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ANALYTICAL REPORT

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Laboratory Job ID: 580-111029-1
Client Project/Site: Red Hill GW CV18F0126

For:
AECOM
1001 Bishop Street
Honolulu, Hawaii 96813

Attn: Alethea Ramos

M. Elaine Walker

Authorized for release by:
3/15/2022 5:18:34 PM

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Job ID: 580-111029-1

Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Red Hill GW CV18F0126
Report Number: 580-111029-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

Following DoD QSM guidelines, manual integrations were performed only when necessary and are in compliance with the laboratory's standard operating procedure, Acceptable Manual Integration Practices, SOP No.: Q-S-002. The reason(s) for manual integration have been documented on the affected chromatogram(s), which is/are provided in the raw data package. The raw data also includes the original chromatogram(s) prior to any manual integration being performed. Manual integrations are detailed in the manual integration summary forms following this narrative.

It should be noted that samples with elevated Limits of Quantitation (LOQs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the LOQs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

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

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

Two samples were received on 3/4/2022 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9º C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples ERH2657 (RHMW02) (580-111029-1) and ERH2658 (RHMW03) (580-111029-2) were analyzed for semivolatile organic compounds (GC-MS) in accordance with 8270E. The samples were prepared on 03/09/2022 and analyzed on 03/10/2022.

The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-383442 was outside criteria for the following analyte: N-Nitrosodi-n-propylamine. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-383282 and analytical batch 580-383442 recovered outside control limits for the following analytes: Phenol, Pentachlorophenol, 2,4-Dimethylphenol, Hexachloroethane, 1,2-Dichlorobenzene, Nitrobenzene, 2-Chloronaphthalene, Bis(2-chloroethyl)ether, 2,4,6-Trichlorophenol, 1,2,4-Trichlorobenzene, Isophorone, 1,3-Dichlorobenzene, N-Nitrosodi-n-propylamine, 2-Methylphenol, 2,4-Dichlorophenol, Hexachlorocyclopentadiene, 2-Chlorophenol, Bis(2-chloroethoxy)methane, Bis(2-chloroisopropyl)ether, 1,4-Dichlorobenzene, Hexachlorobutadiene, 3 & 4 Methylphenol and 2-Nitrophenol.

The following analytes have been identified in the reference method and/or via historical data to be poor and/or erratic performers and have been flagged in the associated samples: 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 580-111029-1 (Continued)

Laboratory: Eurofins Seattle (Continued)

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS SIM)

Samples ERH2657 (RHMW02) (580-111029-1) and ERH2658 (RHMW03) (580-111029-2) were analyzed for semivolatile organic compounds (GC-MS SIM) in accordance with 8270E SIM. The samples were prepared on 03/09/2022 and analyzed on 03/10/2022.

The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 580-383282 and analytical batch 580-383445 recovered outside control limits for the following analytes: Naphthalene, Acenaphthene, 2-Methylnaphthalene, 1-Methylnaphthalene and Acenaphthylene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: AECOM
Job ID: 580-111029-1
Project/Site: Red Hill GW CV18F0126

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Client: AECOM
Project/Site: Red Hill GW CV18F0126

Job ID: 580-111029-1

Client Sample ID: ERH2657 (RHMW02)

Date Collected: 03/02/22 13:55
Date Received: 03/04/22 09:35

Lab Sample ID: 580-111029-1

Matrix: Water

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**9.6**	**Q**	0.10	0.019	ug/L		03/09/22 09:28	03/10/22 12:24	1
2-Methylnaphthalene	**5.0**	**Q**	0.20	0.040	ug/L		03/09/22 09:28	03/10/22 12:24	1
Acenaphthene	**0.40**	**M Q**	0.10	0.014	ug/L		03/09/22 09:28	03/10/22 12:24	1
Acenaphthylene	0.033	U M Q	0.051	0.0092	ug/L		03/09/22 09:28	03/10/22 12:24	1
Anthracene	0.082	U	0.10	0.023	ug/L		03/09/22 09:28	03/10/22 12:24	1
Benzo[a]anthracene	0.033	U M	0.051	0.014	ug/L		03/09/22 09:28	03/10/22 12:24	1
Benzo[a]pyrene	0.033	U	0.10	0.011	ug/L		03/09/22 09:28	03/10/22 12:24	1
Benzo[b]fluoranthene	0.033	U	0.051	0.011	ug/L		03/09/22 09:28	03/10/22 12:24	1
Benzo[g,h,i]perylene	0.033	U	0.051	0.012	ug/L		03/09/22 09:28	03/10/22 12:24	1
Benzo[k]fluoranthene	0.033	U	0.051	0.012	ug/L		03/09/22 09:28	03/10/22 12:24	1
Chrysene	0.033	U M	0.10	0.016	ug/L		03/09/22 09:28	03/10/22 12:24	1
Dibenz(a,h)anthracene	0.033	U	0.10	0.027	ug/L		03/09/22 09:28	03/10/22 12:24	1
Fluoranthene	0.033	U	0.20	0.018	ug/L		03/09/22 09:28	03/10/22 12:24	1
Fluorene	**0.18**	**M**	0.10	0.017	ug/L		03/09/22 09:28	03/10/22 12:24	1
Indeno[1,2,3-cd]pyrene	0.033	U	0.051	0.014	ug/L		03/09/22 09:28	03/10/22 12:24	1
Naphthalene	**12**	**Q**	0.10	0.032	ug/L		03/09/22 09:28	03/10/22 12:24	1
Phenanthrene	0.082	U	0.10	0.032	ug/L		03/09/22 09:28	03/10/22 12:24	1
Pyrene	0.082	U	0.10	0.034	ug/L		03/09/22 09:28	03/10/22 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*59*	*M*	*40 - 140*	*03/09/22 09:28*	*03/10/22 12:24*	*1*
Fluoranthene-d10 (Surr)	*78*		*40 - 140*	*03/09/22 09:28*	*03/10/22 12:24*	*1*
Terphenyl-d14	*84*		*58 - 132*	*03/09/22 09:28*	*03/10/22 12:24*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.31	U Q	0.41	0.092	ug/L		03/09/22 09:28	03/10/22 13:48	1
1,2-Dichlorobenzene	0.15	U Q	0.41	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
1,3-Dichlorobenzene	0.092	U Q	0.41	0.041	ug/L		03/09/22 09:28	03/10/22 13:48	1
1,4-Dichlorobenzene	0.092	U Q	0.41	0.041	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4,5-Trichlorophenol	0.31	U M	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4,6-Trichlorophenol	0.31	U Q	0.61	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4-Dichlorophenol	0.51	U Q	1.0	0.20	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4-Dimethylphenol	0.51	U M Q	4.1	0.16	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4-Dinitrophenol	3.3	U Q	5.1	1.6	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,4-Dinitrotoluene	0.31	U M	1.0	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
2,6-Dinitrotoluene	0.31	U M	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
2-Chloronaphthalene	0.15	U M Q	1.0	0.072	ug/L		03/09/22 09:28	03/10/22 13:48	1
2-Chlorophenol	0.15	U M Q	1.0	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
2-Nitrophenol	0.15	U Q	1.0	0.072	ug/L		03/09/22 09:28	03/10/22 13:48	1
3,3'-Dichlorobenzidine	0.61	U M	1.0	0.27	ug/L		03/09/22 09:28	03/10/22 13:48	1
4,6-Dinitro-2-methylphenol	1.2	U Q	2.0	0.56	ug/L		03/09/22 09:28	03/10/22 13:48	1
4-Bromophenyl phenyl ether	0.15	U M	0.61	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
4-Chloro-3-methylphenol	0.31	U M	0.61	0.13	ug/L		03/09/22 09:28	03/10/22 13:48	1
4-Chlorophenyl phenyl ether	**0.46**	**J**	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
4-Nitrophenol	6.1	U	10	1.7	ug/L		03/09/22 09:28	03/10/22 13:48	1
Azobenzene	0.15	U M	2.0	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
Bis(2-chloroethoxy)methane	0.15	U M Q	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
Bis(2-chloroethyl)ether	0.092	U M Q	0.10	0.031	ug/L		03/09/22 09:28	03/10/22 13:48	1
Bis(2-ethylhexyl) phthalate	1.6	U	3.1	0.76	ug/L		03/09/22 09:28	03/10/22 13:48	1

Client: AECOM
Project/Site: Red Hill GW CV18F0126

Job ID: 580-111029-1

Client Sample ID: ERH2657 (RHMW02)
Date Collected: 03/02/22 13:55
Date Received: 03/04/22 09:35

Lab Sample ID: 580-111029-1
Matrix: Water

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
bis (2-chloroisopropyl) ether	0.15	U M Q	0.26	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
Butyl benzyl phthalate	0.61	U	4.1	0.28	ug/L		03/09/22 09:28	03/10/22 13:48	1
Diethyl phthalate	0.31	U	1.0	0.15	ug/L		03/09/22 09:28	03/10/22 13:48	1
Dimethyl phthalate	0.15	U	0.61	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
Di-n-butyl phthalate	0.51	U	3.1	0.19	ug/L		03/09/22 09:28	03/10/22 13:48	1
Di-n-octyl phthalate	0.31	U M	1.0	0.13	ug/L		03/09/22 09:28	03/10/22 13:48	1
Hexachlorobenzene	0.092	U	0.61	0.041	ug/L		03/09/22 09:28	03/10/22 13:48	1
Hexachlorobutadiene	0.15	U Q	1.0	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
Hexachlorocyclopentadiene	0.31	U Q	1.0	0.14	ug/L		03/09/22 09:28	03/10/22 13:48	1
Hexachloroethane	0.15	U Q	1.0	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
Isophorone	0.31	U M Q	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
m+p-Cresol	0.31	U M Q	0.61	0.10	ug/L		03/09/22 09:28	03/10/22 13:48	1
Nitrobenzene	0.092	U M Q	1.0	0.041	ug/L		03/09/22 09:28	03/10/22 13:48	1
N-Nitrosodimethylamine	0.61	U	2.0	0.27	ug/L		03/09/22 09:28	03/10/22 13:48	1
N-Nitrosodi-n-propylamine	0.092	U M Q	0.41	0.061	ug/L		03/09/22 09:28	03/10/22 13:48	1
N-Nitrosodiphenylamine	0.15	U M	1.0	0.072	ug/L		03/09/22 09:28	03/10/22 13:48	1
o-Cresol	0.15	U M Q	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 13:48	1
Pentachlorophenol	1.0	U M Q	10	0.52	ug/L		03/09/22 09:28	03/10/22 13:48	1
Phenol	0.61	U M Q	1.0	0.37	ug/L		03/09/22 09:28	03/10/22 13:48	1
Pyrene	0.092	U M	1.0	0.041	ug/L		03/09/22 09:28	03/10/22 13:48	1
Pyridine	3.3	U	10	1.1	ug/L		03/09/22 09:28	03/10/22 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*93*		*43 - 140*	*03/09/22 09:28*	*03/10/22 13:48*	*1*
2-Fluorobiphenyl	*57*		*44 - 119*	*03/09/22 09:28*	*03/10/22 13:48*	*1*
2-Fluorophenol (Surr)	*44*		*19 - 119*	*03/09/22 09:28*	*03/10/22 13:48*	*1*
Nitrobenzene-d5 (Surr)	*61*		*44 - 120*	*03/09/22 09:28*	*03/10/22 13:48*	*1*
Phenol-d5 (Surr)	*30*		*10 - 120*	*03/09/22 09:28*	*03/10/22 13:48*	*1*
Terphenyl-d14	*97*		*50 - 134*	*03/09/22 09:28*	*03/10/22 13:48*	*1*

Client: AECOM
Project/Site: Red Hill GW CV18F0126

Job ID: 580-111029-1

Client Sample ID: ERH2658 (RHMW03)

Date Collected: 03/02/22 15:10
Date Received: 03/04/22 09:35

Lab Sample ID: 580-111029-2

Matrix: Water

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.033	U M Q	0.10	0.019	ug/L		03/09/22 09:28	03/10/22 12:43	1
2-Methylnaphthalene	0.082	U M Q	0.20	0.040	ug/L		03/09/22 09:28	03/10/22 12:43	1
Acenaphthene	0.033	U M Q	0.10	0.014	ug/L		03/09/22 09:28	03/10/22 12:43	1
Acenaphthylene	0.033	U Q	0.051	0.0092	ug/L		03/09/22 09:28	03/10/22 12:43	1
Anthracene	0.082	U M	0.10	0.022	ug/L		03/09/22 09:28	03/10/22 12:43	1
Benzo[a]anthracene	0.033	U M	0.051	0.014	ug/L		03/09/22 09:28	03/10/22 12:43	1
Benzo[a]pyrene	0.033	U	0.10	0.011	ug/L		03/09/22 09:28	03/10/22 12:43	1
Benzo[b]fluoranthene	0.033	U	0.051	0.011	ug/L		03/09/22 09:28	03/10/22 12:43	1
Benzo[g,h,i]perylene	0.033	U	0.051	0.012	ug/L		03/09/22 09:28	03/10/22 12:43	1
Benzo[k]fluoranthene	0.033	U	0.051	0.012	ug/L		03/09/22 09:28	03/10/22 12:43	1
Chrysene	0.033	U	0.10	0.016	ug/L		03/09/22 09:28	03/10/22 12:43	1
Dibenz(a,h)anthracene	0.033	U	0.10	0.027	ug/L		03/09/22 09:28	03/10/22 12:43	1
Fluoranthene	0.033	U	0.20	0.018	ug/L		03/09/22 09:28	03/10/22 12:43	1
Fluorene	0.033	U	0.10	0.017	ug/L		03/09/22 09:28	03/10/22 12:43	1
Indeno[1,2,3-cd]pyrene	0.033	U	0.051	0.014	ug/L		03/09/22 09:28	03/10/22 12:43	1
Naphthalene	0.082	U M Q	0.10	0.032	ug/L		03/09/22 09:28	03/10/22 12:43	1
Phenanthrene	0.082	U M	0.10	0.032	ug/L		03/09/22 09:28	03/10/22 12:43	1
Pyrene	0.082	U M	0.10	0.034	ug/L		03/09/22 09:28	03/10/22 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*57*		*40 - 140*	*03/09/22 09:28*	*03/10/22 12:43*	*1*
Fluoranthene-d10 (Surr)	*84*		*40 - 140*	*03/09/22 09:28*	*03/10/22 12:43*	*1*
Terphenyl-d14	*94*		*58 - 132*	*03/09/22 09:28*	*03/10/22 12:43*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.31	U Q	0.41	0.092	ug/L		03/09/22 09:28	03/10/22 14:11	1
1,2-Dichlorobenzene	0.15	U Q	0.41	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
1,3-Dichlorobenzene	0.092	U Q	0.41	0.041	ug/L		03/09/22 09:28	03/10/22 14:11	1
1,4-Dichlorobenzene	0.092	U Q	0.41	0.041	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4,5-Trichlorophenol	0.31	U	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4,6-Trichlorophenol	0.31	U Q	0.61	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4-Dichlorophenol	0.51	U Q	1.0	0.20	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4-Dimethylphenol	0.51	U M Q	4.1	0.16	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4-Dinitrophenol	3.3	U Q	5.1	1.6	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,4-Dinitrotoluene	0.31	U M	1.0	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
2,6-Dinitrotoluene	0.31	U M	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
2-Chloronaphthalene	0.15	U Q	1.0	0.071	ug/L		03/09/22 09:28	03/10/22 14:11	1
2-Chlorophenol	0.15	U Q	1.0	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
2-Nitrophenol	0.15	U Q	1.0	0.071	ug/L		03/09/22 09:28	03/10/22 14:11	1
3,3'-Dichlorobenzidine	0.61	U M	1.0	0.27	ug/L		03/09/22 09:28	03/10/22 14:11	1
4,6-Dinitro-2-methylphenol	1.2	U Q	2.0	0.56	ug/L		03/09/22 09:28	03/10/22 14:11	1
4-Bromophenyl phenyl ether	0.15	U	0.61	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
4-Chloro-3-methylphenol	0.31	U M	0.61	0.13	ug/L		03/09/22 09:28	03/10/22 14:11	1
4-Chlorophenyl phenyl ether	0.15	U	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
4-Nitrophenol	6.1	U	10	1.7	ug/L		03/09/22 09:28	03/10/22 14:11	1
Azobenzene	0.15	U M	2.0	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
Bis(2-chloroethoxy)methane	0.15	U M Q	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
Bis(2-chloroethyl)ether	0.092	U M Q	0.10	0.031	ug/L		03/09/22 09:28	03/10/22 14:11	1
Bis(2-ethylhexyl) phthalate	1.6	U	3.1	0.75	ug/L		03/09/22 09:28	03/10/22 14:11	1

Client Sample ID: ERH2658 (RHMW03)
Lab Sample ID: 580-111029-2
Date Collected: 03/02/22 15:10
Matrix: Water
Date Received: 03/04/22 09:35

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
bis (2-chloroisopropyl) ether	0.15	U M Q	0.25	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
Butyl benzyl phthalate	0.61	U M	4.1	0.28	ug/L		03/09/22 09:28	03/10/22 14:11	1
Diethyl phthalate	0.31	U	1.0	0.15	ug/L		03/09/22 09:28	03/10/22 14:11	1
Dimethyl phthalate	0.15	U	0.61	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
Di-n-butyl phthalate	0.51	U	3.1	0.19	ug/L		03/09/22 09:28	03/10/22 14:11	1
Di-n-octyl phthalate	0.31	U M	1.0	0.13	ug/L		03/09/22 09:28	03/10/22 14:11	1
Hexachlorobenzene	0.092	U	0.61	0.041	ug/L		03/09/22 09:28	03/10/22 14:11	1
Hexachlorobutadiene	0.15	U Q	1.0	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
Hexachlorocyclopentadiene	0.31	U Q	1.0	0.14	ug/L		03/09/22 09:28	03/10/22 14:11	1
Hexachloroethane	0.15	U Q	1.0	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
Isophorone	0.31	U M Q	0.41	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
m+p-Cresol	0.31	U M Q	0.61	0.10	ug/L		03/09/22 09:28	03/10/22 14:11	1
Nitrobenzene	0.092	U M Q	1.0	0.041	ug/L		03/09/22 09:28	03/10/22 14:11	1
N-Nitrosodimethylamine	0.61	U	2.0	0.27	ug/L		03/09/22 09:28	03/10/22 14:11	1
N-Nitrosodi-n-propylamine	0.092	U Q	0.41	0.061	ug/L		03/09/22 09:28	03/10/22 14:11	1
N-Nitrosodiphenylamine	0.15	U M	1.0	0.071	ug/L		03/09/22 09:28	03/10/22 14:11	1
o-Cresol	0.15	U M Q	0.61	0.051	ug/L		03/09/22 09:28	03/10/22 14:11	1
Pentachlorophenol	1.0	U Q	10	0.52	ug/L		03/09/22 09:28	03/10/22 14:11	1
Phenol	0.61	U M Q	1.0	0.37	ug/L		03/09/22 09:28	03/10/22 14:11	1
Pyrene	0.092	U	1.0	0.041	ug/L		03/09/22 09:28	03/10/22 14:11	1
Pyridine	3.3	U	10	1.1	ug/L		03/09/22 09:28	03/10/22 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*43 - 140*	*03/09/22 09:28*	*03/10/22 14:11*	*1*
2-Fluorobiphenyl	*70*		*44 - 119*	*03/09/22 09:28*	*03/10/22 14:11*	*1*
2-Fluorophenol (Surr)	*46*		*19 - 119*	*03/09/22 09:28*	*03/10/22 14:11*	*1*
Nitrobenzene-d5 (Surr)	*69*		*44 - 120*	*03/09/22 09:28*	*03/10/22 14:11*	*1*
Phenol-d5 (Surr)	*31*		*10 - 120*	*03/09/22 09:28*	*03/10/22 14:11*	*1*
Terphenyl-d14	*102*		*50 - 134*	*03/09/22 09:28*	*03/10/22 14:11*	*1*

Client: AECOM
Project/Site: Red Hill GW CV18F0126

Job ID: 580-111029-1

Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-383282/1-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383282

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.30	U	0.40	0.090	ug/L		03/09/22 09:28	03/10/22 11:53	1
1,2-Dichlorobenzene	0.15	U	0.40	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
1,3-Dichlorobenzene	0.090	U	0.40	0.040	ug/L		03/09/22 09:28	03/10/22 11:53	1
1,4-Dichlorobenzene	0.090	U	0.40	0.040	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4,5-Trichlorophenol	0.30	U	0.40	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4,6-Trichlorophenol	0.30	U	0.60	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4-Dichlorophenol	0.50	U	1.0	0.20	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4-Dimethylphenol	0.50	U	4.0	0.16	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4-Dinitrophenol	3.2	U	5.0	1.6	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,4-Dinitrotoluene	0.30	U	1.0	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
2,6-Dinitrotoluene	0.30	U	0.40	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
2-Chloronaphthalene	0.15	U	1.0	0.070	ug/L		03/09/22 09:28	03/10/22 11:53	1
2-Chlorophenol	0.15	U	1.0	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
2-Nitrophenol	0.15	U	1.0	0.070	ug/L		03/09/22 09:28	03/10/22 11:53	1
3,3'-Dichlorobenzidine	0.60	U	1.0	0.26	ug/L		03/09/22 09:28	03/10/22 11:53	1
4,6-Dinitro-2-methylphenol	1.2	U	2.0	0.55	ug/L		03/09/22 09:28	03/10/22 11:53	1
4-Bromophenyl phenyl ether	0.15	U	0.60	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
4-Chloro-3-methylphenol	0.30	U	0.60	0.13	ug/L		03/09/22 09:28	03/10/22 11:53	1
4-Chlorophenyl phenyl ether	0.15	U	0.60	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
4-Nitrophenol	6.0	U	10	1.7	ug/L		03/09/22 09:28	03/10/22 11:53	1
Azobenzene	0.15	U M	2.0	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
Bis(2-chloroethoxy)methane	0.15	U	0.60	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
Bis(2-chloroethyl)ether	0.090	U	0.10	0.030	ug/L		03/09/22 09:28	03/10/22 11:53	1
Bis(2-ethylhexyl) phthalate	1.6	U	3.0	0.74	ug/L		03/09/22 09:28	03/10/22 11:53	1
bis (2-chloroisopropyl) ether	0.15	U	0.25	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
Butyl benzyl phthalate	0.60	U	4.0	0.27	ug/L		03/09/22 09:28	03/10/22 11:53	1
Diethyl phthalate	0.30	U	1.0	0.15	ug/L		03/09/22 09:28	03/10/22 11:53	1
Dimethyl phthalate	0.15	U	0.60	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
Di-n-butyl phthalate	0.50	U	3.0	0.19	ug/L		03/09/22 09:28	03/10/22 11:53	1
Di-n-octyl phthalate	0.30	U M	1.0	0.13	ug/L		03/09/22 09:28	03/10/22 11:53	1
Hexachlorobenzene	0.090	U	0.60	0.040	ug/L		03/09/22 09:28	03/10/22 11:53	1
Hexachlorobutadiene	0.15	U	1.0	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
Hexachlorocyclopentadiene	0.30	U	1.0	0.14	ug/L		03/09/22 09:28	03/10/22 11:53	1
Hexachloroethane	0.15	U	1.0	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
Isophorone	0.30	U	0.40	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
m+p-Cresol	0.30	U	0.60	0.10	ug/L		03/09/22 09:28	03/10/22 11:53	1
Nitrobenzene	0.090	U	1.0	0.040	ug/L		03/09/22 09:28	03/10/22 11:53	1
N-Nitrosodimethylamine	0.60	U	2.0	0.26	ug/L		03/09/22 09:28	03/10/22 11:53	1
N-Nitrosodi-n-propylamine	0.090	U	0.40	0.060	ug/L		03/09/22 09:28	03/10/22 11:53	1
N-Nitrosodiphenylamine	0.15	U	1.0	0.070	ug/L		03/09/22 09:28	03/10/22 11:53	1
o-Cresol	0.15	U	0.60	0.050	ug/L		03/09/22 09:28	03/10/22 11:53	1
Pentachlorophenol	1.0	U	10	0.51	ug/L		03/09/22 09:28	03/10/22 11:53	1
Phenol	0.60	U M	1.0	0.36	ug/L		03/09/22 09:28	03/10/22 11:53	1
Pyrene	0.090	U	1.0	0.040	ug/L		03/09/22 09:28	03/10/22 11:53	1
Pyridine	3.2	U	10	1.1	ug/L		03/09/22 09:28	03/10/22 11:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*43 - 140*	*03/09/22 09:28*	*03/10/22 11:53*	*1*

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-383282/1-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383282

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		44 - 119	03/09/22 09:28	03/10/22 11:53	1
2-Fluorophenol (Surr)	51	M	19 - 119	03/09/22 09:28	03/10/22 11:53	1
Nitrobenzene-d5 (Surr)	79		44 - 120	03/09/22 09:28	03/10/22 11:53	1
Phenol-d5 (Surr)	31	M	10 - 120	03/09/22 09:28	03/10/22 11:53	1
Terphenyl-d14	105		50 - 134	03/09/22 09:28	03/10/22 11:53	1

Lab Sample ID: LCS 580-383282/2-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.57		ug/L		79	29 - 116
1,2-Dichlorobenzene	2.00	1.63		ug/L		81	32 - 111
1,3-Dichlorobenzene	2.00	1.59		ug/L		79	28 - 110
1,4-Dichlorobenzene	2.00	1.58		ug/L		79	29 - 112
2,4,5-Trichlorophenol	2.00	1.52		ug/L		76	53 - 123
2,4,6-Trichlorophenol	2.00	1.48		ug/L		74	50 - 125
2,4-Dichlorophenol	2.00	1.62		ug/L		81	47 - 121
2,4-Dimethylphenol	2.00	1.53	J	ug/L		77	31 - 124
2,4-Dinitrophenol	4.00	2.18	J M	ug/L		55	23 - 143
2,4-Dinitrotoluene	2.00	1.69		ug/L		84	57 - 128
2,6-Dinitrotoluene	2.00	1.63		ug/L		81	57 - 124
2-Chloronaphthalene	2.00	1.59		ug/L		79	40 - 116
2-Chlorophenol	2.00	1.67		ug/L		83	38 - 117
2-Nitrophenol	2.00	1.71		ug/L		86	47 - 123
3,3'-Dichlorobenzidine	4.00	4.19		ug/L		105	27 - 129
4,6-Dinitro-2-methylphenol	4.00	3.28		ug/L		82	44 - 137
4-Bromophenyl phenyl ether	2.00	1.68		ug/L		84	55 - 124
4-Chloro-3-methylphenol	2.00	1.58		ug/L		79	52 - 119
4-Chlorophenyl phenyl ether	2.00	1.54		ug/L		77	53 - 121
4-Nitrophenol	4.00	6.0	U	ug/L		38	35 - 145
Azobenzene	2.00	1.59	J	ug/L		80	61 - 116
Bis(2-chloroethoxy)methane	2.00	1.65		ug/L		83	48 - 120
Bis(2-chloroethyl)ether	2.00	1.63		ug/L		82	43 - 118
Bis(2-ethylhexyl) phthalate	2.00	2.18	J	ug/L		109	55 - 135
bis (2-chloroisopropyl) ether	2.00	1.60		ug/L		80	37 - 130
Butyl benzyl phthalate	2.00	2.06	J	ug/L		103	53 - 134
Diethyl phthalate	2.00	1.71		ug/L		86	56 - 125
Dimethyl phthalate	2.00	1.71		ug/L		86	45 - 127
Di-n-butyl phthalate	2.00	1.98	J	ug/L		99	59 - 127
Di-n-octyl phthalate	2.00	1.90		ug/L		95	51 - 140
Hexachlorobenzene	2.00	1.63		ug/L		81	53 - 125
Hexachlorobutadiene	2.00	1.55		ug/L		77	22 - 124
Hexachlorocyclopentadiene	2.00	1.44		ug/L		72	20 - 125
Hexachloroethane	2.00	1.49		ug/L		74	21 - 115
Isophorone	2.00	1.60		ug/L		80	42 - 124
m+p-Cresol	2.00	1.38		ug/L		69	29 - 110
Nitrobenzene	2.00	1.61		ug/L		80	45 - 121

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-383282/2-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383282

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
N-Nitrosodimethylamine			2.00	1.22	J	ug/L		61	45 - 125		
N-Nitrosodi-n-propylamine			2.00	1.63		ug/L		82	49 - 119		
N-Nitrosodiphenylamine			2.00	1.71		ug/L		86	51 - 123		
o-Cresol			2.00	1.42		ug/L		71	30 - 117		
Pentachlorophenol			4.00	2.20	J	ug/L		55	35 - 138		
Phenol			2.00	0.847	J M	ug/L		42	13 - 120		
Pyrene			2.00	1.91		ug/L		95	57 - 126		
Pyridine			4.00	1.89	J	ug/L		47	20 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*77*		*43 - 140*
2-Fluorobiphenyl	*65*		*44 - 119*
2-Fluorophenol (Surr)	*53*	*M*	*19 - 119*
Nitrobenzene-d5 (Surr)	*75*		*44 - 120*
Phenol-d5 (Surr)	*35*		*10 - 120*
Terphenyl-d14	*91*		*50 - 134*

Lab Sample ID: LCSD 580-383282/3-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			2.00	1.20	Q	ug/L		60	29 - 116	26	20
1,2-Dichlorobenzene			2.00	1.20	Q	ug/L		60	32 - 111	30	20
1,3-Dichlorobenzene			2.00	1.15	Q	ug/L		58	28 - 110	32	20
1,4-Dichlorobenzene			2.00	1.20	Q	ug/L		60	29 - 112	27	20
2,4,5-Trichlorophenol			2.00	1.40		ug/L		70	53 - 123	8	20
2,4,6-Trichlorophenol			2.00	1.19	Q	ug/L		60	50 - 125	21	20
2,4-Dichlorophenol			2.00	1.20	Q	ug/L		60	47 - 121	30	20
2,4-Dimethylphenol			2.00	1.15	J Q	ug/L		58	31 - 124	28	20
2,4-Dinitrophenol			4.00	2.43	J M	ug/L		61	23 - 143	10	20
2,4-Dinitrotoluene			2.00	1.57		ug/L		78	57 - 128	8	20
2,6-Dinitrotoluene			2.00	1.40		ug/L		70	57 - 124	15	20
2-Chloronaphthalene			2.00	1.25	Q	ug/L		62	40 - 116	24	20
2-Chlorophenol			2.00	1.23	Q	ug/L		62	38 - 117	30	20
2-Nitrophenol			2.00	1.29	Q	ug/L		64	47 - 123	28	20
3,3'-Dichlorobenzidine			4.00	3.93		ug/L		98	27 - 129	6	20
4,6-Dinitro-2-methylphenol			4.00	3.10		ug/L		78	44 - 137	5	20
4-Bromophenyl phenyl ether			2.00	1.42		ug/L		71	55 - 124	17	20
4-Chloro-3-methylphenol			2.00	1.37		ug/L		68	52 - 119	14	20
4-Chlorophenyl phenyl ether			2.00	1.29		ug/L		64	53 - 121	17	20
4-Nitrophenol			4.00	6.0	U	ug/L		42	35 - 145	10	20
Azobenzene			2.00	1.34	J	ug/L		67	61 - 116	17	20
Bis(2-chloroethoxy)methane			2.00	1.20	Q	ug/L		60	48 - 120	31	20
Bis(2-chloroethyl)ether			2.00	1.20	Q	ug/L		60	43 - 118	30	20
Bis(2-ethylhexyl) phthalate			2.00	2.20	J	ug/L		110	55 - 135	1	20
bis (2-chloroisopropyl) ether			2.00	1.14	Q	ug/L		57	37 - 130	34	20
Butyl benzyl phthalate			2.00	2.02	J	ug/L		101	53 - 134	2	20

Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-383282/3-A
Matrix: Water
Analysis Batch: 383442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diethyl phthalate			2.00	1.67		ug/L		83	56 - 125	3	20
Dimethyl phthalate			2.00	1.53		ug/L		76	45 - 127	11	20
Di-n-butyl phthalate			2.00	1.91	J	ug/L		96	59 - 127	3	20
Di-n-octyl phthalate			2.00	1.92		ug/L		96	51 - 140	1	20
Hexachlorobenzene			2.00	1.42		ug/L		71	53 - 125	14	20
Hexachlorobutadiene			2.00	1.16	Q	ug/L		58	22 - 124	29	20
Hexachlorocyclopentadiene			2.00	1.09	Q	ug/L		55	20 - 125	27	20
Hexachloroethane			2.00	1.09	Q	ug/L		54	21 - 115	31	20
Isophorone			2.00	1.23	Q	ug/L		61	42 - 124	27	20
m+p-Cresol			2.00	1.08	M Q	ug/L		54	29 - 110	24	20
Nitrobenzene			2.00	1.25	Q	ug/L		62	45 - 121	25	20
N-Nitrosodimethylamine			2.00	0.998	J	ug/L		50	45 - 125	20	20
N-Nitrosodi-n-propylamine			2.00	1.26	Q	ug/L		63	49 - 119	26	20
N-Nitrosodiphenylamine			2.00	1.59		ug/L		80	51 - 123	7	20
o-Cresol			2.00	1.08	Q	ug/L		54	30 - 117	27	20
Pentachlorophenol			4.00	2.76	J Q	ug/L		69	35 - 138	23	20
Phenol			2.00	0.662	J Q	ug/L		33	13 - 120	25	20
Pyrene			2.00	1.81		ug/L		90	57 - 126	5	20
Pyridine			4.00	1.65	J	ug/L		41	20 - 125	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*70*		*43 - 140*
2-Fluorobiphenyl	*55*		*44 - 119*
2-Fluorophenol (Surr)	*44*	*M*	*19 - 119*
Nitrobenzene-d5 (Surr)	*59*		*44 - 120*
Phenol-d5 (Surr)	*27*		*10 - 120*
Terphenyl-d14	*91*		*50 - 134*

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-383282/1-A
Matrix: Water
Analysis Batch: 383445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383282

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.032	U	0.10	0.019	ug/L		03/09/22 09:28	03/10/22 11:27	1
2-Methylnaphthalene	0.080	U	0.20	0.039	ug/L		03/09/22 09:28	03/10/22 11:27	1
Acenaphthene	0.032	U	0.10	0.014	ug/L		03/09/22 09:28	03/10/22 11:27	1
Acenaphthylene	0.032	U	0.050	0.0090	ug/L		03/09/22 09:28	03/10/22 11:27	1
Anthracene	0.080	U	0.10	0.022	ug/L		03/09/22 09:28	03/10/22 11:27	1
Benzo[a]anthracene	0.032	U	0.050	0.014	ug/L		03/09/22 09:28	03/10/22 11:27	1
Benzo[a]pyrene	0.032	U	0.10	0.011	ug/L		03/09/22 09:28	03/10/22 11:27	1
Benzo[b]fluoranthene	0.032	U	0.050	0.011	ug/L		03/09/22 09:28	03/10/22 11:27	1
Benzo[g,h,i]perylene	0.032	U	0.050	0.012	ug/L		03/09/22 09:28	03/10/22 11:27	1
Benzo[k]fluoranthene	0.032	U	0.050	0.012	ug/L		03/09/22 09:28	03/10/22 11:27	1
Chrysene	0.032	U	0.10	0.016	ug/L		03/09/22 09:28	03/10/22 11:27	1
Dibenz(a,h)anthracene	0.032	U	0.10	0.026	ug/L		03/09/22 09:28	03/10/22 11:27	1
Fluoranthene	0.032	U	0.20	0.018	ug/L		03/09/22 09:28	03/10/22 11:27	1
Fluorene	0.032	U	0.10	0.017	ug/L		03/09/22 09:28	03/10/22 11:27	1

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-383282/1-A
Matrix: Water
Analysis Batch: 383445

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383282

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	0.032	U	0.050	0.014	ug/L		03/09/22 09:28	03/10/22 11:27	1
Naphthalene	0.080	U M	0.10	0.031	ug/L		03/09/22 09:28	03/10/22 11:27	1
Phenanthrene	0.080	U M	0.10	0.031	ug/L		03/09/22 09:28	03/10/22 11:27	1
Pyrene	0.080	U M	0.10	0.033	ug/L		03/09/22 09:28	03/10/22 11:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*57*		*40 - 140*	*03/09/22 09:28*	*03/10/22 11:27*	*1*
Fluoranthene-d10 (Surr)	*96*		*40 - 140*	*03/09/22 09:28*	*03/10/22 11:27*	*1*
Terphenyl-d14	*105*		*58 - 132*	*03/09/22 09:28*	*03/10/22 11:27*	*1*

Lab Sample ID: LCS 580-383282/2-A
Matrix: Water
Analysis Batch: 383445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383282

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	2.00	1.37		ug/L		69	41 - 115
2-Methylnaphthalene	2.00	1.33		ug/L		66	39 - 114
Acenaphthene	2.00	1.47		ug/L		74	48 - 114
Acenaphthylene	2.00	1.37		ug/L		69	35 - 121
Anthracene	2.00	1.61		ug/L		81	53 - 119
Benzo[a]anthracene	2.00	1.64		ug/L		82	59 - 120
Benzo[a]pyrene	2.00	1.47		ug/L		74	53 - 120
Benzo[b]fluoranthene	2.00	1.53		ug/L		76	53 - 126
Benzo[g,h,i]perylene	2.00	1.75		ug/L		88	44 - 128
Benzo[k]fluoranthene	2.00	1.73		ug/L		86	54 - 125
Chrysene	2.00	1.67		ug/L		83	57 - 120
Dibenz(a,h)anthracene	2.00	1.77	M	ug/L		88	44 - 131
Fluoranthene	2.00	1.70		ug/L		85	58 - 120
Fluorene	2.00	1.58		ug/L		79	50 - 118
Indeno[1,2,3-cd]pyrene	2.00	1.61	M	ug/L		81	48 - 130
Naphthalene	2.00	1.41		ug/L		70	43 - 114
Phenanthrene	2.00	1.49		ug/L		75	53 - 115
Pyrene	2.00	1.69		ug/L		85	53 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-methylnaphthalene-d10	*58*		*40 - 140*
Fluoranthene-d10 (Surr)	*81*		*40 - 140*
Terphenyl-d14	*91*		*58 - 132*

Lab Sample ID: LCSD 580-383282/3-A
Matrix: Water
Analysis Batch: 383445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383282

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	2.00	1.01	Q	ug/L		50	41 - 115	31	20
2-Methylnaphthalene	2.00	0.985	Q	ug/L		49	39 - 114	29	20
Acenaphthene	2.00	1.14	Q	ug/L		57	48 - 114	26	20
Acenaphthylene	2.00	1.07	Q	ug/L		53	35 - 121	25	20

Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-383282/3-A
Matrix: Water
Analysis Batch: 383445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene			2.00	1.50		ug/L		75	53 - 119	7	20
Benzo[a]anthracene			2.00	1.53		ug/L		76	59 - 120	7	20
Benzo[a]pyrene			2.00	1.45		ug/L		72	53 - 120	2	20
Benzo[b]fluoranthene			2.00	1.45		ug/L		72	53 - 126	5	20
Benzo[g,h,i]perylene			2.00	1.69		ug/L		84	44 - 128	4	20
Benzo[k]fluoranthene			2.00	1.69		ug/L		85	54 - 125	2	20
Chrysene			2.00	1.62		ug/L		81	57 - 120	3	20
Dibenz(a,h)anthracene			2.00	1.70	M	ug/L		85	44 - 131	4	20
Fluoranthene			2.00	1.62		ug/L		81	58 - 120	5	20
Fluorene			2.00	1.31		ug/L		65	50 - 118	19	20
Indeno[1,2,3-cd]pyrene			2.00	1.53	M	ug/L		76	48 - 130	5	20
Naphthalene			2.00	1.07	Q	ug/L		54	43 - 114	27	20
Phenanthrene			2.00	1.38		ug/L		69	53 - 115	7	20
Pyrene			2.00	1.62		ug/L		81	53 - 121	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-methylnaphthalene-d10	*46*		*40 - 140*
Fluoranthene-d10 (Surr)	*80*		*40 - 140*
Terphenyl-d14	*89*		*58 - 132*

Lab Chronicle

Client: AECOM
Job ID: 580-111029-1
Project/Site: Red Hill GW CV18F0126

Client Sample ID: ERH2657 (RHMW02)
Lab Sample ID: 580-111029-1
Date Collected: 03/02/22 13:55
Matrix: Water
Date Received: 03/04/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			383282	03/09/22 09:28	JJY	FGS SEA
Total/NA	Analysis	8270E		1	383442	03/10/22 13:48	W1T	FGS SEA
Total/NA	Prep	3510C			383282	03/09/22 09:28	JJY	FGS SEA
Total/NA	Analysis	8270E SIM		1	383445	03/10/22 12:24	W1T	FGS SEA

Client Sample ID: ERH2658 (RHMW03)
Lab Sample ID: 580-111029-2
Date Collected: 03/02/22 15:10
Matrix: Water
Date Received: 03/04/22 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			383282	03/09/22 09:28	JJY	FGS SEA
Total/NA	Analysis	8270E		1	383442	03/10/22 14:11	W1T	FGS SEA
Total/NA	Prep	3510C			383282	03/09/22 09:28	JJY	FGS SEA
Total/NA	Analysis	8270E SIM		1	383445	03/10/22 12:43	W1T	FGS SEA

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: AECOM
Job ID: 580-111029-1
Project/Site: Red Hill GW CV18F0126

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2236	01-19-25

Sample Summary

Client: AECOM
Project/Site: Red Hill GW CV18F0126

Job ID: 580-111029-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-111029-1	ERH2657 (RHMW02)	Water	03/02/22 13:55	03/04/22 09:35
580-111029-2	ERH2658 (RHMW03)	Water	03/02/22 15:10	03/04/22 09:35

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Gavin Mora	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: Euro202203-6
Client Contact: Alethea Ramos (alternate: Margie Pascua)	Phone: 808 787-3201	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:			Job #: 111029
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-521-3051 (direct: 808-529-7283) (alternate: 808-356-5373)	PO #:			
Email: alethea.ramos@aecom.com (alternate: margie.pascua@aecom.com)	WO #:			
Project Name: CV18F0126	Project #: 60571032			
Site: RH	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SVOCs (full suite) by 8270D (Nap,1-2Methylnap,PAH) by 8270D SIM	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
ERH2657 (RHMW02)	03/02/22	1355	G	W	N		x	2	

Therm. ID: A3 Cor: 0.9 ° Unc: 0.9 °
Cooler Dsc: [illegible] FedEx: P.O
Packing: Bub UPS:
Cust. Seal: Yes No Lab Cour:
Blue Ice, Wet, Dry, None Other:

Possible Hazard Identification
■ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ■ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements: DOD QSM project.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Dermie/[illegible]	3-3-22/0854	AECOM	[illegible]	3/4/22 0935	EFSB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:			Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

r Remarks:

Eurofins FGS, Seattle
5755 8th Street East
Tacoma, WA 98424

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Gavin Murn	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: Euro202203-7
Client Contact: Alethea Ramos (alternate: Margie Pascua)	Phone: (808) 987-3201	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:			Job #:
Address: 1001 Bishop St. Suite 1600	Due Date Requested: see subcontract			
City: Honolulu	TAT Requested (days): Rush - ASAP			
State, Zip: Hawaii 96813	Compliance Project: Δ Yes Δ No			
Phone: 808-521-3051 (direct: 808-529-7283) (alternate: 808-356-5373)	PO #:			
Email: alethea.ramos@aecom.com (alternate: margie.pascua@aecom.com)	WO #:			
Project Name: CV18F0126	Project #: 60571032			
Site: RH	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SVOCs (full suite) by 8270D (Nap,1-2Methylnap,PAH) by 8270D SIM	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
-2 ERH2658 (RHMW03)	03/02/22	1510	G	W	N		x	2	

Therm. ID: A3 Cor: 0.9 ° Unc: 0.9 °
Cooler Dsc: LB FedEx: P.O
Packing: Bub UPS:
Cust. Seal: Yes No Lab Cour:
Blue Ice, Wet, Dry, None Other:

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
■ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ■ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Prelim data (Level 1or2)=see TAT above. DoD Stage 4 report standard TAT. AECOM EQuIS EDD.

Special Instructions/QC Requirements: DOD QSM project.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Zoe Diermier / Zoe Diermier	3-3-22 / 0854	AECOM		3/4/22 0935	EFHS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-111029-1

Login Number: 111029
List Number: 1
Creator: Blankinship, Tom X

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	