

ANALYTICAL REPORT

Job Number: 720-19136-2

Job Description: Santa Cruz Rail Line

For:

AMEC Geomatrix Inc.
2101 Webster Street, 12th Floor
Oakland, CA 94612

Attention: Mr. Matt Goerz



Approved for release.
Afsaneh Salimpour
Project Manager I
5/8/2009 11:37 AM

Afsaneh Salimpour
Project Manager I
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05/08/2009

Job Narrative
720-J19136-2

Comments

No additional comments.

Receipt

All samples were received in good condition within temperature requirements.

GC Semi VOA

Method(s) 8015B: Surrogate recovery for the following sample(s) was outside control limits: SB-102-12.0 (720-19136-23), SB-102-4.5 (720-19136-22). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

Organic Prep

Method(s) 8015B: The following sample(s) was prepared outside of preparation holding time: SB-100-10.0 (720-19136-15), SB-101-0.5 (720-19136-17), SB-101-20.0 (720-19136-20), SB-101-4.5 (720-19136-18), SB-102-0.5 (720-19136-21), SB-102-12.0 (720-19136-23), SB-102-4.5 (720-19136-22), SB-98-0.5 (720-19136-5), SB-99-0.5 (720-19136-9).

No other analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-19136-5	SB-98-0.5				
Diesel Range Organics [C10-C28]		790 J H	4.9	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		2200 J H	250	mg/Kg	8015B
720-19136-9	SB-99-0.5				
Diesel Range Organics [C10-C28]		490 J H	4.9	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		1600 J H	250	mg/Kg	8015B
720-19136-15	SB-100-10.0				
Diesel Range Organics [C10-C28]		23 J H	1.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		53 J H	50	mg/Kg	8015B
720-19136-17	SB-101-0.5				
Diesel Range Organics [C10-C28]		420 J H	3.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		1200 J H	150	mg/Kg	8015B
720-19136-18	SB-101-4.5				
Diesel Range Organics [C10-C28]		1800 J H	20	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		3100 J H	1000	mg/Kg	8015B
720-19136-20	SB-101-20.0				
Diesel Range Organics [C10-C28]		4.8 J H	1.0	mg/Kg	8015B
720-19136-21	SB-102-0.5				
Diesel Range Organics [C10-C28]		380 J H	5.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		1200 J H	250	mg/Kg	8015B
720-19136-22	SB-102-4.5				
Diesel Range Organics [C10-C28]		680 J H	9.9	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		1300 J H	490	mg/Kg	8015B
720-19136-23	SB-102-12.0				
Diesel Range Organics [C10-C28]		790 J H	2.0	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		460 J H	99	mg/Kg	8015B

EXECUTIVE SUMMARY - Detections

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Lab Sample ID Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-19136-27 Arsenic	SB-103-1.5	36	1.1	mg/Kg	6010B
720-19136-28 Arsenic	SB-103-4.5	23	1.0	mg/Kg	6010B

METHOD SUMMARY

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Ultrasonic Extraction	TAL SF		SW846 3550B
Metals (ICP)	TAL SF	SW846 6010B	
Preparation, Metals	TAL SF		SW846 3050B

Lab References:

TAL SF = TestAmerica San Francisco

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Method	Analyst	Analyst ID
SW846 8015B	Vincent, Richard	RV
SW846 6010B	Vega, Anthony	AV

SAMPLE SUMMARY

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Client Matrix</u>	<u>Date/Time Sampled</u>	<u>Date/Time Received</u>
720-19136-5	SB-98-0.5	Solid	04/13/2009 1030	04/14/2009 1545
720-19136-9	SB-99-0.5	Solid	04/13/2009 1100	04/14/2009 1545
720-19136-15	SB-100-10.0	Solid	04/13/2009 1150	04/14/2009 1545
720-19136-17	SB-101-0.5	Solid	04/13/2009 1215	04/14/2009 1545
720-19136-18	SB-101-4.5	Solid	04/13/2009 1220	04/14/2009 1545
720-19136-20	SB-101-20.0	Solid	04/13/2009 1240	04/14/2009 1545
720-19136-21	SB-102-0.5	Solid	04/13/2009 1305	04/14/2009 1545
720-19136-22	SB-102-4.5	Solid	04/13/2009 1310	04/14/2009 1545
720-19136-23	SB-102-12.0	Solid	04/13/2009 1315	04/14/2009 1545
720-19136-27	SB-103-1.5	Solid	04/13/2009 1510	04/14/2009 1545
720-19136-28	SB-103-4.5	Solid	04/13/2009 1515	04/14/2009 1545

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-98-0.5

Lab Sample ID: 720-19136-5

Date Sampled: 04/13/2009 1030

Client Matrix: Solid

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B

Analysis Batch: 720-49553

Instrument ID: HP GC 7890

Preparation: 3550B

Prep Batch: 720-49497

Lab File ID: N/A

Dilution: 5.0

Initial Weight/Volume: 30.41 g

Date Analyzed: 05/02/2009 0456

Final Weight/Volume: 5 mL

Date Prepared: 05/01/2009 0844

Injection Volume:

Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		790 J	H	4.9
Motor Oil Range Organics [C24-C36]		2200 J	H	250
Surrogate	%Rec			Acceptance Limits
p-Terphenyl	0		D	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-99-0.5

Lab Sample ID: 720-19136-9

Client Matrix: Solid

Date Sampled: 04/13/2009 1100

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch:	720-49553	Instrument ID:	HP GC 7890
Preparation:	3550B	Prep Batch:	720-49497	Lab File ID:	N/A
Dilution:	5.0			Initial Weight/Volume:	30.34 g
Date Analyzed:	05/02/2009 0517			Final Weight/Volume:	5 mL
Date Prepared:	05/01/2009 0844			Injection Volume:	
				Column ID:	PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		490 J	H	4.9
Motor Oil Range Organics [C24-C36]		1600 J	H	250
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		0	D	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-100-10.0

Lab Sample ID: 720-19136-15

Client Matrix: Solid

Date Sampled: 04/13/2009 1150

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B

Analysis Batch: 720-49553

Instrument ID: HP GC 7890

Preparation: 3550B

Prep Batch: 720-49497

Lab File ID: N/A

Dilution: 1.0

Initial Weight/Volume: 30.01 g

Date Analyzed: 05/02/2009 0538

Final Weight/Volume: 5 mL

Date Prepared: 05/01/2009 0844

Injection Volume:

Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		23 J	H	1.0
Motor Oil Range Organics [C24-C36]		53 J	H	50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	103	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-101-0.5

Lab Sample ID: 720-19136-17

Date Sampled: 04/13/2009 1215

Client Matrix: Solid

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B Analysis Batch: 720-49553 Instrument ID: HP GC 7890
Preparation: 3550B Prep Batch: 720-49497 Lab File ID: N/A
Dilution: 3.0 Initial Weight/Volume: 30.19 g
Date Analyzed: 05/02/2009 0558 Final Weight/Volume: 5 mL
Date Prepared: 05/01/2009 0844 Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		420J	H	3.0
Motor Oil Range Organics [C24-C36]		1200J	H	150

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	105	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-101-4.5

Lab Sample ID: 720-19136-18

Date Sampled: 04/13/2009 1220

Client Matrix: Solid

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B

Analysis Batch: 720-49553

Instrument ID: HP GC 7890

Preparation: 3550B

Prep Batch: 720-49497

Lab File ID: N/A

Dilution: 20

Initial Weight/Volume: 30.13 g

Date Analyzed: 05/06/2009 0345

Final Weight/Volume: 5 mL

Date Prepared: 05/01/2009 0844

Injection Volume:

Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		1800J	H	20
Motor Oil Range Organics [C24-C36]		3100J	H	1000
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		0	D	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-101-20.0

Lab Sample ID: 720-19136-20

Client Matrix: Solid

Date Sampled: 04/13/2009 1240

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-49553	Instrument ID: HP GC 7890
Preparation:	3550B	Prep Batch: 720-49497	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 30.05 g
Date Analyzed:	05/06/2009 0324		Final Weight/Volume: 5 mL
Date Prepared:	05/01/2009 0844		Injection Volume:
			Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		4.8 J	H	1.0
Motor Oil Range Organics [C24-C36]		ND < 50 UJ	H	50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	78	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-102-0.5

Lab Sample ID: 720-19136-21

Client Matrix: Solid

Date Sampled: 04/13/2009 1305

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B

Analysis Batch: 720-49553

Instrument ID: HP GC 7890

Preparation: 3550B

Prep Batch: 720-49497

Lab File ID: N/A

Dilution: 5.0

Initial Weight/Volume: 30.26 g

Date Analyzed: 05/02/2009 0701

Final Weight/Volume: 5 mL

Date Prepared: 05/01/2009 0844

Injection Volume:

Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		380 J	H	5.0
Motor Oil Range Organics [C24-C36]		1200 J	H	250
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		0	D	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-102-4.5

Lab Sample ID: 720-19136-22

Date Sampled: 04/13/2009 1310

Client Matrix: Solid

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 720-49553	Instrument ID: HP GC 7890
Preparation:	3550B	Prep Batch: 720-49497	Lab File ID: N/A
Dilution:	2.0		Initial Weight/Volume: 30.42 g
Date Analyzed:	05/02/2009 1321		Final Weight/Volume: 25 mL
Date Prepared:	05/01/2009 0844		Injection Volume:
			Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		680J	H	9.9
Motor Oil Range Organics [C24-C36]		1300J	H	490
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		512	X	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-102-12.0

Lab Sample ID: 720-19136-23

Client Matrix: Solid

Date Sampled: 04/13/2009 1315

Date Received: 04/14/2009 1545

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B

Analysis Batch: 720-49553

Instrument ID: HP GC 7890

Preparation: 3550B

Prep Batch: 720-49497

Lab File ID: N/A

Dilution: 2.0

Initial Weight/Volume: 30.33 g

Date Analyzed: 05/02/2009 0743

Final Weight/Volume: 5 mL

Date Prepared: 05/01/2009 0844

Injection Volume:

Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		790 J	H	2.0
Motor Oil Range Organics [C24-C36]		460 J	H	99
Surrogate		%Rec		Acceptance Limits
p-Terphenyl		449	X	40 - 119

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-103-1.5

Lab Sample ID: 720-19136-27

Date Sampled: 04/13/2009 1510

Client Matrix: Solid

Date Received: 04/14/2009 1545

6010B Metals (ICP)

Method: 6010B

Analysis Batch: 720-49651

Instrument ID: Varian ICP

Preparation: 3050B

Prep Batch: 720-49548

Lab File ID: N/A

Dilution: 1.0

Initial Weight/Volume: 0.95 g

Date Analyzed: 05/04/2009 1811

Final Weight/Volume: 50 mL

Date Prepared: 05/01/2009 1805

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Arsenic		36		1.1

Analytical Data

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Client Sample ID: SB-103-4.5

Lab Sample ID: 720-19136-28
Client Matrix: Solid

Date Sampled: 04/13/2009 1515
Date Received: 04/14/2009 1545

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 05/04/2009 1815
Date Prepared: 05/01/2009 1805

Analysis Batch: 720-49651
Prep Batch: 720-49548

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.98 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Arsenic		23		1.0

DATA REPORTING QUALIFIERS

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Lab Section	Qualifier	Description
GC Semi VOA		
	H	Sample was prepped or analyzed beyond the specified holding time
	X	Surrogate exceeds the control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

QC Association Summary

Lab Sample ID	Client Sample ID	Report		Method	Prep Batch
		Basis	Client Matrix		
GC Semi VOA					
Prep Batch: 720-49497					
LCS 720-49497/2-A	Lab Control Sample	T	Solid	3550B	
MB 720-49497/1-A	Method Blank	T	Solid	3550B	
720-19136-5	SB-98-0.5	T	Solid	3550B	
720-19136-9	SB-99-0.5	T	Solid	3550B	
720-19136-15	SB-100-10.0	T	Solid	3550B	
720-19136-17	SB-101-0.5	T	Solid	3550B	
720-19136-18	SB-101-4.5	T	Solid	3550B	
720-19136-20	SB-101-20.0	T	Solid	3550B	
720-19136-21	SB-102-0.5	T	Solid	3550B	
720-19136-22	SB-102-4.5	T	Solid	3550B	
720-19136-23	SB-102-12.0	T	Solid	3550B	
720-19467-D-6-D MS	Matrix Spike	T	Solid	3550B	
720-19467-D-6-E MSD	Matrix Spike Duplicate	T	Solid	3550B	
Analysis Batch:720-49553					
LCS 720-49497/2-A	Lab Control Sample	T	Solid	8015B	720-49497
MB 720-49497/1-A	Method Blank	T	Solid	8015B	720-49497
720-19136-5	SB-98-0.5	T	Solid	8015B	720-49497
720-19136-9	SB-99-0.5	T	Solid	8015B	720-49497
720-19136-15	SB-100-10.0	T	Solid	8015B	720-49497
720-19136-17	SB-101-0.5	T	Solid	8015B	720-49497
720-19136-18	SB-101-4.5	T	Solid	8015B	720-49497
720-19136-20	SB-101-20.0	T	Solid	8015B	720-49497
720-19136-21	SB-102-0.5	T	Solid	8015B	720-49497
720-19136-22	SB-102-4.5	T	Solid	8015B	720-49497
720-19136-23	SB-102-12.0	T	Solid	8015B	720-49497
720-19467-D-6-D MS	Matrix Spike	T	Solid	8015B	720-49497
720-19467-D-6-E MSD	Matrix Spike Duplicate	T	Solid	8015B	720-49497

Report Basis

T = Total

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 720-49548					
LCS 720-49548/2-A	Lab Control Sample	T	Solid	3050B	
LCSD 720-49548/3-A	Lab Control Sample Duplicate	T	Solid	3050B	
LCSSRM 720-49548/18-A	LCS-Standard Reference Material	T	Solid	3050B	
MB 720-49548/1-A	Method Blank	T	Solid	3050B	
720-19136-27	SB-103-1.5	T	Solid	3050B	
720-19136-28	SB-103-4.5	T	Solid	3050B	
720-19518-D-1-D MS	Matrix Spike	T	Solid	3050B	
720-19518-D-1-E MSD	Matrix Spike Duplicate	T	Solid	3050B	
Analysis Batch: 720-49651					
LCS 720-49548/2-A	Lab Control Sample	T	Solid	6010B	720-49548
LCSD 720-49548/3-A	Lab Control Sample Duplicate	T	Solid	6010B	720-49548
LCSSRM 720-49548/18-A	LCS-Standard Reference Material	T	Solid	6010B	720-49548
MB 720-49548/1-A	Method Blank	T	Solid	6010B	720-49548
720-19136-27	SB-103-1.5	T	Solid	6010B	720-49548
720-19136-28	SB-103-4.5	T	Solid	6010B	720-49548
720-19518-D-1-D MS	Matrix Spike	T	Solid	6010B	720-49548
720-19518-D-1-E MSD	Matrix Spike Duplicate	T	Solid	6010B	720-49548

Report Basis

T = Total

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Method Blank - Batch: 720-49497

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-49497/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/02/2009 0456
Date Prepared: 05/01/2009 0844

Analysis Batch: 720-49553
Prep Batch: 720-49497
Units: mg/Kg

Instrument ID: HP GC 7890
Lab File ID: N/A
Initial Weight/Volume: 30.21 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		0.99
Motor Oil Range Organics [C24-C36]	ND		50
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Surrogate	% Rec	Acceptance Limits	
p-Terphenyl	78	40 - 119	

Lab Control Sample - Batch: 720-49497

Method: 8015B
Preparation: 3550B

Lab Sample ID: LCS 720-49497/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/02/2009 0517
Date Prepared: 05/01/2009 0844

Analysis Batch: 720-49553
Prep Batch: 720-49497
Units: mg/Kg

Instrument ID: HP GC 7890
Lab File ID: N/A
Initial Weight/Volume: 30.14 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Diesel Range Organics [C10-C28]	41.5	37.1	89	50 - 130	
<hr/>					
Surrogate	% Rec		Acceptance Limits		
p-Terphenyl	93		40 - 119		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-49497**

**Method: 8015B
Preparation: 3550B**

MS Lab Sample ID: 720-19467-D-6-D MS Analysis Batch: 720-49553
 Client Matrix: Solid Prep Batch: 720-49497
 Dilution: 1.0
 Date Analyzed: 05/02/2009 0558
 Date Prepared: 05/01/2009 0844

Instrument ID: HP GC 7890
 Lab File ID: N/A
 Initial Weight/Volume: 30.03 g
 Final Weight/Volume: 5 mL
 Injection Volume:
 Column ID: PRIMARY

MSD Lab Sample ID: 720-19467-D-6-E MSD Analysis Batch: 720-49553
 Client Matrix: Solid Prep Batch: 720-49497
 Dilution: 1.0
 Date Analyzed: 05/02/2009 0619
 Date Prepared: 05/01/2009 0844

Instrument ID: HP GC 7890
 Lab File ID: N/A
 Initial Weight/Volume: 30.33 g
 Final Weight/Volume: 5 mL
 Injection Volume:
 Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Diesel Range Organics [C10-C28]	77	77	50 - 130	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
p-Terphenyl	97	98	40 - 119

**Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-49497**

**Method: 8015B
Preparation: 3550B**

MS Lab Sample ID: 720-19467-D-6-D MS Units: mg/Kg
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 05/02/2009 0558
 Date Prepared: 05/01/2009 0844

MSD Lab Sample ID: 720-19467-D-6-E MS
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 05/02/2009 0619
 Date Prepared: 05/01/2009 0844

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Diesel Range Organics [C10-C28]	4.2	41.6	41.2	36.2	35.9

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Method Blank - Batch: 720-49548

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 720-49548/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1719
Date Prepared: 05/01/2009 1805

Analysis Batch: 720-49651
Prep Batch: 720-49548
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Arsenic	ND		1.0

LCS-Standard Reference Material - Batch:

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCSSRM 720-49548/18-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1834
Date Prepared: 05/01/2009 1805

Analysis Batch: 720-49651
Prep Batch: 720-49548
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	22.7	21.3	94	69 - 119	

**Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 720-49548**

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 720-49548/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1723
Date Prepared: 05/01/2009 1805

Analysis Batch: 720-49651
Prep Batch: 720-49548
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.95 g
Final Weight/Volume: 50 mL

LCSD Lab Sample ID: LCSD 720-49548/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1726
Date Prepared: 05/01/2009 1805

Analysis Batch: 720-49651
Prep Batch: 720-49548
Units: mg/Kg

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.97 g
Final Weight/Volume: 50 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
	LCS	LCSD					
Arsenic	96	97	80 - 120	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

**Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-49548**

**Method: 6010B
Preparation: 3050B**

LCS Lab Sample ID: LCS 720-49548/2-A Units: mg/Kg
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 05/04/2009 1723
 Date Prepared: 05/01/2009 1805

LCSD Lab Sample ID: LCSD 720-49548/3-A
 Client Matrix: Solid
 Dilution: 1.0
 Date Analyzed: 05/04/2009 1726
 Date Prepared: 05/01/2009 1805

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Arsenic	52.6	51.5	50.5	49.9

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-49548**

**Method: 6010B
Preparation: 3050B**

MS Lab Sample ID: 720-19518-D-1-D MS Analysis Batch: 720-49651
 Client Matrix: Solid Prep Batch: 720-49548
 Dilution: 1.0
 Date Analyzed: 05/04/2009 1730
 Date Prepared: 05/01/2009 1805

Instrument ID: Varian ICP
 Lab File ID: N/A
 Initial Weight/Volume: 0.98 g
 Final Weight/Volume: 50 mL

MSD Lab Sample ID: 720-19518-D-1-E MSD Analysis Batch: 720-49651
 Client Matrix: Solid Prep Batch: 720-49548
 Dilution: 1.0
 Date Analyzed: 05/04/2009 1734
 Date Prepared: 05/01/2009 1805

Instrument ID: Varian ICP
 Lab File ID: N/A
 Initial Weight/Volume: 0.98 g
 Final Weight/Volume: 50 mL

Analyte	<u>% Rec.</u>			RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD	Limit				
Arsenic	90	89	75 - 125	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Quality Control Results

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

**Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-49548**

**Method: 6010B
Preparation: 3050B**

MS Lab Sample ID: 720-19518-D-1-D MS Units: mg/Kg
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1730
Date Prepared: 05/01/2009 1805

MSD Lab Sample ID: 720-19518-D-1-E MS
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 05/04/2009 1734
Date Prepared: 05/01/2009 1805

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Arsenic	1.3	51.0	51.0	47.2	46.9

Calculations are performed before rounding to avoid round-off errors in calculated results.

Login Sample Receipt Check List

Client: AMEC Geomatrix Inc.

Job Number: 720-19136-2

Login Number: 19136
Creator: Bullock, Tracy
List Number: 1

List Source: TestAmerica San Francisco

Question	T / F / NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

