0096056

SAF-RC-150
300 Area Field Remediation – Other
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

Kathy Wendt H4-21 KW 5/3/11
INITIAL/DATE

RECEIVED
MAY 10 2011
EDMC

COMMENTS:

SDG JP0145 **SAF-RC-150**

Rad only Chem only ☑ Rad & Chem

☑ Complete Partial

Sample Location/Waste Site: 300-15 at 321 Building

TestAmerica

ANALYTICAL REPORT

Job Number: 280-14027-1

SDG Number: JP0145

Job Description: SAF# RC-150

For:
Washington Closure Hanford
2620 Fermi Avenue
Richland, WA 99354

Attention: Joan H Kessner

Approved for release
Kae E Yoder
Project Manager II
4/27/2011 3:58 PM

Kae E Yoder
Project Manager II
kae.yoder@testamericainc.com
04/27/2011

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is E87667.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.
TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002
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CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-14027-1

SDG #: JP0145
SAF#: RC-150

Date SDG Closed: March 30, 2011
Data Deliverable: 7 Day / Summary

CLIENT ID	LAB ID	ANALYSES REQUESTED	ANALYSES PERFORMED
J1H057	280-14027-1	6010/7471/300.0/9045/WTPH-D+/ 8260A/8270A/8082/8310	6010B/7471A/9056M/9045C/NWTPH-Dx/ 8260B/8270C/8082/8310

The Anions method substitution noted above, as agreed to by all parties, has no technical impact on the data.

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 sample was received on 3/30/2011; the sample arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 4.4 C.

GC/MS VOLATILES - SW846 8260B
Low levels of Methylene Chloride, a common laboratory contaminant, are present in the method blank associated with batch 280-60127. 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".

The MSD aliquot of the MS/MSD performed on sample J1H057 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.

No other anomalies were encountered.

GC/MS SEMIVOLATILES - SW846 8270C
Bis(2-ethylhexyl) phthalate, a common laboratory contaminant, is present at a level greater than the reporting limit in the method blank associated with batch 280-60045. As Bis(2-ethylhexyl) phthalate is not present at a level greater than the reporting limit in the associated sample, corrective action is deemed unnecessary. Associated sample results present above the MDL and/or RL have been flagged with a "B".

The method required MS/MSD could not be performed for batch 280-60045, due to insufficient sample volume submitted by the client. A duplicate LCS (LCSD) was analyzed to provide some evidence of batch precision.

No other anomalies were encountered.

GC SEMIVOLATILES - SW846 8082 - PCBs
The laboratory noted that Sulfuric Acid and Mercury clean-ups were performed on sample J1H057 to reduce matrix interferences.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, sample J1H057 had to be analyzed at a dilution, and the associated results have been flagged with a "D". The reporting limits have been adjusted relative to the dilution required.

The laboratory noted that sample J1H057 contained more than one Aroclor component. Results should be considered estimated due to shared peaks.

The MS/MSD performed on sample J1H057 exhibited percent recoveries outside the control limits for Aroclor 1016 and Aroclor 1260, and the associated sample results have been flagged "N". In addition, the RPD limit was exceeded for Aroclor 1016. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GC SEMIVOLATILES - NWTPH-Dx - DRO
The method required MS/MSD could not be performed for batch 280-60058, due to insufficient sample volume submitted by the client. A duplicate LCS (LCSD) was analyzed to provide some evidence of batch precision.

No other anomalies were encountered.

HPLC - SW846 8310 - PAHs
The method required MS/MSD could not be performed for batch 280-60052, due to insufficient sample volume submitted by the client. A duplicate LCS (LCSD) was analyzed to provide some evidence of batch precision.

No other anomalies were encountered.

TOTAL METALS - SW846 6010B/7471A
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to high constituent concentration, the Chromium, Iron and Mercury analyses of sample J1H057 had to be performed at dilutions. The reporting limits have been adjusted relative to the dilutions required.

Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the methods. Due to the nature of the sample matrix, the Aluminum, Antimony, Boron and Sodium analyses of sample J1H0157 had to be performed at a 10X dilution. The reporting limits have been adjusted relative to the dilution required.

Low levels of Barium, Calcium, Chromium, Iron and Zinc are present in the method blank associated with batch 280-60004. Because the concentrations in the method blank are not present at levels greater than the reporting limits, corrective action is deemed unnecessary.

It can be noted that the sample amount was greater than four times the spike amount for Chromium and Iron in the Matrix Spike performed on sample J1H057; therefore, control limits are not applicable.

The Matrix Spike performed on sample J1H057 exhibited percent recoveries outside the control limits for Arsenic, Copper, Manganese, Nickel, Selenium, Aluminum and Mercury, and the associated sample results have been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

The duplicate analysis of sample J1H057 exhibited RPD data outside the control limits for Barium, Calcium, Cobalt, Lead, Magnesium, Molybdenum, Nickel, Silicon, Vanadium, Aluminum and Mercury, and the associated sample results have been flagged "M". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9056M - ANIONS
Each sample is analyzed to achieve the lowest possible reporting limits within the constraints of the method. Due to high constituent concentration, the Nitrate as N analysis of sample J1H057 had to be performed at a dilution, and the associated result has been flagged with a "D". The reporting limit has been adjusted relative to the dilution required.

The Matrix Spike performed on sample J1H057 exhibited percent recoveries outside the control limits for Bromide, Orthophosphate as P, Sulfate and Fluoride, and the associated sample results have been flagged "N". There is no indication that the analytical system was operating out of control, and method accuracy has been verified by the acceptable LCS analysis data; therefore, corrective action is deemed unnecessary.

No other anomalies were encountered.

GENERAL CHEMISTRY - SW846 9045C - PH
No anomalies were encountered.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Analyzed for but not detected.
	J	Indicates an Estimated Value for TICs
	T	MS, MSD: Recovery exceeds upper or lower control limits.
	*	MS/MSD RPD exceeded the control limit
	N	Presumptive evidence of material.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC/MS Semi VOA		
	B	Analyte was found in the associated method blank as well as in the sample.
	U	Analyzed for but not detected.
	J	Indicates an Estimated Value for TICs
	N	Presumptive evidence of material.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA		
	U	Analyzed for but not detected.
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	*	MS/MSD RPD exceeded the control limit
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	D	The reported value is from a dilution.

DATA REPORTING QUALIFIERS

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Section	Qualifier	Description
Metals		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	N	Recovery exceeds upper or lower control limits
	M	Sample duplicate precision not met.
General Chemistry		
	U	Analyzed for but not detected.
	B	Estimated result. Result is less than the RL, but greater than MDL
	N	MS, MSD: Spike recovery exceeds upper or lower control limits.
	D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
HPLC/IC		
	U	Analyzed for but not detected.

METHOD SUMMARY

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Description	Lab Location	Method	Preparation Method
Matrix: Solid			
Volatile Organic Compounds (GC/MS)	TAL DEN	SW846 8260B	
Purge and Trap	TAL DEN		SW846 5030B
Semivolatile Organic Compounds (GC/MS)	TAL DEN	SW846 8270C	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Polychlorinated Biphenyls (PCBs) by Gas Chromatography	TAL DEN	SW846 8082	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Northwest - Semi-Volatile Petroleum Products (GC)	TAL DEN	NWTPH NWTPH-Dx	
Ultrasonic Extraction	TAL DEN		SW846 3550C
PAHs (HPLC)	TAL DEN	SW846 8310	
Ultrasonic Extraction	TAL DEN		SW846 3550C
Metals (ICP)	TAL DEN	SW846 6010B	
Preparation, Metals	TAL DEN		SW846 3050B
Mercury (CVAA)	TAL DEN	SW846 7471A	
Preparation, Mercury	TAL DEN		SW846 7471A
pH	TAL DEN	SW846 9045C	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
Anions, Ion Chromatography	TAL DEN	SW846 9056M	
Deionized Water Leaching Procedure	TAL DEN		ASTM DI Leach
ASTM D-2216	TAL DEN	ASTM D-2216	

Lab References:

TAL DEN = TestAmerica Denver

Method References:

ASTM = ASTM International

NWTPH = Northwest Total Petroleum Hydrocarbon

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

METHOD / ANALYST SUMMARY

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method	Analyst	Analyst ID
SW846 8260B	Reinhardt, Jason	JR
SW846 8270C	Tinkham, Sarah A	SAT
SW846 8082	Pavlakovich, Adam M	AMP
NWTPH NWTPH-Dx	Birdsell, Matthew R	MRB
SW846 6010B	Trudell, Lynn-Anne	LT
SW846 7471A	Stoltz, Katie	KS
SW846 9045C	Taylor, Juli M	JMT
SW846 9056M	Phan, Thu L	TLP
ASTM D-2216	Berry III, Paul B	PBB
SW846 8310	Hall, Koley J	KJH

SAMPLE SUMMARY

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
280-14027-1	J1H057	Solid	03/28/2011 1333	03/30/2011 0930

SAMPLE RESULTS

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid % Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Prep Method:	5030B	Prep Batch:	280-60127	Lab File ID:	J5804.D
Dilution:	1.0			Initial Weight/Volume:	5.920 g
Analysis Date:	03/31/2011 1127			Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acetone		14	J	6.8	25
Benzene		0.60	U T	0.60	6.3
Bromodichloromethane		0.28	U T	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		0.80	U T	0.80	6.3
Chlorobenzene		0.69	U T	0.69	6.3
Dibromochloromethane		0.72	U	0.72	6.3
Chloroethane		1.1	U	1.1	13
Chloroform		0.37	U T	0.37	6.3
Chloromethane		0.98	U	0.98	13
1,1-Dichloroethane		0.27	U T	0.27	6.3
1,2-Dichloroethane		0.89	U	0.89	6.3
1,1-Dichloroethene		0.75	U T	0.75	6.3
1,2-Dichloroethene, Total		0.50	U	0.50	6.3
1,2-Dichloropropane		0.70	U T	0.70	6.3
cis-1,3-Dichloropropene		1.6	U	1.6	6.3
trans-1,3-Dichloropropene		0.85	U	0.85	6.3
Ethylbenzene		0.85	U T	0.85	6.3
2-Hexanone		6.2	U	6.2	25
Methylene Chloride		0.95	U T	0.95	6.3
4-Methyl-2-pentanone (MIBK)		5.5	U	5.5	13
Styrene		0.80	U	0.80	6.3
1,1,2,2-Tetrachloroethane		0.77	U	0.77	6.3
Tetrachloroethene		0.75	U T	0.75	6.3
Toluene		0.88	U T	0.88	6.3
1,1,1-Trichloroethane		0.66	U T	0.66	6.3
1,1,2-Trichloroethane		1.1	U	1.1	6.3
Trichloroethene		0.29	U T	0.29	6.3
Vinyl chloride		1.7	U	1.7	6.3
Xylenes, Total		0.77	U	0.77	6.3

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	115		58 - 140
Toluene-d8 (Surr)	106		80 - 126
4-Bromofluorobenzene (Surr)	102		76 - 127
Dibromofluoromethane (Surr)	113		75 - 121

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid

% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Prep Method:	5030B	Prep Batch:	280-60127	Lab File ID:	J5804.D
Dilution:	1.0			Initial Weight/Volume:	5.920 g
Analysis Date:	03/31/2011 1127			Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				

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: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid % Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Prep Method:	3550C	Prep Batch:	280-60045	Lab File ID:	Y9191.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	03/31/2011 1909			Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		15	U	15	500
Acenaphthylene		26	U	26	500
Anthracene		26	U	26	500
Benzo[a]anthracene		30	U	30	500
Benzo[a]pyrene		30	U	30	500
Benzo[b]fluoranthene		39	U	39	500
Benzo[ghi]perylene		24	U	24	500
Benzo[k]fluoranthene		60	U	60	500
Bis(2-chloroethoxy)methane		35	U	35	500
Bis(2-chloroethyl)ether		25	U	25	500
bis (2-chloroisopropyl) ether		35	U	35	500
Bis(2-ethylhexyl) phthalate		170	J B	69	500
4-Bromophenyl phenyl ether		29	U	29	500
Butyl benzyl phthalate		65	U	65	500
Carbazole		54	U	54	500
4-Chloroaniline		120	U	120	500
4-Chloro-3-methylphenol		99	U	99	500
2-Chloronaphthalene		15	U	15	500
2-Chlorophenol		32	U	32	500
4-Chlorophenyl phenyl ether		32	U	32	500
Chrysene		41	U	41	500
Dibenz(a,h)anthracene		29	U	29	500
Dibenzofuran		30	U	30	500
1,2-Dichlorobenzene		33	U	33	500
1,3-Dichlorobenzene		18	U	18	500
1,4-Dichlorobenzene		20	U	20	500
3,3'-Dichlorobenzidine		140	U	140	990
2,4-Dichlorophenol		15	U	15	500
Diethyl phthalate		39	U	39	500
2,4-Dimethylphenol		99	U	99	500
Dimethyl phthalate		35	U	35	500
Di-n-butyl phthalate		44	U	44	500
4,6-Dinitro-2-methylphenol		500	U	500	990
2,4-Dinitrophenol		500	U	500	1200
2,4-Dinitrotoluene		99	U	99	500
2,6-Dinitrotoluene		42	U	42	500
Di-n-octyl phthalate		22	U	22	500
Fluoranthene		54	U	54	500
Fluorene		27	U	27	500
Hexachlorobenzene		44	U	44	500
Hexachlorobutadiene		15	U	15	500
Hexachlorocyclopentadiene		75	U	75	500
Hexachloroethane		32	U	32	500
Indeno[1,2,3-cd]pyrene		33	U	33	500
Isophorone		26	U	26	500
2-Methylnaphthalene		29	U	29	500

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid
% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Prep Method:	3550C	Prep Batch:	280-60045	Lab File ID:	Y9191.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	03/31/2011 1909			Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylphenol		20	U	20	500
3 & 4 Methylphenol		50	U	50	500
Naphthalene		47	U	47	500
2-Nitroaniline		75	U	75	500
3-Nitroaniline		110	U	110	500
4-Nitroaniline		110	U	110	500
Nitrobenzene		33	U	33	500
2-Nitrophenol		15	U	15	500
4-Nitrophenol		150	U	150	990
N-Nitrosodi-n-propylamine		47	U	47	500
N-Nitrosodiphenylamine		32	U	32	500
Pentachlorophenol		500	U	500	990
Phenanthrene		26	U	26	500
Phenol		27	U	27	500
Pyrene		18	U	18	500
1,2,4-Trichlorobenzene		42	U	42	500
2,4,5-Trichlorophenol		15	U	15	500
2,4,6-Trichlorophenol		15	U	15	500

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	65		50 - 120
2-Fluorophenol	67		53 - 120
Nitrobenzene-d5	65		50 - 120
Phenol-d5	67		52 - 120
Terphenyl-d14	68		55 - 120
2,4,6-Tribromophenol	59		51 - 120

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid

% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8270C Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270C	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Prep Method:	3550C	Prep Batch:	280-60045	Lab File ID:	Y9191.D
Dilution:	1.0			Initial Weight/Volume:	30.0 g
Analysis Date:	03/31/2011 1909			Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL

Tentatively Identified Compounds **Number TIC's Found:** 7

Cas Number	Analyte	RT	Est. Result (ug/Kg)	Qualifier
	Unknown	2.75	4100	N J
	Unknown	2.84	240	N J
	Unknown	2.96	210	N J
2213-23-2	Heptane, 2,4-dimethyl-	3.01	260	N J
926-82-9	Heptane, 3,5-dimethyl-	3.14	310	N J
	Unknown	3.21	4000	N J
	Unknown	5.05	300	N J

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid
% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analysis Method:	8082	Analysis Batch:	280-60554	Instrument ID:	GCS_W
Prep Method:	3550C	Prep Batch:	280-60021	Initial Weight/Volume:	30.7 g
Dilution:	4.0			Final Weight/Volume:	5000 uL
Analysis Date:	04/02/2011 1816			Injection Volume:	1 uL
Prep Date:	03/30/2011 1903			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Aroclor 1016		16	U N D	16	59
Aroclor 1221		47	U D	47	97
Aroclor 1232		12	U D	12	59
Aroclor 1242		27	U D	27	59
Aroclor 1248		27	U D	27	59
Aroclor 1254		470	D	15	59
Aroclor 1260		260	N D	15	59

Surrogate	%Rec	Qualifier	Acceptance Limits
Decachlorobiphenyl	83		59 - 130
Tetrachloro-m-xylene	86		53 - 128

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid % Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

NWTPH-Dx Northwest - Semi-Volatile Petroleum Products (GC)

Analysis Method:	NWTPH-Dx	Analysis Batch:	280-60602	Instrument ID:	GCS_U2
Prep Method:	3550C	Prep Batch:	280-60058	Lab File ID:	020F2001.D
Dilution:	1.0			Initial Weight/Volume:	30.2 g
Analysis Date:	04/01/2011 0037			Final Weight/Volume:	1000 uL
Prep Date:	03/31/2011 0009			Injection Volume:	1 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
C10-C36		3500	J	1500	6000
C10-C28		1500	J	1000	6000

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	84		49 - 115

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid % Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

8310 PAHs (HPLC)

Analysis Method:	8310	Analysis Batch:	280-60216	Instrument ID:	CHHPLC_G
Prep Method:	3550C	Prep Batch:	280-60052	Initial Weight/Volume:	31.2 g
Dilution:	1.0			Final Weight/Volume:	4000 uL
Analysis Date:	03/31/2011 1852			Injection Volume:	20 uL
Prep Date:	03/30/2011 2232			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		14	U	14	140
Acenaphthylene		13	U	13	140
Anthracene		4.4	U	4.4	29
Benzo[a]anthracene		4.6	U	4.6	22
Benzo[a]pyrene		9.3	U	9.3	22
Benzo[b]fluoranthene		6.1	U	6.1	22
Benzo[g,h,i]perylene		10	U	10	43
Benzo[k]fluoranthene		5.7	U	5.7	22
Chrysene		7.0	U	7.0	58
Dibenzo(a,h)anthracene		16	U	16	43
Fluoranthene		19	U	19	58
Fluorene		7.6	U	7.6	43
Indeno[1,2,3-cd]pyrene		17	U	17	43
Naphthalene		17	U	17	140
Phenanthrene		17	U	17	58
Pyrene		17	U	17	58

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	96		72 - 115

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid
% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

6010B Metals (ICP)

Analysis Method:	6010B	Analysis Batch:	280-60525	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	1.0			Initial Weight/Volume:	1.05 g
Analysis Date:	04/01/2011 1521			Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Arsenic		17.9	N	0.95	1.4
Barium		13.1	M	0.11	0.72
Beryllium		0.047	U	0.047	0.29
Cadmium		0.059	U	0.059	0.29
Calcium		1800	M	20.2	71.6
Cobalt		15.5	M	0.14	1.4
Copper		67.1	N	0.31	1.4
Lead		23.1	M	0.39	0.72
Magnesium		149	M	5.3	28.6
Manganese		149	N	0.14	1.4
Molybdenum		2.0	B M	0.37	2.9
Nickel		73.2	M N	0.18	5.7
Potassium		58.7	U	58.7	430
Selenium		1.8	N	1.2	1.4
Silicon		322	M	8.1	14.3
Silver		0.97		0.23	0.29
Vanadium		15.6	M	0.13	2.9
Zinc		45.8		0.57	1.4
Zirconium		19.8		0.51	3.6

Analysis Method:	6010B	Analysis Batch:	280-60525	Instrument ID:	MT_026
Prep Method:	3050B	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	10			Initial Weight/Volume:	1.05 g
Analysis Date:	04/01/2011 1530			Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Aluminum		400	M N	22.2	71.6
Antimony		5.4	U	5.4	8.6
Boron		14.0	U	14.0	28.6
Chromium		7570		0.83	2.9
Iron		492000		54.4	71.6
Sodium		845	U	845	1720

7471A Mercury (CVAA)

Analysis Method:	7471A	Analysis Batch:	280-60271	Instrument ID:	MT_033
Prep Method:	7471A	Prep Batch:	280-60100	Lab File ID:	110331AD.txt
Dilution:	5.0			Initial Weight/Volume:	0.63 g
Analysis Date:	03/31/2011 2332			Final Weight/Volume:	50 mL
Prep Date:	03/31/2011 1130				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Mercury		1.2	M N	0.040	0.12

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid

% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

7471A Mercury (CVAA)

General Chemistry

Client Sample ID: **J1H057**

Lab Sample ID: 280-14027-1
Client Matrix: Solid
% Moisture: 33.5

Date Sampled: 03/28/2011 1333
Date Received: 03/30/2011 0930

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Chloride-Soluble	78.1		mg/Kg	3.0	7.5	1.0	9056M
Analysis Batch: 280-60205	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y
Nitrate as N-Soluble	375	D	mg/Kg	2.4	18.8	5.0	9056M
Analysis Batch: 280-60204	Analysis Date: 03/30/2011 2154						DryWt Corrected: Y
Bromide-Soluble	0.60	B N	mg/Kg	0.58	3.0	1.0	9056M
Analysis Batch: 280-60205	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y
Nitrite as N-Soluble	0.51	U	mg/Kg	0.51	3.8	1.0	9056M
Analysis Batch: 280-60204	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y
Orthophosphate as P-Soluble	1.9	U N	mg/Kg	1.9	7.5	1.0	9056M
Analysis Batch: 280-60204	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y
Sulfate-Soluble	406	N	mg/Kg	2.6	7.5	1.0	9056M
Analysis Batch: 280-60205	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y
Fluoride-Soluble	2.1	B N	mg/Kg	1.2	7.5	1.0	9056M
Analysis Batch: 280-60205	Analysis Date: 03/30/2011 2030						DryWt Corrected: Y

Analyte	Result	Qual	Units	RL	RL	Dil	Method
pH adj. to 25 deg C-Soluble	7.97		SU	0.0100	0.0100	1.0	9045C
Analysis Batch: 280-60186	Analysis Date: 03/31/2011 1011						DryWt Corrected: N
Percent Moisture	33.5		%	0.10	0.10	1.0	D-2216
Analysis Batch: 280-60113	Analysis Date: 03/31/2011 0937						DryWt Corrected: N

QUALITY CONTROL RESULTS

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Prep Batch: 280-60127					
LCS 280-60127/2-A	Lab Control Sample	T	Solid	5030B	
MB 280-60127/1-A	Method Blank	T	Solid	5030B	
280-14027-1	J1H057	T	Solid	5030B	
280-14027-1MS	Matrix Spike	T	Solid	5030B	
280-14027-1MSD	Matrix Spike Duplicate	T	Solid	5030B	
Analysis Batch:280-60515					
LCS 280-60127/2-A	Lab Control Sample	T	Solid	8260B	280-60127
MB 280-60127/1-A	Method Blank	T	Solid	8260B	280-60127
280-14027-1	J1H057	T	Solid	8260B	280-60127
280-14027-1MS	Matrix Spike	T	Solid	8260B	280-60127
280-14027-1MSD	Matrix Spike Duplicate	T	Solid	8260B	280-60127

Report Basis
T = Total

GC/MS Semi VOA					
Prep Batch: 280-60045					
LCS 280-60045/2-A	Lab Control Sample	T	Solid	3550C	
LCSD 280-60045/3-A	Lab Control Sample Duplicate	T	Solid	3550C	
MB 280-60045/1-A	Method Blank	T	Solid	3550C	
280-14027-1	J1H057	T	Solid	3550C	
Analysis Batch:280-60409					
LCS 280-60045/2-A	Lab Control Sample	T	Solid	8270C	280-60045
LCSD 280-60045/3-A	Lab Control Sample Duplicate	T	Solid	8270C	280-60045
MB 280-60045/1-A	Method Blank	T	Solid	8270C	280-60045
280-14027-1	J1H057	T	Solid	8270C	280-60045

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC Semi VOA					
Prep Batch: 280-60021					
LCS 280-60021/2-A	Lab Control Sample	T	Solid	3550C	
MB 280-60021/1-A	Method Blank	T	Solid	3550C	
280-14027-1	J1H057	T	Solid	3550C	
280-14027-1MS	Matrix Spike	T	Solid	3550C	
280-14027-1MSD	Matrix Spike Duplicate	T	Solid	3550C	
Prep Batch: 280-60058					
LCS 280-60058/2-A	Lab Control Sample	T	Solid	3550C	
LCSD 280-60058/3-A	Lab Control Sample Duplicate	T	Solid	3550C	
MB 280-60058/1-A	Method Blank	T	Solid	3550C	
280-14027-1	J1H057	T	Solid	3550C	
Analysis Batch:280-60554					
LCS 280-60021/2-A	Lab Control Sample	T	Solid	8082	280-60021
MB 280-60021/1-A	Method Blank	T	Solid	8082	280-60021
280-14027-1	J1H057	T	Solid	8082	280-60021
280-14027-1MS	Matrix Spike	T	Solid	8082	280-60021
280-14027-1MSD	Matrix Spike Duplicate	T	Solid	8082	280-60021
Analysis Batch:280-60602					
LCS 280-60058/2-A	Lab Control Sample	T	Solid	NWTPH-Dx	280-60058
LCSD 280-60058/3-A	Lab Control Sample Duplicate	T	Solid	NWTPH-Dx	280-60058
MB 280-60058/1-A	Method Blank	T	Solid	NWTPH-Dx	280-60058
280-14027-1	J1H057	T	Solid	NWTPH-Dx	280-60058

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 280-60004					
LCS 280-60004/2-A	Lab Control Sample	T	Solid	3050B	
MB 280-60004/1-A	Method Blank	T	Solid	3050B	
280-14027-1	J1H057	T	Solid	3050B	
280-14027-1DU	Duplicate	T	Solid	3050B	
280-14027-1MS	Matrix Spike	T	Solid	3050B	
Prep Batch: 280-60100					
LCS 280-60100/2-A	Lab Control Sample	T	Solid	7471A	
MB 280-60100/1-A	Method Blank	T	Solid	7471A	
280-14027-1	J1H057	T	Solid	7471A	
280-14027-1DU	Duplicate	T	Solid	7471A	
280-14027-1MS	Matrix Spike	T	Solid	7471A	
Analysis Batch:280-60271					
LCS 280-60100/2-A	Lab Control Sample	T	Solid	7471A	280-60100
MB 280-60100/1-A	Method Blank	T	Solid	7471A	280-60100
280-14027-1	J1H057	T	Solid	7471A	280-60100
280-14027-1DU	Duplicate	T	Solid	7471A	280-60100
280-14027-1MS	Matrix Spike	T	Solid	7471A	280-60100
Analysis Batch:280-60525					
LCS 280-60004/2-A	Lab Control Sample	T	Solid	6010B	280-60004
MB 280-60004/1-A	Method Blank	T	Solid	6010B	280-60004
280-14027-1	J1H057	T	Solid	6010B	280-60004
280-14027-1DU	Duplicate	T	Solid	6010B	280-60004
280-14027-1MS	Matrix Spike	T	Solid	6010B	280-60004

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 280-59989					
LCS 280-59989/1-A	Lab Control Sample	S	Solid	DI Leach	
MB 280-59989/2-A	Method Blank	S	Solid	DI Leach	
280-14027-1	J1H057	S	Solid	DI Leach	
280-14027-1DU	Duplicate	S	Solid	DI Leach	
280-14027-1MS	Matrix Spike	S	Solid	DI Leach	
Prep Batch: 280-60093					
280-14027-1	J1H057	S	Solid	DI Leach	
280-14027-1DU	Duplicate	S	Solid	DI Leach	
Analysis Batch:280-60113					
280-14027-1	J1H057	T	Solid	D-2216	
280-14027-1DU	Duplicate	T	Solid	D-2216	
Analysis Batch:280-60186					
LCS 280-60186/4	Lab Control Sample	T	Water	9045C	
LCSD 280-60186/5	Lab Control Sample Duplicate	T	Water	9045C	
280-14027-1	J1H057	S	Solid	9045C	
280-14027-1DU	Duplicate	S	Solid	9045C	
Analysis Batch:280-60204					
LCS 280-59989/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-59989/2-A	Method Blank	S	Solid	9056M	
280-14027-1	J1H057	S	Solid	9056M	
280-14027-1DU	Duplicate	S	Solid	9056M	
280-14027-1MS	Matrix Spike	S	Solid	9056M	
Analysis Batch:280-60205					
LCS 280-59989/1-A	Lab Control Sample	S	Solid	9056M	
MB 280-59989/2-A	Method Blank	S	Solid	9056M	
280-14027-1	J1H057	S	Solid	9056M	
280-14027-1DU	Duplicate	S	Solid	9056M	
280-14027-1MS	Matrix Spike	S	Solid	9056M	

Report Basis
S = Soluble
T = Total

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
HPLC/IC					
Prep Batch: 280-60052					
LCS 280-60052/2-A	Lab Control Sample	T	Solid	3550C	
LCSD 280-60052/3-A	Lab Control Sample Duplicate	T	Solid	3550C	
MB 280-60052/1-A	Method Blank	T	Solid	3550C	
280-14027-1	J1H057	T	Solid	3550C	
Analysis Batch:280-60216					
LCS 280-60052/2-A	Lab Control Sample	T	Solid	8310	280-60052
LCSD 280-60052/3-A	Lab Control Sample Duplicate	T	Solid	8310	280-60052
MB 280-60052/1-A	Method Blank	T	Solid	8310	280-60052
280-14027-1	J1H057	T	Solid	8310	280-60052

Report Basis
T = Total

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60127

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 280-60127/1-A	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-60127	Lab File ID:	J5802.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.19 g
Analysis Date:	03/31/2011 1016	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acetone	5.2	U	5.2	19
Benzene	0.45	U	0.45	4.8
Bromodichloromethane	0.21	U	0.21	4.8
Bromoform	0.22	U	0.22	4.8
Bromomethane	0.48	U	0.48	9.6
2-Butanone (MEK)	1.8	U	1.8	9.6
Carbon disulfide	0.40	U	0.40	4.8
Carbon tetrachloride	0.61	U	0.61	4.8
Chlorobenzene	0.52	U	0.52	4.8
Dibromochloromethane	0.55	U	0.55	4.8
Chloroethane	0.86	U	0.86	9.6
Chloroform	0.28	U	0.28	4.8
Chloromethane	0.74	U	0.74	9.6
1,3-Dichlorobenzene	0.46	U	0.46	4.8
1,1-Dichloroethane	0.20	U	0.20	4.8
1,2-Dichloroethane	0.67	U	0.67	4.8
trans-1,2-Dichloroethene	0.38	U	0.38	2.4
1,1-Dichloroethene	0.57	U	0.57	4.8
1,2-Dichloroethene, Total	0.38	U	0.38	4.8
1,2-Dichloropropane	0.53	U	0.53	4.8
cis-1,3-Dichloropropene	1.2	U	1.2	4.8
trans-1,3-Dichloropropene	0.65	U	0.65	4.8
Ethylbenzene	0.65	U	0.65	4.8
2-Hexanone	4.7	U	4.7	19
Methylene Chloride	0.945	J	0.72	4.8
4-Methyl-2-pentanone (MIBK)	4.2	U	4.2	9.6
Styrene	0.61	U	0.61	4.8
1,1,2,2-Tetrachloroethane	0.59	U	0.59	4.8
Tetrachloroethene	0.57	U	0.57	4.8
Toluene	0.66	U	0.66	4.8
1,1,1-Trichloroethane	0.50	U	0.50	4.8
1,1,2-Trichloroethane	0.85	U	0.85	4.8
Trichloroethene	0.22	U	0.22	4.8
Vinyl chloride	1.3	U	1.3	4.8
Xylenes, Total	0.59	U	0.59	4.8

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	58 - 140
Toluene-d8 (Surr)	103	80 - 126
4-Bromofluorobenzene (Surr)	97	76 - 127
Dibromofluoromethane (Surr)	102	75 - 121

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank TICs- Batch: 280-60127

Cas Number	Analyte	RT	Est. Result	Qual
	Unknown	16.06	19.7	J N

Lab Control Sample - Batch: 280-60127

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 280-60127/2-A	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-60127	Lab File ID:	J5799.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 g
Analysis Date:	03/31/2011 0907	Units:	ug/Kg	Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzene	50.0	52.8	106	76 - 120	
Bromodichloromethane	50.0	48.0	96	74 - 125	
Carbon tetrachloride	50.0	49.5	99	69 - 147	
Chlorobenzene	50.0	53.0	106	74 - 120	
Chloroform	50.0	48.0	96	77 - 125	
1,3-Dichlorobenzene	50.0	52.0	104	74 - 120	
1,1-Dichloroethane	50.0	48.9	98	74 - 120	
trans-1,2-Dichloroethene	50.0	54.5	109	80 - 127	
1,1-Dichloroethene	50.0	52.9	106	77 - 143	
1,2-Dichloropropane	50.0	50.4	101	74 - 120	
Ethylbenzene	50.0	54.4	109	78 - 120	
Methylene Chloride	50.0	53.4	107	76 - 137	
Tetrachloroethene	50.0	53.9	108	71 - 120	
Toluene	50.0	52.1	104	72 - 120	
1,1,1-Trichloroethane	50.0	48.3	97	67 - 143	
Trichloroethene	50.0	51.4	103	78 - 120	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98	58 - 140
Toluene-d8 (Surr)	107	80 - 126
4-Bromofluorobenzene (Surr)	94	76 - 127
Dibromofluoromethane (Surr)	99	75 - 121

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-60127

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	280-14027-1	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-60127	Lab File ID:	J5805.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.558 g
Analysis Date:	03/31/2011 1158			Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				
Leach Date:	N/A				

MSD Lab Sample ID:	280-14027-1	Analysis Batch:	280-60515	Instrument ID:	MSV_J
Client Matrix:	Solid	Prep Batch:	280-60127	Lab File ID:	J5806.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5.723 g
Analysis Date:	03/31/2011 1221			Final Weight/Volume:	5 mL
Prep Date:	03/31/2011 0600				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzene	89	68	76 - 120	29	20		T *
Bromodichloromethane	85	63	74 - 125	32	20		T *
Carbon tetrachloride	85	65	69 - 147	29	20		T *
Chlorobenzene	87	67	74 - 120	28	20		T *
Chloroform	84	63	77 - 125	30	20		T *
1,3-Dichlorobenzene	88	66	74 - 120	32	20		T *
1,1-Dichloroethane	83	65	74 - 120	28	20		T *
trans-1,2-Dichloroethene	92	72	80 - 127	26	20		T *
1,1-Dichloroethene	94	73	77 - 143	28	20		T *
1,2-Dichloropropane	86	64	74 - 120	32	20		T *
Ethylbenzene	89	69	78 - 120	29	20		T *
Methylene Chloride	95	73	76 - 137	29	21		T *
Tetrachloroethene	86	70	71 - 120	24	20		T *
Toluene	90	67	72 - 120	32	20		T *
1,1,1-Trichloroethane	82	64	67 - 143	28	20		T *
Trichloroethene	87	67	78 - 120	29	20		T *

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	115	112	58 - 140
Toluene-d8 (Surr)	105	108	80 - 126
4-Bromofluorobenzene (Surr)	95	95	76 - 127
Dibromofluoromethane (Surr)	108	106	75 - 121

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60045

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-60045/1-A	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Client Matrix:	Solid	Prep Batch:	280-60045	Lab File ID:	Y9185.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.7 g
Analysis Date:	03/31/2011 1708	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.4	U	9.4	300
Acenaphthylene	16	U	16	300
Anthracene	16	U	16	300
Benzo[a]anthracene	18	U	18	300
Benzo[a]pyrene	18	U	18	300
Benzo[b]fluoranthene	24	U	24	300
Benzo[ghi]perylene	15	U	15	300
Benzo[k]fluoranthene	37	U	37	300
Bis(2-chloroethoxy)methane	21	U	21	300
Bis(2-chloroethyl)ether	15	U	15	300
bis (2-chloroisopropyl) ether	21	U	21	300
Bis(2-ethylhexyl) phthalate	754		42	300
4-Bromophenyl phenyl ether	17	U	17	300
Butyl benzyl phthalate	39	U	39	300
Carbazole	33	U	33	300
4-Chloroaniline	75	U	75	300
4-Chloro-3-methylphenol	61	U	61	300
2-Chloronaphthalene	9.2	U	9.2	300
2-Chlorophenol	19	U	19	300
4-Chlorophenyl phenyl ether	19	U	19	300
Chrysene	25	U	25	300
Dibenz(a,h)anthracene	17	U	17	300
Dibenzofuran	18	U	18	300
1,2-Dichlorobenzene	20	U	20	300
1,3-Dichlorobenzene	11	U	11	300
1,4-Dichlorobenzene	12	U	12	300
3,3'-Dichlorobenzidine	83	U	83	610
2,4-Dichlorophenol	9.2	U	9.2	300
Diethyl phthalate	24	U	24	300
2,4-Dimethylphenol	61	U	61	300
Dimethyl phthalate	21	U	21	300
Di-n-butyl phthalate	27	U	27	300
4,6-Dinitro-2-methylphenol	300	U	300	610
2,4-Dinitrophenol	310	U	310	760
2,4-Dinitrotoluene	61	U	61	300
2,6-Dinitrotoluene	26	U	26	300
Di-n-octyl phthalate	13	U	13	300
Fluoranthene	33	U	33	300
Fluorene	17	U	17	300
Hexachlorobenzene	27	U	27	300
Hexachlorobutadiene	9.2	U	9.2	300
Hexachlorocyclopentadiene	46	U	46	300
Hexachloroethane	20	U	20	300
Indeno[1,2,3-cd]pyrene	20	U	20	300
Isophorone	16	U	16	300

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60045

Method: 8270C
Preparation: 3550C

Lab Sample ID:	MB 280-60045/1-A	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Client Matrix:	Solid	Prep Batch:	280-60045	Lab File ID:	Y9185.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.7 g
Analysis Date:	03/31/2011 1708	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
2-Methylnaphthalene	17	U	17	300
2-Methylphenol	12	U	12	300
3 & 4 Methylphenol	30	U	30	300
Naphthalene	28	U	28	300
2-Nitroaniline	46	U	46	300
3-Nitroaniline	67	U	67	300
4-Nitroaniline	67	U	67	300
Nitrobenzene	20	U	20	300
2-Nitrophenol	9.2	U	9.2	300
4-Nitrophenol	89	U	89	610
N-Nitrosodi-n-propylamine	28	U	28	300
N-Nitrosodiphenylamine	19	U	19	300
Pentachlorophenol	300	U	300	610
Phenanthrene	16	U	16	300
Phenol	17	U	17	300
Pyrene	11	U	11	300
1,2,4-Trichlorobenzene	26	U	26	300
2,4,5-Trichlorophenol	9.2	U	9.2	300
2,4,6-Trichlorophenol	9.2	U	9.2	300

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	90	50 - 120
2-Fluorophenol	92	53 - 120
Nitrobenzene-d5	89	50 - 120
Phenol-d5	91	52 - 120
Terphenyl-d14	91	55 - 120
2,4,6-Tribromophenol	82	51 - 120

Method Blank TICs- Batch: 280-60045

Cas Number	Analyte	RT	Est. Result	Qual
2216-30-0	Heptane, 2,5-dimethyl-	3.13	267	N J
1069-53-0	Hexane, 2,3,5-trimethyl-	3.02	198	N J
	Unknown	1.86	133	N J
	Unknown	2.96	157	N J
	Unknown	3.21	3140	N J

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60045

Method: 8270C
Preparation: 3550C

LCS Lab Sample ID:	LCS 280-60045/2-A	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Client Matrix:	Solid	Prep Batch:	280-60045	Lab File ID:	Y9186.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.5 g
Analysis Date:	03/31/2011 1728	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-60045/3-A	Analysis Batch:	280-60409	Instrument ID:	MSS_Y
Client Matrix:	Solid	Prep Batch:	280-60045	Lab File ID:	Y9187.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.0 g
Analysis Date:	03/31/2011 1748	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/30/2011 2055			Injection Volume:	0.5 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Acenaphthene	83	90	52 - 120	13	30		
Anthracene	86	96	57 - 120	17	30		
Carbazole	86	95	54 - 120	14	30		
4-Chloro-3-methylphenol	87	95	57 - 120	13	30		
2-Chlorophenol	84	93	53 - 120	15	30		
1,4-Dichlorobenzene	80	87	46 - 120	14	30		
2,4-Dinitrotoluene	88	98	53 - 120	15	30		
2-Methylnaphthalene	86	92	55 - 120	12	30		
2-Methylphenol	85	94	51 - 120	15	30		
4-Nitrophenol	90	97	41 - 120	13	30		
N-Nitrosodi-n-propylamine	85	93	51 - 120	14	30		
Pentachlorophenol	79	90	30 - 120	17	30		
Phenol	85	95	54 - 120	15	30		
Pyrene	88	95	50 - 120	13	38		
1,2,4-Trichlorobenzene	78	85	50 - 120	14	30		
2,4,6-Trichlorophenol	87	94	50 - 120	13	30		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
2-Fluorobiphenyl	85	92	50 - 120
2-Fluorophenol	85	94	53 - 120
Nitrobenzene-d5	85	94	50 - 120
Phenol-d5	86	95	52 - 120
Terphenyl-d14	87	95	55 - 120
2,4,6-Tribromophenol	82	90	51 - 120

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60021

Method: 8082
Preparation: 3550C

Lab Sample ID:	MB 280-60021/1-A	Analysis Batch:	280-60554	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-60021	Lab File ID:	087F8701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.0 g
Analysis Date:	04/02/2011 1712	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	03/30/2011 1903			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Aroclor 1016	2.8	U	2.8	10
Aroclor 1221	8.0	U	8.0	17
Aroclor 1232	2.0	U	2.0	10
Aroclor 1242	4.7	U	4.7	10
Aroclor 1248	4.7	U	4.7	10
Aroclor 1254	2.6	U	2.6	10
Aroclor 1260	2.6	U	2.6	10

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	107	59 - 130
Tetrachloro-m-xylene	98	53 - 128

Lab Control Sample - Batch: 280-60021

Method: 8082
Preparation: 3550C

Lab Sample ID:	LCS 280-60021/2-A	Analysis Batch:	280-60554	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-60021	Lab File ID:	088F8801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.4 g
Analysis Date:	04/02/2011 1744	Units:	ug/Kg	Final Weight/Volume:	5000 uL
Prep Date:	03/30/2011 1903			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aroclor 1016	31.8	33.6	105	54 - 132	
Aroclor 1260	31.8	36.1	113	62 - 129	

Surrogate	% Rec	Acceptance Limits
Decachlorobiphenyl	109	59 - 130
Tetrachloro-m-xylene	99	53 - 128

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-60021

Method: 8082
Preparation: 3550C

MS Lab Sample ID:	280-14027-1	Analysis Batch:	280-60554	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-60021	Lab File ID:	090F9001.D
Dilution:	4.0	Leach Batch:	N/A	Initial Weight/Volume:	30.5 g
Analysis Date:	04/02/2011 1848			Final Weight/Volume:	5000 uL
Prep Date:	03/30/2011 1903			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	280-14027-1	Analysis Batch:	280-60554	Instrument ID:	GCS_W
Client Matrix:	Solid	Prep Batch:	280-60021	Lab File ID:	091F9101.D
Dilution:	4.0	Leach Batch:	N/A	Initial Weight/Volume:	30.1 g
Analysis Date:	04/02/2011 1920			Final Weight/Volume:	5000 uL
Prep Date:	03/30/2011 1903			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aroclor 1016	469	749	54 - 132	47	26	N	N *
Aroclor 1260	45	165	62 - 129	19	26	N	N

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
Decachlorobiphenyl	83	82	59 - 130
Tetrachloro-m-xylene	89	93	53 - 128

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60058

Method: NWTPH-Dx
Preparation: 3550C

Lab Sample ID:	MB 280-60058/1-A	Analysis Batch:	280-60602	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-60058	Lab File ID:	017F1701.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.9 g
Analysis Date:	03/31/2011 2259	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/31/2011 0009			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
C10-C36	910	U	910	3600
C10-C28	620	U	620	3600

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	86	49 - 115

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60058

Method: NWTPH-Dx
Preparation: 3550C

LCS Lab Sample ID:	LCS 280-60058/2-A	Analysis Batch:	280-60602	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-60058	Lab File ID:	018F1801.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	32.4 g
Analysis Date:	03/31/2011 2332	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/31/2011 0009			Injection Volume:	1 uL
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-60058/3-A	Analysis Batch:	280-60602	Instrument ID:	GCS_U2
Client Matrix:	Solid	Prep Batch:	280-60058	Lab File ID:	019F1901.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	04/01/2011 0004	Units:	ug/Kg	Final Weight/Volume:	1000 uL
Prep Date:	03/31/2011 0009			Injection Volume:	1 uL
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
C10-C36	93	87	57 - 115	0	23		
C10-C28	93	87	53 - 115	1	23		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
o-Terphenyl	83	75	49 - 115

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60052

Method: 8310
Preparation: 3550C

Lab Sample ID:	MB 280-60052/1-A	Analysis Batch:	280-60216	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-60052	Lab File ID:	G0331008.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.4 g
Analysis Date:	03/31/2011 1721	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	03/30/2011 2232			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.9	U	9.9	99
Acenaphthylene	8.9	U	8.9	99
Anthracene	3.0	U	3.0	20
Benzo[a]anthracene	3.1	U	3.1	15
Benzo[a]pyrene	6.3	U	6.3	15
Benzo[b]fluoranthene	4.1	U	4.1	15
Benzo[g,h,i]perylene	7.1	U	7.1	30
Benzo[k]fluoranthene	3.9	U	3.9	15
Chrysene	4.8	U	4.8	39
Dibenzo(a,h)anthracene	11	U	11	30
Fluoranthene	13	U	13	39
Fluorene	5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene	12	U	12	30
Naphthalene	12	U	12	99
Phenanthrene	12	U	12	39
Pyrene	12	U	12	39

Surrogate	% Rec	Acceptance Limits
Terphenyl-d14 (SUR)	95	72 - 115

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60052

Method: 8310
Preparation: 3550C

LCS Lab Sample ID:	LCS 280-60052/2-A	Analysis Batch:	280-60216	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-60052	Lab File ID:	G0331009.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	30.9 g
Analysis Date:	03/31/2011 1751	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	03/30/2011 2232			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

LCSD Lab Sample ID:	LCSD 280-60052/3-A	Analysis Batch:	280-60216	Instrument ID:	CHHPLC_G
Client Matrix:	Solid	Prep Batch:	280-60052	Lab File ID:	G0331010.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	31.8 g
Analysis Date:	03/31/2011 1822	Units:	ug/Kg	Final Weight/Volume:	4000 uL
Prep Date:	03/30/2011 2232			Injection Volume:	20 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Acenaphthene	93	96	72 - 115	0	20		
Acenaphthylene	95	101	60 - 115	3	21		
Anthracene	87	94	61 - 115	4	20		
Benzo[a]anthracene	104	112	76 - 115	4	20		
Benzo[a]pyrene	85	91	69 - 115	5	20		
Benzo[b]fluoranthene	105	110	81 - 115	2	20		
Benzo[g,h,i]perylene	95	103	71 - 115	5	20		
Benzo[k]fluoranthene	104	111	85 - 115	3	20		
Chrysene	101	107	70 - 115	3	20		
Dibenzo(a,h)anthracene	101	109	79 - 115	5	20		
Fluoranthene	100	108	67 - 115	5	20		
Fluorene	98	104	72 - 115	4	20		
Indeno[1,2,3-cd]pyrene	105	114	76 - 115	5	20		
Naphthalene	102	107	77 - 115	2	20		
Phenanthrene	100	107	79 - 115	4	20		
Pyrene	100	108	77 - 115	4	20		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
Terphenyl-d14 (SUR)	92	100	72 - 115

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 280-60004/1-A	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/01/2011 1517	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
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	0.155	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	17.87	B	14.1	50.0
Chromium	0.0650	B	0.058	0.20
Cobalt	0.10	U	0.10	1.0
Copper	0.22	U	0.22	1.0
Iron	4.59	B	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	0.586	B	0.40	1.0
Zirconium	0.35	U	0.35	2.5

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Control Sample - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 280-60004/2-A	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 g
Analysis Date:	04/01/2011 1519	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	200	199.8	100	82 - 116	
Antimony	50.0	51.40	103	82 - 110	
Arsenic	100	105.0	105	85 - 110	
Barium	200	198.9	99	87 - 112	
Beryllium	5.00	4.95	99	84 - 114	
Boron	100	96.04	96	81 - 110	
Cadmium	10.0	9.74	97	87 - 110	
Calcium	5000	4877	98	82 - 114	
Chromium	20.0	20.37	102	84 - 114	
Cobalt	50.0	50.26	101	87 - 110	
Copper	25.0	25.18	101	88 - 110	
Iron	100	105.3	105	87 - 120	
Lead	50.0	52.34	105	86 - 110	
Magnesium	5000	4949	99	90 - 110	
Manganese	50.0	49.98	100	88 - 110	
Molybdenum	100	109.6	110	86 - 110	
Nickel	50.0	51.74	103	87 - 110	
Potassium	5000	5077	102	89 - 110	
Selenium	200	210.7	105	83 - 110	
Silicon	1000	218.0	22	10 - 70	
Silver	5.00	4.98	100	87 - 114	
Sodium	5000	5237	105	90 - 112	
Vanadium	50.0	50.09	100	88 - 110	
Zinc	50.0	49.79	100	76 - 114	
Zirconium	50.0	52.77	106	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Matrix Spike - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.16 g
Analysis Date:	04/01/2011 1528	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	17.9		130	115.0	75	76 - 111	N
Barium	13.1		259	285.9	105	52 - 159	
Beryllium	0.047	U	6.48	6.14	95	72 - 105	
Cadmium	0.059	U	13.0	12.24	94	40 - 130	
Calcium	1800		6480	7999	96	43 - 165	
Cobalt	15.5		64.8	67.66	80	72 - 106	
Copper	67.1		32.4	65.26	-6	37 - 187	N
Lead	23.1		64.8	117.5	146	70 - 200	
Magnesium	149		6480	5994	90	64 - 145	
Manganese	149		64.8	145.5	-5	40 - 200	N
Molybdenum	2.0	B	130	124.9	95	75 - 103	
Nickel	73.2		64.8	90.11	26	61 - 126	N
Potassium	58.7	U	6480	6803	105	56 - 172	
Selenium	1.8		259	124.6	47	76 - 104	N
Silicon	322		1300	685.6	28	20 - 200	
Silver	0.97		6.48	7.26	97	75 - 141	
Vanadium	15.6		64.8	78.06	96	50 - 169	
Zinc	45.8		64.8	94.04	74	70 - 200	
Zirconium	19.8		64.8	84.92	101	75 - 125	

Matrix Spike - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111 asc
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	1.16 g
Analysis Date:	04/01/2011 1537	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Aluminum	400		259	980.6	224	50 - 200	N
Antimony	5.4	U	64.8	46.87	72	20 - 200	
Boron	14.0	U	130	114.4	88	75 - 107	
Chromium	7570		25.9	2839	-18242	70 - 200	4
Iron	492000		130	438900	-40890	70 - 200	4
Sodium	845	U	6480	6456	100	78 - 111	

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Duplicate - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	04/01/2011 1526	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Arsenic	17.9		20.50	14	30	
Barium	13.1		21.64	49	30	M
Beryllium	0.047	U	0.046	NC	30	U
Cadmium	0.059	U	0.057	NC	30	U
Calcium	1800		3339	60	30	M
Cobalt	15.5		10.70	37	30	M
Copper	67.1		51.09	27	30	
Lead	23.1		35.26	42	40	M
Magnesium	149		516.4	111	30	M
Manganese	149		129.6	14	40	
Molybdenum	2.0	B	3.97	64	30	M
Nickel	73.2		53.54	31	30	M
Potassium	58.7	U	56.6	NC	40	U
Selenium	1.8		1.2	NC	30	U
Silicon	322		490.8	42	40	M
Silver	0.97		0.926	4	30	
Vanadium	15.6		24.90	46	30	M
Zinc	45.8		43.45	5	40	
Zirconium	19.8		19.76	0.04	30	

Duplicate - Batch: 280-60004

Method: 6010B
Preparation: 3050B

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60525	Instrument ID:	MT_026
Client Matrix:	Solid	Prep Batch:	280-60004	Lab File ID:	26A040111.asc
Dilution:	10	Leach Batch:	N/A	Initial Weight/Volume:	1.09 g
Analysis Date:	04/01/2011 1535	Units:	mg/Kg	Final Weight/Volume:	100 mL
Prep Date:	04/01/2011 0800				
Leach Date:	N/A				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Aluminum	400		946.0	81	40	M
Antimony	5.4	U	5.2	NC	40	U
Boron	14.0	U	13.5	NC	30	U
Chromium	7570		5982	23	40	
Iron	492000		472900	4	40	
Sodium	845	U	814	NC	30	U

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60100

Method: 7471A
Preparation: 7471A

Lab Sample ID:	MB 280-60100/1-A	Analysis Batch:	280-60271	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60100	Lab File ID:	110331AD.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	03/31/2011 2148	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/31/2011 1130				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Mercury	0.0055	U	0.0055	0.017

Lab Control Sample - Batch: 280-60100

Method: 7471A
Preparation: 7471A

Lab Sample ID:	LCS 280-60100/2-A	Analysis Batch:	280-60271	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60100	Lab File ID:	110331AD.txt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	0.60 g
Analysis Date:	03/31/2011 2155	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/31/2011 1130				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.417	0.432	104	87 - 111	

Matrix Spike - Batch: 280-60100

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60271	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60100	Lab File ID:	110331AD.txt
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	0.68 g
Analysis Date:	03/31/2011 2336	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/31/2011 1130				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	1.2	0.553	2.19	171	87 - 111	N

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Duplicate - Batch: 280-60100

Method: 7471A
Preparation: 7471A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60271	Instrument ID:	MT_033
Client Matrix:	Solid	Prep Batch:	280-60100	Lab File ID:	110331AD.txt
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	0.62 g
Analysis Date:	03/31/2011 2334	Units:	mg/Kg	Final Weight/Volume:	50 mL
Prep Date:	03/31/2011 1130				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	1.2	1.93	43	20	M

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 280-60186

Method: 9045C
Preparation: N/A

LCS Lab Sample ID:	LCS 280-60186/4	Analysis Batch:	280-60186	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/31/2011 1007	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

LCSD Lab Sample ID:	LCSD 280-60186/5	Analysis Batch:	280-60186	Instrument ID:	WC_pH Probe
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/31/2011 1008	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
pH adj. to 25 deg C-Soluble	100	100	97 - 103	0	5		

Duplicate - Batch: 280-60186

Method: 9045C
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60186	Instrument ID:	WC_pH Probe
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	280-60093	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/31/2011 1012	Units:	SU	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/31/2011 0821				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH adj. to 25 deg C-Soluble	7.97	7.980	0.1	5	

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-59989/2-A	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	128.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1939	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Result	Qual	MDL	RL
Nitrate as N-Soluble	0.31	U	0.31	2.5
Nitrite as N-Soluble	0.34	U	0.34	2.5
Orthophosphate as P-Soluble	1.2	U	1.2	5.0

Method Reporting Limit Check - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-60204/3	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1301	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	0.200	0.194	97	50 - 150	B
Nitrite as N-Soluble	0.200	0.191	96	50 - 150	B
Orthophosphate as P-Soluble	0.200	0.201	100	50 - 150	B

Lab Control Sample - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-59989/1-A	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	127.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1923	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	50.0	50.29	101	90 - 110	
Nitrite as N-Soluble	50.0	49.41	99	90 - 110	
Orthophosphate as P-Soluble	50.0	50.16	100	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Matrix Spike - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	131.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2103	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Nitrite as N-Soluble	0.51	U	75.2	71.33	95	80 - 120	
Orthophosphate as P-Soluble	1.9	U	75.2	1.9	0	80 - 120	U N

Matrix Spike - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	136.TXT
Dilution:	5.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2227	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate as N-Soluble	375	75.2	457.7	110	80 - 120	D

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Duplicate - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	130.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2047	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Nitrite as N-Soluble	0.51	U	0.51	NC	15	U
Orthophosphate as P-Soluble	1.9	U	1.9	NC	15	U

Duplicate - Batch: 280-60204

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60204	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	135.TXT
Dilution:	5.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2211	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Nitrate as N-Soluble	375	376.8	0.4	15	D

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Method Blank - Batch: 280-60205

Method: 9056M
Preparation: N/A

Lab Sample ID:	MB 280-59989/2-A	Analysis Batch:	280-60205	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	128.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1939	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Result	Qual	MDL	RL
Chloride-Soluble	2.0	U	2.0	5.0
Bromide-Soluble	0.39	U	0.39	2.0
Sulfate-Soluble	1.7	U	1.7	5.0
Fluoride-Soluble	0.82	U	0.82	5.0

Method Reporting Limit Check - Batch: 280-60205

Method: 9056M
Preparation: N/A

Lab Sample ID:	MRL 280-60205/3	Analysis Batch:	280-60205	Instrument ID:	WC_IC8
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	112.TXT
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1301	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	1.00	0.993	99	50 - 150	B
Bromide-Soluble	0.200	0.209	104	50 - 150	B
Sulfate-Soluble	1.00	0.982	98	50 - 150	B
Fluoride-Soluble	0.200	0.187	94	50 - 150	B

Lab Control Sample - Batch: 280-60205

Method: 9056M
Preparation: N/A

Lab Sample ID:	LCS 280-59989/1-A	Analysis Batch:	280-60205	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	127.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 1923	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	250	249.9	100	90 - 110	
Bromide-Soluble	50.0	50.35	101	90 - 110	
Sulfate-Soluble	250	252.9	101	90 - 110	
Fluoride-Soluble	50.0	51.13	102	90 - 110	

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Matrix Spike - Batch: 280-60205

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60205	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	131.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2103	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual		Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Soluble	78.1		376	437.8	96	80 - 120	
Bromide-Soluble	0.60	B	75.2	54.23	71	80 - 120	N
Sulfate-Soluble	406		376	625.9	59	80 - 120	N
Fluoride-Soluble	2.1	B	75.2	42.46	54	80 - 120	N

Duplicate - Batch: 280-60205

Method: 9056M
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60205	Instrument ID:	WC_IC8
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	130.TXT
Dilution:	1.0	Leach Batch:	280-59989	Initial Weight/Volume:	1.0 mL
Analysis Date:	03/30/2011 2047	Units:	mg/Kg	Final Weight/Volume:	1.0 mL
Prep Date:	N/A				
Leach Date:	03/30/2011 1447				

Analyte	Sample Result/Qual		Result	RPD	Limit	Qual
Chloride-Soluble	78.1		77.82	0.3	15	
Bromide-Soluble	0.60	B	0.601	0	15	B
Sulfate-Soluble	406		404.4	0.3	15	
Fluoride-Soluble	2.1	B	2.07	0.7	15	B

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-14027-1
Sdg Number: JP0145

Duplicate - Batch: 280-60113

Method: D-2216
Preparation: N/A

Lab Sample ID:	280-14027-1	Analysis Batch:	280-60113	Instrument ID:	No Equipment
Client Matrix:	Solid	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	
Analysis Date:	03/31/2011 0937	Units:	%	Final Weight/Volume:	
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Percent Moisture	33.5	32.4	3	20	

4.4e IRP 3/30/11

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-150-014	Page 1 of 1

Collector Q. Stowe	Company Contact Joan Kessner	Telephone No. 509-375-4688	Project Coordinator KESSNER, JH
Price Code ~~9L~~ 9J DH 3/28/11	Data Turnaround DH 3/28/11 ~~21~~ 7 Days		
Project Designation 300 Area Field Remediation - Other	Sampling Location 300-15 at 321 Building		SAF No. RC-150
Ice Chest No. ERC-02-803	Field Logbook No. EL-1395-18	COA R300152600	Method of Shipment Hand Deliver/Fed Ex
Shipped To DH 3/28/11 TestAmerica Incorporated, ~~Richland~~ DENVER	Offsite Property No. NA		Bill of Lading/Air Bill No. 7945 8716 4734

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad ← DOT Limits JEB 3-29-11

Special Handling and/or Storage

Cool 4C

SAMPLE ANALYSIS													
			Preservation	Cool 4C	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None
			Type of Container	G/P	G/P	G/P	aG	G	aG	aG	aG	G/P	G/P
			No. of Container(s)	1	1	1	1	1	1	1	1	1	1
			Volume	60mL	60mL	60mL	60mL	~~5mL~~ 60mL DH 3/28/11	~~30mL~~ 60mL DH 3/28/11	60mL	60mL	60mL	~~60mL~~
				See item (1) in Special Instructions.	IC Anions - 300.0	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Gross Alpha & Gross Beta	ROF GEA Shipping Screen
Sample No.	Matrix *	Sample Date	Sample Time										RCF
U1H057	OTHER	3/28/11	1333	X	X	X	X	X	X	X	X		27425

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By/Removed From Quincy Stowe	Date/Time 03/28/11 1420	Received By/Stored In Dontie Delberg	Date/Time 1420 3/28/11
Relinquished By/Removed From Dontie Delberg	Date/Time 1600 3/28/11	Received By/Stored In A. Freier	Date/Time 1600 3-28-11
Relinquished By/Removed From WCH A. Freier	Date/Time 1030 3-29-11	Received By/Stored In FED EX	Date/Time
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time 3/30/11 930
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

(1) ICP Metals - 6010TR (Client 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, Zirconium}; Mercury - 7471 - (CV) {Mercury}

REVIEWED BY JEB DATE 3-29-11

JP0145

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
THE LEADER IN ENVIRONMENTAL TESTING

Project 28002142 -6010TR -Solid

Analytical Due:

Report Due: 4/6/11 (Rush 5 day TAT)

Sample Check-in List

Date/Time Received: 3/30/11 930 GM Screen Result 13 microR/hr

Client: Washington Closure Hanford SDG #: JP0145 NA[ ] SAF #: RC-150 NA [ ]

Job Number: 14027 Chain of Custody # RC-150-014

Shipping Container ID: ERC-02-803 Air Bill # 7945871647 34

1. Custody Seals on shipping container intact? NA [ ] Yes [✓] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [✓] No [ ]
3. Chain of Custody record present? NA [ ] Yes [✓] No [ ]
4. Cooler Temperature °C: 4.4 NA [ ] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [✓]
6. Number of samples in shipping container: 1
7. Sample holding times exceeded? NA [ ] Yes [ ] No [✓]
8. Samples have:
   - ✓ Tape
   - ✓ Custody Seals
   - ✓ Hazard Lables
   - ✓ Appropriate Sample Lables
9. Samples are:
   - ✓ In Good Condition
   - ____ Broken
   - ____ Leaking
   - ____ Have Air Bubbles (Only for samples requiring no head space.)
10. Sample pH taken? NA [✓] pH<2 [ ] pH>2 [ ] pH>9 [ ] Amount HNO_3 Added ____
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [✓]
13. Description of anomalies (include sample numbers): ____

Sample Custodian: [signature] Date: 3/30/11

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on ____ by ____ Person Contacted ____

[ ] No action necessary; process as is.

Project Manager [signature] Date 3/31/11

LS-023, Rev. 7, 1/08

From: (509) 375-4640 Origin ID: PSCA
WCH MAILROOM
WASHINGTON CLOSURE HANFORD
2620 FERMI AVE

RICHLAND, WA 99354

FedEx. Express

J1151102250225

Ship Date: 29MAR11
ActWgt: 34.0 LB
CAD: 8897843/INET3130

Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

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Analytical Data Package Prepared For

Washington Closure Hanford

Radiochemical Analysis By

TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: TARL

Data Package Contains 25 ***Pages***

Report No.: 46158

Results in this report relate only to the sample(s) analyzed.

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
JP0145	RC-150	J1H057	J1C290512-1	MGALX2AA	9MGALX20	1088263
		J1H057	J1C290512-1	MGALX1AC	9MGALX10	1088264

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

April 8, 2011

Attention: Joan Kessner

SAF Number	:	RC-150
Date SDG Closed	:	March 29, 2011
Number of Samples	:	One (1)
Sample Type	:	Other
SDG Number	:	JP0145
Data Deliverable	:	7– Day / Summary

CASE NARRATIVE

I. Introduction

On March 29, 2011, one other sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

WCH ID#	TARL ID#	MATRIX	DATE OF RECEIPT
J1H057	MGALX	OTHER	3/29/11

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

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:

Gas Proportional Counting
Gross Alpha by method RL-GPC-001
Gross Beta by method RL-GPC-001

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

Gas Proportional Counting

Gross Alpha by method RL-GPC-001:

The duplicate agreement for J1H057 exceeded acceptance criteria initially. A recount was run and the recount results were within contractual agreement. Sample J1H057 and J1H057DUP were analyzed with reduced aliquots based on weight screen results. Except as noted, the LCS, batch blank, samples and sample duplicate (J1H057) results are within contractual requirements.

Gross Beta by method RL-GPC-001 :

Sample J1H057 and J1H057DUP were analyzed with reduced aliquots based on weight screen results. Except as noted, the LCS, batch blank, samples and sample duplicate (J1H057) 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:

Whitney Ritari

for Rhonda Wagar
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**TestAmerica Richland's SOP No.**
EPA 901.1	Cs-134, I-131	RL-GAM-001
EPA 900.0	Alpha & Beta	RL-GPC-001
EPA 00-02	Gross Alpha (Coprecipitation)	RL-GPC-002
EPA 903.0	Total Alpha Radium (Ra-226)	RL-RA-002
EPA 903.1	Ra-226	RL-RA-001
EPA 904.0	Ra-228	RL-RA-001
EPA 905.0	Sr-89/90	RL-GPC-003
ASTM D5174	Uranium	RL-KPA-003
EPA 906.0	Tritium	RL-LSC-005

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/? n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or TestAmerica.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 08-Apr-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 46158

SDG No: JP0145

Batch	Client Id / Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	MDC or MDA	CRDL	RPD
1088263	**9310_ALPHABETA_GPC**								
	J1H057								
	MGALX2AA	ALPHA	1.36E+02 +- 3.1E+01		pCi/g	100%	4.69E+00	1.00E+01	
	J1H057 DUP								
	MGALX2AD	ALPHA	1.91E+02 +- 4.3E+01		pCi/g	100%	4.37E+00	1.00E+01	33.4
1088264	**9310_ALPHABETA_GPC**								
	J1H057								
	MGALX1AC	BETA	1.36E+02 +- 1.9E+01		pCi/g	100%	4.78E+00	1.50E+01	
	J1H057 DUP								
	MGALX1AE	BETA	1.52E+02 +- 2.1E+01		pCi/g	100%	4.69E+00	1.50E+01	11.1

No. of Results: 4

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.12
A2002

QC Results Summary

TestAmerica TARL

Ordered by Method, Batch No, QC Type,.

Date: 08-Apr-11

Report No. : 46158

SDG No.: JP0145

Batch Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Tracer Yield	LCS Recovery	Bias	MDC|MDA
9310_ALPHABETA_GPC								
1088263 BLANK QC,								
MGAQV1AA	ALPHA	2.57E-01 +- 1.1E+00	U	pCi/g	100%			2.33E+00
1088263 LCS,								
MGAQV1AC	ALPHA	9.01E+01 +- 2.0E+01		pCi/g	100%	99%	0.0	2.00E+00
9310_ALPHABETA_GPC								
1088264 BLANK QC,								
MGAQ01AA	BETA	-1.95E+00 +- 1.5E+00	U	pCi/g	100%			4.05E+00
1088264 LCS,								
MGAQ01AC	BETA	7.00E+01 +- 1.0E+01		pCi/g	100%	105%	0.0	3.66E+00

No. of Results: 4

TestAmerica

rptSTLRchQcSummary V5.2.12 A2002

Bias - (Result/Expected)-1 as defined by ANSI N13.30.

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.

FORM I

SAMPLE RESULTS

Date: 08-Apr-11

Lab Name:	TestAmerica	**SDG:**	JP0145	**Collection Date:**	3/28/2011 1:33:00 PM
Lot-Sample No.:	J1C290512-1	**Report No. :**	46158	**Received Date:**	3/29/2011 11:10:00 AM
Client Sample ID:	J1H057	**COC No. :**	RC-150-014	**Matrix:**	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1088263	9310_ALPHABETA_GPC			**Work Order:** MGALX2AA			**Report DB ID:** 9MGALX20					
ALPHA	***1.36E+02***		1.5E+01	3.1E+01	4.69E+00	pCi/g	100%	*(29.1)*	4/6/11 09:42 p		0.0503	GPC10A
						1.82E+00	1.00E+01	*(8.7)*			g	
Batch: 1088264	9310_ALPHABETA_GPC			**Work Order:** MGALX1AC			**Report DB ID:** 9MGALX10					
BETA	***1.36E+02***		8.5E+00	1.9E+01	4.78E+00	pCi/g	100%	*(28.4)*	4/5/11 05:38 p		0.2005	GPC27B
						2.22E+00	1.50E+01	*(14.4)*			g	

No. of Results: 2 **Comments:**

TestAmerica
rptSTLRchSample
V5.2.12 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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.

FORM I

SAMPLE RESULTS

Date: 08-Apr-11

Lab Name:	TestAmerica	SDG:	JP0145	Collection Date:	3/28/2011 1:33:00 PM
Lot-Sample No.:	J1C290512-1	Report No. :	46158	Received Date:	3/29/2011 11:10:00 AM
Client Sample ID:	J1H057	COC No. :	RC-150-014	Matrix:	OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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.

TestAmerica Laboratories, Inc.

FORM II

Date: 08-Apr-11

DUPLICATE RESULTS

Lab Name:	TestAmerica	**SDG:**	JP0145	**Collection Date:**	3/28/2011 1:33:00 PM
Lot-Sample No.:	J1C290512-1	**Report No. :**	46158	**Received Date:**	3/29/2011 11:10:00 AM
Client Sample ID:	J1H057 DUP	**COC No. :**	RC-150-014	**Matrix:**	OTHER OTHERSOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1088263	9310_ALPHABETA_GPC			**Work Order:** MGALX2AD		**Report DB ID:** MGALX2DR			**Orig Sa DB ID:** 9MGALX20			
ALPHA	1.91E+02		1.7E+01	4.3E+01	4.37E+00	pCi/g	100%	(43.7)	4/6/11 09:42 p		0.0501	GPC10C
	1.36E+02		**RPD**	**33.4**		1.00E+01		(8.9)			g	
Batch: 1088264	9310_ALPHABETA_GPC			**Work Order:** MGALX1AE		**Report DB ID:** MGALX1ER			**Orig Sa DB ID:** 9MGALX10			
BETA	1.52E+02		8.9E+00	2.1E+01	4.69E+00	pCi/g	100%	(32.4)	4/5/11 05:38 p		0.2006	GPC27D
	1.36E+02		**RPD**	**11.1**		1.50E+01		(14.4)			g	

10

No. of Results: 2 **Comments:**

RPD - Relative Percent Difference.

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

FORM II

BLANK RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0145

Report No. : 46158

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA ,	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 1088263	9310_ALPHABETA_GPC			**Work Order:**	MGAQV1AA		**Report DB ID:**	MGAQV1AB				
ALPHA	2.57E-01	U	1.1E+00	1.1E+00	2.33E+00	pCi/g	100%	0.11	4/5/11 09:35 p		0.0579	GPC10C
					9.35E-01	1.00E+01		0.48			g	
Batch: 1088264	9310_ALPHABETA_GPC			**Work Order:**	MGAQ01AA		**Report DB ID:**	MGAQ01AB				
BETA	-1.95E+00	U	1.5E+00	1.5E+00	4.05E+00	pCi/g	100%	-0.48	4/5/11 05:38 p		0.2023	GPC27C
					1.89E+00	1.50E+01		-(2.6)			g	

No. of Results: 2 **Comments:**

TestAmerica
rptSTLRchBlank
V5.2.12 A2002

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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.

FORM II

LCS RESULTS

Date: 08-Apr-11

Lab Name: TestAmerica

Matrix: OTHER

SDG: JP0145

Report No. : 46158

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Primary Detector
Batch: 1088263	9310_ALPHABETA_GPC			**Work Order:**	MGAQV1AC		**Report DB ID:**	MGAQV1CS					
ALPHA	9.01E+01		8.5E+00	2.0E+01	2.00E+00	pCi/g	100%	9.14E+01	9.2E-01	99%	4/5/11 09:35 p	0.0516	GPC10D
							Rec Limits:	70	130	0.0		g	
Batch: 1088264	9310_ALPHABETA_GPC			**Work Order:**	MGAQ01AC		**Report DB ID:**	MGAQ01CS					
BETA	7.00E+01		5.5E+00	1.0E+01	3.66E+00	pCi/g	100%	6.67E+01	2.6E+00	105%	4/5/11 05:38 p	0.204	GPC27A
							Rec Limits:	70	130	0.0		g	

No. of Results: 2 **Comments:**

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/7/2011 9:13:11 AM

Lot No., Due Date: J1C290512; 04/05/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1088263; RALPHA-A Alpha by GPC-Am
SDG, Matrix: JP0145; OTHER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	✓		
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
NCM 10-17979

First Level Thomas D McEl Date 4/7/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1088263

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: [signature] Date: 4/7/11

LS-038B, Rev. 10, 9/07

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

4/6/2011 10:09:11 AM

Lot No., Due Date: J1C290512; 04/05/2011
Client, Site: 127642; S00N063A00 HANFORD
QC Batch No., Method Test: 1088264; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: JP0145; OTHER

1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes ✓	No	N/A
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes ✓	No	N/A
2.2 Are the QC appropriate for the analysis included in the batch?	Yes ✓	No	N/A
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes ✓	No	N/A
2.4 Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A ✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.2 Is the LCS result, yield, and MDA within contract limits?	Yes ✓	No	N/A
3.3 Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A ✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?	Yes ✓	No	N/A
3.5 Are the sample yields and MDAs within contract limits?	Yes ✓	No	N/A
4.0 Raw Data			
4.1 Were results calculated in the correct units?	Yes ✓	No	N/A
4.2 Were analysis volumes entered correctly?	Yes ✓	No	N/A
4.3 Were Yields entered correctly?	Yes	No	N/A ✓
4.4 Were spectra reviewed/meet contractual requirements?	Yes	No	N/A ✓
4.5 Were raw counts reviewed for anomalies?	Yes ✓	No	N/A
5.0 Other			
5.1 Are all nonconformances included and noted?	Yes	No	N/A ✓
5.2 Are all required forms filled out?	Yes ✓	No	N/A
5.3 Was the correct methodology used?	Yes ✓	No	N/A
5.4 Was transcription checked?	Yes ✓	No	N/A
5.5 Were all calculations checked at a minimum frequency?	Yes ✓	No	N/A
5.6 Are worksheet entries complete and correct?	Yes ✓	No	N/A

6.0 Comments on any No response:

Thomas D M

First Level _____ **Date** 4/6/11

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

Batch Number: 1088264

Review Item	Yes (√)	No (√)	NA (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?	✓		
C. Other 1. Are all Non-conformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Jodie C. Date: 4/6/11

LS-038B, Rev. 10, 9/07

Washington Closure Hanford	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	RC-150-014	Page 1 of 1
Collector: Q. Stowe	Company Contact: Joan Kessner; Telephone No.: 509-375-4688	Project Coordinator: KESSNER, JH	Price Code: ~~9L~~ 9J DH 3/28/11
Project Designation: 300 Area Field Remediation - Other	Sampling Location: 300-15 at 321 Building	SAF No.: RC-150	Data Turnaround: ~~21~~ 7 Days DH 3/28/11
Ice Chest No.: N/A	Field Logbook No.: EL-1395-18; COA: R300152600	Method of Shipment: Hand Deliver/Fed Ex	
Shipped To: TestAmerica Incorporated, Richland	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Potential Rad < DOT Limit AJ 3-29-11

Lot # J1C290512
SDG# JP0145
Due 4-5-11

Special Handling and/or Storage

~~Cool 4C~~ NONE
DH 3/28/11

Preservation	Cool 4C	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C	None	None
Type of Container	G/P	G/P	G/P	aG	G	aG	aG	aG	G/P	G/P
No. of Container(s)	1	1	1	1	1	1	1	1	1	1
Volume	60mL	60mL	60mL	60mL	5mL	30mL	60mL	60mL	60mL	250g
SAMPLE ANALYSIS	See item (1) in Special Instructions.	IC Anions - 300.0	pH (Soil) - 9045	TPH-Diesel Range - WTPH-D +	VOA - 8260A (TCL)	Semi-VOA - 8270A (TCL)	PCBs - 8082	PAHs - 8310	Gross Alpha & Gross Beta	RCF Area Shipping Screen

DH 3/28/11

Sample No.	Matrix *	Sample Date	Sample Time										RCF
J1H057	OTHER	3/28/11	1333							MGALX		X	27425

CHAIN OF POSSESSION — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Quincy Stowe	03/28/11 1420	Dorthe Delberg	3/28/11 1420
Dorthe Delberg	3/28/11 1600	A. Freier	3-28-11 1600
A. Freier WCH	3-28-11 1110	Lucas Velazquez TAIP	3/29/11 1110
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

(1) ICP Metals - 6010TR (Client 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, Zirconium}; Mercury - 7471 - (CV) {Mercury}

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

REVIEWED BY SEB
DATE 5-29-11

JP0145

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

WCH-EE-011

J1C290512

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sample Check-in List

Date/Time Received: 3.29.11 1110 GM Screen Result (out) 3 (in) .8 Initials [CK]

Client: WCH SDG #: _____ NA [ ] SAF #: RC-150 NA [ ]

Work Order Number: J1C290512 Chain of Custody # RC-150 - 014

Shipping Container ID: hand delivery NA [ ] Air Bill # _____ NA [CK]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes [CK] No [ ] No Custody Seal [ ]
2. Custody Seals dated and signed? Yes [CK] No [ ] No Custody Seal [ ]
3. Chain of Custody record present? Yes [CK] No [ ]
4. Cooler temperature: ON ICE NA [CK] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [CK]

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 1 sample @ 1 XJAR COMLG
7. Sample holding times exceeded? NA [ ] Yes [ ] No [CK]
8. Samples have:
   ___ tape
   CK custody seals
   (soil-other)
   ___ hazard labels
   CK appropriate sample labels
9. Samples:
   CK are in good condition
   ___ are broken
   ___ are leaking
   ___ have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [ ] No [ ] N/A [CK] (Note discrepancies in #13)
    (If acidification necessary, then document sample ID, initial pH, amount of HNO_3 added and pH after addition)

    RPL ID # of preservative used : _____
11. Sample Location, Sample Collector Listed? * Yes [CK] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [CK]
13. Description of anomalies (include sample numbers): NA [CK] _____

See other side for additional comments

Sample Custodian: [signature] Date: 3.29.11 1110

Client Informed on _____ by _____ Person contacted _____

[✓] No action necessary; process as is

Project Manager [signature] Date 3/29/11

LS-023, Rev. 12, 10/10

Clouseau
Nonconformance Memo

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

NCM #: **10-17979**
NCM Initiated By: Tom Mcginnis
Date Opened: 04/07/2011
Date Closed:

Classification: **Deficiency**
Status: **PMREVIEW**
Production Area: Environmental - Sep
Tests: Alpha by GPC-Am
Lot #'s (Sample #'s): J1C290000 (263), J1C290512 (1),
QC Batches: 1088263,

Nonconformance: Batch Result Out of Limits
Subcategory: Duplicate agreement exceeds acceptance limit

Problem Description / Root Cause

Name	Date	Description
Tom Mcginnis	04/07/2011	The duplicate agreement for sample J1C290512-1 exceeded acceptance criteria. The sample and duplicate were submitted for recount with the results meeting duplicate agreement criteria.

Corrective Action

Name	Date	Corrective Action
Tom Mcginnis	04/07/2011	PM was notified of the batch deficiency.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

4/6/2011 3:20:44 PM

Sample Preparation/Analysis

Balance Id:1117411003

27642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

PRIORITY

AY Gross Alpha Prp PRP003/GPC007
S7 Gross Alpha by GPC using Am-241 curve

PRIORITY

Pipet #: _____

AnalyDueDate: 04/05/2011

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 1088263 OTHER pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None All Tests: 1088263 AYS7, 1088264 BBS8,

Sep2 DT/Tm Tech:

Prep Tech: ,BaughB

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MGALX-1-AA J1C290512-1-SAMP 03/28/2011 13:33		0.0503g,in AmtRec: 1XJAR60MLG	#Containers: 1				Scr:	Alpha:		Beta:
2 MGALX-1-AD-X J1C290512-1-DUP 03/28/2011 13:33		0.0501g,in AmtRec: 1XJAR60MLG	#Containers: 1				Scr:	Alpha:		Beta:
3 MGALX-2-AA J1C290512-1-SAMP 03/28/2011 13:33		AmtRec: 1XJAR60MLG	#Containers: 1	15	50.3	100	NA	Alpha: 2233	4/6/11 OD	Beta:
4 MGALX-2-AD-X J1C290512-1-DUP 03/28/2011 13:33		AmtRec: 1XJAR60MLG	#Containers: 1		50.1		10C	Alpha:		Beta:
5 MGAQV-1-AA-B J1C290000-263-BLK 03/29/2011 14:28 pd		0.0579g,in AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:
6 MGAQV-1-AC-C J1C290000-263-LCS 03/29/2011 14:28 pd		0.0516g,in AmtRec:	ASD5087 01/25/11,pd 04/04/05,r #Containers: 1				Scr:	Alpha:		Beta:

17979

Sample Preparation/Analysis

AY Gross Alpha Prp PRP003/GPC007
S7 Gross Alpha by GPC using Am-241 curve
5I CLIENT: HANFORD

Balance Id:1117411003
Pipet #: _____
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: ,BaughB

AnalyDueDate: 04/05/2011

Batch: 1088263 pCi/g
EQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27038

MGALX1AA-SAMP Constituent List:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:

MGAQV1AA-BLK:

ALPHA	RDL:1.00E+01	pCi/g	LCL:	UCL:	RPD:

MGAQV1AC-LCS:

Am-241	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

MGALX1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGAQV1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGAQV1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

TestAmerica Laboratories, Inc.

4/7/2011 9:10:27 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/7/2010, 4/12/2011, Batch: '1088263', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1088263						
AC		**Rev1C**	**BaughB**	4/5/2011 4:36:55 PM		
SC			Maucieris	IsBatched	3/29/2011 2:28:55 PM	ICOC_RADCALC v4.8.49
SC			BaughB	InPrep	4/5/2011 4:36:55 PM	RL-PRP-004 REVISION 1
SC			BaughB	Prep2C	4/5/2011 4:58:15 PM	RL-GPC-007 REVISION 1
SC			DawkinsO	InCnt1	4/5/2011 5:01:00 PM	RL-CI-006 REVISION 1
SC			ClarkR	CalcC	4/6/2011 12:57:11 PM	RL-CI-006 REVISION 1
SC			DawkinsO	InCnt1	4/6/2011 3:54:36 PM	RL-CI-006 REVISION 1
SC			ClarkR	CalcC	4/7/2011 8:13:32 AM	RL-CI-006 REVISION 1
SC			mcginnist	Rev1C	4/7/2011 9:10:11 AM	RL-DR-001 Rev 2
AC			**BaughB**	4/5/2011 4:58:15 PM		
AC			**DawkinsO**	4/5/2011 5:01:00 PM		
AC			**ClarkR**	4/6/2011 12:57:11 PM		
AC			**DawkinsO**	4/6/2011 3:54:36 PM		
AC			**ClarkR**	4/7/2011 8:13:32 AM		
AC			**mcginnist**	4/7/2011 9:10:11 AM		

AC: Accepting Entry; SC: Status Change

04/5/2011 4:38:39 PM

Sample Preparation/Analysis

Balance Id:1117411003

127642, Washington Closure Hanford LLC , Bechtel Hanford, Inc.

BB Gross Beta Prp PRP003/GPC007
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Pipet #: _____

AnalyDueDate: 04/05/2011

Sep1 DT/Tm Tech:

Batch: 1088264 OTHER pCi/g PM, Quote: RW2, 27038

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,BaughB (Back)

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 MGALX-1-AC J1C290512-1-SAMP 03/28/2011 13:33		0.2005g,in AmtRec: 1XJAR60MLG #Containers: 1		1.5	200.5	50	27B	1503	4/5/11 OP	
							Scr:	Alpha:		Beta:
2 MGALX-1-AE-X J1C290512-1-DUP 03/28/2011 13:33		0.2006g,in AmtRec: 1XJAR60MLG #Containers: 1			200.6		27D			
							Scr:	Alpha:		Beta:
3 MGAQ0-1-AA-B J1C290000-264-BLK 03/29/2011 13:03 pd		0.2023g,in AmtRec: #Containers: 1			1.3921g 1.3922-1g 0mg		27C			
							Scr:	Alpha:		Beta:
4 MGAQ0-1-AC-C J1C290000-264-LCS 03/29/2011 13:03 pd		0.204g,in AmtRec: #Containers: 1	BESD1713 03/02/11,pd		1.4025 1.4024 0.1mg		27A			
							Scr:	Alpha:		Beta:

Comments:

All Clients for Batch:
127642, Washington Closure Hanford LLC Bechtel Hanford, Inc. , RW2, 27038

MGALX1AC-SAMP Constituent List:

BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MGAQ01AA-BLK:					
BETA	RDL:1.50E+01	pCi/g	LCL:	UCL:	RPD:
MGAQ01AC-LCS:					
Sr-90	RDL:	pCi/g	LCL:70	UCL:130	RPD:35

MGALX1AC-SAMP Calc Info:

TestAmerica Laboratories, Inc.

Sample Preparation/Analysis

BB Gross Beta Prp PRP003/GPC007
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1117411003
Pipet #: _____

AnalyDueDate: 04/05/2011

Sep1 DT/Tm Tech:

Batch: 1088264 pCi/g

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BaughB

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGAQ01AA-BLK:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MGAQ01AC-LCS:

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

4/6/2011 10:08:44 AM

ICOC Fraction Transfer/Status Report

ByDate: 4/6/2010, 4/11/2011, Batch: '1088264', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
1088264						
AC		**Rev1C**	**BaughB**	4/5/2011 4:37:53 PM		
SC			Maucieris	IsBatched	3/29/2011 1:09:49 PM	ICOC_RADCALC v4.8.49
SC			BaughB	InPrep	4/5/2011 4:37:53 PM	RL-PRP-004 REVISION 1
SC			BaughB	Prep2C	4/5/2011 4:58:25 PM	RL-GPC-007 REVISION 1
SC			DawkinsO	InCnt1	4/5/2011 5:01:10 PM	RL-CI-006 REVISION 1
SC			DawkinsO	CalcC	4/6/2011 1:01:00 AM	RL-CI-006 REVISION 1
SC			mcginnist	Rev1C	4/6/2011 10:08:33 AM	RL-DR-001 Rev 2
AC			**BaughB**	4/5/2011 4:58:25 PM		
AC			**DawkinsO**	4/5/2011 5:01:10 PM		
AC			**DawkinsO**	4/6/2011 1:01:00 AM		
AC			**mcginnist**	4/6/2011 10:08:33		

AC: Accepting Entry; SC: Status Change

TestAmerica Richland

Richland,Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.44