

SAF-RC-210
100-IU-2 & 100-IU-6 Miscellaneous
Restoration Sites Near 100F - Soil Full
Protocol
FINAL VALIDATION PACKAGE

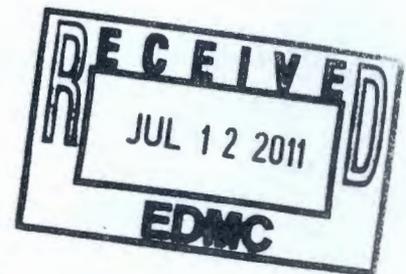
COMPLETE COPY OF FINAL VALIDATION PACKAGE TO:

Kathy Wendt (2 copies)

COMMENTS:

SDG J01107

SAF-RC-210



Sample Location: 600-350 PNL Mounds Verification

Date: 24 June 2011
 To: Washington Closure Hanford Inc. (technical representative)
 From: ELR Consulting
 Project: 100-IU-2 & 100-IU6 Miscellaneous Restoration Sites Near 100F – Soil Full Protocol – PNL Mounds Verification
 Subject: Polyaromatic Hydrocarbons - Data Package No. J01107-TAL

INTRODUCTION

This memo presents the results of data validation on Data Package No. J01107 prepared by TestAmerica Laboratories Inc. (TAL). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Analyte
J1JD53	6/2/11	Soil	C	See note 1
J1JD54	6/2/11	Soil	C	See note 1
J1JD55	6/2/11	Soil	C	See note 1
J1JD56	6/2/11	Soil	C	See note 1
J1JD57	6/2/11	Soil	C	See note 1

1 – Polyaromatic hydrocarbons by 8310.

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

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

DATA QUALITY OBJECTIVES

Holding Times

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

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

associated detectable sample results are qualified as estimates and flagged "J" and all non-detects are rejected and flagged "UR".

All holding times were acceptable.

Method Blanks

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

All method blank results were acceptable.

Field (equipment) Blanks

One field blank (J1JD57) was submitted for analysis. No analytes were detected in the field blank.

Accuracy

Matrix Spike/Matrix Spike Duplicate & Blank Spike Recoveries

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

All accuracy results were acceptable.

Surrogate Recovery

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

All surrogate results were acceptable.

Precision

Matrix Spike/Matrix Spike Duplicate Samples

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

All laboratory results were acceptable.

Field Duplicate Samples

One set of field duplicates (J1JD53/J1JD56) were submitted for analysis. Field duplicates are compared using the same criteria as for laboratory duplicates. All field duplicate results were acceptable.

Analytical Detection Levels

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

Completeness

Data package No. J01107 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

None found.

REFERENCES

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

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

Appendix 1
Glossary of Data Reporting Qualifiers

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

- U - Indicates the compound or analyte was analyzed for and not detected in the sample. The value reported is the same quantitation limit corrected for sample dilution and moisture content by the laboratory.
- UJ - Indicates the compound or analyte was analyzed for and not detected in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate.
- R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.
- UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.
- NJ - Indicates presumptive evidence of a compound at an estimated value. The data may not be valid for some specific applications (i.e., usable for decision-making purposes).
- N - Indicates presumptive evidence of a compound. The data may not be valid for some specific applications usable for decision-making purposes).

Appendix 2
Summary of Data Qualification

POLYAROMATIC HYDROCARBON DATA QUALIFICATION SUMMARY*

SDG: J01107	REVIEWER: ELR	Project: 100-IU-2 & 100-IU-6	PAGE <u>1</u> OF <u>1</u>
COMMENTS: No qualifiers assigned			

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

Appendix 3
Annotated Laboratory Reports

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

W
6/23/11

Client Sample ID: J1JD53

Lab Sample ID: 280-16531-1

Date Sampled: 06/02/2011 1205

Client Matrix: Solid

% Moisture: 4.6

Date Received: 06/03/2011 1000

8310 PAHs (HPLC)

Analysis Method: 8310	Analysis Batch: 280-70888	Instrument ID: CHHPLC_G
Prep Method: 3550C	Prep Batch: 280-70406	Initial Weight/Volume: 32.1 g
Dilution: 1.0		Final Weight/Volume: 4000 uL
Analysis Date: 06/08/2011 2316		Injection Volume: 20 uL
Prep Date: 06/03/2011 2111		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
Anthracene		3.0	U	3.0	20
Benzo[a]anthracene		7.4	J	3.1	15
Benzo[a]pyrene		8.1	J	6.3	15
Benzo[b]fluoranthene		4.3	JX	4.1	15
Benzo[g,h,i]perylene		7.1	U	7.1	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		7.4	J	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		16	J	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		23	J	12	39

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	80		72 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

Handwritten: ✓
6/23/11

Client Sample ID: J1JD54

Lab Sample ID: 280-16531-2

Date Sampled: 06/02/2011 1215

Client Matrix: Solid

% Moisture: 5.6

Date Received: 06/03/2011 1000

8310 PAHs (HPLC)

Analysis Method: 8310	Analysis Batch: 280-70888	Instrument ID: CHHPLC_G
Prep Method: 3550C	Prep Batch: 280-70406	Initial Weight/Volume: 32.9 g
Dilution: 1.0		Final Weight/Volume: 4000 uL
Analysis Date: 06/08/2011 2347		Injection Volume: 20 uL
Prep Date: 06/03/2011 2111		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.7	U	9.7	97
Acenaphthylene		8.7	U	8.7	97
Anthracene		2.9	U	2.9	19
Benzo[a]anthracene		8.0	J	3.1	14
Benzo[a]pyrene		9.2	J	6.2	14
Benzo[b]fluoranthene		5.1	J N X	4.1	14
Benzo[g,h,i]perylene		7.0	U	7.0	29
Benzo[k]fluoranthene		3.8	U N	3.8	14
Chrysene		8.2	J	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		16	J	13	39
Fluorene		5.1	U	5.1	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	97
Phenanthrene		12	U	12	39
Pyrene		22	J	12	39
Surrogate		%Rec	Qualifier	Acceptance Limits	
Terphenyl-d14 (SUR)		84		72 - 115	

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

W
6/23/11

Client Sample ID: J1JD55

Lab Sample ID: 280-16531-3

Date Sampled: 06/02/2011 1220

Client Matrix: Solid

% Moisture: 5.2

Date Received: 08/03/2011 1000

8310 PAHs (HPLC)

Analysis Method: 8310	Analysis Batch: 280-70888	Instrument ID: CHHPLC_G
Prep Method: 3550C	Prep Batch: 280-70406	Initial Weight/Volume: 32.0 g
Dilution: 1.0		Final Weight/Volume: 4000 uL
Analysis Date: 06/09/2011 0118		Injection Volume: 20 uL
Prep Date: 06/03/2011 2111		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.9	U	9.9	99
Acenaphthylene		8.9	U	8.9	99
Anthracene		3.1	J X	3.0	20
Benzo[a]anthracene		23		3.2	15
Benzo[a]pyrene		21		6.3	15
Benzo[b]fluoranthene		16		4.2	15
Benzo[g,h,i]perylene		20	J	7.1	30
Benzo[k]fluoranthene		6.6	J	3.9	15
Chrysene		20	J	4.8	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		52		13	40
Fluorene		5.2	U	5.2	30
Indeno[1,2,3-cd]pyrene		17	J	12	30
Naphthalene		12	U	12	99
Phenanthrene		24	J	12	40
Pyrene		63		12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	82		72 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

W
6/23/11

Client Sample ID: J1JD56

Lab Sample ID: 280-16531-4FD

Date Sampled: 06/02/2011 1205

Client Matrix: Solid

% Moisture: 4.6

Date Received: 06/03/2011 1000

8310 PAHs (HPLC)

Analysis Method: 8310	Analysis Batch: 280-70888	Instrument ID: CHHPLC_G
Prep Method: 3550C	Prep Batch: 280-70406	Initial Weight/Volume: 31.8 g
Dilution: 10		Final Weight/Volume: 4000 uL
Analysis Date: 08/09/2011 0149		Injection Volume: 20 uL
Prep Date: 06/03/2011 2111		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	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		3.2	U	3.2	15
Benzo[a]pyrene		8.3	U	6.3	15
Benzo[b]fluoranthene		4.2	U	4.2	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	40
Dibenzo(a,h)anthracene		11	U	11	30
Fluoranthene		13	U	13	40
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	40
Pyrene		12	U	12	40

Surrogate	%Rec	Qualifier	Acceptance Limits
Terphenyl-d14 (SUR)	80		72 - 115

Analytical Data

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

✓
ca/23/11

Client Sample ID: J1JD57

Lab Sample ID: 280-16531-5EB

Date Sampled: 06/02/2011 1200

Client Matrix: Solid

% Moisture: 0.0

Date Received: 06/03/2011 1000

8310 PAHs (HPLC)

Analysis Method: 8310	Analysis Batch: 280-70888	Instrument ID: CHHPLC_G
Prep Method: 3550C	Prep Batch: 280-70406	Initial Weight/Volume: 30.8 g
Dilution: 1.0		Final Weight/Volume: 4000 uL
Analysis Date: 06/09/2011 0219		Injection Volume: 20 uL
Prep Date: 06/03/2011 2111		Result Type: PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Acenaphthene		9.8	U	9.8	98
Acenaphthylene		8.8	U	8.8	98
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	29
Benzo[k]fluoranthene		3.9	U	3.9	15
Chrysene		4.7	U	4.7	39
Dibenzo(a,h)anthracene		11	U	11	29
Fluoranthene		13	U	13	39
Fluorene		5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene		12	U	12	29
Naphthalene		12	U	12	98
Phenanthrene		12	U	12	39
Pyrene		12	U	12	39

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

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

CASE NARRATIVE

Client: Washington Closure Hanford

Project: WASHINGTON CLOSURE HANFORD

Report Number: 280-16531-1

SDG #: J01107

SAF#: RC-210

Date SDG Closed: June 3, 2011

Data Deliverable: 15 Day / Summary

<u>CLIENT ID</u>	<u>LAB ID</u>	<u>ANALYSES REQUESTED</u>	<u>ANALYSES PERFORMED</u>
J1JD53	280-16531-1	8310	8310
J1JD54	280-16531-2	8310	8310
J1JD55	280-16531-3	8310	8310
J1JD56	280-16531-4	8310	8310
J1JD57	280-16531-5	8310	8310

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

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

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

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

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

RECEIPT

The samples were received on 6/3/2011; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.1 C.

HPLC - SW846 8310 - PAHs

In some cases, the RPD between the primary and confirmation columns exceeded 40%. The lower of the two values have been reported, as matrix interference is evident. Associated results have been flagged with an "X".

The MS aliquot of the MS/MSD performed on sample J1JD54 exhibited percent recoveries outside the control limits for Benzo[b]fluoranthene and Benzo[k]fluoranthene, and the associated sample results have been flagged "N". 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.

21.0
7.6

Washington Closure Hanford		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				RC-210-001		Page 1 of 1	
Collector D. RICE		Company Contact Jen Russell		Telephone No. 509-380-8093		Project Coordinator KESSNER, JH		Price Code 8C Data Turnaround 15 Days	
Project Designation 100-IU-2 & 100-IU-6 Miscellaneous Restoration Sites Near 1		Sampling Location PNL Mounds VERIFICATION		SAF No. RC-210					
Ice Chest No. ERC-99-D32		Field Logbook No. EL-1651-01		COA R603502000		Method of Shipment FedEx			
Shipped To TestAmerica Incorporated, Richland Denver		Offsite Property No. NA		Bill of Lading/Air Bill No. 7948 2503 2780 / 7948 2503 2600					
POSSIBLE SAMPLE HAZARDS/REMARKS None			Preservation	Cool 4C					
Special Handling and/or Storage Cool 4C			Type of Container	asG					
			No. of Container(s)	1					
			Volume	120mL					
017 SAMPLE ANALYSIS			PAHs - 8310						
Sample No.	Matrix *	Sample Date	Sample Time						
J1JD53	SOIL	6-2-11	1205	X					North
J1JD54	SOIL	6-2-11	1215	X					Between
J1JD55	SOIL	6-2-11	1220	X					South
J1JD56	SOIL	6-2-11	1205	X					DUP
J1JD57	SOIL	6-2-11	1200	X					EB
CHAIN OF POSSESSION				Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By/Removed From David D. Rice		Date/Time 6-2-11 1230		Received By/Stored In Jen Russell		Date/Time 6-2-11 1230		Matrix * S=Soil SE=Soil/rock SO=Solid SL=Sediment W=Water O=Oil A=Air DG=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other	
Relinquished By/Removed From Jen Russell		Date/Time 6-2-11 1445		Received By/Stored In FedEx		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			
Relinquished By/Removed From		Date/Time		Received By/Stored In		Date/Time			
LABORATORY SECTION		Received By		Title		Date/Time			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time			



SDGH
J01107

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Appendix 5

Data Validation Supporting Documentation

GENERAL ORGANIC DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	<u>C</u>	D	E
PROJECT:	100-10-2	100-10-6	DATA PACKAGE: J01107		
VALIDATOR:	ELR	LAB: TAL	DATE: 6/28/00		
			SDG:	J01107	
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	8310
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					
J1JDS3		J1JDS4		J1JDS5	
J1JDS7					
5011					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? Yes No N/A

Comments: _____

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

Initial calibrations acceptable? Yes No N/A
 Continuing calibrations acceptable? Yes No N/A
 Standards traceable? Yes No N/A
 Standards expired? Yes No N/A
 Calculation check acceptable? Yes No N/A

Comments: _____

GENERAL ORGANIC DATA VALIDATION CHECKLIST

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

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

Comments: _____

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

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

Comments: N/A PAS

GENERAL ORGANIC DATA VALIDATION CHECKLIST

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

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

Comments: _____

6. HOLDING TIMES (all levels)

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

Comments: _____

GENERAL ORGANIC DATA VALIDATION CHECKLIST

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

Results reported for all requested analyses?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Results supported in the raw data? (Levels D, E).....	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Samples properly prepared? (Levels D, E).....	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Detection limits meet RDL?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Transcription/calculation errors? (Levels D, E).....	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A

Comments: _____

9. SAMPLE CLEANUP (Levels D and E)

Fluorilicil ® (or other aborbant) cleanup performed?.....	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Lot check performed?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Check recoveries acceptable?.....	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Check materials traceable?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Check materials Expired?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Analytical batch QC given similar cleanup?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Transcription/Calculation Errors?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A

Comments: _____

Appendix 6
Additional Documentation Requested by Client

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

Method Blank - Batch: 280-70406

Method: 8310
Preparation: 3550C

Lab Sample ID: MB 280-70406/1-A
Client Matrix: Solid
Dilution: 1 0
Analysis Date: 06/08/2011 2215
Prep Date: 06/03/2011 2111
Leach Date: N/A

Analysis Batch: 280-70888
Prep Batch: 280-70406
Leach Batch: N/A
Units: ug/Kg

Instrument ID: CHHPLC_G
Lab File ID: G0608025.D
Initial Weight/Volume: 30.6 g
Final Weight/Volume: 4000 uL
Injection Volume: 20 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Acenaphthene	9.8	U	9.8	98
Acenaphthylene	8.8	U	8.8	98
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	29
Benzo[k]fluoranthene	3.9	U	3.9	15
Chrysene	4.7	U	4.7	39
Dibenzo(a,h)anthracene	11	U	11	29
Fluoranthene	13	U	13	39
Fluorene	5.2	U	5.2	29
Indeno[1,2,3-cd]pyrene	12	U	12	29
Naphthalene	12	U	12	98
Phenanthrene	12	U	12	39
Pyrene	12	U	12	39
Surrogate	% Rec		Acceptance Limits	
Terphenyl-d14 (SUR)	76		72 - 115	

024

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

Lab Control Sample - Batch: 280-70406

Method: 8310
Preparation: 3550C

Lab Sample ID: LCS 280-70406/2-A
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 06/08/2011 2246
Prep Date: 06/03/2011 2111
Leach Date: N/A

Analysis Batch: 280-70888
Prep Batch: 280-70406
Leach Batch: N/A
Units: ug/Kg

Instrument ID: CHHPLC_G
Lab File ID: G0608026.D
Initial Weight/Volume: 30.6 g
Final Weight/Volume: 4000 uL
Injection Volume: 20 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Acenaphthene	1960	1810	92	72 - 115	
Acenaphthylene	1960	1800	92	60 - 115	
Anthracene	1960	1690	86	61 - 115	
Benzo[a]anthracene	1960	2020	103	78 - 115	
Benzo[a]pyrene	1960	2000	102	69 - 115	
Benzo[b]fluoranthene	1960	1920	98	81 - 115	
Benzo[g,h,i]perylene	1960	2000	102	71 - 115	
Benzo[k]fluoranthene	1960	1920	98	85 - 115	
Chrysene	1960	1870	96	70 - 115	
Dibenzo(a,h)anthracene	1960	1930	98	79 - 115	
Fluoranthene	1960	1900	97	67 - 115	
Fluorene	1960	1830	94	72 - 115	
Indeno[1,2,3-cd]pyrene	1960	2090	106	76 - 115	
Naphthalene	1960	1860	95	77 - 115	
Phenanthrene	1960	1880	96	79 - 115	
Pyrene	1960	1960	100	77 - 115	
Surrogate		% Rec		Acceptance Limits	
Terphenyl-d14 (SUR)		76		72 - 115	

025

Quality Control Results

Client: Washington Closure Hanford

Job Number: 280-16531-1
Sdg Number: J01107

**Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 280-70406**

**Method: 8310
Preparation: 3550C**

MS Lab Sample ID: 280-16531-2
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 06/09/2011 0017
Prep Date: 06/03/2011 2111
Leach Date: N/A

Analysis Batch: 280-70888
Prep Batch: 280-70406
Leach Batch: N/A

Instrument ID: CHHPLC_G
Lab File ID: G0608029.D
Initial Weight/Volume: 30.9 g
Final Weight/Volume: 4000 uL
Injection Volume: 20 uL
Column ID: PRIMARY

MSD Lab Sample ID: 280-16531-2
Client Matrix: Solid
Dilution: 1.0
Analysis Date: 06/09/2011 0048
Prep Date: 06/03/2011 2111
Leach Date: N/A

Analysis Batch: 280-70888
Prep Batch: 280-70406
Leach Batch: N/A

Instrument ID: CHHPLC_G
Lab File ID: G0608030.D
Initial Weight/Volume: 31.2 g
Final Weight/Volume: 4000 uL
Injection Volume: 20 uL
Column ID: PRIMARY

Analyte	% Rec.		Limit	RPD	RPD Limit	MS Qual	MSD Qual
	MS	MSD					
Acenaphthene	76	79	72 - 115	2	20		
Acenaphthylene	78	79	60 - 115	0	21		
Anthracene	75	75	61 - 115	1	20		
Benzo[a]anthracene	88	88	76 - 115	1	20		
Benzo[a]pyrene	88	91	69 - 115	2	20		
Benzo[b]fluoranthene	80	83	81 - 115	3	20	N	
Benzo[g,h,i]perylene	85	87	71 - 115	1	20		
Benzo[k]fluoranthene	81	85	85 - 115	4	20	N	
Chrysene	80	81	70 - 115	0	20		
Dibenzo(a,h)anthracene	81	83	79 - 115	2	20		
Fluoranthene	81	82	67 - 115	0	20		
Fluorene	80	80	72 - 115	1	20		
Indeno[1,2,3-cd]pyrene	86	90	76 - 115	4	20		
Naphthalene	81	81	77 - 115	0	20		
Phenanthrene	82	82	79 - 115	1	20		
Pyrene	84	84	77 - 115	0	20		
Surrogate		MS % Rec	MSD % Rec			Acceptance Limits	
Terphenyl-d14 (SUR)		79	80			72 - 115	

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