TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

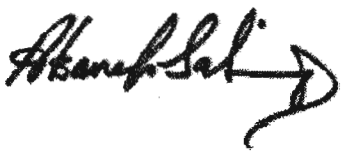
ANALYTICAL REPORT

Job Number: 720-18099-1

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.
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2/23/2009 5:09 PM

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02/23/2009

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Job Narrative
720-J18099-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS Semi VOA
Method(s) 8270C: The following sample(s) was diluted due to the abundance of non-target analytes: SB-95-0.5 (720-18099-2), SB-96-0.5 (720-18099-4). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
720-18099-2	**SB-95-0.5**				
Anthracene		34	25	ug/Kg	8270C
Chrysene		29	25	ug/Kg	8270C
Benzo[b]fluoranthene		37	25	ug/Kg	8270C
Benzo[g,h,i]perylene		68	25	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		36	25	ug/Kg	8270C
Fluoranthene		27	25	ug/Kg	8270C
Pyrene		32	25	ug/Kg	8270C
Diesel Range Organics [C10-C28]		14	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		50	50	mg/Kg	8015B
Chromium		15	1.0	mg/Kg	6010B
Nickel		9.9	1.0	mg/Kg	6010B
Lead		34	1.0	mg/Kg	6010B
Zinc		93	1.0	mg/Kg	6010B
Arsenic		7.9	1.0	mg/Kg	6010B
720-18099-4	**SB-96-0.5**				
Phenanthrene		33	9.9	ug/Kg	8270C
Anthracene		15	9.9	ug/Kg	8270C
Benzo[a]anthracene		55	9.9	ug/Kg	8270C
Chrysene		58	9.9	ug/Kg	8270C
Benzo[a]pyrene		44	9.9	ug/Kg	8270C
Benzo[b]fluoranthene		78	9.9	ug/Kg	8270C
Benzo[k]fluoranthene		22	9.9	ug/Kg	8270C
Benzo[g,h,i]perylene		41	9.9	ug/Kg	8270C
Indeno[1,2,3-cd]pyrene		33	9.9	ug/Kg	8270C
Fluoranthene		86	9.9	ug/Kg	8270C
Pyrene		76	9.9	ug/Kg	8270C
Diesel Range Organics [C10-C28]		14	0.99	mg/Kg	8015B
Motor Oil Range Organics [C24-C36]		56	50	mg/Kg	8015B
Cadmium		0.52	0.51	mg/Kg	6010B
Chromium		25	1.0	mg/Kg	6010B
Nickel		19	1.0	mg/Kg	6010B
Lead		22	1.0	mg/Kg	6010B
Zinc		97	1.0	mg/Kg	6010B
Arsenic		5.6	1.0	mg/Kg	6010B

METHOD SUMMARY

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Semivolatile Organic Compounds (GC/MS SIM)	TAL SF	SW846 8270C	
Ultrasonic Extraction	TAL SF		SW846 3550B
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
Matrix: Water			
Semivolatile Organic Compounds (GC/MS SIM)	TAL SF	SW846 8270C	
Liquid-Liquid Extraction (Separatory Funnel)	TAL SF		SW846 3510C
Diesel Range Organics (DRO) (GC)	TAL SF	SW846 8015B	
Liquid-Liquid Extraction (Separatory Funnel)	TAL SF		SW846 3510C
Metals (ICP)	TAL SF	SW846 6010B	
Preparation, Total Metals	TAL SF		SW846 3010A

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: 720-18099-1

Method	Analyst	Analyst ID
SW846 8270C	Lee, Michael	ML
SW846 8015B	Hayashi, Derek	DH
SW846 6010B	Arndt, Christopher	CA

SAMPLE SUMMARY

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
720-18099-1	EB-2-021209	Water	02/12/2009 1530	02/16/2009 0920
720-18099-2	SB-95-0.5	Solid	02/12/2009 1700	02/16/2009 0920
720-18099-4	SB-96-0.5	Solid	02/12/2009 1710	02/16/2009 0920

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: EB-2-021209

Lab Sample ID: 720-18099-1
Client Matrix: Water

Date Sampled: 02/12/2009 1530
Date Received: 02/16/2009 0920

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 02/20/2009 1120
Date Prepared: 02/19/2009 0925

Analysis Batch: 720-46996
Prep Batch: 720-46938

Instrument ID: Latest Chemstation
Lab File ID: 022009006.D
Initial Weight/Volume: 940 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result (ug/L)	Qualifier	RL
Naphthalene	ND		0.11
Acenaphthene	ND		0.11
Acenaphthylene	ND		0.11
Fluorene	ND		0.11
Phenanthrene	ND		0.11
Anthracene	ND		0.11
Benzo[a]anthracene	ND		0.11
Chrysene	ND		0.11
Benzo[a]pyrene	ND		0.11
Benzo[b]fluoranthene	ND		0.11
Benzo[k]fluoranthene	ND		0.11
Benzo[g,h,i]perylene	ND		0.11
Indeno[1,2,3-cd]pyrene	ND		0.11
Fluoranthene	ND		0.11
Pyrene	ND		0.11
Dibenz(a,h)anthracene	ND		0.11

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	47	29 - 93
Terphenyl-d14	64	45 - 98

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Client Sample ID: SB-95-0.5

Lab Sample ID: 720-18099-2
Client Matrix: Solid

Date Sampled: 02/12/2009 1700
Date Received: 02/16/2009 0920

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 5.0
Date Analyzed: 02/20/2009 1537
Date Prepared: 02/19/2009 1420

Analysis Batch: 720-46996
Prep Batch: 720-46971

Instrument ID: Latest Chemstation
Lab File ID: 022009018.D
Initial Weight/Volume: 30.45 g
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		25
Acenaphthene		ND		25
Acenaphthylene		ND		25
Fluorene		ND		25
Phenanthrene		ND		25
Anthracene		34		25
Benzo[a]anthracene		ND		25
Chrysene		29		25
Benzo[a]pyrene		ND		25
Benzo[b]fluoranthene		37		25
Benzo[k]fluoranthene		ND		25
Benzo[g,h,i]perylene		68		25
Indeno[1,2,3-cd]pyrene		36		25
Fluoranthene		27		25
Pyrene		32		25
Dibenz(a,h)anthracene		ND		25

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	57	33 - 93
Terphenyl-d14	65	35 - 99

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: SB-96-0.5

Lab Sample ID: 720-18099-4
Client Matrix: Solid

Date Sampled: 02/12/2009 1710
Date Received: 02/16/2009 0920

8270C Semivolatile Organic Compounds (GC/MS SIM)

Method: 8270C
Preparation: 3550B
Dilution: 2.0
Date Analyzed: 02/20/2009 1516
Date Prepared: 02/19/2009 1420

Analysis Batch: 720-46996
Prep Batch: 720-46971

Instrument ID: Latest Chemstation
Lab File ID: 022009017.D
Initial Weight/Volume: 30.40 g
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Naphthalene		ND		9.9
Acenaphthene		ND		9.9
Acenaphthylene		ND		9.9
Fluorene		ND		9.9
Phenanthrene		33		9.9
Anthracene		15		9.9
Benzo[a]anthracene		55		9.9
Chrysene		58		9.9
Benzo[a]pyrene		44		9.9
Benzo[b]fluoranthene		78		9.9
Benzo[k]fluoranthene		22		9.9
Benzo[g,h,i]perylene		41		9.9
Indeno[1,2,3-cd]pyrene		33		9.9
Fluoranthene		86		9.9
Pyrene		76		9.9
Dibenz(a,h)anthracene		ND		9.9

Surrogate	%Rec	Acceptance Limits
2-Fluorobiphenyl	52	33 - 93
Terphenyl-d14	56	35 - 99

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Client Sample ID: EB-2-021209

Lab Sample ID: 720-18099-1
Client Matrix: Water

Date Sampled: 02/12/2009 1530
Date Received: 02/16/2009 0920

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B
Preparation: 3510C
Dilution: 1.0
Date Analyzed: 02/19/2009 1742
Date Prepared: 02/18/2009 1438

Analysis Batch: 720-47041
Prep Batch: 720-46923

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 250 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Diesel Range Organics [C10-C28]	ND		50
Motor Oil Range Organics [C24-C36]	ND		300

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	63	50 - 150

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: SB-96-0.5

Lab Sample ID: 720-18099-4
Client Matrix: Solid

Date Sampled: 02/12/2009 1710
Date Received: 02/16/2009 0920

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 02/20/2009 1214
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.17 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		14		0.99
Motor Oil Range Organics [C24-C36]		56		50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	77	40 - 119

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: SB-95-0.5

Lab Sample ID: 720-18099-2
Client Matrix: Solid

Date Sampled: 02/12/2009 1700
Date Received: 02/16/2009 0920

8015B Diesel Range Organics (DRO) (GC)

Method: 8015B
Preparation: 3550B
Dilution: 1.0
Date Analyzed: 02/20/2009 1148
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.20 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Diesel Range Organics [C10-C28]		14		0.99
Motor Oil Range Organics [C24-C36]		50		50

Surrogate	%Rec	Acceptance Limits
p-Terphenyl	91	40 - 119

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: EB-2-021209

Lab Sample ID: 720-18099-1
Client Matrix: Water

Date Sampled: 02/12/2009 1530
Date Received: 02/16/2009 0920

6010B Metals (ICP)

Method: 6010B
Preparation: 3010A
Dilution: 1.0
Date Analyzed: 02/18/2009 1406
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870

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

Analyte	Result (mg/L)	Qualifier	RL
Cadmium	ND		0.0019
Chromium	ND		0.0075
Nickel	ND		0.0065
Lead	ND		0.0060
Zinc	ND		0.020

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: SB-95-0.5

Lab Sample ID: 720-18099-2
Client Matrix: Solid

Date Sampled: 02/12/2009 1700
Date Received: 02/16/2009 0920

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/19/2009 1957
Date Prepared: 02/19/2009 1158

Analysis Batch: 720-46989
Prep Batch: 720-46957

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
Cadmium		ND		0.51
Chromium		15		1.0
Nickel		9.9		1.0
Lead		34		1.0
Zinc		93		1.0
Arsenic		7.9		1.0

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

Client Sample ID: SB-96-0.5

Lab Sample ID: 720-18099-4
Client Matrix: Solid

Date Sampled: 02/12/2009 1710
Date Received: 02/16/2009 0920

6010B Metals (ICP)

Method: 6010B
Preparation: 3050B
Dilution: 1.0
Date Analyzed: 02/19/2009 2001
Date Prepared: 02/19/2009 1158

Analysis Batch: 720-46989
Prep Batch: 720-46957

Instrument ID: Varian ICP
Lab File ID: N/A
Initial Weight/Volume: 0.99 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	RL
Cadmium		0.52		0.51
Chromium		25		1.0
Nickel		19		1.0
Lead		22		1.0
Zinc		97		1.0
Arsenic		5.6		1.0

DATA REPORTING QUALIFIERS

Lab Section	Qualifier	Description

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 720-46938					
LCS 720-46938/2-A	Lab Control Spike	T	Water	3510C	
LCSD 720-46938/3-A	Lab Control Spike Duplicate	T	Water	3510C	
MB 720-46938/1-A	Method Blank	T	Water	3510C	
720-18099-1	EB-2-021209	T	Water	3510C	
Prep Batch: 720-46971					
LCS 720-46971/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-46971/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-46971/1-A	Method Blank	T	Solid	3550B	
720-18099-2	SB-95-0.5	T	Solid	3550B	
720-18099-4	SB-96-0.5	T	Solid	3550B	
720-18125-D-1-D MS	Matrix Spike	T	Solid	3550B	
720-18125-D-1-E MSD	Matrix Spike Duplicate	T	Solid	3550B	
Analysis Batch:720-46996					
LCS 720-46938/2-A	Lab Control Spike	T	Water	8270C	720-46938
LCSD 720-46938/3-A	Lab Control Spike Duplicate	T	Water	8270C	720-46938
MB 720-46938/1-A	Method Blank	T	Water	8270C	720-46938
720-18099-1	EB-2-021209	T	Water	8270C	720-46938
720-18099-2	SB-95-0.5	T	Solid	8270C	720-46971
720-18099-4	SB-96-0.5	T	Solid	8270C	720-46971
720-18125-D-1-D MS	Matrix Spike	T	Solid	8270C	720-46971
720-18125-D-1-E MSD	Matrix Spike Duplicate	T	Solid	8270C	720-46971
Analysis Batch:720-47061					
LCS 720-46971/2-A	Lab Control Spike	T	Solid	8270C	720-46971
LCSD 720-46971/3-A	Lab Control Spike Duplicate	T	Solid	8270C	720-46971
MB 720-46971/1-A	Method Blank	T	Solid	8270C	720-46971

Report Basis
T = Total

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 720-46923					
LCS 720-46923/2-A	Lab Control Spike	T	Water	3510C	
LCSD 720-46923/3-A	Lab Control Spike Duplicate	T	Water	3510C	
MB 720-46923/1-A	Method Blank	T	Water	3510C	
720-18099-1	EB-2-021209	T	Water	3510C	
Prep Batch: 720-46944					
LCS 720-46944/2-A	Lab Control Spike	T	Solid	3550B	
LCSD 720-46944/3-A	Lab Control Spike Duplicate	T	Solid	3550B	
MB 720-46944/1-A	Method Blank	T	Solid	3550B	
720-18099-2	SB-95-0.5	T	Solid	3550B	
720-18099-2MS	Matrix Spike	T	Solid	3550B	
720-18099-2MSD	Matrix Spike Duplicate	T	Solid	3550B	
720-18099-4	SB-96-0.5	T	Solid	3550B	
Analysis Batch:720-47024					
LCS 720-46944/2-A	Lab Control Spike	T	Solid	8015B	720-46944
LCSD 720-46944/3-A	Lab Control Spike Duplicate	T	Solid	8015B	720-46944
MB 720-46944/1-A	Method Blank	T	Solid	8015B	720-46944
720-18099-2	SB-95-0.5	T	Solid	8015B	720-46944
720-18099-2MS	Matrix Spike	T	Solid	8015B	720-46944
720-18099-2MSD	Matrix Spike Duplicate	T	Solid	8015B	720-46944
720-18099-4	SB-96-0.5	T	Solid	8015B	720-46944
Analysis Batch:720-47041					
LCS 720-46923/2-A	Lab Control Spike	T	Water	8015B	720-46923
LCSD 720-46923/3-A	Lab Control Spike Duplicate	T	Water	8015B	720-46923
MB 720-46923/1-A	Method Blank	T	Water	8015B	720-46923
720-18099-1	EB-2-021209	T	Water	8015B	720-46923

Report Basis
T = Total

Client: AMEC Geomatrix Inc. Job Number: 720-18099-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 720-46870					
LCS 720-46870/2-A	Lab Control Spike	T	Water	3010A	
LCSD 720-46870/3-A	Lab Control Spike Duplicate	T	Water	3010A	
MB 720-46870/1-A	Method Blank	T	Water	3010A	
720-18099-1	EB-2-021209	T	Water	3010A	
720-18099-1MS	Matrix Spike	T	Water	3010A	
720-18099-1MSD	Matrix Spike Duplicate	T	Water	3010A	
Analysis Batch:720-46919					
LCS 720-46870/2-A	Lab Control Spike	T	Water	6010B	720-46870
LCSD 720-46870/3-A	Lab Control Spike Duplicate	T	Water	6010B	720-46870
MB 720-46870/1-A	Method Blank	T	Water	6010B	720-46870
720-18099-1	EB-2-021209	T	Water	6010B	720-46870
720-18099-1MS	Matrix Spike	T	Water	6010B	720-46870
720-18099-1MSD	Matrix Spike Duplicate	T	Water	6010B	720-46870
Prep Batch: 720-46957					
LCS 720-46957/2-A	Lab Control Spike	T	Solid	3050B	
LCSD 720-46957/3-A	Lab Control Spike Duplicate	T	Solid	3050B	
LCSSRM 720-46957/20-A	LCS-Standard Reference Material	T	Solid	3050B	
MB 720-46957/1-A	Method Blank	T	Solid	3050B	
720-18078-A-2-F MS	Matrix Spike	T	Solid	3050B	
720-18078-A-2-G MSD	Matrix Spike Duplicate	T	Solid	3050B	
720-18099-2	SB-95-0.5	T	Solid	3050B	
720-18099-4	SB-96-0.5	T	Solid	3050B	
Analysis Batch:720-46989					
LCS 720-46957/2-A	Lab Control Spike	T	Solid	6010B	720-46957
LCSD 720-46957/3-A	Lab Control Spike Duplicate	T	Solid	6010B	720-46957
LCSSRM 720-46957/20-A	LCS-Standard Reference Material	T	Solid	6010B	720-46957
MB 720-46957/1-A	Method Blank	T	Solid	6010B	720-46957
720-18078-A-2-F MS	Matrix Spike	T	Solid	6010B	720-46957
720-18078-A-2-G MSD	Matrix Spike Duplicate	T	Solid	6010B	720-46957
720-18099-2	SB-95-0.5	T	Solid	6010B	720-46957
720-18099-4	SB-96-0.5	T	Solid	6010B	720-46957

Report Basis
T = Total

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46938

Method: 8270C
Preparation: 3510C

Lab Sample ID: MB 720-46938/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/20/2009 1059
Date Prepared: 02/19/2009 0925

Analysis Batch: 720-46996
Prep Batch: 720-46938
Units: ug/L

Instrument ID: Latest Chemstation
Lab File ID: 022009005.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result	Qual	RL
Naphthalene	ND		0.10
Acenaphthene	ND		0.10
Acenaphthylene	ND		0.10
Fluorene	ND		0.10
Phenanthrene	ND		0.10
Anthracene	ND		0.10
Benzo[a]anthracene	ND		0.10
Chrysene	ND		0.10
Benzo[a]pyrene	ND		0.10
Benzo[b]fluoranthene	ND		0.10
Benzo[k]fluoranthene	ND		0.10
Benzo[g,h,i]perylene	ND		0.10
Indeno[1,2,3-cd]pyrene	ND		0.10
Fluoranthene	ND		0.10
Pyrene	ND		0.10
Dibenz(a,h)anthracene	ND		0.10

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	51	29 - 93
Terphenyl-d14	63	45 - 98

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46938

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 720-46938/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/20/2009 1016
Date Prepared: 02/19/2009 0925

Analysis Batch: 720-46996
Prep Batch: 720-46938
Units: ug/L

Instrument ID: Latest Chemstation
Lab File ID: 022009003.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

LCSD Lab Sample ID: LCSD 720-46938/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/20/2009 1038
Date Prepared: 02/19/2009 0925

Analysis Batch: 720-46996
Prep Batch: 720-46938
Units: ug/L

Instrument ID: Latest Chemstation
Lab File ID: 022009004.D
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Naphthalene	60	67	36 - 86	11	35		
Acenaphthene	65	69	40 - 90	5	35		
Acenaphthylene	61	66	39 - 92	8	35		
Fluorene	74	78	44 - 97	5	35		
Phenanthrene	87	90	44 - 94	4	35		
Anthracene	85	85	45 - 99	1	35		
Benzo[a]anthracene	80	77	48 - 96	3	35		
Chrysene	81	81	52 - 98	0	35		
Benzo[a]pyrene	86	86	50 - 101	0	35		
Benzo[b]fluoranthene	91	83	48 - 105	9	35		
Benzo[k]fluoranthene	77	85	50 - 106	10	35		
Benzo[g,h,i]perylene	83	86	49 - 97	4	35		
Indeno[1,2,3-cd]pyrene	86	90	48 - 100	4	35		
Fluoranthene	98	97	46 - 101	1	35		
Pyrene	80	82	50 - 99	2	35		
Dibenz(a,h)anthracene	84	87	48 - 101	4	35		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorobiphenyl	65	71	29 - 93
Terphenyl-d14	71	71	45 - 98

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-46938

Method: 8270C
Preparation: 3510C

LCS Lab Sample ID: LCS 720-46938/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/20/2009 1016
Date Prepared: 02/19/2009 0925

Units: ug/L

LCSD Lab Sample ID: LCSD 720-46938/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/20/2009 1038
Date Prepared: 02/19/2009 0925

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Naphthalene	10.0	10.0	6.00	6.72
Acenaphthene	10.0	10.0	6.51	6.86
Acenaphthylene	10.0	10.0	6.07	6.56
Fluorene	10.0	10.0	7.35	7.75
Phenanthrene	10.0	10.0	8.68	9.02
Anthracene	10.0	10.0	8.50	8.55
Benzo[a]anthracene	10.0	10.0	7.96	7.70
Chrysene	10.0	10.0	8.09	8.13
Benzo[a]pyrene	10.0	10.0	8.61	8.64
Benzo[b]fluoranthene	10.0	10.0	9.13	8.33
Benzo[k]fluoranthene	10.0	10.0	7.72	8.55
Benzo[g,h,i]perylene	10.0	10.0	8.26	8.61
Indeno[1,2,3-cd]pyrene	10.0	10.0	8.60	8.95
Fluoranthene	10.0	10.0	9.82	9.73
Pyrene	10.0	10.0	8.00	8.17
Dibenz(a,h)anthracene	10.0	10.0	8.41	8.74

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46971

Method: 8270C
Preparation: 3550B

Lab Sample ID: MB 720-46971/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/23/2009 1514
Date Prepared: 02/19/2009 1420

Analysis Batch: 720-47061
Prep Batch: 720-46971
Units: ug/Kg

Instrument ID: Latest Chemstation
Lab File ID: 022309006.D
Initial Weight/Volume: 30.15 g
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Result	Qual	RL
Naphthalene	ND		5.0
Acenaphthene	ND		5.0
Acenaphthylene	ND		5.0
Fluorene	ND		5.0
Phenanthrene	ND		5.0
Anthracene	ND		5.0
Benzo[a]anthracene	ND		5.0
Chrysene	ND		5.0
Benzo[a]pyrene	ND		5.0
Benzo[b]fluoranthene	ND		5.0
Benzo[k]fluoranthene	ND		5.0
Benzo[g,h,i]perylene	ND		5.0
Indeno[1,2,3-cd]pyrene	ND		5.0
Fluoranthene	ND		5.0
Pyrene	ND		5.0
Dibenz(a,h)anthracene	ND		5.0

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	61	33 - 93
Terphenyl-d14	60	35 - 99

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Lab Control Spike - Batch: 720-46971

Method: 8270C
Preparation: 3550B

Lab Sample ID: LCS 720-46971/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/23/2009 1410
Date Prepared: 02/19/2009 1420

Analysis Batch: 720-47061
Prep Batch: 720-46971
Units: ug/Kg

Instrument ID: Latest Chemstation
Lab File ID: 022309003.D
Initial Weight/Volume: 30.37 g
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Naphthalene	329	184	56	46 - 85	
Acenaphthene	329	194	59	49 - 88	
Acenaphthylene	329	223	68	52 - 89	
Fluorene	329	202	61	52 - 92	
Phenanthrene	329	261	79	57 - 103	
Anthracene	329	228	69	52 - 87	
Benzo[a]anthracene	329	221	67	52 - 96	
Chrysene	329	232	71	54 - 96	
Benzo[a]pyrene	329	231	70	54 - 96	
Benzo[b]fluoranthene	329	249	76	51 - 105	
Benzo[k]fluoranthene	329	238	72	56 - 101	
Benzo[g,h,i]perylene	329	225	68	48 - 101	
Indeno[1,2,3-cd]pyrene	329	237	72	48 - 105	
Fluoranthene	329	278	85	57 - 95	
Pyrene	329	226	69	53 - 95	
Dibenz(a,h)anthracene	329	233	71	50 - 104	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	59	33 - 93
Terphenyl-d14	62	35 - 99

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-46971

Method: 8270C
Preparation: 3550B

MS Lab Sample ID:	720-18125-D-1-D MS	Analysis Batch: 720-46996	Instrument ID: Latest Chemstation
Client Matrix:	Solid	Prep Batch: 720-46971	Lab File ID: 022009011.D
Dilution:	1.0		Initial Weight/Volume: 30.10 g
Date Analyzed:	02/20/2009 1307		Final Weight/Volume: 1 mL
Date Prepared:	02/19/2009 1420		Injection Volume:

MSD Lab Sample ID:	720-18125-D-1-E MSD	Analysis Batch: 720-46996	Instrument ID: Latest Chemstation
Client Matrix:	Solid	Prep Batch: 720-46971	Lab File ID: 022009012.D
Dilution:	1.0		Initial Weight/Volume: 30.16 g
Date Analyzed:	02/20/2009 1328		Final Weight/Volume: 1 mL
Date Prepared:	02/19/2009 1420		Injection Volume:

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Naphthalene	58	58	32 - 88	0	20		
Acenaphthene	62	62	33 - 97	1	20		
Acenaphthylene	59	55	28 - 104	9	20		
Fluorene	63	64	35 - 99	1	20		
Phenanthrene	79	83	28 - 103	4	20		
Anthracene	73	74	36 - 99	1	20		
Benzo[a]anthracene	67	70	29 - 115	4	20		
Chrysene	72	74	29 - 116	3	20		
Benzo[a]pyrene	74	75	24 - 118	2	20		
Benzo[b]fluoranthene	75	79	17 - 132	6	20		
Benzo[k]fluoranthene	70	74	35 - 109	5	20		
Benzo[g,h,i]perylene	73	78	21 - 118	5	20		
Indeno[1,2,3-cd]pyrene	77	82	20 - 126	5	20		
Fluoranthene	87	85	24 - 120	2	20		
Pyrene	74	79	24 - 123	7	20		
Dibenz(a,h)anthracene	77	77	36 - 104	1	20		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	63	62	33 - 93
Terphenyl-d14	62	63	35 - 99

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-46971

Method: 8270C
Preparation: 3550B

MS Lab Sample ID: 720-18125-D-1-D MS
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1307
Date Prepared: 02/19/2009 1420

Units: ug/Kg

MSD Lab Sample ID: 720-18125-D-1-E MS
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1328
Date Prepared: 02/19/2009 1420

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Naphthalene	ND	332	332	193	193
Acenaphthene	ND	332	332	205	206
Acenaphthylene	ND	332	332	198	181
Fluorene	ND	332	332	210	213
Phenanthrene	ND	332	332	266	278
Anthracene	ND	332	332	242	244
Benzo[a]anthracene	ND	332	332	227	235
Chrysene	ND	332	332	242	249
Benzo[a]pyrene	ND	332	332	247	252
Benzo[b]fluoranthene	ND	332	332	252	266
Benzo[k]fluoranthene	ND	332	332	236	247
Benzo[g,h,i]perylene	ND	332	332	248	261
Indeno[1,2,3-cd]pyrene	ND	332	332	259	274
Fluoranthene	ND	332	332	292	287
Pyrene	6.1	332	332	252	269
Dibenz(a,h)anthracene	ND	332	332	255	257

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46923

Method: 8015B
Preparation: 3510C

Lab Sample ID: MB 720-46923/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1801
Date Prepared: 02/18/2009 1438

Analysis Batch: 720-47041
Prep Batch: 720-46923
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 250 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	RL
Diesel Range Organics [C10-C28]	ND		50
Motor Oil Range Organics [C24-C36]	ND		300

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	75	50 - 150

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46923

Method: 8015B
Preparation: 3510C

LCS Lab Sample ID: LCS 720-46923/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/19/2009 0931
Date Prepared: 02/18/2009 1438

Analysis Batch: 720-47041
Prep Batch: 720-46923
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 250 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-46923/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/19/2009 0958
Date Prepared: 02/18/2009 1438

Analysis Batch: 720-47041
Prep Batch: 720-46923
Units: ug/L

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 250 mL
Final Weight/Volume: 1 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Diesel Range Organics [C10-C28]	67	71	48 - 99	5	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	73	80	50 - 150

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-46923

Method: 8015B
Preparation: 3510C

LCS Lab Sample ID: LCS 720-46923/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/19/2009 0931
Date Prepared: 02/18/2009 1438

Units: ug/L

LCSD Lab Sample ID: LCSD 720-46923/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/19/2009 0958
Date Prepared: 02/18/2009 1438

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Diesel Range Organics [C10-C28]	4000	4000	2680	2830

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46944

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 720-46944/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1057
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.35 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		49

Surrogate	% Rec	Acceptance Limits
p-Terphenyl	92	40 - 119

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46944

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-46944/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1004
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.18 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 720-46944/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1031
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944
Units: mg/Kg

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.23 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Diesel Range Organics [C10-C28]	80	88	50 - 130	9	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
p-Terphenyl	91	94	40 - 119

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-46944

Method: 8015B
Preparation: 3550B

LCS Lab Sample ID: LCS 720-46944/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1004
Date Prepared: 02/19/2009 1019

Units: mg/Kg

LCSD Lab Sample ID: LCSD 720-46944/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1031
Date Prepared: 02/19/2009 1019

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Diesel Range Organics [C10-C28]	41.4	41.3	33.2	36.2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-46944

Method: 8015B
Preparation: 3550B

MS Lab Sample ID: 720-18099-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1214
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.39 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

MSD Lab Sample ID: 720-18099-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1241
Date Prepared: 02/19/2009 1019

Analysis Batch: 720-47024
Prep Batch: 720-46944

Instrument ID: HP DRO5
Lab File ID: N/A
Initial Weight/Volume: 30.11 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Diesel Range Organics [C10-C28]	81	116	50 - 130	27	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
p-Terphenyl	85	87	40 - 119

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-46944

Method: 8015B
Preparation: 3550B

MS Lab Sample ID: 720-18099-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1214
Date Prepared: 02/19/2009 1019

Units: mg/Kg

MSD Lab Sample ID: 720-18099-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/20/2009 1241
Date Prepared: 02/19/2009 1019

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Diesel Range Organics [C10-C28]	14	41.1	41.5	47.4	62.4

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46870

Method: 6010B
Preparation: 3010A

Lab Sample ID: MB 720-46870/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1305
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870
Units: mg/L

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

Analyte	Result	Qual	RL
Cadmium	ND		0.0019
Chromium	ND		0.0075
Nickel	ND		0.0065
Lead	ND		0.0060
Zinc	ND		0.020

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46870

Method: 6010B
Preparation: 3010A

LCS Lab Sample ID: LCS 720-46870/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1308
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870
Units: mg/L

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

LCSD Lab Sample ID: LCSD 720-46870/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1312
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870
Units: mg/L

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

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Cadmium	99	99	80 - 120	0	20		
Chromium	102	103	80 - 120	0	20		
Nickel	100	100	80 - 120	0	20		
Lead	101	101	80 - 120	0	20		
Zinc	99	100	80 - 120	0	20		

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-46870

Method: 6010B
Preparation: 3010A

LCS Lab Sample ID: LCS 720-46870/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1308
Date Prepared: 02/17/2009 1611

Units: mg/L

LCSD Lab Sample ID: LCSD 720-46870/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1312
Date Prepared: 02/17/2009 1611

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Cadmium	1.00	1.00	0.990	0.992
Chromium	1.00	1.00	1.02	1.03
Nickel	1.00	1.00	0.999	1.00
Lead	1.00	1.00	1.01	1.01
Zinc	1.00	1.00	0.995	0.996

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-46870

Method: 6010B
Preparation: 3010A

MS Lab Sample ID: 720-18099-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1359
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870

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

MSD Lab Sample ID: 720-18099-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1402
Date Prepared: 02/17/2009 1611

Analysis Batch: 720-46919
Prep Batch: 720-46870

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

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cadmium	98	99	75 - 125	1	25		
Chromium	102	103	75 - 125	1	25		
Nickel	99	100	75 - 125	1	25		
Lead	100	101	75 - 125	1	25		
Zinc	98	100	75 - 125	1	25		

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-46870

Method: 6010B
Preparation: 3010A

MS Lab Sample ID: 720-18099-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1359
Date Prepared: 02/17/2009 1611

Units: mg/L

MSD Lab Sample ID: 720-18099-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 02/18/2009 1402
Date Prepared: 02/17/2009 1611

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Cadmium	ND	1.00	1.00	0.979	0.992
Chromium	ND	1.00	1.00	1.02	1.03
Nickel	ND	1.00	1.00	0.990	1.00
Lead	ND	1.00	1.00	0.996	1.01
Zinc	ND	1.00	1.00	0.982	0.995

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Method Blank - Batch: 720-46957

Method: 6010B
Preparation: 3050B

Lab Sample ID: MB 720-46957/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 1909
Date Prepared: 02/19/2009 1158

Analysis Batch: 720-46989
Prep Batch: 720-46957
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
Cadmium	ND		0.50
Chromium	ND		1.0
Nickel	ND		1.0
Lead	ND		1.0
Zinc	ND		1.0
Arsenic	ND		1.0

LCS-Standard Reference Material - Batch:

Method: 6010B
Preparation: 3050B

Lab Sample ID: LCSSRM 720-46957/20-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 2028
Date Prepared: 02/19/2009 1200

Analysis Batch: 720-46989
Prep Batch: 720-46957
Units: mg/Kg

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

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cadmium	42.2	37.4	89	67 - 118	
Chromium	246	229	93	67 - 121	
Nickel	96.8	85.1	88	65 - 117	
Lead	44.1	38.4	87	62 - 113	
Zinc	44.0	35.9	82	62 - 110	
Arsenic	22.7	21.0	93	69 - 119	

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Lab Control Spike/
Lab Control Spike Duplicate Recovery Report - Batch: 720-46957

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 720-46957/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 1913
Date Prepared: 02/19/2009 1158

Analysis Batch: 720-46989
Prep Batch: 720-46957
Units: mg/Kg

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

LCSD Lab Sample ID: LCSD 720-46957/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 1917
Date Prepared: 02/19/2009 1158

Analysis Batch: 720-46989
Prep Batch: 720-46957
Units: mg/Kg

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

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qua
Cadmium	95	96	80 - 120	1	20		
Chromium	98	99	80 - 120	1	20		
Nickel	95	96	80 - 120	1	20		
Lead	95	96	80 - 120	1	20		
Zinc	95	96	80 - 120	1	20		
Arsenic	98	99	80 - 120	1	20		

Laboratory Control/
Laboratory Duplicate Data Report - Batch: 720-46957

Method: 6010B
Preparation: 3050B

LCS Lab Sample ID: LCS 720-46957/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 1913
Date Prepared: 02/19/2009 1158

Units: mg/Kg

LCSD Lab Sample ID: LCSD 720-46957/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 02/19/2009 1917
Date Prepared: 02/19/2009 1158

Analyte	LCS Spike Amount	LCSD Spike Amount	LCS Result/Qual	LCSD Result/Qual
Cadmium	194	194	185	186
Chromium	194	194	190	191
Nickel	194	194	185	186
Lead	194	194	185	186
Zinc	194	194	184	185
Arsenic	194	194	191	192

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

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 720-46957

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	720-18078-A-2-F MS	Analysis Batch: 720-46989	Instrument ID: Varian ICP
Client Matrix:	Solid	Prep Batch: 720-46957	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 0.97 g
Date Analyzed:	02/19/2009 1921		Final Weight/Volume: 50 mL
Date Prepared:	02/19/2009 1158		

MSD Lab Sample ID:	720-18078-A-2-G MSD	Analysis Batch: 720-46989	Instrument ID: Varian ICP
Client Matrix:	Solid	Prep Batch: 720-46957	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume: 1.02 g
Date Analyzed:	02/19/2009 1924		Final Weight/Volume: 50 mL
Date Prepared:	02/19/2009 1158		

	% Rec.					
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Cadmium	86	86	75 - 125	5	20		
Chromium	91	92	75 - 125	4	20		
Nickel	87	88	75 - 125	5	20		
Lead	87	87	75 - 125	5	20		
Zinc	89	89	75 - 125	4	20		
Arsenic	91	91	75 - 125	5	20		

Matrix Spike/
Matrix Spike Duplicate Data Report - Batch: 720-46957

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	720-18078-A-2-F MS	Units: mg/Kg	MSD Lab Sample ID: 720-18078-A-2-G MS
Client Matrix:	Solid		Client Matrix: Solid
Dilution:	1.0		Dilution: 1.0
Date Analyzed:	02/19/2009 1921		Date Analyzed: 02/19/2009 1924
Date Prepared:	02/19/2009 1158		Date Prepared: 02/19/2009 1158

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Cadmium	ND	206	196	178	170
Chromium	9.0	206	196	198	189
Nickel	6.0	206	196	186	178
Lead	1.5	206	196	180	171
Zinc	18	206	196	201	193
Arsenic	1.6	206	196	189	180

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

Salimpour, Afsaneh

From: Klitzke, Tiffany [Tiffany.Klitzke@amec.com]
Sent: Thursday, February 19, 2009 3:09 PM
To: Salimpour, Afsaneh
Subject: Santa Cruz Railroad-additional analysis

Hi Afsaneh,
Is it possible for you to test the following samples for Arsenic by 6010 in addition to the other requested analyses?
The samples are:

Yes – SB-71 0.5 → 7/20 – 18061 – 1
Yes – SB-72-0.5 – 4
Yes – SB-73-0.5 7/20 – 18062 – 1
*Sample on HOLD should remain on hold for now

SB-77-0.5, 1.5, 3.0 18071 – 1, 2, 3
SB-78-0.5, 1.5, 4.5 4, 5, 6
SB-79-0.5, 1.5, 4.5 7, 8, 9
SB-80-0.5, 4.5, 5.5 10, 11, 12
SB-81-0.5, 1.5, 4.5 13, 14, 15
SB-82-0.5, 1.5, 4.5 16, 17, 18

Yes – SB-95-0.5 18095 – 2
Yes – SB-96-0.5 – 4
*Samples on HOLD should remain on hold for now

Please let me know if it will be possible to analyze these samples for Arsenic.
Thanks,

Tiffany Klitzke| Staff Geologist
AMEC Geomatrix | 2101 Webster St., 12th Fl. | Oakland, CA 94612

510.663.4144 (direct) | 510.663.4141 (fax) | Tiffany.Klitzke@amec.com

P.S. Please update your address book with my new email: Tiffany.Klitzke@amec.com Thanks.

16579

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: SANTA CRUZ RAIL LINE
PROJECT NUMBER: 6257.000
RESULTS TO: MATTHEW.GOERZ@AMEC.COM
TURNAROUND TIME: Standard
SAMPLE SHIPMENT METHOD: courier
SAMPLERS (SIGNATURE):

LABORATORY NAME: TESTAMERICA
LABORATORY ADDRESS: Pleasanton, CA
LABORATORY CONTACT: Afsaneh S.
LABORATORY PHONE NUMBER:

CLIENT INFORMATION:

720-18099

DATE: 2-11-09 PAGE 1 OF 1
REPORTING REQUIREMENTS: 11457
GEOTRACKER REQUIRED: YES NO
SITE SPECIFIC GLOBAL ID NO.:

ANALYSES

DATE	TIME	SAMPLE NUMBER	TPH mo GRO	TPH diesel BTEX	MTBE 8270 SIM	LUFT 5 Metals	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
2-11-9	1530	EB-2-021109	X	X	X	X	①	W	N	—	Y	N	1	See note
	1700	SB-95-0.5	X	X	X	X	6-inch sleeve	S	N	None	Y	N	1	HOLD
	1707	SB-95-1.5	X	X	X	X	↓	↓	↓	↓	↓	↓	↓	HOLD
	1710	SB-96-0.5	X	X	X	X								
	1715	SB-96-1.5	X	X	X	X								

C: 7°c

TOTAL NUMBER OF CONTAINERS: 8

SAMPLING COMMENTS:
① 1 250mL poly w/HNO3 - UNFILTERED
3 1L AMBERS (w/HCl)
② ~~OK TO FILTER METALS OUT OF 24 HOUR HOLD~~ NO NEED TO FILTER

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	2-16-09	0920	SIGNATURE:	2/14/09	920
PRINTED NAME: Matthew Klitzke			PRINTED NAME:		
COMPANY: AMEC Geomatrix			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

amec

02/23/2009

Login Sample Receipt Check List

Client: AMEC Geomatrix Inc.

Job Number: 720-18099-1

Login Number: 18099
Creator: Mullen, Joan
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.	N/A	
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	