TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

X12-019

Lot #: F2C280415
SDG #: SL1261

Scot Fitzgerald

CH2M Hill Plateau Remediation
PO Box 1500, MS B6-06
Richland, WA 99352

TESTAMERICA LABORATORIES, INC.

Jayna Awalt
Project Manager

April 6, 2012

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CASE NARRATIVE

CH2MHill Plateau Remediation Company
P.O. Box 1600
MS B3-60
Richland, Washington 99352
April 23, 2012
Attention: Scot Fitzgerald

TestAmerica Laboratories, Inc.

SDG	: SL1261
Number of Samples	: three samples
Sample Matrix	: Water
Data Deliverable	: Summary
Date SDG Closed	: March 28, 2012

II. Introduction

On March 28, 2012, three water samples were received by TestAmerica - St. Louis for chemical analysis. The samples were received within temperature criteria. See the COC and CUR forms for documentation of any variations on receipt conditions and temperature. Upon receipt, the samples were given laboratory Ids to correspond with specific client Ids. Please refer to the Sample Summary sheets attached to this case narrative. This report is incomplete without the narrative.

The following SAFs are associated with this SDG: X12-019

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits. All results are based upon samples as they were received, i.e. wet weight, unless otherwise noted on the data sheets. See the attached Methods Summary Form for the methods used in this SDG.

MS/MSD/Dup analysis was done per the client requirements. Analytical batches that did not contain matrix QC were analyzed with a LCS/LCS duplicate.

Deviation from Request: None

IV. Definitions

QCBLK-	Quality Control Blank, Method Blank
QCLCS-	Quality Control Laboratory Control Sample, Blank Spike
DUP-	Laboratory Duplicate
MS-	Matrix Spike
MSD-	Matrix Spike Duplicate

The term "Detection Limit" used in the analytical data report refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

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CH2M Hill Plateau Remediation Company
April 23, 2012
SDG: SL1261

TestAmerica Laboratories, Inc.

The following data qualifiers may be applicable to the results in this report, as appropriate.

- **B** – For inorganic analyses, the sample result is greater than the MDL but less than the RL.
- **B** – For organic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **J** – For organic analyses, the sample is estimated and less than the RL.
- **C** – For inorganic analyses, Method Blank contamination. The Method Blank contains the target analyte at a concentration above the MDL.
- **D** – For all analyses, the sample result was obtained from the analysis of a dilution.
- **N** – For inorganics and GC analyses, the spike/spike duplicate recoveries are outside QC limits.
- **T** – For GCMS analyses, the spike/spike duplicate recoveries are outside QC limits.

PAHs

Batch: 2089066

Two analytes detected in the associated samples, Anthracene and Fluorene, were given the "S" qualifier. The "S" was used to designate positive analyte detection on both the primary and confirmation columns that appeared questionable during spectral confirmation. The software used to perform the confirmation of hits reviews an overlay of the sample and the reference library spectra. The software evaluates the differences in the spectra and assigns a "match" value. Values above 700 are considered a confirmation and results are reported. Values under the 700 threshold are flagged with the "S" qualifier.

Affected Samples:
F2C280415 (1): B2K874
F2C280415 (2): B2K890

I certify that this Summary Package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Jayna Awalt
St. Louis Project Manager

METHODS SUMMARY

SL1261

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Polynuclear Aromatic Hydrocarbons by HPLC	SW846 8310	SW846 3510

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SL1261 : F2C280415

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MRMT4	001	B2K874	03/27/12	09:45
MRMT9	002	B2K890	03/26/12	12:21
MRMVA	003	B2K893	03/26/12	11:41

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

CH2MHill Plateau Remediation Company CHR377 SL1261

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # X12-019-056

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SDG #SL1261

Collector	Aguilar	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
SAF No.	X12-019	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	AQUIFER TUBES, MARCH 2012	**Logbook No.**	HNF-N-506 46 / 16	**Ice Chest No.**	GW5-223
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7982 1509 1744
Protocol	SURV	**Priority:**	**45 Days**	**Offsite Property No.**	N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2K874	N	W	3-27-12	0945	2x1-L aG	8310_SVOA_HPLC	14/40 Days	Cool~4C
B2K874	N	W	3-27-12	0945	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Am Aguilar	Am Aguilar	3-27-12 1020		BE Briggs	BE Briggs	3.27.12 1030
Relinquished By			Date/Time	Received By			Date/Time
	BE Briggs	BE Briggs	3-27-12 1400		FEDEX		
Relinquished By			Date/Time	Received By			Date/Time
	FedEX				NICHOLAS OWENS		3/28/12 1010
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION | Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

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TestAmerica - St. Louis

CH2MHill Plateau Remediation Company SL1261	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X12-019-057
		Page 1 of 1

SDG#SL1261

Collector	Aguilar	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
SAF No.	X12-019	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	AQUIFER TUBES, MARCH 2012	**Logbook No.**	HNF-N-506 46 / 14,15	**Ice Chest No.**	GWS-223
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	
Protocol	SURV	**Priority:**	**45 Days**	**Offsite Property No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2K890	N	W	3-26-12	1221	2x1-L aG	8310_SVOA_HPLC	14/40 Days	Cool~4C
B2K890	N	W	3-26-12	1221	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Aguilar		3-26-12 1340	SSU #1			3-26-12 1340
Relinquished By			Date/Time	Received By			Date/Time
SSU#1			3.27.12 0900	BE Briggs			3.27.12 0900
Relinquished By			Date/Time	Received By			Date/Time
BE Briggs			3.27.12 1400	FEDEX			
Relinquished By			Date/Time	Received By			Date/Time
FedEX				NICHOLAS OWENS			3/28/12 1010

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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TestAmerica - St. Louis

CH2MHill Plateau Remediation Company SL1261	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # X12-019-058
		Page 1 of 1

SDG#SL1261

Collector	Aguilar	**Contact/Requester**	Karen Waters-Husted	**Telephone No.**	376-4650
CAF No.	X12-019	**Sampling Origin**	Hanford Site	**Purchase Order/Charge Code**	300071ES20
Project Title	AQUIFER TUBES, MARCH 2012	**Logbook No.**	HNF-N-506 46 / 14,15	**Ice Chest No.**	GWS-223
Shipped To (Lab)	TestAmerica St. Louis	**Method of Shipment**	Commercial Carrier	**Bill of Lading/Air Bill No.**	7982 1509 1744
Protocol	SURV	**Priority:**	**45 Days**	**Offsite Property No.**	

POSSIBLE SAMPLE HAZARDS/REMARKS

** ** Contains Radioactive Material at concentations that are not regulated for transportation per 49 CRF but are not releasable per DOE Order 5400 5 (1990/1993)

SPECIAL INSTRUCTIONS **Hold Time** Total Activity Exemption: Yes ☑ No ☐

Site Wide Generator Knowledge Information Form applies.
The CACN for all analytical work at WSCF is 401647.

Sample No.	Filter	*	Date	Time	No/Type Container	Sample Analysis	Holding Time	Preservative
B2K893	N	W	3-26-12	1141	2x1-L aG	8310_SVOA_HPLC	14/40 Days	Cool~4C
B2K893	N	W	3-26-12	1141	1x20-mL P	Activity Scan	6 Months	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	Aguilar		3-26-12 1340	SSU #1			3-26-12 1340
SSU#1			3-27-12 0900	BE BRIGGS			3-27-12 0900
BE Briggs			3-27-12 1400	FEDEX			
	FedEx			NICHOLAS			3/28/12 1010

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

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APRIL 23, 2012

TestAmerica - St. Louis

Print page | Close

FedEx

Detailed Results

Tracking no.: 798215091744 Select time format: **12H**

Delivered

Delivered
Signed for by: S.WISON

Shipment Dates	Destination
Ship date Mar 27, 2012	EARTH CITY, MO
Delivery date Mar 28, 2012 10:08 AM	Signature Proof of Delivery

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Receptionist/Front Desk
Weight	75.0 lbs/34.0 kg	Reference	GWS-223

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Mar 28, 2012 10:08 AM	**Delivered**	EARTH CITY, MO	
Mar 28, 2012 6:56 AM	On FedEx vehicle for delivery	EARTH CITY, MO	
Mar 28, 2012 6:50 AM	At local FedEx facility	EARTH CITY, MO	
Mar 28, 2012 5:17 AM	At destination sort facility	BERKELEY, MO	
Mar 28, 2012 4:31 AM	Departed FedEx location	MEMPHIS, TN	
Mar 28, 2012 12:31 AM	Arrived at FedEx location	MEMPHIS, TN	
Mar 27, 2012 5:07 PM	Left FedEx origin facility	PASCO, WA	
Mar 27, 2012 4:05 PM	Picked up	PASCO, WA	
Mar 27, 2012 2:01 PM	Shipment information sent to FedEx		

APRIL 23, 2012

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THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F2C280415

CUR Form #: 377

CONDITION UPON RECEIPT FORM

Client: CHPLC

Quote No: 90029

COC/RFA No: X12-019-058 / X12-019-057 / X12-019-056

Initiated By: NVD Date: 3/28/12 Time: 1010

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: Y (N)

Shipping # (s):*				Sample Temperature (s):**			
1.	7982 1509 1744	6.		1.	2	6.	
2.		7.		2.		7.	
3.		8.		3.		8.	
4.		9.		4.		9.	
5.		10.		5.		10.	

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid; Rad tests- Liquid or Solids; Perchlorate

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Are there custody seals present on the cooler?	8.	(Y) N	Are there custody seals present on bottles?
2.	Y (N) N/A	Do custody seals on cooler appear to be tampered with?	9.	Y (N) N/A	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N (N/A)	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX, Oil & Grease and soils.

Notes:

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: Jayna Arvalt Date: 4/2/12

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

PAHs

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2K874

HPLC

Lot-Sample #...: F2C280415-001 **Work Order #...:** MRMT41AC **Matrix.....:** WATER
Date Sampled...: 03/27/12 **Date Received..:** 03/28/12
Prep Date.....: 03/29/12 **Analysis Date..:** 04/02/12
Prep Batch #...: 2089066
Dilution Factor: 1 **Method.....:** SW846 8310

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	5.0	ug/L	0.65
Acenaphthylene	ND	5.0	ug/L	0.44
Anthracene	**0.071 J,S**	**1.0**	**ug/L**	**0.020**
Benzo(a)anthracene	ND	1.0	ug/L	0.063
Benzo(b)fluoranthene	ND	1.0	ug/L	0.051
Benzo(k)fluoranthene	ND	1.0	ug/L	0.074
Benzo(ghi)perylene	ND	1.0	ug/L	0.16
Benzo(a)pyrene	ND	1.0	ug/L	0.075
Chrysene	ND	1.0	ug/L	0.035
Dibenz(a,h)anthracene	ND	1.0	ug/L	0.15
Fluoranthene	ND	1.0	ug/L	0.18
Fluorene	**0.60 J,S**	**1.0**	**ug/L**	**0.071**
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L	0.14
Naphthalene	ND	5.0	ug/L	0.34
Phenanthrene	ND	1.0	ug/L	0.30
Pyrene	ND	1.0	ug/L	0.083

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	86	(60 - 98)

NOTE(S):

J Estimated result. Result is less than RL.

S Positive analyte detection appears questionable during spectral confirmation.

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2K890

HPLC

Lot-Sample #...: F2C280415-002 **Work Order #...:** MRMT91AC **Matrix.....:** WATER
Date Sampled...: 03/26/12 **Date Received..:** 03/28/12
Prep Date.....: 03/29/12 **Analysis Date..:** 04/02/12
Prep Batch #...: 2089066
Dilution Factor: 1 **Method.....:** SW846 8310

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	5.0	ug/L	0.65
Acenaphthylene	ND	5.0	ug/L	0.44
Anthracene	**0.025 J,S**	**1.0**	**ug/L**	**0.020**
Benzo(a)anthracene	ND	1.0	ug/L	0.063
Benzo(b)fluoranthene	ND	1.0	ug/L	0.051
Benzo(k)fluoranthene	ND	1.0	ug/L	0.074
Benzo(ghi)perylene	ND	1.0	ug/L	0.16
Benzo(a)pyrene	ND	1.0	ug/L	0.075
Chrysene	ND	1.0	ug/L	0.035
Dibenz(a,h)anthracene	ND	1.0	ug/L	0.15
Fluoranthene	ND	1.0	ug/L	0.18
Fluorene	ND	1.0	ug/L	0.071
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L	0.14
Naphthalene	ND	5.0	ug/L	0.34
Phenanthrene	ND	1.0	ug/L	0.30
Pyrene	ND	1.0	ug/L	0.083

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	81	(60 - 98)

NOTE(S):

J Estimated result. Result is less than RL.

S Positive analyte detection appears questionable during spectral confirmation.

CH2M Hill Plateau Remediation DOE RL

Client Sample ID: B2K893

HPLC

Lot-Sample #...: F2C280415-003 **Work Order #...:** MRMVA1AC **Matrix.....:** WATER
Date Sampled...: 03/26/12 **Date Received..:** 03/28/12
Prep Date.....: 03/29/12 **Analysis Date..:** 04/02/12
Prep Batch #...: 2089066
Dilution Factor: 1 **Method.....:** SW846 8310

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acenaphthene	ND	5.0	ug/L	0.65
Acenaphthylene	ND	5.0	ug/L	0.44
Anthracene	ND	1.0	ug/L	0.020
Benzo(a)anthracene	ND	1.0	ug/L	0.063
Benzo(b)fluoranthene	ND	1.0	ug/L	0.051
Benzo(k)fluoranthene	ND	1.0	ug/L	0.074
Benzo(ghi)perylene	ND	1.0	ug/L	0.16
Benzo(a)pyrene	ND	1.0	ug/L	0.075
Chrysene	ND	1.0	ug/L	0.035
Dibenz(a,h)anthracene	ND	1.0	ug/L	0.15
Fluoranthene	ND	1.0	ug/L	0.18
Fluorene	ND	1.0	ug/L	0.071
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L	0.14
Naphthalene	ND	5.0	ug/L	0.34
Phenanthrene	ND	1.0	ug/L	0.30
Pyrene	ND	1.0	ug/L	0.083

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	80	(60 - 98)

METHOD BLANK REPORT

HPLC

Client Lot #...: SL1261 **Work Order #...:** MRNM71AA **Matrix.....:** WATER
MB Lot-Sample #: F2C290000-066

Prep Date.....: 03/29/12
Analysis Date..: 04/02/12 **Prep Batch #...:** 2089066
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	5.0	ug/L	SW846 8310
Acenaphthylene	ND	5.0	ug/L	SW846 8310
Anthracene	ND	1.0	ug/L	SW846 8310
Benzo(a)anthracene	ND	1.0	ug/L	SW846 8310
Benzo(b)fluoranthene	ND	1.0	ug/L	SW846 8310
Benzo(k)fluoranthene	ND	1.0	ug/L	SW846 8310
Benzo(ghi)perylene	ND	1.0	ug/L	SW846 8310
Benzo(a)pyrene	ND	1.0	ug/L	SW846 8310
Chrysene	ND	1.0	ug/L	SW846 8310
Dibenz(a,h)anthracene	ND	1.0	ug/L	SW846 8310
Fluoranthene	ND	1.0	ug/L	SW846 8310
Fluorene	ND	1.0	ug/L	SW846 8310
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L	SW846 8310
Naphthalene	ND	5.0	ug/L	SW846 8310
Phenanthrene	ND	1.0	ug/L	SW846 8310
Pyrene	ND	1.0	ug/L	SW846 8310

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	81	(60 - 98)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

HPLC

Client Lot #...: SL1261 **Work Order #...:** MRNM71AC **Matrix.....:** WATER
LCS Lot-Sample#: F2C290000-066
Prep Date.....: 03/29/12 **Analysis Date..:** 04/02/12
Prep Batch #...: 2089066
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Acenaphthene	**20.0**	**15.0**	**ug/L**	**75**	**SW846 8310**
Acenaphthylene	**40.0**	**29.4**	**ug/L**	**74**	**SW846 8310**
Anthracene	**2.00**	**1.52**	**ug/L**	**76**	**SW846 8310**
Benzo(a)anthracene	**2.00**	**1.60**	**ug/L**	**80**	**SW846 8310**
Benzo(b)fluoranthene	**4.00**	**3.21**	**ug/L**	**80**	**SW846 8310**
Benzo(k)fluoranthene	**2.00**	**1.58**	**ug/L**	**79**	**SW846 8310**
Benzo(ghi)perylene	**4.00**	**3.18**	**ug/L**	**79**	**SW846 8310**
Benzo(a)pyrene	**2.00**	**1.59**	**ug/L**	**80**	**SW846 8310**
Chrysene	**2.00**	**1.60**	**ug/L**	**80**	**SW846 8310**
Dibenz(a,h)anthracene	**4.00**	**3.19**	**ug/L**	**80**	**SW846 8310**
Fluoranthene	**4.00**	**3.19**	**ug/L**	**80**	**SW846 8310**
Fluorene	**4.00**	**3.02**	**ug/L**	**75**	**SW846 8310**
Indeno(1,2,3-cd)pyrene	**2.00**	**1.58**	**ug/L**	**79**	**SW846 8310**
Naphthalene	**20.0**	**14.2**	**ug/L**	**71**	**SW846 8310**
Phenanthrene	**2.00**	**1.54**	**ug/L**	**77**	**SW846 8310**
Pyrene	**2.00**	**1.63**	**ug/L**	**81**	**SW846 8310**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	79	(56 - 108)

NOTE(S):

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

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

HPLC

Client Lot #...: SL1261 **Work Order #...:** MRMT91AD-MS **Matrix.....:** WATER
MS Lot-Sample #: F2C280415-002 MRMT91AE-MSD
Date Sampled...: 03/26/12 **Date Received..:** 03/28/12
Prep Date.....: 03/29/12 **Analysis Date..:** 04/02/12
Prep Batch #...: 2089066
Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Acenaphthene	**ND**	**39.9**	**29.2**	**ug/L**	**73**		**SW846 8310**
	ND	**39.9**	**32.5**	**ug/L**	**82**	**11**	**SW846 8310**
Acenaphthylene	**ND**	**79.9**	**57.0**	**ug/L**	**71**		**SW846 8310**
	ND	**79.8**	**63.3**	**ug/L**	**79**	**11**	**SW846 8310**
Anthracene	**0.025**	**3.99**	**3.14**	**ug/L**	**78**		**SW846 8310**
	0.025	**3.99**	**3.32**	**ug/L**	**83**	**5.7**	**SW846 8310**
Benzo(a)anthracene	**ND**	**3.99**	**3.43**	**ug/L**	**86**		**SW846 8310**
	ND	**3.99**	**3.56**	**ug/L**	**89**	**3.7**	**SW846 8310**
Benzo(b)fluoranthene	**ND**	**7.99**	**6.94**	**ug/L**	**87**		**SW846 8310**
	ND	**7.98**	**7.29**	**ug/L**	**91**	**4.9**	**SW846 8310**
Benzo(k)fluoranthene	**ND**	**3.99**	**3.42**	**ug/L**	**86**		**SW846 8310**
	ND	**3.99**	**3.52**	**ug/L**	**88**	**3.0**	**SW846 8310**
Benzo(ghi)perylene	**ND**	**7.99**	**6.92**	**ug/L**	**87**		**SW846 8310**
	ND	**7.98**	**7.03**	**ug/L**	**88**	**1.6**	**SW846 8310**
Benzo(a)pyrene	**ND**	**3.99**	**3.40**	**ug/L**	**85**		**SW846 8310**
	ND	**3.99**	**3.39**	**ug/L**	**85**	**0.38**	**SW846 8310**
Chrysene	**ND**	**3.99**	**3.49**	**ug/L**	**87**		**SW846 8310**
	ND	**3.99**	**3.62**	**ug/L**	**91**	**3.8**	**SW846 8310**
Dibenz(a,h)anthracene	**ND**	**7.99**	**6.96**	**ug/L**	**87**		**SW846 8310**
	ND	**7.98**	**6.81**	**ug/L**	**85**	**2.1**	**SW846 8310**
Fluoranthene	**ND**	**7.99**	**6.86**	**ug/L**	**86**		**SW846 8310**
	ND	**7.98**	**7.14**	**ug/L**	**89**	**4.0**	**SW846 8310**
Fluorene	**ND**	**7.99**	**5.97**	**ug/L**	**75**		**SW846 8310**
	ND	**7.98**	**6.58**	**ug/L**	**82**	**9.7**	**SW846 8310**
Indeno(1,2,3-cd)pyrene	**ND**	**3.99**	**3.42**	**ug/L**	**86**		**SW846 8310**
	ND	**3.99**	**3.54**	**ug/L**	**89**	**3.4**	**SW846 8310**
Naphthalene	**ND**	**39.9**	**28.5**	**ug/L**	**71**		**SW846 8310**
	ND	**39.9**	**32.0**	**ug/L**	**80**	**12**	**SW846 8310**
Phenanthrene	**ND**	**3.99**	**3.18**	**ug/L**	**80**		**SW846 8310**
	ND	**3.99**	**3.39**	**ug/L**	**85**	**6.4**	**SW846 8310**
Pyrene	**ND**	**3.99**	**3.51**	**ug/L**	**88**		**SW846 8310**
	ND	**3.99**	**3.69**	**ug/L**	**92**	**4.9**	**SW846 8310**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
p-Terphenyl	84	(60 - 98)
	88	(60 - 98)

NOTE(S):

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