SAF-RC-075
100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol
FINAL VALIDATION PACKAGE

COMPLETE COPY OF FINAL VALIDATION PACKAGE TO:

Kathy Wendt H4-21

COMMENTS:

SDG J01414 SAF-RC-075

Waste Site: 100-D-73 & 100-D-76

Date: 18 June 2012
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Sites 100-D-73 & 100-D-76
Subject: Semivolatile Organics - Data Package No. J01414-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01414 prepared by TestAmerica Laboratories (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1N4C8	2/6/12	Soil	C	See note 1
J1N4C9	2/6/12	Soil	C	See note 1
J1N4D0	2/6/12	Soil	C	See note 1
J1N4D1	2/6/12	Soil	C	See note 1
J1N4D2	2/6/12	Soil	C	See note 1
J1N4D3	2/6/12	Soil	C	See note 1
J1N4D4	2/6/12	Soil	C	See note 1
J1N4D5	2/6/12	Soil	C	See note 1
J1N4D6	2/6/12	Soil	C	See note 1
J1N4D7	2/6/12	Soil	C	See note 1
J1N4D8	2/6/12	Soil	C	See note 1
J1N4D9	2/6/12	Soil	C	See note 1
J1N4F0	2/6/12	Soil	C	See note 1

1 – Semivolatiles by 8270C.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Data Requested by Client

DATA QUALITY OBJECTIVES

Holding Times

Analytical holding times were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Analytes must be extracted within 14 days of the date of sample collection and analyzed within 40 days from the date of extraction.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

Method Blanks

Method blank analyses are conducted to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. Analytical results for analytes present in any sample at less than five times the concentration of that analyte found in the associated blank are qualified as non-detects and flagged "U". Common laboratory contaminants present in samples at less than ten times the concentration of that analyte found in the associated blank are qualified as non-detects. If a sample result is less than the CRQL and is less than five times (or less than ten times for lab contaminants) the highest associated blank result, the sample result value is raised to the CRQL level and qualified as undetected "U".

Due to method blank contamination, all dimethyl phthalate results were raised to the RQL, qualified as undetected and flagged "U".

All other method blank results were acceptable.

Field (equipment) Blanks

No field blanks were submitted for analysis.

- **Accuracy**

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in duplicate using five compounds for which percent recoveries must be within a range of 50-150% or within laboratory control limits. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Undetected sample results with spike recoveries below control limits are qualified as estimates and flagged "UJ". Undetected sample results are not qualified if the spike recovery is above control limits. Sample results greater than five times the spike concentration require no qualification.

All accuracy results were acceptable.

Surrogate Recovery

The analyses of surrogate compounds provide a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. If two surrogates of the same class of compounds (base/neutral or acid) are out of control limits, all associated sample results greater than the contract required quantitation limit (CRQL) are qualified as estimates and flagged "J". Sample results less than the CRQL and below the lower control limit are qualified as estimates and flagged "UJ". Sample results less than the CRQL with recoveries above the upper control limit require no qualification. If a surrogate recovery is less than 10%, detects are qualified as estimates and flagged "J" and nondetects are rejected and flagged "UR".

All surrogate results were acceptable.

- **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS)/matrix spike duplicate (MSD) results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Samples results must be within RPD limits of +/-30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

All duplicate results were acceptable.

Field Duplicate Samples

One set field duplicates (J1N4D8/J1N4F0) were submitted for analysis. Laboratory duplicates are compared using the same criteria as for laboratory results. All field duplicate results are acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required quantitation limits (RQL's) to ensure that laboratory detection levels meet the required criteria. All analytes met the RQL.

- **Completeness**

Data package No. J01414 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiency was noted:

- Due to method blank contamination, all dimethyl phthalate results were raised to the RQL, qualified as undetected and flagged "U".

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

SEMIVOLATILE ORGANIC DATA QUALIFICATION SUMMARY*

SDG: J01414	**REVIEWER: ELR**	**Project: 100-D-73 & 100-D-76**	**PAGE_1_OF_1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Dimethyl phthalate	U at RQL	All	Method blank contamination

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C8

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9650.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1657			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		48	U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		660 ~~240~~	J B U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4C8**

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9650.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1657			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	87		50 - 120
2-Fluorophenol	86		53 - 120
Nitrobenzene-d5	85		50 - 120
Phenol-d5	87		52 - 120
Terphenyl-d14	99		55 - 120
2,4,6-Tribromophenol	101		51 - 120

Client: Washington Closure Hanford

V 6/17/12

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C8

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9650.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1657			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 3

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.88	1500	N J
	Unknown	3.38	2900	N J
88-19-7	Benzenesulfonamide, 2-methyl-	8.46	150	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C9

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9651.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	02/14/2012 1717			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		17	U	17	340
Anthracene		17	U	17	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		16	U	16	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		47	U	47	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		~~110~~ 660	JB U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		51	U	51	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		17	U	17	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4C9**

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9651.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	02/14/2012 1717			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		17	U	17	340
Phenol		19	U	19	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	84		50 - 120
2-Fluorophenol	89		53 - 120
Nitrobenzene-d5	88		50 - 120
Phenol-d5	90		52 - 120
Terphenyl-d14	94		55 - 120
2,4,6-Tribromophenol	91		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C9

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9651.D
Dilution:	1.0			Initial Weight/Volume:	30.6 g
Analysis Date:	02/14/2012 1717			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	760	N J
	Unknown	3.38	2700	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D0

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9654.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	02/14/2012 1816			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	350
Acenaphthylene		18	U	18	350
Anthracene		18	U	18	350
Benzo[a]anthracene		21	U	21	350
Benzo[a]pyrene		21	U	21	350
Benzo[b]fluoranthene		28	U	28	350
Benzo[ghi]perylene		17	U	17	350
Benzo[k]fluoranthene		43	U	43	350
Bis(2-chloroethoxy)methane		25	U	25	350
Bis(2-chloroethyl)ether		18	U	18	350
bis (2-chloroisopropyl) ether		25	U	25	350
Bis(2-ethylhexyl) phthalate		49	U	49	350
4-Bromophenyl phenyl ether		20	U	20	350
Butyl benzyl phthalate		46	U	46	350
Carbazole		39	U	39	350
4-Chloroaniline		88	U	88	350
4-Chloro-3-methylphenol		71	U	71	350
2-Chloronaphthalene		11	U	11	350
2-Chlorophenol		23	U	23	350
4-Chlorophenyl phenyl ether		23	U	23	350
Chrysene		29	U	29	350
Dibenz(a,h)anthracene		20	U	20	350
Dibenzofuran		21	U	21	350
1,2-Dichlorobenzene		24	U	24	350
1,3-Dichlorobenzene		13	U	13	350
1,4-Dichlorobenzene		15	U	15	350
3,3'-Dichlorobenzidine		97	U	97	710
2,4-Dichlorophenol		11	U	11	350
Diethyl phthalate		28	U	28	350
2,4-Dimethylphenol		71	U	71	350
Dimethyl phthalate		~~260~~ 660	JB U	25	350
Di-n-butyl phthalate		31	U	31	350
4,6-Dinitro-2-methylphenol		350	U	350	710
2,4-Dinitrophenol		360	U	360	890
2,4-Dinitrotoluene		71	U	71	350
2,6-Dinitrotoluene		30	U	30	350
Di-n-octyl phthalate		15	U	15	350
Fluoranthene		39	U	39	350
Fluorene		19	U	19	350
Hexachlorobenzene		31	U	31	350
Hexachlorobutadiene		11	U	11	350
Hexachlorocyclopentadiene		54	U	54	350
Hexachloroethane		23	U	23	350
Indeno[1,2,3-cd]pyrene		24	U	24	350
Isophorone		18	U	18	350
2-Methylnaphthalene		20	U	20	350

6/20/12

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Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D0**

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9654.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	02/14/2012 1816			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	350
3 & 4 Methylphenol		35	U	35	350
Naphthalene		33	U	33	350
2-Nitroaniline		54	U	54	350
3-Nitroaniline		78	U	78	350
4-Nitroaniline		78	U	78	350
Nitrobenzene		24	U	24	350
2-Nitrophenol		11	U	11	350
4-Nitrophenol		100	U	100	710
N-Nitrosodi-n-propylamine		33	U	33	350
N-Nitrosodiphenylamine		23	U	23	350
Pentachlorophenol		350	U	350	710
Phenanthrene		18	U	18	350
Phenol		19	U	19	350
Pyrene		13	U	13	350
1,2,4-Trichlorobenzene		30	U	30	350
2,4,5-Trichlorophenol		11	U	11	350
2,4,6-Trichlorophenol		11	U	11	350

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol	85		53 - 120
Nitrobenzene-d5	83		50 - 120
Phenol-d5	87		52 - 120
Terphenyl-d14	94		55 - 120
2,4,6-Tribromophenol	93		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D0

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9654.D
Dilution:	1.0			Initial Weight/Volume:	30.1 g
Analysis Date:	02/14/2012 1816			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	1900	N J
	Unknown	3.39	2700	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

6/7/12

Client Sample ID: J1N4D1

Lab Sample ID: 280-25386-5
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9655.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1836			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		42	U	42	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		48	U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		69	U	69	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		94	U	94	690
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		69	U	69	340
Dimethyl phthalate		660 ~~120~~ 6/20/12	~~JB~~ U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	690
2,4-Dinitrophenol		350	U	350	860
2,4-Dinitrotoluene		69	U	69	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D1

Lab Sample ID: 280-25386-5
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9655.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1836			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		14	U	14	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	690
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	690
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	87		50 - 120
2-Fluorophenol	90		53 - 120
Nitrobenzene-d5	88		50 - 120
Phenol-d5	92		52 - 120
Terphenyl-d14	102		55 - 120
2,4,6-Tribromophenol	98		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D1**

Lab Sample ID: 280-25386-5
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9655.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1836			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	530	N J
	Unknown	3.38	2600	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D2

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

4/12/12

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9656.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	02/14/2012 1856			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		17	U	17	340
Anthracene		17	U	17	340
Benzo[a]anthracene		20	U	20	340
Benzo[a]pyrene		20	U	20	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		16	U	16	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		47	U	47	340
4-Bromophenyl phenyl ether		19	U	19	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		67	U	67	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		21	U	21	340
4-Chlorophenyl phenyl ether		21	U	21	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		19	U	19	340
Dibenzofuran		20	U	20	340
1,2-Dichlorobenzene		22	U	22	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		92	U	92	670
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		67	U	67	340
Dimethyl phthalate		660 ~~200~~ 4/20/12	JB ~~U~~	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	670
2,4-Dinitrophenol		340	U	340	840
2,4-Dinitrotoluene		67	U	67	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		18	U	18	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		51	U	51	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		22	U	22	340
Isophorone		17	U	17	340
2-Methylnaphthalene		19	U	19	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D2**

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

4/12/12

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9656.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	02/14/2012 1856			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		74	U	74	340
Nitrobenzene		22	U	22	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		99	U	99	670
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		21	U	21	340
Pentachlorophenol		340	U	340	670
Phenanthrene		17	U	17	340
Phenol		18	U	18	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	83		50 - 120
2-Fluorophenol	87		53 - 120
Nitrobenzene-d5	85		50 - 120
Phenol-d5	89		52 - 120
Terphenyl-d14	95		55 - 120
2,4,6-Tribromophenol	92		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D2**

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9656.D
Dilution:	1.0			Initial Weight/Volume:	30.5 g
Analysis Date:	02/14/2012 1856			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	840	N J
	Unknown	3.38	2800	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D3

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9657.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 1916			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		18	U	18	340
Anthracene		18	U	18	340
Benzo[a]anthracene		21	U	21	340
Benzo[a]pyrene		21	U	21	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		17	U	17	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		48	U	48	340
4-Bromophenyl phenyl ether		20	U	20	340
Butyl benzyl phthalate		45	U	45	340
Carbazole		37	U	37	340
4-Chloroaniline		85	U	85	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		22	U	22	340
4-Chlorophenyl phenyl ether		22	U	22	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		20	U	20	340
Dibenzofuran		21	U	21	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		93	U	93	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		~~450~~ 60	~~B~~ U	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	850
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		19	U	19	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		52	U	52	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		18	U	18	340
2-Methylnaphthalene		20	U	20	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D3

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9657.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 1916			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		52	U	52	340
3-Nitroaniline		76	U	76	340
4-Nitroaniline		75	U	75	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		100	U	100	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		22	U	22	340
Pentachlorophenol		340	U	340	680
Phenanthrene		18	U	18	340
Phenol		19	U	19	340
Pyrene		13	U	13	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	84		50 - 120
2-Fluorophenol	90		53 - 120
Nitrobenzene-d5	89		50 - 120
Phenol-d5	91		52 - 120
Terphenyl-d14	99		55 - 120
2,4,6-Tribromophenol	98		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D3**

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9657.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 1916			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 3

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.88	3200	N J
	Unknown	3.38	3200	N J
	Unknown	5.30	180	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D4

Lab Sample ID: 280-25386-8
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9658.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	02/14/2012 1936			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		16	U	16	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		81	U	81	330
4-Chloro-3-methylphenol		66	U	66	330
2-Chloronaphthalene		9.9	U	9.9	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		89	U	89	660
2,4-Dichlorophenol		9.9	U	9.9	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		66	U	66	330
Dimethyl phthalate		~~66~~ 6.0	~~JB~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	660
2,4-Dinitrophenol		330	U	330	820
2,4-Dinitrotoluene		66	U	66	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		9.9	U	9.9	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D4

Lab Sample ID: 280-25386-8
Client Matrix: Solid % Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9658.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	02/14/2012 1936			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		72	U	72	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		9.9	U	9.9	330
4-Nitrophenol		96	U	96	660
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	660
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		9.9	U	9.9	330
2,4,6-Trichlorophenol		9.9	U	9.9	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	87		50 - 120
2-Fluorophenol	89		53 - 120
Nitrobenzene-d5	88		50 - 120
Phenol-d5	91		52 - 120
Terphenyl-d14	101		55 - 120
2,4,6-Tribromophenol	93		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D4

Lab Sample ID: 280-25386-8
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9658.D
Dilution:	1.0			Initial Weight/Volume:	31.1 g
Analysis Date:	02/14/2012 1936			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.90	140	N J
	Unknown	3.39	2700	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D5

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9659.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	02/14/2012 1956			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		11	U	11	340
Acenaphthylene		17	U	17	340
Anthracene		17	U	17	340
Benzo[a]anthracene		20	U	20	340
Benzo[a]pyrene		20	U	20	340
Benzo[b]fluoranthene		27	U	27	340
Benzo[ghi]perylene		16	U	16	340
Benzo[k]fluoranthene		41	U	41	340
Bis(2-chloroethoxy)methane		24	U	24	340
Bis(2-chloroethyl)ether		17	U	17	340
bis (2-chloroisopropyl) ether		24	U	24	340
Bis(2-ethylhexyl) phthalate		47	U	47	340
4-Bromophenyl phenyl ether		19	U	19	340
Butyl benzyl phthalate		44	U	44	340
Carbazole		37	U	37	340
4-Chloroaniline		84	U	84	340
4-Chloro-3-methylphenol		68	U	68	340
2-Chloronaphthalene		10	U	10	340
2-Chlorophenol		21	U	21	340
4-Chlorophenyl phenyl ether		21	U	21	340
Chrysene		28	U	28	340
Dibenz(a,h)anthracene		19	U	19	340
Dibenzofuran		20	U	20	340
1,2-Dichlorobenzene		23	U	23	340
1,3-Dichlorobenzene		12	U	12	340
1,4-Dichlorobenzene		14	U	14	340
3,3'-Dichlorobenzidine		92	U	92	680
2,4-Dichlorophenol		10	U	10	340
Diethyl phthalate		27	U	27	340
2,4-Dimethylphenol		68	U	68	340
Dimethyl phthalate		660 ~~330~~ 6/20/12	JBU	24	340
Di-n-butyl phthalate		30	U	30	340
4,6-Dinitro-2-methylphenol		340	U	340	680
2,4-Dinitrophenol		340	U	340	840
2,4-Dinitrotoluene		68	U	68	340
2,6-Dinitrotoluene		29	U	29	340
Di-n-octyl phthalate		15	U	15	340
Fluoranthene		37	U	37	340
Fluorene		18	U	18	340
Hexachlorobenzene		30	U	30	340
Hexachlorobutadiene		10	U	10	340
Hexachlorocyclopentadiene		51	U	51	340
Hexachloroethane		22	U	22	340
Indeno[1,2,3-cd]pyrene		23	U	23	340
Isophorone		17	U	17	340
2-Methylnaphthalene		19	U	19	340

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D5**

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9659.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	02/14/2012 1956			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	340
3 & 4 Methylphenol		34	U	34	340
Naphthalene		32	U	32	340
2-Nitroaniline		51	U	51	340
3-Nitroaniline		75	U	75	340
4-Nitroaniline		74	U	74	340
Nitrobenzene		23	U	23	340
2-Nitrophenol		10	U	10	340
4-Nitrophenol		99	U	99	680
N-Nitrosodi-n-propylamine		32	U	32	340
N-Nitrosodiphenylamine		21	U	21	340
Pentachlorophenol		340	U	340	680
Phenanthrene		17	U	17	340
Phenol		18	U	18	340
Pyrene		12	U	12	340
1,2,4-Trichlorobenzene		29	U	29	340
2,4,5-Trichlorophenol		10	U	10	340
2,4,6-Trichlorophenol		10	U	10	340

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	86		50 - 120
2-Fluorophenol	88		53 - 120
Nitrobenzene-d5	87		50 - 120
Phenol-d5	90		52 - 120
Terphenyl-d14	101		55 - 120
2,4,6-Tribromophenol	96		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D5**

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9659.D
Dilution:	1.0			Initial Weight/Volume:	30.3 g
Analysis Date:	02/14/2012 1956			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 1

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	3.38	3300	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D6

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9660.D
Dilution:	1.0			Initial Weight/Volume:	31.6 g
Analysis Date:	02/14/2012 2015			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		39	U	39	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		16	U	16	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		45	U	45	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		42	U	42	330
Carbazole		35	U	35	330
4-Chloroaniline		81	U	81	330
4-Chloro-3-methylphenol		65	U	65	330
2-Chloronaphthalene		9.9	U	9.9	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		13	U	13	330
3,3'-Dichlorobenzidine		89	U	89	650
2,4-Dichlorophenol		9.9	U	9.9	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		65	U	65	330
Dimethyl phthalate		660 ~~270~~	~~JB~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	650
2,4-Dinitrophenol		330	U	330	810
2,4-Dinitrotoluene		65	U	65	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		35	U	35	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		9.9	U	9.9	330
Hexachlorocyclopentadiene		49	U	49	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D6**

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9660.D
Dilution:	1.0			Initial Weight/Volume:	31.6 g
Analysis Date:	02/14/2012 2015			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		49	U	49	330
3-Nitroaniline		72	U	72	330
4-Nitroaniline		71	U	71	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		9.9	U	9.9	330
4-Nitrophenol		96	U	96	650
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	650
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		9.9	U	9.9	330
2,4,6-Trichlorophenol		9.9	U	9.9	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	82		50 - 120
2-Fluorophenol	84		53 - 120
Nitrobenzene-d5	82		50 - 120
Phenol-d5	85		52 - 120
Terphenyl-d14	93		55 - 120
2,4,6-Tribromophenol	91		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D6**

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9660.D
Dilution:	1.0			Initial Weight/Volume:	31.6 g
Analysis Date:	02/14/2012 2015			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.90	330	N J
	Unknown	3.39	2600	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D7

Lab Sample ID: 280-25386-11
Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9661.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	02/14/2012 2035			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	330
2-Chloronaphthalene		10	U	10	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		90	U	90	660
2,4-Dichlorophenol		10	U	10	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		66	U	66	330
Dimethyl phthalate		~~310~~ 660	~~JB~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	660
2,4-Dinitrophenol		330	U	330	820
2,4-Dinitrotoluene		66	U	66	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D7

Lab Sample ID: 280-25386-11
Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9661.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	02/14/2012 2035			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		97	U	97	660
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	660
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol	85		53 - 120
Nitrobenzene-d5	84		50 - 120
Phenol-d5	86		52 - 120
Terphenyl-d14	98		55 - 120
2,4,6-Tribromophenol	95		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D7

Lab Sample ID: 280-25386-11
Client Matrix: Solid % Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9661.D
Dilution:	1.0			Initial Weight/Volume:	31.7 g
Analysis Date:	02/14/2012 2035			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	1000	N J
	Unknown	3.38	2600	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D8

Lab Sample ID: 280-25386-12
Client Matrix: Solid

% Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9662.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 2055			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	330
2-Chloronaphthalene		10	U	10	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		90	U	90	660
2,4-Dichlorophenol		10	U	10	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		66	U	66	330
Dimethyl phthalate		~~140~~ 60	~~JB~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	660
2,4-Dinitrophenol		330	U	330	820
2,4-Dinitrotoluene		66	U	66	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D8

Lab Sample ID: 280-25386-12
Client Matrix: Solid

% Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9662.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 2055			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		97	U	97	660
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	660
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	83		50 - 120
2-Fluorophenol	87		53 - 120
Nitrobenzene-d5	86		50 - 120
Phenol-d5	90		52 - 120
Terphenyl-d14	98		55 - 120
2,4,6-Tribromophenol	90		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D8**

Lab Sample ID: 280-25386-12
Client Matrix: Solid

% Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9662.D
Dilution:	1.0			Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 2055			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** **2**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.91	160	N J
	Unknown	3.38	2700	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D9**

Lab Sample ID: 280-25386-13
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9663.D
Dilution:	1.0			Initial Weight/Volume:	32.2 g
Analysis Date:	02/14/2012 2115			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		17	U	17	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		82	U	82	330
4-Chloro-3-methylphenol		66	U	66	330
2-Chloronaphthalene		10	U	10	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		14	U	14	330
3,3'-Dichlorobenzidine		90	U	90	660
2,4-Dichlorophenol		10	U	10	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		66	U	66	330
Dimethyl phthalate		660 ~~400~~	~~B~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	660
2,4-Dinitrophenol		330	U	330	820
2,4-Dinitrotoluene		66	U	66	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		10	U	10	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D9

Lab Sample ID: 280-25386-13
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9663.D
Dilution:	1.0			Initial Weight/Volume:	32.2 g
Analysis Date:	02/14/2012 2115			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		73	U	73	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		10	U	10	330
4-Nitrophenol		97	U	97	660
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	660
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		10	U	10	330
2,4,6-Trichlorophenol		10	U	10	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	84		50 - 120
2-Fluorophenol	85		53 - 120
Nitrobenzene-d5	84		50 - 120
Phenol-d5	87		52 - 120
Terphenyl-d14	96		55 - 120
2,4,6-Tribromophenol	96		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D9

Lab Sample ID: 280-25386-13
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9663.D
Dilution:	1.0			Initial Weight/Volume:	32.2 g
Analysis Date:	02/14/2012 2115			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 4

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.88	3300	N J
	Unknown	2.97	190	N J
	Unknown	3.38	2700	N J
	Unknown	5.30	170	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4F0

Lab Sample ID: 280-25386-14
Client Matrix: Solid

% Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9664.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 2135			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		10	U	10	330
Acenaphthylene		17	U	17	330
Anthracene		17	U	17	330
Benzo[a]anthracene		20	U	20	330
Benzo[a]pyrene		20	U	20	330
Benzo[b]fluoranthene		26	U	26	330
Benzo[ghi]perylene		16	U	16	330
Benzo[k]fluoranthene		40	U	40	330
Bis(2-chloroethoxy)methane		23	U	23	330
Bis(2-chloroethyl)ether		16	U	16	330
bis (2-chloroisopropyl) ether		23	U	23	330
Bis(2-ethylhexyl) phthalate		46	U	46	330
4-Bromophenyl phenyl ether		19	U	19	330
Butyl benzyl phthalate		43	U	43	330
Carbazole		36	U	36	330
4-Chloroaniline		81	U	81	330
4-Chloro-3-methylphenol		65	U	65	330
2-Chloronaphthalene		9.9	U	9.9	330
2-Chlorophenol		21	U	21	330
4-Chlorophenyl phenyl ether		21	U	21	330
Chrysene		27	U	27	330
Dibenz(a,h)anthracene		19	U	19	330
Dibenzofuran		20	U	20	330
1,2-Dichlorobenzene		22	U	22	330
1,3-Dichlorobenzene		12	U	12	330
1,4-Dichlorobenzene		13	U	13	330
3,3'-Dichlorobenzidine		89	U	89	650
2,4-Dichlorophenol		9.9	U	9.9	330
Diethyl phthalate		26	U	26	330
2,4-Dimethylphenol		65	U	65	330
Dimethyl phthalate		660 ~~160~~	~~JB~~ U	23	330
Di-n-butyl phthalate		29	U	29	330
4,6-Dinitro-2-methylphenol		330	U	330	650
2,4-Dinitrophenol		330	U	330	820
2,4-Dinitrotoluene		65	U	65	330
2,6-Dinitrotoluene		28	U	28	330
Di-n-octyl phthalate		14	U	14	330
Fluoranthene		36	U	36	330
Fluorene		18	U	18	330
Hexachlorobenzene		29	U	29	330
Hexachlorobutadiene		9.9	U	9.9	330
Hexachlorocyclopentadiene		50	U	50	330
Hexachloroethane		21	U	21	330
Indeno[1,2,3-cd]pyrene		22	U	22	330
Isophorone		17	U	17	330
2-Methylnaphthalene		19	U	19	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4F0**

Lab Sample ID: 280-25386-14
Client Matrix: Solid % Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9664.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 2135			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		13	U	13	330
3 & 4 Methylphenol		33	U	33	330
Naphthalene		31	U	31	330
2-Nitroaniline		50	U	50	330
3-Nitroaniline		72	U	72	330
4-Nitroaniline		72	U	72	330
Nitrobenzene		22	U	22	330
2-Nitrophenol		9.9	U	9.9	330
4-Nitrophenol		96	U	96	650
N-Nitrosodi-n-propylamine		31	U	31	330
N-Nitrosodiphenylamine		21	U	21	330
Pentachlorophenol		330	U	330	650
Phenanthrene		17	U	17	330
Phenol		18	U	18	330
Pyrene		12	U	12	330
1,2,4-Trichlorobenzene		28	U	28	330
2,4,5-Trichlorophenol		9.9	U	9.9	330
2,4,6-Trichlorophenol		9.9	U	9.9	330

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	84		50 - 120
2-Fluorophenol	88		53 - 120
Nitrobenzene-d5	86		50 - 120
Phenol-d5	90		52 - 120
Terphenyl-d14	99		55 - 120
2,4,6-Tribromophenol	97		51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4F0

Lab Sample ID: 280-25386-14
Client Matrix: Solid % Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Prep Method:	3550C	Prep Batch:	280-106786	Lab File ID:	B9664.D
Dilution:	1.0			Initial Weight/Volume:	31.4 g
Analysis Date:	02/14/2012 2135			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 2

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.89	620	N J
	Unknown	3.38	2700	N J

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-25386-1

SDG #: J01414
SAF#: RC-075

Date SDG Closed: February 8, 2012
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1N4C6	280-25386-1	8260	8260B
J1N4C8	280-25386-2	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4C9	280-25386-3	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D0	280-25386-4	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D1	280-25386-5	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D2	280-25386-6	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D3	280-25386-7	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D4	280-25386-8	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D5	280-25386-9	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D6	280-25386-10	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D7	280-25386-11	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D8	280-25386-12	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D9	280-25386-13	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4F0	280-25386-14	6010/7471/8260/8270A	6010B/7471A/8260B/8270C

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/8/2012; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were -0.5 C and 3.4 C.

It can be noted that all samples requesting 5035/8260 VOA analysis were received at the laboratory frozen. The cooler received at a temperature of -0.5 C contained the 5035/8260 VOA samples.

GC/MS VOLATILES - SW846 8260B
The MS/MSD performed on sample J1N4C6 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary. The laboratory noted that the sample size used in the preparation of the MS and MSD for sample J1N4C6 exceeded 10% difference. As the RPD calculation is based upon the MS/MSD concentration as opposed to the MS/MSD percent recovery, elevated %RPD values were obtained.

No other anomalies were encountered.

GC/MS SEMIVOLATILES - SW846 8270C

Low levels of Dimethyl phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-106786. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-106831 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. In some cases, samples required a 5X dilution prior to the analysis of Beryllium, Cobalt, Lead and Vanadium to minimize the interference caused by Titanium concentrations greater than the linear range. The reporting limits have been adjusted relative to the dilution required.

Low levels of Barium and Chromium are present in the method blank associated with batch 280-106831. Because the concentrations in the method blank are not present at levels greater than half the reporting limit or the associated sample amounts are twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1N4C8; therefore, control limits are not applicable.

No other anomalies were encountered.

-0.5, 3.4 TEL SC 2/8/12

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-293	Page 1 of 1
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Trip Blanks		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To (A) 2-2-12 TestAmerica Incorporated, ~~Richland~~ DVR	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS												
None	Preservation	Freeze										
Special Handling and/or Storage	Type of Container	Gs*										
Cool 4 Deg C/ Freeze (VOA)	No. of Container(s)	5										
	Volume	40mL										
SAMPLE ANALYSIS		VOA - 5035/8260 (TCL)										
		✓										
Sample No.	Matrix *	Sample Date	Sample Time									
J1N4C6	SOIL	2-6-12	1215	X								
~~J1N4C7~~ (A) 2-2-12	SOIL											

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CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 1505 2-6-12	Received By/Stored In WCH mstankoach	Date/Time 2/6/12 1505
Relinquished By/Removed From mstankoach	Date/Time 1610 2/6/12	Received By/Stored In 1060 A. Freier A. Freier	Date/Time 2-6-12 1610
Relinquished By/Removed From Fed Ex WCH	Date/Time XXAM/PM 2/7/12 0950	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In Fed Ex	Date/Time 2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS
Freeze VOAs upon receipt to preserve analysis hold times.

* Freeze upon receipt 2/7/12 CMB

SDG
J014114

VOA samples frozen upon collection

Custody unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

REVIEWED BY MWSharp DATE 2/2/12

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 1 of 3
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, Richland DNR 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. SCC OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C							
Type of Container	G/P	G/P	Gs*	aG							
No. of Container(s)	1	1	5	1							
Volume	125mL	125mL	40mL	125mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex - 7196	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)							

Sample No.	Matrix *	Sample Date	Sample Time								
J1N4C8	SOIL	2/6/12	1356	X		X	X				
J1N4C9	SOIL		1350	X		X	X				
J1N4D0	SOIL		1344	X		X	X				
J1N4D1	SOIL		1336	X		X	X				
J1N4D2	SOIL		1330	X		X	X				

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CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From Q. Stowe	Date/Time 1505 2-6-12	Received By/Stored In M. Stankovich	Date/Time 2/6/12 1505
Relinquished By/Removed From M. Stankovich	Date/Time 1610 2/6/12	Received By/Stored In 1060#1 A-Freez A. Freiz	Date/Time 1610 2-6-12
Relinquished By/Removed From Chris Matt	Date/Time 1060#1 2/7/12 0950	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In Tammy Bissell	Date/Time 2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

506
50H14

* freeze upon receipt 2/7/12 cms

VOA samples frozen upon collection

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

REVIEWED BY DWShea DATE 2/7/12

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 2 of 3
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DVR 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C							
Type of Container	G/P	G/P	Gs*	aG							
No. of Container(s)	1	1	5	1							
Volume	125mL	125mL	40mL	125mL							
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex 7196	VOA - 5035/8260 (TCL) *	Semi-VOA - 8270A (TCL)							

Sample No.	Matrix *	Sample Date	Sample Time								
J1N4D3	SOIL	2/6/12	1324	X		X	X				
J1N4D4	SOIL		1318	X		X	X				
J1N4D5	SOIL		1312	X		X	X				
J1N4D6	SOIL		1306	X		X	X				
J1N4D7	SOIL		1300	X		X	X				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1505	Received By/Stored In well	Date/Time
Quincy Stowe	2-6-12	mstaskovich	2/6/12 1505
Relinquished By/Removed From	Date/Time 1610	Received By/Stored In	Date/Time
MSTaskovich	2/6/12	A. Freer Ostrein	2-6-12 12 hr 2-6-12 1610
Relinquished By/Removed From	Date/Time 10AM	Received By/Stored In	Date/Time
Chris Burnham	2/7/12 0950 WCH	fed EX	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Penny Burnell	2/7/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

REVIEWER BY Mwsh DATE 2/7/12

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury} 5D6 J01414

* freeze upon receipt 2/7/12 cmp

VOA samples frozen upon collection

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

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Appendix 5

Data Validation Supporting Documentation

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100-D-73 100-D-76			DATA PACKAGE: J01414		
VALIDATOR: ECR		LAB: TAL		DATE: 6/17/12	
			SDG: J01414		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)
SAMPLES/MATRIX					
J1N4C8	J1N4C9	J1N4D0	J1N4D1		
J1N4D2	J1N4D3	J1N4D4	J1N4D5		
J1N4D6	J1N4D7	J1N4D8	J1N4D9		
J1N4F0					
			Soil		

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes (No) N/A

Comments: _____

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? ..... Yes No N/A

Initial calibrations acceptable? ..... Yes No N/A

Continuing calibrations acceptable? ..... Yes No N/A

Standards traceable? ..... Yes No N/A

Standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A
Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A
Laboratory blanks analyzed? ..... Yes No N/A
Laboratory blank results acceptable? ..... Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Comments: directly | pl blk - Vat Rac - all no PB

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A
Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A
Surrogates traceable? (Levels D, E) ..... Yes No N/A
Surrogates expired? (Levels D, E) ..... Yes No N/A
MS/MSD samples analyzed? ..... Yes No N/A
MS/MSD results acceptable? ..... Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A
MS/MSD standards? (Levels D, E) ..... Yes No N/A
LCS/BSS samples analyzed? ..... Yes No N/A
LCS/BSS results acceptable? ..... Yes No N/A
Standards traceable? (Levels D, E) ..... Yes No N/A
Standards expired? (Levels D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Performance audit sample(s) analyzed? ..... Yes No N/A
Performance audit sample results acceptable? ..... Yes No N/A
Comments:

no PAS

GC/MS ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A
MS/MSD RPD values acceptable? ..... Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A
MS/MSD standards expired? (Levels D, E) ..... Yes No N/A
Field duplicate RPD values acceptable? ..... Yes No N/A
Field split RPD values acceptable? ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Comments: _____

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed? ..... Yes No N/A
Iinternal standard areas acceptable? ..... Yes No N/A
Internal standard retention times acceptable? ..... Yes No N/A
Standards traceable? ..... Yes No N/A
Standards expired? ..... Yes No N/A
Transcription/calculation errors? ..... Yes No N/A
Comments: _____

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A
Sample holding times acceptable? ..... Yes No N/A
Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E)	Yes	No	(N/A)
Compound quantitation acceptable? (Levels D, E)	Yes	No	(N/A)
Results reported for all requested analyses?	(Yes)	No	N/A
Results supported in the raw data? (Levels D, E)	(Yes)	No	(N/A)
Samples properly prepared? (Levels D, E)	Yes	No	(N/A)
Laboratory properly identified and coded all TIC? (Levels D, E)	Yes	No	(N/A)
Detection limits meet RDL?	(Yes)	No	N/A
Transcription/calculation errors? (Levels D, E)	Yes	No	(N/A)

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

GPC cleanup performed?	Yes	No	(N/A)
GPC check performed?	Yes	No	(N/A)
GPC check recoveries acceptable?	Yes	No	(N/A)
GPC calibration performed?	Yes	No	(N/A)
GPC calibration check performed?	Yes	No	(N/A)
GPC calibration check retention times acceptable?	Yes	No	(N/A)
Check/calibration materials traceable?	Yes	No	(N/A)
Check/calibration materials Expired?	Yes	No	(N/A)
Analytical batch QC given similar cleanup?	Yes	No	(N/A)
Transcription/Calculation Errors?	Yes	No	(N/A)

Comments: _____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank - Batch: 280-106786

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-106786/1-A	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9641.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	02/14/2012 1359	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	10	U	10	330
Acenaphthylene	17	U	17	330
Anthracene	17	U	17	330
Benzo[a]anthracene	20	U	20	330
Benzo[a]pyrene	20	U	20	330
Benzo[b]fluoranthene	26	U	26	330
Benzo[ghi]perylene	16	U	16	330
Benzo[k]fluoranthene	40	U	40	330
Bis(2-chloroethoxy)methane	23	U	23	330
Bis(2-chloroethyl)ether	16	U	16	330
bis (2-chloroisopropyl) ether	23	U	23	330
Bis(2-ethylhexyl) phthalate	46	U	46	330
4-Bromophenyl phenyl ether	19	U	19	330
Butyl benzyl phthalate	43	U	43	330
Carbazole	36	U	36	330
4-Chloroaniline	81	U	81	330
4-Chloro-3-methylphenol	65	U	65	330
2-Chloronaphthalene	9.9	U	9.9	330
2-Chlorophenol	21	U	21	330
4-Chlorophenyl phenyl ether	21	U	21	330
Chrysene	27	U	27	330
Dibenz(a,h)anthracene	19	U	19	330
Dibenzofuran	20	U	20	330
1,2-Dichlorobenzene	22	U	22	330
1,3-Dichlorobenzene	12	U	12	330
1,4-Dichlorobenzene	13	U	13	330
3,3'-Dichlorobenzidine	89	U	89	650
2,4-Dichlorophenol	9.9	U	9.9	330
Diethyl phthalate	26	U	26	330
2,4-Dimethylphenol	65	U	65	330
Dimethyl phthalate	55.1	J	23	330
Di-n-butyl phthalate	29	U	29	330
4,6-Dinitro-2-methylphenol	330	U	330	650
2,4-Dinitrophenol	330	U	330	820
2,4-Dinitrotoluene	65	U	65	330
2,6-Dinitrotoluene	28	U	28	330
Di-n-octyl phthalate	14	U	14	330
Fluoranthene	36	U	36	330
Fluorene	18	U	18	330
Hexachlorobenzene	29	U	29	330
Hexachlorobutadiene	9.9	U	9.9	330
Hexachlorocyclopentadiene	50	U	50	330
Hexachloroethane	21	U	21	330
Indeno[1,2,3-cd]pyrene	22	U	22	330
Isophorone	17	U	17	330

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank - Batch: 280-106786

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-106786/1-A	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9641.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.3 g
Analysis Date:	02/14/2012 1359	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	19	U	19	330
2-Methylphenol	13	U	13	330
3 & 4 Methylphenol	33	U	33	330
Naphthalene	31	U	31	330
2-Nitroaniline	50	U	50	330
3-Nitroaniline	72	U	72	330
4-Nitroaniline	72	U	72	330
Nitrobenzene	22	U	22	330
2-Nitrophenol	9.9	U	9.9	330
4-Nitrophenol	96	U	96	650
N-Nitrosodi-n-propylamine	31	U	31	330
N-Nitrosodiphenylamine	21	U	21	330
Pentachlorophenol	330	U	330	650
Phenanthrene	17	U	17	330
Phenol	18	U	18	330
Pyrene	12	U	12	330
1,2,4-Trichlorobenzene	28	U	28	330
2,4,5-Trichlorophenol	9.9	U	9.9	330
2,4,6-Trichlorophenol	9.9	U	9.9	330

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	93	50 - 120
2-Fluorophenol	96	53 - 120
Nitrobenzene-d5	93	50 - 120
Phenol-d5	96	52 - 120
Terphenyl-d14	99	55 - 120
2,4,6-Tribromophenol	102	51 - 120

Method Blank TICs- Batch: 280-106786

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	3.38	2890	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Lab Control Sample - Batch: 280-106786

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-106786/2-A	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9642.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.9 g
Analysis Date:	02/14/2012 1419	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	2510	2070	82	60 - 120	
Acenaphthylene	2510	2140	85	64 - 120	
Anthracene	2510	2370	94	63 - 120	
Benzo[a]anthracene	2510	2350	94	65 - 120	
Benzo[a]pyrene	2510	2210	88	59 - 120	
Benzo[b]fluoranthene	2510	2280	91	47 - 129	
Benzo[ghi]perylene	2510	2390	95	55 - 126	
Benzo[k]fluoranthene	2510	2410	96	48 - 130	
Bis(2-chloroethoxy)methane	2510	2000	80	56 - 120	
Bis(2-chloroethyl)ether	2510	2050	82	51 - 120	
bis (2-chloroisopropyl) ether	2510	1990	79	49 - 120	
Bis(2-ethylhexyl) phthalate	2510	2640	105	65 - 120	
4-Bromophenyl phenyl ether	2510	2310	92	64 - 120	
Butyl benzyl phthalate	2510	2490	99	65 - 120	
Carbazole	2510	2330	93	64 - 120	
4-Chloroaniline	2510	1490	59	28 - 120	
4-Chloro-3-methylphenol	2510	2250	90	63 - 120	
2-Chloronaphthalene	2510	2030	81	59 - 120	
2-Chlorophenol	2510	2100	84	57 - 120	
4-Chlorophenyl phenyl ether	2510	2280	91	64 - 120	
Chrysene	2510	2460	98	64 - 120	
Dibenz(a,h)anthracene	2510	2400	96	50 - 133	
Dibenzofuran	2510	2180	87	61 - 120	
1,2-Dichlorobenzene	2510	1950	78	53 - 120	
1,3-Dichlorobenzene	2510	1870	74	52 - 120	
1,4-Dichlorobenzene	2510	1920	76	52 - 120	
3,3'-Dichlorobenzidine	2510	1720	68	30 - 120	
2,4-Dichlorophenol	2510	2140	85	60 - 120	
Diethyl phthalate	2510	2390	95	66 - 120	
2,4-Dimethylphenol	2510	2030	81	54 - 120	
Dimethyl phthalate	2510	2450	98	65 - 120	
Di-n-butyl phthalate	2510	2500	100	67 - 120	
4,6-Dinitro-2-methylphenol	2510	2450	98	57 - 120	
2,4-Dinitrophenol	2510	2190	87	46 - 120	
2,4-Dinitrotoluene	2510	2480	99	68 - 120	
2,6-Dinitrotoluene	2510	2310	92	64 - 120	
Di-n-octyl phthalate	2510	2540	101	66 - 120	
Fluoranthene	2510	2420	97	66 - 120	
Fluorene	2510	2200	88	64 - 120	
Hexachlorobenzene	2510	2360	94	62 - 120	
Hexachlorobutadiene	2510	2020	81	53 - 120	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Lab Control Sample - Batch: 280-106786

Method: 8270C
Preparation: 3550C

Lab Sample ID:	LCS 280-106786/2-A	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9642.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.9 g
Analysis Date:	02/14/2012 1419	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Hexachlorocyclopentadiene	2510	2100	84	47 - 120	
Hexachloroethane	2510	1960	78	51 - 120	
Indeno[1,2,3-cd]pyrene	2510	2320	93	63 - 120	
Isophorone	2510	2080	83	56 - 120	
2-Methylnaphthalene	2510	2010	80	57 - 120	
2-Methylphenol	2510	2070	82	56 - 120	
3 & 4 Methylphenol	5020	4110	82	53 - 120	
Naphthalene	2510	1950	78	57 - 120	
2-Nitroaniline	2510	2510	100	63 - 120	
3-Nitroaniline	2510	1950	78	47 - 120	
4-Nitroaniline	2510	2420	96	64 - 120	
Nitrobenzene	2510	2070	82	54 - 120	
2-Nitrophenol	2510	2130	85	56 - 120	
4-Nitrophenol	2510	2660	106	63 - 121	
N-Nitrosodi-n-propylamine	2510	2050	82	51 - 120	
N-Nitrosodiphenylamine	2140	1970	92	61 - 120	
Pentachlorophenol	2510	2140	85	56 - 120	
Phenanthrene	2510	2280	91	64 - 120	
Phenol	2510	2100	84	56 - 120	
Pyrene	2510	2320	93	64 - 120	
1,2,4-Trichlorobenzene	2510	1900	76	52 - 120	
2,4,5-Trichlorophenol	2510	2350	94	64 - 120	
2,4,6-Trichlorophenol	2510	2320	93	61 - 120	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	82	50 - 120
2-Fluorophenol	82	53 - 120
Nitrobenzene-d5	81	50 - 120
Phenol-d5	84	52 - 120
Terphenyl-d14	98	55 - 120
2,4,6-Tribromophenol	102	51 - 120

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-106786

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9652.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1737			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9653.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1757			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acenaphthene	83	91	60 - 120	7	30		
Acenaphthylene	85	94	64 - 120	6	30		
Anthracene	89	97	63 - 120	5	30		
Benzo[a]anthracene	88	96	65 - 120	5	30		
Benzo[a]pyrene	85	91	59 - 120	5	30		
Benzo[b]fluoranthene	88	94	47 - 129	3	44		
Benzo[ghi]perylene	91	99	55 - 126	5	31		
Benzo[k]fluoranthene	89	97	48 - 130	6	30		
Bis(2-chloroethoxy)methane	84	89	56 - 120	3	30		
Bis(2-chloroethyl)ether	83	88	51 - 120	3	30		
bis (2-chloroisopropyl) ether	82	86	49 - 120	2	30		
Bis(2-ethylhexyl) phthalate	97	108	65 - 120	7	30		
4-Bromophenyl phenyl ether	91	99	64 - 120	5	30		
Butyl benzyl phthalate	92	101	65 - 120	6	30		
Carbazole	88	97	64 - 120	6	30		
4-Chloroaniline	59	66	28 - 120	9	30		
4-Chloro-3-methylphenol	95	102	63 - 120	4	30		
2-Chloronaphthalene	81	90	59 - 120	8	30		
2-Chlorophenol	85	92	57 - 120	4	30		
4-Chlorophenyl phenyl ether	90	99	64 - 120	7	30		
Chrysene	89	98	64 - 120	6	35		
Dibenz(a,h)anthracene	91	99	50 - 133	5	30		
Dibenzofuran	85	94	61 - 120	6	30		
1,2-Dichlorobenzene	80	84	53 - 120	2	30		
1,3-Dichlorobenzene	76	81	52 - 120	3	32		
1,4-Dichlorobenzene	78	82	52 - 120	3	30		
3,3'-Dichlorobenzidine	68	79	30 - 120	11	30		
2,4-Dichlorophenol	88	96	60 - 120	6	30		
Diethyl phthalate	91	100	66 - 120	5	30		
2,4-Dimethylphenol	86	96	54 - 120	7	30		
Dimethyl phthalate	91	102	65 - 120	8	30		
Di-n-butyl phthalate	94	101	67 - 120	5	30		

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-106786

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9652.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1737			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9653.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1757			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,6-Dinitro-2-methylphenol	76	86	57 - 120	9	30		
2,4-Dinitrophenol	54	58	46 - 120	3	34		
2,4-Dinitrotoluene	93	103	68 - 120	6	30		
2,6-Dinitrotoluene	89	98	64 - 120	6	30		
Di-n-octyl phthalate	95	104	66 - 120	7	30		
Fluoranthene	91	99	66 - 120	5	30		
Fluorene	85	95	64 - 120	7	30		
Hexachlorobenzene	90	99	62 - 120	6	30		
Hexachlorobutadiene	84	88	53 - 120	1	30		
Hexachlorocyclopentadiene	77	85	47 - 120	7	30		
Hexachloroethane	79	84	51 - 120	2	30		
Indeno[1,2,3-cd]pyrene	87	95	63 - 120	6	30		
Isophorone	85	91	56 - 120	4	30		
2-Methylnaphthalene	82	89	57 - 120	4	30		
2-Methylphenol	84	90	56 - 120	4	30		
3 & 4 Methylphenol	83	92	53 - 120	7	30		
Naphthalene	81	85	57 - 120	1	30		
2-Nitroaniline	99	109	63 - 120	7	30		
3-Nitroaniline	77	88	47 - 120	10	30		
4-Nitroaniline	95	104	64 - 120	5	30		
Nitrobenzene	86	91	54 - 120	2	30		
2-Nitrophenol	89	94	56 - 120	2	30		
4-Nitrophenol	100	108	63 - 121	5	30		
N-Nitrosodi-n-propylamine	83	89	51 - 120	3	30		
N-Nitrosodiphenylamine	88	96	61 - 120	6	36		
Pentachlorophenol	82	87	56 - 120	3	30		
Phenanthrene	87	96	64 - 120	6	30		
Phenol	85	92	56 - 120	5	30		
Pyrene	87	94	64 - 120	5	38		
1,2,4-Trichlorobenzene	77	83	52 - 120	3	30		
2,4,5-Trichlorophenol	97	102	64 - 120	2	30		
2,4,6-Trichlorophenol	92	102	61 - 120	7	30		

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-106786

Method: 8270C
Preparation: 3550C

MS Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9652.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.0 g
Analysis Date:	02/14/2012 1737			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

MSD Lab Sample ID:	280-25386-3	Analysis Batch:	280-107710	Instrument ID:	MSS_B
Client Matrix:	Solid	Prep Batch:	280-106786	Lab File ID:	B9653.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.0 g
Analysis Date:	02/14/2012 1757			Final Weight/Volume:	1000 uL
Prep Date:	02/08/2012 1915			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	83	90	50 - 120
2-Fluorophenol	84	89	53 - 120
Nitrobenzene-d5	84	89	50 - 120
Phenol-d5	84	90	52 - 120
Terphenyl-d14	90	100	55 - 120
2,4,6-Tribromophenol	97	107	51 - 120

Date: 18 June 2012
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Sites 100-D-73 & 100-D-76
Subject: Volatile Organics - Data Package No. J01414-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01414 prepared by TestAmerica Laboratories (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1N4C6	2/6/12	Soil	C	See note 1
J1N4C8	2/6/12	Soil	C	See note 1
J1N4C9	2/6/12	Soil	C	See note 1
J1N4D0	2/6/12	Soil	C	See note 1
J1N4D1	2/6/12	Soil	C	See note 1
J1N4D2	2/6/12	Soil	C	See note 1
J1N4D3	2/6/12	Soil	C	See note 1
J1N4D4	2/6/12	Soil	C	See note 1
J1N4D5	2/6/12	Soil	C	See note 1
J1N4D6	2/6/12	Soil	C	See note 1
J1N4D7	2/6/12	Soil	C	See note 1
J1N4D8	2/6/12	Soil	C	See note 1
J1N4D9	2/6/12	Soil	C	See note 1
J1N4F0	2/6/12	Soil	C	See note 1

1 – Volatile organics by 8260B.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Data Requested by Client

DATA QUALITY OBJECTIVES

Holding Times

Analytical holding times were assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Samples must be analyzed within 14 days of the date of sample collection.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

Method Blanks

Method blank analyses are conducted to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. Analytical results for analytes present in any sample at less than five times the concentration of that analyte found in the associated blank are qualified as non-detects and flagged "U". Common laboratory contaminants present in samples at less than ten times the concentration of that analyte found in the associated blank are qualified as non-detects. If a sample result is less than the CRQL and is less than five times (or less than ten times for lab contaminants) the highest associated blank result, the sample result value is raised to the CRQL level and qualified as undetected "U".

Due to the lack of a method blank analysis, all volatile organic results in sample J1N4F0 were qualified as estimates and flagged "J".

All other method blank results were acceptable.

Field Blanks

One field (trip) blank was submitted for analysis. Acetone and 2-butanone were detected in the trip blank. Under the WCH statement of work, no qualification is required.

- **Accuracy**

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

Matrix spike/matrix spike duplicate analyses are used to assess the analytical accuracy of the reported data and the effect of the matrix on the ability to accurately quantify sample concentrations. Matrix spike/matrix spike duplicate analyses are performed in duplicate using five compounds for which percent recoveries must be within a range of 50-150% or within laboratory control limits. If spike recoveries are outside control limits, detected sample results less than five times the spike concentration are qualified as estimates and flagged "J". Undetected sample results with spike recoveries below control limits are qualified as estimates and flagged "UJ". Undetected sample results are not qualified if the spike recovery is above control limits. Sample results greater than five times the spike concentration require no qualification.

Due to the lack of a matrix spike and matrix spike duplicate analysis, all volatile organic results in J2N4F0 were qualified as estimates and flagged "J".

All other accuracy results were acceptable.

Surrogate Recovery

The analyses of surrogate compounds provide a measure of performance for individual samples. Matrix-specific surrogate compound recovery control windows have been established by the EPA CLP program. If two surrogates of the same class of compounds (base/neutral or acid) are out of control limits, all associated sample results greater than the contract required quantitation limit (CRQL) are qualified as estimates and flagged "J". Sample results less than the CRQL and below the lower control limit are qualified as estimates and flagged "UJ". Sample results less than the CRQL with recoveries above the upper control limit require no qualification. If a surrogate recovery is less than 10%, detects are qualified as estimates and flagged "J" and nondetects are rejected and flagged "UR".

All surrogate results were acceptable.

- **Precision**

Matrix Spike/Matrix Spike Duplicate Samples

Matrix spike (MS)/matrix spike duplicate (MSD) results provide matrix-specific information on the precision of the method for specific target compound classes. Precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Samples results must be within RPD limits of +/-30%. If RPD values are out of specification and the sample concentration is less than five times the spike concentration, all associated detected

sample results are qualified as estimates and flagged "J". If RPD values are out of specification and the sample concentration is greater than five times the spike concentration, no qualification is required.

Due to the lack of a matrix spike and matrix spike duplicate analysis, all volatile organic results in J2N4F0 were qualified as estimates and flagged "J".

All other duplicate results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1N4D8/J1N4F0) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

Analytical Detection Levels

Reported analytical detection levels are compared against the required quantitation limits (RQL's) to ensure that laboratory detection levels meet the required criteria. All analytes met the RQL.

Completeness

Data package No. J01414 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiencies were noted:

- Due to the lack of a method blank analysis, all volatile organic results in sample J1N4F0 were qualified as estimates and flagged "J".
- Due to the lack of a matrix spike and matrix spike duplicate analysis, all volatile organic results in J1N4F0 were qualified as estimates and flagged "J".

Data flagged "J" indicates that the associated concentration is an estimate, but under the WCH statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

VOLATILE ORGANIC DATA QUALIFICATION SUMMARY*

SDG: J01414	**REVIEWER: ELR**	**Project: 100-D-73 & 100-D-76**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
All	J	J1N4F0	No method blank, MS or MSD analysis

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C6

Lab Sample ID: 280-25386-1TB
Client Matrix: Solid

% Moisture: 0.1

Date Sampled: 02/06/2012 1215
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B
Prep Method: 5035
Dilution: 1.0
Analysis Date: 02/09/2012 1142
Prep Date: 02/08/2012 1152

Analysis Batch: 280-107080
Prep Batch: 280-106733

Instrument ID: MSV_J
Lab File ID: J2744.D
Initial Weight/Volume: 4.024 g
Final Weight/Volume: 5 mL

6/12/12

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		40		6.7	25
Benzene		0.58	U	0.58	6.2
Bromodichloromethane		0.27	U	0.27	6.2
Bromoform		0.29	U	0.29	6.2
Bromomethane		0.62	U	0.62	12
2-Butanone (MEK)		9.8	J	2.3	12
Carbon disulfide		0.52	U	0.52	6.2
Carbon tetrachloride		0.78	U	0.78	6.2
Chlorobenzene		0.67	U T	0.67	6.2
Dibromochloromethane		0.71	U	0.71	6.2
Chloroethane		1.1	U	1.1	12
Chloroform		0.36	U	0.36	6.2
Chloromethane		0.96	U	0.96	12
1,1-Dichloroethane		0.26	U	0.26	6.2
1,2-Dichloroethane		0.87	U	0.87	6.2
1,1-Dichloroethene		0.73	U T	0.73	6.2
1,2-Dichloroethene, Total		0.49	U	0.49	6.2
1,2-Dichloropropane		0.68	U	0.68	6.2
cis-1,3-Dichloropropene		1.6	U	1.6	6.2
trans-1,3-Dichloropropene		0.83	U	0.83	6.2
Ethylbenzene		0.83	U	0.83	6.2
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.93	U	0.93	6.2
4-Methyl-2-pentanone (MIBK)		5.4	U	5.4	12
Styrene		0.78	U	0.78	6.2
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.2
Tetrachloroethene		0.73	U T	0.73	6.2
Toluene		0.86	U	0.86	6.2
1,1,1-Trichloroethane		0.65	U	0.65	6.2
1,1,2-Trichloroethane		1.1	U	1.1	6.2
Trichloroethene		0.29	U T	0.29	6.2
Vinyl chloride		1.7	U	1.7	6.2
Xylenes, Total		0.76	U	0.76	6.2

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		58 - 140
Toluene-d8 (Surr)	106		80 - 126
4-Bromofluorobenzene (Surr)	102		76 - 127
Dibromofluoromethane (Surr)	88		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4C6**

Lab Sample ID: 280-25386-1TB
Client Matrix: Solid

% Moisture: 0.1

Date Sampled: 02/06/2012 1215
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2744.D
Dilution:	1.0			Initial Weight/Volume:	4.024 g
Analysis Date:	02/09/2012 1142			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Tentatively Identified Compounds **Number TIC's Found:** 1

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	
99-87-6	4-Isopropyltoluene	12.93	2.6	N J

4/12/12

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C8

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2747.D
Dilution:	1.0			Initial Weight/Volume:	4.13 g
Analysis Date:	02/09/2012 1247			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		7.0	U	7.0	26
Benzene		0.61	U	0.61	6.5
Bromodichloromethane		0.29	U	0.29	6.5
Bromoform		0.30	U	0.30	6.5
Bromomethane		0.65	U	0.65	13
2-Butanone (MEK)		2.4	U	2.4	13
Carbon disulfide		0.55	U	0.55	6.5
Carbon tetrachloride		0.82	U	0.82	6.5
Chlorobenzene		0.70	U	0.70	6.5
Dibromochloromethane		0.74	U	0.74	6.5
Chloroethane		1.2	U	1.2	13
Chloroform		0.38	U	0.38	6.5
Chloromethane		1.0	U	1.0	13
1,1-Dichloroethane		0.27	U	0.27	6.5
1,2-Dichloroethane		0.91	U	0.91	6.5
1,1-Dichloroethene		0.77	U	0.77	6.5
1,2-Dichloroethene, Total		0.51	U	0.51	6.5
1,2-Dichloropropane		0.71	U	0.71	6.5
cis-1,3-Dichloropropene		1.7	U	1.7	6.5
trans-1,3-Dichloropropene		0.87	U	0.87	6.5
Ethylbenzene		0.87	U	0.87	6.5
2-Hexanone		6.4	U	6.4	26
Methylene Chloride		0.97	U	0.97	6.5
4-Methyl-2-pentanone (MIBK)		5.7	U	5.7	13
Styrene		0.82	U	0.82	6.5
1,1,2,2-Tetrachloroethane		0.79	U	0.79	6.5
Tetrachloroethene		0.77	U	0.77	6.5
Toluene		0.90	U	0.90	6.5
1,1,1-Trichloroethane		0.68	U	0.68	6.5
1,1,2-Trichloroethane		1.1	U	1.1	6.5
Trichloroethene		0.30	U	0.30	6.5
Vinyl chloride		1.7	U	1.7	6.5
Xylenes, Total		0.79	U	0.79	6.5

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	81		58 - 140
Toluene-d8 (Surr)	111		80 - 126
4-Bromofluorobenzene (Surr)	105		76 - 127
Dibromofluoromethane (Surr)	91		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C8

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2747.D
Dilution:	1.0			Initial Weight/Volume:	4.13 g
Analysis Date:	02/09/2012 1247			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Tentatively Identified Compounds **Number TIC's Found:** 3

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	
120-82-1	1,2,4-Trichlorobenzene	15.32	1.7	N J B
91-20-3	Naphthalene	15.61	2.2	N J B
87-61-6	1,2,3-Trichlorobenzene	15.91	2.0	N J

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C9

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2748.D
Dilution:	1.0			Initial Weight/Volume:	5.147 g
Analysis Date:	02/09/2012 1309			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.5	U	5.5	20
Benzene		0.48	U	0.48	5.1
Bromodichloromethane		0.22	U	0.22	5.1
Bromoform		0.23	U	0.23	5.1
Bromomethane		0.51	U	0.51	10
2-Butanone (MEK)		1.9	U	1.9	10
Carbon disulfide		0.43	U	0.43	5.1
Carbon tetrachloride		0.64	U	0.64	5.1
Chlorobenzene		0.55	U	0.55	5.1
Dibromochloromethane		0.58	U	0.58	5.1
Chloroethane		0.91	U	0.91	10
Chloroform		0.30	U	0.30	5.1
Chloromethane		0.78	U	0.78	10
1,1-Dichloroethane		0.21	U	0.21	5.1
1,2-Dichloroethane		0.71	U	0.71	5.1
1,1-Dichloroethene		0.60	U	0.60	5.1
1,2-Dichloroethene, Total		0.40	U	0.40	5.1
1,2-Dichloropropane		0.56	U	0.56	5.1
cis-1,3-Dichloropropene		1.3	U	1.3	5.1
trans-1,3-Dichloropropene		0.68	U	0.68	5.1
Ethylbenzene		0.68	U	0.68	5.1
2-Hexanone		5.0	U	5.0	20
Methylene Chloride		3.1	J	0.76	5.1
4-Methyl-2-pentanone (MIBK)		4.4	U	4.4	10
Styrene		0.64	U	0.64	5.1
1,1,2,2-Tetrachloroethane		0.62	U	0.62	5.1
Tetrachloroethene		0.60	U	0.60	5.1
Toluene		0.70	U	0.70	5.1
1,1,1-Trichloroethane		0.53	U	0.53	5.1
1,1,2-Trichloroethane		0.90	U	0.90	5.1
Trichloroethene		0.23	U	0.23	5.1
Vinyl chloride		1.4	U	1.4	5.1
Xylenes, Total		0.62	U	0.62	5.1

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		58 - 140
Toluene-d8 (Surr)	108		80 - 126
4-Bromofluorobenzene (Surr)	105		76 - 127
Dibromofluoromethane (Surr)	88		75 - 121

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Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4C9**

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2748.D
Dilution:	1.0			Initial Weight/Volume:	5.147 g
Analysis Date:	02/09/2012 1309			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Tentatively Identified Compounds **Number TIC's Found:** 1

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	
91-20-3	Naphthalene	15.61	0.77	N J B

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D0**

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2749.D
Dilution:	1.0			Initial Weight/Volume:	4.985 g
Analysis Date:	02/09/2012 1330			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.8	U	5.8	22
Benzene		0.51	U	0.51	5.4
Bromodichloromethane		0.24	U	0.24	5.4
Bromoform		0.25	U	0.25	5.4
Bromomethane		0.54	U	0.54	11
2-Butanone (MEK)		2.0	U	2.0	11
Carbon disulfide		0.45	U	0.45	5.4
Carbon tetrachloride		0.68	U	0.68	5.4
Chlorobenzene		0.58	U	0.58	5.4
Dibromochloromethane		0.62	U	0.62	5.4
Chloroethane		0.96	U	0.96	11
Chloroform		0.31	U	0.31	5.4
Chloromethane		0.83	U	0.83	11
1,1-Dichloroethane		0.23	U	0.23	5.4
1,2-Dichloroethane		0.76	U	0.76	5.4
1,1-Dichloroethene		0.64	U	0.64	5.4
1,2-Dichloroethene, Total		0.42	U	0.42	5.4
1,2-Dichloropropane		0.59	U	0.59	5.4
cis-1,3-Dichloropropene		1.4	U	1.4	5.4
trans-1,3-Dichloropropene		0.72	U	0.72	5.4
Ethylbenzene		0.72	U	0.72	5.4
2-Hexanone		5.3	U	5.3	22
Methylene Chloride		0.81	U	0.81	5.4
4-Methyl-2-pentanone (MIBK)		4.7	U	4.7	11
Styrene		0.68	U	0.68	5.4
1,1,2,2-Tetrachloroethane		0.66	U	0.66	5.4
Tetrachloroethene		0.64	U	0.64	5.4
Toluene		0.75	U	0.75	5.4
1,1,1-Trichloroethane		0.56	U	0.56	5.4
1,1,2-Trichloroethane		0.95	U	0.95	5.4
Trichloroethene		0.25	U	0.25	5.4
Vinyl chloride		1.4	U	1.4	5.4
Xylenes, Total		0.66	U	0.66	5.4

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		58 - 140
Toluene-d8 (Surr)	109		80 - 126
4-Bromofluorobenzene (Surr)	104		76 - 127
Dibromofluoromethane (Surr)	89		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D0**

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2749.D
Dilution:	1.0			Initial Weight/Volume:	4.985 g
Analysis Date:	02/09/2012 1330			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D1

Lab Sample ID: 280-25386-5
Client Matrix: Solid

% Moisture: 3.8

V 6/17/12

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B
Prep Method: 5035
Dilution: 1.0
Analysis Date: 02/09/2012 1352
Prep Date: 02/08/2012 1204

Analysis Batch: 280-107080
Prep Batch: 280-106733

Instrument ID: MSV_J
Lab File ID: J2750.D
Initial Weight/Volume: 4.373 g
Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.4	U	6.4	24
Benzene		0.56	U	0.56	5.9
Bromodichloromethane		0.26	U	0.26	5.9
Bromoform		0.27	U	0.27	5.9
Bromomethane		0.59	U	0.59	12
2-Butanone (MEK)		2.2	U	2.2	12
Carbon disulfide		0.50	U	0.50	5.9
Carbon tetrachloride		0.75	U	0.75	5.9
Chlorobenzene		0.64	U	0.64	5.9
Dibromochloromethane		0.68	U	0.68	5.9
Chloroethane		1.1	U	1.1	12
Chloroform		0.34	U	0.34	5.9
Chloromethane		0.91	U	0.91	12
1,1-Dichloroethane		0.25	U	0.25	5.9
1,2-Dichloroethane		0.83	U	0.83	5.9
1,1-Dichloroethene		0.70	U	0.70	5.9
1,2-Dichloroethene, Total		0.46	U	0.46	5.9
1,2-Dichloropropane		0.65	U	0.65	5.9
cis-1,3-Dichloropropene		1.5	U	1.5	5.9
trans-1,3-Dichloropropene		0.80	U	0.80	5.9
Ethylbenzene		0.80	U	0.80	5.9
2-Hexanone		5.8	U	5.8	24
Methylene Chloride		0.89	U	0.89	5.9
4-Methyl-2-pentanone (MIBK)		5.2	U	5.2	12
Styrene		0.75	U	0.75	5.9
1,1,2,2-Tetrachloroethane		0.72	U	0.72	5.9
Tetrachloroethene		0.70	U	0.70	5.9
Toluene		0.82	U	0.82	5.9
1,1,1-Trichloroethane		0.62	U	0.62	5.9
1,1,2-Trichloroethane		1.0	U	1.0	5.9
Trichloroethene		0.27	U	0.27	5.9
Vinyl chloride		1.6	U	1.6	5.9
Xylenes, Total		0.72	U	0.72	5.9

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		58 - 140
Toluene-d8 (Surr)	112		80 - 126
4-Bromofluorobenzene (Surr)	106		76 - 127
Dibromofluoromethane (Surr)	91		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D1

Lab Sample ID: 280-25386-5
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2750.D
Dilution:	1.0			Initial Weight/Volume:	4.373 g
Analysis Date:	02/09/2012 1352			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D2

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2751.D
Dilution:	1.0			Initial Weight/Volume:	4.686 g
Analysis Date:	02/09/2012 1413			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.0	U	6.0	22
Benzene		0.52	U	0.52	5.5
Bromodichloromethane		0.24	U	0.24	5.5
Bromoform		0.26	U	0.26	5.5
Bromomethane		0.55	U	0.55	11
2-Butanone (MEK)		2.0	U	2.0	11
Carbon disulfide		0.47	U	0.47	5.5
Carbon tetrachloride		0.70	U	0.70	5.5
Chlorobenzene		0.60	U	0.60	5.5
Dibromochloromethane		0.63	U	0.63	5.5
Chloroethane		0.99	U	0.99	11
Chloroform		0.32	U	0.32	5.5
Chloromethane		0.85	U	0.85	11
1,1-Dichloroethane		0.23	U	0.23	5.5
1,2-Dichloroethane		0.78	U	0.78	5.5
1,1-Dichloroethene		0.65	U	0.65	5.5
1,2-Dichloroethene, Total		0.43	U	0.43	5.5
1,2-Dichloropropane		0.61	U	0.61	5.5
cis-1,3-Dichloropropene		1.4	U	1.4	5.5
trans-1,3-Dichloropropene		0.74	U	0.74	5.5
Ethylbenzene		0.74	U	0.74	5.5
2-Hexanone		5.4	U	5.4	22
Methylene Chloride		0.83	U	0.83	5.5
4-Methyl-2-pentanone (MIBK)		4.8	U	4.8	11
Styrene		0.70	U	0.70	5.5
1,1,2,2-Tetrachloroethane		0.68	U	0.68	5.5
Tetrachloroethene		0.65	U	0.65	5.5
Toluene		0.77	U	0.77	5.5
1,1,1-Trichloroethane		0.58	U	0.58	5.5
1,1,2-Trichloroethane		0.98	U	0.98	5.5
Trichloroethene		0.26	U	0.26	5.5
Vinyl chloride		1.5	U	1.5	5.5
Xylenes, Total		0.68	U	0.68	5.5

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	81		58 - 140
Toluene-d8 (Surr)	110		80 - 126
4-Bromofluorobenzene (Surr)	103		76 - 127
Dibromofluoromethane (Surr)	91		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D2**

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2751.D
Dilution:	1.0			Initial Weight/Volume:	4.686 g
Analysis Date:	02/09/2012 1413			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D3

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2752.D
Dilution:	1.0			Initial Weight/Volume:	5.182 g
Analysis Date:	02/09/2012 1435			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.6	U	5.6	21
Benzene		0.49	U	0.49	5.2
Bromodichloromethane		0.23	U	0.23	5.2
Bromoform		0.24	U	0.24	5.2
Bromomethane		0.52	U	0.52	10
2-Butanone (MEK)		1.9	U	1.9	10
Carbon disulfide		0.44	U	0.44	5.2
Carbon tetrachloride		0.66	U	0.66	5.2
Chlorobenzene		0.56	U	0.56	5.2
Dibromochloromethane		0.60	U	0.60	5.2
Chloroethane		0.93	U	0.93	10
Chloroform		0.30	U	0.30	5.2
Chloromethane		0.80	U	0.80	10
1,1-Dichloroethane		0.22	U	0.22	5.2
1,2-Dichloroethane		0.73	U	0.73	5.2
1,1-Dichloroethene		0.62	U	0.62	5.2
1,2-Dichloroethene, Total		0.41	U	0.41	5.2
1,2-Dichloropropane		0.57	U	0.57	5.2
cis-1,3-Dichloropropene		1.3	U	1.3	5.2
trans-1,3-Dichloropropene		0.70	U	0.70	5.2
Ethylbenzene		0.70	U	0.70	5.2
2-Hexanone		5.1	U	5.1	21
Methylene Chloride		0.78	U	0.78	5.2
4-Methyl-2-pentanone (MIBK)		4.6	U	4.6	10
Styrene		0.66	U	0.66	5.2
1,1,2,2-Tetrachloroethane		0.64	U	0.64	5.2
Tetrachloroethene		0.62	U	0.62	5.2
Toluene		0.72	U	0.72	5.2
1,1,1-Trichloroethane		0.54	U	0.54	5.2
1,1,2-Trichloroethane		0.92	U	0.92	5.2
Trichloroethene		0.24	U	0.24	5.2
Vinyl chloride		1.4	U	1.4	5.2
Xylenes, Total		0.64	U	0.64	5.2

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		58 - 140
Toluene-d8 (Surr)	107		80 - 126
4-Bromofluorobenzene (Surr)	101		76 - 127
Dibromofluoromethane (Surr)	88		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D3

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2752.D
Dilution:	1.0			Initial Weight/Volume:	5.182 g
Analysis Date:	02/09/2012 1435			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

V 6/12/12

Client Sample ID: J1N4D4

Lab Sample ID: 280-25386-8
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method: 8260B
Prep Method: 5035
Dilution: 1.0
Analysis Date: 02/09/2012 1457
Prep Date: 02/08/2012 1204

Analysis Batch: 280-107080
Prep Batch: 280-106733

Instrument ID: MSV_J
Lab File ID: J2753.D
Initial Weight/Volume: 4.109 g
Final Weight/Volume: 5 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.7	U	6.7	25
Benzene		0.59	U	0.59	6.3
Bromodichloromethane		0.28	U	0.28	6.3
Bromoform		0.29	U	0.29	6.3
Bromomethane		0.63	U	0.63	13
2-Butanone (MEK)		2.3	U	2.3	13
Carbon disulfide		0.53	U	0.53	6.3
Carbon tetrachloride		0.79	U	0.79	6.3
Chlorobenzene		0.68	U	0.68	6.3
Dibromochloromethane		0.71	U	0.71	6.3
Chloroethane		1.1	U	1.1	13
Chloroform		0.36	U	0.36	6.3
Chloromethane		0.96	U	0.96	13
1,1-Dichloroethane		0.26	U	0.26	6.3
1,2-Dichloroethane		0.88	U	0.88	6.3
1,1-Dichloroethene		0.74	U	0.74	6.3
1,2-Dichloroethene, Total		0.49	U	0.49	6.3
1,2-Dichloropropane		0.69	U	0.69	6.3
cis-1,3-Dichloropropene		1.6	U	1.6	6.3
trans-1,3-Dichloropropene		0.84	U	0.84	6.3
Ethylbenzene		0.84	U	0.84	6.3
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.94	U	0.94	6.3
4-Methyl-2-pentanone (MIBK)		5.5	U	5.5	13
Styrene		0.79	U	0.79	6.3
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.3
Tetrachloroethene		0.74	U	0.74	6.3
Toluene		0.86	U	0.86	6.3
1,1,1-Trichloroethane		0.65	U	0.65	6.3
1,1,2-Trichloroethane		1.1	U	1.1	6.3
Trichloroethene		0.29	U	0.29	6.3
Vinyl chloride		1.7	U	1.7	6.3
Xylenes, Total		0.76	U	0.76	6.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		58 - 140
Toluene-d8 (Surr)	108		80 - 126
4-Bromofluorobenzene (Surr)	102		76 - 127
Dibromofluoromethane (Surr)	88		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D4**

Lab Sample ID: 280-25386-8
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2753.D
Dilution:	1.0			Initial Weight/Volume:	4.109 g
Analysis Date:	02/09/2012 1457			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D5**

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2754.D
Dilution:	1.0			Initial Weight/Volume:	4.155 g
Analysis Date:	02/09/2012 1519			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.7	U	6.7	25
Benzene		0.58	U	0.58	6.2
Bromodichloromethane		0.27	U	0.27	6.2
Bromoform		0.29	U	0.29	6.2
Bromomethane		0.62	U	0.62	12
2-Butanone (MEK)		2.3	U	2.3	12
Carbon disulfide		0.52	U	0.52	6.2
Carbon tetrachloride		0.78	U	0.78	6.2
Chlorobenzene		0.67	U	0.67	6.2
Dibromochloromethane		0.71	U	0.71	6.2
Chloroethane		1.1	U	1.1	12
Chloroform		0.36	U	0.36	6.2
Chloromethane		0.96	U	0.96	12
1,1-Dichloroethane		0.26	U	0.26	6.2
1,2-Dichloroethane		0.87	U	0.87	6.2
1,1-Dichloroethene		0.73	U	0.73	6.2
1,2-Dichloroethene, Total		0.48	U	0.48	6.2
1,2-Dichloropropane		0.68	U	0.68	6.2
cis-1,3-Dichloropropene		1.6	U	1.6	6.2
trans-1,3-Dichloropropene		0.83	U	0.83	6.2
Ethylbenzene		0.83	U	0.83	6.2
2-Hexanone		6.1	U	6.1	25
Methylene Chloride		0.93	U	0.93	6.2
4-Methyl-2-pentanone (MIBK)		5.4	U	5.4	12
Styrene		0.78	U	0.78	6.2
1,1,2,2-Tetrachloroethane		0.76	U	0.76	6.2
Tetrachloroethene		0.73	U	0.73	6.2
Toluene		0.86	U	0.86	6.2
1,1,1-Trichloroethane		0.65	U	0.65	6.2
1,1,2-Trichloroethane		1.1	U	1.1	6.2
Trichloroethene		0.29	U	0.29	6.2
Vinyl chloride		1.7	U	1.7	6.2
Xylenes, Total		0.76	U	0.76	6.2

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		58 - 140
Toluene-d8 (Surr)	109		80 - 126
4-Bromofluorobenzene (Surr)	102		76 - 127
Dibromofluoromethane (Surr)	87		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D5

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2754.D
Dilution:	1.0			Initial Weight/Volume:	4.155 g
Analysis Date:	02/09/2012 1519			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D6

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2755.D
Dilution:	1.0			Initial Weight/Volume:	1.811 g
Analysis Date:	02/09/2012 1541			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		15	U	15	57
Benzene		1.3	U	1.3	14
Bromodichloromethane		0.63	U	0.63	14
Bromoform		0.66	U	0.66	14
Bromomethane		1.4	U	1.4	29
2-Butanone (MEK)		5.2	U	5.2	29
Carbon disulfide		1.2	U	1.2	14
Carbon tetrachloride		1.8	U	1.8	14
Chlorobenzene		1.5	U	1.5	14
Dibromochloromethane		1.6	U	1.6	14
Chloroethane		2.5	U	2.5	29
Chloroform		0.83	U	0.83	14
Chloromethane		2.2	U	2.2	29
1,1-Dichloroethane		0.60	U	0.60	14
1,2-Dichloroethane		2.0	U	2.0	14
1,1-Dichloroethene		1.7	U	1.7	14
1,2-Dichloroethene, Total		1.1	U	1.1	14
1,2-Dichloropropane		1.6	U	1.6	14
cis-1,3-Dichloropropene		3.7	U	3.7	14
trans-1,3-Dichloropropene		1.9	U	1.9	14
Ethylbenzene		1.9	U	1.9	14
2-Hexanone		14	U	14	57
Methylene Chloride		2.1	U	2.1	14
4-Methyl-2-pentanone (MIBK)		12	U	12	29
Styrene		1.8	U	1.8	14
1,1,2,2-Tetrachloroethane		1.7	U	1.7	14
Tetrachloroethene		1.7	U	1.7	14
Toluene		2.0	U	2.0	14
1,1,1-Trichloroethane		1.5	U	1.5	14
1,1,2-Trichloroethane		2.5	U	2.5	14
Trichloroethene		0.66	U	0.66	14
Vinyl chloride		3.8	U	3.8	14
Xylenes, Total		1.7	U	1.7	14

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		58 - 140
Toluene-d8 (Surr)	108		80 - 126
4-Bromofluorobenzene (Surr)	104		76 - 127
Dibromofluoromethane (Surr)	88		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D6**

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2755.D
Dilution:	1.0			Initial Weight/Volume:	1.811 g
Analysis Date:	02/09/2012 1541			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D7

Lab Sample ID: 280-25386-11
Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2756.D
Dilution:	1.0			Initial Weight/Volume:	4.355 g
Analysis Date:	02/09/2012 1602			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.5	U	6.5	24
Benzene		0.57	U	0.57	6.1
Bromodichloromethane		0.27	U	0.27	6.1
Bromoform		0.28	U	0.28	6.1
Bromomethane		0.61	U	0.61	12
2-Butanone (MEK)		2.2	U	2.2	12
Carbon disulfide		0.51	U	0.51	6.1
Carbon tetrachloride		0.76	U	0.76	6.1
Chlorobenzene		0.65	U	0.65	6.1
Dibromochloromethane		0.69	U	0.69	6.1
Chloroethane		1.1	U	1.1	12
Chloroform		0.35	U	0.35	6.1
Chloromethane		0.93	U	0.93	12
1,1-Dichloroethane		0.25	U	0.25	6.1
1,2-Dichloroethane		0.85	U	0.85	6.1
1,1-Dichloroethene		0.71	U	0.71	6.1
1,2-Dichloroethene, Total		0.47	U	0.47	6.1
1,2-Dichloropropane		0.67	U	0.67	6.1
cis-1,3-Dichloropropene		1.6	U	1.6	6.1
trans-1,3-Dichloropropene		0.81	U	0.81	6.1
Ethylbenzene		0.81	U	0.81	6.1
2-Hexanone		5.9	U	5.9	24
Methylene Chloride		0.91	U	0.91	6.1
4-Methyl-2-pentanone (MIBK)		5.3	U	5.3	12
Styrene		0.76	U	0.76	6.1
1,1,2,2-Tetrachloroethane		0.74	U	0.74	6.1
Tetrachloroethene		0.71	U	0.71	6.1
Toluene		0.84	U	0.84	6.1
1,1,1-Trichloroethane		0.63	U	0.63	6.1
1,1,2-Trichloroethane		1.1	U	1.1	6.1
Trichloroethene		0.28	U	0.28	6.1
Vinyl chloride		1.6	U	1.6	6.1
Xylenes, Total		0.74	U	0.74	6.1

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	80		58 - 140
Toluene-d8 (Surr)	110		80 - 126
4-Bromofluorobenzene (Surr)	105		76 - 127
Dibromofluoromethane (Surr)	89		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D7**

Lab Sample ID: 280-25386-11
Client Matrix: Solid

% Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2756.D
Dilution:	1.0			Initial Weight/Volume:	4.355 g
Analysis Date:	02/09/2012 1602			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D8

Lab Sample ID: 280-25386-12
Client Matrix: Solid

% Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2757.D
Dilution:	1.0			Initial Weight/Volume:	3.737 g
Analysis Date:	02/09/2012 1624			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		7.4	U	7.4	28
Benzene		0.65	U	0.65	6.9
Bromodichloromethane		0.30	U	0.30	6.9
Bromoform		0.32	U	0.32	6.9
Bromomethane		0.69	U	0.69	14
2-Butanone (MEK)		2.5	U	2.5	14
Carbon disulfide		0.58	U	0.58	6.9
Carbon tetrachloride		0.87	U	0.87	6.9
Chlorobenzene		0.75	U	0.75	6.9
Dibromochloromethane		0.79	U	0.79	6.9
Chloroethane		1.2	U	1.2	14
Chloroform		0.40	U	0.40	6.9
Chloromethane		1.1	U	1.1	14
1,1-Dichloroethane		0.29	U	0.29	6.9
1,2-Dichloroethane		0.97	U	0.97	6.9
1,1-Dichloroethene		0.81	U	0.81	6.9
1,2-Dichloroethene, Total		0.54	U	0.54	6.9
1,2-Dichloropropane		0.76	U	0.76	6.9
cis-1,3-Dichloropropene		1.8	U	1.8	6.9
trans-1,3-Dichloropropene		0.92	U	0.92	6.9
Ethylbenzene		0.92	U	0.92	6.9
2-Hexanone		6.8	U	6.8	28
Methylene Chloride		1.0	U	1.0	6.9
4-Methyl-2-pentanone (MIBK)		6.0	U	6.0	14
Styrene		0.87	U	0.87	6.9
1,1,2,2-Tetrachloroethane		0.84	U	0.84	6.9
Tetrachloroethene		0.81	U	0.81	6.9
Toluene		0.95	U	0.95	6.9
1,1,1-Trichloroethane		0.72	U	0.72	6.9
1,1,2-Trichloroethane		1.2	U	1.2	6.9
Trichloroethene		0.32	U	0.32	6.9
Vinyl chloride		1.8	U	1.8	6.9
Xylenes, Total		0.84	U	0.84	6.9

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78		58 - 140
Toluene-d8 (Surr)	109		80 - 126
4-Bromofluorobenzene (Surr)	103		76 - 127
Dibromofluoromethane (Surr)	89		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D8**

Lab Sample ID: 280-25386-12
Client Matrix: Solid

% Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2757.D
Dilution:	1.0			Initial Weight/Volume:	3.737 g
Analysis Date:	02/09/2012 1624			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D9

Lab Sample ID: 280-25386-13
Client Matrix: Solid % Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2758.D
Dilution:	1.0			Initial Weight/Volume:	5.459 g
Analysis Date:	02/09/2012 1645			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		5.3	U	5.3	20
Benzene		0.46	U	0.46	4.9
Bromodichloromethane		0.22	U	0.22	4.9
Bromoform		0.23	U	0.23	4.9
Bromomethane		0.49	U	0.49	9.8
2-Butanone (MEK)		1.8	U	1.8	9.8
Carbon disulfide		0.41	U	0.41	4.9
Carbon tetrachloride		0.62	U	0.62	4.9
Chlorobenzene		0.53	U	0.53	4.9
Dibromochloromethane		0.56	U	0.56	4.9
Chloroethane		0.87	U	0.87	9.8
Chloroform		0.28	U	0.28	4.9
Chloromethane		0.76	U	0.76	9.8
1,1-Dichloroethane		0.21	U	0.21	4.9
1,2-Dichloroethane		0.69	U	0.69	4.9
1,1-Dichloroethene		0.58	U	0.58	4.9
1,2-Dichloroethene, Total		0.38	U	0.38	4.9
1,2-Dichloropropane		0.54	U	0.54	4.9
cis-1,3-Dichloropropene		1.3	U	1.3	4.9
trans-1,3-Dichloropropene		0.66	U	0.66	4.9
Ethylbenzene		0.66	U	0.66	4.9
2-Hexanone		4.8	U	4.8	20
Methylene Chloride		0.74	U	0.74	4.9
4-Methyl-2-pentanone (MIBK)		4.3	U	4.3	9.8
Styrene		0.62	U	0.62	4.9
1,1,2,2-Tetrachloroethane		0.60	U	0.60	4.9
Tetrachloroethene		0.58	U	0.58	4.9
Toluene		0.68	U	0.68	4.9
1,1,1-Trichloroethane		0.51	U	0.51	4.9
1,1,2-Trichloroethane		0.86	U	0.86	4.9
Trichloroethene		0.23	U	0.23	4.9
Vinyl chloride		1.3	U	1.3	4.9
Xylenes, Total		0.60	U	0.60	4.9

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	76		58 - 140
Toluene-d8 (Surr)	105		80 - 126
4-Bromofluorobenzene (Surr)	100		76 - 127
Dibromofluoromethane (Surr)	87		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D9**

Lab Sample ID: 280-25386-13
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	J2758.D
Dilution:	1.0			Initial Weight/Volume:	5.459 g
Analysis Date:	02/09/2012 1645			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** **0**

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4F0**

Lab Sample ID: 280-25386-14
Client Matrix: Solid

% Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107322	Instrument ID:	MSV_G2
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	G2_3570.D
Dilution:	1.0			Initial Weight/Volume:	4.57 g
Analysis Date:	02/10/2012 1146			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		6.1	U	6.1	23
Benzene		0.53	U	0.53	5.7
Bromodichloromethane		0.25	U	0.25	5.7
Bromoform		0.26	U	0.26	5.7
Bromomethane		0.57	U	0.57	11
2-Butanone (MEK)		2.1	U	2.1	11
Carbon disulfide		0.48	U	0.48	5.7
Carbon tetrachloride		0.72	U	0.72	5.7
Chlorobenzene		0.61	U	0.61	5.7
Dibromochloromethane		0.65	U	0.65	5.7
Chloroethane		1.0	U	1.0	11
Chloroform		0.33	U	0.33	5.7
Chloromethane		0.87	U	0.87	11
1,1-Dichloroethane		0.24	U	0.24	5.7
1,2-Dichloroethane		0.80	U	0.80	5.7
1,1-Dichloroethene		0.67	U	0.67	5.7
1,2-Dichloroethene, Total		0.44	U	0.44	5.7
1,2-Dichloropropane		0.62	U	0.62	5.7
cis-1,3-Dichloropropene		1.5	U	1.5	5.7
trans-1,3-Dichloropropene		0.76	U	0.76	5.7
Ethylbenzene		0.76	U	0.76	5.7
2-Hexanone		5.6	U	5.6	23
Methylene Chloride		0.85	U	0.85	5.7
4-Methyl-2-pentanone (MIBK)		5.0	U	5.0	11
Styrene		0.72	U	0.72	5.7
1,1,2,2-Tetrachloroethane		0.69	U	0.69	5.7
Tetrachloroethene		0.67	U	0.67	5.7
Toluene		0.78	U	0.78	5.7
1,1,1-Trichloroethane		0.59	U	0.59	5.7
1,1,2-Trichloroethane		1.0	U	1.0	5.7
Trichloroethene		0.26	U	0.26	5.7
Vinyl chloride		1.5	U	1.5	5.7
Xylenes, Total		0.69	U	0.69	5.7

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	76		58 - 140
Toluene-d8 (Surr)	95		80 - 126
4-Bromofluorobenzene (Surr)	85		76 - 127
Dibromofluoromethane (Surr)	90		75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4F0
Lab Sample ID: 280-25386-14
Client Matrix: Solid
% Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-107322	Instrument ID:	MSV_G2
Prep Method:	5035	Prep Batch:	280-106733	Lab File ID:	G2_3570.D
Dilution:	1.0			Initial Weight/Volume:	4.57 g
Analysis Date:	02/10/2012 1146			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1204				

Tentatively Identified Compounds **Number TIC's Found:** 0

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Tentatively Identified Compound		None	

4/12/12

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-25386-1

SDG #: J01414
SAF#: RC-075

Date SDG Closed: February 8, 2012
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1N4C6	280-25386-1	8260	8260B
J1N4C8	280-25386-2	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4C9	280-25386-3	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D0	280-25386-4	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D1	280-25386-5	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D2	280-25386-6	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D3	280-25386-7	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D4	280-25386-8	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D5	280-25386-9	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D6	280-25386-10	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D7	280-25386-11	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D8	280-25386-12	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D9	280-25386-13	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4F0	280-25386-14	6010/7471/8260/8270A	6010B/7471A/8260B/8270C

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/8/2012; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were -0.5 C and 3.4 C.

It can be noted that all samples requesting 5035/8260 VOA analysis were received at the laboratory frozen. The cooler received at a temperature of -0.5 C contained the 5035/8260 VOA samples.

GC/MS VOLATILES - SW846 8260B
The MS/MSD performed on sample J1N4C6 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary. The laboratory noted that the sample size used in the preparation of the MS and MSD for sample J1N4C6 exceeded 10% difference. As the RPD calculation is based upon the MS/MSD concentration as opposed to the MS/MSD percent recovery, elevated %RPD values were obtained.

No other anomalies were encountered.

GC/MS SEMIVOLATILES - SW846 8270C
Low levels of Dimethyl phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-106786. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Serial dilution of a digestate in batch 280-106831 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. In some cases, samples required a 5X dilution prior to the analysis of Beryllium, Cobalt, Lead and Vanadium to minimize the interference caused by Titanium concentrations greater than the linear range. The reporting limits have been adjusted relative to the dilution required.

Low levels of Barium and Chromium are present in the method blank associated with batch 280-106831. Because the concentrations in the method blank are not present at levels greater than half the reporting limit or the associated sample amounts are twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1N4C8; therefore, control limits are not applicable.

No other anomalies were encountered.

-0.5, 3.4 ICL SC 2/8/12

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-293	Page 1 of 1
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Trip Blanks		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DVR (2) 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Freeze										
Type of Container	Gs*										
No. of Container(s)	5										
Volume	40mL										
SAMPLE ANALYSIS	VOA - 5035/8260 (TCL)										
24	X										

Sample No.	Matrix *	Sample Date	Sample Time	No. of Containers								
J1N4C6	SOIL	2-6-12	1215	X								
~~J1N4C7~~ (2) 2-2-12	SOIL											

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CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1505	Received By/Stored In WCH	Date/Time
Quincy Stowe	2-6-12	M Stankovich	2/6/12 1505
Relinquished By/Removed From	Date/Time 1610	Received By/Stored In 1060	Date/Time
M Stankovich	2/6/12	A. Freier A. Freier	2-6-12 1610
Relinquished By/Removed From	Date/Time 1014H	Received By/Stored In	Date/Time
Brittain WCH	2/7/12 0950	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Gary Buell	2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

& Freeze upon receipt 2/7/12 CMB

SDG

J014114

Custody unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

VOA samples frozen upon collection

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

REVIEWED BY MWSha DATE 2/7/12

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 1 of 2
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DNR	Offsite Property No. A110178		Bill of Lading/Air Bill No. SCC OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C						
Type of Container	G/P	G/P	Gs*	aG						
No. of Container(s)	1	1	5	1						
Volume	125mL	125mL	40mL	125mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Hex 7196	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)						
43		2-2-12	*							
Sample No.	Matrix *	Sample Date	Sample Time							
J1N4C8	SOIL	2/6/12	1356	X		X	X			
J1N4C9	SOIL		1350	X		X	X			
J1N4D0	SOIL		1344	X		X	X			
J1N4D1	SOIL		1336	X		X	X			
J1N4D2	SOIL		1330	X		X	X			

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CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 1505 2-6-12	Received By/Stored In weld MStankovich	Date/Time 2/6/12 1505
Relinquished By/Removed From MStankovich	Date/Time 1610 2/6/12	Received By/Stored In 1060#1 A-Freez A.Freiw	Date/Time 1610 2-6-12
Relinquished By/Removed From Linda Richardson	Date/Time 1064	Received By/Stored In Fed Ex	Date/Time
Relinquished By/Removed From	Date/Time 2/7/12 0950	Received By/Stored In	Date/Time 2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury} 506 50414

* freeze upon receipt 2/7/12 cms

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

VOA samples frozen upon collection

Matrix *
S=Soil
SD=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

REVIEWED BY DWSher DATE 2/7/12

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 2 of 3
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DVR 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C						
Type of Container	G/P	G/P	Gs*	aG						
No. of Container(s)	1	1	5	1						
Volume	125mL	125mL	40mL	125mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Ref. 7196	VOA - 5035/8260 (TCL) *	Semi-VOA - 8270A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time								
J1N4D3	SOIL	2/6/12	1324	X		X	X				
J1N4D4	SOIL		1318	X		X	X				
J1N4D5	SOIL		1312	X		X	X				
J1N4D6	SOIL		1306	X		X	X				
J1N4D7	SOIL		1300	X		X	X				

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1505	Received By/Stored In wch	Date/Time
Quincy Stowe	2-6-12	mstankovich	2/6/12 1505
Relinquished By/Removed From	Date/Time 1610	Received By/Stored In	Date/Time
MStankovich	2/6/12	A. Freer A. Freer	2-6-12 1610
Relinquished By/Removed From	Date/Time 1000	Received By/Stored In	Date/Time
Cynthia Burnham	2/7/12 0950 WCH	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Quincy Birdsell	2/7/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

REVIEWED BY Mush DATE 2/7/12

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (Mercury) SDG J01414

* freeze upon receipt 2/7/12 cmp

VOA samples frozen upon collection

Custody unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

GC/MS ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100-D-73 100-D-76			DATA PACKAGE: J01414		
VALIDATOR: ELR		LAB: TAL		DATE: 6/18/12	
			SDG: J01414		

ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)

SAMPLES/MATRIX			
J1N4C8	J1N4C9	J1N4D0	J1N4D1
J1N4D2	J1N4D3	J1N4D4	J1N4D5
J1N4D6	J1N4D7	J1N4D8	J1N4D9
J1N4F0			
			Soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes (No) N/A

Comments: _____

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? ..... Yes No (N/A)

Initial calibrations acceptable? ..... Yes No (N/A)

Continuing calibrations acceptable? ..... Yes No (N/A)

Standards traceable? ..... Yes No (N/A)

Standards expired? ..... Yes No (N/A)

Calculation check acceptable? ..... Yes No (N/A)

Comments: _____

GC/MS ORGANIC DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E) ..... Yes No N/A
Calibration blank results acceptable? (Levels D, E) ..... Yes No N/A
Laboratory blanks analyzed? ..... Yes No N/A
Laboratory blank results acceptable? ..... Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E) ..... Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: no RBs
MB - nomb - Fo - J all

PB - acetone + 2-butane

4. ACCURACY (Levels C, D, and E)

Surrogates/system monitoring compounds analyzed? ..... Yes No N/A
Surrogate/system monitoring compound recoveries acceptable? ..... Yes No N/A
Surrogates traceable? (Levels D, E) ..... Yes No N/A
Surrogates expired? (Levels D, E) ..... Yes No N/A
MS/MSD samples analyzed? ..... Yes No N/A
MS/MSD results acceptable? ..... Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A
MS/MSD standards? (Levels D, E) ..... Yes No N/A
LCS/BSS samples analyzed? ..... Yes No N/A
LCS/BSS results acceptable? ..... Yes No N/A
Standards traceable? (Levels D, E) ..... Yes No N/A
Standards expired? (Levels D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Performance audit sample(s) analyzed? ..... Yes No N/A
Performance audit sample results acceptable? ..... Yes No N/A

Comments: no RBs
no MS/MSD - Fo - J all

GC/MS ORGANIC DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A
MS/MSD RPD values acceptable? ..... Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A
MS/MSD standards expired? (Levels D, E) ..... Yes No N/A
Field duplicate RPD values acceptable? ..... Yes No N/A
Field split RPD values acceptable? ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments:
NO MS/MSD - FD - J all

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed? ..... Yes No N/A
Iinternal standard areas acceptable? ..... Yes No N/A
Internal standard retention times acceptable? ..... Yes No N/A
Standards traceable? ..... Yes No N/A
Standards expired? ..... Yes No N/A
Transcription/calculation errors? ..... Yes No N/A

Comments:

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A
Sample holding times acceptable? ..... Yes No N/A

Comments:

GC/MS ORGANIC DATA VALIDATION CHECKLIST

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E) ..... Yes No N/A
Compound quantitation acceptable? (Levels D, E) ..... Yes No N/A
Results reported for all requested analyses? ..... Yes No N/A
Results supported in the raw data? (Levels D, E) ..... Yes No N/A
Samples properly prepared? (Levels D, E) ..... Yes No N/A
Laboratory properly identified and coded all TIC? (Levels D, E) ..... Yes No N/A
Detection limits meet RDL? ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Comments:_____

9. SAMPLE CLEANUP (Levels D and E)

GPC cleanup performed? ..... Yes No N/A
GPC check performed? ..... Yes No N/A
GPC check recoveries acceptable? ..... Yes No N/A
GPC calibration performed? ..... Yes No N/A
GPC calibration check performed? ..... Yes No N/A
GPC calibration check retention times acceptable? ..... Yes No N/A
Check/calibration materials traceable? ..... Yes No N/A
Check/calibration materials Expired? ..... Yes No N/A
Analytical batch QC given similar cleanup? ..... Yes No N/A
Transcription/Calculation Errors? ..... Yes No N/A
Comments:_____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank - Batch: 280-106733

Method: 8260B
Preparation: 5035

Lab Sample ID:	MB 280-106733/1-A	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2743.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.04 g
Analysis Date:	02/09/2012 1120	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acetone	5.3	U	5.3	20
Benzene	0.47	U	0.47	5.0
Bromodichloromethane	0.22	U	0.22	5.0
Bromoform	0.23	U	0.23	5.0
Bromomethane	0.50	U	0.50	9.9
2-Butanone (MEK)	1.8	U	1.8	9.9
Carbon disulfide	0.42	U	0.42	5.0
Carbon tetrachloride	0.63	U	0.63	5.0
Chlorobenzene	0.54	U	0.54	5.0
Dibromochloromethane	0.57	U	0.57	5.0
Chloroethane	0.88	U	0.88	9.9
Chloroform	0.29	U	0.29	5.0
Chloromethane	0.76	U	0.76	9.9
1,1-Dichloroethane	0.21	U	0.21	5.0
1,2-Dichloroethane	0.69	U	0.69	5.0
1,1-Dichloroethene	0.59	U	0.59	5.0
1,2-Dichloroethene, Total	0.39	U	0.39	5.0
1,2-Dichloropropane	0.55	U	0.55	5.0
cis-1,3-Dichloropropene	1.3	U	1.3	5.0
trans-1,3-Dichloropropene	0.66	U	0.66	5.0
Ethylbenzene	0.66	U	0.66	5.0
2-Hexanone	4.9	U	4.9	20
Methylene Chloride	0.74	U	0.74	5.0
4-Methyl-2-pentanone (MIBK)	4.3	U	4.3	9.9
Styrene	0.63	U	0.63	5.0
1,1,2,2-Tetrachloroethane	0.61	U	0.61	5.0
Tetrachloroethene	0.59	U	0.59	5.0
Toluene	0.68	U	0.68	5.0
1,1,1-Trichloroethane	0.52	U	0.52	5.0
1,1,2-Trichloroethane	0.87	U	0.87	5.0
Trichloroethene	0.23	U	0.23	5.0
Vinyl chloride	1.3	U	1.3	5.0
Xylenes, Total	0.61	U	0.61	5.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	82	58 - 140
Toluene-d8 (Surr)	110	80 - 126
4-Bromofluorobenzene (Surr)	108	76 - 127
Dibromofluoromethane (Surr)	90	75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank TICs- Batch: 280-106733

Cas Number	Analyte	RT	Est. Result	Qual
120-82-1	1,2,4-Trichlorobenzene	15.32	0.878	N J
91-20-3	Naphthalene	15.61	0.978	N J
124-19-6	Nonanal	14.20	7.77	N J
	Unknown	9.09	5.75	J N
	Unknown	14.01	6.57	J N

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Lab Control Sample - Batch: 280-106733

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-106733/3-A	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2737.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	02/09/2012 0845	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acetone	200	215	107	65 - 150	
Benzene	50.0	42.8	86	75 - 135	
Bromodichloromethane	50.0	45.2	90	73 - 135	
Bromoform	50.0	46.7	93	77 - 135	
Bromomethane	50.0	36.9	74	52 - 135	
2-Butanone (MEK)	200	190	95	45 - 177	
Carbon disulfide	50.0	35.7	71	45 - 150	
Carbon tetrachloride	50.0	44.0	88	69 - 138	
Chlorobenzene	50.0	41.2	82	78 - 135	
Dibromochloromethane	50.0	43.4	87	77 - 135	
Chloroethane	50.0	38.1	76	51 - 145	
Chloroform	50.0	43.0	86	73 - 123	
Chloromethane	50.0	34.7	69	41 - 138	
1,1-Dichloroethane	50.0	40.9	82	70 - 135	
1,2-Dichloroethane	50.0	47.9	96	69 - 135	
1,1-Dichloroethene	50.0	42.3	85	79 - 135	
1,2-Dichloroethene, Total	100	85.9	86	78 - 135	
1,2-Dichloropropane	50.0	42.6	85	72 - 121	
cis-1,3-Dichloropropene	50.0	44.5	89	71 - 135	
trans-1,3-Dichloropropene	50.0	46.1	92	71 - 135	
Ethylbenzene	50.0	43.0	86	73 - 125	
2-Hexanone	200	211	106	67 - 150	
Methylene Chloride	50.0	42.0	84	76 - 136	
4-Methyl-2-pentanone (MIBK)	200	228	114	69 - 150	
Styrene	50.0	42.8	86	76 - 135	
1,1,2,2-Tetrachloroethane	50.0	43.3	87	65 - 135	
Tetrachloroethene	50.0	42.2	84	76 - 135	
Toluene	50.0	43.5	87	77 - 122	
1,1,1-Trichloroethane	50.0	43.1	86	70 - 135	
1,1,2-Trichloroethane	50.0	44.6	89	78 - 135	
Trichloroethene	50.0	43.3	87	77 - 135	
Vinyl chloride	50.0	35.1	70	43 - 145	
Xylenes, Total	150	130	87	76 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	92	58 - 140
Toluene-d8 (Surr)	108	80 - 126
4-Bromofluorobenzene (Surr)	101	76 - 127
Dibromofluoromethane (Surr)	89	75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Lab Control Sample - Batch: 280-106733

Method: 8260B
Preparation: 5035

Lab Sample ID:	LCS 280-106733/3-A	Analysis Batch:	280-107322	Instrument ID:	MSV_G2
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	G2_3569.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	02/10/2012 1105	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acetone	200	163	82	65 - 150	
Benzene	50.0	53.2	106	75 - 135	
Bromodichloromethane	50.0	53.3	107	73 - 135	
Bromoform	50.0	54.3	109	77 - 135	
Bromomethane	50.0	47.6	95	52 - 135	
2-Butanone (MEK)	200	204	102	45 - 177	
Carbon disulfide	50.0	30.7	61	45 - 150	
Carbon tetrachloride	50.0	53.0	106	69 - 138	
Chlorobenzene	50.0	53.2	106	78 - 135	
Dibromochloromethane	50.0	55.4	111	77 - 135	
Chloroethane	50.0	46.1	92	51 - 145	
Chloroform	50.0	50.9	102	73 - 123	
Chloromethane	50.0	52.6	105	41 - 138	
1,1-Dichloroethane	50.0	51.1	102	70 - 135	
1,2-Dichloroethane	50.0	52.5	105	69 - 135	
1,1-Dichloroethene	50.0	53.7	107	79 - 135	
1,2-Dichloroethene, Total	100	104	104	78 - 135	
1,2-Dichloropropane	50.0	51.3	103	72 - 121	
cis-1,3-Dichloropropene	50.0	53.2	106	71 - 135	
trans-1,3-Dichloropropene	50.0	52.3	105	71 - 135	
Ethylbenzene	50.0	54.3	109	73 - 125	
2-Hexanone	200	171	85	67 - 150	
Methylene Chloride	50.0	51.8	104	76 - 136	
4-Methyl-2-pentanone (MIBK)	200	173	87	69 - 150	
Styrene	50.0	54.0	108	76 - 135	
1,1,2,2-Tetrachloroethane	50.0	49.4	99	65 - 135	
Tetrachloroethene	50.0	57.6	115	76 - 135	
Toluene	50.0	51.7	103	77 - 122	
1,1,1-Trichloroethane	50.0	49.9	100	70 - 135	
1,1,2-Trichloroethane	50.0	49.1	98	78 - 135	
Trichloroethene	50.0	54.0	108	77 - 135	
Vinyl chloride	50.0	49.1	98	43 - 145	
Xylenes, Total	150	161	107	76 - 135	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	78	58 - 140
Toluene-d8 (Surr)	94	80 - 126
4-Bromofluorobenzene (Surr)	89	76 - 127
Dibromofluoromethane (Surr)	91	75 - 121

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-106733

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	280-25386-1	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2745.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	3.753 g
Analysis Date:	02/09/2012 1203			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

MSD Lab Sample ID:	280-25386-1	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2746.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	4.349 g
Analysis Date:	02/09/2012 1225			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Acetone	99	93	65 - 150	18	28		
Benzene	84	79	75 - 135	21	20		*
Bromodichloromethane	85	80	73 - 135	20	20		
Bromoform	91	83	77 - 135	24	20		*
Bromomethane	71	70	52 - 135	16	22		
2-Butanone (MEK)	90	86	45 - 177	17	32		
Carbon disulfide	75	68	45 - 150	26	24		*
Carbon tetrachloride	77	71	69 - 138	22	20		*
Chlorobenzene	82	77	78 - 135	21	20		T *
Dibromochloromethane	88	81	77 - 135	23	20		*
Chloroethane	75	69	51 - 145	23	22		*
Chloroform	82	77	73 - 123	21	20		*
Chloromethane	67	66	41 - 138	15	25		
1,1-Dichloroethane	81	76	70 - 135	21	20		*
1,2-Dichloroethane	88	80	69 - 135	23	20		*
1,1-Dichloroethene	78	72	79 - 135	22	20	T	T *
1,2-Dichloroethene, Total	84	79	78 - 135	20	20		
1,2-Dichloropropane	85	80	72 - 121	21	20		*
cis-1,3-Dichloropropene	87	81	71 - 135	21	20		*
trans-1,3-Dichloropropene	88	81	71 - 135	23	20		*
Ethylbenzene	80	77	73 - 125	18	20		
2-Hexanone	102	99	67 - 150	17	29		
Methylene Chloride	88	81	76 - 136	23	21		*
4-Methyl-2-pentanone (MIBK)	105	102	69 - 150	18	25		
Styrene	85	80	76 - 135	20	20		
1,1,2,2-Tetrachloroethane	84	79	65 - 135	20	21		
Tetrachloroethene	79	75	76 - 135	20	20		T
Toluene	83	79	77 - 122	20	20		
1,1,1-Trichloroethane	78	72	70 - 135	23	20		*
1,1,2-Trichloroethane	87	82	78 - 135	20	20		
Trichloroethene	80	75	77 - 135	22	20		T *
Vinyl chloride	67	66	43 - 145	16	24		

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-106733

Method: 8260B
Preparation: 5035

MS Lab Sample ID:	280-25386-1	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2745.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	3.753 g
Analysis Date:	02/09/2012 1203			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

MSD Lab Sample ID:	280-25386-1	Analysis Batch:	280-107080	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-106733	Lab File ID:	J2746.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	4.349 g
Analysis Date:	02/09/2012 1225			Final Weight/Volume:	5 mL
Prep Date:	02/08/2012 1152				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Xylenes, Total	85	80	76 - 135	21	20		*

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	83	81	58 - 140
Toluene-d8 (Surr)	115	111	80 - 126
4-Bromofluorobenzene (Surr)	101	98	76 - 127
Dibromofluoromethane (Surr)	87	85	75 - 121

Date: 18 July 2012
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Sites 100-D-73 & 100-D-76
Subject: Inorganics - Data Package No. J01414-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01414 prepared by TestAmerica Laboratories (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1N4C8	2/6/12	Soil	C	See note 1
J1N4C9	2/6/12	Soil	C	See note 1
J1N4D0	2/6/12	Soil	C	See note 1
J1N4D1	2/6/12	Soil	C	See note 1
J1N4D2	2/6/12	Soil	C	See note 1
J1N4D3	2/6/12	Soil	C	See note 1
J1N4D4	2/6/12	Soil	C	See note 1
J1N4D5	2/6/12	Soil	C	See note 1
J1N4D6	2/6/12	Soil	C	See note 1
J1N4D7	2/6/12	Soil	C	See note 1
J1N4D8	2/6/12	Soil	C	See note 1
J1N4D9	2/6/12	Soil	C	See note 1
J1N4F0	2/6/12	Soil	C	See note 1

1 - ICP metals (6010B) and mercury by 7471A.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client

DATA QUALITY PARAMETERS

Holding Times

Analytical holding times for metals are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements are as follows: Soil samples must be analyzed within 6 months for ICP metals and 28 days for mercury.

All holding times were acceptable.

Preparation (Method) Blanks

\Preparation Blanks

At least one preparation blank, consisting of deionized distilled water processed through each sample preparation and analysis procedure, must be prepared and analyzed with every sample delivery group. In the case of positive blank results, samples with digestate concentrations less than five times the preparation blank value have had their associated values qualified as non-detected and flagged "UJ". Samples with concentrations of greater than five times the highest blank concentration do not require qualification.

In the case of negative blank results, if the absolute value exceeds the contract required detection limit (CRDL), all nondetects are rejected and flagged "UR" and all detects that are less than ten times the absolute value of the associated preparation blank result are qualified as estimates and flagged "J". If the absolute value of the negative preparation blank is greater than the instrument detection limit (IDL) and less than or equal to the CRDL, all nondetects are qualified as estimates and flagged "UJ" and all detects less than ten times the absolute value of the blank are qualified as estimates and flagged "J". If the sample results are greater than ten times the absolute value of the preparation blank, no qualification is necessary.

All preparation blank results were acceptable.

Field (Equipment) Blank

No field blanks were submitted for analysis.

Accuracy

Matrix Spike and Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 75% to 125%. Samples with a recovery of less than 30%

and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 74% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 125% or less than 74% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 125% and a sample result less than the IDL, no qualification is required.

Due to matrix spike recoveries outside QC limits, all antimony (56%) and silicon (30%) results were qualified as estimates and flagged "J".

Due to an LCS recovery outside QC limits (18%), all silicon results were qualified as estimates and flagged "J".

All other accuracy results were acceptable

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All laboratory duplicate results were acceptable.

Field Duplicate

One set field duplicates (J1N4D8/J1N4F0) were submitted for analysis. Laboratory duplicates are compared using the same criteria as for laboratory results. All field duplicate results are acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the 100 Area RQLs to ensure that laboratory detection levels meet the required criteria. All results met the RQL.

- **Completeness**

Data package No. J01414 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

The following minor deficiencies were noted:

- Due to matrix spike recoveries outside QC limits, all antimony (56%) and silicon (30%) results were qualified as estimates and flagged "J".

- Due to an LCS recovery outside QC limits (18%), all silicon results were qualified as estimates and flagged "J".

Data flagged "J" indicates that the associated concentration is an estimate, but under the WCH statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*, March 2008.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

INORGANIC DATA QUALIFICATION SUMMARY*

SDG: J01414	**REVIEWER: ELR**	**Project: 100-D-73 & 100-D-76**	**PAGE 1 OF 1**
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Antimony Silicon	J	All	MS recovery
Silicon	J	All	LCS recovery

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4C8**

Lab Sample ID: 280-25386-2
Client Matrix: Solid

% Moisture: 6.9

Date Sampled: 02/06/2012 1356
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/17/2012 2333
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

V 6/17/12

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.06 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4340	X	1.6	5.1
Antimony		0.38	U J	0.38	0.61
Arsenic		1.2		0.67	1.0
Barium		49.3	X	0.077	0.51
Beryllium		0.033	U	0.033	0.20
Boron		0.99	U	0.99	2.0
Cadmium		0.13	B	0.042	0.20
Calcium		5940	X	14.3	50.6
Chromium		4.4	X	0.059	0.20
Cobalt		9.8	X	0.10	1.0
Copper		14.2	X	0.22	1.0
Iron		24100	X	3.8	5.1
Lead		2.6		0.27	0.51
Magnesium		4370	X	3.7	20.3
Manganese		302	X	0.10	1.0
Molybdenum		0.31	B	0.26	2.0
Nickel		8.5	X	0.12	4.1
Potassium		637		41.5	304
Selenium		0.87	U	0.87	1.0
Silicon		280	J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		340		59.8	122
Vanadium		65.9	X	0.095	2.0
Zinc		42.8	X	0.40	1.0

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2113
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.68 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0052	U	0.0052	0.016

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4C9

Lab Sample ID: 280-25386-3
Client Matrix: Solid

% Moisture: 4.7

Date Sampled: 02/06/2012 1350
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/17/2012 2343
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.11 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3890	X	1.5	4.7
Antimony		0.36	U J	0.36	0.57
Arsenic		1.2		0.62	0.95
Barium		45.4	X	0.072	0.47
Beryllium		0.031	U	0.031	0.19
Boron		0.93	U	0.93	1.9
Cadmium		0.094	B	0.039	0.19
Calcium		4880	X	13.3	47.3
Chromium		3.4	X	0.055	0.19
Cobalt		8.4	X	0.095	0.95
Copper		12.5	X	0.21	0.95
Iron		22000	X	3.6	4.7
Lead		1.9		0.26	0.47
Magnesium		3650	X	3.5	18.9
Manganese		258	X	0.095	0.95
Molybdenum		0.26	B	0.25	1.9
Nickel		7.0	X	0.12	3.8
Potassium		588		38.7	284
Selenium		0.81	U	0.81	0.95
Silicon		165	J	5.3	9.5
Silver		0.15	U	0.15	0.19
Sodium		305		55.8	113
Vanadium		59.6	X	0.089	1.9
Zinc		39.8	X	0.38	0.95

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2124
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.53 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0066	U	0.0066	0.020

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D0

Lab Sample ID: 280-25386-4
Client Matrix: Solid

% Moisture: 7.3

Date Sampled: 02/06/2012 1344
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/17/2012 2345
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5470	X	1.6	5.2
Antimony		0.39	U J	0.39	0.62
Arsenic		2.2		0.68	1.0
Barium		59.3	X	0.079	0.52
Beryllium		0.034	U	0.034	0.21
Boron		1.0	U	1.0	2.1
Cadmium		0.12	B	0.043	0.21
Calcium		9040	X	14.6	51.8
Chromium		15.3	X	0.060	0.21
Cobalt		9.0	X	0.10	1.0
Copper		14.7	X	0.22	1.0
Iron		23300	X	3.9	5.2
Lead		3.9		0.28	0.52
Magnesium		4180	X	3.8	20.7
Manganese		307	X	0.10	1.0
Molybdenum		0.27	U	0.27	2.1
Nickel		8.3	X	0.13	4.1
Potassium		882		42.5	311
Selenium		0.89	U J	0.89	1.0
Silicon		275		5.9	10.4
Silver		0.17	U	0.17	0.21
Sodium		313		61.2	124
Vanadium		63.4	X	0.097	2.1
Zinc		48.1	X	0.41	1.0

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2127
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.70 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0051	U	0.0051	0.016

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D1

Lab Sample ID: 280-25386-5
Client Matrix: Solid % Moisture: 3.8

Date Sampled: 02/06/2012 1336
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/17/2012 2348
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3540	X	1.5	4.8
Antimony		0.37	U J	0.37	0.58
Arsenic		0.67	B	0.63	0.96
Barium		46.9	X	0.073	0.48
Boron		0.94	U	0.94	1.9
Cadmium		0.11	B	0.039	0.19
Calcium		4770	X	13.6	48.1
Chromium		4.3	X	0.056	0.19
Copper		13.9	X	0.21	0.96
Iron		24600	X	3.7	4.8
Magnesium		4110	X	3.6	19.2
Manganese		298	X	0.096	0.96
Molybdenum		0.25	U	0.25	1.9
Nickel		7.4	X	0.12	3.8
Potassium		543		39.4	289
Selenium		0.83	U	0.83	0.96
Silicon		167	J	5.4	9.6
Silver		0.15	U	0.15	0.19
Sodium		262		56.8	115
Zinc		42.9	X	0.38	0.96

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 02/20/2012 1416
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108525
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26a022012.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.16	U	0.16	0.96
Cobalt		11.1	X	0.48	4.8
Lead		1.5	B	1.3	2.4
Vanadium		74.2	X	0.45	9.6

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2129
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	U	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D2**

Lab Sample ID: 280-25386-6
Client Matrix: Solid

% Moisture: 3.8

Date Sampled: 02/06/2012 1330
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0000
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

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Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3660	X J	1.6	5.0
Antimony		0.38	U	0.38	0.61
Arsenic		0.67	U	0.67	1.0
Barium		56.0	X	0.077	0.50
Boron		0.99	U	0.99	2.0
Cadmium		0.11	B	0.041	0.20
Calcium		4800	X	14.2	50.5
Chromium		3.9	X	0.059	0.20
Copper		12.1	X	0.22	1.0
Iron		24800	X	3.8	5.0
Magnesium		4060	X	3.7	20.2
Manganese		303	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		7.7	X	0.12	4.0
Potassium		549		41.4	303
Selenium		0.87	U	0.87	1.0
Silicon		188	J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		384		59.5	121
Zinc		44.6	X	0.40	1.0

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 02/20/2012 1418
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108525
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26a022012.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.17	U	0.17	1.0
Cobalt		11.2	X	0.50	5.0
Lead		2.1	B	1.4	2.5
Vanadium		77.4	X	0.47	10.1

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2131
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.58 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0059	U	0.0059	0.018

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D3

Lab Sample ID: 280-25386-7
Client Matrix: Solid

% Moisture: 7.7

Date Sampled: 02/06/2012 1324
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0003
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5890	X	1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		1.9		0.66	1.0
Barium		61.0	X	0.076	0.50
Beryllium		0.033	U	0.033	0.20
Boron		0.98	U	0.98	2.0
Cadmium		0.13	B	0.041	0.20
Calcium		7010	X	14.1	50.2
Chromium		7.5	X	0.058	0.20
Cobalt		8.6	X	0.10	1.0
Copper		14.7	X	0.22	1.0
Iron		22300	X	3.8	5.0
Lead		3.2		0.27	0.50
Magnesium		4530	X	3.7	20.1
Manganese		295	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		9.8	X	0.12	4.0
Potassium		918		41.1	301
Selenium		0.86	U	0.86	1.0
Silicon		332	J	5.7	10.0
Silver		0.16	U	0.16	0.20
Sodium		278		59.2	120
Vanadium		57.9	X	0.094	2.0
Zinc		42.3	X	0.40	1.0

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2134
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.65 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	U	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D4

Lab Sample ID: 280-25386-8
Client Matrix: Solid

% Moisture: 2.9

Date Sampled: 02/06/2012 1318
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0005
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.06 g
Final Weight/Volume: 100 mL

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3410	X J	1.5	4.9
Antimony		0.37	U	0.37	0.58
Arsenic		0.92	B	0.64	0.97
Barium		46.0	X	0.074	0.49
Beryllium		0.032	U	0.032	0.19
Boron		0.95	U	0.95	1.9
Cadmium		0.11	B	0.040	0.19
Calcium		5270	X	13.7	48.6
Chromium		3.8	X	0.056	0.19
Cobalt		9.2	X	0.097	0.97
Copper		14.2	X	0.21	0.97
Iron		23800	X	3.7	4.9
Lead		2.2		0.26	0.49
Magnesium		3950	X	3.6	19.4
Manganese		274	X	0.097	0.97
Molybdenum		0.25	U	0.25	1.9
Nickel		7.3	X	0.12	3.9
Potassium		513		39.8	291
Selenium		0.84	U J	0.84	0.97
Silicon		147		5.5	9.7
Silver		0.16	U	0.16	0.19
Sodium		283		57.3	117
Vanadium		65.9	X	0.091	1.9
Zinc		41.5	X	0.39	0.97

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2136
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.55 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0062	U	0.0062	0.019

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D5

Lab Sample ID: 280-25386-9
Client Matrix: Solid

% Moisture: 3.2

Date Sampled: 02/06/2012 1312
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0008
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4310	X J	1.5	5.0
Antimony		0.38	U	0.38	0.60
Arsenic		0.96	B	0.66	0.99
Barium		63.8	X	0.075	0.50
Boron		0.97	U	0.97	2.0
Cadmium		0.11	B	0.041	0.20
Calcium		5980	X	14.0	49.7
Chromium		4.7	X	0.058	0.20
Copper		13.3	X	0.22	0.99
Iron		26100	X	3.8	5.0
Magnesium		4480	X	3.7	19.9
Manganese		301	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		8.3	X	0.12	4.0
Potassium		578		40.7	298
Selenium		0.85	U	0.85	0.99
Silicon		168	J	5.6	9.9
Silver		0.16	U	0.16	0.20
Sodium		349		58.6	119
Zinc		45.9	X	0.40	0.99

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 02/20/2012 1421
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108525
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26a022012.asc
Initial Weight/Volume: 1.04 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.16	U	0.16	0.99
Cobalt		11.6	X	0.50	5.0
Lead		1.6	B	1.3	2.5
Vanadium		77.6	X	0.47	9.9

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2138
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.56 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0061	U	0.0061	0.019

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D6

Lab Sample ID: 280-25386-10
Client Matrix: Solid

% Moisture: 3.6

Date Sampled: 02/06/2012 1306
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0010
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		4610	X	1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		0.88	B	0.66	1.0
Barium		46.5	X	0.077	0.50
Beryllium		0.033	U	0.033	0.20
Boron		0.99	U	0.99	2.0
Cadmium		0.18	B	0.041	0.20
Calcium		6090	X	14.2	50.4
Chromium		5.6	X	0.058	0.20
Cobalt		9.8	X	0.10	1.0
Copper		14.0	X	0.22	1.0
Iron		24500	X	3.8	5.0
Lead		2.8		0.27	0.50
Magnesium		4140	X	3.7	20.1
Manganese		318	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		8.7	X	0.12	4.0
Potassium		626		41.3	302
Selenium		0.87	U	0.87	1.0
Silicon		246	J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		310		59.4	121
Vanadium		68.7	X	0.095	2.0
Zinc		44.9	X	0.40	1.0

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2141
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.63 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0055	U	0.0055	0.017

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D7

Lab Sample ID: 280-25386-11
Client Matrix: Solid % Moisture: 5.2

Date Sampled: 02/06/2012 1300
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0013
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

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Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		5960	X	1.6	5.3
Antimony		0.40	U J	0.40	0.63
Arsenic		2.2		0.70	1.1
Barium		58.4	X	0.080	0.53
Beryllium		0.035	U	0.035	0.21
Boron		1.0	U	1.0	2.1
Cadmium		0.16	B	0.043	0.21
Calcium		8930	X	14.9	52.8
Chromium		8.1	X	0.061	0.21
Cobalt		9.3	X	0.11	1.1
Copper		15.4	X	0.23	1.1
Iron		23000	X	4.0	5.3
Lead		3.8		0.28	0.53
Magnesium		4800	X	3.9	21.1
Manganese		311	X	0.11	1.1
Molybdenum		0.27	U	0.27	2.1
Nickel		10.0	X	0.13	4.2
Potassium		962		43.3	317
Selenium		0.91	U J	0.91	1.1
Silicon		258		6.0	10.6
Silver		0.17	U	0.17	0.21
Sodium		299		62.2	127
Vanadium		55.0	X	0.099	2.1
Zinc		44.6	X	0.42	1.1

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2143
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.58 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.011	B	0.0060	0.019

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4D8

Lab Sample ID: 280-25386-12
Client Matrix: Solid % Moisture: 3.1

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-108335	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-106831	Lab File ID:	26b021712.asc
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Analysis Date:	02/18/2012 0015			Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				

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Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3430	X	1.6	5.1
Antimony		0.39	U J	0.39	0.61
Arsenic		0.67	U	0.67	1.0
Barium		56.3	X	0.078	0.51
Boron		1.0	U	1.0	2.0
Cadmium		0.11	B	0.042	0.20
Calcium		5560	X	14.4	51.1
Chromium		3.4	X	0.059	0.20
Copper		12.1	X	0.22	1.0
Iron		26100	X	3.9	5.1
Magnesium		4180	X	3.8	20.4
Manganese		304	X	0.10	1.0
Molybdenum		0.27	U	0.27	2.0
Nickel		7.2	X	0.13	4.1
Potassium		470		41.9	306
Selenium		0.88	U	0.88	1.0
Silicon		156	J	5.8	10.2
Silver		0.16	U	0.16	0.20
Sodium		275		60.3	123
Zinc		45.6	X	0.41	1.0

Analysis Method:	6010B	Analysis Batch:	280-108525	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-106831	Lab File ID:	26a022012.asc
Dilution:	5.0			Initial Weight/Volume:	1.01 g
Analysis Date:	02/20/2012 1423			Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.17	U	0.17	1.0
Cobalt		11.4	X	0.51	5.1
Lead		1.8	B	1.4	2.6
Vanadium		79.3	X	0.48	10.2

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-108174	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-106899	Lab File ID:	120216aa2.txt
Dilution:	1.0			Initial Weight/Volume:	0.70 g
Analysis Date:	02/16/2012 2150			Final Weight/Volume:	50 mL
Prep Date:	02/16/2012 1340				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0049	U	0.0049	0.015

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: **J1N4D9**

Lab Sample ID: 280-25386-13
Client Matrix: Solid

% Moisture: 6.7

Date Sampled: 02/06/2012 1245
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0018
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.08 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		6140	X	1.5	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		2.4		0.65	0.99
Barium		62.6	X	0.075	0.50
Beryllium		0.041	B	0.033	0.20
Boron		1.1	B	0.97	2.0
Cadmium		0.15	B	0.041	0.20
Calcium		9980	X	14.0	49.6
Chromium		10.8	X	0.058	0.20
Cobalt		8.3	X	0.099	0.99
Copper		16.9	X	0.22	0.99
Iron		20600	X	3.8	5.0
Lead		4.4		0.27	0.50
Magnesium		4520	X	3.7	19.8
Manganese		300	X	0.099	0.99
Molybdenum		0.26	U	0.26	2.0
Nickel		11.2	X	0.12	4.0
Potassium		1030		40.7	298
Selenium		0.85	U J	0.85	0.99
Silicon		317	J	5.6	9.9
Silver		0.16	U	0.16	0.20
Sodium		293		58.6	119
Vanadium		54.1	X	0.093	2.0
Zinc		44.6	X	0.39	0.99

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2152
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.53 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0067	U	0.0067	0.021

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Client Sample ID: J1N4F0

Lab Sample ID: 280-25386-14
Client Matrix: Solid

% Moisture: 3.7

Date Sampled: 02/06/2012 1251
Date Received: 02/08/2012 0930

6010B Metals (ICP)

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 1.0
Analysis Date: 02/18/2012 0021
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108335
Prep Batch: 280-106831

V 4/12/12

Instrument ID: MT_026
Lab File ID: 26b021712.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		3830	X	1.6	5.0
Antimony		0.38	U J	0.38	0.60
Arsenic		0.84	B	0.67	1.0
Barium		58.8	X	0.077	0.50
Boron		0.99	U	0.99	2.0
Cadmium		0.12	B	0.041	0.20
Calcium		5790	X	14.2	50.4
Chromium		4.5	X	0.058	0.20
Copper		14.2	X	0.22	1.0
Iron		26300	X	3.8	5.0
Magnesium		4400	X	3.7	20.2
Manganese		303	X	0.10	1.0
Molybdenum		0.26	U	0.26	2.0
Nickel		9.0	X	0.12	4.0
Potassium		496		41.3	302
Selenium		0.87	U	0.87	1.0
Silicon		165	J	5.7	10.1
Silver		0.16	U	0.16	0.20
Sodium		298		59.5	121
Zinc		46.1	X	0.40	1.0

Analysis Method: 6010B
Prep Method: 3050B
Dilution: 5.0
Analysis Date: 02/20/2012 1425
Prep Date: 02/09/2012 0641

Analysis Batch: 280-108525
Prep Batch: 280-106831

Instrument ID: MT_026
Lab File ID: 26a022012.asc
Initial Weight/Volume: 1.03 g
Final Weight/Volume: 100 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Beryllium		0.17	U	0.17	1.0
Cobalt		11.7	X	0.50	5.0
Lead		2.5		1.4	2.5
Vanadium		83.4	X	0.47	10.1

7471A Mercury (CVAA)

Analysis Method: 7471A
Prep Method: 7471A
Dilution: 1.0
Analysis Date: 02/16/2012 2155
Prep Date: 02/16/2012 1340

Analysis Batch: 280-108174
Prep Batch: 280-106899

Instrument ID: MT_033
Lab File ID: 120216aa2.txt
Initial Weight/Volume: 0.58 g
Final Weight/Volume: 50 mL

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		0.0059	U	0.0059	0.018

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-25386-1

SDG #: J01414
SAF#: RC-075

Date SDG Closed: February 8, 2012
Data Deliverable: 21 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1N4C6	280-25386-1	8260	8260B
J1N4C8	280-25386-2	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4C9	280-25386-3	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D0	280-25386-4	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D1	280-25386-5	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D2	280-25386-6	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D3	280-25386-7	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D4	280-25386-8	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D5	280-25386-9	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D6	280-25386-10	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D7	280-25386-11	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D8	280-25386-12	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4D9	280-25386-13	6010/7471/8260/8270A	6010B/7471A/8260B/8270C
J1N4F0	280-25386-14	6010/7471/8260/8270A	6010B/7471A/8260B/8270C

I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed in this Case Narrative. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the signature on the Report Cover.

With exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits, with any exceptions noted. Calculations are performed before rounding to avoid round-off errors in calculated results.

This report includes reporting limits (RLs) less than TestAmerica Denver's practical quantitation limits. These reporting limits are being used specifically at the client's request to meet the needs of this project. Please note that data are not normally reported to these levels without qualification, since they are inherently less reliable and potentially less defensible than required by the current NELAC standards.

The results, RLs and MDLs included in this report have been adjusted for dry weight, as appropriate.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 2/8/2012; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were -0.5 C and 3.4 C.

It can be noted that all samples requesting 5035/8260 VOA analysis were received at the laboratory frozen. The cooler received at a temperature of -0.5 C contained the 5035/8260 VOA samples.

GC/MS VOLATILES - SW846 8260B
The MS/MSD performed on sample J1N4C6 exhibited spike compound recoveries outside the control limits, and the associated sample results have been flagged "T". In addition RPD limits were exceeded. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary. The laboratory noted that the sample size used in the preparation of the MS and MSD for sample J1N4C6 exceeded 10% difference. As the RPD calculation is based upon the MS/MSD concentration as opposed to the MS/MSD percent recovery, elevated %RPD values were obtained.

No other anomalies were encountered.

GC/MS SEMIVOLATILES - SW846 8270C

Low levels of Dimethyl phthalate, a common laboratory contaminant, are present in the method blank associated with batch 280-106786. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A

Serial dilution of a digestate in batch 280-106831 indicates that physical and chemical interferences are present for several elements. Results have been flagged with an "X".

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. In some cases, samples required a 5X dilution prior to the analysis of Beryllium, Cobalt, Lead and Vanadium to minimize the interference caused by Titanium concentrations greater than the linear range. The reporting limits have been adjusted relative to the dilution required.

Low levels of Barium and Chromium are present in the method blank associated with batch 280-106831. Because the concentrations in the method blank are not present at levels greater than half the reporting limit or the associated sample amounts are twenty times greater than the method blank concentration, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Aluminum, Iron and Manganese in the Matrix Spike performed on sample J1N4C8; therefore, control limits are not applicable.

No other anomalies were encountered.

-0.5, 3.4 TEL SC 2/8/12

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-293	Page 1 of 1
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Trip Blanks		SAF No. RC-075	Data Turnaround 21 Days
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DVR (2-2-12)	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Freeze										
Type of Container	Gs*										
No. of Container(s)	5										
Volume	40mL										
SAMPLE ANALYSIS	VOA - 5035/8260 (TCL)										
92	✱										
Sample No.	Matrix *	Sample Date	Sample Time								
J1N4C6	SOIL	2-6-12	1215	X							
~~J1N4C7~~ (2) 2-2-12	SOIL										

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CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	2-6-12 1505	WCH mstankocich	2/6/12 1505
mstankocich	2/6/12 1610	A. Freier A. Freier	2-6-12 1610
Clinton Bingham	2/7/12 0940	Fed Ex	
WCH	2/7/12 0950		
		Jason Dietl	2/8/12 0930

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

* Freeze upon receipt 2/7/12 CMB

SDG

J014114

VOA samples frozen upon collection

Custodian is available to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

REVIEWED BY mwsha DATE 2/7/12

WCH-EE-011

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 1 of 3
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DNR 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. SCC OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C
Type of Container	G/P	G/P	Gs*	aG
No. of Container(s)	1	1	5	1
Volume	125mL	125mL	40mL	125mL
SAMPLE ANALYSIS	See item (I) in Special Instructions.	Chromium Hex 7196	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)

Sample No.	Matrix *	Sample Date	Sample Time									
J1N4C8	SOIL	2/6/12	1356	X		X	X					
J1N4C9	SOIL		1350	X		X	X					
J1N4D0	SOIL		1344	X		X	X					
J1N4D1	SOIL		1336	X		X	X					
J1N4D2	SOIL		1330	X		X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1505	Received By/Stored In well	Date/Time
Q Miner Stowe 2-6-12		MSTankovich	2/6/12 1505
Relinquished By/Removed From	Date/Time 1610	Received By/Stored In 1060#1	Date/Time 1610 2-6-12
MSTankovich 2/6/12		A-Freezer A. Freiz	
Relinquished By/Removed From	Date/Time 1064	Received By/Stored In	Date/Time
Cynthia Burnham 2/7/12 0950		fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Nancy Russell	2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury} 506 504114

* freeze upon receipt 2/7/12 cms

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

VOA samples frozen upon collection

Matrix *
S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

REVIEWED BY DWSkov DATE 2/7/12

WCH-EE-011

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 2 of 3
Collector Q. Stowe	Company Contact J Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH	Price Code 8L Data Turnaround 21 Days
Project Designation 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No. RC-075	
Ice Chest No. RCC-07-013	Field Logbook No. EL-1607-13	COA 010D732000	Method of Shipment FED EX	
Shipped To TestAmerica Incorporated, ~~Richland~~ DVR 2-2-12	Offsite Property No. A110178		Bill of Lading/Air Bill No. See OSPC	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C						
Type of Container	G/P	G/P	Gs*	aG						
No. of Container(s)	1	1	5	1						
Volume	125mL	125mL	40mL	125mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Chromium Ref 7196	VOA - 5035/8260 (TCL) *	Semi-VOA - 8270A (TCL)						

Sample No.	Matrix *	Sample Date	Sample Time									
J1N4D3	SOIL	2/6/12	1324	X		X	X					
J1N4D4	SOIL		1318	X		X	X					
J1N4D5	SOIL		1312	X		X	X					
J1N4D6	SOIL		1306	X		X	X					
J1N4D7	SOIL		1300	X		X	X					

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time 1505	Received By/Stored In well	Date/Time
Quincy Stowe	2-6-12	mstankovich	2/6/12 1505
Relinquished By/Removed From	Date/Time 1610	Received By/Stored In	Date/Time 12 AM 2-6-12
MSTankovich	2/6/12	A. Freer A. Freer	2-6-12 1610
Relinquished By/Removed From	Date/Time 1040	Received By/Stored In	Date/Time
Cynthia Bingham	2/7/12 0950 WCH	Fed Ex	
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
		Jenny Bissell	2/8/12 0930
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

REVIEWED BY Mushe DATE 2/7/12

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

SDG J01414

* freeze upon receipt 2/7/12 CMP

VOA samples frozen upon collection

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100-D-73 100-D-76			DATA PACKAGE: J01414		
VALIDATOR: ELR		LAB: TAL		DATE: 6/17/12	
			SDG: J01414		

ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg	SW-846 Cyanide		

SAMPLES/MATRIX			
J1N4C8	J1N4C9	J1N4D0	J1N4P1
J1N4D2	J1N4D3	J1N4D4	J1N4D5
J1N4D6	J1N4D7	J1N4P8	J1N4D9
J1N4F0			
			Soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes (No) N/A

Comments: _____

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No (N/A)

Initial calibrations acceptable? ..... Yes No (N/A)

ICP interference checks acceptable? ..... Yes No (N/A)

ICV and CCV checks performed on all instruments? ..... Yes No (N/A)

ICV and CCV checks acceptable? ..... Yes No (N/A)

Standards traceable? ..... Yes No (N/A)

Standards expired? ..... Yes No (N/A)

Calculation check acceptable? ..... Yes No (N/A)

Comments: _____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A
ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A
Laboratory blanks analyzed? ..... Yes No N/A
Laboratory blank results acceptable? ..... Yes No N/A
Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A
Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: no FB

4. ACCURACY (Levels C, D, and E)

MS/MSD samples analyzed? ..... Yes No N/A
MS/MSD results acceptable? ..... Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A
MS/MSD standards expired? (Levels D, E) ..... Yes No N/A
LCS/BSS samples analyzed? ..... Yes No N/A
LCS/BSS results acceptable? ..... Yes No N/A
Standards traceable? (Levels D, E) ..... Yes No N/A
Standards expired? (Levels D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Performance audit sample(s) analyzed? ..... Yes No N/A
Performance audit sample results acceptable? ..... Yes No N/A

Comments: LCS - Silicon (18%) — J all
MS - Cantium (56%) & Silicon (30%) - J all
no PE

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable?	Yes	No	N/A
Duplicate results acceptable?	Yes	No	N/A
MS/MSD standards NIST traceable? (Levels D, E)	Yes	No	N/A
MS/MSD standards expired? (Levels D, E)	Yes	No	N/A
Field duplicate RPD values acceptable?	Yes	No	N/A
Field split RPD values acceptable?	Yes	No	N/A
Transcription/calculation errors? (Levels D, E)	Yes	No	N/A

Comments:_____

6. ICP QUALITY CONTROL (Levels D and E)

ICP serial dilution samples analyzed?	Yes	No	N/A
ICP serial dilution %D values acceptable?	Yes	No	N/A
ICP post digestion spike required?	Yes	No	N/A
ICP post digestion spike values acceptable?	Yes	No	N/A
Standards traceable?	Yes	No	N/A
Standards expired?	Yes	No	N/A
Transcription/calculation errors?	Yes	No	N/A

Comments:_____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

7. FURNACE AA QUALITY CONTROL (Levels D and E)

Duplicate injections performed as required?	Yes	No	N/A
Duplicate injection %RSD values acceptable?	Yes	No	N/A
Analytical spikes performed as required?	Yes	No	N/A
Analytical spike recoveries acceptable?	Yes	No	N/A
Standards traceable?	Yes	No	N/A
Standards expired?	Yes	No	N/A
MSA performed as required?	Yes	No	N/A
MSA results acceptable?	Yes	No	N/A
Transcription/calculation errors?	Yes	No	N/A

Comments:_____

8. HOLDING TIMES (all levels)

Samples properly preserved?	Yes	No	N/A
Sample holding times acceptable?	Yes	No	N/A

Comments:_____

INORGANIC ANALYSIS DATA VALIDATION CHECKLIST

9. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... (Yes) No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No (N/A)

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... (Yes) No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No (N/A)

Comments: _____

_____

_____

_____

_____

_____

_____

Appendix 6

Additional Documentation Requested by Client

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank - Batch: 280-106831

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-106831/1-A	Analysis Batch:	280-108335	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-106831	Lab File ID:	26b021712.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	02/17/2012 2328	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Aluminum	1.6	U	1.6	5.0
Antimony	0.38	U	0.38	0.60
Arsenic	0.66	U	0.66	1.0
Barium	0.251	B	0.076	0.50
Beryllium	0.033	U	0.033	0.20
Boron	0.98	U	0.98	2.0
Cadmium	0.041	U	0.041	0.20
Calcium	14.1	U	14.1	50.0
Chromium	0.0580	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	3.8	U	3.8	5.0
Lead	0.27	U	0.27	0.50
Magnesium	3.7	U	3.7	20.0
Manganese	0.10	U	0.10	1.0
Molybdenum	0.26	U	0.26	2.0
Nickel	0.12	U	0.12	4.0
Potassium	41.0	U	41.0	300
Selenium	0.86	U	0.86	1.0
Silicon	5.7	U	5.7	10.0
Silver	0.16	U	0.16	0.20
Sodium	59.0	U	59.0	120
Vanadium	0.094	U	0.094	2.0
Zinc	0.40	U	0.40	1.0

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Lab Control Sample - Batch: 280-106831

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-106831/2-A	Analysis Batch:	280-108335	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-106831	Lab File ID:	26b021712.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	02/17/2012 2330	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	192.4	96	82 - 116	
Antimony	50.0	47.96	96	82 - 110	
Arsenic	100	97.39	97	85 - 110	
Barium	200	194.0	97	87 - 112	
Beryllium	5.00	4.71	94	84 - 114	
Boron	100	98.28	98	81 - 110	
Cadmium	10.0	10.28	103	87 - 110	
Calcium	5000	4783	96	82 - 114	
Chromium	20.0	19.29	96	84 - 114	
Cobalt	50.0	48.01	96	87 - 110	
Copper	25.0	24.96	100	88 - 110	
Iron	100	94.34	94	87 - 120	
Lead	50.0	49.38	99	86 - 110	
Magnesium	5000	4831	97	90 - 110	
Manganese	50.0	47.93	96	88 - 110	
Molybdenum	100	96.67	97	86 - 110	
Nickel	50.0	48.77	98	87 - 110	
Potassium	5000	5025	100	89 - 110	
Selenium	200	196.0	98	83 - 110	
Silicon	1000	181.3	18	10 - 70	
Silver	5.00	5.08	102	87 - 114	
Sodium	5000	4921	98	90 - 112	
Vanadium	50.0	48.60	97	88 - 110	
Zinc	50.0	47.65	95	76 - 114	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Matrix Spike - Batch: 280-106831

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-25386-2	Analysis Batch:	280-108335	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-106831	Lab File ID:	26b021712.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.05 g
Analysis Date:	02/17/2012 2340	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	4340		204	6154	886	50 - 200	4
Antimony	0.38	U	51.1	28.65	56	20 - 200	
Arsenic	1.2		102	84.63	82	76 - 111	
Barium	49.3		204	236.0	91	52 - 159	
Beryllium	0.033	U	5.11	4.07	80	72 - 105	
Boron	0.99	U	102	83.50	82	75 - 107	
Cadmium	0.13	B	10.2	9.14	88	40 - 130	
Calcium	5940		5110	12400	126	43 - 165	
Chromium	4.4		20.4	22.28	88	70 - 200	
Cobalt	9.8		51.1	51.45	82	72 - 106	
Copper	14.2		25.6	36.04	85	37 - 187	
Iron	24100		102	27240	3026	70 - 200	4
Lead	2.6		51.1	44.67	82	70 - 200	
Magnesium	4370		5110	9344	97	64 - 145	
Manganese	302		51.1	401.6	194	40 - 200	4
Molybdenum	0.31	B	102	83.25	81	75 - 103	
Nickel	8.5		51.1	50.47	82	61 - 126	
Potassium	637		5110	5384	93	56 - 172	
Selenium	0.87	U	204	165.9	81	76 - 104	
Silicon	280		1020	591.5	30	20 - 200	
Silver	0.16	U	5.11	4.50	88	75 - 141	
Sodium	340		5110	5046	92	78 - 111	
Vanadium	65.9		51.1	123.3	112	50 - 169	
Zinc	42.8		51.1	88.59	90	70 - 200	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Duplicate - Batch: 280-106831

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-25386-2	Analysis Batch:	280-108335	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-106831	Lab File ID:	26b021712.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.03 g
Analysis Date:	02/17/2012 2338	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	02/09/2012 0641				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	4340		4327	0.4	40	
Antimony	0.38	U	0.40	NC	40	U
Arsenic	1.2		1.51	19	30	
Barium	49.3		49.89	1	30	
Beryllium	0.033	U	0.034	NC	30	U
Boron	0.99	U	1.0	NC	30	U
Cadmium	0.13	B	0.133	4	30	B
Calcium	5940		5944	0.1	30	
Chromium	4.4		4.79	10	40	
Cobalt	9.8		9.27	5	30	
Copper	14.2		13.47	5	30	
Iron	24100		23960	0.8	40	
Lead	2.6		2.66	2	40	
Magnesium	4370		4279	2	30	
Manganese	302		292.7	3	40	
Molybdenum	0.31	B	0.27	NC	30	U
Nickel	8.5		9.36	10	30	
Potassium	637		657.1	3	40	
Selenium	0.87	U	0.90	NC	30	U
Silicon	280		237.7	16	40	
Silver	0.16	U	0.17	NC	30	U
Sodium	340		321.2	6	30	
Vanadium	65.9		68.04	3	30	
Zinc	42.8		43.53	2	40	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Method Blank - Batch: 280-106899

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-106899/1-A	Analysis Batch:	280-108174	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-106899	Lab File ID:	120216aa2.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	02/16/2012 2108	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	02/16/2012 1340				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-106899

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-106899/2-A	Analysis Batch:	280-108174	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-106899	Lab File ID:	120216aa2.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.6 g
Analysis Date:	02/16/2012 2111	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	02/16/2012 1340				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.425	102	87 - 111	

Matrix Spike - Batch: 280-106899

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-25386-2	Analysis Batch:	280-108174	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-106899	Lab File ID:	120216aa2.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.61 g
Analysis Date:	02/16/2012 2122	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	02/16/2012 1340				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.0052	U	0.440	0.436	99	87 - 111	

Client: Washington Closure Hanford

Job Number: 280-25386-1
Sdg Number: J01414

Duplicate - Batch: 280-106899

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-25386-2	Analysis Batch:	280-108174	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-106899	Lab File ID:	120216aa2.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.53 g
Analysis Date:	02/16/2012 2115	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	02/16/2012 1340				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Mercury	0.0052	U	0.0067	NC	20	U

Date: 18 June 2012
To: Washington Closure Hanford Inc. (technical representative)
From: ELR Consulting
Project: 100-D/DR Burial Grounds & Remaining Sites – Soil Full Protocol - Waste Sites 100-D-73 & 100-D-76
Subject: Wet Chemistry - Data Package No. J01414-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01414 prepared by TestAmerica Laboratories (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1N4C8	2/6/12	Soil	C	See note 1
J1N4C9	2/6/12	Soil	C	See note 1
J1N4D0	2/6/12	Soil	C	See note 1
J1N4D1	2/6/12	Soil	C	See note 1
J1N4D2	2/6/12	Soil	C	See note 1
J1N4D3	2/6/12	Soil	C	See note 1
J1N4D4	2/6/12	Soil	C	See note 1
J1N4D5	2/6/12	Soil	C	See note 1
J1N4D6	2/6/12	Soil	C	See note 1
J1N4D7	2/6/12	Soil	C	See note 1
J1N4D8	2/6/12	Soil	C	See note 1
J1N4D9	2/6/12	Soil	C	See note 1
J1N4F0	2/6/12	Soil	C	See note 1

1 – Chromium VI by 7196A.

Data validation was conducted in accordance with the Washington Closure Hanford (WCH) validation statement of work and the 100 Area Remedial Action Sampling and Analysis Plan (DOE/RL-96-22, September 2009). Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client

DATA QUALITY PARAMETERS

Holding Times

Analytical holding times for metals are assessed to ascertain whether the holding time requirements were met by the laboratory. The holding time requirements

are as follows: Soil samples must be analyzed within 30 days for chromium VI.

If holding times are exceeded, but not by greater than two times the limit, all associated sample results are qualified as estimates and flagged "J" for detects and "UJ" for non-detects. If holding times are exceeded by greater than two times the limit, all associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

- **Method Blanks**

Method Blanks

Method blank analyses are performed to determine the extent of laboratory contamination introduced through sampling, sample preparation and analysis. At least one acceptable method blank analysis must be conducted for every 20 samples. No contaminants should be present in the method blank. All blank results must fall below the contract required detection limit (CRQL) to be acceptable.

All method blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

- **Accuracy**

Matrix Spike and Laboratory Control Sample

Matrix spike (MS) and laboratory control sample (LCS) analyses are used to assess the analytical accuracy of the reported data. The matrix spike is used to assess the effect of the matrix on the ability to accurately quantify sample concentrations. Recoveries must fall within the range of 70% to 130%. Samples with a recovery of less than 30% and a sample result below the IDL are rejected and flagged "UR". Samples with a recovery of 30% to 69% and a sample result less than the IDL are qualified "UJ". Samples with a recovery of greater than 130% or less than 70% and a sample result greater than the IDL are qualified as estimates and flagged "J". Finally, for samples with a recovery greater than 130% and a sample result less than the IDL, no qualification is required.

All accuracy results were acceptable.

- **Precision**

Laboratory Duplicate Samples

Analytical precision is expressed by the relative percent differences (RPD) between the recoveries of matrix spike duplicate (MSD) analyses performed on a sample in the analytical batch. Precision may alternatively be assessed using unspiked duplicate analyses performed on a sample in the analytical batch. If both sample and replicate activities (concentrations) are greater than five times the CRDL and the RPD is less than 30%, no qualification is required. If either activity (concentration) is less than five times the CRDL, the RPD control limit is less than or equal to two times the CRDL. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All laboratory duplicate results were acceptable.

Field Duplicate

One set of field duplicates (J1N4D8/J1N4F0) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

- **Analytical Detection Levels**

Reported analytical detection levels are compared against the required quantitation limits (RQLs) to ensure that laboratory detection levels meet the required criteria. All analytes met the RQL.

- **Completeness**

Data package J01414 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

None found.

REFERENCES

Washington Closure Hanford Contract #S00W307A00 (March 2008), *Data Validation Services*.

DOE/RL-96-22, Rev. 5, *100 Area Remedial Action Sampling and Analysis Plan*, U.S. Department of Energy, September 2009.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with WCH validation SOW are as follows:

U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the sample quantitation limit corrected for sample dilution and moisture content by the laboratory.

UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

BJ - Applied to inorganic analyses only. Indicates the analyte concentration was greater than the IDL but less than the CRDL and is considered an estimated value.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).

Appendix 2

Summary of Data Qualification

WET CHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: J01414	REVIEWER: ELR	Project: 100-D-73 & 100-D-76	PAGE_1_OF_1
COMMENTS: No qualifiers assigned			

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Annotated Laboratory Reports

Sample Results Summary

Date: 20-Feb-12

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 50631

4/17/12

SDG No: J01414

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDL	CRDL	RPD
2045103	7196_CR6								
	J1N4C8								
	MQNEF1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	MQNEF1AD	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	3.50E-01	0.0
	J1N4C9								
	MQNEH1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D0								
	MQNEL1AA	HEXCHROME	5.28E-01 +- 0.0E+00		mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D1								
	MQNEM1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D2								
	MQNEN1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D3								
	MQNEQ1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D4								
	MQNET1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D5								
	MQNEW1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D6								
	MQNE01AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D7								
	MQNE31AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D8								
	MQNE41AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4D9								
	MQNE61AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	
	J1N4F0								
	MQNE81AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A	1.55E-01	1.55E-01	

No. of Results: 14

TestAmerica

rptSTLRchSaSummary2 V5.2.18.2 A2002

RPD - Relative Percent Difference.

U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda/Mdl, Total Uncert, CRDL, RDL or not identified by gamma scan software.

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Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

February 20, 2012

Attention: Joan Kessner

SAF Number	:	RC-075
Date SDG Closed	:	February 7, 2012
Number of Samples	:	Thirteen (13)
Sample Type	:	Soil
SDG Number	:	J01414
Data Deliverable	:	21-Day / Summary

CASE NARRATIVE

I. Introduction

On February 7, 2012, thirteen soil samples were received at TestAmerica for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1N4C8	MQNEF	SOIL	2/07/12
J1N4C9	MQNEH	SOIL	2/07/12
J1N4D0	MQNEL	SOIL	2/07/12
J1N4D1	MQNEM	SOIL	2/07/12
J1N4D2	MQNEN	SOIL	2/07/12
J1N4D3	MQNEQ	SOIL	2/07/12
J1N4D4	MQNET	SOIL	2/07/12
J1N4D5	MQNEW	SOIL	2/07/12
J1N4D6	MQNE0	SOIL	2/07/12
J1N4D7	MQNE3	SOIL	2/07/12
J1N4D8	MQNE4	SOIL	2/07/12
J1N4D9	MQNE6	SOIL	2/07/12
J1N4F0	MQNE8	SOIL	2/07/12

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

2800 George Washington Way Richland, WA 99354 tel 509.375.3131 fax 509.375.5590 www.testamericainc.com

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Chemical Analysis
Hexavalent Chromium by EPA method 7196A
The LCS, batch blank, samples, sample duplicate (J1N4C8) and sample matrix spike (J1N4C8) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Rhonda Wagar
Project Manager

TestAmerica Laboratories, Inc.

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Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 1 of 3
Collector: Q. Stowe	Company Contact: J Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L — Data Turnaround: 21 Days
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No.: RC-075	
Ice Chest No.: N/A	Field Logbook No.: EL-1607-13	COA: 010D732000	Method of Shipment: Hand Deliver	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

SDG# ~~J01413~~ J01414

LOT# J2B070452

REVIEWED BY CQ DATE 2.7.12

Report: 2/28/12 Rev 2/9/12

ST

SAMPLE ANALYSIS

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C						
Type of Container	G/P	G/P	Gs*	aG						
No. of Container(s)	1	1	5	1						
Volume	125mL	125mL	40mL	125mL						
	See item (1) in Special Instructions.	Chromium Hex - 7196	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)						

2-2-1 2-2-2

J2B070452

Sample No.	Matrix *	Sample Date	Sample Time									
J1N4C8 MQNEF	SOIL	2/6/12	1356		X							
J1N4C9 MQNEH	SOIL		1350		X							
J1N4D0 MQNEL	SOIL		1344		X							
J1N4D1 MQNEM	SOIL		1336		X							
J1N4D2 MQNEN	SOIL		1330		X							

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	2-6-12 1505	WCH MStankovich	2/6/12 1505
MStankovich	2/6/12 1610	A Freier A. Freier	2-6-12 1610
WCH	2/7/12 1340	TAVR Lucas Velazquez	2/7/12 1340

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

2/7/12

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custody of samples for shipment to lab.

Matrix *: S=Soil; SE=Sediment; SO=Solid; SL=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica Laboratories, Inc.

28

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		RC-075-294	Page 2 of 3
Collector: Q. Stowe	Company Contact: J Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: 8L
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No.: RC-075	Data Turnaround: 21 Days
Ice Chest No.: N/A	Field Logbook No.: EL-1607-13	COA: 010D732000	Method of Shipment: HAND DELIVER	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

2/8/12

REVIEWED BY CR DATE 2-7-12

SDG# ~~J01413~~ J0144

LOT# J2B070452

SAMPLE ANALYSIS

Preservation	Cool 4C	Cool 4C	Freeze	Cool 4C
Type of Container	G/P	G/P	Gs*	aG
No. of Container(s)	1	1	5	1
Volume	125mL	125mL	40mL	125mL
	See item (1) in Special Instructions	Chromium Hex - 7196	VOA - 8033/8260 (TCL)	Semi-VOA - 8270A (TCL)

2-2-12 2-2-12

Sample No.	Matrix *	Sample Date	Sample Time									
J1N4D3 MQNEQ	SOIL	2/6/12	1324		X							
J1N4D4 MQNET	SOIL		1318		X							
J1N4D5 MQNEW	SOIL		1312		X							
J1N4D6 MQNEO	SOIL		1306		X							
J1N4D7 MQNE3	SOIL		1300		X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: Quincy Stowe	Date/Time: 2-6-12 1505	Received By/Stored In: MZH mstankovich	Date/Time: 2/6/12 1505
Relinquished By/Removed From: mstankovich	Date/Time: 2/6/10 1610	Received By/Stored In: 1060#1 A-Freier	Date/Time: 1610 2-6-10
Relinquished By/Removed From: Sandra Buchanan	Date/Time: 1064#1 2/7/12 1340	Received By/Stored In: THR	Date/Time: 1340 2/7/12
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) {Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc}; Mercury - 7471 - (CV) {Mercury}

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *: S=Soil; SE=Sediment; SO=Solid; SI=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

TestAmerica Laboratories, Inc.

29

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-075-294	Page 3 of 3

Collector: Q. Stowe	Company Contact: J Kessner	Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH
Price Code: 8L	Data Turnaround: 21 Days		
Project Designation: 100-D/DR Burial Grounds & Remaining Sites - Soil Full Prot	Sampling Location: 100-D-73 and 100-D-76 Waste Sites- Excavation		SAF No.: RC-075
Ice Chest No.: N/A	Field Logbook No.: EL-1607-13	COA: 010D732000	Method of Shipment: Hand Deliver
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

None

Special Handling and/or Storage

Cool 4 Deg C/ Freeze (VOA)

Rush 2/8/12

REVIEWED BY DATE 2-7-12

SDG# ~~J01415~~ J01414

LOT# J7B070452 SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation: Cool 4C	Cool 4C	Freeze	Cool 4C						
				Type of Container: G/P	G/P	Gs*	aG						
				No. of Container(s): 1	1	5	1						
				Volume: 125mL	125mL	40mL	125mL						
				See item (1) in Special Instructions.	Chromium Hex - 7196	VOA - 5035/8260 (TCL)	Semi-VOA - 8270A (TCL)						
J1N4D8 MQNE4	SOIL	2/6/12	1251		X								
J1N4D9 MQNE6	SOIL	"	1245		X								
J1N4F0 MQNE8	SOIL	"	1251		X								

CHAIN OF POSSESSION	Sign/Print Names	
Relinquished By/Removed From: Quincy Stowe	Date/Time: 1505 2-6-12	Received By/Stored In: WCH M Stankovich	Date/Time: 2/6/12 1505
Relinquished By/Removed From: M Stankovich	Date/Time: 1610 2/6/12	Received By/Stored In: 1060 #1 A. Freer A. Freer	Date/Time: 2-6-12 1610
Relinquished By/Removed From: M Stankovich WCH	Date/Time: 1060#1 2/7/12 1340	Received By/Stored In: TALD Lucas Velazquez	Date/Time: 1340 2/7/12
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

Freeze VOAs upon recept to preserve analysis hold times.

(1) ICP Metals - 6010TR (Close-out List) (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Potassium, Selenium, Silicon, Silver, Sodium, Vanadium, Zinc); Mercury - 7471 - (CV) (Mercury)

Custodian unavailable to remove samples from controlled storage. Shipper removed samples from storage location taking custod of samples for shipment to lab.

Matrix *

S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

WCH-EE-011

Appendix 5

Data Validation Supporting Documentation

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT: 100-D-73 100-D-74			DATA PACKAGE: J01414		
VALIDATOR: ELR		LAB: TAL		DATE: 6/12/12	
			SDG: J01414		

ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI	pH	NO_3/NO_2
Sulfate	TDS	TKN	Phosphate		

SAMPLES/MATRIX			
J1N4C8	J1N4C9	J1N4D0	J1N4D1
J1N4D2	J1N4D3	J1N4D4	J1N4D5
J1N4D6	J1N4D7	J1N4D8	J1N4D9
J1N4F0			
			Soil

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? ..... Yes (No) N/A

Comments: _____

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? ..... Yes No (N/A)

Initial calibrations acceptable? ..... Yes No (N/A)

ICV and CCV checks performed on all instruments? ..... Yes No (N/A)

ICV and CCV checks acceptable? ..... Yes No (N/A)

Standards traceable? ..... Yes No (N/A)

Standards expired? ..... Yes No (N/A)

Calculation check acceptable? ..... Yes No (N/A)

Comments: _____

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) ..... Yes No N/A
ICB and CCB results acceptable? (Levels D, E) ..... Yes No N/A
Laboratory blanks analyzed? ..... Yes No N/A
Laboratory blank results acceptable? ..... Yes No N/A
Field blanks analyzed? (Levels C, D, E) ..... Yes No N/A
Field blank results acceptable? (Levels C, D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Comments: no FB

4. ACCURACY (Levels C, D, and E)

Spike samples analyzed? ..... Yes No N/A
Spike recoveries acceptable? ..... Yes No N/A
Sike standards NIST traceable? (Levels D, E) ..... Yes No N/A
Spike standards expired? (Levels D, E) ..... Yes No N/A
LCS/BSS samples analyzed? ..... Yes No N/A
LCS/BSS results acceptable? ..... Yes No N/A
Standards traceable? (Levels D, E) ..... Yes No N/A
Standards expired? (Levels D, E) ..... Yes No N/A
Transcription/calculation errors? (Levels D, E) ..... Yes No N/A
Performance audit sample(s) analyzed? ..... Yes No N/A
Performance audit sample results acceptable? ..... Yes No N/A
Comments: no PA

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

5. PRECISION (Levels C, D, and E)

Duplicate RPD values acceptable? ..... Yes No N/A

Duplicate results acceptable? ..... Yes No N/A

MS/MSD standards NIST traceable? (Levels D, E) ..... Yes No N/A

MS/MSD standards expired? (Levels D, E) ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

6. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

_____

_____

GENERAL CHEMISTRY ANALYSIS DATA VALIDATION CHECKLIST

7. RESULT QUANTITATION AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E) ..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

Appendix 6

Additional Documentation Requested by Client

QC Results Summary

Date: 20-Feb-12

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Report No. : 50631

SDG No.: J01414

Batch / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDL
7196_CR6								
2045103 MATRIX SPIKE, J1N4C8								
MQNEF1AC	HEXCHROME	9.09E+00 +- 0.0E+00		mg/kg	N/A	85%	-0.1	1.55E-01
2045103 LCS,								
MQTX41AC	HEXCHROME	2.06E+01 +- 0.0E+00		mg/kg	N/A	103%	0.0	1.55E-01
7196_CR6								
MQTX41AA BLANK QC,								
MQNEF1AA	HEXCHROME	1.55E-01 +- 0.0E+00	U	mg/kg	N/A			1.55E-01

No. of Results: 3