

ANALYTICAL REPORT

Job Number: 200-6164-1

SDG Number: PRR1141

Job Description: PRR1141 (200-6164)

For:

ARCADIS U.S. Inc
2300 Eastlake Avenue, East
Suite 140
Seattle, WA 98102

Attention: Ms. Shannon Dunn

Designee for

Kirk F Young

Project Manager I

kirk.young@testamericainc.com

08/03/2011

cc: Mr. Joe Houser
Mr. Don Reed

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

TestAmerica Laboratories, Inc.

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 www.testamericainc.com



Table of Contents

Cover Title Page	1
Report Narrative	3
Method Summary	4
Method / Analyst Summary	5
Sample Summary	6
Sample Results	7
Sample Datasheets	8
Data Qualifiers	35
QC Results	36
Qc Association Summary	37
Surrogate Recovery Report	42
Qc Reports	51
Sample Receipt Checklist	76

CASE NARRATIVE

Client: ARCADIS U.S. Inc

Project: LPRSA - Phase I Removal Action

Report Number: PRR1141 (200-6164-1)

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met. Calibration and calibration verification were assessed on an analyte specific basis. Initial calibration and continuing calibration criteria may not have been met in all instances.

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

All holding times were met and proper preservation noted for the methods of analysis.

Manual integration was employed in deriving certain of the analytical results.

Positive instrument responses in the analysis of samples and quality controls were evaluated to the established method detection limit (MDL).

This report is submitted as a preliminary report. All reported values are in a final, reviewed state with the exception of those for the SOM01.2 SVOA SIM analysis. The results for that parameter were derived from acquisitions that did not meet the technical acceptance criteria for internal standard performance. A reanalysis of the extracts is required to confirm the internal standard performance. The follow-up work is procedural, and there will not be a substantive change in the results that are reported in final form.

This is an abbreviated report. A more formal report will be issued in a CLP-like format, with supportive documentation and further narrative discussion.

Of particular note for this data set is the low recovery performance of the majority of the metals in the matrix spike analyses. This was the case for both the ICP-AES and the ICP-MS analyses. The post digestion spike analyses also exhibited low recovery performance, and the serial dilution analyses indicated widespread interferences relative to the elements under evaluation.

METHOD SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Low/Medium Volatiles	TAL BUR	SOM01.2	SOM01.2/VOA
Volatile sample preservation, Lab Preserved Low	TAL BUR		SOM01.2 SOM01.2/VOA_PR
Semivolatiles	TAL BUR	SOM01.2	SOM01.2/SV
Extraction Solid/Sediment Samples	TAL BUR		SOM01.2 SONC
Gel-Permeation Clean up	TAL BUR		SOM01.2 SOM01.2/GPC
Semivolatiles by SIM	TAL BUR	SOM01.2	SOM01.2/SV SIM
Extraction Solid/Sediment Samples	TAL BUR		SOM01.2 SONC
Gel-Permeation Clean up	TAL BUR		SOM01.2 SOM01.2/GPC
Aroclors	TAL BUR	SOM01.2	SOM01.2/PCB
Extraction Solid/Sediment Samples	TAL BUR		SOM01.2 SONC
Sulfuric Acid/Permanganate Cleanup	TAL BUR		SOM01.2 SOM01.2/SO4CU
Pesticides	TAL BUR	SOM01.2	SOM01.2/Pest
Extraction Solid/Sediment Samples	TAL BUR		SOM01.2 SONC
Gel-Permeation Clean up	TAL BUR		SOM01.2 SOM01.2/GPC
ISM01.2 Mercury	TAL BUR	ISM01.2	ISM01.2/HG
7471B	TAL BUR		SW846 7471B
ISM01.2 Metals (ICP)	TAL BUR	ISM01.2	ISM01.2/ICP
3050B	TAL BUR		SW846 3050B
ISM01.2 Metals (ICPMS)	TAL BUR	ISM01.2	ISM01.2/ICPMS
3050B	TAL BUR		SW846 3050B
Matrix: Water			
Low/Medium Volatiles	TAL BUR	SOM01.2	SOM01.2/VOA
Volatile sample preservation, Field Preserved Water	TAL BUR		SOM01.2 SOM01.2/VOA_PR

Lab References:

TAL BUR = TestAmerica Burlington

Method References:

ISM01.2 = U.S. Environmental Protection Agency

SOM01.2 = U.S. Environmental Protection Agency

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

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method	Analyst	Analyst ID
SOM01.2 SOM01.2/VOA	Dragoo, Jennifer P	JPD
SOM01.2 SOM01.2/VOA	Heald, John	JRH
SOM01.2 SOM01.2/SV	Bissonette, Donald J	DJB
SOM01.2 SOM01.2/SV SIM	White, Matthew T	MTW
SOM01.2 SOM01.2/PCB	Duncan, Stacey L	SLD
SOM01.2 SOM01.2/Pest	Bailey, Jacob L	JLB
SOM01.2 SOM01.2/Pest	Toomey, Lisa M	LMT
ISM01.2 ISM01.2/HG	Sachs, Austin L	ALS
ISM01.2 ISM01.2/ICP	Lyons, Benjamin	BL
ISM01.2 ISM01.2/ICPMS	Sheldon, Travis F	TFS

SAMPLE SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-6164-1	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1MS	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1MSD	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1DU	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-2	PRR1SOLIF-02	Solid	07/22/2011 1115	07/23/2011 0940
200-6164-4TB	TB07222011-01	Water	07/22/2011 0000	07/23/2011 0940
200-6164-5STOBLK	VHBLK01	Water	07/23/2011 1120	07/23/2011 0940
200-6164-6STOBLK	VHBLKLS	Solid	07/23/2011 0000	07/23/2011 0940

Preliminary Data

SAMPLE RESULTS

Preliminary Data

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.6

Date Received: 07/23/2011 0940

SOM01.2/VOA Low/Medium Volatiles

Analysis Method: SOM01.2/VOA Analysis Batch: 200-22587 Instrument ID: M.i
Prep Method: SOM01.2/VOA_PR Prep Batch: 200-22198 Lab File ID: mhka10.d
Dilution: 1.0 Initial Weight/Volume: 3.83 g
Analysis Date: 07/28/2011 1247 Final Weight/Volume: 5 mL
Prep Date: 07/23/2011 1252

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Vinyl chloride		6.6	U	6.6
1,1-Dichloroethene		6.6	U	6.6
Methylene chloride		1.5	J B	6.6
2-Butanone		13	U	13
Chloroform		6.6	U	6.6
Carbon tetrachloride		6.6	U	6.6
Benzene		6.6	U	6.6
1,2-Dichloroethane		6.6	U	6.6
Trichloroethene		6.6	U	6.6
Toluene		0.16	J B	6.6
Tetrachloroethene		6.6	U	6.6
Chlorobenzene		6.6	U	6.6
Ethylbenzene		6.6	U	6.6
1,3-Dichlorobenzene		6.6	U	6.6
1,4-Dichlorobenzene		6.6	U	6.6
1,2-Dichlorobenzene		6.6	U	6.6
1,2,4-Trichlorobenzene		0.58	J B	6.6
1,2,3-Trichlorobenzene		0.54	J B	6.6

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	84		68 - 122
Chloroethane-d5	93		61 - 130
1,1-Dichloroethene-d2	75		45 - 132
2-Butanone-d5	152		20 - 182
Chloroform-d	97		72 - 123
1,2-Dichloroethane-d4	105		79 - 122
Benzene-d6	94		80 - 121
1,2-Dichloropropane-d6	89		74 - 124
Toluene-d8	95		78 - 121
trans-1,3-Dichloropropene-d4	102		72 - 130
2-Hexanone-d5	159		17 - 184
1,4-Dioxane-d8	121		50 - 150
1,1,2,2-Tetrachloroethane-d2	103		56 - 161
1,2-Dichlorobenzene-d4	100		70 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.5

Date Received: 07/23/2011 0940

SOM01.2/VOA Low/Medium Volatiles

Analysis Method: SOM01.2/VOA Analysis Batch: 200-22587 Instrument ID: M.i
Prep Method: SOM01.2/VOA_PR Prep Batch: 200-22198 Lab File ID: mhka13.d
Dilution: 1.0 Initial Weight/Volume: 5.32 g
Analysis Date: 07/28/2011 1410 Final Weight/Volume: 5 mL
Prep Date: 07/23/2011 1252

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Vinyl chloride		4.7	U	4.7
1,1-Dichloroethene		4.7	U	4.7
Methylene chloride		0.82	J B	4.7
2-Butanone		9.4	U	9.4
Chloroform		4.7	U	4.7
Carbon tetrachloride		4.7	U	4.7
Benzene		4.7	U	4.7
1,2-Dichloroethane		4.7	U	4.7
Trichloroethene		4.7	U	4.7
Toluene		0.21	J B	4.7
Tetrachloroethene		4.7	U	4.7
Chlorobenzene		4.7	U	4.7
Ethylbenzene		4.7	U	4.7
1,3-Dichlorobenzene		4.7	U	4.7
1,4-Dichlorobenzene		4.7	U	4.7
1,2-Dichlorobenzene		4.7	U	4.7
1,2,4-Trichlorobenzene		0.30	J B	4.7
1,2,3-Trichlorobenzene		0.28	J B	4.7

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	86		68 - 122
Chloroethane-d5	95		61 - 130
1,1-Dichloroethene-d2	76		45 - 132
2-Butanone-d5	149		20 - 182
Chloroform-d	98		72 - 123
1,2-Dichloroethane-d4	104		79 - 122
Benzene-d6	94		80 - 121
1,2-Dichloropropane-d6	88		74 - 124
Toluene-d8	96		78 - 121
trans-1,3-Dichloropropene-d4	98		72 - 130
2-Hexanone-d5	153		17 - 184
1,4-Dioxane-d8	100		50 - 150
1,1,2,2-Tetrachloroethane-d2	96		56 - 161
1,2-Dichlorobenzene-d4	100		70 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: TB07222011-01

Lab Sample ID: 200-6164-4TB

Date Sampled: 07/22/2011 0000

Client Matrix: Water

Date Received: 07/23/2011 0940

SOM01.2/VOA Low/Medium Volatiles

Analysis Method:	SOM01.2/VOA	Analysis Batch:	200-22412	Instrument ID:	M.i
Prep Method:	SOM01.2/VOA_PR	Prep Batch:	N/A	Lab File ID:	mhgd05.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/26/2011 1720			Final Weight/Volume:	5 mL
Prep Date:	07/26/2011 1720				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	0.11	J	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.24	J B	5.0
Toluene	5.0	U	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	0.57	J B	5.0
1,2,3-Trichlorobenzene	0.52	J B	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	78		65 - 131
Chloroethane-d5	89		71 - 131
1,1-Dichloroethene-d2	74		55 - 104
2-Butanone-d5	90		49 - 155
Chloroform-d	96		78 - 121
1,2-Dichloroethane-d4	97		78 - 129
Benzene-d6	97		77 - 124
1,2-Dichloropropane-d6	89		79 - 124
Toluene-d8	98		77 - 121
trans-1,3-Dichloropropene-d4	97		73 - 121
2-Hexanone-d5	93		28 - 135
1,4-Dioxane-d8	104		50 - 150
1,1,2,2-Tetrachloroethane-d2	95		73 - 125
1,2-Dichlorobenzene-d4	100		80 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: VHBLK01

Lab Sample ID: 200-6164-5STOBLK

Client Matrix: Water

Date Sampled: 07/23/2011 1120

Date Received: 07/23/2011 0940

SOM01.2/VOA Low/Medium Volatiles

Analysis Method:	SOM01.2/VOA	Analysis Batch:	200-22412	Instrument ID:	M.i
Prep Method:	SOM01.2/VOA_PR	Prep Batch:	N/A	Lab File ID:	mhgd06.d
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	07/26/2011 1748			Final Weight/Volume:	5 mL
Prep Date:	07/26/2011 1748				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	5.0	U	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	5.0	U	5.0
Toluene	5.0	U	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	5.0	U	5.0
1,2,3-Trichlorobenzene	5.0	U	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	80		65 - 131
Chloroethane-d5	91		71 - 131
1,1-Dichloroethene-d2	75		55 - 104
2-Butanone-d5	94		49 - 155
Chloroform-d	96		78 - 121
1,2-Dichloroethane-d4	98		78 - 129
Benzene-d6	99		77 - 124
1,2-Dichloropropane-d6	93		79 - 124
Toluene-d8	99		77 - 121
trans-1,3-Dichloropropene-d4	98		73 - 121
2-Hexanone-d5	98		28 - 135
1,4-Dioxane-d8	108		50 - 150
1,1,2,2-Tetrachloroethane-d2	98		73 - 125
1,2-Dichlorobenzene-d4	104		80 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: VHBLKLS

Lab Sample ID: 200-6164-6STOBLK

Date Sampled: 07/23/2011 0000

Client Matrix: Solid

Date Received: 07/23/2011 0940

SOM01.2/VOA Low/Medium Volatiles

Analysis Method:	SOM01.2/VOA	Analysis Batch:	200-22587	Instrument ID:	M.i
Prep Method:	SOM01.2/VOA_PR	Prep Batch:	200-22198	Lab File ID:	mhka15.d
Dilution:	1.0			Initial Weight/Volume:	5 g
Analysis Date:	07/28/2011 1529			Final Weight/Volume:	5 mL
Prep Date:	07/23/2011 1252				

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	RL
Vinyl chloride		5.0	U	5.0
1,1-Dichloroethene		5.0	U	5.0
Methylene chloride		0.54	J B	5.0
2-Butanone		10	U	10
Chloroform		5.0	U	5.0
Carbon tetrachloride		5.0	U	5.0
Benzene		5.0	U	5.0
1,2-Dichloroethane		5.0	U	5.0
Trichloroethene		0.32	J B	5.0
Toluene		0.85	J B	5.0
Tetrachloroethene		5.0	U	5.0
Chlorobenzene		5.0	U	5.0
Ethylbenzene		5.0	U	5.0
1,3-Dichlorobenzene		5.0	U	5.0
1,4-Dichlorobenzene		5.0	U	5.0
1,2-Dichlorobenzene		5.0	U	5.0
1,2,4-Trichlorobenzene		0.36	J B	5.0
1,2,3-Trichlorobenzene		0.34	J B	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	84		68 - 122
Chloroethane-d5	92		61 - 130
1,1-Dichloroethene-d2	76		45 - 132
2-Butanone-d5	138		20 - 182
Chloroform-d	97		72 - 123
1,2-Dichloroethane-d4	103		79 - 122
Benzene-d6	91		80 - 121
1,2-Dichloropropane-d6	86		74 - 124
Toluene-d8	94		78 - 121
trans-1,3-Dichloropropene-d4	98		72 - 130
2-Hexanone-d5	140		17 - 184
1,4-Dioxane-d8	117		50 - 150
1,1,2,2-Tetrachloroethane-d2	98		56 - 161
1,2-Dichlorobenzene-d4	97		70 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/SV Semivolatiles

Analysis Method: SOM01.2/SV

Analysis Batch: 200-22479

Instrument ID: P.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: phvay05.d

Dilution: 1.0

Initial Weight/Volume: 30.18 g

Analysis Date: 07/27/2011 1324

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Pyridine		170	U	170
Benzaldehyde		170	U	170
Phenol		170	U	170
Bis(2-chloroethyl)ether		170	U	170
2-Chlorophenol		170	U	170
2-Methylphenol		170	U	170
2,2'-Oxybis(1-chloropropane)		170	U	170
Acetophenone		9.5	J B	170
4-Methylphenol		170	U	170
N-Nitroso-di-n-propylamine		170	U	170
Hexachloroethane		170	U	170
Nitrobenzene		170	U	170
Isophorone		170	U	170
2-Nitrophenol		170	U	170
2,4-Dimethylphenol		170	U	170
Bis(2-chloroethoxy)methane		170	U	170
2,4-Dichlorophenol		170	U	170
Naphthalene		170	U	170
4-Chloroaniline		170	U	170
Hexachlorobutadiene		170	U	170
Caprolactam		170	U	170
4-Chloro-3-methylphenol		170	U	170
2-Methylnaphthalene		170	U	170
Hexachlorocyclopentadiene		170	U	170
2,4,6-Trichlorophenol		170	U	170
2,4,5-Trichlorophenol		170	U	170
1,1'-Biphenyl		170	U	170
2-Chloronaphthalene		170	U	170
2-Nitroaniline		330	U	330
Dimethylphthalate		170	U	170
2,6-Dinitrotoluene		170	U	170
Acenaphthylene		170	U	170
3-Nitroaniline		330	U	330
Acenaphthene		170	U	170
2,4-Dinitrophenol		330	U	330
4-Nitrophenol		330	U	330
Dibenzofuran		170	U	170
2,4-Dinitrotoluene		170	U	170
Diethylphthalate		170	U	170
Fluorene		170	U	170
4-Chlorophenyl-phenylether		170	U	170
4-Nitroaniline		330	U	330
4,6-Dinitro-2-methylphenol		330	U	330
N-Nitrosodiphenylamine		170	U	170
1,2,4,5-Tetrachlorobenzene		170	U	170
4-Bromophenyl-phenylether		170	U	170

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/SV Semivolatiles

Analysis Method: SOM01.2/SV

Analysis Batch: 200-22479

Instrument ID: P.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: phvay05.d

Dilution: 1.0

Initial Weight/Volume: 30.18 g

Analysis Date: 07/27/2011 1324

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Hexachlorobenzene		170	U	170
Atrazine		170	U	170
Pentachlorophenol		330	U	330
Phenanthrene		170	U	170
Anthracene		170	U	170
Carbazole		170	U	170
Di-n-butylphthalate		170	U	170
Fluoranthene		170	U	170
Pyrene		170	U	170
Butylbenzylphthalate		17	J	170
3,3'-Dichlorobenzidine		170	U	170
Benzo(a)anthracene		170	U	170
Chrysene		170	U	170
Bis(2-ethylhexyl)phthalate		48	J B	170
Di-n-octylphthalate		170	U	170
Benzo(b)fluoranthene		170	U	170
Benzo(k)fluoranthene		170	U	170
Benzo(a)pyrene		170	U	170
Indeno(1,2,3-cd)pyrene		170	U	170
Dibenzo(a,h)anthracene		170	U	170
Benzo(g,h,i)perylene		170	U	170
2,3,4,6-Tetrachlorophenol		170	U	170

Surrogate	%Rec	Qualifier	Acceptance Limits
Phenol-d5	92		17 - 103
Bis(2-chloroethyl)ether-d8	84		12 - 98
2-Chlorophenol-d4	91		13 - 101
4-Methylphenol-d8	91		8 - 100
Nitrobenzene-d5	85		16 - 103
2-Nitrophenol-d4	83		16 - 104
2,4-Dichlorophenol-d3	83		23 - 104
4-Chloroaniline-d4	58		1 - 145
Dimethylphthalate-d6	95		43 - 111
Acenaphthylene-d8	93		20 - 97
4-Nitrophenol-d4	77		16 - 166
Fluorene-d10	87		40 - 108
4,6-Dinitro-2-methylphenol-d2	55		1 - 121
Anthracene-d10	99	*	22 - 98
Pyrene-d10	104		51 - 120
Benzo(a)pyrene-d12	94		43 - 111

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/SV Semivolatiles

Analysis Method: SOM01.2/SV

Analysis Batch: 200-22479

Instrument ID: P.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: phvay08.d

Dilution: 1.0

Initial Weight/Volume: 37.88 g

Analysis Date: 07/27/2011 1533

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Pyridine		140	U	140
Benzaldehyde		140	U	140
Phenol		140	U	140
Bis(2-chloroethyl)ether		140	U	140
2-Chlorophenol		140	U	140
2-Methylphenol		140	U	140
2,2'-Oxybis(1-chloropropane)		140	U	140
Acetophenone		8.2	J B	140
4-Methylphenol		140	U	140
N-Nitroso-di-n-propylamine		140	U	140
Hexachloroethane		140	U	140
Nitrobenzene		140	U	140
Isophorone		140	U	140
2-Nitrophenol		140	U	140
2,4-Dimethylphenol		140	U	140
Bis(2-chloroethoxy)methane		140	U	140
2,4-Dichlorophenol		140	U	140
Naphthalene		140	U	140
4-Chloroaniline		140	U	140
Hexachlorobutadiene		140	U	140
Caprolactam		140	U	140
4-Chloro-3-methylphenol		140	U	140
2-Methylnaphthalene		140	U	140
Hexachlorocyclopentadiene		140	U	140
2,4,6-Trichlorophenol		140	U	140
2,4,5-Trichlorophenol		140	U	140
1,1'-Biphenyl		140	U	140
2-Chloronaphthalene		140	U	140
2-Nitroaniline		260	U	260
Dimethylphthalate		140	U	140
2,6-Dinitrotoluene		140	U	140
Acenaphthylene		140	U	140
3-Nitroaniline		260	U	260
Acenaphthene		140	U	140
2,4-Dinitrophenol		260	U	260
4-Nitrophenol		260	U	260
Dibenzofuran		140	U	140
2,4-Dinitrotoluene		140	U	140
Diethylphthalate		140	U	140
Fluorene		140	U	140
4-Chlorophenyl-phenylether		140	U	140
4-Nitroaniline		260	U	260
4,6-Dinitro-2-methylphenol		260	U	260
N-Nitrosodiphenylamine		140	U	140
1,2,4,5-Tetrachlorobenzene		140	U	140
4-Bromophenyl-phenylether		140	U	140

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/SV Semivolatiles

Analysis Method: SOM01.2/SV

Analysis Batch: 200-22479

Instrument ID: P.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: phvay08.d

Dilution: 1.0

Initial Weight/Volume: 37.88 g

Analysis Date: 07/27/2011 1533

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Hexachlorobenzene		140	U	140
Atrazine		140	U	140
Pentachlorophenol		260	U	260
Phenanthrene		140	U	140
Anthracene		140	U	140
Carbazole		140	U	140
Di-n-butylphthalate		140	U	140
Fluoranthene		140	U	140
Pyrene		140	U	140
Butylbenzylphthalate		140	U	140
3,3'-Dichlorobenzidine		140	U	140
Benzo(a)anthracene		140	U	140
Chrysene		140	U	140
Bis(2-ethylhexyl)phthalate		9.1	J B	140
Di-n-octylphthalate		140	U	140
Benzo(b)fluoranthene		140	U	140
Benzo(k)fluoranthene		140	U	140
Benzo(a)pyrene		140	U	140
Indeno(1,2,3-cd)pyrene		140	U	140
Dibenzo(a,h)anthracene		140	U	140
Benzo(g,h,i)perylene		140	U	140
2,3,4,6-Tetrachlorophenol		140	U	140

Surrogate	%Rec	Qualifier	Acceptance Limits
Phenol-d5	93		17 - 103
Bis(2-chloroethyl)ether-d8	84		12 - 98
2-Chlorophenol-d4	96		13 - 101
4-Methylphenol-d8	94		8 - 100
Nitrobenzene-d5	90		16 - 103
2-Nitrophenol-d4	89		16 - 104
2,4-Dichlorophenol-d3	90		23 - 104
4-Chloroaniline-d4	74		1 - 145
Dimethylphthalate-d6	100		43 - 111
Acenaphthylene-d8	96		20 - 97
4-Nitrophenol-d4	86		16 - 166
Fluorene-d10	91		40 - 108
4,6-Dinitro-2-methylphenol-d2	64		1 - 121
Anthracene-d10	100	*	22 - 98
Pyrene-d10	110		51 - 120
Benzo(a)pyrene-d12	98		43 - 111

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/SV SIM Semivolatiles by SIM

Analysis Method: SOM01.2/SV SIM

Analysis Batch: 200-22837

Instrument ID: Z.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: zwx07.d

Dilution: 1.0

Initial Weight/Volume: 30.18 g

Analysis Date: 08/03/2011 0001

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		0.38	J B	3.3
2-Methylnaphthalene		3.3	U	3.3
Acenaphthylene		3.3	U	3.3
Acenaphthene		3.3	U	3.3
Fluorene		3.3	U	3.3
Hexachlorobenzene		3.3	U	3.3
Pentachlorophenol		6.8	U	6.8
Phenanthrene		0.34	J	3.3
Anthracene		3.3	U	3.3
Fluoranthene		0.53	J	3.3
Pyrene		4.7	B	3.3
Benzo(a)anthracene		0.40	J	3.3
Chrysene		0.55	J	3.3
Benzo(b)fluoranthene		1.0	J	3.3
Benzo(k)fluoranthene		0.79	J	3.3
Benzo(a)pyrene		5.1	B	3.3
Indeno(1,2,3-cd)pyrene		1.2	J	3.3
Dibenz(a,h)anthracene		3.3	U	3.3
Benzo(g,h,i)perylene		3.3	J	3.3

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluoranthene-d10	86		50 - 150
2-Methylnaphthalene-d10	89		50 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/SV SIM Semivolatiles by SIM

Analysis Method: SOM01.2/SV SIM

Analysis Batch: 200-22837

Instrument ID: Z.i

Prep Method: SONC

Prep Batch: 200-22277

Lab File ID: zwx10.d

Dilution: 1.0

Initial Weight/Volume: 37.88 g

Analysis Date: 08/03/2011 0231

Final Weight/Volume: 10000 uL

Prep Date: 07/25/2011 1756

Injection Volume: 2 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Naphthalene		0.28	J B	2.6
2-Methylnaphthalene		2.6	U	2.6
Acenaphthylene		2.6	U	2.6
Acenaphthene		2.6	U	2.6
Fluorene		2.6	U	2.6
Hexachlorobenzene		2.6	U	2.6
Pentachlorophenol		5.3	U	5.3
Phenanthrene		0.14	J	2.6
Anthracene		2.6	U	2.6
Fluoranthene		0.22	J	2.6
Pyrene		2.0	J B	2.6
Benzo(a)anthracene		0.098	J	2.6
Chrysene		0.13	J	2.6
Benzo(b)fluoranthene		0.16	J	2.6
Benzo(k)fluoranthene		0.14	J	2.6
Benzo(a)pyrene		2.9	B	2.6
Indeno(1,2,3-cd)pyrene		0.15	J	2.6
Dibenz(a,h)anthracene		2.6	U	2.6
Benzo(g,h,i)perylene		0.31	J	2.6

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluoranthene-d10	87		50 - 150
2-Methylnaphthalene-d10	92		50 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-22667

Instrument ID: 5253.i

Prep Method: SONC

Prep Batch: 200-22276

Initial Weight/Volume: 30.27 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 2338

Injection Volume: 1 uL

Prep Date: 07/25/2011 1751

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aroclor-1016		33	U	33
Aroclor-1221		33	U	33
Aroclor-1232		33	U	33
Aroclor-1242		33	U	33
Aroclor-1248		33	U	33
Aroclor-1254		33	U	33
Aroclor-1260		33	U	33
Aroclor-1262		33	U	33
Aroclor-1268		33	U	33

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	95		30 - 150
Decachlorobiphenyl	91		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-22667

Instrument ID: 5253.i

Prep Method: SONC

Prep Batch: 200-22276

Initial Weight/Volume: 30.27 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 2338

Injection Volume: 1 uL

Prep Date: 07/25/2011 1751

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	97		30 - 150
Decachlorobiphenyl	94		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-22667

Instrument ID: 5253.i

Prep Method: SONC

Prep Batch: 200-22276

Initial Weight/Volume: 38.72 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/30/2011 0050

Injection Volume: 1 uL

Prep Date: 07/25/2011 1751

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
Aroclor-1016		26	U	26
Aroclor-1221		26	U	26
Aroclor-1232		26	U	26
Aroclor-1242		26	U	26
Aroclor-1248		26	U	26
Aroclor-1254		26	U	26
Aroclor-1260		26	U	26
Aroclor-1262		26	U	26
Aroclor-1268		26	U	26

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	88		30 - 150
Decachlorobiphenyl	88		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-22667

Instrument ID: 5253.i

Prep Method: SONC

Prep Batch: 200-22276

Initial Weight/Volume: 38.72 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/30/2011 0050

Injection Volume: 1 uL

Prep Date: 07/25/2011 1751

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	91		30 - 150
Decachlorobiphenyl	88		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22854

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 30.71 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/02/2011 1958

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
alpha-BHC		1.7	U	1.7
beta-BHC		0.24	J P B	1.7
delta-BHC		1.7	U	1.7
gamma-BHC (Lindane)		1.7	U	1.7
Heptachlor		1.7	U	1.7
Aldrin		1.7	U	1.7
Heptachlor epoxide		1.7	U	1.7
Endosulfan I		1.7	U	1.7
Dieldrin		3.3	U	3.3
4,4'-DDE		3.3	U	3.3
Endrin		3.3	U	3.3
Endosulfan II		3.3	U	3.3
4,4'-DDD		3.3	U	3.3
Endosulfan sulfate		3.3	U	3.3
4,4'-DDT		3.3	U	3.3
Methoxychlor		17	U	17
Endrin ketone		3.3	U	3.3
Endrin aldehyde		3.3	U	3.3
alpha-Chlordane		1.7	U	1.7
gamma-Chlordane		1.7	U	1.7
Toxaphene		170	U	170
Surrogate		%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene		109		30 - 150
Decachlorobiphenyl		116		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22854

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 30.71 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/02/2011 1958

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	118		30 - 150
Decachlorobiphenyl	118		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22518

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 30.71 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/28/2011 0954

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
2,4'-DDE		3.3	U	3.3
2,4'-DDT		3.3	U	3.3
2,4'-DDD		3.3	U	3.3

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	98		30 - 150
Decachlorobiphenyl	108		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22518

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 30.71 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/28/2011 0954

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	110		30 - 150
Decachlorobiphenyl	118		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22854

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 38.25 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/02/2011 2108

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
alpha-BHC		1.3	U	1.3
beta-BHC		0.51	J P B	1.3
delta-BHC		1.3	U	1.3
gamma-BHC (Lindane)		1.3	U	1.3
Heptachlor		1.3	U	1.3
Aldrin		1.3	U	1.3
Heptachlor epoxide		1.3	U	1.3
Endosulfan I		1.3	U	1.3
Dieldrin		2.6	U	2.6
4,4'-DDE		2.6	U	2.6
Endrin		2.6	U	2.6
Endosulfan II		2.6	U	2.6
4,4'-DDD		2.6	U	2.6
Endosulfan sulfate		2.6	U	2.6
4,4'-DDT		2.6	U	2.6
Methoxychlor		13	U	13
Endrin ketone		2.6	U	2.6
Endrin aldehyde		2.6	U	2.6
alpha-Chlordane		1.3	U	1.3
gamma-Chlordane		1.3	U	1.3
Toxaphene		130	U	130
Surrogate		%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene		95		30 - 150
Decachlorobiphenyl		103		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22854

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 38.25 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/02/2011 2108

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	100		30 - 150
Decachlorobiphenyl	106		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22518

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 38.25 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/28/2011 1024

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	RL
2,4'-DDE		2.6	U	2.6
2,4'-DDT		2.6	U	2.6
2,4'-DDD		2.6	U	2.6

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	85		30 - 150
Decachlorobiphenyl	100		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-22518

Instrument ID: 0911.i

Prep Method: SONC

Prep Batch: 200-22272

Initial Weight/Volume: 38.25 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/28/2011 1024

Injection Volume: 1 uL

Prep Date: 07/25/2011 1742

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	94		30 - 150
Decachlorobiphenyl	111		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

ISM01.2/HG ISM01.2 Mercury

Analysis Method:	ISM01.2/HG	Analysis Batch:	200-22539	Instrument ID:	MEPCV3 II
Prep Method:	7471B	Prep Batch:	200-22433	Lab File ID:	072811FF.PRN
Dilution:	1.0			Initial Weight/Volume:	0.55 g
Analysis Date:	07/28/2011 1526			Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1300				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDLE	RL
Mercury		0.093	U	0.0032	0.093

ISM01.2/ICP ISM01.2 Metals (ICP)

Analysis Method:	ISM01.2/ICP	Analysis Batch:	200-22664	Instrument ID:	METICP7
Prep Method:	3050B	Prep Batch:	200-22434	Lab File ID:	073011-01.ttx
Dilution:	1.0			Initial Weight/Volume:	1.27 g
Analysis Date:	07/30/2011 0042			Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1140				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Chromium		4.2	N E	0.037	0.80
Lead		0.43	J N	0.21	0.80

Analysis Method:	ISM01.2/ICP	Analysis Batch:	200-22802	Instrument ID:	METICP7
Prep Method:	3050B	Prep Batch:	200-22434	Lab File ID:	080111-03.ttx
Dilution:	2.0			Initial Weight/Volume:	1.27 g
Analysis Date:	08/02/2011 1044	Run Type:	DL	Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1140				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5660	D E	10.3	32.1
Arsenic		1.2	J D N	0.43	1.6
Barium		77.9	D E N	1.4	32.1
Beryllium		0.80	U N	0.045	0.80
Cadmium		0.11	J D N	0.053	0.80
Calcium		5560	D E	12.7	803
Cobalt		8.0	D E N	0.12	8.0
Copper		14.5	D E * N	0.16	4.0
Iron		20400	D E	2.2	16.1
Magnesium		4120	D E	10.8	803
Nickel		24.7	D E * N	0.35	6.4
Potassium		2880	D E	30.5	803
Sodium		26.0	J D	9.6	803
Vanadium		14.7	D E N	0.19	8.0
Zinc		38.6	D * N	1.4	9.6

Analysis Method:	ISM01.2/ICP	Analysis Batch:	200-22831	Instrument ID:	METICP7
Prep Method:	3050B	Prep Batch:	200-22434	Lab File ID:	080211-01.ttx
Dilution:	10			Initial Weight/Volume:	1.27 g
Analysis Date:	08/03/2011 0109	Run Type:	DL3	Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1140				

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

ISM01.2/ICP ISM01.2 Metals (ICP)

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Manganese		204	D N	0.19	12.0

ISM01.2/ICPMS ISM01.2 Metals (ICPMS)

Analysis Method: ISM01.2/ICPMS Analysis Batch: 200-22716 Instrument ID: METICPMS2
Prep Method: 3050B Prep Batch: 200-22325 Lab File ID: 072611-02D.xml
Dilution: 1.0 Initial Weight/Volume: 1.01 g
Analysis Date: 07/27/2011 0932 Final Weight/Volume: 100 mL
Prep Date: 07/26/2011 1130

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		1.0	U N	0.061	1.0
Selenium		2.5	U N	0.061	2.5
Silver		0.50	U N	0.022	0.50
Thallium		0.17	J	0.021	0.50

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

ISM01.2/HG ISM01.2 Mercury

Analysis Method:	ISM01.2/HG	Analysis Batch:	200-22539	Instrument ID:	MEPCV3 II
Prep Method:	7471B	Prep Batch:	200-22433	Lab File ID:	072811FF.PRN
Dilution:	1.0			Initial Weight/Volume:	0.56 g
Analysis Date:	07/28/2011 1533			Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1300				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDLE	RL
Mercury		0.090	U	0.0030	0.090

ISM01.2/ICP ISM01.2 Metals (ICP)

Analysis Method:	ISM01.2/ICP	Analysis Batch:	200-22664	Instrument ID:	METICP7
Prep Method:	3050B	Prep Batch:	200-22434	Lab File ID:	073011-01.ttx
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Analysis Date:	07/30/2011 0125			Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1140				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		1650	E	5.6	17.6
Arsenic		0.88	U N	0.24	0.88
Barium		12.1	J E N	0.78	17.6
Beryllium		0.44	U N	0.025	0.44
Cadmium		0.061	J N	0.029	0.44
Calcium		2040	E	7.0	440
Chromium		5.4	N E	0.040	0.88
Cobalt		2.1	J E N	0.068	4.4
Copper		2.2	E * N	0.085	2.2
Iron		4010	E	1.2	8.8
Lead		0.88	U N	0.23	0.88
Magnesium		1770	E	5.9	440
Nickel		4.3	E * N	0.19	3.5
Potassium		770	E	16.7	440
Sodium		107	J	5.3	440
Vanadium		4.3	J E N	0.11	4.4
Zinc		6.2	* N	0.75	5.3

Analysis Method:	ISM01.2/ICP	Analysis Batch:	200-22802	Instrument ID:	METICP7
Prep Method:	3050B	Prep Batch:	200-22434	Lab File ID:	080111-03.ttx
Dilution:	10			Initial Weight/Volume:	1.14 g
Analysis Date:	08/02/2011 1138	Run Type:	DL	Final Weight/Volume:	100 mL
Prep Date:	07/27/2011 1140				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Manganese		55.0	D N	0.21	13.2

ISM01.2/ICPMS ISM01.2 Metals (ICPMS)

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

ISM01.2/ICPMS ISM01.2 Metals (ICPMS)

Analysis Method: ISM01.2/ICPMS

Analysis Batch: 200-22716

Instrument ID: METICPMS2

Prep Method: 3050B

Prep Batch: 200-22325

Lab File ID: 072611-02D.xml

Dilution: 1.0

Initial Weight/Volume: 1.47 g

Analysis Date: 07/27/2011 1024

Final Weight/Volume: 100 mL

Prep Date: 07/26/2011 1130

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Antimony		0.68	U N	0.041	0.68
Selenium		1.7	U N	0.041	1.7
Silver		0.34	U N	0.015	0.34
Thallium		0.062	J	0.014	0.34

DATA REPORTING QUALIFIERS

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	B	The analyte was found in an associated blank, as well as in the sample.
GC/MS Semi VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.
GC Semi VOA		
	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	P	The % Difference between columns is greater than 25%.
	B	The analyte was found in an associated blank, as well as in the sample.
Metals		
	*	Duplicate analysis not within control limits.
	U	Indicates analyzed for but not detected.
	N	PDS exceeds control limits
	J	Sample result is greater than the MDL but below the CRDL
	D	Sample was analyzed at a higher dilution factor.
	N	Spiked sample recovery is not within control limits.
	E	The reported value is estimated because of the presence of interference based on serial dilution analysis.

QUALITY CONTROL RESULTS

Preliminary Data

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Prep Batch: 200-22198					
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/VOA_P	
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/VOA_P	
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/VOA_P	
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/VOA_P	
200-6164-6STOBLK	VHBLKLS	T	Solid	SOM01.2/VOA_P	
Analysis Batch:200-22412					
MB 200-22412/4	Method Blank	T	Water	SOM01.2/VOA	
200-6164-4TB	TB07222011-01	T	Water	SOM01.2/VOA	
200-6164-5STOBLK	VHBLK01	T	Water	SOM01.2/VOA	
Analysis Batch:200-22587					
MB 200-22587/7	Method Blank	T	Solid	SOM01.2/VOA	
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/VOA	200-22198
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/VOA	200-22198
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/VOA	200-22198
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/VOA	200-22198
200-6164-6STOBLK	VHBLKLS	T	Solid	SOM01.2/VOA	200-22198

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 200-22277					
MB 200-22277/1-B	Method Blank	T	Solid	SONC	
200-6164-1	PRR1SOLIF-01	T	Solid	SONC	
200-6164-1MS	Matrix Spike	T	Solid	SONC	
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SONC	
200-6164-2	PRR1SOLIF-02	T	Solid	SONC	
Analysis Batch:200-22479					
MB 200-22277/1-B	Method Blank	T	Solid	SOM01.2/SV	200-22277
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/SV	200-22277
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/SV	200-22277
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/SV	200-22277
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/SV	200-22277
Analysis Batch:200-22837					
MB 200-22277/1-B	Method Blank	T	Solid	SOM01.2/SV SIM	200-22277
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/SV SIM	200-22277
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/SV SIM	200-22277
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/SV SIM	200-22277
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/SV SIM	200-22277

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 200-22272					
LCS 200-22272/2-D	Lab Control Sample	T	Solid	SONC	
LCS 200-22272/3-D	Lab Control Sample	T	Solid	SONC	
MB 200-22272/1-D	Method Blank	T	Solid	SONC	
200-6164-1	PRR1SOLIF-01	T	Solid	SONC	
200-6164-1MS	Matrix Spike	T	Solid	SONC	
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SONC	
200-6164-2	PRR1SOLIF-02	T	Solid	SONC	
Prep Batch: 200-22276					
LCS 200-22276/2-C	Lab Control Sample	T	Solid	SONC	
MB 200-22276/1-C	Method Blank	T	Solid	SONC	
200-6164-1	PRR1SOLIF-01	T	Solid	SONC	
200-6164-1MS	Matrix Spike	T	Solid	SONC	
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SONC	
200-6164-2	PRR1SOLIF-02	T	Solid	SONC	
Analysis Batch:200-22518					
LCS 200-22272/3-D	Lab Control Sample	T	Solid	SOM01.2/Pest	200-22272
MB 200-22272/1-D	Method Blank	T	Solid	SOM01.2/Pest	200-22272
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/Pest	200-22272
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/Pest	200-22272
Analysis Batch:200-22667					
LCS 200-22276/2-C	Lab Control Sample	T	Solid	SOM01.2/PCB	200-22276
MB 200-22276/1-C	Method Blank	T	Solid	SOM01.2/PCB	200-22276
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/PCB	200-22276
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/PCB	200-22276
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/PCB	200-22276
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/PCB	200-22276
Analysis Batch:200-22854					
LCS 200-22272/2-D	Lab Control Sample	T	Solid	SOM01.2/Pest	200-22272
MB 200-22272/1-D	Method Blank	T	Solid	SOM01.2/Pest	200-22272
200-6164-1	PRR1SOLIF-01	T	Solid	SOM01.2/Pest	200-22272
200-6164-1MS	Matrix Spike	T	Solid	SOM01.2/Pest	200-22272
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	SOM01.2/Pest	200-22272
200-6164-2	PRR1SOLIF-02	T	Solid	SOM01.2/Pest	200-22272

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 200-22325					
LCS 200-22325/2-A	Lab Control Sample	T	Solid	3050B	
MB 200-22325/1-A	Method Blank	T	Solid	3050B	
200-6164-1	PRR1SOLIF-01	T	Solid	3050B	
200-6164-1DU	Duplicate	T	Solid	3050B	
200-6164-1MS	Matrix Spike	T	Solid	3050B	
200-6164-1MSDL	Matrix Spike	T	Solid	3050B	
200-6164-2	PRR1SOLIF-02	T	Solid	3050B	
Prep Batch: 200-22433					
MB 200-22433/11-A	Method Blank	T	Solid	7471B	
200-6164-1	PRR1SOLIF-01	T	Solid	7471B	
200-6164-1DU	Duplicate	T	Solid	7471B	
200-6164-1MS	Matrix Spike	T	Solid	7471B	
200-6164-2	PRR1SOLIF-02	T	Solid	7471B	
Prep Batch: 200-22434					
LCS 200-22434/2-A	Lab Control Sample	T	Solid	3050B	
MB 200-22434/1-A	Method Blank	T	Solid	3050B	
200-6164-1	PRR1SOLIF-01	T	Solid	3050B	
200-6164-1DL	PRR1SOLIF-01	T	Solid	3050B	
200-6164-1DL3	PRR1SOLIF-01	T	Solid	3050B	
200-6164-1DL4	PRR1SOLIF-01	T	Solid	3050B	
200-6164-1DU	Duplicate	T	Solid	3050B	
200-6164-1DUDL	Duplicate	T	Solid	3050B	
200-6164-1DUDL2	Duplicate	T	Solid	3050B	
200-6164-1DUDL3	Duplicate	T	Solid	3050B	
200-6164-1DUDL4	Duplicate	T	Solid	3050B	
200-6164-1MS	Matrix Spike	T	Solid	3050B	
200-6164-1MSDL	Matrix Spike	T	Solid	3050B	
200-6164-1MSDL2	Matrix Spike	T	Solid	3050B	
200-6164-1MSDL3	Matrix Spike	T	Solid	3050B	
200-6164-1MSDL4	Matrix Spike	T	Solid	3050B	
200-6164-2	PRR1SOLIF-02	T	Solid	3050B	
200-6164-2DL	PRR1SOLIF-02	T	Solid	3050B	
200-6164-2RA	PRR1SOLIF-02	T	Solid	3050B	
Analysis Batch: 200-22539					
MB 200-22433/11-A	Method Blank	T	Solid	ISM01.2/HG	200-22433
200-6164-1	PRR1SOLIF-01	T	Solid	ISM01.2/HG	200-22433
200-6164-1DU	Duplicate	T	Solid	ISM01.2/HG	200-22433
200-6164-1MS	Matrix Spike	T	Solid	ISM01.2/HG	200-22433
200-6164-2	PRR1SOLIF-02	T	Solid	ISM01.2/HG	200-22433

TestAmerica Burlington

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:200-22664					
LCS 200-22434/2-A	Lab Control Sample	T	Solid	ISM01.2/ICP	200-22434
MB 200-22434/1-A	Method Blank	T	Solid	ISM01.2/ICP	200-22434
200-6164-1	PRR1SOLIF-01	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DU	Duplicate	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MS	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MSDL	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
200-6164-2	PRR1SOLIF-02	T	Solid	ISM01.2/ICP	200-22434
Analysis Batch:200-22716					
LCS 200-22325/2-A	Lab Control Sample	T	Solid	ISM01.2/ICPMS	200-22325
MB 200-22325/1-A	Method Blank	T	Solid	ISM01.2/ICPMS	200-22325
200-6164-1	PRR1SOLIF-01	T	Solid	ISM01.2/ICPMS	200-22325
200-6164-1DU	Duplicate	T	Solid	ISM01.2/ICPMS	200-22325
200-6164-1MS	Matrix Spike	T	Solid	ISM01.2/ICPMS	200-22325
200-6164-1MSDL	Matrix Spike	T	Solid	ISM01.2/ICPMS	200-22325
200-6164-2	PRR1SOLIF-02	T	Solid	ISM01.2/ICPMS	200-22325
Analysis Batch:200-22802					
LCS 200-22434/2-A	Lab Control Sample	T	Solid	ISM01.2/ICP	200-22434
MB 200-22434/1-A	Method Blank	T	Solid	ISM01.2/ICP	200-22434
200-6164-1	PRR1SOLIF-01	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DL	PRR1SOLIF-01	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DUDL	Duplicate	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DUDL2	Duplicate	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MSDL	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MSDL2	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
200-6164-2DL	PRR1SOLIF-02	T	Solid	ISM01.2/ICP	200-22434
Analysis Batch:200-22831					
200-6164-1DL3	PRR1SOLIF-01	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DUDL3	Duplicate	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MSDL3	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
Analysis Batch:200-22872					
200-6164-1DL4	PRR1SOLIF-01	T	Solid	ISM01.2/ICP	200-22434
200-6164-1DUDL4	Duplicate	T	Solid	ISM01.2/ICP	200-22434
200-6164-1MSDL4	Matrix Spike	T	Solid	ISM01.2/ICP	200-22434
200-6164-2RA	PRR1SOLIF-02	T	Solid	ISM01.2/ICP	200-22434

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Solid

Lab Sample ID	Client Sample ID	VCL %Rec	CLA %Rec	DCE %Rec	BUT %Rec	CLF %Rec	DCA %Rec	BEN %Rec	DPA %Rec
200-6164-1	PRR1SOLIF-01	84	93	75	152	97	105	94	89
200-6164-2	PRR1SOLIF-02	86	95	76	149	98	104	94	88
200-6164-6	VHBLKLS	84	92	76	138	97	103	91	86
MB 200-22587/7		84	92	74	144	94	97	92	86
200-6164-1 MS	PRR1SOLIF-01 MS	86	94	101	142	95	102	93	87
200-6164-1 MSD	PRR1SOLIF-01 MSD	83	90	98	136	92	100	90	85

Surrogate

Acceptance Limits

VCL = Vinyl chloride-d3	68-122
CLA = Chloroethane-d5	61-130
DCE = 1,1-Dichloroethene-d2	45-132
BUT = 2-Butanone-d5	20-182
CLF = Chloroform-d	72-123
DCA = 1,2-Dichloroethane-d4	79-122
BEN = Benzene-d6	80-121
DPA = 1,2-Dichloropropane-d6	74-124

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TOL %Rec	TDP %Rec	HEX %Rec	DXE %Rec	TCA %Rec	DCZ %Rec
200-6164-1	PRR1SOLIF-01	95	102	159	121	103	100
200-6164-2	PRR1SOLIF-02	96	98	153	100	96	100
200-6164-6	VHBLKLS	94	98	140	117	98	97
MB 200-22587/7		95	96	144	116	97	96
200-6164-1 MS	PRR1SOLIF-01 MS	95	99	158	118	98	99
200-6164-1 MSD	PRR1SOLIF-01 MSD	93	96	147	117	95	93

Surrogate	Acceptance Limits
TOL = Toluene-d8	78-121
TDP = trans-1,3-Dichloropropene-d4	72-130
HEX = 2-Hexanone-d5	17-184
DXE = 1,4-Dioxane-d8	50-150
TCA = 1,1,2,2-Tetrachloroethane-d2	56-161
DCZ = 1,2-Dichlorobenzene-d4	70-131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	VCL %Rec	CLA %Rec	DCE %Rec	BUT %Rec	CLF %Rec	DCA %Rec	BEN %Rec	DPA %Rec
200-6164-4	TB07222011-01	78	89	74	90	96	97	97	89
200-6164-5	VHBLK01	80	91	75	94	96	98	99	93
MB 200-22412/4		80	94	77	93	96	99	102	94

Surrogate

Acceptance Limits

VCL = Vinyl chloride-d3	65-131
CLA = Chloroethane-d5	71-131
DCE = 1,1-Dichloroethene-d2	55-104
BUT = 2-Butanone-d5	49-155
CLF = Chloroform-d	78-121
DCA = 1,2-Dichloroethane-d4	78-129
BEN = Benzene-d6	77-124
DPA = 1,2-Dichloropropane-d6	79-124

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	TOL %Rec	TDP %Rec	HEX %Rec	DXE %Rec	TCA %Rec	DCZ %Rec
200-6164-4	TB07222011-01	98	97	93	104	95	100
200-6164-5	VHBLK01	99	98	98	108	98	104
MB 200-22412/4		102	101	102	107	102	105

Surrogate

Acceptance Limits

TOL = Toluene-d8	77-121
TDP = trans-1,3-Dichloropropene-d4	73-121
HEX = 2-Hexanone-d5	28-135
DXE = 1,4-Dioxane-d8	50-150
TCA = 1,1,2,2-Tetrachloroethane-d2	73-125
DCZ = 1,2-Dichlorobenzene-d4	80-131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/SV Semivolatiles

Client Matrix: Solid

Lab Sample ID	Client Sample ID	PHL %Rec	BCE %Rec	2CP %Rec	4MP %Rec	NBZ %Rec	2NP %Rec	DCP %Rec	4CA %Rec
200-6164-1	PRR1SOLIF-01	92	84	91	91	85	83	83	58
200-6164-2	PRR1SOLIF-02	93	84	96	94	90	89	90	74
MB 200-22277/1-B		94	85	93	91	92	85	86	74
200-6164-1 MS	PRR1SOLIF-01 MS	103	97	105*	100	101	99	97	75
200-6164-1 MSD	PRR1SOLIF-01 MSD	100	98	102*	97	101	99	93	60

Surrogate	Acceptance Limits
PHL = Phenol-d5	17-103
BCE = Bis(2-chloroethyl)ether-d8	12-98
2CP = 2-Chlorophenol-d4	13-101
4MP = 4-Methylphenol-d8	8-100
NBZ = Nitrobenzene-d5	16-103
2NP = 2-Nitrophenol-d4	16-104
DCP = 2,4-Dichlorophenol-d3	23-104
4CA = 4-Chloroaniline-d4	1-145

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/SV Semivolatiles

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DMP %Rec	ACY %Rec	4NP %Rec	FLR %Rec	NMP %Rec	ANC %Rec	PYR %Rec	BAP %Rec
200-6164-1	PRR1SOLIF-01	95	93	77	87	55	99*	104	94
200-6164-2	PRR1SOLIF-02	100	96	86	91	64	100*	110	98
MB 200-22277/1-B		96	97	81	90	65	100*	110	96
200-6164-1 MS	PRR1SOLIF-01 MS	109	106*	98	98	72	109*	117	115*
200-6164-1 MSD	PRR1SOLIF-01 MSD	104	105*	90	94	71	106*	116	104

Surrogate

Acceptance Limits

DMP = Dimethylphthalate-d6	43-111
ACY = Acenaphthylene-d8	20-97
4NP = 4-Nitrophenol-d4	16-166
FLR = Fluorene-d10	40-108
NMP = 4,6-Dinitro-2-methylphenol-d2	1-121
ANC = Anthracene-d10	22-98
PYR = Pyrene-d10	51-120
BAP = Benzo(a)pyrene-d12	43-111

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/SV SIM Semivolatiles by SIM

Client Matrix: Solid

Lab Sample ID	Client Sample ID	FLN %Rec	2MN %Rec
200-6164-1	PRR1SOLIF-01	86	89
200-6164-2	PRR1SOLIF-02	87	92
MB 200-22277/1-B		91	96
200-6164-1 MS	PRR1SOLIF-01 MS	87	93
200-6164-1 MSD	PRR1SOLIF-01 MSD	91	100

Preliminary Data

Surrogate	Acceptance Limits
FLN = Fluoranthene-d10	50-150
2MN = 2-Methylnaphthalene-d10	50-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/PCB Aroclors

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
200-6164-1	PRR1SOLIF-01	97	95	94	91
200-6164-2	PRR1SOLIF-02	91	88	88	88
MB 200-22276/1-C		97	94	95	93
LCS 200-22276/2-C		97	92	92	91
200-6164-1 MS	PRR1SOLIF-01 MS	92	92	88	89
200-6164-1 MSD	PRR1SOLIF-01 MSD	97	93	91	88

Surrogate

Acceptance Limits

TCX = Tetrachloro-m-xylene

30-150

DCB = Decachlorobiphenyl

30-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Surrogate Recovery Report

SOM01.2/Pest Pesticides

Client Matrix: Solid

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
200-6164-1	PRR1SOLIF-01	98	110	108	118
200-6164-1	PRR1SOLIF-01	109	118	116	118
200-6164-2	PRR1SOLIF-02	85	94	100	111
200-6164-2	PRR1SOLIF-02	95	100	103	106
MB 200-22272/1-D		91	98	109	117
MB 200-22272/1-D		101	111	109	116
LCS 200-22272/2-D		112	121	118	123
LCS 200-22272/3-D		98	109	110	119
200-6164-1 MS	PRR1SOLIF-01 MS	108	114	113	117
200-6164-1 MSD	PRR1SOLIF-01 MSD	101	108	105	107

Surrogate

Acceptance Limits

TCX = Tetrachloro-m-xylene

30-150

DCB = Decachlorobiphenyl

30-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22198

Method: SOM01.2/VOA
Preparation: SOM01.2/VOA_PR

MS Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1315
Prep Date: 07/23/2011 1252
Leach Date: N/A

Analysis Batch: 200-22587
Prep Batch: 200-22198
Leach Batch: N/A

Instrument ID: M.i
Lab File ID: mhka11.d
Initial Weight/Volume: 4.15 g
Final Weight/Volume: 5 mL
10 mL

MSD Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1342
Prep Date: 07/23/2011 1252
Leach Date: N/A

Analysis Batch: 200-22587
Prep Batch: 200-22198
Leach Batch: N/A

Instrument ID: M.i
Lab File ID: mhka12.d
Initial Weight/Volume: 4.06 g
Final Weight/Volume: 5 mL
10 mL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
1,1-Dichloroethene	103	102	59 - 172	1	22		
Benzene	93	95	66 - 142	2	21		
Trichloroethene	93	94	62 - 137	1	24	B	B
Toluene	96	96	59 - 139	1	21	B	B
Chlorobenzene	97	98	60 - 133	0	21		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
Vinyl chloride-d3	86		83	68 - 122			
Chloroethane-d5	94		90	61 - 130			
1,1-Dichloroethene-d2	101		98	45 - 132			
2-Butanone-d5	142		136	20 - 182			
Chloroform-d	95		92	72 - 123			
1,2-Dichloroethane-d4	102		100	79 - 122			
Benzene-d6	93		90	80 - 121			
1,2-Dichloropropane-d6	87		85	74 - 124			
Toluene-d8	95		93	78 - 121			
trans-1,3-Dichloropropene-d4	99		96	72 - 130			
2-Hexanone-d5	158		147	17 - 184			
1,4-Dioxane-d8	118		117	50 - 150			
1,1,2,2-Tetrachloroethane-d2	98		95	56 - 161			
1,2-Dichlorobenzene-d4	99		93	70 - 131			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22412

Method: SOM01.2/VOA Preparation: SOM01.2/VOA_PR

Lab Sample ID: MB 200-22412/4
Client Matrix: Water
Dilution: 1.0
Analysis Date: 07/26/2011 1640
Prep Date: 07/26/2011 1640
Leach Date: N/A

Analysis Batch: 200-22412
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: M.i
Lab File ID: mhgd04.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	5.0	U	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.20	J	5.0
Toluene	5.0	U	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	0.77	J	5.0
1,2,3-Trichlorobenzene	0.70	J	5.0

Surrogate	% Rec	Acceptance Limits
Vinyl chloride-d3	80	65 - 131
Chloroethane-d5	94	71 - 131
1,1-Dichloroethene-d2	77	55 - 104
2-Butanone-d5	93	49 - 155
Chloroform-d	96	78 - 121
1,2-Dichloroethane-d4	99	78 - 129
Benzene-d6	102	77 - 124
1,2-Dichloropropane-d6	94	79 - 124
Toluene-d8	102	77 - 121
trans-1,3-Dichloropropene-d4	101	73 - 121
2-Hexanone-d5	102	28 - 135
1,4-Dioxane-d8	107	50 - 150
1,1,2,2-Tetrachloroethane-d2	102	73 - 125
1,2-Dichlorobenzene-d4	105	80 - 131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22587

Method: SOM01.2/VOA

Preparation: N/A

Lab Sample ID: MB 200-22587/7
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1102
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 200-22587
Prep Batch: N/A
Leach Batch: N/A
Units: ug/Kg

Instrument ID: M.i
Lab File ID: mhka07.d
Initial Weight/Volume: 5 g
Final Weight/Volume: 10 mL

Analyte	Result	Qual	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	1.9	J	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.14	J	5.0
Toluene	0.22	J	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	1.1	J	5.0
1,2,3-Trichlorobenzene	1.1	J	5.0

Surrogate	% Rec	Acceptance Limits
Vinyl chloride-d3	84	68 - 122
Chloroethane-d5	92	61 - 130
1,1-Dichloroethene-d2	74	45 - 132
2-Butanone-d5	144	20 - 182
Chloroform-d	94	72 - 123
1,2-Dichloroethane-d4	97	79 - 122
Benzene-d6	92	80 - 121
1,2-Dichloropropane-d6	86	74 - 124
Toluene-d8	95	78 - 121
trans-1,3-Dichloropropene-d4	96	72 - 130
2-Hexanone-d5	144	17 - 184
1,4-Dioxane-d8	116	50 - 150
1,1,2,2-Tetrachloroethane-d2	97	56 - 161
1,2-Dichlorobenzene-d4	96	70 - 131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22277

Method: SOM01.2/SV

Preparation: SONC

Lab Sample ID: MB 200-22277/1-B
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 1242
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22479
Prep Batch: 200-22277
Leach Batch: N/A
Units: ug/Kg

Instrument ID: P.i
Lab File ID: phvay04.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
Pyridine	170	U	170
Benzaldehyde	170	U	170
Phenol	170	U	170
Bis(2-chloroethyl)ether	170	U	170
2-Chlorophenol	170	U	170
2-Methylphenol	170	U	170
2,2'-Oxybis(1-chloropropane)	170	U	170
Acetophenone	10	J	170
4-Methylphenol	170	U	170
N-Nitroso-di-n-propylamine	170	U	170
Hexachloroethane	170	U	170
Nitrobenzene	170	U	170
Isophorone	170	U	170
2-Nitrophenol	170	U	170
2,4-Dimethylphenol	170	U	170
Bis(2-chloroethoxy)methane	170	U	170
2,4-Dichlorophenol	170	U	170
Naphthalene	170	U	170
4-Chloroaniline	170	U	170
Hexachlorobutadiene	170	U	170
Caprolactam	170	U	170
4-Chloro-3-methylphenol	170	U	170
2-Methylnaphthalene	170	U	170
Hexachlorocyclopentadiene	170	U	170
2,4,6-Trichlorophenol	170	U	170
2,4,5-Trichlorophenol	170	U	170
1,1'-Biphenyl	170	U	170
2-Chloronaphthalene	170	U	170
2-Nitroaniline	330	U	330
Dimethylphthalate	170	U	170
2,6-Dinitrotoluene	170	U	170
Acenaphthylene	170	U	170
3-Nitroaniline	330	U	330
Acenaphthene	170	U	170
2,4-Dinitrophenol	330	U	330
4-Nitrophenol	330	U	330
Dibenzofuran	170	U	170
2,4-Dinitrotoluene	170	U	170
Diethylphthalate	170	U	170
Fluorene	170	U	170
4-Chlorophenyl-phenylether	170	U	170
4-Nitroaniline	330	U	330
4,6-Dinitro-2-methylphenol	330	U	330
N-Nitrosodiphenylamine	170	U	170
1,2,4,5-Tetrachlorobenzene	170	U	170

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22277

Method: SOM01.2/SV

Preparation: SONC

Lab Sample ID: MB 200-22277/1-B
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 1242
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22479
Prep Batch: 200-22277
Leach Batch: N/A
Units: ug/Kg

Instrument ID: P.i
Lab File ID: phvay04.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
4-Bromophenyl-phenylether	170	U	170
Hexachlorobenzene	170	U	170
Atrazine	170	U	170
Pentachlorophenol	330	U	330
Phenanthrene	170	U	170
Anthracene	170	U	170
Carbazole	170	U	170
Di-n-butylphthalate	170	U	170
Fluoranthene	170	U	170
Pyrene	170	U	170
Butylbenzylphthalate	170	U	170
3,3'-Dichlorobenzidine	170	U	170
Benzo(a)anthracene	170	U	170
Chrysene	170	U	170
Bis(2-ethylhexyl)phthalate	6.3	J	170
Di-n-octylphthalate	170	U	170
Benzo(b)fluoranthene	170	U	170
Benzo(k)fluoranthene	170	U	170
Benzo(a)pyrene	170	U	170
Indeno(1,2,3-cd)pyrene	170	U	170
Dibenzo(a,h)anthracene	170	U	170
Benzo(g,h,i)perylene	170	U	170
2,3,4,6-Tetrachlorophenol	170	U	170

Surrogate	% Rec	Acceptance Limits
Phenol-d5	94	17 - 103
Bis(2-chloroethyl)ether-d8	85	12 - 98
2-Chlorophenol-d4	93	13 - 101
4-Methylphenol-d8	91	8 - 100
Nitrobenzene-d5	92	16 - 103
2-Nitrophenol-d4	85	16 - 104
2,4-Dichlorophenol-d3	86	23 - 104
4-Chloroaniline-d4	74	1 - 145
Dimethylphthalate-d6	96	43 - 111
Acenaphthylene-d8	97	20 - 97
4-Nitrophenol-d4	81	16 - 166
Fluorene-d10	90	40 - 108
4,6-Dinitro-2-methylphenol-d2	65	1 - 121
Anthracene-d10	100	22 - 98
Pyrene-d10	110	51 - 120
Benzo(a)pyrene-d12	96	43 - 111

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22277

Method: SOM01.2/SV
Preparation: SONC

MS Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 1406
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22479
Prep Batch: 200-22277
Leach Batch: N/A

Instrument ID: P.i
Lab File ID: phvay06.d
Initial Weight/Volume: 30.17 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

MSD Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 1451
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22479
Prep Batch: 200-22277
Leach Batch: N/A

Instrument ID: P.i
Lab File ID: phvay07.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Phenol	99	92	26 - 90	7	35		
2-Chlorophenol	101	92	25 - 102	9	50		
N-Nitroso-di-n-propylamine	102	93	41 - 126	9	38		
4-Chloro-3-methylphenol	105	97	26 - 103	8	33		
Acenaphthene	102	93	31 - 137	9	19		
4-Nitrophenol	99	92	11 - 114	8	50		
2,4-Dinitrotoluene	99	91	28 - 89	9	47		
Pentachlorophenol	84	80	17 - 109	5	47		
Pyrene	113	104	35 - 142	8	36		

Surrogate	MS % Rec		MSD % Rec		Acceptance Limits	
Phenol-d5	103		100		17 - 103	
Bis(2-chloroethyl)ether-d8	97		98		12 - 98	
2-Chlorophenol-d4	105	*	102	*	13 - 101	
4-Methylphenol-d8	100		97		8 - 100	
Nitrobenzene-d5	101		101		16 - 103	
2-Nitrophenol-d4	99		99		16 - 104	
2,4-Dichlorophenol-d3	97		93		23 - 104	
4-Chloroaniline-d4	75		60		1 - 145	
Dimethylphthalate-d6	109		104		43 - 111	
Acenaphthylene-d8	106	*	105	*	20 - 97	
4-Nitrophenol-d4	98		90		16 - 166	
Fluorene-d10	98		94		40 - 108	
4,6-Dinitro-2-methylphenol-d2	72		71		1 - 121	
Anthracene-d10	109	*	106	*	22 - 98	
Pyrene-d10	117		116		51 - 120	
Benzo(a)pyrene-d12	115	*	104		43 - 111	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22277

Method: SOM01.2/SV SIM

Preparation: SONC

Lab Sample ID: MB 200-22277/1-B
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/02/2011 2311
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22837
Prep Batch: 200-22277
Leach Batch: N/A
Units: ug/Kg

Instrument ID: Z.i
Lab File ID: zwx06.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
Naphthalene	0.28	J	3.3
2-Methylnaphthalene	3.3	U	3.3
Acenaphthylene	3.3	U	3.3
Acenaphthene	3.3	U	3.3
Fluorene	3.3	U	3.3
Hexachlorobenzene	3.3	U	3.3
Pentachlorophenol	6.7	U	6.7
Phenanthrene	3.3	U	3.3
Anthracene	3.3	U	3.3
Fluoranthene	3.3	U	3.3
Pyrene	2.1	J	3.3
Benzo(a)anthracene	3.3	U	3.3
Chrysene	3.3	U	3.3
Benzo(b)fluoranthene	3.3	U	3.3
Benzo(k)fluoranthene	3.3	U	3.3
Benzo(a)pyrene	4.9		3.3
Indeno(1,2,3-cd)pyrene	3.3	U	3.3
Dibenz(a,h)anthracene	3.3	U	3.3
Benzo(g,h,i)perylene	3.3	U	3.3
Surrogate	% Rec	Acceptance Limits	
Fluoranthene-d10	91	50 - 150	
2-Methylnaphthalene-d10	96	50 - 150	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 200-22277**

**Method: SOM01.2/SV SIM
Preparation: SONC**

MS Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/03/2011 0051
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22837
Prep Batch: 200-22277
Leach Batch: N/A

Instrument ID: Z.i
Lab File ID: zwx08.d
Initial Weight/Volume: 30.42 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

MSD Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/03/2011 0141
Prep Date: 07/25/2011 1756
Leach Date: N/A

Analysis Batch: 200-22837
Prep Batch: 200-22277
Leach Batch: N/A

Instrument ID: Z.i
Lab File ID: zwx09.d
Initial Weight/Volume: 30.49 g
Final Weight/Volume: 10000 uL
Injection Volume: 2 uL

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acenaphthene	75	76	31 - 137	1	19		
Pentachlorophenol	95	105	17 - 109	10	47		
Pyrene	143	136	35 - 142	5	36	B	B
Surrogate	MS % Rec		MSD % Rec		Acceptance Limits		
Fluoranthene-d10	87		91		50 - 150		
2-Methylnaphthalene-d10	93		100		50 - 150		

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22276

Method: SOM01.2/PCB

Preparation: SONC

Lab Sample ID: MB 200-22276/1-C
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/29/2011 2250
Prep Date: 07/25/2011 1751
Leach Date: N/A

Analysis Batch: 200-22667
Prep Batch: 200-22276
Leach Batch: N/A
Units: ug/Kg

Instrument ID: 5253.i
Lab File ID: 29jul111536-r011.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aroclor-1016	33	U	33
Aroclor-1221	33	U	33
Aroclor-1232	33	U	33
Aroclor-1242	33	U	33
Aroclor-1248	33	U	33
Aroclor-1254	33	U	33
Aroclor-1260	33	U	33
Aroclor-1262	33	U	33
Aroclor-1268	33	U	33

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	94	30 - 150
Decachlorobiphenyl	93	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	97	30 - 150
Decachlorobiphenyl	95	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Control Sample - Batch: 200-22276

Method: SOM01.2/PCB

Preparation: SONC

Lab Sample ID:	LCS 200-22276/2-C	Analysis Batch:	200-22667	Instrument ID:	5253.i
Client Matrix:	Solid	Prep Batch:	200-22276	Lab File ID:	29jul111536-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	07/29/2011 2314	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1751			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	33.3	41	123	50 - 150	
Aroclor-1260	33.3	47	142	50 - 150	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		92		30 - 150	
Decachlorobiphenyl		91		30 - 150	

Lab Control Sample - Batch: 200-22276

Method: SOM01.2/PCB

Preparation: SONC

Lab Sample ID:	LCS 200-22276/2-C	Analysis Batch:	200-22667	Instrument ID:	5253.i
Client Matrix:	Solid	Prep Batch:	200-22276	Lab File ID:	29jul111536-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	07/29/2011 2314	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1751			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	SECONDARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	33.3	41	124	50 - 150	
Aroclor-1260	33.3	50	150	50 - 150	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		97		30 - 150	
Decachlorobiphenyl		92		30 - 150	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22276

Method: SOM01.2/PCB
Preparation: SONC

MS Lab Sample ID: 200-6164-1	Analysis Batch: 200-22667	Instrument ID: 5253.i
Client Matrix: Solid	Prep Batch: 200-22276	Lab File ID: 29jul111536-r051.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.95 g
Analysis Date: 07/30/2011 0026		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1751		Injection Volume: 1 uL
Leach Date: N/A		Column ID: PRIMARY

MSD Lab Sample ID: 200-6164-1	Analysis Batch: 200-22667	Instrument ID: 5253.i
Client Matrix: Solid	Prep Batch: 200-22276	Lab File ID: 29jul111536-r041.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.23 g
Analysis Date: 07/30/2011 0002		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1751		Injection Volume: 1 uL
Leach Date: N/A		Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aroclor-1016	101	102	29 - 135	1	15		
Aroclor-1260	124	126	29 - 135	2	20		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
Tetrachloro-m-xylene	92		93	30 - 150			
Decachlorobiphenyl	88		88	30 - 150			

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22276

Method: SOM01.2/PCB
Preparation: SONC

MS Lab Sample ID: 200-6164-1	Analysis Batch: 200-22667	Instrument ID: 5253.i
Client Matrix: Solid	Prep Batch: 200-22276	Lab File ID: 29jul111536-r051.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.95 g
Analysis Date: 07/30/2011 0026		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1751		Injection Volume: 1 uL
Leach Date: N/A		Column ID: SECONDARY

MSD Lab Sample ID: 200-6164-1	Analysis Batch: 200-22667	Instrument ID: 5253.i
Client Matrix: Solid	Prep Batch: 200-22276	Lab File ID: 29jul111536-r041.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.23 g
Analysis Date: 07/30/2011 0002		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1751		Injection Volume: 1 uL
Leach Date: N/A		Column ID: SECONDARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Aroclor-1016	103	103	29 - 135	1	15		
Aroclor-1260	128	129	29 - 135	0	20		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
Tetrachloro-m-xylene	92		97	30 - 150			
Decachlorobiphenyl	89		91	30 - 150			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22272

Method: SOM01.2/Pest Preparation: SONC

Lab Sample ID: MB 200-22272/1-D
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 0853
Prep Date: 07/25/2011 1742
Leach Date: N/A

Analysis Batch: 200-22518
Prep Batch: 200-22272
Leach Batch: N/A
Units: ug/Kg

Instrument ID: 0911.i
Lab File ID: 27jul111508-r011.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
2,4'-DDE	3.3	U	3.3
2,4'-DDT	3.3	U	3.3
2,4'-DDD	3.3	U	3.3

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	91	30 - 150
Decachlorobiphenyl	109	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	98	30 - 150
Decachlorobiphenyl	117	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22272

Method: SOM01.2/Pest Preparation: SONC

Lab Sample ID: MB 200-22272/1-D
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 08/02/2011 1911
Prep Date: 07/25/2011 1742
Leach Date: N/A

Analysis Batch: 200-22854
Prep Batch: 200-22272
Leach Batch: N/A
Units: ug/Kg

Instrument ID: 0911.i
Lab File ID: 02aug111114-r011.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
alpha-BHC	1.7	U	1.7
beta-BHC	0.33	J-P	1.7
delta-BHC	1.7	U	1.7
gamma-BHC (Lindane)	1.7	U	1.7
Heptachlor	1.7	U	1.7
Aldrin	1.7	U	1.7
Heptachlor epoxide	1.7	U	1.7
Endosulfan I	1.7	U	1.7
Dieldrin	3.3	U	3.3
4,4'-DDE	3.3	U	3.3
Endrin	3.3	U	3.3
Endosulfan II	3.3	U	3.3
4,4'-DDD	3.3	U	3.3
Endosulfan sulfate	3.3	U	3.3
4,4'-DDT	3.3	U	3.3
Methoxychlor	17	U	17
Endrin ketone	3.3	U	3.3
Endrin aldehyde	3.3	U	3.3
alpha-Chlordane	1.7	U	1.7
gamma-Chlordane	1.7	U	1.7
Toxaphene	170	U	170

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	101	30 - 150
Decachlorobiphenyl	109	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	111	30 - 150
Decachlorobiphenyl	116	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Control Sample - Batch: 200-22272

Method: SOM01.2/Pest
Preparation: SONC

Lab Sample ID:	LCS 200-22272/3-D	Analysis Batch:	200-22518	Instrument ID:	0911.i
Client Matrix:	Solid	Prep Batch:	200-22272	Lab File ID:	27jul111508-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	07/28/2011 0923	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1742			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4'-DDE	3.33	3.6	108	50 - 150	
Surrogate		% Rec		Acceptance Limits	
Tetrachloro-m-xylene		98		30 - 150	
Decachlorobiphenyl		110		30 - 150	

Lab Control Sample - Batch: 200-22272

Method: SOM01.2/Pest
Preparation: SONC

Lab Sample ID:	LCS 200-22272/3-D	Analysis Batch:	200-22518	Instrument ID:	0911.i
Client Matrix:	Solid	Prep Batch:	200-22272	Lab File ID:	27jul111508-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	07/28/2011 0923	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1742			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	SECONDARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4'-DDE	3.33	4.0	119	50 - 150	
Surrogate		% Rec		Acceptance Limits	
Tetrachloro-m-xylene		109		30 - 150	
Decachlorobiphenyl		119		30 - 150	

Lab Control Sample - Batch: 200-22272

Method: SOM01.2/Pest
Preparation: SONC

Lab Sample ID:	LCS 200-22272/2-D	Analysis Batch:	200-22854	Instrument ID:	0911.i
Client Matrix:	Solid	Prep Batch:	200-22272	Lab File ID:	02aug111114-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	08/02/2011 1935	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1742			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	1.67	1.8	110	50 - 120	
Heptachlor epoxide	1.67	2.0	119	50 - 150	
Dieldrin	3.33	3.8	115	30 - 130	
4,4'-DDE	3.33	3.8	114	50 - 150	
Endrin	3.33	3.9	118	50 - 120	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Control Sample - Batch: 200-22272

Method: SOM01.2/Pest

Preparation: SONC

Lab Sample ID:	LCS 200-22272/2-D	Analysis Batch:	200-22854	Instrument ID:	0911.i
Client Matrix:	Solid	Prep Batch:	200-22272	Lab File ID:	02aug111114-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	08/02/2011 1935	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1742			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Endosulfan sulfate	3.33	3.7	112	50 - 120	
gamma-Chlordane	1.67	1.9	117	30 - 130	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		112		30 - 150	
Decachlorobiphenyl		118		30 - 150	

Lab Control Sample - Batch: 200-22272

Method: SOM01.2/Pest

Preparation: SONC

Lab Sample ID:	LCS 200-22272/2-D	Analysis Batch:	200-22854	Instrument ID:	0911.i
Client Matrix:	Solid	Prep Batch:	200-22272	Lab File ID:	02aug111114-r021.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.00 g
Analysis Date:	08/02/2011 1935	Units:	ug/Kg	Final Weight/Volume:	10000 uL
Prep Date:	07/25/2011 1742			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	SECONDARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	1.67	2.0	123	50 - 120	
Heptachlor epoxide	1.67	2.2	133	50 - 150	
Dieldrin	3.33	4.1	123	30 - 130	
4,4'-DDE	3.33	4.1	123	50 - 150	
Endrin	3.33	4.3	129	50 - 120	
Endosulfan sulfate	3.33	4.1	122	50 - 120	
gamma-Chlordane	1.67	2.2	131	30 - 130	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		121		30 - 150	
Decachlorobiphenyl		123		30 - 150	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22272

Method: SOM01.2/Pest
Preparation: SONC

MS Lab Sample ID: 200-6164-1	Analysis Batch: 200-22854	Instrument ID: 0911.i
Client Matrix: Solid	Prep Batch: 200-22272	Lab File ID: 02aug111114-r051.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.90 g
Analysis Date: 08/02/2011 2044		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1742		Injection Volume: 1 uL
Leach Date: N/A		Column ID: PRIMARY

MSD Lab Sample ID: 200-6164-1	Analysis Batch: 200-22854	Instrument ID: 0911.i
Client Matrix: Solid	Prep Batch: 200-22272	Lab File ID: 02aug111114-r041.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.55 g
Analysis Date: 08/02/2011 2021		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1742		Injection Volume: 1 uL
Leach Date: N/A		Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
gamma-BHC (Lindane)	122	115	46 - 127	6	50		
Heptachlor	124	119	35 - 130	4	31		
Aldrin	119	116	34 - 132	3	43		
Dieldrin	124	118	31 - 134	5	38		
Endrin	130	123	42 - 139	6	45		
4,4'-DDT	123	116	23 - 134	6	50		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
Tetrachloro-m-xylene	108		101	30 - 150			
Decachlorobiphenyl	113		105	30 - 150			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22272

Method: SOM01.2/Pest
Preparation: SONC

MS Lab Sample ID: 200-6164-1	Analysis Batch: 200-22854	Instrument ID: 0911.i
Client Matrix: Solid	Prep Batch: 200-22272	Lab File ID: 02aug111114-r051.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.90 g
Analysis Date: 08/02/2011 2044		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1742		Injection Volume: 1 uL
Leach Date: N/A		Column ID: SECONDARY

MSD Lab Sample ID: 200-6164-1	Analysis Batch: 200-22854	Instrument ID: 0911.i
Client Matrix: Solid	Prep Batch: 200-22272	Lab File ID: 02aug111114-r041.d
Dilution: 1.0	Leach Batch: N/A	Initial Weight/Volume: 30.55 g
Analysis Date: 08/02/2011 2021		Final Weight/Volume: 10000 uL
Prep Date: 07/25/2011 1742		Injection Volume: 1 uL
Leach Date: N/A		Column ID: SECONDARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
gamma-BHC (Lindane)	126	120	46 - 127	4	50		
Heptachlor	132	126	35 - 130	5	31		
Aldrin	127	123	34 - 132	3	43		
Dieldrin	130	126	31 - 134	3	38		
Endrin	139	132	42 - 139	5	45		
4,4'-DDT	131	122	23 - 134	7	50		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
Tetrachloro-m-xylene	114		108	30 - 150			
Decachlorobiphenyl	117		107	30 - 150			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22433

Method: ISM01.2/HG

Preparation: 7471B

Lab Sample ID: MB 200-22433/11-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1524
Prep Date: 07/27/2011 1300
Leach Date: N/A

Analysis Batch: 200-22539
Prep Batch: 200-22433
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MEPCV3 II
Lab File ID: 072811FF.PRN
Initial Weight/Volume: 0.50 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDLE	RL
Mercury	0.10	U	0.0034	0.10

Matrix Spike - Batch: 200-22433

Method: ISM01.2/HG

Preparation: 7471B

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1531
Prep Date: 07/27/2011 1300
Leach Date: N/A

Analysis Batch: 200-22539
Prep Batch: 200-22433
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MEPCV3 II
Lab File ID: 072811FF.PRN
Initial Weight/Volume: 0.57 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.093 U	0.894	0.91	102	75 - 125	

Duplicate - Batch: 200-22433

Method: ISM01.2/HG

Preparation: 7471B

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 1528
Prep Date: 07/27/2011 1300
Leach Date: N/A

Analysis Batch: 200-22539
Prep Batch: 200-22433
Leach Batch: N/A
Units: mg/Kg

Instrument ID: MEPCV3 II
Lab File ID: 072811FF.PRN
Initial Weight/Volume: 0.52 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	0.093 U	0.098			U

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: MB 200-22434/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/29/2011 2359
Prep Date: 07/27/2011 1140
Leach Date: N/A

Analysis Batch: 200-22664
Prep Batch: 200-22434
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICP7
Lab File ID: 073011-01.ttx
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Aluminum	20.0	U	6.4	20.0
Arsenic	1.0	U	0.27	1.0
Barium	20.0	U	0.89	20.0
Beryllium	0.50	U	0.028	0.50
Cadmium	0.50	U	0.033	0.50
Calcium	500	U	7.9	500
Chromium	0.049	J	0.046	1.0
Cobalt	5.0	U	0.077	5.0
Copper	2.5	U	0.097	2.5
Iron	10.0	U	1.4	10.0
Lead	1.0	U	0.26	1.0
Magnesium	500	U	6.7	500
Manganese	0.097	J	0.024	1.5
Nickel	4.0	U	0.22	4.0
Potassium	500	U	19.0	500
Sodium	500	U	6.0	500
Vanadium	5.0	U	0.12	5.0
Zinc	1.2	J	0.85	6.0

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Lab Control Sample - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: LCS 200-22434/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/30/2011 0005
Prep Date: 07/27/2011 1140
Leach Date: N/A

Analysis Batch: 200-22664
Prep Batch: 200-22434
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICP7
Lab File ID: 073011-01.ttx
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	40.0	38.8	97	70 - 130	
Arsenic	2.00	2.1	103	70 - 130	
Barium	40.0	41.2	103	70 - 130	
Beryllium	1.00	1.0	105	70 - 130	
Cadmium	1.00	1.1	109	70 - 130	
Calcium	1000	1050	105	70 - 130	
Chromium	2.00	2.2	109	70 - 130	
Cobalt	10.0	10.6	106	70 - 130	
Copper	5.00	5.2	105	70 - 130	
Iron	20.0	22.4	112	70 - 130	
Lead	2.00	2.3	113	70 - 130	
Magnesium	1000	1080	108	70 - 130	
Manganese	3.00	3.3	110	70 - 130	
Nickel	8.00	8.7	108	70 - 130	
Potassium	1000	1030	103	70 - 130	
Sodium	1000	1040	104	70 - 130	
Vanadium	10.0	10.3	103	70 - 130	
Zinc	12.0	12.5	104	70 - 130	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Matrix Spike - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1

Analysis Batch: 200-22664

Instrument ID: METICP7

Client Matrix: Solid

Prep Batch: 200-22434

Lab File ID: 073011-01.ttx

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume: 1.23 g

Analysis Date: 07/30/2011 0114

Units: mg/Kg

Final Weight/Volume: 100 mL

Prep Date: 07/27/2011 1140

Leach Date: N/A

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Chromium	4.2	33.2	3.8	-1	75 - 125	N
Lead	0.43 J	3.32	0.68	8	75 - 125	J N

Matrix Spike - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1DL

Analysis Batch: 200-22802

Instrument ID: METICP7

Client Matrix: Solid

Prep Batch: 200-22434

Lab File ID: 080111-03.ttx

Dilution: 2.0

Leach Batch: N/A

Initial Weight/Volume: 1.23 g

Analysis Date: 08/02/2011 1100

Units: mg/Kg

Final Weight/Volume: 100 mL

Prep Date: 07/27/2011 1140

Leach Date: N/A

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	1.2 J	6.63	1.1	-1	75 - 125	J N
Barium	77.9	332	72.0	-2	75 - 125	N
Beryllium	0.80 U	8.29	0.83	0	75 - 125	U N
Cadmium	0.11 J	8.29	0.12	0.1	75 - 125	J N
Cobalt	8.0	82.9	7.3	-0.9	75 - 125	J N
Copper	14.5	41.4	13.7	-2	75 - 125	N
Nickel	24.7	82.9	5.0	-24	75 - 125	J N
Vanadium	14.7	82.9	14.9	0.3	75 - 125	N
Zinc	38.6	82.9	25.2	-16	75 - 125	N

Matrix Spike - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1DL3

Analysis Batch: 200-22831

Instrument ID: METICP7

Client Matrix: Solid

Prep Batch: 200-22434

Lab File ID: 080211-01.ttx

Dilution: 10

Leach Batch: N/A

Initial Weight/Volume: 1.23 g

Analysis Date: 08/03/2011 0125

Units: mg/Kg

Final Weight/Volume: 100 mL

Prep Date: 07/27/2011 1140

Leach Date: N/A

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Manganese	204	82.9	213	10	75 - 125	N

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Duplicate - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/30/2011 0109
Prep Date: 07/27/2011 1140
Leach Date: N/A

Analysis Batch: 200-22664
Prep Batch: 200-22434
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICP7
Lab File ID: 073011-01.ttx
Initial Weight/Volume: 1.22 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Chromium	4.2	3.9	7	0.80	
Lead	0.43 J	1.2	94	0.80	

Duplicate - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1DL
Client Matrix: Solid
Dilution: 2.0
Analysis Date: 08/02/2011 1055
Prep Date: 07/27/2011 1140
Leach Date: N/A

Analysis Batch: 200-22802
Prep Batch: 200-22434
Leach Batch: N/A
Units: mg/Kg
Run Type: DL

Instrument ID: METICP7
Lab File ID: 080111-03.ttx
Initial Weight/Volume: 1.22 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Aluminum	5660	6470	13		
Arsenic	1.2 J	1.5	21	1.6	J
Barium	77.9	80.8	4	32.1	
Beryllium	0.80 U	0.84			U
Cadmium	0.11 J	0.10	11	0.80	J
Calcium	5560	6570	17		
Cobalt	8.0	9.9	21	8.0	
Copper	14.5	8.8	49	4.0	*
Iron	20400	22700	11		
Magnesium	4120	4970	19		
Nickel	24.7	5.2	130	6.4	J *
Potassium	2880	3010	5	803	
Sodium	26.0 J	27.4	5	803	J
Vanadium	14.7	15.0	2	8.0	
Zinc	38.6	25.6	41	9.6	*

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Duplicate - Batch: 200-22434

Method: ISM01.2/ICP

Preparation: 3050B

Lab Sample ID: 200-6164-1DL3
Client Matrix: Solid
Dilution: 10
Analysis Date: 08/03/2011 0120
Prep Date: 07/27/2011 1140
Leach Date: N/A

Analysis Batch: 200-22831
Prep Batch: 200-22434
Leach Batch: N/A
Units: mg/Kg
Run Type: DL3

Instrument ID: METICP7
Lab File ID: 080211-01.ttx
Initial Weight/Volume: 1.22 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Manganese	204	234	14		

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Method Blank - Batch: 200-22325

Method: ISM01.2/ICPMS

Preparation: 3050B

Lab Sample ID: MB 200-22325/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 0840
Prep Date: 07/26/2011 1130
Leach Date: N/A

Analysis Batch: 200-22716
Prep Batch: 200-22325
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICPMS2
Lab File ID: 072611-02D.xml
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Antimony	1.0	U	0.060	1.0
Selenium	2.5	U	0.060	2.5
Silver	0.50	U	0.022	0.50
Thallium	0.060	J	0.021	0.50

Lab Control Sample - Batch: 200-22325

Method: ISM01.2/ICPMS

Preparation: 3050B

Lab Sample ID: LCS 200-22325/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 0834
Prep Date: 07/26/2011 1130
Leach Date: N/A

Analysis Batch: 200-22716
Prep Batch: 200-22325
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICPMS2
Lab File ID: 072611-02D.xml
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	2.00	2.0	101	70 - 130	
Selenium	5.00	4.2	84	70 - 130	
Silver	1.00	1.0	101	70 - 130	
Thallium	1.00	1.0	103	70 - 130	

Matrix Spike - Batch: 200-22325

Method: ISM01.2/ICPMS

Preparation: 3050B

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/27/2011 1011
Prep Date: 07/26/2011 1130
Leach Date: N/A

Analysis Batch: 200-22716
Prep Batch: 200-22325
Leach Batch: N/A
Units: mg/Kg

Instrument ID: METICPMS2
Lab File ID: 072611-02D.xml
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	1.0	U	9.90	1.4	15	75 - 125	N
Selenium	2.5	U	0.990	0.21	22	75 - 125	J N
Silver	0.50	U	4.95	1.0	20	75 - 125	N
Thallium	0.17	J	4.95	5.4	105	75 - 125	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

Sdg Number: PRR1141

Duplicate - Batch: 200-22325

Method: ISM01.2/ICPMS

Preparation: 3050B

Lab Sample ID: 200-6164-1

Analysis Batch: 200-22716

Instrument ID: METICPMS2

Client Matrix: Solid

Prep Batch: 200-22325

Lab File ID: 072611-02D.xml

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume: 1.02 g

Analysis Date: 07/27/2011 1004

Units: mg/Kg

Final Weight/Volume: 100 mL

Prep Date: 07/26/2011 1130

Leach Date: N/A

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Antimony	1.0	U	1.0			U
Selenium	2.5	U	2.5			U
Silver	0.50	U	0.50			U
Thallium	0.17	J	0.15	13	0.50	J

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 200-6164-1

SDG Number: PRR1141

Login Number: 6164

List Source: TestAmerica Burlington

List Number: 1

Creator: Keeton, Jamie

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	167472, 473, 479, 471, 474, 477
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	4.7, 3.0 °C, IR GUN ID 96, CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
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	
Sample Preservation Verified.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level if required.

ANALYTICAL REPORT

Job Number: 200-6164-2

SDG Number: PRR1141

Job Description: PRR1141 (200-6164)

For:

ARCADIS U.S. Inc
2300 Eastlake Avenue, East
Suite 140
Seattle, WA 98102

Attention: Ms. Shannon Dunn



Approved for release.
Kirk F Young
Project Manager I
8/3/2011 7:35 AM

Kirk F Young
Project Manager I
kirk.young@testamericainc.com
08/03/2011

cc: Mr. Joe Houser
Mr. Don Reed

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

Table of Contents

Cover Title Page	1
Report Narrative	3
Method Summary	4
Method / Analyst Summary	5
Sample Summary	6
Sample Results	7
Sample Datasheets	8
Data Qualifiers	25
QC Results	26
Qc Association Summary	27
Surrogate Recovery Report	29
Qc Reports	30
Client Chain of Custody	37
Sample Receipt Checklist	40

CASE NARRATIVE

Client: ARCADIS U.S. Inc

Project: LPRSA - Phase I Removal Action

Report Number: PRR1141 (200-6164-2)

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met. Calibration and calibration verification were assessed on an analyte specific basis. Initial calibration and continuing calibration criteria may not have been met in all instances.

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

Method 9045C is normally performed in the field and has a method-defined holding time of 15 minutes. All holding times were met and proper preservation noted for the other methods of analysis.

Manual integration was employed in deriving certain of the analytical results.

For the Method 8151A analysis, positive instrument responses in the analysis of samples and quality controls were evaluated to the established method detection limit (MDL).

This is an abbreviated report. A more formal report will be issued in a CLP-like format, with supportive documentation and further narrative discussion.

METHOD SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Herbicides (GC)	TAL BUR	SW846 8151A	
Extraction (Herbicides)	TAL BUR		SW846 8151A
pH	TAL BUR	SW846 9045C	
Percent Moisture	TAL BUR	EPA Moisture	
SOM VOA Percent Moisture Determination	TAL BUR	EPA Moisture	
Grain Size	TAL BUR	ASTM D422	

Lab References:

TAL BUR = TestAmerica Burlington

Method References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Method	Analyst	Analyst ID
SW846 8151A	Hammond, Ryan J	RJH
SW846 9045C	Nelson, Andrea J	AJN
EPA Moisture	Nelson, Andrea J	AJN
ASTM D422	Peterson, Mark A	MAP

SAMPLE SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-6164-1	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1MS	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1MSD	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-1DU	PRR1SOLIF-01	Solid	07/22/2011 1100	07/23/2011 0940
200-6164-2	PRR1SOLIF-02	Solid	07/22/2011 1115	07/23/2011 0940

SAMPLE RESULTS

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-22759

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22428

Initial Weight/Volume: 50.04 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 0030

Injection Volume: 1 uL

Prep Date: 07/27/2011 1303

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2,4-D		39	U	5.7	39
2,4-DB		19	U	7.4	19
2,4,5-T		9.7	U	1.5	9.7
Silvex (2,4,5-TP)		3.9	U	0.46	3.9

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	83		25 - 195

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

% Moisture: 1.9

Date Received: 07/23/2011 0940

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-22759

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22428

Initial Weight/Volume: 50.04 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 0030

Injection Volume: 1 uL

Prep Date: 07/27/2011 1303

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	82		25 - 195

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-22759

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22428

Initial Weight/Volume: 49.38 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 0139

Injection Volume: 1 uL

Prep Date: 07/27/2011 1303

Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2,4-D		39	U	5.7	39
2,4-DB		19	U	7.4	19
2,4,5-T		9.6	U	1.5	9.6
Silvex (2,4,5-TP)		3.9	U	0.46	3.9

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	88		25 - 195

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

% Moisture: 0.3

Date Received: 07/23/2011 0940

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-22759

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22428

Initial Weight/Volume: 49.38 g

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 07/29/2011 0139

Injection Volume: 1 uL

Prep Date: 07/27/2011 1303

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	87		25 - 195

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

General Chemistry

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

Date Received: 07/23/2011 0940

Analyte	Result	Qual	Units	Dil	Method
pH	8.39	HF	SU	1.0	9045C
Analysis Batch: 200-22341			Analysis Date: 07/25/2011 1625		DryWt Corrected: N

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	1.9		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22268			Analysis Date: 07/25/2011 1638		DryWt Corrected: N		
Percent Moisture	1.6		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22270			Analysis Date: 07/25/2011 1730		DryWt Corrected: N		
Percent Solids	98.1		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22268			Analysis Date: 07/25/2011 1638		DryWt Corrected: N		
Percent Solids	98.4		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22270			Analysis Date: 07/25/2011 1730		DryWt Corrected: N		

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

General Chemistry

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

Date Received: 07/23/2011 0940

Analyte	Result	Qual	Units	Dil	Method
pH	9.27	HF	SU	1.0	9045C
Analysis Batch: 200-22341		Analysis Date: 07/25/2011 1625		DryWt Corrected: N	

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	0.31		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22268		Analysis Date: 07/25/2011 1638				DryWt Corrected: N	
Percent Moisture	0.54		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22270		Analysis Date: 07/25/2011 1730				DryWt Corrected: N	
Percent Solids	99.7		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22268		Analysis Date: 07/25/2011 1638				DryWt Corrected: N	
Percent Solids	99.5		%	0.25	0.25	1.0	Moisture
Analysis Batch: 200-22270		Analysis Date: 07/25/2011 1730				DryWt Corrected: N	

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

Date Received: 07/23/2011 0940

D422 Grain Size

Analysis Method: D422

Analysis Batch: 200-22392

Instrument ID: D422_import

N/A

Prep Batch: N/A

Lab File ID: 200-6164-N-1.txt

Dilution: 1.0

Initial Weight/Volume: 148.19 g

Analysis Date: 07/25/2011 1846

Final Weight/Volume:

Prep Date: N/A

Analyte	DryWt Corrected: N	Result (% Passing)	Qualifier	NONE	NONE
Sieve Size 3 inch - Percent Finer		100.0			
Sieve Size 2 inch - Percent Finer		100.0			
Sieve Size 1.5 inch - Percent Finer		100.0			
Sieve Size 1 inch - Percent Finer		100.0			
Sieve Size 0.75 inch - Percent Finer		100.0			
Sieve Size 0.375 inch - Percent Finer		82.8			
Sieve Size #4 - Percent Finer		63.7			
Sieve Size #10 - Percent Finer		44.2			
Sieve Size #20 - Percent Finer		29.7			
Sieve Size #40 - Percent Finer		21.3			
Sieve Size #60 - Percent Finer		16.3			
Sieve Size #80 - Percent Finer		14.0			
Sieve Size #100 - Percent Finer		12.8			
Sieve Size #200 - Percent Finer		8.9			
Hydrometer Reading 1 - Percent Finer		7.4			
Hydrometer Reading 2 - Percent Finer		6.3			
Hydrometer Reading 3 - Percent Finer		4.6			
Hydrometer Reading 4 - Percent Finer		4.1			
Hydrometer Reading 5 - Percent Finer		2.9			
Hydrometer Reading 6 - Percent Finer		2.9			
Hydrometer Reading 7 - Percent Finer		1.8			

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

Date Received: 07/23/2011 0940

D422 Grain Size

Analysis Method: D422

Analysis Batch: 200-22392

Instrument ID: D422_import

N/A

Prep Batch: N/A

Lab File ID: 200-6164-N-1.txt

Dilution: 1.0

Initial Weight/Volume: 148.19 g

Analysis Date: 07/25/2011 1846

Final Weight/Volume:

Prep Date: N/A

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE	NONE
Gravel		36.3			
Sand		54.8			
Coarse Sand		19.5			
Medium Sand		22.9			
Fine Sand		12.4			
Silt		6.1			
Clay		2.9			

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-01

Lab Sample ID: 200-6164-1

Date Sampled: 07/22/2011 1100

Client Matrix: Solid

Date Received: 07/23/2011 0940

D422 Grain Size

Analysis Method: D422

Analysis Batch: 200-22392

Instrument ID: D422_import

N/A

Prep Batch: N/A

Lab File ID: 200-6164-N-1.txt

Dilution: 1.0

Initial Weight/Volume: 148.19 g

Analysis Date: 07/25/2011 1846

Final Weight/Volume:

Prep Date: N/A

Analyte	DryWt Corrected: N	Result (um)	Qualifier	NONE	NONE
Hydrometer Reading 1 - Particle Size		35.2			
Hydrometer Reading 2 - Particle Size		22.5			
Hydrometer Reading 3 - Particle Size		13.2			
Hydrometer Reading 4 - Particle Size		9.4			
Hydrometer Reading 5 - Particle Size		6.6			
Hydrometer Reading 6 - Particle Size		3.4			
Hydrometer Reading 7 - Particle Size		1.4			

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

Date Received: 07/23/2011 0940

D422 Grain Size

Analysis Method: D422

Analysis Batch: 200-22392

Instrument ID: D422_import

N/A

Prep Batch: N/A

Lab File ID: 200-6164-G-2.txt

Dilution: 1.0

Initial Weight/Volume: 290.68 g

Analysis Date: 07/26/2011 1602

Final Weight/Volume:

Prep Date: N/A

Analyte	DryWt Corrected: N	Result (% Passing)	Qualifier	NONE
Sieve Size 3 inch - Percent Finer		100		
Sieve Size 2 inch - Percent Finer		100		
Sieve Size 1.5 inch - Percent Finer		100		
Sieve Size 1 inch - Percent Finer		100		
Sieve Size 0.75 inch - Percent Finer		83		
Sieve Size 0.375 inch - Percent Finer		23		
Sieve Size #4 - Percent Finer		1.8		
Sieve Size #10 - Percent Finer		1.5		
Sieve Size #20 - Percent Finer		1.5		
Sieve Size #40 - Percent Finer		1.5		
Sieve Size #60 - Percent Finer		1.5		
Sieve Size #80 - Percent Finer		1.5		
Sieve Size #100 - Percent Finer		1.4		
Sieve Size #200 - Percent Finer		1.1		

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Client Sample ID: PRR1SOLIF-02

Lab Sample ID: 200-6164-2

Date Sampled: 07/22/2011 1115

Client Matrix: Solid

Date Received: 07/23/2011 0940

D422 Grain Size

Analysis Method: D422

Analysis Batch: 200-22392

Instrument ID: D422_import

N/A

Prep Batch: N/A

Lab File ID: 200-6164-G-2.txt

Dilution: 1.0

Initial Weight/Volume: 290.68 g

Analysis Date: 07/26/2011 1602

Final Weight/Volume:

Prep Date: N/A

Analyte	DryWt Corrected: N	Result (%)	Qualifier	NONE
Fine Sand		0.39		
Gravel		98		
Coarse Sand		0.27		
Medium Sand		0.00		
Sand		0.66		
Fines		1.1		

Particle Size of Soils by ASTM D422

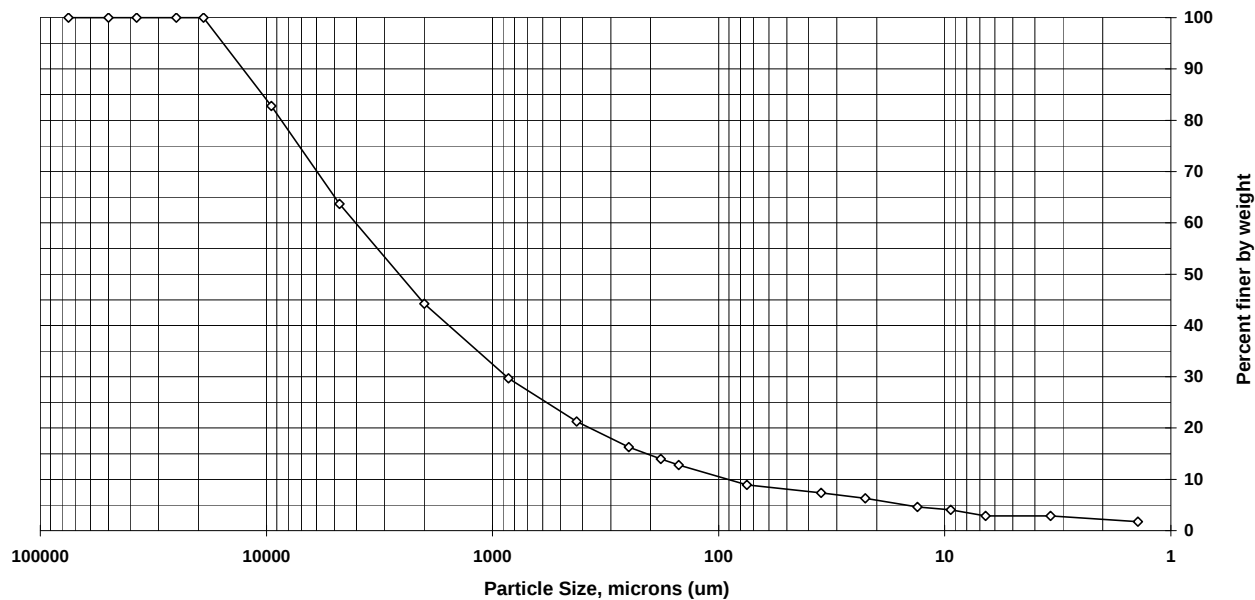
Sample ID: PRR1SOLIF-01
Lab ID: 200-6164-N-1

Percent Solids: 97.6%
Specific Gravity: 2.650

Date Received: 07/23/11
Start Date: 07/25/11
End Date: 07/28/11

Shape (> #10): angular

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	82.8	17.2
#4	4750	63.7	19.1
#10	2000	44.2	19.5
#20	850	29.7	14.5
#40	425	21.3	8.4
#60	250	16.3	5.0
#80	180	14.0	2.3
#100	150	12.8	1.2
#200	75	8.9	3.9
Hyd1	35.2	7.4	1.6
Hyd2	22.5	6.3	1.1
Hyd3	13.2	4.6	1.7
Hyd4	9.4	4.1	0.6
Hyd5	6.6	2.9	1.2
Hyd6	3.4	2.9	0.0
Hyd7	1.4	1.8	1.1

Soil Classification	Percent of sample
Gravel	36.3
Sand	54.8
Coarse Sand	19.5
Medium Sand	22.9
Fine Sand	12.4
Silt	6.1
Clay	2.9

Particle Size of Soils by ASTM D422

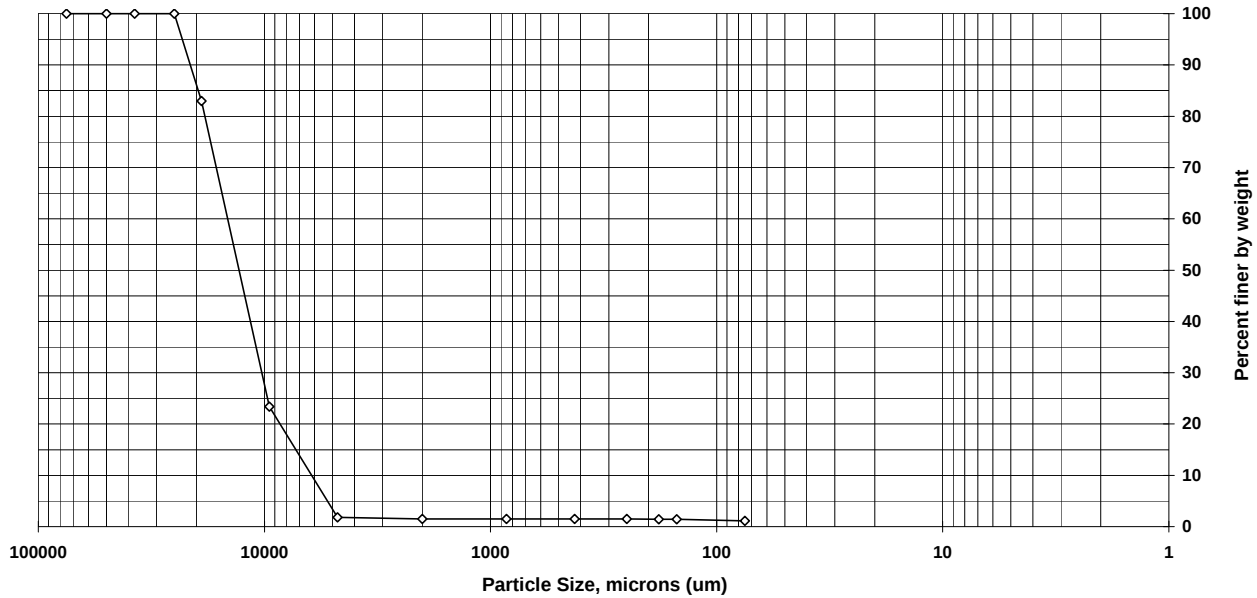
Sample ID: PRR1SOLIF-02
Lab ID: 200-6164-G-2

Percent Solids: 99.8%
Specific Gravity: 2.650

Date Received: 07/23/11
Start Date: 07/26/11
End Date: 07/27/11

Shape (> #10): angular

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	83.0	17.0
3/8 inch	9500	23.4	59.6
#4	4750	1.8	21.6
#10	2000	1.5	0.3
#20	850	1.5	0.0
#40	425	1.5	0.0
#60	250	1.5	0.0
#80	180	1.5	0.0
#100	150	1.4	0.0
#200	75	1.1	0.3

Soil Classification	Percent of sample
Gravel	98.2
Sand	0.7
Coarse Sand	0.3
Medium Sand	0.0
Fine Sand	0.4
Fines	1.1

Particle Size of Soils by ASTM D422

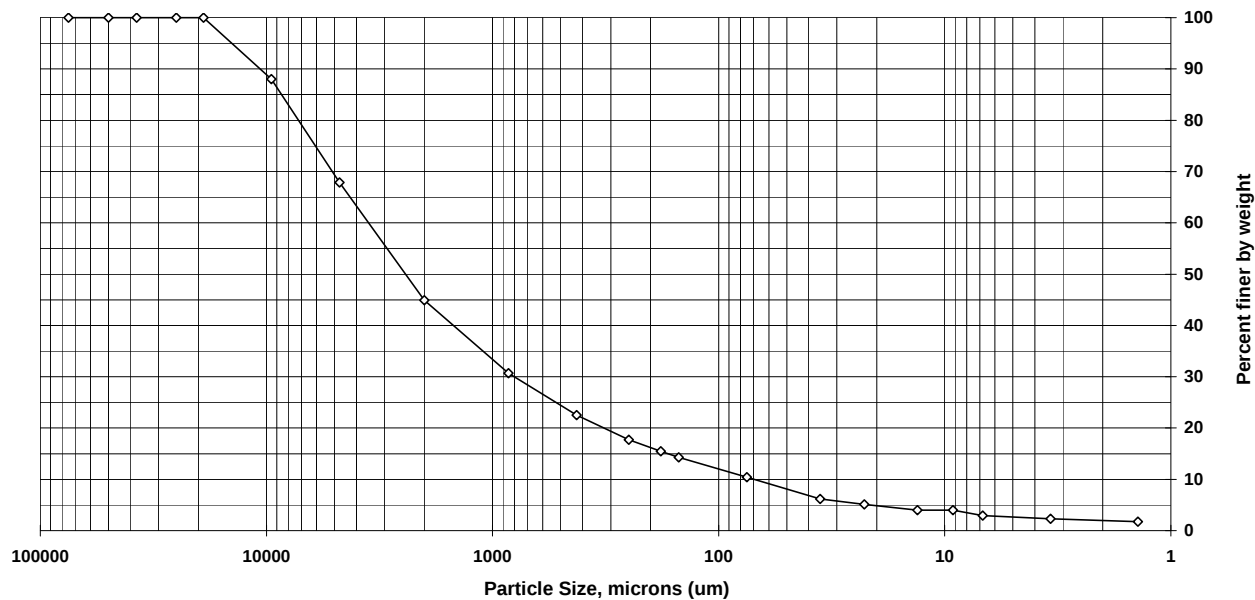
Sample ID: PRR1SOLIF-01
Lab ID: 200-6164-P-1DU

Percent Solids: 97.9%
Specific Gravity: 2.650

Date Received: 07/23/11
Start Date: 07/25/11
End Date: 07/28/11

Shape (> #10): angular

Non-soil material: na
Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	88.0	12.0
#4	4750	67.9	20.1
#10	2000	44.9	23.0
#20	850	30.7	14.2
#40	425	22.5	8.2
#60	250	17.7	4.8
#80	180	15.5	2.2
#100	150	14.3	1.2
#200	75	10.4	3.9
Hyd1	35.6	6.2	4.2
Hyd2	22.7	5.1	1.1
Hyd3	13.2	4.0	1.1
Hyd4	9.2	4.0	0.0
Hyd5	6.8	2.9	1.1
Hyd6	3.4	2.3	0.6
Hyd7	1.4	1.7	0.5

Soil Classification	Percent of sample
Gravel	32.1
Sand	57.5
Coarse Sand	23.0
Medium Sand	22.4
Fine Sand	12.1
Silt	7.5
Clay	2.9

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	PRR1SOLIF-01
Lab Sample ID	200-6164-N-1

Date Received	07/23/11
Start Date	07/25/2011 18:46
End Date	07/28/2011 4:24

Dry Weight Determination

Tin Weight	1.02 g
Wet Sample + Tin	26.78 g
Dry Sample + Tin	26.17 g
% Moisture	2.37 %

Non-soil material:	na
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	07/25/2011 18:47
Date/Time out of oven	07/26/2011 15:18

Sample Weights

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample Weight (Wet)		148.19	148.19
Sample Weight (Oven Dried)			145

Hydrometer Data

Serial Number	705151
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Sample Split (oven dried)

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample >=#10			80.9
Sample <#10			64.1
% Passing #10			43.3

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500	447.51	472.43	24.92 g	82.8	Gravel	
#4	4750	488.25	515.92	27.67 g	63.7	Gravel	
#10	2000	462.94	491.28	28.34 g	44.2	Sand	Coarse
#20	850	384.18	405.14	20.96 g	29.7	Sand	Medium
#40	425	353.95	366.17	12.22 g	21.3	Sand	Medium
#60	250	341.86	349.08	7.22 g	16.3	Sand	Fine
#80	180	330.82	334.15	3.33 g	14.0	Sand	Fine
#100	150	327.15	328.90	1.75 g	12.8	Sand	Fine
#200	75	312.71	318.31	5.60 g	8.9	Sand	Fine
				0.00 g	8.9		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	145
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0100	21.0	35.2	7.38	Silt	
5	5	1.0090	21.0	22.5	6.28	Silt	
15	15	1.0075	21.0	13.2	4.62	Silt	
30	30	1.0070	21.0	9.4	4.06	Silt	
60	63	1.0060	20.5	6.6	2.86	Silt	
250	241	1.0060	20.5	3.4	2.86	Clay	
1440	1388	1.0050	20.5	1.4	1.75	Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	PRR1SOLIF-02
Lab Sample ID	200-6164-G-2

Date Received	07/23/11
Start Date	07/26/2011 16:02
End Date	07/27/2011 8:05

Dry Weight Determination

Tin Weight	1.02 g
Wet Sample + Tin	33.43 g
Dry Sample + Tin	33.36 g
% Moisture	0.22 %

Non-soil material:	na
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	07/26/2011 16:04
Date/Time out of oven	07/27/2011 8:05

Sample Weights

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample Weight (Wet)		290.68	290.68
Sample Weight (Oven Dried)			290

Sample Split (oven dried)

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample >=#10			286
Sample <#10			4
% Passing #10			1.38

Hydrometer Data

Serial Number	
Calib. Date (mm/dd/yyyy)	
Low Temp (C)	
Reading at Low Temp	
High Temp (C)	
Reading at High Temp	
Hydrometer Cal Slope	#DIV/0!
Hydrometer Cal Intercept	#DIV/0!
Default Soil Gravity	2.6500

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000	457.86	507.30	49.44 g	83.0	Gravel	
3/8 inch	9500	447.51	620.44	172.93 g	23.4	Gravel	
#4	4750	488.25	550.96	62.71 g	1.8	Gravel	
#10	2000	462.94	463.71	0.77 g	1.5	Sand	Coarse
#20	850	384.18	384.18	0.00 g	1.5	Sand	Medium
#40	425	353.95	353.95	0.00 g	1.5	Sand	Medium
#60	250	341.86	341.91	0.05 g	1.5	Sand	Fine
#80	180	330.82	330.93	0.11 g	1.5	Sand	Fine
#100	150	327.15	327.20	0.05 g	1.4	Sand	Fine
#200	75	312.71	313.61	0.90 g	1.1	Sand	Fine
				0.00 g	1.1		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	290
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2						Silt	
5						Silt	
15						Silt	
30						Silt	
60						Silt	
250						Clay	
1440						Clay	

TestAmerica Burlington

Sediment Grain Size - D422

Client	
Client Sample ID	PRR1SOLIF-01
Lab Sample ID	200-6164-P-1DU

Date Received	07/23/11
Start Date	07/25/2011 18:48
End Date	07/28/2011 4:40

Dry Weight Determination

Tin Weight	0.98 g
Wet Sample + Tin	26.38 g
Dry Sample + Tin	25.85 g
% Moisture	2.09 %

Non-soil material:	na
Shape (> #10):	angular
Hardness (> #10):	hard

Date/Time in oven	07/25/2011 18:49
Date/Time out of oven	07/26/2011 15:19

Sample Weights

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample Weight (Wet)		149.77	149.77
Sample Weight (Oven Dried)			147

Hydrometer Data

Serial Number	705151
Calib. Date (mm/dd/yyyy)	12/21/2010
Low Temp (C)	17.0
Reading at Low Temp	1.0040
High Temp (C)	23.0
Reading at High Temp	1.0030
Hydrometer Cal Slope	-0.000166667
Hydrometer Cal Intercept	1.006833333
Default Soil Gravity	2.6500

Sample Split (oven dried)

	Tare (g)	Pan+Sample (g)	Sample (g)
Sample >=#10			80.9
Sample <#10			66.1
% Passing #10			44.1

Gravel/Sand Fraction (Sieves)

Sample Fraction	Size (um)	Pan Tare (g)	Pan+Sample (g)	Sample	% Finer	Classification	Sub Class
3 inch	75000			0.00 g	100.0	Gravel	
2 inch	50000			0.00 g	100.0	Gravel	
1.5 inch	37500			0.00 g	100.0	Gravel	
1 inch	25000			0.00 g	100.0	Gravel	
3/4 inch	19000			0.00 g	100.0	Gravel	
3/8 inch	9500	447.51	465.09	17.58 g	88.0	Gravel	
#4	4750	488.25	517.79	29.54 g	67.9	Gravel	
#10	2000	462.94	496.68	33.74 g	44.9	Sand	Coarse
#20	850	384.18	405.11	20.93 g	30.7	Sand	Medium
#40	425	353.95	365.94	11.99 g	22.5	Sand	Medium
#60	250	341.86	348.89	7.03 g	17.7	Sand	Fine
#80	180	330.82	334.10	3.28 g	15.5	Sand	Fine
#100	150	327.15	328.86	1.71 g	14.3	Sand	Fine
#200	75	312.71	318.42	5.71 g	10.4	Sand	Fine
				0.00 g	10.4		

Adjusted Hydrometer Sample Mass

Hydrometer Sample Mass (g)	147
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Silt/Clay Fraction (Hydrometer Test)

Hydrometer Test Time (min)	Actual	Spec. Gravity	Temp C	Particle Size (Micron)	% Finer	Classification	Sub Class
2	2	1.0090	21.0	35.6	6.19	Silt	
5	5	1.0080	21.0	22.7	5.1	Silt	
15	15	1.0070	21.0	13.2	4.01	Silt	
30	31	1.0070	21.0	9.2	4.01	Silt	
60	57	1.0060	21.0	6.8	2.91	Silt	
250	235	1.0055	20.5	3.4	2.28	Clay	
1440	1382	1.0050	20.5	1.4	1.73	Clay	

DATA REPORTING QUALIFIERS

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Lab Section	Qualifier	Description
GC Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
General Chemistry		
	HF	Field parameter with a holding time of 15 minutes

QUALITY CONTROL RESULTS

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 200-22428					
LCS 200-22428/2-A	Lab Control Sample	T	Solid	8151A	
MB 200-22428/1-A	Method Blank	T	Solid	8151A	
200-6164-1	PRR1SOLIF-01	T	Solid	8151A	
200-6164-1MS	Matrix Spike	T	Solid	8151A	
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	8151A	
200-6164-2	PRR1SOLIF-02	T	Solid	8151A	
Analysis Batch:200-22759					
LCS 200-22428/2-A	Lab Control Sample	T	Solid	8151A	200-22428
MB 200-22428/1-A	Method Blank	T	Solid	8151A	200-22428
200-6164-1	PRR1SOLIF-01	T	Solid	8151A	200-22428
200-6164-1MS	Matrix Spike	T	Solid	8151A	200-22428
200-6164-1MSD	Matrix Spike Duplicate	T	Solid	8151A	200-22428
200-6164-2	PRR1SOLIF-02	T	Solid	8151A	200-22428
General Chemistry					
Analysis Batch:200-22268					
200-6164-1	PRR1SOLIF-01	T	Solid	Moisture	
200-6164-1DU	Duplicate	T	Solid	Moisture	
200-6164-2	PRR1SOLIF-02	T	Solid	Moisture	
Analysis Batch:200-22270					
200-6164-1	PRR1SOLIF-01	T	Solid	Moisture	
200-6164-1DU	Duplicate	T	Solid	Moisture	
200-6164-2	PRR1SOLIF-02	T	Solid	Moisture	
Analysis Batch:200-22341					
200-6164-1	PRR1SOLIF-01	T	Solid	9045C	
200-6164-1DU	Duplicate	T	Solid	9045C	
200-6164-2	PRR1SOLIF-02	T	Solid	9045C	

Report Basis

T = Total

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Geotechnical					
Analysis Batch:200-22392					
200-6164-1	PRR1SOLIF-01	T	Solid	D422	
200-6164-1DU	Duplicate	T	Solid	D422	
200-6164-2	PRR1SOLIF-02	T	Solid	D422	

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Surrogate Recovery Report

8151A Herbicides (GC)

Client Matrix: Solid

Lab Sample ID	Client Sample ID	DCPA1	DCPA2
		%Rec	%Rec
200-6164-1	PRR1SOLIF-01	83	82
200-6164-2	PRR1SOLIF-02	88	87
MB 200-22428/1-A		87	106
LCS 200-22428/2-A		80	101
200-6164-1 MS	PRR1SOLIF-01 MS	88	87
200-6164-1 MSD	PRR1SOLIF-01 MSD	84	85

Surrogate

Acceptance Limits

DCPA = 2,4-Dichlorophenylacetic acid

25-195

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Method Blank - Batch: 200-22428

Method: 8151A

Preparation: 8151A

Lab Sample ID: MB 200-22428/1-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/28/2011 2345
Prep Date: 07/27/2011 1303
Leach Date: N/A

Analysis Batch: 200-22759
Prep Batch: 200-22428
Leach Batch: N/A
Units: ug/Kg

Instrument ID: 0911.i
Lab File ID: 28jul111430-r011.d
Initial Weight/Volume: 49.92 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
2,4-D	38	U	5.6	38
2,4-DB	19	U	7.3	19
2,4,5-T	9.5	U	1.5	9.5
Silvex (2,4,5-TP)	3.8	U	0.45	3.8

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	106	25 - 195

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	87	25 - 195

Lab Control Sample - Batch: 200-22428

Method: 8151A

Preparation: 8151A

Lab Sample ID: LCS 200-22428/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/29/2011 0008
Prep Date: 07/27/2011 1303
Leach Date: N/A

Analysis Batch: 200-22759
Prep Batch: 200-22428
Leach Batch: N/A
Units: ug/Kg

Instrument ID: 0911.i
Lab File ID: 28jul111430-r021.d
Initial Weight/Volume: 49.48 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4-D	162	131	81	65 - 130	
2,4-DB	80.8	68.7	85	35 - 170	
2,4,5-T	40.5	32.0	79	60 - 140	
Silvex (2,4,5-TP)	16.2	12.7	79	65 - 130	

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	101	25 - 195

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	80	25 - 195

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Matrix Spike/ Matrix Spike Duplicate Recovery Report - Batch: 200-22428

Method: 8151A
Preparation: 8151A

MS Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/29/2011 0116
Prep Date: 07/27/2011 1303
Leach Date: N/A

Analysis Batch: 200-22759
Prep Batch: 200-22428
Leach Batch: N/A

Instrument ID: 0911.i
Lab File ID: 28jul111430-r051.d
Initial Weight/Volume: 49.85 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

MSD Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/29/2011 0053
Prep Date: 07/27/2011 1303
Leach Date: N/A

Analysis Batch: 200-22759
Prep Batch: 200-22428
Leach Batch: N/A

Instrument ID: 0911.i
Lab File ID: 28jul111430-r041.d
Initial Weight/Volume: 50.28 g
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
2,4-D	87	87	65 - 130	1	30		
2,4-DB	91	89	35 - 170	2	30		
2,4,5-T	88	83	60 - 140	6	30		
Silvex (2,4,5-TP)	91	82	65 - 130	11	30		
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
2,4-Dichlorophenylacetic acid	88		85	25 - 195			
Surrogate	MS % Rec		MSD % Rec	Acceptance Limits			
2,4-Dichlorophenylacetic acid	87		84	25 - 195			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Duplicate - Batch: 200-22341

Method: 9045C
Preparation: N/A

Lab Sample ID:	200-6164-1	Analysis Batch:	200-22341	Instrument ID:	WCpHmeter
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	40 mL
Analysis Date:	07/25/2011 1625	Units:	SU	Final Weight/Volume:	40 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	8.39	8.330	0.7	5	HF

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Duplicate - Batch: 200-22268

Method: Moisture

Preparation: N/A

Lab Sample ID: 200-6164-1

Analysis Batch: 200-22268

Instrument ID: No Equipment

Client Matrix: Solid

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume:

Analysis Date: 07/25/2011 1638

Units: %

Final Weight/Volume:

Prep Date: N/A

Leach Date: N/A

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	1.9	2.3	20	20	
Percent Solids	98.1	97.7	0.4	20	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Duplicate - Batch: 200-22270

Method: Moisture

Preparation: N/A

Lab Sample ID: 200-6164-1

Analysis Batch: 200-22270

Instrument ID: No Equipment

Client Matrix: Solid

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume:

Analysis Date: 07/25/2011 1730

Units: %

Final Weight/Volume:

Prep Date: N/A

Leach Date: N/A

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	1.6	1.8	8.00		
Percent Solids	98.4	98.2	0.100		

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Duplicate - Batch: 200-22392

Method: D422
Preparation: N/A

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/25/2011 1848
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 200-22392
Prep Batch: N/A
Leach Batch: N/A
Units: %

Instrument ID: D422_import
Lab File ID: 200-6164-P-1DU.txt
Initial Weight/Volume: 149.77 g
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Gravel	36.3	32.1			
Sand	54.8	57.5			
Coarse Sand	19.5	23.0			
Medium Sand	22.9	22.4			
Fine Sand	12.4	12.1			
Silt	6.1	7.5			
Clay	2.9	2.9			

Duplicate - Batch: 200-22392

Method: D422
Preparation: N/A

Lab Sample ID: 200-6164-1
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 07/25/2011 1848
Prep Date: N/A
Leach Date: N/A

Analysis Batch: 200-22392
Prep Batch: N/A
Leach Batch: N/A
Units: % Passing

Instrument ID: D422_import
Lab File ID: 200-6164-P-1DU.txt
Initial Weight/Volume: 149.77 g
Final Weight/Volume:

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Sieve Size 3 inch - Percent Finer	100.0	100.0			
Sieve Size 2 inch - Percent Finer	100.0	100.0			
Sieve Size 1.5 inch - Percent Finer	100.0	100.0			
Sieve Size 1 inch - Percent Finer	100.0	100.0			
Sieve Size 0.75 inch - Percent Finer	100.0	100.0			
Sieve Size 0.375 inch - Percent Finer	82.8	88.0			
Sieve Size #4 - Percent Finer	63.7	67.9			
Sieve Size #10 - Percent Finer	44.2	44.9			
Sieve Size #20 - Percent Finer	29.7	30.7			
Sieve Size #40 - Percent Finer	21.3	22.5			
Sieve Size #60 - Percent Finer	16.3	17.7			
Sieve Size #80 - Percent Finer	14.0	15.5			
Sieve Size #100 - Percent Finer	12.8	14.3			
Sieve Size #200 - Percent Finer	8.9	10.4			
Hydrometer Reading 1 - Percent Finer	7.4	6.2			
Hydrometer Reading 2 - Percent Finer	6.3	5.1			
Hydrometer Reading 3 - Percent Finer	4.6	4.0			
Hydrometer Reading 4 - Percent Finer	4.1	4.0			
Hydrometer Reading 5 - Percent Finer	2.9	2.9			
Hydrometer Reading 6 - Percent Finer	2.9	2.3			
Hydrometer Reading 7 - Percent Finer	1.8	1.7			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

Sdg Number: PRR1141

Duplicate - Batch: 200-22392

Method: D422
Preparation: N/A

Lab Sample ID:	200-6164-1	Analysis Batch:	200-22392	Instrument ID:	D422_import
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	200-6164-P-1DU.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	149.77 g
Analysis Date:	07/25/2011 1848	Units:	% Passing	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
---------	--------------------	--------	-----	-------	------

Duplicate - Batch: 200-22392

Method: D422
Preparation: N/A

Lab Sample ID:	200-6164-1	Analysis Batch:	200-22392	Instrument ID:	D422_import
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	200-6164-P-1DU.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	149.77 g
Analysis Date:	07/25/2011 1848	Units:	um	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
---------	--------------------	--------	-----	-------	------

Hydrometer Reading 1 - Particle Size	35.2	35.6			
Hydrometer Reading 2 - Particle Size	22.5	22.7			
Hydrometer Reading 3 - Particle Size	13.2	13.2			
Hydrometer Reading 4 - Particle Size	9.4	9.2			
Hydrometer Reading 5 - Particle Size	6.6	6.8			
Hydrometer Reading 6 - Particle Size	3.4	3.4			
Hydrometer Reading 7 - Particle Size	1.4	1.4			

From: (609) 860-0590
 Cranbury Staff
 ARCADIS U.S., Inc.
 8 South River Road
 Cranbury, NJ 08512

Origin ID: ZRPA



J11201104290225

SHIP TO: (802) 660-1021
Kirk Young
Test America
30 COMMUNITY DR

BILL SENDER

SOUTH BURLINGTON, VT 05403

Ship Date: 22JUL11
 ActWgt: 20.0 LB
 CAD: 44900477/NET3180

Delivery Address Bar Code



Ref # 80009966.0002.70004
 Invoice #
 PO #
 Dept #

1 of 2

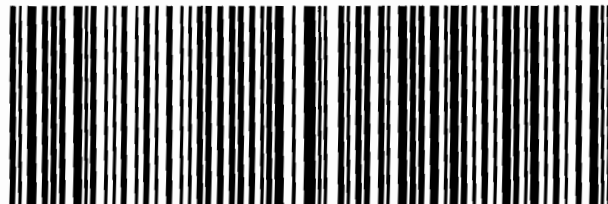
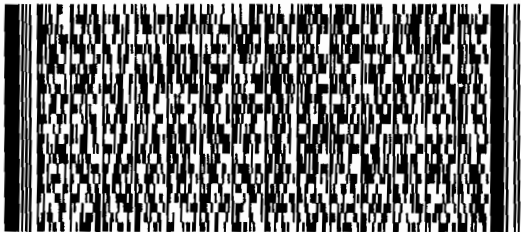
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 Cranbury Staff
 ARCADIS U.S., Inc.
 8 South River Road

Origin ID: ZRPA



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Cranbury, NJ 08512

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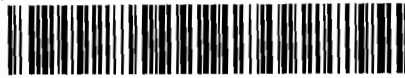
BILL SENDER

Kirk Young
 Test America
 30 COMMUNITY DR

SOUTH BURLINGTON, VT 05403

Ship Date: 22JUL11
 ActWgt: 20.0 LB
 CAD: 4490047/INET3180

Delivery Address Bar Code



Ref # B0009966.0002.70004
 Invoice #
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SATURDAY ### A4
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MPS# 7973 3147 1849

0263

Mstr# 7973 3147 1827

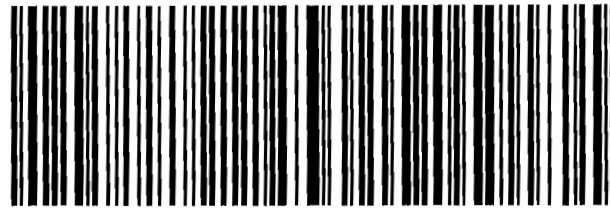
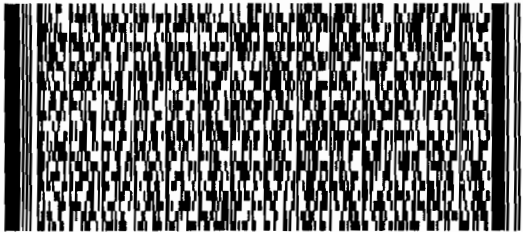
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VT-US

BTV



50FG2/F556/F5F4

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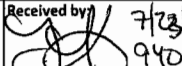
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E-6 Work Order

PROJ. NO.		PROJECT NAME		SDG NUMBER		COC Number																																											
80009966.0002.70004		Removal Action Work Plan Quality Assurance Project Plan		PRR1141																																													
SAMPLERS:				Requested Analyses																																													
SAMPLEID	DATE	TIME	MATRIX	Composite/Grab	Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks																							
PRR1SOLIF-01	7/22/2011	11:00	Soil	Composite	24	X	X	X	X	X	X	X	X													MS/MSD																							
PRR1SOLIF-02	7/22/2011	11:15	Soil	Composite	7	X	X	X	X	X	X	X	X																																				
PRR1SOLIF-03	7/22/2011	11:30	Grab	Composite	3																																												
TB07222011-01	7/22/2011		Water		3		X																																										
Requested Analyses		Special Instructions/Comments:												☐ Special QA/QC Instructions																																			
1 SVOC		Please hold sample analysis for PRR1SOLIF-03 until further direction from ARCADIS												☐ Cooler packed with ice ☐ Cooler custody seal intact Sample Receipt Condition/Cooler Temp																																			
2 VOC		5-day turnaround																																															
3 Aroclor																																																	
4 Metals																																																	
5 Characterized Herbicides		Laboratory Information and Receipt																																															
6 Pesticides		Lab Name: Test America, Burlington, VT												Sample Receipt																																			
7 pH		Shipping/Tracking #: 797331471827, 797331471849												Condition/Cooler Temp																																			
8 Grain Size		Specify Turnaround Requirements: 5-day																																															
9																																																	
10 Relinquished by:		DATE												TIME												Received by:																							
11		Kavin Gandhi												7/22/2011												1800												 7/23/11 JK 7/23/11											
12																																																	
13 Relinquished by:		DATE												TIME												Received by:																							
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16 Relinquished by:		DATE												TIME												Received by:																							
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Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 200-6164-2

SDG Number: PRR1141

Login Number: 6164

List Number: 1

Creator: Keeton, Jamie

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	167472, 473, 479, 471, 474, 477
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	4.7, 3.0 °C, IR GUN ID 96, CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
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	
Sample Preservation Verified.	N/A	
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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level if required.

ANALYTICAL REPORT

Job Number: 200-6218-1

SDG Number: PRR1141A

Job Description: PRR1141 (200-6218)

For:

ARCADIS U.S. Inc
2300 Eastlake Avenue, East
Suite 140
Seattle, WA 98102

Attention: Ms. Shannon Dunn

Designee for

Kirk F Young

Project Manager I

kirk.young@testamericainc.com

08/09/2011

cc: Mr. Joe Houser
Mr. Don Reed

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

TestAmerica Laboratories, Inc.

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 www.testamericainc.com



Table of Contents

Cover Title Page	1
Report Narrative	3
Method Summary	4
Method / Analyst Summary	5
Sample Summary	6
Sample Results	7
Sample Datasheets	8
Data Qualifiers	19
QC Results	20
Qc Association Summary	21
Surrogate Recovery Report	24
Qc Reports	31
Client Chain of Custody	45
Sample Receipt Checklist	47

Preliminary Data

METHOD SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Description	Lab Location	Method	Preparation Method
Matrix: Leachate			
Low/Medium Volatiles	TAL BUR	SOM01.2	SOM01.2/VOA
Volatile sample preservation, Field Preserved Water	TAL BUR		SOM01.2 SOM01.2/VOA_PR
Semivolatiles	TAL BUR	SOM01.2	SOM01.2/SV
Extraction of Water Samples	TAL BUR		SOM01.2 CONT
Semivolatiles by SIM	TAL BUR	SOM01.2	SOM01.2/SV SIM
Extraction of Water Samples	TAL BUR		SOM01.2 CONT
Aroclors	TAL BUR	SOM01.2	SOM01.2/PCB
Extraction of Water Samples	TAL BUR		SOM01.2 SEPF
Sulfuric Acid/Permanganate Cleanup	TAL BUR		SOM01.2 SOM01.2/SO4CU
Pesticides	TAL BUR	SOM01.2	SOM01.2/Pest
Extraction of Water Samples	TAL BUR		SOM01.2 SEPF
Florisil Cleanup	TAL BUR		SOM01.2 SOM01.2/FLCU
ISM01.2 Metals (ICPMS)	TAL BUR	ISM01.2	ISM01.2/ICPMS
200.8	TAL BUR		EPA 200.8
Matrix: Water			
Low/Medium Volatiles	TAL BUR	SOM01.2	SOM01.2/VOA
Volatile sample preservation, Field Preserved Water	TAL BUR		SOM01.2 SOM01.2/VOA_PR

Lab References:

TAL BUR = TestAmerica Burlington

Method References:

EPA = US Environmental Protection Agency

ISM01.2 = U.S. Environmental Protection Agency

SOM01.2 = U.S. Environmental Protection Agency

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method	Analyst	Analyst ID
SOM01.2 SOM01.2/VOA	Heald, John	JRH
SOM01.2 SOM01.2/VOA	Peterson, Cindy M	CMP
SOM01.2 SOM01.2/SV	Bissonette, Donald J	DJB
SOM01.2 SOM01.2/SV SIM	White, Matthew T	MTW
SOM01.2 SOM01.2/PCB	Duncan, Stacey L	SLD
SOM01.2 SOM01.2/Pest	Bailey, Jacob L	JLB
ISM01.2 ISM01.2/ICPMS	Lyons, Benjamin	BL

SAMPLE SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-6218-1	PRR1SOLIF-03	Solid	07/22/2011 1130	07/23/2011 0940
200-6218-2	PRR1SOLIF-03	Leachate	08/03/2011 0845	08/03/2011 0845
200-6218-2MS	PRR1SOLIF-03	Water	08/03/2011 0845	08/03/2011 0845
200-6218-3STOBLK	VHBLK01	Water	07/27/2011 1425	07/27/2011 1425

Preliminary Data

SAMPLE RESULTS

Preliminary Data

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/VOA Low/Medium Volatiles

Analysis Method: SOM01.2/VOA Analysis Batch: 200-22975 Instrument ID: M.i
Prep Method: SOM01.2/VOA_PR Prep Batch: N/A Lab File ID: mhgi10.d
Dilution: 1.0 Initial Weight/Volume: 5 mL
Analysis Date: 08/04/2011 1221 Final Weight/Volume: 5 mL
Prep Date: 08/04/2011 1221

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	360	E B	5.0
2-Butanone	13	B	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	5.0	U	5.0
Toluene	0.46	J B	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	5.0	U	5.0
1,2,3-Trichlorobenzene	5.0	U	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	89		65 - 131
Chloroethane-d5	99		71 - 131
1,1-Dichloroethene-d2	71		55 - 104
2-Butanone-d5	94		49 - 155
Chloroform-d	95		78 - 121
1,2-Dichloroethane-d4	95		78 - 129
Benzene-d6	96		77 - 124
1,2-Dichloropropane-d6	90		79 - 124
Toluene-d8	97		77 - 121
trans-1,3-Dichloropropene-d4	97		73 - 121
2-Hexanone-d5	104		28 - 135
1,4-Dioxane-d8	104		50 - 150
1,1,2,2-Tetrachloroethane-d2	96		73 - 125
1,2-Dichlorobenzene-d4	102		80 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/VOA Low/Medium Volatiles

Analysis Method:	SOM01.2/VOA	Analysis Batch:	200-22975	Instrument ID:	M.i
Prep Method:	SOM01.2/VOA_PR	Prep Batch:	N/A	Lab File ID:	mhgi09.d
Dilution:	2.9			Initial Weight/Volume:	5 mL
Analysis Date:	08/04/2011 1154			Final Weight/Volume:	5 mL
Prep Date:	08/04/2011 1154				

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	15	U	15
1,1-Dichloroethene	15	U	15
Methylene chloride	370	B	15
2-Butanone	16	J B	29
Chloroform	15	U	15
Carbon tetrachloride	15	U	15
Benzene	15	U	15
1,2-Dichloroethane	15	U	15
Trichloroethene	15	U	15
Toluene	0.52	J B	15
Tetrachloroethene	15	U	15
Chlorobenzene	15	U	15
Ethylbenzene	15	U	15
1,3-Dichlorobenzene	15	U	15
1,4-Dichlorobenzene	15	U	15
1,2-Dichlorobenzene	15	U	15
1,2,4-Trichlorobenzene	15	U	15
1,2,3-Trichlorobenzene	15	U	15

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	90		65 - 131
Chloroethane-d5	99		71 - 131
1,1-Dichloroethene-d2	71		55 - 104
2-Butanone-d5	96		49 - 155
Chloroform-d	96		78 - 121
1,2-Dichloroethane-d4	94		78 - 129
Benzene-d6	97		77 - 124
1,2-Dichloropropane-d6	90		79 - 124
Toluene-d8	97		77 - 121
trans-1,3-Dichloropropene-d4	98		73 - 121
2-Hexanone-d5	104		28 - 135
1,4-Dioxane-d8	110		50 - 150
1,1,2,2-Tetrachloroethane-d2	97		73 - 125
1,2-Dichlorobenzene-d4	101		80 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: VHBLK01

Lab Sample ID: 200-6218-3STOBLK

Client Matrix: Water

Date Sampled: 07/27/2011 1425

Date Received: 07/27/2011 1425

SOM01.2/VOA Low/Medium Volatiles

Analysis Method: SOM01.2/VOA Analysis Batch: 200-23020 Instrument ID: M.i
Prep Method: SOM01.2/VOA_PR Prep Batch: N/A Lab File ID: mhgj05.d
Dilution: 1.0 Initial Weight/Volume: 5 mL
Analysis Date: 08/04/2011 1558 Final Weight/Volume: 5 mL
Prep Date: 08/04/2011 1558

Analyte	Result (ug/L)	Qualifier	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	0.33	J B	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.31	J B	5.0
Toluene	5.0	U	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	0.19	J	5.0
Ethylbenzene	0.10	J	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	0.57	J B	5.0
1,2,3-Trichlorobenzene	0.49	J B	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Vinyl chloride-d3	89		65 - 131
Chloroethane-d5	97		71 - 131
1,1-Dichloroethene-d2	71		55 - 104
2-Butanone-d5	91		49 - 155
Chloroform-d	94		78 - 121
1,2-Dichloroethane-d4	93		78 - 129
Benzene-d6	96		77 - 124
1,2-Dichloropropane-d6	89		79 - 124
Toluene-d8	97		77 - 121
trans-1,3-Dichloropropene-d4	96		73 - 121
2-Hexanone-d5	97		28 - 135
1,4-Dioxane-d8	100		50 - 150
1,1,2,2-Tetrachloroethane-d2	94		73 - 125
1,2-Dichlorobenzene-d4	100		80 - 131

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/SV Semivolatiles

Analysis Method:	SOM01.2/SV	Analysis Batch:	200-23178	Instrument ID:	R.i
Prep Method:	CONT	Prep Batch:	200-22876	Lab File ID:	rje10.d
Dilution:	1.0			Initial Weight/Volume:	1000 mL
Analysis Date:	08/08/2011 1020			Final Weight/Volume:	1000 uL
Prep Date:	08/03/2011 1400			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	RL
Pyridine	5.0	U	5.0
Benzaldehyde	5.0	U	5.0
Phenol	5.0	U	5.0
Bis(2-chloroethyl)ether	5.0	U	5.0
2-Chlorophenol	5.0	U	5.0
2-Methylphenol	5.0	U	5.0
2,2'-Oxybis(1-chloropropane)	5.0	U	5.0
Acetophenone	5.0	U	5.0
4-Methylphenol	5.0	U	5.0
N-Nitroso-di-n-propylamine	5.0	U	5.0
Hexachloroethane	5.0	U	5.0
Nitrobenzene	5.0	U	5.0
Isophorone	5.0	U	5.0
2-Nitrophenol	5.0	U	5.0
2,4-Dimethylphenol	0.20	J	5.0
Bis(2-chloroethoxy)methane	5.0	U	5.0
2,4-Dichlorophenol	5.0	U	5.0
Naphthalene	5.0	U	5.0
4-Chloroaniline	5.0	U	5.0
Hexachlorobutadiene	5.0	U	5.0
Caprolactam	5.0	U	5.0
4-Chloro-3-methylphenol	5.0	U	5.0
2-Methylnaphthalene	5.0	U	5.0
Hexachlorocyclopentadiene	5.0	U	5.0
2,4,6-Trichlorophenol	5.0	U	5.0
2,4,5-Trichlorophenol	5.0	U	5.0
1,1'-Biphenyl	5.0	U	5.0
2-Chloronaphthalene	5.0	U	5.0
2-Nitroaniline	10	U	10
Dimethylphthalate	5.0	U	5.0
2,6-Dinitrotoluene	5.0	U	5.0
Acenaphthylene	5.0	U	5.0
3-Nitroaniline	10	U	10
Acenaphthene	5.0	U	5.0
2,4-Dinitrophenol	10	U	10
4-Nitrophenol	10	U	10
Dibenzofuran	5.0	U	5.0
2,4-Dinitrotoluene	5.0	U	5.0
Diethylphthalate	0.14	J B	5.0
Fluorene	5.0	U	5.0
4-Chlorophenyl-phenylether	5.0	U	5.0
4-Nitroaniline	10	U	10
4,6-Dinitro-2-methylphenol	10	U	10
N-Nitrosodiphenylamine	5.0	U	5.0
1,2,4,5-Tetrachlorobenzene	5.0	U	5.0
4-Bromophenyl-phenylether	5.0	U	5.0

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/SV Semivolatiles

Analysis Method:	SOM01.2/SV	Analysis Batch:	200-23178	Instrument ID:	R.i
Prep Method:	CONT	Prep Batch:	200-22876	Lab File ID:	rje10.d
Dilution:	1.0			Initial Weight/Volume:	1000 mL
Analysis Date:	08/08/2011 1020			Final Weight/Volume:	1000 uL
Prep Date:	08/03/2011 1400			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	RL
Hexachlorobenzene	5.0	U	5.0
Atrazine	5.0	U	5.0
Pentachlorophenol	10	U	10
Phenanthrene	5.0	U	5.0
Anthracene	5.0	U	5.0
Carbazole	5.0	U	5.0
Di-n-butylphthalate	0.29	J B	5.0
Fluoranthene	5.0	U	5.0
Pyrene	5.0	U	5.0
Butylbenzylphthalate	0.44	J B	5.0
3,3'-Dichlorobenzidine	5.0	U	5.0
Benzo(a)anthracene	5.0	U	5.0
Chrysene	5.0	U	5.0
Bis(2-ethylhexyl)phthalate	0.57	J B	5.0
Di-n-octylphthalate	5.0	U	5.0
Benzo(b)fluoranthene	5.0	U	5.0
Benzo(k)fluoranthene	5.0	U	5.0
Benzo(a)pyrene	5.0	U	5.0
Indeno(1,2,3-cd)pyrene	5.0	U	5.0
Dibenzo(a,h)anthracene	5.0	U	5.0
Benzo(g,h,i)perylene	5.0	U	5.0
2,3,4,6-Tetrachlorophenol	5.0	U	5.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Phenol-d5	67		39 - 106
Bis(2-chloroethyl)ether-d8	75		40 - 105
2-Chlorophenol-d4	74		41 - 106
4-Methylphenol-d8	69		25 - 111
Nitrobenzene-d5	88		43 - 108
2-Nitrophenol-d4	82		40 - 108
2,4-Dichlorophenol-d3	73		37 - 105
4-Chloroaniline-d4	78		1 - 145
Dimethylphthalate-d6	88		47 - 114
Acenaphthylene-d8	94		41 - 107
4-Nitrophenol-d4	100		33 - 116
Fluorene-d10	77		42 - 111
4,6-Dinitro-2-methylphenol-d2	79		22 - 104
Anthracene-d10	92		44 - 110
Pyrene-d10	86		52 - 119
Benzo(a)pyrene-d12	86		32 - 121

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/SV SIM Semivolatiles by SIM

Analysis Method: SOM01.2/SV SIM

Analysis Batch: 200-22963

Instrument ID: H.i

Prep Method: CONT

Prep Batch: 200-22876

Lab File ID: hlbqq03.d

Dilution: 1.0

Initial Weight/Volume: 1000 mL

Analysis Date: 08/04/2011 1146

Final Weight/Volume: 1000 uL

Prep Date: 08/03/2011 1400

Injection Volume: 2 uL

Analyte	Result (ug/L)	Qualifier	RL
Naphthalene	0.015	J B	0.10
2-Methylnaphthalene	0.10	U	0.10
Acenaphthylene	0.10	U	0.10
Acenaphthene	0.10	U	0.10
Fluorene	0.10	U	0.10
Hexachlorobenzene	0.10	U	0.10
Pentachlorophenol	0.20	U	0.20
Phenanthrene	0.10	U	0.10
Anthracene	0.10	U	0.10
Fluoranthene	0.10	U	0.10
Pyrene	0.039	J B	0.10
Benzo(a)anthracene	0.10	U	0.10
Chrysene	0.10	U	0.10
Benzo(b)fluoranthene	0.10	U	0.10
Benzo(k)fluoranthene	0.10	U	0.10
Benzo(a)pyrene	0.099	J B	0.10
Indeno(1,2,3-cd)pyrene	0.10	U	0.10
Dibenz(a,h)anthracene	0.10	U	0.10
Benzo(g,h,i)perylene	0.10	U	0.10

Surrogate	%Rec	Qualifier	Acceptance Limits
Fluoranthene-d10	76		50 - 150
2-Methylnaphthalene-d10	75		50 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-23016

Instrument ID: 5253.i

Prep Method: SEPF

Prep Batch: 200-22894

Initial Weight/Volume: 1000 mL

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/05/2011 0356

Injection Volume: 1 uL

Prep Date: 08/03/2011 1536

Result Type: PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Aroclor-1016	1.0	U	1.0
Aroclor-1221	1.0	U	1.0
Aroclor-1232	1.0	U	1.0
Aroclor-1242	1.0	U	1.0
Aroclor-1248	1.0	U	1.0
Aroclor-1254	1.0	U	1.0
Aroclor-1260	1.0	U	1.0
Aroclor-1262	1.0	U	1.0
Aroclor-1268	1.0	U	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	84		30 - 150
Decachlorobiphenyl	79		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/PCB Aroclors

Analysis Method: SOM01.2/PCB

Analysis Batch: 200-23016

Instrument ID: 5253.i

Prep Method: SEPF

Prep Batch: 200-22894

Initial Weight/Volume: 1000 mL

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/05/2011 0356

Injection Volume: 1 uL

Prep Date: 08/03/2011 1536

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	85		30 - 150
Decachlorobiphenyl	79		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/Pest Pesticides

Analysis Method:	SOM01.2/Pest	Analysis Batch:	200-23243	Instrument ID:	5005.i
Prep Method:	SEPF	Prep Batch:	200-22896	Initial Weight/Volume:	1000 mL
Dilution:	1.0			Final Weight/Volume:	10000 uL
Analysis Date:	08/04/2011 2318			Injection Volume:	1 uL
Prep Date:	08/03/2011 1605			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
alpha-BHC	0.00060	J P B	0.050
beta-BHC	0.011	J P B	0.050
delta-BHC	0.0010	J P B	0.050
gamma-BHC (Lindane)	0.050	U	0.050
Heptachlor	0.050	U	0.050
Aldrin	0.050	U	0.050
Heptachlor epoxide	0.050	U	0.050
Endosulfan I	0.050	U	0.050
Dieldrin	0.10	U	0.10
4,4'-DDE	0.10	U	0.10
Endrin	0.10	U	0.10
Endosulfan II	0.10	U	0.10
4,4'-DDD	0.10	U	0.10
Endosulfan sulfate	0.10	U	0.10
4,4'-DDT	0.10	U	0.10
Methoxychlor	0.50	U	0.50
Endrin ketone	0.10	U	0.10
Endrin aldehyde	0.10	U	0.10
alpha-Chlordane	0.050	U	0.050
gamma-Chlordane	0.0016	J P B	0.050
Toxaphene	5.0	U	5.0
Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	78		30 - 150
Decachlorobiphenyl	92		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

SOM01.2/Pest Pesticides

Analysis Method: SOM01.2/Pest

Analysis Batch: 200-23243

Instrument ID: 5005.i

Prep Method: SEPF

Prep Batch: 200-22896

Initial Weight/Volume: 1000 mL

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/04/2011 2318

Injection Volume: 1 uL

Prep Date: 08/03/2011 1605

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	81		30 - 150
Decachlorobiphenyl	92		30 - 150

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

ISM01.2/ICPMS ISM01.2 Metals (ICPMS)

Analysis Method: ISM01.2/ICPMS

Analysis Batch: 200-23211

Instrument ID: METICPMS2

Prep Method: 200.8

Prep Batch: 200-22851

Lab File ID: 080811-03.xml

Dilution: 1.0

Initial Weight/Volume: 100 mL

Analysis Date: 08/08/2011 1703

Final Weight/Volume: 100 mL

Prep Date: 08/03/2011 1045

Analyte	Result (ug/L)	Qualifier	MDL	RL
Antimony	0.17	J N	0.15	2.0
Selenium	5.0	U	0.15	5.0
Silver	1.0	U	0.028	1.0
Thallium	0.35	J	0.011	1.0

DATA REPORTING QUALIFIERS

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Lab Section	Qualifier	Description
GC/MS VOA	U	Analyzed for but not detected.
	E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
	J	Indicates an estimated value.
	B	The analyte was found in an associated blank, as well as in the sample.
GC/MS Semi VOA	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	B	The analyte was found in an associated blank, as well as in the sample.
GC Semi VOA	U	Analyzed for but not detected.
	J	Indicates an estimated value.
	P	The % Difference between columns is greater than 25%.
	B	The analyte was found in an associated blank, as well as in the sample.
Metals	U	Indicates analyzed for but not detected.
	J	Sample result is greater than the MDL but below the CRDL
	N	Spiked sample recovery is not within control limits.

QUALITY CONTROL RESULTS

Preliminary Data

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:200-22975					
MB 200-22975/8	Method Blank	T	Water	SOM01.2/VOA	
200-6218-2	PRR1SOLIF-03	T	Water	SOM01.2/VOA	
200-6218-2MS	Matrix Spike	T	Water	SOM01.2/VOA	
Analysis Batch:200-23020					
MB 200-23020/4	Method Blank	T	Water	SOM01.2/VOA	
200-6218-3STOBLK	VHBLK01	T	Water	SOM01.2/VOA	
Report Basis					
T = Total					
GC/MS Semi VOA					
Prep Batch: 200-22876					
MB 200-22876/1-A	Method Blank	T	Water	CONT	
200-6218-2	PRR1SOLIF-03	T	Water	CONT	
200-6218-2MS	Matrix Spike	T	Water	CONT	
Analysis Batch:200-22963					
MB 200-22876/1-A	Method Blank	T	Water	SOM01.2/SV SIM	200-22876
200-6218-2	PRR1SOLIF-03	T	Water	SOM01.2/SV SIM	200-22876
200-6218-2MS	Matrix Spike	T	Water	SOM01.2/SV SIM	200-22876
Analysis Batch:200-23178					
MB 200-22876/1-A	Method Blank	T	Water	SOM01.2/SV	200-22876
200-6218-2	PRR1SOLIF-03	T	Water	SOM01.2/SV	200-22876
200-6218-2MS	Matrix Spike	T	Water	SOM01.2/SV	200-22876

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 200-22894					
LCS 200-22894/2-C	Lab Control Sample	T	Water	SEPF	
MB 200-22894/1-C	Method Blank	T	Water	SEPF	
200-6218-2	PRR1SOLIF-03	T	Water	SEPF	
200-6218-2MS	Matrix Spike	T	Water	SEPF	
Prep Batch: 200-22896					
LCS 200-22896/2-C	Lab Control Sample	T	Water	SEPF	
LCS 200-22896/3-C	Lab Control Sample	T	Water	SEPF	
MB 200-22896/1-C	Method Blank	T	Water	SEPF	
200-6218-2	PRR1SOLIF-03	T	Water	SEPF	
200-6218-2MS	Matrix Spike	T	Water	SEPF	
Analysis Batch:200-23016					
LCS 200-22894/2-C	Lab Control Sample	T	Water	SOM01.2/PCB	200-22894
MB 200-22894/1-C	Method Blank	T	Water	SOM01.2/PCB	200-22894
200-6218-2	PRR1SOLIF-03	T	Water	SOM01.2/PCB	200-22894
200-6218-2MS	Matrix Spike	T	Water	SOM01.2/PCB	200-22894
Analysis Batch:200-23243					
LCS 200-22896/2-C	Lab Control Sample	T	Water	SOM01.2/Pest	200-22896
MB 200-22896/1-C	Method Blank	T	Water	SOM01.2/Pest	200-22896
200-6218-2	PRR1SOLIF-03	T	Water	SOM01.2/Pest	200-22896
200-6218-2MS	Matrix Spike	T	Water	SOM01.2/Pest	200-22896
Analysis Batch:200-23253					
LCS 200-22896/3-C	Lab Control Sample	T	Water	SOM01.2/Pest	200-22896
MB 200-22896/1-C	Method Blank	T	Water	SOM01.2/Pest	200-22896

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 200-22851					
LCS 200-22851/2-A	Lab Control Sample	T	Water	200.8	
MB 200-22851/1-A	Method Blank	T	Water	200.8	
200-6218-2	PRR1SOLIF-03	T	Water	200.8	
200-6218-2MS	Matrix Spike	T	Water	200.8	
Analysis Batch:200-23211					
LCS 200-22851/2-A	Lab Control Sample	T	Water	ISM01.2/ICPMS	200-22851
MB 200-22851/1-A	Method Blank	T	Water	ISM01.2/ICPMS	200-22851
200-6218-2	PRR1SOLIF-03	T	Water	ISM01.2/ICPMS	200-22851
200-6218-2MS	Matrix Spike	T	Water	ISM01.2/ICPMS	200-22851

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	VCL %Rec	CLA %Rec	DCE %Rec	BUT %Rec	CLF %Rec	DCA %Rec	BEN %Rec	DPA %Rec
200-6218-2	PRR1SOLIF-03	90	99	71	96	96	94	97	90
200-6218-2	PRR1SOLIF-03	89	99	71	94	95	95	96	90
200-6218-3	VHBLK01	89	97	71	91	94	93	96	89
MB 200-22975/8		89	98	72	93	94	94	96	90
MB 200-23020/4		91	99	72	94	94	94	98	90
200-6218-2 MS	PRR1SOLIF-03 MS	86	94	92	90	91	91	94	87

Surrogate

Acceptance Limits

VCL = Vinyl chloride-d3	65-131
CLA = Chloroethane-d5	71-131
DCE = 1,1-Dichloroethene-d2	55-104
BUT = 2-Butanone-d5	49-155
CLF = Chloroform-d	78-121
DCA = 1,2-Dichloroethane-d4	78-129
BEN = Benzene-d6	77-124
DPA = 1,2-Dichloropropane-d6	79-124

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/VOA Low/Medium Volatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	TOL %Rec	TDP %Rec	HEX %Rec	DXE %Rec	TCA %Rec	DCZ %Rec
200-6218-2	PRR1SOLIF-03	97	98	104	110	97	101
200-6218-2	PRR1SOLIF-03	97	97	104	104	96	102
200-6218-3	VHBLK01	97	96	97	100	94	100
MB 200-22975/8		98	97	104	103	95	100
MB 200-23020/4		99	98	101	102	97	101
200-6218-2 MS	PRR1SOLIF-03 MS	95	93	100	95	93	97

Surrogate

Acceptance Limits

TOL = Toluene-d8	77-121
TDP = trans-1,3-Dichloropropene-d4	73-121
HEX = 2-Hexanone-d5	28-135
DXE = 1,4-Dioxane-d8	50-150
TCA = 1,1,2,2-Tetrachloroethane-d2	73-125
DCZ = 1,2-Dichlorobenzene-d4	80-131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/SV Semivolatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	PHL %Rec	BCE %Rec	2CP %Rec	4MP %Rec	NBZ %Rec	2NP %Rec	DCP %Rec	4CA %Rec
200-6218-2	PRR1SOLIF-03	67	75	74	69	88	82	73	78
MB 200-22876/1-A		70	70	70	80	82	77	75	87
200-6218-2 MS	PRR1SOLIF-03 MS	79	85	79	92	92	91	86	98

Surrogate

Acceptance Limits

PHL = Phenol-d5	39-106
BCE = Bis(2-chloroethyl)ether-d8	40-105
2CP = 2-Chlorophenol-d4	41-106
4MP = 4-Methylphenol-d8	25-111
NBZ = Nitrobenzene-d5	43-108
2NP = 2-Nitrophenol-d4	40-108
DCP = 2,4-Dichlorophenol-d3	37-105
4CA = 4-Chloroaniline-d4	1-145

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/SV Semivolatiles

Client Matrix: Water

Lab Sample ID	Client Sample ID	DMP %Rec	ACY %Rec	4NP %Rec	FLR %Rec	NMP %Rec	ANC %Rec	PYR %Rec	BAP %Rec
200-6218-2	PRR1SOLIF-03	88	94	100	77	79	92	86	86
MB 200-22876/1-A		86	87	93	77	76	87	79	84
200-6218-2 MS	PRR1SOLIF-03 MS	101	102	86	90	89	103	109	100

Surrogate

Acceptance Limits

DMP = Dimethylphthalate-d6	47-114
ACY = Acenaphthylene-d8	41-107
4NP = 4-Nitrophenol-d4	33-116
FLR = Fluorene-d10	42-111
NMP = 4,6-Dinitro-2-methylphenol-d2	22-104
ANC = Anthracene-d10	44-110
PYR = Pyrene-d10	52-119
BAP = Benzo(a)pyrene-d12	32-121

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/SV SIM Semivolatiles by SIM

Client Matrix: Water

Lab Sample ID	Client Sample ID	FLN %Rec	2MN %Rec
200-6218-2	PRR1SOLIF-03	76	75
MB 200-22876/1-A		77	76
200-6218-2 MS	PRR1SOLIF-03 MS	86	82

Preliminary Data

Surrogate	Acceptance Limits
FLN = Fluoranthene-d10	50-150
2MN = 2-Methylnaphthalene-d10	50-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/PCB Aroclors

Client Matrix: Water

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
200-6218-2	PRR1SOLIF-03	85	84	79	79
MB 200-22894/1-C		86	83	80	77
LCS 200-22894/2-C		84	80	95	96
200-6218-2 MS	PRR1SOLIF-03 MS	87	87	80	81

Preliminary Data

Surrogate	Acceptance Limits
TCX = Tetrachloro-m-xylene	30-150
DCB = Decachlorobiphenyl	30-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate Recovery Report

SOM01.2/Pest Pesticides

Client Matrix: Water

Lab Sample ID	Client Sample ID	TCX1 %Rec	TCX2 %Rec	DCB1 %Rec	DCB2 %Rec
200-6218-2	PRR1SOLIF-03	81	78	92	92
MB 200-22896/1-C		90	89	94	98
MB 200-22896/1-C		102	96	88	86
LCS 200-22896/2-C		73	74	78	81
LCS 200-22896/3-C		82	90	82	86
200-6218-2 MS	PRR1SOLIF-03 MS	80	75	74	76

Surrogate

Acceptance Limits

TCX = Tetrachloro-m-xylene

30-150

DCB = Decachlorobiphenyl

30-150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22975

Method: SOM01.2/VOA Preparation: SOM01.2/VOA_PR

Lab Sample ID: MB 200-22975/8
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/04/2011 1126
Prep Date: 08/04/2011 1126
Leach Date: N/A

Analysis Batch: 200-22975
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: M.i
Lab File ID: mhgi08.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	0.85	J	5.0
2-Butanone	14		10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.16	J	5.0
Toluene	0.82	J	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	0.18	J	5.0
1,2,3-Trichlorobenzene	5.0	U	5.0

Surrogate	% Rec	Acceptance Limits
Vinyl chloride-d3	89	65 - 131
Chloroethane-d5	98	71 - 131
1,1-Dichloroethene-d2	72	55 - 104
2-Butanone-d5	93	49 - 155
Chloroform-d	94	78 - 121
1,2-Dichloroethane-d4	94	78 - 129
Benzene-d6	96	77 - 124
1,2-Dichloropropane-d6	90	79 - 124
Toluene-d8	98	77 - 121
trans-1,3-Dichloropropene-d4	97	73 - 121
2-Hexanone-d5	104	28 - 135
1,4-Dioxane-d8	103	50 - 150
1,1,2,2-Tetrachloroethane-d2	95	73 - 125
1,2-Dichlorobenzene-d4	100	80 - 131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Matrix Spike - Batch: 200-22975

Method: SOM01.2/VOA
Preparation: SOM01.2/VOA_PR

Lab Sample ID: 200-6218-2

Analysis Batch: 200-22975

Instrument ID: M.i

Client Matrix: Water

Prep Batch: N/A

Lab File ID: mhgi12.d

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume: 5 mL

Analysis Date: 08/04/2011 1316

Units: ug/L

Final Weight/Volume: 5 mL

Prep Date: 08/04/2011 1316

Leach Date: N/A

Analyte	Sample	Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
1,1-Dichloroethene	5.0	U	50.0	49	99	61 - 145	
Benzene	5.0	U	50.0	47	95	76 - 127	
Trichloroethene	5.0	U	50.0	47	94	71 - 120	B
Toluene	0.46	J	50.0	48	95	76 - 125	B
Chlorobenzene	5.0	U	50.0	48	97	75 - 130	
Surrogate			% Rec	Acceptance Limits			
Vinyl chloride-d3			86	65 - 131			
Chloroethane-d5			94	71 - 131			
1,1-Dichloroethene-d2			92	55 - 104			
2-Butanone-d5			90	49 - 155			
Chloroform-d			91	78 - 121			
1,2-Dichloroethane-d4			91	78 - 129			
Benzene-d6			94	77 - 124			
1,2-Dichloropropane-d6			87	79 - 124			
Toluene-d8			95	77 - 121			
trans-1,3-Dichloropropene-d4			93	73 - 121			
2-Hexanone-d5			100	28 - 135			
1,4-Dioxane-d8			95	50 - 150			
1,1,2,2-Tetrachloroethane-d2			93	73 - 125			
1,2-Dichlorobenzene-d4			97	80 - 131			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-23020

Method: SOM01.2/VOA Preparation: SOM01.2/VOA_PR

Lab Sample ID: MB 200-23020/4
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/04/2011 1518
Prep Date: 08/04/2011 1518
Leach Date: N/A

Analysis Batch: 200-23020
Prep Batch: N/A
Leach Batch: N/A
Units: ug/L

Instrument ID: M.i
Lab File ID: mhgj04.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	RL
Vinyl chloride	5.0	U	5.0
1,1-Dichloroethene	5.0	U	5.0
Methylene chloride	0.27	J	5.0
2-Butanone	10	U	10
Chloroform	5.0	U	5.0
Carbon tetrachloride	5.0	U	5.0
Benzene	5.0	U	5.0
1,2-Dichloroethane	5.0	U	5.0
Trichloroethene	0.28	J	5.0
Toluene	5.0	U	5.0
Tetrachloroethene	5.0	U	5.0
Chlorobenzene	5.0	U	5.0
Ethylbenzene	5.0	U	5.0
1,3-Dichlorobenzene	5.0	U	5.0
1,4-Dichlorobenzene	5.0	U	5.0
1,2-Dichlorobenzene	5.0	U	5.0
1,2,4-Trichlorobenzene	0.68	J	5.0
1,2,3-Trichlorobenzene	0.66	J	5.0

Surrogate	% Rec	Acceptance Limits
Vinyl chloride-d3	91	65 - 131
Chloroethane-d5	99	71 - 131
1,1-Dichloroethene-d2	72	55 - 104
2-Butanone-d5	94	49 - 155
Chloroform-d	94	78 - 121
1,2-Dichloroethane-d4	94	78 - 129
Benzene-d6	98	77 - 124
1,2-Dichloropropane-d6	90	79 - 124
Toluene-d8	99	77 - 121
trans-1,3-Dichloropropene-d4	98	73 - 121
2-Hexanone-d5	101	28 - 135
1,4-Dioxane-d8	102	50 - 150
1,1,2,2-Tetrachloroethane-d2	97	73 - 125
1,2-Dichlorobenzene-d4	101	80 - 131

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22876

Method: SOM01.2/SV

Preparation: CONT

Lab Sample ID: MB 200-22876/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 0944
Prep Date: 08/03/2011 1400
Leach Date: N/A

Analysis Batch: 200-23178
Prep Batch: 200-22876
Leach Batch: N/A
Units: ug/L

Instrument ID: R.i
Lab File ID: rje09.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
Pyridine	5.0	U	5.0
Benzaldehyde	5.0	U	5.0
Phenol	5.0	U	5.0
Bis(2-chloroethyl)ether	5.0	U	5.0
2-Chlorophenol	5.0	U	5.0
2-Methylphenol	5.0	U	5.0
2,2'-Oxybis(1-chloropropane)	5.0	U	5.0
Acetophenone	5.0	U	5.0
4-Methylphenol	5.0	U	5.0
N-Nitroso-di-n-propylamine	5.0	U	5.0
Hexachloroethane	5.0	U	5.0
Nitrobenzene	5.0	U	5.0
Isophorone	5.0	U	5.0
2-Nitrophenol	5.0	U	5.0
2,4-Dimethylphenol	5.0	U	5.0
Bis(2-chloroethoxy)methane	5.0	U	5.0
2,4-Dichlorophenol	5.0	U	5.0
Naphthalene	5.0	U	5.0
4-Chloroaniline	5.0	U	5.0
Hexachlorobutadiene	5.0	U	5.0
Caprolactam	5.0	U	5.0
4-Chloro-3-methylphenol	5.0	U	5.0
2-Methylnaphthalene	5.0	U	5.0
Hexachlorocyclopentadiene	5.0	U	5.0
2,4,6-Trichlorophenol	5.0	U	5.0
2,4,5-Trichlorophenol	5.0	U	5.0
1,1'-Biphenyl	5.0	U	5.0
2-Chloronaphthalene	5.0	U	5.0
2-Nitroaniline	10	U	10
Dimethylphthalate	5.0	U	5.0
2,6-Dinitrotoluene	5.0	U	5.0
Acenaphthylene	5.0	U	5.0
3-Nitroaniline	10	U	10
Acenaphthene	5.0	U	5.0
2,4-Dinitrophenol	10	U	10
4-Nitrophenol	10	U	10
Dibenzofuran	5.0	U	5.0
2,4-Dinitrotoluene	5.0	U	5.0
Diethylphthalate	0.13	J	5.0
Fluorene	5.0	U	5.0
4-Chlorophenyl-phenylether	5.0	U	5.0
4-Nitroaniline	10	U	10
4,6-Dinitro-2-methylphenol	10	U	10
N-Nitrosodiphenylamine	5.0	U	5.0
1,2,4,5-Tetrachlorobenzene	5.0	U	5.0

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22876

Method: SOM01.2/SV

Preparation: CONT

Lab Sample ID: MB 200-22876/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 0944
Prep Date: 08/03/2011 1400
Leach Date: N/A

Analysis Batch: 200-23178
Prep Batch: 200-22876
Leach Batch: N/A
Units: ug/L

Instrument ID: R.i
Lab File ID: rje09.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
4-Bromophenyl-phenylether	5.0	U	5.0
Hexachlorobenzene	5.0	U	5.0
Atrazine	5.0	U	5.0
Pentachlorophenol	10	U	10
Phenanthrene	5.0	U	5.0
Anthracene	5.0	U	5.0
Carbazole	5.0	U	5.0
Di-n-butylphthalate	0.21	J	5.0
Fluoranthene	5.0	U	5.0
Pyrene	5.0	U	5.0
Butylbenzylphthalate	0.32	J	5.0
3,3'-Dichlorobenzidine	5.0	U	5.0
Benzo(a)anthracene	5.0	U	5.0
Chrysene	5.0	U	5.0
Bis(2-ethylhexyl)phthalate	0.41	J	5.0
Di-n-octylphthalate	5.0	U	5.0
Benzo(b)fluoranthene	5.0	U	5.0
Benzo(k)fluoranthene	5.0	U	5.0
Benzo(a)pyrene	5.0	U	5.0
Indeno(1,2,3-cd)pyrene	5.0	U	5.0
Dibenzo(a,h)anthracene	5.0	U	5.0
Benzo(g,h,i)perylene	5.0	U	5.0
2,3,4,6-Tetrachlorophenol	5.0	U	5.0

Surrogate	% Rec	Acceptance Limits
Phenol-d5	70	39 - 106
Bis(2-chloroethyl)ether-d8	70	40 - 105
2-Chlorophenol-d4	70	41 - 106
4-Methylphenol-d8	80	25 - 111
Nitrobenzene-d5	82	43 - 108
2-Nitrophenol-d4	77	40 - 108
2,4-Dichlorophenol-d3	75	37 - 105
4-Chloroaniline-d4	87	1 - 145
Dimethylphthalate-d6	86	47 - 114
Acenaphthylene-d8	87	41 - 107
4-Nitrophenol-d4	93	33 - 116
Fluorene-d10	77	42 - 111
4,6-Dinitro-2-methylphenol-d2	76	22 - 104
Anthracene-d10	87	44 - 110
Pyrene-d10	79	52 - 119
Benzo(a)pyrene-d12	84	32 - 121

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Matrix Spike - Batch: 200-22876

Method: SOM01.2/SV

Preparation: CONT

Lab Sample ID: 200-6218-2
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 1056
Prep Date: 08/03/2011 1400
Leach Date: N/A

Analysis Batch: 200-23178
Prep Batch: 200-22876
Leach Batch: N/A
Units: ug/L

Instrument ID: R.i
Lab File ID: rje11.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 uL
Injection Volume: 2 uL

Analyte	Sample	Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Phenol	5.0	U	40.1	29	72	12 - 110	
2-Chlorophenol	5.0	U	40.1	30	75	27 - 123	
N-Nitroso-di-n-propylamine	5.0	U	40.0	37	93	41 - 116	
4-Chloro-3-methylphenol	5.0	U	40.1	36	90	23 - 97	
Acenaphthene	5.0	U	40.0	33	82	46 - 118	
4-Nitrophenol	10	U	40.1	34	85	10 - 80	
2,4-Dinitrotoluene	5.0	U	40.0	39	97	24 - 96	
Pentachlorophenol	10	U	40.1	35	88	9 - 103	
Pyrene	5.0	U	40.0	39	98	26 - 127	
Surrogate	% Rec		Acceptance Limits				
Phenol-d5	79		39 - 106				
Bis(2-chloroethyl)ether-d8	85		40 - 105				
2-Chlorophenol-d4	79		41 - 106				
4-Methylphenol-d8	92		25 - 111				
Nitrobenzene-d5	92		43 - 108				
2-Nitrophenol-d4	91		40 - 108				
2,4-Dichlorophenol-d3	86		37 - 105				
4-Chloroaniline-d4	98		1 - 145				
Dimethylphthalate-d6	101		47 - 114				
Acenaphthylene-d8	102		41 - 107				
4-Nitrophenol-d4	86		33 - 116				
Fluorene-d10	90		42 - 111				
4,6-Dinitro-2-methylphenol-d2	89		22 - 104				
Anthracene-d10	103		44 - 110				
Pyrene-d10	109		52 - 119				
Benzo(a)pyrene-d12	100		32 - 121				

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22876

Method: SOM01.2/SV SIM

Preparation: CONT

Lab Sample ID: MB 200-22876/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/04/2011 1059
Prep Date: 08/03/2011 1400
Leach Date: N/A

Analysis Batch: 200-22963
Prep Batch: 200-22876
Leach Batch: N/A
Units: ug/L

Instrument ID: H.i
Lab File ID: hlbqq02.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 uL
Injection Volume: 2 uL

Analyte	Result	Qual	RL
Naphthalene	0.015	J	0.10
2-Methylnaphthalene	0.10	U	0.10
Acenaphthylene	0.10	U	0.10
Acenaphthene	0.10	U	0.10
Fluorene	0.10	U	0.10
Hexachlorobenzene	0.10	U	0.10
Pentachlorophenol	0.20	U	0.20
Phenanthrene	0.10	U	0.10
Anthracene	0.10	U	0.10
Fluoranthene	0.10	U	0.10
Pyrene	0.032	J	0.10
Benzo(a)anthracene	0.10	U	0.10
Chrysene	0.10	U	0.10
Benzo(b)fluoranthene	0.10	U	0.10
Benzo(k)fluoranthene	0.10	U	0.10
Benzo(a)pyrene	0.097	J	0.10
Indeno(1,2,3-cd)pyrene	0.10	U	0.10
Dibenz(a,h)anthracene	0.10	U	0.10
Benzo(g,h,i)perylene	0.10	U	0.10

Surrogate	% Rec	Acceptance Limits
Fluoranthene-d10	77	50 - 150
2-Methylnaphthalene-d10	76	50 - 150

Matrix Spike - Batch: 200-22876

Method: SOM01.2/SV SIM

Preparation: CONT

Lab Sample ID: 200-6218-2
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/04/2011 1234
Prep Date: 08/03/2011 1400
Leach Date: N/A

Analysis Batch: 200-22963
Prep Batch: 200-22876
Leach Batch: N/A
Units: ug/L

Instrument ID: H.i
Lab File ID: hlbqq04.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1000 uL
Injection Volume: 2 uL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	0.10 U	0.400	0.27	68	46 - 118	
Pentachlorophenol	0.20 U	0.401	0.39	98	9 - 103	
Pyrene	0.039 J	0.400	0.38	85	26 - 127	B

Surrogate	% Rec	Acceptance Limits
Fluoranthene-d10	86	50 - 150
2-Methylnaphthalene-d10	82	50 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22894

Method: SOM01.2/PCB

Preparation: SEPF

Lab Sample ID: MB 200-22894/1-C
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/05/2011 0309
Prep Date: 08/03/2011 1536
Leach Date: N/A

Analysis Batch: 200-23016
Prep Batch: 200-22894
Leach Batch: N/A
Units: ug/L

Instrument ID: 5253.i
Lab File ID: 04aug111626-r011.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Aroclor-1016	1.0	U	1.0
Aroclor-1221	1.0	U	1.0
Aroclor-1232	1.0	U	1.0
Aroclor-1242	1.0	U	1.0
Aroclor-1248	1.0	U	1.0
Aroclor-1254	1.0	U	1.0
Aroclor-1260	1.0	U	1.0
Aroclor-1262	1.0	U	1.0
Aroclor-1268	1.0	U	1.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	83	30 - 150
Decachlorobiphenyl	77	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	86	30 - 150
Decachlorobiphenyl	80	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Lab Control Sample - Batch: 200-22894

Method: SOM01.2/PCB

Preparation: SEPF

Lab Sample ID: LCS 200-22894/2-C
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/05/2011 0332
Prep Date: 08/03/2011 1536
Leach Date: N/A

Analysis Batch: 200-23016
Prep Batch: 200-22894
Leach Batch: N/A
Units: ug/L

Instrument ID: 5253.i
Lab File ID: 04aug111626-r021.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	1.00	1.1	107	50 - 150	
Aroclor-1260	1.00	1.2	116	50 - 150	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		80		30 - 150	
Decachlorobiphenyl		95		30 - 150	

Lab Control Sample - Batch: 200-22894

Method: SOM01.2/PCB

Preparation: SEPF

Lab Sample ID: LCS 200-22894/2-C
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/05/2011 0332
Prep Date: 08/03/2011 1536
Leach Date: N/A

Analysis Batch: 200-23016
Prep Batch: 200-22894
Leach Batch: N/A
Units: ug/L

Instrument ID: 5253.i
Lab File ID: 04aug111626-r021.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: SECONDARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	1.00	1.1	109	50 - 150	
Aroclor-1260	1.00	1.3	125	50 - 150	
Surrogate	% Rec		Acceptance Limits		
Tetrachloro-m-xylene		84		30 - 150	
Decachlorobiphenyl		96		30 - 150	

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Matrix Spike - Batch: 200-22894

Method: SOM01.2/PCB

Preparation: SEPF

Lab Sample ID: 200-6218-2
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/05/2011 0420
Prep Date: 08/03/2011 1536
Leach Date: N/A

Analysis Batch: 200-23016
Prep Batch: 200-22894
Leach Batch: N/A
Units: ug/L

Instrument ID: 5253.i
Lab File ID: 04aug111626-r041.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	1.0 U	4.00	3.4	85	29 - 135	
Aroclor-1260	1.0 U	4.00	3.5	87	29 - 135	
Surrogate	% Rec		Acceptance Limits			
Tetrachloro-m-xylene	87		30 - 150			
Decachlorobiphenyl	80		30 - 150			

Matrix Spike - Batch: 200-22894

Method: SOM01.2/PCB

Preparation: SEPF

Lab Sample ID: 200-6218-2
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/05/2011 0420
Prep Date: 08/03/2011 1536
Leach Date: N/A

Analysis Batch: 200-23016
Prep Batch: 200-22894
Leach Batch: N/A
Units: ug/L

Instrument ID: 5253.i
Lab File ID: 04aug111626-r041.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: SECONDARY

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor-1016	1.0 U	4.00	3.5	87	29 - 135	
Aroclor-1260	1.0 U	4.00	3.6	91	29 - 135	
Surrogate	% Rec		Acceptance Limits			
Tetrachloro-m-xylene	87		30 - 150			
Decachlorobiphenyl	81		30 - 150			

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	89	30 - 150
Decachlorobiphenyl	94	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	90	30 - 150
Decachlorobiphenyl	98	30 - 150

Method Blank - Batch: 200-22896

Method: SOM01.2/Pest Preparation: SEPF

Lab Sample ID: MB 200-22896/1-C
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/04/2011 2226
Prep Date: 08/03/2011 1605
Leach Date: N/A

Analysis Batch: 200-23243
Prep Batch: 200-22896
Leach Batch: N/A
Units: ug/L

Instrument ID: 5005.i
Lab File ID: 04aug111214-r031.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
alpha-BHC	0.00075	J P	0.050
beta-BHC	0.011	J P	0.050
delta-BHC	0.0023	J P	0.050
gamma-BHC (Lindane)	0.0012	J P	0.050
Heptachlor	0.050	U	0.050
Aldrin	0.050	U	0.050
Heptachlor epoxide	0.050	U	0.050
Endosulfan I	0.050	U	0.050
Dieldrin	0.10	U	0.10
4,4'-DDE	0.10	U	0.10
Endrin	0.10	U	0.10
Endosulfan II	0.10	U	0.10
4,4'-DDD	0.10	U	0.10
Endosulfan sulfate	0.10	U	0.10
4,4'-DDT	0.10	U	0.10
Methoxychlor	0.50	U	0.50
Endrin ketone	0.10	U	0.10
Endrin aldehyde	0.10	U	0.10
alpha-Chlordane	0.050	U	0.050
gamma-Chlordane	0.00068	J P	0.050
Toxaphene	5.0	U	5.0

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	96	30 - 150
Decachlorobiphenyl	86	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	102	30 - 150
Decachlorobiphenyl	88	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	82	30 - 150
Decachlorobiphenyl	82	30 - 150

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	90	30 - 150
Decachlorobiphenyl	86	30 - 150

Lab Control Sample - Batch: 200-22896

Method: SOM01.2/Pest
Preparation: SEPF

Lab Sample ID:	LCS 200-22896/2-C	Analysis Batch:	200-23243	Instrument ID:	5005.i
Client Matrix:	Water	Prep Batch:	200-22896	Lab File ID:	04aug111214-r041.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	08/04/2011 2252	Units:	ug/L	Final Weight/Volume:	10000 uL
Prep Date:	08/03/2011 1605			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	0.0500	0.043	85	50 - 120	J B
Heptachlor epoxide	0.0500	0.049	97	50 - 150	J
Dieldrin	0.100	0.089	89	30 - 130	J
4,4'-DDE	0.100	0.088	88	50 - 150	J
Endrin	0.100	0.095	95	50 - 120	J
Endosulfan sulfate	0.100	0.099	99	50 - 120	J
gamma-Chlordane	0.0500	0.049	97	30 - 130	J B

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	73	30 - 150
Decachlorobiphenyl	78	30 - 150

Lab Control Sample - Batch: 200-22896

Method: SOM01.2/Pest
Preparation: SEPF

Lab Sample ID:	LCS 200-22896/2-C	Analysis Batch:	200-23243	Instrument ID:	5005.i
Client Matrix:	Water	Prep Batch:	200-22896	Lab File ID:	04aug111214-r041.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	08/04/2011 2252	Units:	ug/L	Final Weight/Volume:	10000 uL
Prep Date:	08/03/2011 1605			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	SECONDARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	0.0500	0.045	90	50 - 120	J B
Heptachlor epoxide	0.0500	0.051	101	50 - 150	
Dieldrin	0.100	0.099	99	30 - 130	J
4,4'-DDE	0.100	0.095	95	50 - 150	J
Endrin	0.100	0.10	104	50 - 120	
Endosulfan sulfate	0.100	0.11	106	50 - 120	
gamma-Chlordane	0.0500	0.049	99	30 - 130	J B

Surrogate	% Rec	Acceptance Limits
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Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	74	30 - 150
Decachlorobiphenyl	81	30 - 150

Matrix Spike - Batch: 200-22896

Method: SOM01.2/Pest
Preparation: SEPF

Lab Sample ID:	200-6218-2	Analysis Batch:	200-23243	Instrument ID:	5005.i
Client Matrix:	Water	Prep Batch:	200-22896	Lab File ID:	04aug111214-r061.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	08/04/2011 2343	Units:	ug/L	Final Weight/Volume:	10000 uL
Prep Date:	08/03/2011 1605			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	0.000000000 U	0.500	0.45	89	56 - 123	B
Heptachlor	0.000000000 U	0.500	0.45	90	40 - 131	
Aldrin	0.000000000 U	0.500	0.43	86	40 - 120	
Dieldrin	0.000000000 U	1.00	0.97	97	52 - 126	
Endrin	0.000000000 U	1.00	1.0	103	56 - 121	
4,4'-DDT	0.000000000 U	1.00	0.97	97	38 - 127	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	75	30 - 150
Decachlorobiphenyl	74	30 - 150

Matrix Spike - Batch: 200-22896

Method: SOM01.2/Pest
Preparation: SEPF

Lab Sample ID:	200-6218-2	Analysis Batch:	200-23243	Instrument ID:	5005.i
Client Matrix:	Water	Prep Batch:	200-22896	Lab File ID:	04aug111214-r061.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1000 mL
Analysis Date:	08/04/2011 2343	Units:	ug/L	Final Weight/Volume:	10000 uL
Prep Date:	08/03/2011 1605			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	SECONDARY

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
gamma-BHC (Lindane)	0.050 U	0.500	0.47	94	56 - 123	B
Heptachlor	0.050 U	0.500	0.48	96	40 - 131	
Aldrin	0.050 U	0.500	0.46	92	40 - 120	
Dieldrin	0.10 U	1.00	1.0	102	52 - 126	
Endrin	0.10 U	1.00	1.1	105	56 - 121	
4,4'-DDT	0.10 U	1.00	0.98	98	38 - 127	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	80	30 - 150
Decachlorobiphenyl	76	30 - 150

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

Sdg Number: PRR1141A

Method Blank - Batch: 200-22851

Method: ISM01.2/ICPMS

Preparation: 200.8

Lab Sample ID: MB 200-22851/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 1650
Prep Date: 08/03/2011 1045
Leach Date: N/A

Analysis Batch: 200-23211
Prep Batch: 200-22851
Leach Batch: N/A
Units: ug/L

Instrument ID: METICPMS2
Lab File ID: 080811-03.xml
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Result	Qual	MDL	RL
Antimony	0.27	J	0.15	2.0
Selenium	-0.44	J	0.15	5.0
Silver	-0.047	J	0.028	1.0
Thallium	0.39	J	0.011	1.0

Lab Control Sample - Batch: 200-22851

Method: ISM01.2/ICPMS

Preparation: 200.8

Lab Sample ID: LCS 200-22851/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 1657
Prep Date: 08/03/2011 1045
Leach Date: N/A

Analysis Batch: 200-23211
Prep Batch: 200-22851
Leach Batch: N/A
Units: ug/L

Instrument ID: METICPMS2
Lab File ID: 080811-03.xml
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	4.00	4.3	107	70 - 130	
Selenium	10.0	10.8	108	70 - 130	
Silver	2.00	2.0	102	70 - 130	
Thallium	2.00	2.3	113	70 - 130	

Matrix Spike - Batch: 200-22851

Method: ISM01.2/ICPMS

Preparation: 200.8

Lab Sample ID: 200-6218-2
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/08/2011 1722
Prep Date: 08/03/2011 1045
Leach Date: N/A

Analysis Batch: 200-23211
Prep Batch: 200-22851
Leach Batch: N/A
Units: ug/L

Instrument ID: METICPMS2
Lab File ID: 080811-03.xml
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.17	J	100	51.3	51	75 - 125	N
Selenium	5.0	U	10.0	11.0	110	75 - 125	
Silver	1.0	U	50.0	53.3	107	75 - 125	
Thallium	0.35	J	50.0	50.9	101	75 - 125	



ARCADIS
6723 Towpath Rd
Syracuse, NY 13214
Phone/Fax: (315) 671-9688

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 1 of 1

PROJ. NO. B0009966.0002.70004		PROJECT NAME Removal Action Work Plan Quality Assurance Project Plan														SDG NUMBER PRR1141		COC Number								
SAMPLERS:						Requested Analyses																				
SAMPLE ID	DATE	TIME	MATRIX	Composite/Grab	# Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks
PRR1SOLIF-01	7/22/2011	11:00	Soil	Composite	24	X	X	X	X	X	X	X	X	X												MS/MSD
PRR1SOLIF-02	7/22/2011	11:15	Soil	Composite	7	X	X	X	X	X	X	X	X													
PRR1SOLIF-03	7/22/2011	11:30	Grab	Composite	3																					
TB07222011-01	7/22/2011		Water		3	X																				
Requested Analyses						Special Instructions/Comments: Please hold sample analysis for PRR1SOLIF-03 until further direction from ARCADIS														☐ Special QA/QC Instructions						
1 SVOCs						5-day turnaround																				
2 VOCs																										
3 Aroclor PCBs																										
4 Metals																										
5 Chlorinated Herbicides																										
6 Pesticides						Laboratory Information and Receipt																				
7 pH						Lab Name: Test America - Burlington, VT										☐ Cooler packed with ice					Sample Receipt:					
8 Grain Size						Shipping Tracking # 797331471827, 797331471849										☐ Cooler custody seal intact					Condition/Cooler Temp:					
9						Specify Turnaround Requirements: 5-day																				
10						Relinquished by:		DATE		TIME		Received by:		7/23/11		Relinquished by:		DATE		TIME		Received by:				
11						Kavin Gandhi		7/22/2011		1800		[Signature]		JL 7/23/11												
12						[Signature]																				
13						Relinquished by:		DATE		TIME		Received by:		Relinquished by:		DATE		TIME		Received by:						
14																										
15																										
16						Relinquished by:		DATE		TIME		Received by:		Relinquished by:		DATE		TIME		Received by:						
17																										
18																										
19																										
20																										

SDG TRACKING LOG

SDG Number PRR1141 SDG Open Date 07/22/11

Sample Matrix Soil SDG Close Date 07/22/11

Sample #	Sample ID	MS/MSD	Comments
1	PRR1SOLIF-01	X	MS/MSD sample bottles included
2	PRR1SOLIF-02		
3	PRR1SOLIF-03		Hold Sample Analysis until further direction from ARCADIS
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
Trip or Rinsate Blank	TB07222011-01		Trip blank
Trip or Rinsate Blank			

Notes:

1. The SDG must not exceed 20 field samples. Trip or Field Blanks do not count towards the sample total. Check which of the 20 samples has been collected to include extra volume for MS/MSD and assigned as such.
2. 3x the weights listed should be collected for lab QC (i.e., MS/MSD/internal lab duplicate).
3. Field duplicate is a separate sample, not to be confused with "internal lab duplicate."

Young, Kirk

From: Shatt, Ryan [Ryan.Shatt@arcadis-us.com]
Sent: Wednesday, July 27, 2011 1:52 PM
To: Young, Kirk
Cc: Callahan, Christopher; Dusablon, Kris; Rosner, Nicholas J; Cicero, William; Dustin, Jack
Subject: RE: SPLP analysis

Kirk – the 14 day turnaround time that you had indicated is fine.

Thanks

From: Young, Kirk [mailto:Kirk.Young@testamericainc.com]
Sent: Wednesday, July 27, 2011 10:42 AM
To: Shatt, Ryan
Cc: Callahan, Christopher; Dusablon, Kris; Rosner, Nicholas J; Cicero, William; Dustin, Jack
Subject: RE: SPLP analysis
Importance: High

Ryan,

We will proceed with the analytical work. I will need to know what the expectations are for reporting analytical results to Arcadis in summary form. As I had indicated, it will take ~20 hours to generate the SPLP and another ~20 hours to provide for the semivolatile extractions.

Kirk

KIRK YOUNG
Project Technical Director

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

30 Community Drive, Suite 11
South Burlington, VT 05403
Tel 802.660.1990 Direct 802.923.1017
www.testamericainc.com

From: Shatt, Ryan [mailto:Ryan.Shatt@arcadis-us.com]
Sent: Wednesday, July 27, 2011 1:35 PM
To: Young, Kirk
Subject: SPLP analysis

Hi Kirk-

ARCADIS authorizes Test America to analyze sample PRR1SOLIF-03 using SPLP Method 1312. As discussed, the only deviation to the method would be no size reduction of the sample (2-inch stone).

- 1.) The extract will be analyzed for the following analytes (using methods consistent with the RAWP QAPP):
 - VOCs
 - SVOCs

- Aroclor PCBs
 - Metals
 - Herbicides
 - Pesticides
- 2.) A separate sample of the extract (1 L preferred) will need to be sent to Vista Analytical for analysis of dioxins.
 - 3.) As discussed a separate 4-hour tumble will be conducted using DI water for pH analysis.
 - 4.) No MS/MSD will be required for this sample.
 - 5.) ARCADIS is aware that due to the size of the stone, SPLP for VOCs cannot be conducted with zero headspace. Please proceed with this analysis.
 - 6.) Proceed with the reduced extraction volume (200 mL) for the SVOC analysis.
 - 7.) To be consistent with the RAWP QAPP, utilize SIM to achieve the required detection limits for select SVOCs.

Thanks

Privileged and Confidential Work Product
Prepared at the Request of Legal Counsel
for or in Anticipation of Litigation
and in Connection with Rendering Legal Advice

Ryan Shatt | Project Geologist | ryan.shatt@arcadis-us.com

ARCADIS U.S., Inc. | 2300 Eastlake Avenue East, Suite 200 | Seattle, WA 98102
T: 206.726.4713 | F: 206.325.8218
www.arcadis-us.com

Registered Geologist/ WA | PA
Registered Hydrogeologist/ WA

ARCADIS, Imagine the result

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Young, Kirk

From: Shatt, Ryan [Ryan.Shatt@arcadis-us.com]
Sent: Thursday, July 28, 2011 5:12 PM
To: Young, Kirk
Subject: PRR1SOLIF-03 SPLP Sample

Hi Kirk –

Please run an MS on sample PRR1SOLIF-03 following the SPLP.

Thanks

Privileged and Confidential Work Product
Prepared at the Request of Legal Counsel
for or in Anticipation of Litigation
and in Connection with Rendering Legal Advice

Ryan Shatt | Project Geologist | ryan.shatt@arcadis-us.com

ARCADIS U.S., Inc. | 2300 Eastlake Avenue East, Suite 200 | Seattle, WA 98102
T: 206.726.4713 | F: 206.325.8218
www.arcadis-us.com

Registered Geologist/ WA | PA
Registered Hydrogeologist/ WA

ARCADIS, Imagine the result

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Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 200-6218-1

SDG Number: PRR1141A

Login Number: 6218

List Source: TestAmerica Burlington

List Number: 1

Creator: Keeton, Jamie

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	167472, 473, 479, 471, 474, 477
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	4.7, 3.0 °C, IR GUN ID 96, CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details. Refer to job 200-6164
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	
Sample Preservation Verified.	N/A	
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.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level if required.

From: (609) 860-0590
 Cranbury Staff
 ARCADIS U.S., Inc.
 8 South River Road

Cranbury, NJ 08512

Origin ID: ZRPA



J11201104290225

SHIP TO: (802) 660-1021

BILL SENDER

Kirk Young
 Test America
 30 COMMUNITY DR

SOUTH BURLINGTON, VT 05403

Ship Date: 22JUL11
 ActWgt: 20.0 LB
 CAD: 4490047/NET3180

Delivery Address Bar Code



Ref # 80009966.0002.70004
 Invoice #
 PO #
 Dept #

1 of 2

SATURDAY ### A4
 PRIORITY OVERNIGHT

TRK# 7973 3147 1827

0201

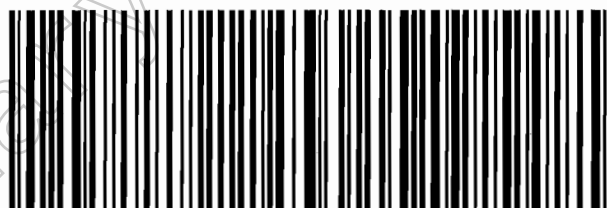
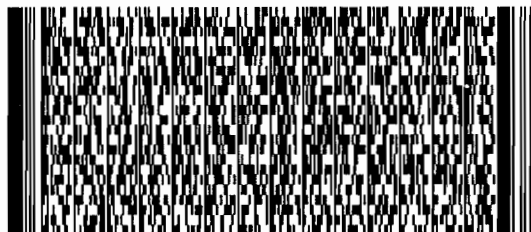
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From: (609) 860-0590
Cranbury Staff
ARCADIS U.S., Inc.
8 South River Road

Origin ID: ZRPA



J11201104290225

Cranbury, NJ 08512

Ship Date: 22JUL11
ActWgt: 20.0 LB
CAD: 4490047/NET3180

Delivery Address Bar Code



SHIP TO: (802) 660-1021

BILL SENDER

Kirk Young
Test America
30 COMMUNITY DR

SOUTH BURLINGTON, VT 05403

Ref # B0009966.0002.70004
Invoice #
PO #
Dept #

2 of 2

SATURDAY ### A4
PRIORITY OVERNIGHT

MPS# 7973 3147 1849

0263

Mstr# 7973 3147 1827

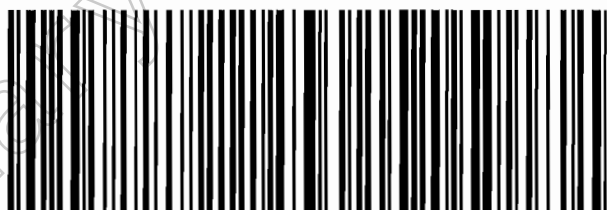
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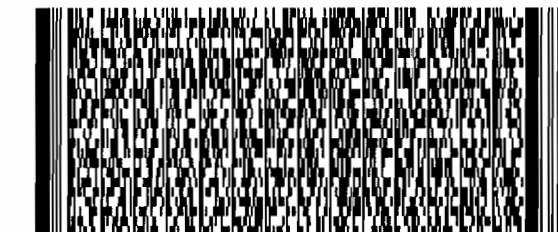
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FedEx

ANALYTICAL REPORT

Job Number: 200-6218-2

SDG Number: PRR1141A

Job Description: PRR1141 (200-6218)

For:

ARCADIS U.S. Inc
2300 Eastlake Avenue, East
Suite 140
Seattle, WA 98102

Attention: Ms. Shannon Dunn



Approved for release.
Kirk F Young
Project Manager I
8/9/2011 1:22 PM

Kirk F Young
Project Manager I
kirk.young@testamericainc.com
08/09/2011

cc: Mr. Joe Houser
Mr. Don Reed

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

TestAmerica Laboratories, Inc.

TestAmerica Burlington 30 Community Drive, Suite 11, South Burlington, VT 05403

Tel (802) 660-1990 Fax (802) 660-1919 www.testamericainc.com



Table of Contents

Cover Title Page	1
Report Narrative	3
Method Summary	4
Method / Analyst Summary	5
Sample Summary	6
Sample Results	7
Sample Datasheets	8
Data Qualifiers	11
QC Results	12
Qc Association Summary	13
Surrogate Recovery Report	14
Qc Reports	15
Client Chain of Custody	18
Sample Receipt Checklist	20

CASE NARRATIVE

Client: ARCADIS U.S. Inc

Project: LPRSA - Phase I Removal Action

Report Number: PRR1141A (200-6218-2)

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met. Calibration and calibration verification were assessed on an analyte specific basis. Initial calibration and continuing calibration criteria may not have been met in all instances.

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

Method 9045C is normally performed in the field and has a method-defined holding time of 15 minutes. All holding times were met and proper preservation noted for the other methods of analysis.

Manual integration was employed in deriving certain of the analytical results.

For the Method 8151A analysis, positive instrument responses in the analysis of samples and quality controls were evaluated to the established method detection limit (MDL).

This is an abbreviated report. A more formal report will be issued in a CLP-like format, with supportive documentation and further narrative discussion.

METHOD SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Description	Lab Location	Method	Preparation Method
Matrix: Leachate			
Herbicides (GC)	TAL BUR	SW846 8151A	
Extraction (Herbicides)	TAL BUR		SW846 8151A
Matrix: Solid			
pH	TAL BUR	SW846 9045C	

Lab References:

TAL BUR = TestAmerica Burlington

Method References:

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

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Method	Analyst	Analyst ID
SW846 8151A	Bailey, Jacob L	JLB
SW846 9045C	Nelson, Andrea J	AJN

SAMPLE SUMMARY

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
200-6218-1	PRR1SOLIF-03	Solid	07/22/2011 1130	07/23/2011 0940
200-6218-2	PRR1SOLIF-03	Leachate	08/03/2011 0845	08/03/2011 0845
200-6218-2MS	PRR1SOLIF-03	Water	08/03/2011 0845	08/03/2011 0845

SAMPLE RESULTS

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-23237

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22857

Initial Weight/Volume: 1000 mL

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/06/2011 1910

Injection Volume: 1 uL

Prep Date: 08/03/2011 1107

Result Type: PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
2,4-D	1.9	U	0.65	1.9
2,4-DB	1.7	U	0.47	1.7
2,4,5-T	0.47	U	0.13	0.47
Silvex (2,4,5-TP)	0.19	U	0.028	0.19

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	101		60 - 130

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-2

Date Sampled: 08/03/2011 0845

Client Matrix: Leachate

Date Received: 08/03/2011 0845

8151A Herbicides (GC)

Analysis Method: 8151A

Analysis Batch: 200-23237

Instrument ID: 0911.i

Prep Method: 8151A

Prep Batch: 200-22857

Initial Weight/Volume: 1000 mL

Dilution: 1.0

Final Weight/Volume: 10000 uL

Analysis Date: 08/06/2011 1910

Injection Volume: 1 uL

Prep Date: 08/03/2011 1107

Result Type: SECONDARY

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4-Dichlorophenylacetic acid	98		60 - 130

Analytical Data

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

General Chemistry

Client Sample ID: PRR1SOLIF-03

Lab Sample ID: 200-6218-1

Client Matrix: Solid

Date Sampled: 07/22/2011 1130

Date Received: 07/23/2011 0940

Analyte	Result	Qual	Units	Dil	Method
pH	9.33		SU	1.0	9045C

Analysis Batch: 200-22898 Analysis Date: 08/03/2011 1600 DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Lab Section	Qualifier	Description
GC Semi VOA	U	Indicates the analyte was analyzed for but not detected.

QUALITY CONTROL RESULTS

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 200-22857					
LCS 200-22857/2-A	Lab Control Sample	T	Water	8151A	
MB 200-22857/1-A	Method Blank	T	Water	8151A	
200-6218-2	PRR1SOLIF-03	T	Water	8151A	
200-6218-2MS	Matrix Spike	T	Water	8151A	
Analysis Batch:200-23237					
LCS 200-22857/2-A	Lab Control Sample	T	Water	8151A	200-22857
MB 200-22857/1-A	Method Blank	T	Water	8151A	200-22857
200-6218-2	PRR1SOLIF-03	T	Water	8151A	200-22857
200-6218-2MS	Matrix Spike	T	Water	8151A	200-22857

Report Basis

T = Total

General Chemistry

Analysis Batch:200-22898					
200-6218-1	PRR1SOLIF-03	T	Solid	9045C	
200-6218-1DU	Duplicate	T	Solid	9045C	

Report Basis

T = Total

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Surrogate Recovery Report

8151A Herbicides (GC)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCPA1 %Rec	DCPA2 %Rec
200-6218-2	PRR1SOLIF-03	101	98
MB 200-22857/1-A		107	102
LCS 200-22857/2-A		96	96
200-6218-2 MS	PRR1SOLIF-03 MS	96	92

Surrogate

Acceptance Limits

DCPA = 2,4-Dichlorophenylacetic acid

60-130

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Method Blank - Batch: 200-22857

Method: 8151A

Preparation: 8151A

Lab Sample ID: MB 200-22857/1-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/06/2011 1824
Prep Date: 08/03/2011 1107
Leach Date: N/A

Analysis Batch: 200-23237
Prep Batch: 200-22857
Leach Batch: N/A
Units: ug/L

Instrument ID: 0911.i
Lab File ID: 06aug111026-r011.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
2,4-D	1.9	U	0.65	1.9
2,4-DB	1.7	U	0.47	1.7
2,4,5-T	0.47	U	0.13	0.47
Silvex (2,4,5-TP)	0.19	U	0.028	0.19

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	107	60 - 130

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	102	60 - 130

Lab Control Sample - Batch: 200-22857

Method: 8151A

Preparation: 8151A

Lab Sample ID: LCS 200-22857/2-A
Client Matrix: Water
Dilution: 1.0
Analysis Date: 08/06/2011 1847
Prep Date: 08/03/2011 1107
Leach Date: N/A

Analysis Batch: 200-23237
Prep Batch: 200-22857
Leach Batch: N/A
Units: ug/L

Instrument ID: 0911.i
Lab File ID: 06aug111026-r021.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10000 uL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4-D	8.00	7.55	94	75 - 135	
2,4-DB	4.00	3.90	97	40 - 165	
2,4,5-T	2.01	1.98	99	60 - 155	
Silvex (2,4,5-TP)	0.800	0.755	94	65 - 145	

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	96	60 - 130

Surrogate	% Rec	Acceptance Limits
2,4-Dichlorophenylacetic acid	96	60 - 130

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Matrix Spike - Batch: 200-22857

Method: 8151A

Preparation: 8151A

Lab Sample ID: 200-6218-2

Analysis Batch: 200-23237

Instrument ID: 0911.i

Client Matrix: Water

Prep Batch: 200-22857

Lab File ID: 06aug111026-r041.d

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume: 1000 mL

Analysis Date: 08/06/2011 1933

Units: ug/L

Final Weight/Volume: 10000 uL

Prep Date: 08/03/2011 1107

Injection Volume: 1 uL

Leach Date: N/A

Column ID: PRIMARY

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
2,4-D	1.9	U	8.00	7.40	93	70 - 135	
2,4-DB	1.7	U	4.00	3.76	94	40 - 165	
2,4,5-T	0.47	U	2.01	1.87	93	60 - 155	
Silvex (2,4,5-TP)	0.19	U	0.800	0.708	88	65 - 145	
Surrogate	% Rec		Acceptance Limits				
2,4-Dichlorophenylacetic acid	96		60 - 130				
Surrogate	% Rec		Acceptance Limits				
2,4-Dichlorophenylacetic acid	92		60 - 130				

Quality Control Results

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

Sdg Number: PRR1141A

Duplicate - Batch: 200-22898

Method: 9045C
Preparation: N/A

Lab Sample ID: 200-6218-1

Analysis Batch: 200-22898

Instrument ID: No Equipment

Client Matrix: Solid

Prep Batch: N/A

Lab File ID: N/A

Dilution: 1.0

Leach Batch: N/A

Initial Weight/Volume: 40 mL

Analysis Date: 08/03/2011 1600

Units: SU

Final Weight/Volume: 40 mL

Prep Date: N/A

Leach Date: N/A

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	9.33	9.37	0.4	5	



ARCADIS
6723 Towpath Rd
Syracuse, NY 13214
Phone/Fax: (315) 671-9688

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Lab Work Order #

Page 1 of 1

PROJ. NO. B0009966.0002.70004		PROJECT NAME Removal Action Work Plan Quality Assurance Project Plan														SDG NUMBER PRR1141		COC Number								
SAMPLERS:						Requested Analyses																				
SAMPLE ID	DATE	TIME	MATRIX	Composite/Grab	# Containers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks
PRR1SOLIF-01	7/22/2011	11:00	Soil	Composite	24	X	X	X	X	X	X	X	X													MS/MSD
PRR1SOLIF-02	7/22/2011	11:15	Soil	Composite	7	X	X	X	X	X	X	X	X													
PRR1SOLIF-03	7/22/2011	11:30	Grab	Composite	3																					
TB07222011-01	7/22/2011		Water		3	X																				
Requested Analyses						Special Instructions/Comments:														☐ Special QA/QC Instructions						
1 SVOCs						Please hold sample analysis for PRR1SOLIF-03 until further direction from ARCADIS																				
2 VOCs						5-day turnaround																				
3 Aroclor PCBs																										
4 Metals																										
5 Chlorinated Herbicides																										
6 Pesticides						Laboratory Information and Receipt																				
7 pH						Lab Name: Test America - Burlington, VT														Sample Receipt:						
8 Grain Size						Shipping Tracking # 797331471827, 797331471849														Condition/Cooler Temp:						
9						Specify Turnaround Requirements: 5-day																				
10						☐ Cooler packed with ice																				
11						☐ Cooler custody seal intact																				
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										

Relinquished by:	DATE	TIME	Received by:	DATE	TIME	Received by:
Kavin Gandhi	7/22/2011	1800		7/23/11	940	
Relinquished by:	DATE	TIME	Received by:	DATE	TIME	Received by:
Relinquished by:	DATE	TIME	Received by:	DATE	TIME	Received by:

SDG TRACKING LOG

SDG Number PRR1141 **SDG Open Date** 07/22/11

Sample Matrix Soil **SDG Close Date** 07/22/11

Sample #	Sample ID	MS/MSD	Comments
1	PRR1SOLIF-01	X	MS/MSD sample bottles included
2	PRR1SOLIF-02		
3	PRR1SOLIF-03		Hold Sample Analysis until further direction from ARCADIS
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
Trip or Rinsate Blank	TB07222011-01		Trip blank
Trip or Rinsate Blank			

Notes:

1. The SDG must not exceed 20 field samples. Trip or Field Blanks do not count towards the sample total. Check which of the 20 samples has been collected to include extra volume for MS/MSD and assigned as such.
2. 3x the weights listed should be collected for lab QC (i.e., MS/MSD/internal lab duplicate).
3. Field duplicate is a separate sample, not to be confused with "internal lab duplicate."

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 200-6218-2

SDG Number: PRR1141A

Login Number: 6218

List Number: 1

Creator: Keeton, Jamie

List Source: TestAmerica Burlington

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	167472, 473, 479, 471, 474, 477
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	4.7, 3.0 °C, IR GUN ID 96, CF 0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details. Refer to job 200-6164
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	
Sample Preservation Verified.	N/A	
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.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level if required.

From: (609) 860-0590
Cranbury Staff
ARCADIS U.S., Inc.
8 South River Road

Cranbury, NJ 08512

Origin ID: ZRPA



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Ship Date: 22JUL11
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CAD: 4490047/NET3180

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Ref # 80009966.0002.70004
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BILL SENDER

Kirk Young
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SOUTH BURLINGTON, VT 05403

1 of 2

SATURDAY ### A4
PRIORITY OVERNIGHT

TRK# 7973 3147 1827

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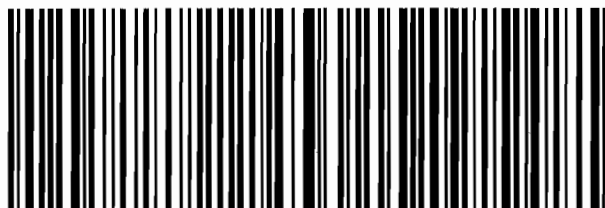
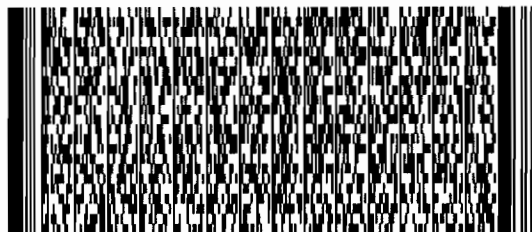
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From: (609) 860-0590
Cranbury Staff
ARCADIS U.S., Inc.
8 South River Road

Origin ID: ZRPA



J11201104290225

Cranbury, NJ 08512

SHIP TO: (802) 660-1021

BILL SENDER

Kirk Young
Test America
30 COMMUNITY DR

SOUTH BURLINGTON, VT 05403

Ship Date: 22JUL11
ActWgt: 20.0 LB
CAD: 4490047/INET3180

Delivery Address Bar Code



Ref # B0009966.0002.70004
Invoice #
PO #
Dept #

2 of 2

SATURDAY ### A4
PRIORITY OVERNIGHT

MPS# 7973 3147 1849

0263

Mstr# 7973 3147 1827

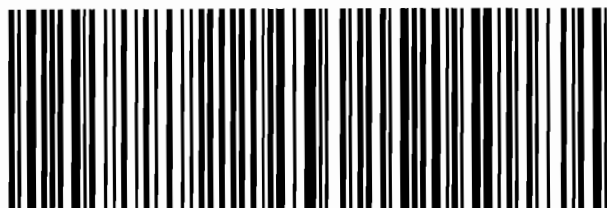
0201

05403

VT-US

BTVA

X0 BTVA



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Fed
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Young, Kirk

From: Shatt, Ryan [Ryan.Shatt@arcadis-us.com]
Sent: Wednesday, July 27, 2011 1:52 PM
To: Young, Kirk
Cc: Callahan, Christopher; Dusablon, Kris; Rosner, Nicholas J; Cicero, William; Dustin, Jack
Subject: RE: SPLP analysis

Kirk – the 14 day turnaround time that you had indicated is fine.

Thanks

From: Young, Kirk [mailto:Kirk.Young@testamericainc.com]
Sent: Wednesday, July 27, 2011 10:42 AM
To: Shatt, Ryan
Cc: Callahan, Christopher; Dusablon, Kris; Rosner, Nicholas J; Cicero, William; Dustin, Jack
Subject: RE: SPLP analysis
Importance: High

Ryan,

We will proceed with the analytical work. I will need to know what the expectations are for reporting analytical results to Arcadis in summary form. As I had indicated, it will take ~20 hours to generate the SPLP and another ~20 hours to provide for the semivolatile extractions.

Kirk

KIRK YOUNG
Project Technical Director

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

30 Community Drive, Suite 11
South Burlington, VT 05403
Tel 802.660.1990 Direct 802.923.1017
www.testamericainc.com

From: Shatt, Ryan [mailto:Ryan.Shatt@arcadis-us.com]
Sent: Wednesday, July 27, 2011 1:35 PM
To: Young, Kirk
Subject: SPLP analysis

Hi Kirk-

ARCADIS authorizes Test America to analyze sample PRR1SOLIF-03 using SPLP Method 1312. As discussed, the only deviation to the method would be no size reduction of the sample (2-inch stone).

- 1.) The extract will be analyzed for the following analytes (using methods consistent with the RAWP QAPP):
 - VOCs
 - SVOCs

- Aroclor PCBs
- Metals
- Herbicides
- Pesticides

- 2.) A separate sample of the extract (1 L preferred) will need to be sent to Vista Analytical for analysis of dioxins.
- 3.) As discussed a separate 4-hour tumble will be conducted using DI water for pH analysis.
- 4.) No MS/MSD will be required for this sample.
- 5.) ARCADIS is aware that due to the size of the stone, SPLP for VOCs cannot be conducted with zero headspace. Please proceed with this analysis.
- 6.) Proceed with the reduced extraction volume (200 mL) for the SVOC analysis.
- 7.) To be consistent with the RAWP QAPP, utilize SIM to achieve the required detection limits for select SVOCs.

Thanks

Privileged and Confidential Work Product
Prepared at the Request of Legal Counsel
for or in Anticipation of Litigation
and in Connection with Rendering Legal Advice

Ryan Shatt | Project Geologist | ryan.shatt@arcadis-us.com

ARCADIS U.S., Inc. | 2300 Eastlake Avenue East, Suite 200 | Seattle, WA 98102
T: 206.726.4713 | F: 206.325.8218
www.arcadis-us.com

Registered Geologist/ WA | PA
Registered Hydrogeologist/ WA

ARCADIS, Imagine the result

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Young, Kirk

From: Shatt, Ryan [Ryan.Shatt@arcadis-us.com]
Sent: Thursday, July 28, 2011 5:12 PM
To: Young, Kirk
Subject: PRR1SOLIF-03 SPLP Sample

Hi Kirk –

Please run an MS on sample PRR1SOLIF-03 following the SPLP.

Thanks

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Prepared at the Request of Legal Counsel
for or in Anticipation of Litigation
and in Connection with Rendering Legal Advice

Ryan Shatt | Project Geologist | ryan.shatt@arcadis-us.com

ARCADIS U.S., Inc. | 2300 Eastlake Avenue East, Suite 200 | Seattle, WA 98102
T: 206.726.4713 | F: 206.325.8218
www.arcadis-us.com

Registered Geologist/ WA | PA
Registered Hydrogeologist/ WA

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