

**Stage 4 Data Validation Report  
Prepared for AECOM Technical Services, Inc.  
Red Hill Bulk Full Storage Facility Project  
Joint Base Pearl Harbor-Hickam, Oahu, Hawaii  
Sample Delivery Group: DA40816R**

## **Introduction**

This quality assurance (QA) review is based upon an examination of the data generated from the analysis of the sample collected as part of the Red Hill Bulk Full Storage Facility Project at the Joint Base Pearl Harbor-Hickam, Oahu, Hawaii. The sample was analyzed by SGS of Wheat Ridge, Colorado for semivolatile organic compounds (SVOCs) by United States Environmental Protection Agency (US EPA) Method 525.2. Data were examined to determine compliance relative to the referenced analytical methods. This QA review has been performed with guidance from the “National Functional Guidelines for Organic Superfund Data Review” (US EPA, November 2020). This validation guidance document specifically addresses analyses performed in accordance with the Contract Laboratory Program (CLP) analytical methods and are not completely applicable to the type of analyses and analytical protocol performed by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the requirements specified in the US EPA method.

The analytical results for the target analytes are presented on the validated Report of Analysis in Section 2 of this report. The “Display Result,” “Reporting Limit” (*i.e.*, the limit of quantitation [LOQ]), and “DB Method Detection Limit” (*i.e.*, the method detection limit [MDL]) fields on the validated data summary tables have been updated to reflect all final data validation qualifiers and results. Validation qualifier codes have been placed in the “Qualifier” fields on the data tables to enable the data user to quickly assess the qualitative and/or quantitative reliability of a result based on the criteria evaluated during this QA review. Finally, the “Reason Code” field has been populated with codes that indicate the reason for the validation qualifiers. Definitions of the validation qualifiers and reason codes are presented at the end of this QA review.

The data reviewer has included copies of validation forms, quality control (QC) summary forms, and other documentation needed to support the findings in this QA review in the Data Support Documentation (Section 3). The cover sheet for this section is a checklist of the QA procedures required by the protocol and examined in this data review.

The samples that have undergone a QA review are on Table 1.

**TABLE 1 – SUMMARY OF SAMPLES REVIEWED**

<b>Sample Identification</b>	<b>Laboratory Sample Identification</b>	<b>Matrix</b>	<b>Collection Date</b>	<b>Parameter(s) Examined</b>
220111-D2-AT04	DA40816-40R	Aq	1/11/22	S

NOTES:

- S - Semivolatile Organic Compounds by US EPA Method 525.2.
- Aq - Aqueous.



## **Section 1    Quality Assurance Review**

The findings offered in this report for analyses that underwent a Stage 4 QA review are based upon a rigorous review of the tabulated summary forms and raw data, including the following checks and QC measures as applicable to this data set as specified on the Support Document Cover Pages in the Data Support Documentation (Section 3):

- Data completeness
- Chain-of-Custody (COC) Record and sample condition upon laboratory receipt
- Sample preparation and analysis holding times
- Laboratory blank analyses
- Laboratory control sample analyses
- Surrogate recoveries
- Mass spectrometer tune checks
- Instrument calibration and verification
- Internal standard area counts and retention times
- Quantitation and qualitative identification

Data were examined to determine compliance and usability of the analytical results relative to the documents referenced above. Any findings are identified in the sections below.

### **Section 1A    Organic Data Review**

#### Data Completeness

The Level 4 data deliverables were prepared by the laboratory and were reviewed by Environmental Standards. The analytical data package was checked for completeness to ensure that all data requested were present in the data deliverables (refer to completeness forms in Section 3). The data package was complete with any exceptions noted on the completeness forms.

#### Chain-of-Custody Record and Sample Condition upon Laboratory Receipt

The sample identification (ID) was consistent with the COC Record.

The sample reports were consistent with the analytical requests designated on the COC Record.

The sample was received in good condition, properly preserved, and within the acceptance criterion of  $\leq 6^{\circ}\text{C}$ .

#### Sample Preparation and Analysis Holding Times

The sample was extracted and analyzed within the method-specified holding time.

Trip, Field and Laboratory Blank Analyses

Field blanks and trip blanks were not included in this data set. Laboratory blank analyses were performed at the required frequencies. A summary of any positive results observed in the blanks associated with the samples are included in Section 3.

Laboratory preparation blanks (method blanks) were evaluated for samples prepared within the same preparation batch (all blanks < MDL).

Due to the trace-level presence of bis(2-ethylhexyl)phthalate in the associated laboratory preparation blank, the reported positive result for bis(2-ethylhexyl)phthalate in sample 220111-D2-AT04 should be considered “not-detected” and has been flagged “U” on the data tables. In addition, the bis(2-ethylhexyl)phthalate result in this sample has been raised to the value of the RL. (Reason Code: L)

Laboratory Control Sample/Laboratory Control Sample Duplicate Analyses

An LCS was included in each batch as required.

All LCS/LCSD percent recoveries (%Rs) were within acceptance limits or did not impact data usability, with the following exception.

<u>Sample</u>	<u>Type of Exceedance</u>	<u>Analyte</u>	<u>Qualifiers (Positive/ND)</u>	<u>Validation Reason Code</u>
220111-D2-AT04	130% ≤ LCS %R	bis(2-ethylhexyl)phthalate	J+	C

Matrix Spike/Matrix Spike Duplicate Analyses

Batch QC was performed on a non-SDG sample.

Surrogate Recoveries

The surrogate recoveries were evaluated against the acceptance limits, and all recoveries were within acceptance limits or did not impact data usability.

Mass Spectrometer Tune Checks

The instrument tuning results were evaluated against the acceptance limits.

The instrument tuning results were observed to be within the method-specified acceptance limits.

Instrument Calibration and Verification

Instrument calibration, second-source initial calibration verification (ICV), and continuing calibration verification (CCV) analyses were performed at the required frequency and met acceptance criteria.

Internal Standard Area Counts and Retention Times

All internal standard area counts and retention times were within acceptance criteria, with the following exceptions.

Quantitation and Qualitative Identification

The laboratory-reported values (*e.g.*, sample results, instrument calibration results) were verified by recalculating the values using the raw instrument data provided by the laboratory. In addition, the raw data chromatograms were checked to ensure that the laboratory-reported analytes were correctly identified and quantitated. These checks were performed on a fraction of the results. Additional results were verified and/or recalculated if any issues were noted with the initial checks.

The laboratory noted the following on the Reports of Analysis for the SVOCs naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene analyzed by US EPA Method 525.2 in all samples: "The reporting laboratory does not currently carry certification for this analyte by method 525". (Reason Code: Y3)

**Conclusions**

This QA review has identified several aspects of the data that required qualification. The analytical data should be considered acceptable for use unless otherwise indicated in the QA review. In order to use any of the data, the data user should understand the qualifications and limitations specified in this QA review. Based on a review of the data, the following qualifications are offered.

Analyte(s)	Fraction	Sample(s)	Validation Qualifier	Reason for Qualification
bis(2-ethylhexyl)phthalate	SVOC	220111-D2-AT04	U	L

Analyte(s)	Fraction	Sample(s)	Validation Qualifier	Reason for Qualification
bis(2-ethylhexyl)phthalate	SVOC	220111-D2-AT04	J+ (unless previously flagged U)	C
naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene	SVOC	220111-D2-AT04	none	Y3

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Report Prepared by: Robiana L. Beegle-Renna –Quality Assurance Chemist  
 Report Reviewed and Approved by: Erin E. Rodgers - Principal Chemist/Project Manager  
 Report Date: February 3, 2022

**ENVIRONMENTAL STANDARDS, INC.**

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 P.O. Box 810  
 Valley Forge, PA 19482-0810  
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## **ORGANIC DATA QUALIFIERS**

- U This result should be considered “not-detected” because it was not detected above the detection limit or it was detected in a field blank or laboratory blank at a similar level.
- R Unreliable positive or non-detect result; analyte may or may not be present in sample.
- J Quantitation is approximate due to limitations identified during data validation.
- UJ This analyte was not detected, but the reporting limit may or may not be higher due to a bias identified during data validation.
- NJ The analysis indicates the presence of a compound that has been “tentatively identified” and the associated numerical value represents its approximate concentration.

## REASON CODES

Reason Code	Reason Code Description
A	Serial dilution
A1	Ambient blank
B	The analyte was found in an associated blank as well as in the sample.
B2	CCB
B3	CCB - Neg
B4	Grinding blank
C	LCS recovery
C1	Reference recovery
C2	Reference recovery RPD
D	MS RPD
D1	Laboratory replicate RPD
D2	No precision available
D3	Field duplicate RPD
D4	Field triplicate RSD
D5	Laboratory triplicate RSD
F	Field blank
F1	Hydrocarbon pattern does not match standard.
G1	Initial calibration RRF
G2	Initial calibration RSD/r <sup>2</sup> /r
G3	ICV RRF
H1	Test hold time
H2	Prep hold time
I	Surrogate recovery outside project limits.
J	CRA/CRI recovery
K	An analyte (non-common laboratory artifact) was detected in the sample at a concentration less than 5× the concentration detected in the associated method blank.
L	Laboratory blank
L1	Laboratory blank - Neg
M	MS recovery
M2	Post spike
N	Blank - no action
O	ICS
P	Sample preservation/collection requirement not met
P1	Column RPD
P2	Improper preparation/extraction
Q	Encore sample holding time exceeded by more than 2×.
Q1	Material blank
Q2	Encore sample holding time exceeded by less than 2×.

<b>Reason Code</b>	<b>Reason Code Description</b>
R	Exceeds linear calibration range
S	Internal standard
T	Trip blank
TI	Tentatively identified compound
TR	Trace-level detect
U	Receipt temperature
V	Equipment blank
V1	ICV
V2	CCV
V3	CCV RRF
V4	Sample receipt condition
V5	Ending continuing calibration verification
V6	Low-level calibration verification
V7	Interference Check Sample A
V8	Interference Check Sample AB
V9	Interference Check Sample A - Negative
W	Column breakdown (pesticides/8270)
X	Raised reporting limit
Y	Cooler temperature greater than 10 degrees C.
Y1	False positive
Y2	Data rejected due to radiological anomalies
Y3	Non-accredited analyte/compound. Accreditation not offered at time of analyses for the analyte/compound by the stated method and matrix.
Y4	Performance check - degradation of DDT
Y5	Extracted internal standard
Y6	Analyte not confirmed on second column
Y7	Signal-to-noise ratio not met
Z	LCS RPD
Z1	Data rejected; more valid data available
Z2	Detection level not met uncertainty greater than DL
Z4	MDA greater than RDL.
Z5	Ion ratio
Z6	Samples were analyzed past the 12-hour time period from the tune or opening CCV.

## **SECTION 2**

### **ANALYTICAL RESULTS**

SGS North America Inc.

## Report of Analysis

Page 1 of 1

<b>Client Sample ID:</b>	220111-D2-AT04	<b>Date Sampled:</b>	01/11/22
<b>Lab Sample ID:</b>	DA40816-40R	<b>Date Received:</b>	01/12/22
<b>Matrix:</b>	DW - Drinking Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 525.2 EPA 525.2		
<b>Project:</b>	JBPHHH DW Sampling		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G157550.D	1	01/18/22 07:57	DC	01/17/22 12:30	OP21069	E1G3101
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

## SVOC Special List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
50-32-8	Benzo(a)pyrene	0.0097 U	0.20	0.019	0.0097	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate <sup>a</sup>	0.54 U	6.0	0.58	<del>0.39</del> 0.58	ug/l	JB L,C
90-12-0	1-Methylnaphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	Y3
91-57-6	2-Methylnaphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	Y3
91-20-3	Naphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	Y3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	Perylene-d12	119%		70-130%
	Pyrene-d10	90%		70-130%
115-86-6	Triphenyl phosphate	120%		70-130%

(a) Associated Blank Spike outside control limits biased high. Sample result below project screening limits.

(b) The reporting laboratory does not currently carry certification for this analyte by method 525.

U = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

**SECTION 3**

**DATA SUPPORT DOCUMENTATION**



**ORGANIC ANALYSIS SUPPORT DOCUMENTATION**

Client Name: AECOM  
 Site/Project Name: Navy Red Hill  
 Job Number/Task/Subtask: 20229768.A000  
 Laboratory/Location: Eurofins South Bend, IN  
 SDG: DA40816A  
 Sample Collection Dates: 1/11/22

EnvStd Project Manager: Erin Rodgers  
 Reviewed by: Robiana L. Beegle-Renna  
 Approved by: Erin Rodgers  
 Completion Date: 2/3/22  
 Validation Level: L4

The following table indicates criteria that were examined, the identified problems, and support documentation attachments.

Parameter/ Method	Criteria Examined in Detail						Problems Identified						
	<b>Note:</b> All items examined have been included in the Support Document unless otherwise noted.												
	<b>Check (√) if Yes or Footnote Letter for Comments Below</b>												
	SVOCs						SVOCs						
Condition upon Receipt	√												
Sample Preservation	√												
Holding Times	√												
Blank Analysis Results	√						√						
Surrogates	√												
Laboratory Control Sample	√						√						
Matrix Spike/Matrix Spike Duplicate													
Laboratory Duplicate													
Field Duplicate													
Sample Preparation	√												
Detection Limit/Sensitivity													
Mass Tuning	√												
GC Instrument Performance – Resolution Checks and DDT/Endrin Breakdown													
Initial Calibrations	√												
Continuing Calibrations	√												
Internal Standard Performance	√												
Retention Time Shifts	√												
Quantitation of Results	√												
Qualitative Identification: Targets	√												
Qualitative Identification: TICs													
Multiple Dilutions/Analyses													
Analytical Sequence	√												
GC Column Agreement													
Manual Integration													
Percent Solids													
Extract Cleanup Documentation, Checks, and Calibrations													
Deliverable was Complete	√												
Others:													

**Comments:** Qualitative Identification, Quantitation of Results, and Manual Integrations are not included in the Support Documentation unless a problem was identified.





The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

### Technical Report for

AECOM

JBPHHH DW Sampling

SGS Job Number: DA40816R

Sampling Date: 01/11/22

Report to:

AECOM  
1001 Bishop St., Suite 1600  
Honolulu, HI 96813  
alethea.ramos@aecom.com; rhdwchemists@aecom.onmicrosoft.com  
ATTN: Alethea Ramos

Total number of pages in report: **296**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Jason Savoie  
General Manager

Client Service contact: Larisa DiMarco 303-425-6021

Certifications: CO (CO00049), NE (NE-OS-06-04), ND (R-027), UT (NELAP CO00049)  
LA (LA150028), TX (T104704511), WY (8TMS-L), HI (CO00049), NJ (CO011)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.  
Test results relate only to samples analyzed.

## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** AECOM

**Job No:** DA40816R

**Site:** JBPHHH DW Sampling

**Report Date** 1/19/2022 7:24:53 PM

On 01/12/2022, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 4.4 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of DA40816R was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### MS Semi-volatiles By Method EPA 525.2

<b>Matrix:</b> AQ	<b>Batch ID:</b> OP21069
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- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) DA40952-1MS were used as the QC samples indicated.
- Sample(s) DA40816-40R have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank. Associated Blank Spike outside control limits biased high. Sample result below project screening limits.
- The blank spike (BS) recovery(s) of bis(2-Ethylhexyl)phthalate are outside control limits.
- The matrix spike (MS) recovery(s) of bis(2-Ethylhexyl)phthalate are outside control limits. Probable cause due to matrix interference. **Not SDG Sample**
- OP21069-MB for bis(2-Ethylhexyl)phthalate: Analyte detected in the MB greater than 1/2 the reporting limit. Result below project screening limits.
- OP21069-BS1 for bis(2-Ethylhexyl)phthalate: Outside control limit. Analytical result may be biased high.
- DA40816-40R for 1-Methylnaphthalene: The reporting laboratory does not currently carry certification for this analyte by method 525.
- DA40816-40R for 2-Methylnaphthalene: The reporting laboratory does not currently carry certification for this analyte by method 525.
- DA40816-40R for Naphthalene: The reporting laboratory does not currently carry certification for this analyte by method 525.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Sample Results

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Report of Analysis

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SGS North America Inc.

## Report of Analysis

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<b>Client Sample ID:</b>	220111-D2-AT04	<b>Date Sampled:</b>	01/11/22
<b>Lab Sample ID:</b>	DA40816-40R	<b>Date Received:</b>	01/12/22
<b>Matrix:</b>	DW - Drinking Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	EPA 525.2 EPA 525.2		
<b>Project:</b>	JBPHHH DW Sampling		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G157550.D	1	01/18/22 07:57	DC	01/17/22 12:30	OP21069	E1G3101
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

## SVOC Special List

CAS No.	Compound	Result	MCL	RL	MDL	Units	Q
50-32-8	Benzo(a)pyrene	0.0097 U	0.20	0.019	0.0097	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate <sup>a</sup>	0.54	6.0	0.58	0.39	ug/l	JB
90-12-0	1-Methylnaphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	
91-57-6	2-Methylnaphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	
91-20-3	Naphthalene <sup>b</sup>	0.24 U		0.49	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
	Perylene-d12	119%		70-130%
	Pyrene-d10	90%		70-130%
115-86-6	Triphenyl phosphate	120%		70-130%

(a) Associated Blank Spike outside control limits biased high. Sample result below project screening limits.

(b) The reporting laboratory does not currently carry certification for this analyte by method 525.

U = Not detected      MDL = Method Detection Limit  
MCL = Maximum Contamination Level (40 CFR 141)  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound

## MS Semi-volatiles

### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

**Method Blank Summary**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21069-MB	1G157540.D	1	01/18/22	DC	01/17/22	OP21069	E1G3101

The QC reported here applies to the following samples:

Method: EPA 525.2

DA40816-40R

CAS No.	Compound	Result	RL	MDL	Units	Q
50-32-8	Benzo(a)pyrene	ND	0.020	0.010	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate <sup>a</sup>	0.58	0.60	0.40	ug/l	J
90-12-0	1-Methylnaphthalene	ND	0.50	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.25	ug/l	
91-20-3	Naphthalene	ND	0.50	0.25	ug/l	

U/L sample

CAS No.	Surrogate Recoveries	Limits	
	Perylene-d12	101%	70-130%
	Pyrene-d10	85%	70-130%
115-86-6	Triphenyl phosphate	112%	70-130%

(a) Analyte detected in the MB greater than 1/2 the reporting limit. Result below project screening limits.

**Blank Spike Summary**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21069-BS1	1G157541.D	1	01/18/22	DC	01/17/22	OP21069	E1G3101

The QC reported here applies to the following samples:

Method: EPA 525.2

DA40816-40R

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
50-32-8	Benzo(a)pyrene	2	1.8	90	70-130
117-81-7	bis(2-Ethylhexyl)phthalate	1	1.6	160* <sup>a</sup>	70-130

J+/C unless previously U flagged

CAS No.	Surrogate Recoveries	BSP	Limits
	Perylene-d12	115%	70-130%
	Pyrene-d10	88%	70-130%
115-86-6	Triphenyl phosphate	124%	70-130%

(a) Outside control limit. Analytical result may be biased high.

\* = Outside of Control Limits.

**Blank Spike Summary**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21069-BS2	1G157542.D	1	01/18/22	DC	01/17/22	OP21069	E1G3101

The QC reported here applies to the following samples:

Method: EPA 525.2

DA40816-40R

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
90-12-0	1-Methylnaphthalene	1	1.1	110	70-130
91-57-6	2-Methylnaphthalene	1	1.1	110	70-130
91-20-3	Naphthalene	1	1.3	130	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
	Perylene-d12	119%	70-130%
	Pyrene-d10	106%	70-130%
115-86-6	Triphenyl phosphate	118%	70-130%

\* = Outside of Control Limits.

**Matrix Spike Summary**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP21069-MS1	1G157545.D	1	01/18/22	DC	01/17/22	OP21069	E1G3101
DA40952-1	1G157553.D	1	01/18/22	DC	01/17/22	OP21069	E1G3101
Not SDG DA40816R Sample							

The QC reported here applies to the following samples:

Method: EPA 525.2

DA40816-40R

CAS No.	Compound	DA40952-1 ug/l	Spike Q	MS ug/l	MS %	Limits
50-32-8	Benzo(a)pyrene	0.019 U	1.92	2.1	109	70-130
117-81-7	bis(2-Ethylhexyl)phthalate	0.57 U	0.962	1.4	146* a	70-130

CAS No.	Surrogate Recoveries	MS	DA40952-1	Limits
	Perylene-d12	116%	117%	70-130%
	Pyrene-d10	92%	90%	70-130%
115-86-6	Triphenyl phosphate	111%	114%	70-130%

(a) Outside control limit. Analytical result may be biased high.

\* = Outside of Control Limits.

**Instrument Performance Check (DFTPP)**

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

<b>Sample:</b> E1G3082-DFTPP	<b>Injection Date:</b> 01/04/22
<b>Lab File ID:</b> 1G157129.D	<b>Injection Time:</b> 15:17
<b>Instrument ID:</b> GCMS1G	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	10.0 - 80.0% of mass 198	87818	54.8	Pass
68	Less than 1.9% of mass 69	1350	0.84 (1.76) <sup>a</sup>	Pass
70	Less than 1.9% of mass 69	582	0.36 (0.76) <sup>a</sup>	Pass
127	10.0 - 80.0% of mass 198	79106	49.3	Pass
197	Less than 1.9% of mass 198	187	0.12	Pass
198	Base peak, 100% relative abundance	160330	100.0	Pass
199	5.0 - 9.0% of mass 198	10219	6.37	Pass
275	10.0 - 60.0% of mass 198	42133	26.3	Pass
365	1.1 - 100.0% of mass 198	5668	3.54	Pass
441	0.01 - 99.9% of mass 443	16233	10.1 (76.8) <sup>b</sup>	Pass
442	50.1 - 150.0% of mass 198	109517	68.3	Pass
443	17.0 - 23.0% of mass 442	21149	13.2 (19.3) <sup>c</sup>	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E1G3082-IC3082	1G157130.D	01/04/22	15:47	00:30	Initial cal 0.02
E1G3082-IC3082	1G157131.D	01/04/22	16:12	00:55	Initial cal 0.05
E1G3082-IC3082	1G157132.D	01/04/22	16:38	01:21	Initial cal 0.2
E1G3082-IC3082	1G157133.D	01/04/22	17:04	01:47	Initial cal 0.5
E1G3082-ICC3082	1G157134.D	01/04/22	17:30	02:13	Initial cal 1
E1G3082-IC3082	1G157135.D	01/04/22	17:56	02:39	Initial cal 2
E1G3082-IC3082	1G157136.D	01/04/22	18:22	03:05	Initial cal 4
E1G3085-IC3085	1G157137.D	01/04/22	18:47	03:30	Initial cal 0.05 ✓
E1G3085-IC3085	1G157138.D	01/04/22	19:13	03:56	Initial cal 0.2
E1G3085-IC3085	1G157139.D	01/04/22	19:39	04:22	Initial cal 0.5
E1G3085-ICC3085	1G157140.D	01/04/22	20:05	04:48	Initial cal 1
E1G3085-IC3085	1G157141.D	01/04/22	20:31	05:14	Initial cal 2
E1G3085-IC3085	1G157142.D	01/04/22	20:56	05:39	Initial cal 4 ✓

**Instrument Performance Check (DFTPP)**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

<b>Sample:</b> E1G3082-DFTPP	<b>Injection Date:</b> 01/04/22
<b>Lab File ID:</b> 1G157144.D	<b>Injection Time:</b> 21:53
<b>Instrument ID:</b> GCMS1G	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
51	10.0 - 80.0% of mass 198	81312	54.8	Pass
68	Less than 1.9% of mass 69	1003	0.68 (1.40) <sup>a</sup>	Pass
70	Less than 1.9% of mass 69	423	0.29 (0.59) <sup>a</sup>	Pass
127	10.0 - 80.0% of mass 198	75590	51.0	Pass
197	Less than 1.9% of mass 198	609	0.41	Pass
198	Base peak, 100% relative abundance	148360	100.0	Pass
199	5.0 - 9.0% of mass 198	9897	6.67	Pass
275	10.0 - 60.0% of mass 198	39765	26.8	Pass
365	1.1 - 100.0% of mass 198	5138	3.46	Pass
441	0.01 - 99.9% of mass 443	13374	9.01 (73.2) <sup>b</sup>	Pass
442	50.1 - 150.0% of mass 198	94880	64.0	Pass
443	17.0 - 23.0% of mass 442	18282	12.3 (19.3) <sup>c</sup>	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E1G3082-ICV3082	1G157145.D	01/04/22	22:19	00:26	Initial cal verification 1
E1G3086-CC3085	1G157145A.D	01/04/22	22:19	00:26	Continuing cal 1
E1G3086-CC3085	1G157146A.D	01/04/22	22:45	00:52	Continuing cal 1
E1G3085-ICV3085	1G157146.D	01/04/22	22:45	00:52	Initial cal verification 1
OP21012-MB	1G157147.D	01/04/22	23:11	01:18	Method Blank
OP21012-BS	1G157148.D	01/04/22	23:37	01:44	Blank Spike
OP21012-MS	1G157150.D	01/05/22	00:29	02:36	Matrix Spike
DA40510-1	1G157151A.D	01/05/22	00:54	03:01	(used for QC only; not part of job DA40816R)
ZZZZZZ	1G157153A.D	01/05/22	01:46	03:53	(unrelated sample)
ZZZZZZ	1G157154A.D	01/05/22	02:12	04:19	(unrelated sample)
ZZZZZZ	1G157155A.D	01/05/22	02:38	04:45	(unrelated sample)
ZZZZZZ	1G157156A.D	01/05/22	03:04	05:11	(unrelated sample)
ZZZZZZ	1G157157.D	01/05/22	03:30	05:37	(unrelated sample)
ZZZZZZ	1G157158.D	01/05/22	03:55	06:02	(unrelated sample)
ZZZZZZ	1G157159.D	01/05/22	04:21	06:28	(unrelated sample)
ZZZZZZ	1G157160.D	01/05/22	04:47	06:54	(unrelated sample)

**Instrument Performance Check (DFTPP)**

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

<b>Sample:</b> E1G3089-DFTPP	<b>Injection Date:</b> 01/11/22
<b>Lab File ID:</b> 1G157224.D	<b>Injection Time:</b> 14:57
<b>Instrument ID:</b> GCMS1G	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail	✓
51	10.0 - 80.0% of mass 198	67073	57.1	Pass	
68	Less than 1.9% of mass 69	374	0.32 (0.63) <sup>a</sup>	Pass	
70	Less than 1.9% of mass 69	437	0.37 (0.74) <sup>a</sup>	Pass	
127	10.0 - 80.0% of mass 198	60053	51.1	Pass	
197	Less than 1.9% of mass 198	555	0.47	Pass	
198	Base peak, 100% relative abundance	117448	100.0	Pass	
199	5.0 - 9.0% of mass 198	7982	6.80	Pass	
275	10.0 - 60.0% of mass 198	29703	25.3	Pass	
365	1.1 - 100.0% of mass 198	3452	2.94	Pass	
441	0.01 - 99.9% of mass 443	9514	8.10 (72.3) <sup>b</sup>	Pass	
442	50.1 - 150.0% of mass 198	65745	56.0	Pass	
443	17.0 - 23.0% of mass 442	13163	11.2 (20.0) <sup>c</sup>	Pass	

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E1G3089-IC3089	1G157225.D	01/11/22	15:32	00:35	Initial cal 0.02
E1G3089-IC3089	1G157226.D	01/11/22	15:58	01:01	Initial cal 0.05
E1G3089-IC3089	1G157227.D	01/11/22	16:24	01:27	Initial cal 0.2
E1G3089-IC3089	1G157228.D	01/11/22	16:50	01:53	Initial cal 0.5
E1G3089-ICC3089	1G157229.D	01/11/22	17:15	02:18	Initial cal 1
E1G3089-IC3089	1G157230.D	01/11/22	17:41	02:44	Initial cal 2
E1G3089-IC3089	1G157231.D	01/11/22	18:07	03:10	Initial cal 4
E1G3089-ICV3089	1G157232.D	01/11/22	18:33	03:36	Initial cal verification 1

**Instrument Performance Check (DFTPP)**

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

<b>Sample:</b> E1G3101-DFTPP	<b>Injection Date:</b> 01/17/22
<b>Lab File ID:</b> 1G157529.D	<b>Injection Time:</b> 22:53
<b>Instrument ID:</b> GCMS1G	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail ✓
51	10.0 - 80.0% of mass 198	58602	61.8	Pass
68	Less than 1.9% of mass 69	681	0.72 (1.36) <sup>a</sup>	Pass
70	Less than 1.9% of mass 69	372	0.39 (0.74) <sup>a</sup>	Pass
127	10.0 - 80.0% of mass 198	51053	53.8	Pass
197	Less than 1.9% of mass 198	259	0.27	Pass
198	Base peak, 100% relative abundance	94901	100.0	Pass
199	5.0 - 9.0% of mass 198	6340	6.68	Pass
275	10.0 - 60.0% of mass 198	23749	25.0	Pass
365	1.1 - 100.0% of mass 198	3120	3.29	Pass
441	0.01 - 99.9% of mass 443	8312	8.76 (74.1) <sup>b</sup>	Pass
442	50.1 - 150.0% of mass 198	60250	63.5	Pass
443	17.0 - 23.0% of mass 442	11223	11.8 (18.6) <sup>c</sup>	Pass

(a) Value is % of mass 69

(b) Value is % of mass 443

(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
E1G3101-CC3089	1G157530.D	01/17/22	23:20	00:27	Continuing cal 1
E1G3101-CC3085	1G157531.D	01/17/22	23:46	00:53	Continuing cal 1
OP21069-MB	1G157540.D	01/18/22	03:39	04:46	Method Blank
OP21069-BS1	1G157541.D	01/18/22	04:04	05:11	Blank Spike
OP21069-BS2	1G157542.D	01/18/22	04:30	05:37	Blank Spike
OP21069-MS1	1G157545.D	01/18/22	05:48	06:55	Matrix Spike
OP21069-MS2	1G157546.D	01/18/22	06:14	07:21	Matrix Spike
ZZZZZZ	1G157549.D	01/18/22	07:31	08:38	(unrelated sample)
DA40816-40R	1G157550.D	01/18/22	07:57	09:04	220111-D2-AT04
DA40952-1	1G157553.D	01/18/22	09:15	10:22	(used for QC only; not part of job DA40816R)
DA40952-2	1G157554.D	01/18/22	09:41	10:48	(used for QC only; not part of job DA40816R)
ZZZZZZ	1G157555.D	01/18/22	10:07	11:14	(unrelated sample)
ZZZZZZ	1G157556.D	01/18/22	10:32	11:39	(unrelated sample)

✓

# Internal Standard Area Summary

**Job Number:** DA40816R  
**Account:** AECOM/HH AECOM  
**Project:** JBPHHH DW Sampling

<b>Check Std:</b> E1G3101-CC3089	<b>Injection Date:</b> 01/17/22
<b>Lab File ID:</b> 1G157530.D	<b>Injection Time:</b> 23:20
<b>Instrument ID:</b> GCMS1G	<b>Method:</b> EPA 525.2

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
Check Std	1086992	6.64	1875254	9.11	1701688	13.93
Upper Limit <sup>a</sup>	1413090	7.14	2437830	9.61	2212194	14.43
Lower Limit <sup>b</sup>	760894	6.14	1312678	8.61	1191182	13.43

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT
OP21069-MB	749241 <sup>c</sup>	6.65	1381620	9.12	1681341	13.93
OP21069-BS1	854913	6.65	1461887	9.12	1539127	13.93
OP21069-BS2	946763	6.65	1637691	9.12	1953520	13.94
OP21069-MS1	784607	6.64	1350467	9.11	1361238	13.94
OP21069-MS2	700208 <sup>d</sup>	6.65	1274650 <sup>e</sup>	9.12	1419694	13.93
ZZZZZZ	729228 <sup>c</sup>	6.65	1303014 <sup>e</sup>	9.11	1448756	13.93
DA40816-40R	1060959 <sup>✓</sup>	6.65	1756823 <sup>✓</sup>	9.12	1671337 <sup>✓</sup>	13.93
DA40952-1	957996	6.65	1613903	9.11	1607260	13.93
DA40952-2	683821 <sup>f</sup>	6.65	1206903 <sup>*</sup>	9.12	1303136	13.93
ZZZZZZ	922821	6.65	1555772	9.12	1551819	13.93
ZZZZZZ	877457	6.65	1512126	9.12	1540119	13.93

**IS 1** = Acenaphthene-D10  
**IS 2** = Phenanthrene-d10  
**IS 3** = Chrysene-d12

- (a) Upper Limit = + 30% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -30% of check standard area; Retention time -0.5 minutes.
- (c) Outside control limits. Associated target analyes are non-detect.
- (d) Outside control limits.
- (e) The Internal Standard (ISTD) is outside the CCV ISTD criteria, but within the Initial Calibration ISTD criteria of + /-50%.
- (f) Outside control limits. Analytical result may be biased high.

6.5.1  
6

# Surrogate Recovery Summary

**Job Number:** DA40816R  
**Account:** AECOMHHH AECOM  
**Project:** JBPHHH DW Sampling

<b>Method:</b> EPA 525.2	<b>Matrix:</b> AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 ✓	S2	S3 ✓
DA40816-40R	1G157550.D	119	90	120
OP21069-BS1	1G157541.D	115	88	124
OP21069-BS2	1G157542.D	119	106	118
OP21069-MB	1G157540.D	101	85	112
OP21069-MS1	1G157545.D	116	92	111

Surrogate Compounds	Recovery Limits
S1 = Perylene-d12	70-130%
S2 = Pyrene-d10	70-130%
S3 = Triphenyl phosphate	70-130%

# Initial Calibration Summary

**Job Number:** DA40816R

**Sample:** E1G3085-ICC3085

**Account:** AECOMHIH AECOM

**Lab FileID:** 1G157140.D

**Project:** JBPHHH DW Sampling

## Response Factor Report GCMS1

Method : C:\msdchem\1\MET...\525pahelg3085.m (RTE Integrator)  
 Title : 525.2/507 Calibration  
 Last Update : Fri Jan 07 09:21:43 2022  
 Response via : Initial Calibration Previously validated DA40816A

### Calibration Files

0.05=1g157137.D 0.2 =1g157138.D 0.5 =1g157139.D 1.0 =1g157140.D  
 2.0 =1g157141.D 4.0 =1g157142.D =

Compound	0.05	0.2	0.5	1.0	2.0	4.0	Avg	%RSD
1) I Acenaphthene-d10a								
-----ISTD-----								
2)T Naphthalene	2.485	1.906	1.880	1.958	1.964	1.981	2.029	11.17
3)T 2-Methylnaphthale	1.540	1.270	1.258	1.286	1.327	1.348	1.338	7.83
4)T 1-Methylnaphthale	1.493	1.115	1.147	1.154	1.180	1.225	1.219	11.42

(#) = Out of Range

525pahelg3085.m

Fri Jan 07 16:38:25 2022

6.7.1

6

**Initial Calibration Verification**

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

**Sample:** E1G3085-ICV3085  
**Lab FileID:** 1G157146.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E1G3082\lg157146.D Vial: 17  
Acq On : 4 Jan 2022 10:45 pm Operator: DONC  
Sample : icv3085-1, pah Inst : GCMS1  
Misc : OP21012,E1G3085,,,,,1 Multiplr: 1.00  
MS Integration Params: TPP.P

Method : C:\msdchem\1\MET...\525pae1g3085.m (RTE Integrator)  
Title : 525.2/507 Calibration  
Last Update : Fri Jan 07 09:21:43 2022  
Response via : Multiple Level Calibration 20%

Min. RRF : 0.010 Min. Rel. Area : 10% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Acenaphthene-d10a	1.000	1.000	0.0	97	0.00	6.65
2 T	Naphthalene	2.029	2.517	-24.1	125	0.00	4.36 <sup>1</sup>
3 T	2-Methylnaphthalene	1.338	1.588	-18.7	120	0.00	5.17
4 T	1-Methylnaphthalene	1.219	1.407	-15.4	118	0.00	5.30

(#) = Out of Range  
lg157140.D 525pae1g3085.m

SPCC's out = 0 CCC's out = 0  
Fri Jan 07 09:30:17 2022

1. Sample ND; Sensitivity increase; no qual

# Initial Calibration Summary

Job Number: DA40816R

Sample: E1G3089-ICC3089

Account: AECOMHIH AECOM

Lab FileID: 1G157229.D

Project: JBPHHH DW Sampling

## Response Factor Report GCMS1

Method : C:\msdchem\1\METHODS\525e1g3089.m (RTE Integrator) ✓  
 Title : 525.2/507 Calibration  
 Last Update : Wed Jan 12 08:28:06 2022  
 Response via : Initial Calibration Previously validated DA40954

### Calibration Files

0.02=1g157225.D 0.05=1g157226.D 0.2 =1g157227.D 0.5 =1g157228.D  
 1.0 =1g157229.D 2.0 =1g157230.D 4.0 =1g157231.D

Compound	0.02	0.05	0.2	0.5	1.0	2.0	4.0	Avg	%RSD
-----									
1) I Acenaphthene-d10	-----ISTD-----								✓
2) S 1,3-Dimethyl-2-Ni	0.268	0.261	0.221	0.204	0.201	0.197	0.225	0.225	12.80
3) T Propachlor	0.507	0.769	0.615	0.467	0.480	0.498	0.587	0.560	19.16
---- Linear regr., Force(0,0) ---- Coefficient = 0.9930									
Response Ratio = 0.00000 + 0.56359 *A									
4) I Phenanthrene-d10	-----ISTD-----								
5) T Simazine	0.105	0.103	0.113	0.118	0.128	0.135	0.135	0.120	11.21
6) T Atrazine	0.107	0.179	0.192	0.192	0.204	0.210	0.219	0.186	20.12
---- Linear regression ---- Coefficient = 0.9989									
Response Ratio = -0.00050 + 0.21399 *A									
7) T Acetochlor	0.113	0.119	0.119	0.111	0.122	0.130	0.135	0.121	7.06
---- Linear regression ---- Coefficient = 0.9975									
Response Ratio = -0.00016 + 0.13058 *A									
8) T Metribuzin	0.121	0.142	0.155	0.168	0.188	0.206	0.208	0.170	19.37
---- Linear regression ---- Coefficient = 0.9964									
Response Ratio = -0.00059 + 0.20307 *A									
9) T Alachlor	0.130	0.153	0.137	0.158	0.166	0.175	0.176	0.156	11.44
---- Linear regression ---- Coefficient = 0.9983									
Response Ratio = -0.00030 + 0.17360 *A									
10) T Heptachlor	0.128	0.158	0.151	0.159	0.167	0.166	0.172	0.157	9.32
11) T Metolachlor	0.403	0.410	0.444	0.476	0.514	0.545	0.652	0.492	17.78
---- Linear regr., Force(0,0) ---- Coefficient = 0.9928									
Response Ratio = 0.00000 + 0.62269 *A									
12) T Butachlor	0.134	0.155	0.156	0.225	0.218	0.261		0.191	26.14
13) S Pyrene-d10	1.103	1.102	1.108	1.349	1.251	1.320	1.362	1.228	9.83
14) I Chrysene-d12	-----ISTD-----								
15) T Bis(2-ethylhexyl)	0.452	0.292	0.323	0.455	0.405	0.425	0.475	0.404	17.33
---- Linear regression ---- Coefficient = 0.9938									
Response Ratio = -0.00083 + 0.45064 *A									
16) S Triphenylphosphat	0.213	0.197	0.212	0.212	0.208	0.214	0.229	0.212	4.36
17) T Bis(2-ethylhexyl)	0.592	0.515	0.606	0.602	0.665	0.732	0.776	0.641	13.95
---- Linear regression ---- Coefficient = 0.9947									
Response Ratio = -0.00177 + 0.74058 *A									
18) T Benzo(a)pyrene	0.950	0.816	0.846	0.897	0.938	0.988	1.114	0.936	10.55
---- Linear regression ---- Coefficient = 0.9935									
Response Ratio = -0.00193 + 1.04431 *A									

6.7.3

6

# Initial Calibration Summary

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

**Sample:** E1G3089-ICC3089  
**Lab FileID:** 1G157229.D

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19)S Perylene-d12	0.994	0.897	0.971	0.974	0.960	0.974	1.041	0.973	4.43
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-----  
(#) = Out of Range

525e1g3089.m

Wed Jan 12 10:44:33 2022

## Initial Calibration Verification

Job Number: DA40816R  
 Account: AECOMHIH AECOM  
 Project: JBPHHH DW Sampling

Sample: E1G3089-ICV3089  
 Lab FileID: 1G157232.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E1G3089\1g157232.D Vial: 10  
 Acq On : 11 Jan 2022 6:33 pm Operator: DONC  
 Sample : icv3089-1, 525 Inst : GCMS1  
 Misc : OP21027,E1G3089,,,,,1 Multiplr: 1.00  
 MS Integration Params: TPP.P

Method : C:\msdchem\1\METHODS\525e1g3089.m (RTE Integrator)  
 Title : 525.2/507 Calibration  
 Last Update : Wed Jan 12 08:28:06 2022  
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 10% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Acenaphthene-d10	1.000	1.000	0.0	74	0.00	6.65
2 S 1,3-Dimethyl-2-Nitrobenze	0.225	0.261	-16.0	96	0.00	4.28
----- Amount Calc. %Drift -----						
3 T Propachlor	1.000	1.102	-10.2	95	0.00	7.58
----- AvgRF CCRF %Dev -----						
4 I Phenanthrene-d10	1.000	1.000	0.0	99	0.00	9.12
5 T Simazine	0.120	0.111	7.5	86	0.00	8.66
----- Amount Calc. %Drift -----						
6 T Atrazine	1.000	0.987	1.3	102	0.00	8.72
7 T Acetochlor	1.000	0.981	1.9	103	0.00	9.73
8 T Metribuzin	1.000	1.082	-8.2	115	0.00	9.77
9 T Alachlor	1.000	0.970	3.0	100	0.00	9.87
----- AvgRF CCRF %Dev -----						
10 T Heptachlor	0.157	0.160	-1.9	95	0.00	10.02
----- Amount Calc. %Drift -----						
11 T Metolachlor not target	1.000	0.798	20.2	96	0.00	10.44
----- AvgRF CCRF %Dev -----						
12 T Butachlor	0.191	0.195	-2.1	89	0.00	11.56
13 S Pyrene-d10	1.228	1.132	7.8	90	0.00	11.66
14 I Chrysene-d12	1.000	1.000	0.0	101	0.00	13.94
----- Amount Calc. %Drift -----						
15 T Bis(2-ethylhexyl)adipate	1.000	0.878	12.2	97	0.00	13.32
----- AvgRF CCRF %Dev -----						
16 S Triphenylphosphate	0.212	0.206	2.8	100	0.00	13.43
----- Amount Calc. %Drift -----						
17 T Bis(2-ethylhexyl)phthalat	1.000	0.886	11.4	98	0.00	14.22
18 T Benzo(a)pyrene	1.000	1.166	-16.6	130	0.00	16.35
----- AvgRF CCRF %Dev -----						
19 S Perylene-d12	0.973	1.155	-18.7	121	0.00	16.46

# Initial Calibration Verification

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

**Sample:** E1G3089-ICV3089  
**Lab FileID:** 1G157232.D

-----

(#) = Out of Range  
1g157229.D 525e1g3089.m

SPCC's out = 0 CCC's out = 0  
Wed Jan 12 10:44:07 2022

## Continuing Calibration Summary

Job Number: DA40816R  
 Account: AECOMHIH AECOM  
 Project: JBPHHH DW Sampling

Sample: E1G3101-CC3089  
 Lab FileID: 1G157530.D

## Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\E1G3100\1g157530.D Vial: 3  
 Acq On : 17 Jan 2022 11:20 pm Operator: DONC  
 Sample : cc3089-1, 525 Inst : GCMS1  
 Misc : OP21062,E1G3101,,,,,1 Multiplr: 1.00  
 MS Integration Params: TPP.P

Method : C:\msdchem\1\METHODS\525e1g3089.m (RTE Integrator)  
 Title : 525.2/507 Calibration  
 Last Update : Wed Jan 12 08:28:06 2022  
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 10% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Acenaphthene-d10	1.000	1.000	0.0	71	-0.01	6.64
2 S	1,3-Dimethyl-2-Nitrobenze	0.225	0.264	-17.3	93	0.00	4.28
	----- Amount	Calc.	%Drift	-----			
3 T	Propachlor	1.000	1.150	-15.0	96	0.00	7.57
	----- AvgRF	CCRF	%Dev	-----			
4 I	Phenanthrene-d10	1.000	1.000	0.0	94	-0.01	9.11
5 T	Simazine not target	0.120	0.164	-36.7#	121	0.00	8.66
	----- Amount	Calc.	%Drift	-----			
6 T	Atrazine	1.000	1.217	-21.7	119	0.00	8.72
7 T	Acetochlor	1.000	1.042	-4.2	104	0.00	9.73
8 T	Metribuzin	1.000	1.016	-1.6	102	0.00	9.77
9 T	Alachlor	1.000	0.970	3.0	95	0.00	9.86
	----- AvgRF	CCRF	%Dev	-----			
10 T	Heptachlor	0.157	0.165	-5.1	93	-0.01	10.01
	----- Amount	Calc.	%Drift	-----			
11 T	Metolachlor	1.000	0.882	11.8	101	0.00	10.44
	----- AvgRF	CCRF	%Dev	-----			
12 T	Butachlor	0.191	0.217	-13.6	93	0.00	11.56
13 S	Pyrene-d10	1.228	1.097	10.7	82	0.00	11.66
14 I	Chrysene-d12	1.000	1.000	0.0	95	0.00	13.93
	----- Amount	Calc.	%Drift	-----			
15 T	Bis(2-ethylhexyl)adipate	1.000	1.059	-5.9	111	0.00	13.32
	----- AvgRF	CCRF	%Dev	-----			
16 S	Triphenylphosphate	0.212	0.221	-4.2	101	0.00	13.43
	----- Amount	Calc.	%Drift	-----			
17 T	Bis(2-ethylhexyl)phthalat	1.000	1.083	-8.3	114	0.00	14.22
18 T	Benzo(a)pyrene	1.000	1.228	-22.8	129	0.00	16.35
	----- AvgRF	CCRF	%Dev	-----			
19 S	Perylene-d12	0.973	1.231	-26.5	122	0.00	16.46

# Continuing Calibration Summary

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

**Sample:** E1G3101-CC3089  
**Lab FileID:** 1G157530.D

-----

(#) = Out of Range  
1g157229.D 525e1g3089.m

SPCC's out = 0 CCC's out = 0  
Tue Jan 18 09:46:56 2022

**Continuing Calibration Summary**

**Job Number:** DA40816R  
**Account:** AECOMHIH AECOM  
**Project:** JBPHHH DW Sampling

**Sample:** E1G3101-CC3085  
**Lab FileID:** 1G157531.D

## Evaluate Continuing Calibration Report

Data Path : N:\Organics\Remote\GBSData\DATA\MSSEMI\GCMS1\E1G3101\  
Data File : 1g157531.D  
Acq On : 17 Jan 2022 11:46 pm  
Operator : DONC  
Sample : cc3085-1, pah Inst : GCMS1  
Misc : OP21062,E1G3101,,,,,1  
ALS Vial : 4 Sample Multiplier: 1

Quant Method : N:\Organics\Remote\GBSData\DATA\MSSEMI\GCMS1\E1G3101\525pahelg3085.m  
Quant Results File: 525pahelg3085.RES  
Quant Time: Jan 18 06:01:10 2022  
Quant Title : 525.2/507 Calibration  
QLast Update : Fri Jan 07 09:21:43 2022  
Response via : Initial Calibration

Min. RRF : 0.010 Min. Rel. Area : 10% Max. R.T. Dev 0.50min  
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Acenaphthene-d10a	1.000	1.000	0.0	92	0.00
2 T	Naphthalene	2.029	1.936	4.6	91	0.00
3 T	2-Methylnaphthalene	1.338	1.288	3.7	92	0.00
4 T	1-Methylnaphthalene	1.219	1.161	4.8	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

525pahelg3085.m Tue Jan 18 06:02:53 2022

**Run Sequence Report**

**Job Number:** DA40816R  
**Account:** AECOMHHH AECOM  
**Project:** JBPHHH DW Sampling

<b>Run ID:</b> E1G3085	<b>Method:</b> EPA 525.2	<b>Instrument ID:</b> GCMS1G
------------------------	--------------------------	------------------------------

<b>Lab Sample ID</b>	<b>Lab File ID</b>	<b>Date/Time Analyzed</b>	<b>Prep QC Batch</b>	<b>Client Sample ID</b>
E1G3085-IC3085	1G157137.D	01/04/22 18:47	n/a	Initial cal 0.05
E1G3085-IC3085	1G157138.D	01/04/22 19:13	n/a	Initial cal 0.2
E1G3085-IC3085	1G157139.D	01/04/22 19:39	n/a	Initial cal 0.5
E1G3085-ICC3085	1G157140.D	01/04/22 20:05	n/a	Initial cal 1
E1G3085-IC3085	1G157141.D	01/04/22 20:31	n/a	Initial cal 2
E1G3085-IC3085	1G157142.D	01/04/22 20:56	n/a	Initial cal 4
E1G3085-ICV3085	1G157146.D	01/04/22 22:45	n/a	Initial cal verification 1

**Run Sequence Report**

**Job Number:** DA40816R  
**Account:** AECOMHHH AECOM  
**Project:** JBPHHH DW Sampling

<b>Run ID:</b> E1G3089	<b>Method:</b> EPA 525.2	<b>Instrument ID:</b> GCMS1G
------------------------	--------------------------	------------------------------

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
E1G3089-DFTPP	1G157224.D	01/11/22 14:57	n/a	DFTPP Tune
E1G3089-IC3089	1G157225.D	01/11/22 15:32	n/a	Initial cal 0.02
E1G3089-IC3089	1G157226.D	01/11/22 15:58	n/a	Initial cal 0.05
E1G3089-IC3089	1G157227.D	01/11/22 16:24	n/a	Initial cal 0.2
E1G3089-IC3089	1G157228.D	01/11/22 16:50	n/a	Initial cal 0.5
E1G3089-ICC3089	1G157229.D	01/11/22 17:15	n/a	Initial cal 1
E1G3089-IC3089	1G157230.D	01/11/22 17:41	n/a	Initial cal 2
E1G3089-IC3089	1G157231.D	01/11/22 18:07	n/a	Initial cal 4
E1G3089-ICV3089	1G157232.D	01/11/22 18:33	n/a	Initial cal verification 1

**Run Sequence Report**

**Job Number:** DA40816R  
**Account:** AECOMHHH AECOM  
**Project:** JBPHHH DW Sampling

<b>Run ID:</b> E1G3101	<b>Method:</b> EPA 525.2	<b>Instrument ID:</b> GCMS1G
------------------------	--------------------------	------------------------------

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
E1G3101-DFTPP	1G157529.D	01/17/22 22:53	n/a	DFTPP Tune
E1G3101-CC3089	1G157530.D	01/17/22 23:20	n/a	Continuing cal 1
E1G3101-CC3085	1G157531.D	01/17/22 23:46	n/a	Continuing cal 1
OP21069-MB	1G157540.D	01/18/22 03:39	OP21069	Method Blank
OP21069-BS1	1G157541.D	01/18/22 04:04	OP21069	Blank Spike
OP21069-BS2	1G157542.D	01/18/22 04:30	OP21069	Blank Spike
OP21069-MS1	1G157545.D	01/18/22 05:48	OP21069	Matrix Spike
OP21069-MS2	1G157546.D	01/18/22 06:14	OP21069	Matrix Spike
ZZZZZZ	1G157549.D	01/18/22 07:31	OP21069	(unrelated sample)
DA40816-40R	1G157550.D	01/18/22 07:57	OP21069	220111-D2-AT04
DA40952-1	1G157553.D	01/18/22 09:15	OP21069	(used for QC only; not part of job DA40816R)
DA40952-2	1G157554.D	01/18/22 09:41	OP21069	(used for QC only; not part of job DA40816R)
ZZZZZZ	1G157555.D	01/18/22 10:07	OP21069	(unrelated sample)
ZZZZZZ	1G157556.D	01/18/22 10:32	OP21069	(unrelated sample)



Wheat Ridge, CO

Instrument: GCMS1 (E1G)

GCMS Semi-Volatile Analysis Log

Run Date: 1/4/22

Analyst Signature: *[Signature]*

Standard Data

Lot #	Description	Conc
MSB 6410	DFTPP	150 ppm
L 6406	Internal Std	50 ppm
MSB 6435	525 CAL	20 ppm
6441	PAH CAL	20
6442	PAH ICV	2
6399	525 ICV	2

Instrument Run Batches: **E1G 3082 / 3085 / 3086**  
 Sequence File: E1G 3082  
 Quantitation Methods: 525 TUNE  
 525 E1G 3082  
 Column Information: HP-5MS  
 DFTPP Acquisition Method: 525 TUNE Inj. Vol: 1 uL  
 Data Acquisition Method: ACG - 525 E Inj. Vol: 1 uL

Dil Solvent: *[Handwritten]* Lot #: 177102

ALS #	Data File ID	Sample ID	Ext. Batch	Analysis	Matrix	Dil.	Comments
3	1G 157128	1.0 525 PAH TEST	NA		W	1	
2	1G 29	DFTPP		TUNE			
3	1G 30	IC 3082-0.02		525			
4	1G 31	0.05					
5	1G 32	0.2					
6	1G 33	0.5					
7	1G 34	IC 3082-1					
8	1G 35	IC 3082-2					
8	1G 36	4					
10	1G 37	IC 3082-0.05		525 PAH			PAH
11	1G 38	0.2					
12	1G 39	0.5					
13	1G 40	1					
14	1G 41	2					
15	1G 42	4					
1	1G 43	DLM		NA			
2	1G 44	DFTPP		TUNE			
16	1G 45	ICV 3082-1		525			525
17	1G 46	ICV 3082-1		525 PAH			PAH
18	1G 47	OP 21012-UB	OP 21012	525			
19	1G 48	BS					
20	1G 49	MAL					BIS 2E 1
21	1G 50	MS					
22	1G 51	7A 40510-1					
23	1G 52	2					BIS 2E HIT OVER CAL (5.2)
24	1G 53	7A 40493-1					
25	1G 54	7A 40496-1					
26	1G 157155	7A 40501-1					

MTX = Matrix: Designate W for water, S for soil, O for oil, A for air.



7.7.1  
7





Wheat Ridge, CO

Instrument: GCMS1 (E1G)

GCMS Semi-Volatile Analysis Log

Run Date: 1/11/22

Analyst Signature: *[Signature]*

Standard Data

Lot #	Description	Conc
MSB 6410	DFTPP	5.50 ppm
↓ 6406	Internal Std	50 ppm
MSB 6435	CAL	20 ppm
↓ 6441	525 PAH	20 ↓

Instrument Run Batches: **E1G 3089 / 3090**  
 Sequence File: E1G3089/3090  
 Quantitation Methods: 525 TUNE  
 Column Information: HP-5MS  
 DFTPP Acquisition Method: 525 TUNE Inj. Vol: 1 uL  
 Data Acquisition Method: ACQ-525E Inj. Vol: 1 uL

Dil Solvent: EtOAc Lot #: 177102

ALS #	Data File ID	Sample ID	Ext. Batch	Analysis	Matrix	Dil.	Comments
3	1G 157223	CCV TEST	NA	NA	W	1	
2	1G 24	DFTPP		TUNE			
3	1G 25	IC3089-0.02		525			
4	1G 26	0.05					
5	1G 27	0.2					
6	1G 28	0.5					
7	1G 29	IC3089-1					
8	1G 30	IC3089-2					
9	1G 31	↓ 4					
10	1G 32	ICV3089-1					
1	1G 33	OCV		↓			
2	1G 34	DFTPP		TUNE			TUNE FAILS
7	1G 35	CC3089-1		525			525 (NA)
11	1G 36	CC3085-1		↓			PAH ↓ RESTART
2	1G 37	DFTPP		TUNE			OK
7	1G 38	CC3089-1		525			525
11	1G 39	CC3085-1					PAH
12	1G 40	D LARK		↓			
13	1G 41	OP21033-B51	OP21033				
14	1G 42	B52					
15	1G 43	MAL1					
16	1G 44	MAL2					
17	1G 45	MS1					
18	1G 46	↓ MS2					
19	1G 47	PA40762-4					
20	1G 48	8					
21	1G 49	7					
22	1G 157280	↓ 15					

MTX = Matrix: Designate W for water, S for soil, O for oil, A for air.

7.7.2  
7





## 525 Tune Breakdown:

Instrument Batch: E1G3089  
 File Number: 1g157237

Compound	Area counts
DFTPP	142217
DDE	21029
Endrin	1829316
DDD	26130
Endrin Aldehyde	27182
4,4'-DDT	2405413
Endrin Ketone	54532

$$\text{DDT Breakdown} = \frac{\text{DDD} + \text{DDE}}{\text{DDD} + \text{DDE} + \text{DDT}} = \frac{26130 + 21029}{26130 + 21029 + 2405413}$$

**1.92% DDT Breakdown**  
 Must be less than 20%

$$\text{Endrin Breakdown} = \frac{\text{EA} + \text{EK}}{\text{EA} + \text{EK} + \text{Endrin}} = \frac{27182 + 54532}{27182 + 54532 + 1829316}$$

**4.28% Endrin Breakdown**  
 Must be less than 20%

## 525 Tune Breakdown:

Instrument Batch: E1G3089  
 File Number: 1g157224

Compound	Area counts
DFTPP	218591
DDE	36323
Endrin	2037472
DDD	16886
Endrin Aldehyde	34869
4,4'-DDT	2605615
Endrin Ketone	84816

$$\text{DDT Breakdown} = \frac{\text{DDD} + \text{DDE}}{\text{DDD} + \text{DDE} + \text{DDT}} = \frac{16886 + 36323}{16886 + 36323 + 2605615}$$

**2.00% DDT Breakdown**  
 Must be less than 20%

$$\text{Endrin Breakdown} = \frac{\text{EA} + \text{EK}}{\text{EA} + \text{EK} + \text{Endrin}} = \frac{34869 + 84816}{34869 + 84816 + 2037472}$$

**5.55% Endrin Breakdown**  
 Must be less than 20%

**SGS** Wheat Ridge, CO

Instrument: GCMS1 (E1G)  
GCMS Semi-Volatile Analysis Log

Analyst Signature: *[Handwritten Signature]*

Run Date: 11/7/22

**Standard Data**

Lot #	Description	Conc
MSB <u>6410</u>	DFTPP	<u>50</u> ppm
<u>6406</u>	Internal Std	<u>50</u> ppm
MSB <u>6435</u>	<u>525</u> CAL	<u>20</u> ppm
<u>6441</u>	<u>525</u> DMH	<u>20</u> ppm
		<i>n/1:sm</i>

Instrument Run Batches: **E1G 3101**  
 Sequence File: E1G3101  
 Quantitation Methods: 525 TUNE  
525 ALL E1G3089  
 Column Information: HP-5MS  
 DFTPP Acquisition Method: 525 TUNE Inj. Vol: 1 uL  
 Data Acquisition Method: AR 525E Inj. Vol: 1 uL

Dil Solvent: 4:10:1 Lot #: 177102

ALS #	Data File ID	Sample ID	Ext. Batch	Analysis	Matrix	Dil.	Comments
2	1G157529	DFTPP	N/A	TUNE	N/A	N/A	
3	1G 30	CC3039-1, 525	↓	525	↓		Signature ↑
4	1G 31	CC3035-1, DMH	↓		↓		OK
5	1G 32	Blank	↓		↓		
8	1G 33	OP21062-MRL1	OP21062		DW		#B#1:100 ↑ AOLPATE ↑ PHHATE ↑
9	1G 34	OP21062-MRL2	↓				OK
30	1G 35	DA40816-42	↓				
31	1G 36	45	↓				
32	1G 37	48	↓				
33	1G 38	40	OP21060				RECURRING RESULTS
34	1G 39	DA40816-38	↓			100	↓
35	1G 40	OP21069-MB	OP21069			N/A	IS #1 ↓ (ALL NP FOR 35 #1)
36	1G 41	BS1	↓				
37	1G 42	BS2	↓				
38	1G 43	MRL1	↓				
39	1G 44	MRL2	↓				
40	1G 45	OP21069-MS1	↓				
41	1G 46	MS2	↓				IS #1 ↓
42	1G 47	DA40827-1	↓				
43	1G 48	DA40744-1	↓				
44	1G 49	DA40816-38R	↓				IS #1 ↓
45	1G 50	40R	↓				
46	1G 51	DA40816-52	↓				
47	1G 52	53	↓				
48	1G 53	DA40952-1	↓				
49	1G 54	-2	↓				IS #1 ↓ 155 ↑ NO SAMPLE LEFT
50	1G 55	-4	↓				
51	1G 157556	-5	↓				

MTX = Matrix: Designate W for water, S for soil, O for oil, A for air.

52	1G 157557	BTXLC ACUMATE 3	NA	525	W	1	OK
GCMS 04-02; 5/20/10 AL-MSS-1-66; page 18							
53	1G 157558	BTX/G TEST	NA	525	W	1	OK

7.7.3  
7

## 525 Tune Breakdown:

Instrument Batch: E1G3101  
 File Number: 1g157529

Compound	Area counts
DFTPP	167683
DDE	41670
Endrin	1936690
DDD	50793
Endrin Aldehyde	42666
4,4'-DDT	2444281
Endrin Ketone	79620

$$\text{DDT Breakdown} = \frac{\text{DDD} + \text{DDE}}{\text{DDD} + \text{DDE} + \text{DDT}} = \frac{50793 + 41670}{50793 + 41670 + 2444281}$$

**3.64% DDT Breakdown**  
 Must be less than 20%

$$\text{Endrin Breakdown} = \frac{\text{EA} + \text{EK}}{\text{EA} + \text{EK} + \text{Endrin}} = \frac{42666 + 79620}{42666 + 79620 + 1936690}$$

**5.94% Endrin Breakdown**  
 Must be less than 20%

**SGS** Wheat Ridge, CO

**Method EPA 525.2 - Cartridge Extraction**

BATCH #: **OP 21069**  
 Default Sample Amount: **1000 mL**  
 Default Final Volume: **1.0 mL**

Start Ext. Date, Time: 1/17/2022 1230 Turbopap # 2/3 Bath Temp(C) 41° Therm ID 7268/4

Analyst(s): [Signature]  
 Spike Witness Signature: [Signature]

End Extraction Date, Time: 1/17/2022 2315

Sample #	Sample Bottle #	pH	Matrix	Sample Vol (mL)	Final Volume (mL)	Color	Comments
QC MB	NA	<2	DW	1000	1.0	clean	
QC BS I : BS II	BS	22 : 22	DW	1000 : 1000	1.0 : 1.0	clean : clean	
QC MRL I : MRL II	MRL	↓ : ↓	DW	↓ : ↓	↓ : ↓	↓ : ↓	
QC MS I : MS II	MS	4 : 4		1000 : 1000	↓ : ↓	↓ : ↓	
1 DA40827-1	12	<2		1036	1.0	clean	
2 DA40744-1	1			1010			
3 DA40816-38R	3			1060			Cracked; Redo
4	3			1030			Redo;
5	1			1020			
6	1			1020			
MSI 7 DA40952-1	3			1045			
MSL 8	3			1040			
9	3			1020			1/18/22 7th sample does not exist (mistake 952-8)
10	1			1010		clean	
11	3			1050			
12	3			1050			
13	3			1050			
14 DA40953-1	3			1040			
15	3			1030			
16	3			1040			
17	3			1040			
18	3			1050			
19	3			1050			
20 DA40952-8	3			1020			

IS/SS, BLANK SPIKE, MATRIX SPIKE DATA				
SAMPLE	LOT#	(ppm) CONC.	AMT ADDED (mL)	SOF AMT (mL)
IS/SS	MSB 6454	50	0.1	0.100
BS/MS I	MSB 6447	2	0.5	0.500
MRL I	MSB 6448	various	1.0	1.00
BS/MS II (PAH)	MSB-6444	2	0.5	0.5
MRL II (PAH)	MSB-6443	0.5	1.0	1.0

Enviro-Clean Universal Extraction Cartridge 525  
 LOT#: 06944-DF

SOLVENT/REAGENT DATA	
LOT or Reagent #	
Methanol	PR-10617-G/F
Methylene Chloride	PR-10629
Ethyl Acetate	ScienceCo-427008/25008
Sodium Sulfate	OPR-011422-B
1:1 HCl	OPR-011522-A

pH = X indicates sample received unpreserved → adjusted to <2;

COMMENTS: QC completed in 2 sets for different spikes; All samples tested negative for free Cl; sample bottle 816-38 was cracked slightly → ~800 of 1000 mL passed through cartridge; Received by/Date: \_\_\_\_\_

Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



### CHAIN OF CUSTODY

SGS North America Inc. - Wheat Ridge  
 4036 Youngfield Street  
 Wheat Ridge, CO 80033-3862  
 303-425-6021; 877-737-4521  
 FAX: 303-425-6854  
[www.sgs.com/ehsusa](http://www.sgs.com/ehsusa)

Sampling Event:

SGS Job # **DA40816**

**Project Information**

PWSID or Project #

System Name:

System Address:

City: State: ZIP:

Contact Person:

Tel: Email:

**Client/Reporting Information**

Company: **AECOM**

Street: **1001 Bishop St., Suite 1600**

City: **Honolulu** State: **HI** ZIP: **96813**

Contact: **Alethea Ramos** Phone: **808.521.3051**

Email: **alethea.ramos@aecom.com**

Sampler: **Austin Patek** Phone: **(793) 654488**

**Billing Information (if different from reporting)**

Company:

Street:

City: State: ZIP:

Attention:

Client PO #:

SGS Quote/Bottle Order #:

**Turn Around Time (Business days)**

Standard 10 Business Days

5 Business Days RUSH

3 Business Days RUSH

2 Business Days RUSH

1 Business Day EMERGENCY

**State Form Information**

Compliance Samples Yes  No

Submit Results to State Portal Yes  No

Sample Location or ID	Date	Time
220111-DL-AT04	1/11/22	1052 12
220111-DL-AT05	1/11/22	1047 2
	1/ 122	
	1/ 122	
	1/ 122	
	1/ 122	
	1/ 122	
	1/ 122	
	1/ 122	

No. of Containers	Drinking Water Analyses (check analysis)															Subcontracted Analysis		Lab Use Only															
	THM 524.2	VOC 524.2	Halocetic Acids 552.2	EDB/DIBP 504.1	Pesticides / PCBs 505	Herbicides 515.4	SOC + OP Pesticides 525.2	Carbamates 531.1	Glyphosate 547	Endothal 548.1	Diquat 549.2	Nitrate-N	Nitrite-N	Fluoride	Alkalinity	Langlier Index	TOC		DOC	SUVA	UV254	11 Inorganic Metals *	Lead + Copper 200.8 Metals	Uranium 200.8	Datapon 552.2	TPH - 2015	TPH - 2015	Gross-A + Total Solid	Gross-A+B	Ra 226	Ra 228	Total Coliform (pfa)	
					3	2	1										1					1		3	2							40	41

Special Instructions:

\* Inorganic Metals Include: Sb, As, Ba, Be, Cd, Cr, Hg, Ni, Se, Na, Tl

**Sample Custody must be documented below each time samples change possession, including courier delivery.**

Relinquished By Sampler:	Date/Time: 1/11/22 1245	Received By: <i>Conner Rafter</i>	Date/Time: 1/11/22 1245	Relinquished By: <i>Conner Rafter</i>	Date/Time: 1/11/22 1500
Received By:	Date/Time: 1/12/22 1428	Relinquished By:	Date/Time:	Received By:	Date/Time:
Custody Seal #	Intact <input checked="" type="checkbox"/> Not Intact <input type="checkbox"/> Absent <input type="checkbox"/>	Preserved where applicable: <input type="checkbox"/>	Cooler Temp. (°C): 5.5	Therm. ID: 7280	On Ice: <input checked="" type="checkbox"/>

<http://www.sgs.com/jtrms-and-compliance>

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## SGS Sample Receipt Summary

Job Number: DA40816

Client: AECOM

Project: \_\_\_\_\_

Date / Time Received: 1/12/2022 2:20:00 PM

Delivery Method: \_\_\_\_\_

Airbill #'s: PAC

**Cooler Temps (Initial/Adjusted):**

**Cooler Security**

- |                           | Y or N                              |                          |                       | Y or N                              |                          |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Cooler Temperature**

- |                              | Y or N                              |                          |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | _____                               |                          |
| 3. Cooler media:             | _____                               |                          |
| 4. No. Coolers:              | 0                                   |                          |

**Quality Control Preservation**

- |                                 | Y or N                              |                          | N/A                      |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC:    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                          |
| 4. VOCs headspace free:         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Comments

**Sample Integrity - Documentation**

- |  | Y or N                              |                          |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Sample Integrity - Condition**

- |                                  | Y or N                              |                          |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample:          | Intact                              |                          |

**Sample Integrity - Instructions**

- |   | Y or N                              |                                     | N/A                                 |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 3. Sufficient volume recvd for analysis:  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

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DA40816R: Chain of Custody

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