.16		425.55		0.3	
Zinc	FRP-090811-001L	TL50A-L	Soil	IP091571	389.89		394.50		1.2	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

ANALYSIS METHOD: ICP

SDG: TL50

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Aluminum	FRP-090811-014L	TL50N-L	Water	IP091571	3948.01		4199.50		6.4	
Cadmium	FRP-090811-014L	TL50N-L	Water	IP091571	0.68	U	10.00	U		
Chromium	FRP-090811-014L	TL50N-L	Water	IP091571	9.18	B	25.00	U	100.0	
Copper	FRP-090811-014L	TL50N-L	Water	IP091571	28.21		28.95	B	2.6	
Nickel	FRP-090811-014L	TL50N-L	Water	IP091571	2.11	U	50.00	U		
Selenium	FRP-090811-014L	TL50N-L	Water	IP091571	9.73	U	250.00	U		
Thallium	FRP-090811-014L	TL50N-L	Water	IP091571	6.92	U	250.00	U		
Vanadium	FRP-090811-014L	TL50N-L	Water	IP091571	16.85	B	17.25	B	2.4	
Zinc	FRP-090811-014L	TL50N-L	Water	IP091571	15.04	B	50.00	U	100.0	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

ANALYSIS METHOD: PMS

SDG: TL50

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-090811-001L	TL50A-L	Soil	MS091981	3.34	B	3.30	B	1.2	

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

ANALYSIS METHOD: PMS

SDG: TL50

UNITS: ug/L

ANALYTE	CLIENT ID	ARI ID	MATRIX	RUNID	INITIAL SAMPLE RESULT (I)	C	SERIAL DILUTION RESULT (S)	C	% DIFFER-ENCE	Q
Lead	FRP-090811-014L	TL50N-L	Water	MS092081	9.55		9.70	B	1.6	

TL50 : 96174

ICP Serial Dilutions

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

ANALYSIS METHOD: PMS

SDG: TL50

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-090811-014L	TL50N-L	Water	MS092981	2.16	B	2.15	B	0.5	

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

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
Lead	PB	PMS	PE ELAN 6000 MS	0.00		3	0.1	4/1/2011		
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 2011 Shoreline I

IEC DATE: 9/7/2011

SDG: TL50

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	0.0773398	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	0.0622379
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	0.0187178	0.0000000	0.0000000	0.0000000	0.0000000	-0.0439811
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	-0.0695283
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	-0.1778670	0.0000000	0.0000000	0.0000000	-0.0252598	0.0000000	0.0000000	-2.3072100	1.2452600	0.0570036
Magnesium	279.08	0.0000000	0.0000000	0.0000000	0.0000000	0.1525560	0.0000000	-1.6380600	-1.2519300	0.0000000	0.6727000
Manganese	257.61	0.0051426	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.0048944
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0228298	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	0.0634207	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	6.5805300	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000	0.0678735	0.0000000	1.7836600	0.3510820	0.0000000	-0.1294840
Tin	189.93	0.0000000	0.0000000	0.0000000	0.0000000	-0.1147000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	334.90	0.0000000	0.0000000	0.0000000	0.0000000	0.1641450	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	0.1100040
Zinc	206.20	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	-0.1475900	0.0000000	0.0000000

ICP Interelement Correction Factors

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

IEC DATE: 9/7/2011

SDG: TL50

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	0.0581570	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	0.0080384	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	0.0048376	0.0000000	0.0000000	0.0000000	-0.2175850	0.0000000	0.0000000	0.0000000	-0.0271775	0.0000000
Molybdenum	202.03	0.0148620	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	0.0735290	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	288.16	-0.1460000	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

TL50.0061 78

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ANALYSIS METHOD: ICP

PROJECT: FRP 2011 Shoreline I

ARI PREP CODE: TWC

SDG: TL50

PREPDATE: 9/12/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
PBW	TL50MB2	0.000	50.0	50.0
LCSW	TL50MB2SPK	0.000	50.0	50.0
FRP-090811-014	TL50N	0.000	50.0	50.0
FRP-090811-014D	TL50NDUP	0.000	50.0	50.0
FRP-090811-014S	TL50NSPK	0.000	50.0	50.0
FRP-090811-015	TL50O	0.000	50.0	50.0
FRP-090811-016	TL50P	0.000	50.0	50.0
FRP-090811-017	TL50Q	0.000	50.0	50.0
FRP-090811-018	TL50R	0.000	50.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ANALYSIS METHOD: PMS

ARI PREP CODE: REN

PREPDATE: 9/12/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
PBW	TL50MB2	0.000	50.0	25.0
LCSW	TL50MB2SPK	0.000	50.0	25.0
FRP-090811-014	TL50N	0.000	50.0	25.0
FRP-090811-014D	TL50NDUP	0.000	50.0	25.0
FRP-090811-014S	TL50NSPK	0.000	50.0	25.0
FRP-090811-015	TL50O	0.000	50.0	25.0
FRP-090811-016	TL50P	0.000	50.0	25.0
FRP-090811-017	TL50Q	0.000	50.0	25.0
FRP-090811-018	TL50R	0.000	50.0	25.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

ANALYSIS METHOD: ICP

PROJECT: FRP 2011 Shoreline I

ARI PREP CODE: SWC

SDG: TL50

PREPDATE: 9/14/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-090811-001	TL50A	1.072	0.0	50.0
FRP-090811-001D	TL50ADUP	1.074	0.0	50.0
FRP-090811-001S	TL50ASPK	1.069	0.0	50.0
FRP-090811-002	TL50B	1.041	0.0	50.0
FRP-090811-003	TL50C	1.048	0.0	50.0
FRP-090811-004	TL50D	1.063	0.0	50.0
FRP-090811-005	TL50E	1.076	0.0	50.0
FRP-090811-006	TL50F	1.096	0.0	50.0
FRP-090811-007	TL50G	1.017	0.0	50.0
FRP-090811-008	TL50H	1.057	0.0	50.0
FRP-090811-009	TL50I	1.065	0.0	50.0
FRP-090811-010	TL50J	1.028	0.0	50.0
FRP-090811-011	TL50K	1.076	0.0	50.0
FRP-090811-012	TL50L	1.084	0.0	50.0
FRP-090811-013	TL50M	1.056	0.0	50.0
PBS	TL50MB1	1.000	0.0	50.0
LCSS	TL50MB1SPK	1.000	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ANALYSIS METHOD: PMS

ARI PREP CODE: SWN

PREPDATE: 9/14/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-090811-001	TL50A	1.052	0.0	50.0
FRP-090811-001D	TL50ADUP	1.049	0.0	50.0
FRP-090811-001S	TL50ASPK	1.056	0.0	50.0
FRP-090811-002	TL50B	1.053	0.0	50.0
FRP-090811-003	TL50C	1.077	0.0	50.0
FRP-090811-004	TL50D	1.059	0.0	50.0
FRP-090811-005	TL50E	1.051	0.0	50.0
FRP-090811-006	TL50F	1.049	0.0	50.0
FRP-090811-007	TL50G	1.059	0.0	50.0
FRP-090811-008	TL50H	1.065	0.0	50.0
FRP-090811-009	TL50I	1.051	0.0	50.0
FRP-090811-010	TL50J	1.013	0.0	50.0
FRP-090811-011	TL50K	1.010	0.0	50.0
FRP-090811-012	TL50L	1.027	0.0	50.0
FRP-090811-013	TL50M	1.043	0.0	50.0
PBS	TL50MB1	1.000	0.0	50.0
LCSS	TL50MB1SPK	1.000	0.0	50.0

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL50

ANALYSIS METHOD: CVA

ARI PREP CODE: SMM

PREPDATE: 9/14/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-090811-001	TL50A	0.259	0.0	50.0
FRP-090811-001D	TL50ADUP	0.264	0.0	50.0
FRP-090811-001S	TL50ASPK	0.258	0.0	50.0
FRP-090811-002	TL50B	0.253	0.0	50.0
FRP-090811-003	TL50C	0.261	0.0	50.0
FRP-090811-004	TL50D	0.297	0.0	50.0
FRP-090811-005	TL50E	0.224	0.0	50.0
FRP-090811-006	TL50F	0.229	0.0	50.0
FRP-090811-007	TL50G	0.272	0.0	50.0
FRP-090811-008	TL50H	0.268	0.0	50.0
FRP-090811-009	TL50I	0.239	0.0	50.0
FRP-090811-010	TL50J	0.242	0.0	50.0
FRP-090811-011	TL50K	0.238	0.0	50.0
FRP-090811-012	TL50L	0.279	0.0	50.0
FRP-090811-013	TL50M	0.266	0.0	50.0
PBS	TL50MB1	0.200	0.0	50.0
LCSW	TL50MB1SPK	0.200	0.0	50.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/15/2011

SDG: TL50 RUNID: IP091571 METHOD: ICP END DATE: 9/15/2011

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	08344			X						X		X	X								X	X		X				X		X	X
S2	S2	1.00	08385									X		X	X																	X	
S3	S3	1.00	08404																				X	X		X				X			X
S4	S4	1.00	08431																														
S5	S5	1.00	08452			X																											
ICV	ICV	1.00	08530			X						X		X	X								X	X		X				X		X	X
ICB	ICB	1.00	08570			X						X		X	X								X	X		X				X		X	X
CRI	CRII	1.00	09011			X						X		X	X								X	X		X				X		X	X
ICSA	ICSAI	1.00	09053			X						X		X	X								X	X		X				X		X	X
ICSAB	ICSABI	1.00	09094			X						X		X	X								X	X		X				X		X	X
CCV	CCV1	1.00	09143			X						X		X	X								X	X		X				X		X	X
CCB	CCB1	1.00	09183			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	TL30MB1	2.00	09225																														
ZZZZZZ	TL30A-L	10.00	09270																														
ZZZZZZ	TL30A	2.00	09310																														
ZZZZZZ	TL30ADUP	2.00	09350																														
ZZZZZZ	TL30ASPK	2.00	09390																														
ZZZZZZ	TL30B	2.00	09424																														
ZZZZZZ	TL30C	2.00	09464																														
ZZZZZZ	TL30D	2.00	09504																														
ZZZZZZ	TL30E	2.00	09544																														
ZZZZZZ	TL30MB1SPK	2.00	09584																														
CCV	CCV2	1.00	10024			X						X		X	X								X	X		X				X		X	X
CCB	CCB2	1.00	10064			X						X		X	X								X	X		X				X		X	X
ZZZZZZ	TL30F	2.00	10110																														
ZZZZZZ	TL30G	2.00	10150																														
ZZZZZZ	TL30H	2.00	10190																														
ZZZZZZ	TL30I	2.00	10230																														
ZZZZZZ	TL30J	2.00	10270																														
ZZZZZZ	TL30K	2.00	10310																														
ZZZZZZ	TL30L	2.00	10350																														
ZZZZZZ	TL30M	2.00	10390																														
ZZZZZZ	TL30N	2.00	10430																														
ZZZZZZ	TL30O	2.00	10470																														
CCV	CCV3	1.00	10510			X						X		X	X								X	X		X				X		X	X

FORM XIV

TL50 : 0001821

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/15/2011

SDG: TL50 RUNID: IP091571 METHOD: ICP END DATE: 9/15/2011

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	10550			X						X		X	X								X	X		X				X		X	X
FRP-090811-015	TL50O	1.00	10592			X						X		X	X								X			X				X		X	X
FRP-090811-016	TL50P	1.00	11035			X						X		X	X								X			X				X		X	X
FRP-090811-017	TL50Q	1.00	11082			X						X		X	X								X			X				X		X	X
FRP-090811-018	TL50R	1.00	11125			X						X		X	X								X			X				X		X	X
ZZZZZZ	TL30P	2.00	11170																														
ZZZZZZ	TL30Q	2.00	11210																														
ZZZZZZ	TL30R	2.00	11250																														
ZZZZZZ	TL30S	2.00	11290																														
ZZZZZZ	TL30T	2.00	11330																														
LCSW	TL50MB2SPK	1.00	11371			X						X		X	X								X			X				X		X	X
CCV	CCV4	1.00	11411			X						X		X	X								X	X		X				X		X	X
CCB	CCB4	1.00	11451			X						X		X	X								X	X		X				X		X	X
CRI	CRIF	1.00	11493			X						X		X	X								X	X		X				X		X	X
ICSA	ICSAF	1.00	11534			X						X		X	X								X	X		X				X		X	X
ICSAB	ICSABF	1.00	11580			X						X		X	X								X	X		X				X		X	X
CCV	CCV5	1.00	12024			X						X		X	X								X	X		X				X		X	X
CCB	CCB5	1.00	12065			X						X		X	X								X	X		X				X		X	X
PBW	TL50MB2	1.00	12110			X						X		X	X								X			X				X		X	X
FRP-090811-014L	TL50N-L	5.00	12151			X						X		X	X								X			X				X		X	X
FRP-090811-014	TL50N	1.00	12193			X						X		X	X								X			X				X		X	X
FRP-090811-014D	TL50NDUP	1.00	12240			X						X		X	X								X			X				X		X	X
FRP-090811-014S	TL50NSPK	1.00	12283			X						X		X	X								X			X				X		X	X
FRP-090811-001L	TL50A-L	10.00	12325			X						X		X	X								X	X		X				X		X	X
FRP-090811-001	TL50A	2.00	12365			X						X		X	X								X	X		X				X		X	X
FRP-090811-001D	TL50ADUP	2.00	12405			X						X		X	X								X	X		X				X		X	X
FRP-090811-001S	TL50ASPK	2.00	12445			X						X		X	X								X	X		X				X		X	X
LCSS	TL50MB1SPK	2.00	12484			X						X		X	X								X	X		X				X		X	X
CCV	CCV6	1.00	12524			X						X		X	X								X	X		X				X		X	X
CCB	CCB6	1.00	12564			X						X		X	X								X	X		X				X		X	X
PBS	TL50MB1	2.00	13005																														
FRP-090811-002	TL50B	2.00	13051			X						X		X	X								X	X		X				X		X	X
FRP-090811-003	TL50C	2.00	13091			X						X		X	X								X	X		X				X		X	X
FRP-090811-004	TL50D	2.00	13131			X						X		X	X								X	X		X				X		X	X
FRP-090811-005	TL50E	2.00	13171			X						X		X	X								X	X		X				X		X	X

FORM XIV

TL50-001185

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: OPTIMA ICP 2 START DATE: 9/15/2011

SDG: TL50 RUNID: IP091571 METHOD: ICP END DATE: 9/15/2011

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-090811-006	TL50F	2.00	13211			X						X		X	X								X	X		X				X		X	X
FRP-090811-007	TL50G	2.00	13251			X						X		X	X								X	X		X				X		X	X
FRP-090811-008	TL50H	2.00	13291			X						X		X	X								X	X		X				X		X	X
FRP-090811-009	TL50I	2.00	13331			X						X		X	X								X	X		X				X		X	X
FRP-090811-010	TL50J	2.00	13371			X						X		X	X								X	X		X				X		X	X
CCV	CCV7	1.00	13412			X						X		X	X								X	X		X				X		X	X
CCB	CCB7	1.00	13452			X						X		X	X								X	X		X				X		X	X
S0	S0	1.00	13500			X						X		X	X								X	X		X				X		X	X
CCV	CCV8	1.00	13540			X						X		X	X								X	X		X				X		X	X
CCB	CCB8	1.00	13580			X						X		X	X								X	X		X				X		X	X
PBS	TL50MB1	2.00	14021			X						X		X	X								X	X		X				X		X	X
FRP-090811-011	TL50K	2.00	14063			X						X		X	X								X	X		X				X		X	X
FRP-090811-012	TL50L	2.00	14103			X						X		X	X								X	X		X				X		X	X
FRP-090811-013	TL50M	2.00	14144			X						X		X	X								X	X		X				X		X	X
FRP-090811-014S	TL50NSPK	1.00	14184																														
ZZZZZZ	TL50NPOST	1.00	14230																														
ZZZZZZ	D1	1.00	14272																														
CRI	CRIF1	1.00	14313			X						X		X	X								X	X		X				X		X	X
ICSA	ICSAF1	1.00	14354			X						X		X	X								X	X		X				X		X	X
ICSAB	ICSABF1	1.00	14400			X						X		X	X								X	X		X				X		X	X
CCV	CCV9	1.00	14445			X						X		X	X								X	X		X				X		X	X
CCB	CCB9	1.00	14485			X						X		X	X								X	X		X				X		X	X

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/19/2011

SDG: TL50 RUNID: MS091981 METHOD: PMS END DATE: 9/19/2011

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	09230				X																										
S1	S1	1.00	09310				X																										
S2	S2	1.00	09390				X																										
S3	S3	1.00	09470				X																										
S4	S4	1.00	09540				X																										
ZZZZZZ	Rinse Sampl	1.00	10020																														
ZZZZZZ	Rinse Sampl	1.00	10120																														
S0	S0	1.00	10180				X																										
ZZZZZZ	ZZZZZZ	1.00	10270																														
ZZZZZZ	ZZZZZZ	1.00	10340																														
ZZZZZZ	ZZZZZZ	1.00	10410																														
ICV	MICV	1.00	10510				X																										
ICB	ICB	1.00	11020				X																										
CCV	MCCV1	1.00	11090				X																										
CCB	CCB1	1.00	11160				X																										
ZZZZZZ	ZZZZZZ	1.00	11230																														
ZZZZZZ	ZZZZZZ	1.00	11310																														
S0	S0	1.00	11380				X																										
CCV	MCCV2	1.00	11460				X																										
CCB	CCB2	1.00	11530				X																										
CRI	MCRI	1.00	12000				X																										
ICSA	ICSAI	1.00	12070				X																										
ICSAB	ICSABI	1.00	12150				X																										
ZZZZZZ	LR200	1.00	12220																														
ZZZZZZ	LR300	1.00	12300																														
CCV	MCCV3	1.00	12370				X																										
CCB	CCB3	1.00	12450				X																										
ZZZZZZ	TM73MB1	20.00	12520																														
ZZZZZZ	DI CHECK	1.00	12590																														
ZZZZZZ	ERAP174	10.00	13050																														
ZZZZZZ	TM73MB1SPK	20.00	13120																														
ZZZZZZ	TM37I	50.00	13190																														
ZZZZZZ	TM73A-L	100.00	13250																														
ZZZZZZ	TM73A	20.00	13320																														
ZZZZZZ	TM73B	20.00	13380																														

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/19/2011

SDG: TL50 RUNID: MS091981 METHOD: PMS END DATE: 9/19/2011

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	TM57B	20.00	13450																														
ZZZZZZ	TM57C	20.00	13520																														
CCV	MCCV4	1.00	13580				X																										
CCB	CCB4	1.00	14050				X																										
ZZZZZZ	TM57MB1	20.00	14130																														
ZZZZZZ	TM57MB1SPK	20.00	14190																														
ZZZZZZ	TM57A-L	100.00	14260																														
ZZZZZZ	TM57A	20.00	14320																														
ZZZZZZ	TM57ADUP	20.00	14390																														
ZZZZZZ	TM57ASPK	20.00	14450																														
ZZZZZZ	TM57MB1	20.00	14530																														
ZZZZZZ	TM57D	20.00	15000																														
FRP-090811-002	TL50B	20.00	15060				X																										
FRP-090811-003	TL50C	20.00	15130				X																										
CCV	MCCV5	1.00	15190				X																										
CCB	CCB5	1.00	15270				X																										
PBS	TL50MB1	20.00	15430				X																										
LCSS	TL50MB1SPK	20.00	15500				X																										
FRP-090811-001L	TL50A-L	100.00	15570				X																										
FRP-090811-001	TL50A	20.00	16030				X																										
FRP-090811-001D	TL50ADUP	20.00	16100				X																										
FRP-090811-001S	TL50ASPK	20.00	16160																														
ZZZZZZ	ZZZZZZ	20.00	16230																														
FRP-090811-004	TL50D	20.00	16300				X																										
FRP-090811-005	TL50E	20.00	16360				X																										
FRP-090811-006	TL50F	20.00	16430				X																										
CCV	MCCV6	1.00	16490				X																										
CCB	CCB6	1.00	16560				X																										
FRP-090811-007	TL50G	20.00	17040				X																										
FRP-090811-008	TL50H	20.00	17100				X																										
FRP-090811-009	TL50I	20.00	17170				X																										
FRP-090811-010	TL50J	20.00	17230				X																										
FRP-090811-011	TL50K	20.00	17300				X																										
FRP-090811-012	TL50L	20.00	17360				X																										
FRP-090811-013	TL50M	20.00	17430				X																										

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/19/2011

SDG: TL50 RUNID: MS091981 METHOD: PMS END DATE: 9/19/2011

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-090811-015	TL50O	2.00	17490																														
FRP-090811-016	TL50P	2.00	17560																														
FRP-090811-017	TL50Q	2.00	18030																														
CCV	MCCV7	1.00	18090				X																										
CCB	CCB7	1.00	18160				X																										
PBW	TL50MB2	2.00	18230				X																										
LCSW	TL50MB2SPK	2.00	18300				X																										
ZZZZZZ	ZZZZZZ	10.00	18370																														
FRP-090811-014	TL50N	2.00	18430																														
FRP-090811-014D	TL50NDUP	2.00	18500																														
FRP-090811-014S	TL50NSPK	2.00	18560																														
FRP-090811-018	TL50R	2.00	19030				X																										
ZZZZZZ	TL29A	100.00	19090																														
ZZZZZZ	TL29C	100.00	19160																														
ZZZZZZ	TL29D	100.00	19220																														
CCV	MCCV8	1.00	19290				X																										
CCB	CCB8	1.00	19360				X																										

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/20/2011

SDG: TL50 RUNID: MS092081 METHOD: PMS END DATE: 9/20/2011

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	09290				X																	X									
S1	S1	1.00	09360				X																	X									
S2	S2	1.00	09440				X																	X									
S3	S3	1.00	09520				X																	X									
S4	S4	1.00	10000				X																	X									
ZZZZZZ	Rinse Sampl	1.00	10070																														
ICV	MICV	1.00	10220				X																	X									
ICB	ICB	1.00	10290				X																	X									
CCV	MCCV1	1.00	10360				X																	X									
CCB	CCB1	1.00	10440				X																	X									
CRI	MCRI	1.00	10510				X																	X									
ICSA	ICSAI	1.00	10580				X																	X									
ICSAB	ICSABI	1.00	11060				X																	X									
ZZZZZZ	LR200	1.00	11130																														
ZZZZZZ	LR300	1.00	11200																														
CCV	MCCV2	1.00	11280				X																	X									
CCB	CCB2	1.00	11350				X																	X									
ZZZZZZ	TM19MB	10.00	11420																														
ZZZZZZ	TM75MB	2.00	11490																														
ZZZZZZ	TM75MBSPK	2.00	11560																														
ZZZZZZ	TM19ADUP	10.00	12020																														
ZZZZZZ	TM19A	10.00	12090																														
ZZZZZZ	TM19ASPK	20.00	12150																														
FRP-090811-015	TL50O	2.00	12220				X																	X									
FRP-090811-018	TL50R	2.00	12280																					X									
ZZZZZZ	TM75A	2.00	12350																														
FRP-090811-001S	TL50ASPK	20.00	12420				X																										
CCV	MCCV3	1.00	12480				X																	X									
CCB	CCB3	1.00	12550				X																	X									
ZZZZZZ	TM66MB	10.00	13030																														
ZZZZZZ	TM66AaDUP	10.00	13090																														
ZZZZZZ	TM66Aa	10.00	13160																														
ZZZZZZ	TM66AaSPK	20.00	13220																														
ZZZZZZ	TM73B	20.00	13340																														
ZZZZZZ	TM73B	20.00	13420																														

FORM XIV

TL50.096.96

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/20/2011

SDG: TL50 RUNID: MS092081 METHOD: PMS END DATE: 9/20/2011

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	TM57B	20.00	13530																														
CCV	MCCV4	1.00	13590				X																	X									
CCB	CCB4	1.00	14060				X																	X									
PBW	TL50MB2	2.00	14140																					X									
LCSW	TL50MB2SPK	2.00	14200																					X									
FRP-090811-014L	TL50N-L	10.00	14270																					X									
FRP-090811-014	TL50N	2.00	14330																					X									
FRP-090811-014D	TL50NDUP	2.00	14400																					X									
FRP-090811-014S	TL50NSPK	2.00	14460																					X									
ZZZZZZ	TL84BDUP	20.00	14530																														
ZZZZZZ	TL84B	20.00	14590																														
ZZZZZZ	TL84BSPK	20.00	15060																														
ZZZZZZ	TL84A	20.00	15130																														
CCV	MCCV5	1.00	15190				X																	X									
CCB	CCB5	1.00	15260				X																	X									
S0	S0	1.00	15340				X																	X									
CCV	MCCV6	1.00	15420				X																	X									
CCB	CCB6	1.00	15490				X																	X									
ZZZZZZ	TL84MB	20.00	15560																														
ZZZZZZ	TL84MBSPK	20.00	16030																														
FRP-090811-016	TL50P	2.00	16090				X																	X									
FRP-090811-017	TL50Q	2.00	16160				X																	X									
ZZZZZZ	TL84C	20.00	16220																														
ZZZZZZ	TL84D	20.00	16290																														
ZZZZZZ	TL84E	20.00	16350																														
ZZZZZZ	TL84F	20.00	16420																														
ZZZZZZ	TL76D	2.00	16480																														
ZZZZZZ	TL76E	2.00	16550																														
CCV	MCCV7	1.00	17010				X																	X									
CCB	CCB7	1.00	17090				X																	X									

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/21/2011

SDG: TL50 RUNID: MS092182 METHOD: PMS END DATE: 9/21/2011

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	10212				X																										
S1	S1	1.00	10298				X																										
S2	S2	1.00	10376				X																										
S3	S3	1.00	10475				X																										
S4	S4	1.00	10561				X																										
S4	S4	1.00	11145				X																										
ICV	MICV	1.00	11311				X																										
ICB	ICB	1.00	11396				X																										
CCV	MCCV1	1.00	11468				X																										
CCB	CCB1	1.00	11541				X																										
CRI	MCRI	1.00	12012				X																										
ZZZZZZ	ZZZZZZ	1.00	12088																														
ICSA	ICSAI	1.00	12245				X																										
ICSAB	ICSABI	1.00	12317				X																										
ZZZZZZ	LR200	1.00	12397																														
ZZZZZZ	LR300	1.00	12465																														
CCV	MCCV2	1.00	12546				X																										
CCB	CCB2	1.00	13019				X																										
ZZZZZZ	TN02MB1	20.00	13081																														
ZZZZZZ	TN02MB1SPK	20.00	13164																														
ZZZZZZ	TN02C-L	100.00	13227																														
ZZZZZZ	TN02C	20.00	13290																														
ZZZZZZ	TN02DUP	20.00	13354																														
ZZZZZZ	TN02CSPK	20.00	13428																														
ZZZZZZ	TN02CPOST	20.00	13483																														
ZZZZZZ	TN02A	20.00	13558																														
ZZZZZZ	TN02B	20.00	14024																														
ZZZZZZ	TN02D	20.00	14080																														
CCV	MCCV3	1.00	14155				X																										
CCB	CCB3	1.00	14228				X																										
ZZZZZZ	TN02MB1	20.00	14291																														
ZZZZZZ	TN02E	20.00	14368																														
ZZZZZZ	TN02F	20.00	14422																														
ZZZZZZ	TN02G	20.00	14492																														
ZZZZZZ	TN02A	20.00	14553																														

FORM XIV

TL50 : 00152

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/21/2011

SDG: TL50 RUNID: MS092182 METHOD: PMS END DATE: 9/21/2011

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	TN02G	100.00	15024																														
CCV	MCCV4	1.00	15086				X																										
CCB	CCB4	1.00	15169				X																										
ZZZZZZ	TL84MBSPK	20.00	15312																														
ZZZZZZ	ZZZZZZ	25.00	15384																														
FRP-090811-014	TL50N	5.00	15449																														
FRP-090811-014D	TL50NDUP	5.00	15513				X																										
FRP-090811-014S	TL50NSPK	5.00	15576				X																										
ZZZZZZ	TL84BDUP	50.00	16041																														
ZZZZZZ	TL84B	50.00	16116																														
ZZZZZZ	TL84BSPK	50.00	16171																														
ZZZZZZ	TL84A	50.00	16247																														
ZZZZZZ	TL84C	50.00	16303																														
CCV	MCCV5	1.00	16379				X																										
CCB	CCB5	1.00	16442				X																										

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: PE ELAN 6000 MS START DATE: 9/29/2011

SDG: TL50 RUNID: MS092981 METHOD: PMS END DATE: 9/29/2011

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	09150				X																										
S2	S2	1.00	09220				X																										
S3	S3	1.00	09290				X																										
S4	S4	1.00	09350				X																										
ZZZZZZ	Rinse Sampl	1.00	09430																														
ICV	MICV	1.00	09510				X																										
ICB	ICB	1.00	09590				X																										
CCV	MCCV1	1.00	10050				X																										
CCB	CCB1	1.00	10120				X																										
CRI	MCRI	1.00	10180				X																										
ICSA	ICSAI	1.00	10250				X																										
ICSAB	ICSABI	1.00	10320				X																										
ZZZZZZ	LR200	1.00	10390																														
ZZZZZZ	LR300	1.00	10440																														
CCV	MCCV2	1.00	10510				X																										
CCB	CCB2	1.00	10590				X																										
ZZZZZZ	TN22MB1	20.00	11080																														
ZZZZZZ	TN22MB1SPK	20.00	11140																														
FRP-090811-014L	TL50N-L	25.00	11200				X																										
FRP-090811-014	TL50N	5.00	11270				X																										
ZZZZZZ	TN22A-L	100.00	11340																														
ZZZZZZ	TN22A	20.00	11400																														
ZZZZZZ	TN22ADUP	20.00	11470																														
ZZZZZZ	TN22ASPK	20.00	11540																														
ZZZZZZ	ZZZZZZ	20.00	12000																														
ZZZZZZ	TN22B	20.00	12070																														
CCV	MCCV3	1.00	12130				X																										
CCB	CCB3	1.00	12210				X																										

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: CETAC MERCURY START DATE: 9/16/2011

SDG: TL50 RUNID: HG091601 METHOD: CVA END DATE: 9/16/2011

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	08343														X																
S0.1	S0.1	1.00	08361														X																
S0.5	S0.5	1.00	08374														X																
S1	S1	1.00	08392														X																
S2	S2	1.00	08410														X																
S5	S5	1.00	08424														X																
S10	S10	1.00	08441														X																
ICV	AICV	1.00	08472														X																
ICB	ICB	1.00	08490														X																
CCV	ACCV1	1.00	08504														X																
CCB	CCB1	1.00	08522														X																
CRA	CRA	1.00	08535														X																
ZZZZZZ	TM02MB1	1.00	08553																														
ZZZZZZ	TM02MB1SPK	1.00	08570																														
ZZZZZZ	TM02A	1.00	08584																														
ZZZZZZ	TM02ADUP	1.00	09002																														
ZZZZZZ	TM02ASPK	1.00	09015																														
ZZZZZZ	TL52MB1	1.00	09033																														
ZZZZZZ	TL52MB1SPK	1.00	09051																														
ZZZZZZ	TL52A	1.00	09065																														
ZZZZZZ	TL52ADUP	1.00	09082																														
CCV	ACCV2	1.00	09100														X																
CCB	CCB2	1.00	09114														X																
ZZZZZZ	TL52ASPK	1.00	09132																														
ZZZZZZ	TL52B	1.00	09150																														
ZZZZZZ	TL23MB1	1.00	09163																														
ZZZZZZ	TL23MB1SPK	1.00	09181																														
ZZZZZZ	TL23A	1.00	09194																														
ZZZZZZ	TL23ADUP	1.00	09212																														
ZZZZZZ	TL23ASPK	1.00	09230																														
ZZZZZZ	TL23B	1.00	09243																														
ZZZZZZ	TL23C	1.00	09261																														
ZZZZZZ	TL23D	1.00	09275																														
CCV	ACCV3	1.00	09293														X																
CCB	CCB3	1.00	09311														X																

FORM XIV

TL50-001155

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: CETAC MERCURY START DATE: 9/16/2011

SDG: TL50 RUNID: HG091601 METHOD: CVA END DATE: 9/16/2011

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	TL23E	1.00	09325																														
ZZZZZZ	TL23F	1.00	09343																														
ZZZZZZ	TL23G	1.00	09360																														
ZZZZZZ	TL23H	1.00	09374																														
ZZZZZZ	TL23I	1.00	09391																														
ZZZZZZ	TL23J	1.00	09405																														
ZZZZZZ	TM21MB1	1.00	09423																														
ZZZZZZ	TM21MB1SPK	1.00	09440																														
ZZZZZZ	TM21A	1.00	09454																														
ZZZZZZ	TM21ADUP	1.00	09472																														
CCV	ACCV4	1.00	09490														X																
CCB	CCB4	1.00	09504														X																
ZZZZZZ	TM21ASPK	1.00	09522																														
ZZZZZZ	TM21B	1.00	09540																														
ZZZZZZ	TM21C	1.00	09553																														
ZZZZZZ	TM21D	1.00	09571																														
ZZZZZZ	TM21E	1.00	09585																														
ZZZZZZ	TM21F	1.00	10003																														
ZZZZZZ	TM21G	1.00	10020																														
ZZZZZZ	TM21H	1.00	10034																														
ZZZZZZ	TM21I	1.00	10052																														
ZZZZZZ	TM21J	1.00	10065																														
CCV	ACCV5	1.00	10083														X																
CCB	CCB5	1.00	10101														X																
ZZZZZZ	TM21K	1.00	10115																														
ZZZZZZ	TM21L	1.00	10133																														
CCV	ACCV6	1.00	10151														X																
CCB	CCB6	1.00	10165														X																
PBW	TL50MB1	1.00	10184														X																
LCSW	TL50MB1SPK	1.00	10201														X																
FRP-090811-001	TL50A	1.00	10215														X																
FRP-090811-001D	TL50ADUP	1.00	10232														X																
FRP-090811-001S	TL50ASPK	1.00	10250														X																
FRP-090811-002	TL50B	1.00	10264														X																
FRP-090811-003	TL50C	1.00	10281														X																

FORM XIV

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: CETAC MERCURY START DATE: 9/16/2011

SDG: TL50 RUNID: HG091601 METHOD: CVA END DATE: 9/16/2011

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-090811-004	TL50D	1.00	10295														X																
FRP-090811-005	TL50E	1.00	10313														X																
FRP-090811-006	TL50F	1.00	10330														X																
CCV	ACCV7	1.00	10344														X																
CCB	CCB7	1.00	10362														X																
FRP-090811-007	TL50G	1.00	10380														X																
FRP-090811-008	TL50H	1.00	10394														X																
FRP-090811-009	TL50I	1.00	10412														X																
FRP-090811-010	TL50J	1.00	10425														X																
FRP-090811-011	TL50K	1.00	10443														X																
FRP-090811-012	TL50L	1.00	10460														X																
FRP-090811-013	TL50M	1.00	10474														X																
ZZZZZZ	TL13MB1	1.00	10492																														
ZZZZZZ	TL13MB1SPK	1.00	10505																														
ZZZZZZ	TL13A	1.00	10523																														
CCV	ACCV8	1.00	10541														X																
CCB	CCB8	1.00	10555														X																

Mercury Analysis
Report and Summary QC Forms

ARI Job ID: TL50, TL56

TL50 : 001198

Cover Page

INORGANIC ANALYSIS DATA PACKAGE

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL56

CLIENT ID	ARI ID	ARI LIMS ID	REPREP
FRP-090811-014	TL56A	11-19614	
PBW	TL56MB1	11-19614	
LCSW	TL56MB1SPK	11-19614	
FRP-090811-015	TL56B	11-19615	
FRP-090811-016	TL56C	11-19616	
FRP-090811-017	TL56D	11-19617	
FRP-090811-018	TL56E	11-19618	

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: 9/20/11 Title: Inorganics Director

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
Total Mercury by Method SW7470A

Data Release Authorized:
Reported: 09/19/11
Date Received: 09/08/11

QC Report No: TL56-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

Client/ ARI ID	Date Sampled	Matrix	Prep Date Anal Date	RL	Result
FRP-090811-014 TL56A 11-19614	09/08/11	Water	09/12/11 09/19/11	**20.0**	**36.9**
FRP-090811-015 TL56B 11-19615	09/08/11	Water	09/12/11 09/19/11	20.0	20.0 U
FRP-090811-016 TL56C 11-19616	09/08/11	Water	09/12/11 09/19/11	20.0	20.0 U
FRP-090811-017 TL56D 11-19617	09/08/11	Water	09/12/11 09/19/11	20.0	20.0 U
FRP-090811-018 TL56E 11-19618	09/08/11	Water	09/12/11 09/19/11	20.0	20.0 U
MB-091211 Method Blank	NA	Water	09/12/11 09/19/11	20.0	20.0 U

Reported in ng/L

RL-Analytical reporting limit
U-Undetected at reported detection limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: LAB CONTROL

Lab Sample ID: TL56LCS
LIMS ID: 11-19614
Matrix: Water
Data Release Authorized:
Reported: 09/19/11

QC Report No: TL56-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation 8769
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Mercury	7470A	181	200	90.5%	

Reported in ng/L

N-Control limit not met
Control Limits: 80-120%

Calibration Verification

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL56

UNITS:ng/L

ANALYTE	EL	M	RUN	ICVTV	ICV	%R	CCVTV	CCV1	%R	CCV2	%R	CCV3	%R	CCV4	%R	CCV5	%R
Mercury	HG	CVL	HG091901	500.0	502.00	100.4	500.0	502.00	100.4	503.00	100.6	500.00	100.0				

Control Limits: Mercury 80-120; Other Metals 90-110

TL56 : 002002

CRDL Standard

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ng/L

SDG: TL56

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
Mercury	HG	CVL	HG091901	20.0	15.00	**75.0**										

Control Limits: no control limits have been established by the EPA at this time.

FORM II (2)

TL56-002285

Calibration Blanks

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

UNITS: ng/L

SDG: TL56

ANALYTE	EL	METH	RUN	CRDL	IDL	ICB	C	CCB1	C	CCB2	C	CCB3	C	CCB4	C	CCB5	C
Mercury	HG	CVL	HG091901	25.0	20.0	20.0	U	20.0	U	20.0	U	20.0	U				

TL56.002001

IDLs and ICP Linear Ranges

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL56

UNITS: ng/L

ANALYTE	EL	METH	INSTRUMENT	WAVELENTH (nm)	GFA BACK-GROUND	CLP CRDL	RL	RL DATE	ICP LINEAR RANGE (ng/L)	ICP LR DATE
Mercury	HG	CVL	CETAC MERCURY	253.70		25	20.0	4/1/2011		

Preparation Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I

SDG: TL56

ANALYSIS METHOD: CVL

ARI PREP CODE: TLM

PREPDATE: 9/12/2011

CLIENT ID	ARI ID	MASS (g)	INITIAL VOLUME (mL)	FINAL VOLUME (mL)
FRP-090811-014	TL56A	0.000	20.0	20.0
FRP-090811-015	TL56B	0.000	20.0	20.0
FRP-090811-016	TL56C	0.000	20.0	20.0
FRP-090811-017	TL56D	0.000	20.0	20.0
FRP-090811-018	TL56E	0.000	20.0	20.0
PBW	TL56MB1	0.000	20.0	20.0
LCSW	TL56MB1SPK	0.000	20.0	20.0

Analysis Run Log

ANALYTICAL RESOURCES INCORPORATED

CLIENT: AMEC Geomatrix

PROJECT: FRP 2011 Shoreline I INSTRUMENT ID: CETAC MERCURY START DATE: 9/19/2011

SDG: TL56 RUNID: HG091901 METHOD: CVL END DATE: 9/19/2011

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	10113														X																
S20	S20	1.00	10142														X																
S50	S50	1.00	10170														X																
S100	S100	1.00	10194														X																
S200	S200	1.00	10222														X																
S400	S400	1.00	10250														X																
S1000	S1000	1.00	10275														X																
ICV	AICV	1.00	10321														X																
ICB	ICB	1.00	10345														X																
CCV	ACCV1	1.00	10373														X																
CCB	CCB1	1.00	10401														X																
CRA	CRA	1.00	10430														X																
ZZZZZZ	TL28MB1	1.00	10454																														
ZZZZZZ	TL28MB1SPK	1.00	10482																														
ZZZZZZ	TL28A	1.00	10510																														
ZZZZZZ	TL28ADUP	1.00	10534																														
ZZZZZZ	TL28ASPK	1.00	10562																														
PBW	TL56MB1	1.00	10590														X																
LCSW	TL56MB1SPK	1.00	11015														X																
FRP-090811-014	TL56A	1.00	11043														X																
FRP-090811-015	TL56B	1.00	11071														X																
CCV	ACCV2	1.00	11100														X																
CCB	CCB2	1.00	11124														X																
FRP-090811-016	TL56C	1.00	11152														X																
FRP-090811-017	TL56D	1.00	11180														X																
FRP-090811-018	TL56E	1.00	11204														X																
ZZZZZZ	TL77MB1	1.00	11233																														
ZZZZZZ	TL77MB1SPK	1.00	11261																														
ZZZZZZ	TL77A	1.00	11285																														
ZZZZZZ	TL77ADUP	1.00	11313																														
ZZZZZZ	TL77ASPK	1.00	11341																														
ZZZZZZ	TL77B	1.00	11365																														
ZZZZZZ	TL77C	1.00	11394																														
CCV	ACCV3	1.00	11422														X																
CCB	CCB3	1.00	11451														X																

FORM XIV

TL56 : 09291

General Chemistry Analysis
Report and Summary QC Forms

ARI Job ID: TL50, TL56

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
pH by Method EPA 150.1

Data Release Authorized:
Reported: 10/03/11
Date Received: 09/08/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

Client/ ARI ID	Date Sampled	Matrix	Analysis Date & Batch	RL	Result
FRP-090811-014 TL50N 11-19591	09/08/11	Water	09/08/11 17:10 090811#1	0.01	6.95
FRP-090811-015 TL50O 11-19592	09/08/11	Water	09/08/11 17:10 090811#1	0.01	6.81
FRP-090811-016 TL50P 11-19593	09/08/11	Water	09/08/11 17:10 090811#1	0.01	8.11
FRP-090811-017 TL50Q 11-19594	09/08/11	Water	09/08/11 17:10 090811#1	0.01	8.98
FRP-090811-018 TL50R 11-19595	09/08/11	Water	09/08/11 17:10 090811#1	0.01	5.66

Reported in std units

RL-Analytical reporting limit
U-Undetected at reported detection limit

LAB CONTROL RESULTS-CONVENTIONALS
TL50-AMEC Geomatrix

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/03/11

Project: FRP 2011 Shoreline Investiga
Event: 8769
Date Sampled: NA
Date Received: NA

Analyte	Date/Time	Units	LCS	Spike Added	Recovery
pH	09/08/11	std units	7.00	7.00	0.00

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

REPLICATE RESULTS-CONVENTIONALS
TL50-AMEC Geomatrix

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 10/03/11

Project: FRP 2011 Shoreline Investiga
Event: 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: TL50N Client ID: FRP-090811-014					
pH	09/08/11	std units	6.95	6.96	0.01

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
pH by Method SW9045

Data Release Authorized:
Reported: 09/12/11
Date Received: 09/08/11

QC Report No: TL50-AMEC Geomatrix
Project: FRP 2011 Shoreline Investigation
8769

Client/ ARI ID	Date Sampled	Matrix	Analysis Date	RL	Result
FRP-090811-001 TL50A 11-19578	09/08/11	Soil	09/09/11	0.01	7.48
FRP-090811-002 TL50B 11-19579	09/08/11	Soil	09/09/11	0.01	6.96
FRP-090811-003 TL50C 11-19580	09/08/11	Soil	09/09/11	0.01	6.10
FRP-090811-004 TL50D 11-19581	09/08/11	Soil	09/09/11	0.01	6.54
FRP-090811-005 TL50E 11-19582	09/08/11	Soil	09/09/11	0.01	7.64
FRP-090811-006 TL50F 11-19583	09/08/11	Soil	09/09/11	0.01	8.53
FRP-090811-007 TL50G 11-19584	09/08/11	Soil	09/09/11	0.01	8.59
FRP-090811-008 TL50H 11-19585	09/08/11	Soil	09/09/11	0.01	10.27
FRP-090811-009 TL50I 11-19586	09/08/11	Soil	09/09/11	0.01	9.55
FRP-090811-010 TL50J 11-19587	09/08/11	Soil	09/09/11	0.01	8.13
FRP-090811-011 TL50K 11-19588	09/08/11	Soil	09/09/11	0.01	8.02
FRP-090811-012 TL50L 11-19589	09/08/11	Soil	09/09/11	0.01	8.10
FRP-090811-013 TL50M 11-19590	09/08/11	Soil	09/09/11	0.01	8.46

Reported in std units

RL-Analytical reporting limit
U-Undetected at reported detection limit

LAB CONTROL RESULTS-CONVENTIONALS
TL50-AMEC Geomatrix

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

Project: FRP 2011 Shoreline Investiga
Event: 8769
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
pH	09/09/11	std units	7.02	7.00	0.02

pH is evaluated as the Absolute Difference between the values rather than Percent Recovery.

REPLICATE RESULTS-CONVENTIONALS
TL50-AMEC Geomatrix

ANALYTICAL RESOURCES INCORPORATED

Matrix: Soil
Data Release Authorized:
Reported: 09/12/11

Project: FRP 2011 Shoreline Investiga
Event: 8769
Date Sampled: 09/08/11
Date Received: 09/08/11

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: TL50A Client ID: FRP-090811-001					
pH	09/09/11	std units	7.48	7.52	0.04

pH is evaluated as the Absolute Difference between the values rather than Relative Percent Difference

Total Solids

ARI Job ID: TL50, TL56

List of Sample VOA Total Solids 10/ 3/11

Job TL50

LIMS ADDRESS	Sample ID	Percent TS
11-19578-TL50A	FRP-090811-001	89.58
11-19579-TL50B	FRP-090811-002	93.80
11-19580-TL50C	FRP-090811-003	84.47
11-19581-TL50D	FRP-090811-004	80.88
11-19582-TL50E	FRP-090811-005	82.65
11-19583-TL50F	FRP-090811-006	82.54
11-19584-TL50G	FRP-090811-007	78.82
11-19585-TL50H	FRP-090811-008	77.00
11-19586-TL50I	FRP-090811-009	79.95
11-19587-TL50J	FRP-090811-010	79.78
11-19588-TL50K	FRP-090811-011	79.89
11-19589-TL50L	FRP-090811-012	79.63
11-19590-TL50M	FRP-090811-013	79.46
11-19591-TL50N	FRP-090811-014	Not Requested
11-19592-TL50O	FRP-090811-015	Not Requested
11-19593-TL50P	FRP-090811-016	Not Requested
11-19594-TL50Q	FRP-090811-017	Not Requested
11-19595-TL50R	FRP-090811-018	Not Requested
11-19596-TL50S	Trip Blanks	Not Requested

Solids Data Entry Report Checked by: MJ Date: 09/15/11
Date: 09/15/11 Data Analyst: DM

Solids Determination performed on 09/14/11 by DM

JOB	SAMPLE	CLIENTID	TAREWEIGHT	SAMPDISH	DRYWEIGHT	SOLIDS
TL50	A	FRP-090811-001	1.003	10.304	9.335	89.58
TL50	B	FRP-090811-002	1.015	10.429	9.845	93.80
TL50	C	FRP-090811-003	1.003	10.236	8.802	84.47
TL50	D	FRP-090811-004	1.009	10.292	8.517	80.88
TL50	E	FRP-090811-005	1.011	10.969	9.241	82.65
TL50	F	FRP-090811-006	0.992	10.303	8.677	82.54
TL50	G	FRP-090811-007	0.992	10.728	8.666	78.82
TL50	H	FRP-090811-008	1.015	10.223	8.105	77.00
TL50	I	FRP-090811-009	1.008	10.338	8.467	79.95
TL50	J	FRP-090811-010	1.014	10.246	8.379	79.78
TL50	K	FRP-090811-011	1.031	10.173	8.335	79.89
TL50	L	FRP-090811-012	0.991	10.261	8.373	79.63
TL50	M	FRP-090811-013	0.968	10.599	8.621	79.46

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Total Solids Bench Sheet

Laboratory Section Metals

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

Samples in Oven: Date: 9-14-11 Time: 1055 Temp: 105°c Analyst: DM

Removed from Oven: Date: 9-15-11 Time: 0720 Temp: 101°c Analyst: DM

ARI Sample ID	Tare Weight (g)	Tare + Sample Wet (g)	Tare + Sample Dry (g)	Date & Time Last Weight	Final Weighting >12 hrs[1]
TL50 A	1.003	10.304	9.335	–	✓
" B	1.015	10.429	9.845	–	✓
" C	1.003	10.236	8.802	–	✓
" D	1.009	10.292	8.517	–	✓
" E	1.011	10.969	9.241	–	✓
" F	0.992	10.303	8.677	–	✓
" G	0.992	10.728	8.666	–	✓
" H	1.015	10.223	8.105	–	✓
" I	1.008	10.338	8.467	–	✓
" J	1.014	10.246	8.379	–	✓
" K	1.031	10.173	8.385	–	✓
" L	0.991	10.261	8.373	–	✓
" M	0.968	10.599	8.621	–	✓
		9-14-11 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.

TL50 : 00218