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ANALYTICAL REPORT

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Laboratory Job ID: 580-111087-1
Client Project/Site: Red Hill NOI GW

For:
AECOM
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Authorized for release by:
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Laboratory: Eurofins Seattle

Narrative

CASE NARRATIVE
Client: AECOM
Project: Red Hill NOI GW
Report Number: 580-111087-1

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
The samples were received on 03/07/2022; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was -0.2 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 ERH2672 (RHMW10) (580-111087-1) and ERH2670 (RHMW19) (580-111087-2) were analyzed for semivolatile organic compounds (GC-MS) in accordance with 8270E. The samples were prepared on 03/11/2022 and analyzed on 03/14/2022.

The continuing calibration verification (CCV) associated with batch 580-383728 recovered above the upper control limit for Bis(2-ethylhexyl) phthalate and Butyl benzyl phthalate. The samples that contained the affected analytes were reanalyzed. The associated samples are impacted: ERH2672 (RHMW10) (580-111087-1), ERH2670 (RHMW19) (580-111087-2) and (CCVIS 580-383728/3).

Diethyl phthalate was detected in method blank MB 580-383558/1-A at a level that was above the detection limit but below ½ the limit of quantitation (LOQ). The value should be considered an estimate, and has been flagged.

The laboratory control sample (LCS) for preparation batch 580-383558 and analytical batch 580-383728 recovered outside control limits for the following analyte: 4-Nitrophenol. The LCSD was within the control limits. 4-Nitrophenol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for this analyte. These results have been reported and qualified.

The laboratory control sample duplicate (LCSD) for preparation batch 580-383558 and analytical batch 580-383728 recovered outside control limits for the following analyte: Pyridine. The LCS was within the control limits. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for this analyte. These results have been reported and qualified.

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Laboratory: Eurofins Seattle (Continued)

The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-383728 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 is considered estimated.

The following analytes have been identified in the reference method and/or via historical data to be poor and/or erratic performe 2,4-Dinitrophenol and 4,6-Dinitro-2-methylphenol. (CCVC 580-383728/20)

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

SIM PAHs (GC-MS)

Samples ERH2672 (RHMW10) (580-111087-1) and ERH2670 (RHMW19) (580-111087-2) were analyzed for PAHS in accordance with 8270E SIM. The samples were prepared on 03/11/2022 and analyzed on 03/14/2022.

Phenanthrene was detected in method blank MB 580-383558/1-A at a level that was above the detection limit but below ½ the limit of quantitation (LOQ). The value should be considered an estimate, and has been flagged.

(DFTPP 580-383722/2) presents tailing factor outside the threshold for (Pentachlorophenol and Benzidine). For selective ion monitoring, tailing factor is not defined in the parent method and is not listed as a tune criteria under Appendix B-22 of the DoD QSM; therefore, the data is reported.

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

Definitions/Glossary

Client: AECOM
Project/Site: Red Hill NOI GW

Job ID: 580-111087-1

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 NOI GW

Job ID: 580-111087-1

Client Sample ID: ERH2672 (RHMW10)

Date Collected: 03/04/22 11:30
Date Received: 03/07/22 11:28

Lab Sample ID: 580-111087-1

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.032	U M	0.10	0.019	ug/L		03/11/22 09:25	03/14/22 21:46	1
2-Methylnaphthalene	0.081	U	0.20	0.040	ug/L		03/11/22 09:25	03/14/22 21:46	1
Acenaphthene	0.032	U	0.10	0.014	ug/L		03/11/22 09:25	03/14/22 21:46	1
Acenaphthylene	0.032	U M	0.051	0.0091	ug/L		03/11/22 09:25	03/14/22 21:46	1
Anthracene	0.081	U	0.10	0.022	ug/L		03/11/22 09:25	03/14/22 21:46	1
Benzo[a]anthracene	0.032	U M	0.051	0.014	ug/L		03/11/22 09:25	03/14/22 21:46	1
Benzo[a]pyrene	0.032	U	0.10	0.011	ug/L		03/11/22 09:25	03/14/22 21:46	1
Benzo[b]fluoranthene	0.032	U	0.051	0.011	ug/L		03/11/22 09:25	03/14/22 21:46	1
Benzo[g,h,i]perylene	0.032	U	0.051	0.012	ug/L		03/11/22 09:25	03/14/22 21:46	1
Benzo[k]fluoranthene	0.032	U M	0.051	0.012	ug/L		03/11/22 09:25	03/14/22 21:46	1
Chrysene	0.032	U M	0.10	0.016	ug/L		03/11/22 09:25	03/14/22 21:46	1
Dibenz(a,h)anthracene	0.032	U	0.10	0.026	ug/L		03/11/22 09:25	03/14/22 21:46	1
Fluoranthene	0.032	U	0.20	0.018	ug/L		03/11/22 09:25	03/14/22 21:46	1
Fluorene	0.032	U M	0.10	0.017	ug/L		03/11/22 09:25	03/14/22 21:46	1
Indeno[1,2,3-cd]pyrene	0.032	U	0.051	0.014	ug/L		03/11/22 09:25	03/14/22 21:46	1
Naphthalene	0.081	U M	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 21:46	1
Phenanthrene	0.081	U M	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 21:46	1
Pyrene	0.081	U	0.10	0.033	ug/L		03/11/22 09:25	03/14/22 21:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*65*		*40 - 140*	*03/11/22 09:25*	*03/14/22 21:46*	*1*
Fluoranthene-d10 (Surr)	*76*		*40 - 140*	*03/11/22 09:25*	*03/14/22 21:46*	*1*
Terphenyl-d14	*84*		*58 - 132*	*03/11/22 09:25*	*03/14/22 21:46*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.30	U	0.41	0.091	ug/L		03/11/22 09:25	03/14/22 16:42	1
1,2-Dichlorobenzene	0.15	U	0.41	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
1,3-Dichlorobenzene	0.091	U	0.41	0.041	ug/L		03/11/22 09:25	03/14/22 16:42	1
1,4-Dichlorobenzene	0.091	U	0.41	0.041	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,4,5-Trichlorophenol	0.30	U	0.41	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,4,6-Trichlorophenol	0.30	U	0.61	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,4-Dichlorophenol	0.51	U	1.0	0.20	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,4-Dimethylphenol	0.51	U	4.1	0.16	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,4-Dinitrotoluene	0.30	U M	1.0	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
2,6-Dinitrotoluene	0.30	U M	0.41	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
2-Chloronaphthalene	0.15	U	1.0	0.071	ug/L		03/11/22 09:25	03/14/22 16:42	1
2-Chlorophenol	0.15	U	1.0	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
2-Nitrophenol	0.15	U M	1.0	0.071	ug/L		03/11/22 09:25	03/14/22 16:42	1
3,3'-Dichlorobenzidine	0.61	U M	1.0	0.26	ug/L		03/11/22 09:25	03/14/22 16:42	1
4-Bromophenyl phenyl ether	0.15	U	0.61	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1
4-Chloro-3-methylphenol	0.30	U	0.61	0.13	ug/L		03/11/22 09:25	03/14/22 16:42	1
4-Chlorophenyl phenyl ether	0.15	U	0.61	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
Azobenzene	0.15	U M	2.0	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1
Bis(2-chloroethoxy)methane	0.15	U M	0.61	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
Bis(2-chloroethyl)ether	0.091	U M	0.10	0.030	ug/L		03/11/22 09:25	03/14/22 16:42	1
bis (2-chloroisopropyl) ether	0.15	U M	0.25	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1
Butyl benzyl phthalate	0.61	U Q	4.1	0.27	ug/L		03/11/22 09:25	03/14/22 16:42	1
Diethyl phthalate	**0.24**	**J**	1.0	0.15	ug/L		03/11/22 09:25	03/14/22 16:42	1
Dimethyl phthalate	0.15	U	0.61	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1

Client Sample ID: ERH2672 (RHMW10)

Date Collected: 03/04/22 11:30
Date Received: 03/07/22 11:28

Lab Sample ID: 580-111087-1

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	**0.51**	**J**	3.0	0.19	ug/L		03/11/22 09:25	03/14/22 16:42	1
Di-n-octyl phthalate	0.30	U M	1.0	0.13	ug/L		03/11/22 09:25	03/14/22 16:42	1
Hexachlorobenzene	0.091	U	0.61	0.041	ug/L		03/11/22 09:25	03/14/22 16:42	1
Hexachlorobutadiene	0.15	U	1.0	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1
Hexachlorocyclopentadiene	0.30	U	1.0	0.14	ug/L		03/11/22 09:25	03/14/22 16:42	1
Hexachloroethane	0.15	U	1.0	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
Isophorone	0.30	U	0.41	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
m+p-Cresol	0.30	U M	0.61	0.10	ug/L		03/11/22 09:25	03/14/22 16:42	1
Nitrobenzene	0.091	U M	1.0	0.041	ug/L		03/11/22 09:25	03/14/22 16:42	1
N-Nitrosodimethylamine	0.61	U	2.0	0.26	ug/L		03/11/22 09:25	03/14/22 16:42	1
N-Nitrosodi-n-propylamine	0.091	U M	0.41	0.061	ug/L		03/11/22 09:25	03/14/22 16:42	1
N-Nitrosodiphenylamine	0.15	U	1.0	0.071	ug/L		03/11/22 09:25	03/14/22 16:42	1
o-Cresol	0.15	U M	0.61	0.051	ug/L		03/11/22 09:25	03/14/22 16:42	1
Pentachlorophenol	1.0	U	10	0.52	ug/L		03/11/22 09:25	03/14/22 16:42	1
Phenol	0.61	U	1.0	0.37	ug/L		03/11/22 09:25	03/14/22 16:42	1
Pyrene	0.091	U M	1.0	0.041	ug/L		03/11/22 09:25	03/14/22 16:42	1
Pyridine	3.2	U Q	10	1.1	ug/L		03/11/22 09:25	03/14/22 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*81*		*43 - 140*	*03/11/22 09:25*	*03/14/22 16:42*	*1*
2-Fluorobiphenyl	*75*		*44 - 119*	*03/11/22 09:25*	*03/14/22 16:42*	*1*
2-Fluorophenol (Surr)	*43*		*19 - 119*	*03/11/22 09:25*	*03/14/22 16:42*	*1*
Nitrobenzene-d5 (Surr)	*72*		*44 - 120*	*03/11/22 09:25*	*03/14/22 16:42*	*1*
Phenol-d5 (Surr)	*29*		*10 - 120*	*03/11/22 09:25*	*03/14/22 16:42*	*1*
Terphenyl-d14	*100*		*50 - 134*	*03/11/22 09:25*	*03/14/22 16:42*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	3.2	U M	5.1	1.6	ug/L		03/11/22 09:25	03/18/22 13:43	1
4,6-Dinitro-2-methylphenol	1.2	U M	2.0	0.56	ug/L		03/11/22 09:25	03/18/22 13:43	1
4-Nitrophenol	6.1	U M	10	1.7	ug/L		03/11/22 09:25	03/18/22 13:43	1
Bis(2-ethylhexyl) phthalate	**3.4**		3.0	0.75	ug/L		03/11/22 09:25	03/18/22 13:43	1

Client: AECOM
Project/Site: Red Hill NOI GW

Job ID: 580-111087-1

Client Sample ID: ERH2670 (RHMW19)

Date Collected: 03/04/22 14:35
Date Received: 03/07/22 11:28

Lab Sample ID: 580-111087-2

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.032	U	0.10	0.019	ug/L		03/11/22 09:25	03/14/22 22:11	1
2-Methylnaphthalene	0.080	U	0.20	0.039	ug/L		03/11/22 09:25	03/14/22 22:11	1
Acenaphthene	0.032	U	0.10	0.014	ug/L		03/11/22 09:25	03/14/22 22:11	1
Acenaphthylene	0.032	U	0.050	0.0091	ug/L		03/11/22 09:25	03/14/22 22:11	1
Anthracene	0.080	U	0.10	0.022	ug/L		03/11/22 09:25	03/14/22 22:11	1
Benzo[a]anthracene	0.032	U	0.050	0.014	ug/L		03/11/22 09:25	03/14/22 22:11	1
Benzo[a]pyrene	0.032	U	0.10	0.011	ug/L		03/11/22 09:25	03/14/22 22:11	1
Benzo[b]fluoranthene	0.032	U M	0.050	0.011	ug/L		03/11/22 09:25	03/14/22 22:11	1
Benzo[g,h,i]perylene	0.032	U	0.050	0.012	ug/L		03/11/22 09:25	03/14/22 22:11	1
Benzo[k]fluoranthene	0.032	U	0.050	0.012	ug/L		03/11/22 09:25	03/14/22 22:11	1
Chrysene	0.032	U	0.10	0.016	ug/L		03/11/22 09:25	03/14/22 22:11	1
Dibenz(a,h)anthracene	0.032	U	0.10	0.026	ug/L		03/11/22 09:25	03/14/22 22:11	1
Fluoranthene	0.032	U	0.20	0.018	ug/L		03/11/22 09:25	03/14/22 22:11	1
Fluorene	0.032	U	0.10	0.017	ug/L		03/11/22 09:25	03/14/22 22:11	1
Indeno[1,2,3-cd]pyrene	0.032	U	0.050	0.014	ug/L		03/11/22 09:25	03/14/22 22:11	1
Naphthalene	0.080	U	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 22:11	1
Phenanthrene	0.080	U M	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 22:11	1
Pyrene	0.080	U	0.10	0.033	ug/L		03/11/22 09:25	03/14/22 22:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*59*		*40 - 140*	*03/11/22 09:25*	*03/14/22 22:11*	*1*
Fluoranthene-d10 (Surr)	*78*		*40 - 140*	*03/11/22 09:25*	*03/14/22 22:11*	*1*
Terphenyl-d14	*87*		*58 - 132*	*03/11/22 09:25*	*03/14/22 22:11*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	0.30	U	0.40	0.091	ug/L		03/11/22 09:25	03/14/22 17:05	1
1,2-Dichlorobenzene	0.15	U	0.40	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
1,3-Dichlorobenzene	0.091	U	0.40	0.040	ug/L		03/11/22 09:25	03/14/22 17:05	1
1,4-Dichlorobenzene	0.091	U	0.40	0.040	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,4,5-Trichlorophenol	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,4,6-Trichlorophenol	0.30	U	0.60	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,4-Dichlorophenol	0.50	U	1.0	0.20	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,4-Dimethylphenol	0.50	U	4.0	0.16	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,4-Dinitrotoluene	0.30	U	1.0	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
2,6-Dinitrotoluene	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
2-Chloronaphthalene	0.15	U	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 17:05	1
2-Chlorophenol	0.15	U	1.0	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
2-Nitrophenol	0.15	U	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 17:05	1
3,3'-Dichlorobenzidine	0.60	U	1.0	0.26	ug/L		03/11/22 09:25	03/14/22 17:05	1
4-Bromophenyl phenyl ether	0.15	U	0.60	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1
4-Chloro-3-methylphenol	0.30	U	0.60	0.13	ug/L		03/11/22 09:25	03/14/22 17:05	1
4-Chlorophenyl phenyl ether	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
Azobenzene	0.15	U M	2.0	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1
Bis(2-chloroethoxy)methane	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
Bis(2-chloroethyl)ether	0.091	U	0.10	0.030	ug/L		03/11/22 09:25	03/14/22 17:05	1
bis (2-chloroisopropyl) ether	0.15	U	0.25	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1
Butyl benzyl phthalate	0.60	U Q	4.0	0.27	ug/L		03/11/22 09:25	03/14/22 17:05	1
Diethyl phthalate	0.30	U	1.0	0.15	ug/L		03/11/22 09:25	03/14/22 17:05	1
Dimethyl phthalate	0.15	U	0.60	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1

Client: AECOM
Project/Site: Red Hill NOI GW

Job ID: 580-111087-1

Client Sample ID: ERH2670 (RHMW19)
Date Collected: 03/04/22 14:35
Date Received: 03/07/22 11:28

Lab Sample ID: 580-111087-2
Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	0.50	U	3.0	0.19	ug/L		03/11/22 09:25	03/14/22 17:05	1
Di-n-octyl phthalate	0.30	U M	1.0	0.13	ug/L		03/11/22 09:25	03/14/22 17:05	1
Hexachlorobenzene	0.091	U	0.60	0.040	ug/L		03/11/22 09:25	03/14/22 17:05	1
Hexachlorobutadiene	0.15	U	1.0	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1
Hexachlorocyclopentadiene	0.30	U	1.0	0.14	ug/L		03/11/22 09:25	03/14/22 17:05	1
Hexachloroethane	0.15	U	1.0	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
Isophorone	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
m+p-Cresol	0.30	U	0.60	0.10	ug/L		03/11/22 09:25	03/14/22 17:05	1
Nitrobenzene	0.091	U	1.0	0.040	ug/L		03/11/22 09:25	03/14/22 17:05	1
N-Nitrosodimethylamine	0.60	U	2.0	0.26	ug/L		03/11/22 09:25	03/14/22 17:05	1
N-Nitrosodi-n-propylamine	0.091	U	0.40	0.060	ug/L		03/11/22 09:25	03/14/22 17:05	1
N-Nitrosodiphenylamine	0.15	U	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 17:05	1
o-Cresol	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 17:05	1
Pentachlorophenol	1.0	U	10	0.51	ug/L		03/11/22 09:25	03/14/22 17:05	1
Phenol	0.60	U	1.0	0.36	ug/L		03/11/22 09:25	03/14/22 17:05	1
Pyrene	0.091	U	1.0	0.040	ug/L		03/11/22 09:25	03/14/22 17:05	1
Pyridine	3.2	U Q	10	1.1	ug/L		03/11/22 09:25	03/14/22 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*71*		*43 - 140*	*03/11/22 09:25*	*03/14/22 17:05*	*1*
2-Fluorobiphenyl	*79*		*44 - 119*	*03/11/22 09:25*	*03/14/22 17:05*	*1*
2-Fluorophenol (Surr)	*47*		*19 - 119*	*03/11/22 09:25*	*03/14/22 17:05*	*1*
Nitrobenzene-d5 (Surr)	*71*		*44 - 120*	*03/11/22 09:25*	*03/14/22 17:05*	*1*
Phenol-d5 (Surr)	*29*		*10 - 120*	*03/11/22 09:25*	*03/14/22 17:05*	*1*
Terphenyl-d14	*95*		*50 - 134*	*03/11/22 09:25*	*03/14/22 17:05*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	3.2	U	5.0	1.6	ug/L		03/11/22 09:25	03/18/22 14:06	1
4,6-Dinitro-2-methylphenol	1.2	U	2.0	0.55	ug/L		03/11/22 09:25	03/18/22 14:06	1
4-Nitrophenol	6.0	U	10	1.7	ug/L		03/11/22 09:25	03/18/22 14:06	1
Bis(2-ethylhexyl) phthalate	1.6	U	3.0	0.74	ug/L		03/11/22 09:25	03/18/22 14:06	1

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

Lab Sample ID: MB 580-383558/1-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383558

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		03/11/22 09:25	03/14/22 13:36	1
1,2-Dichlorobenzene	0.15	U	0.40	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
1,3-Dichlorobenzene	0.090	U	0.40	0.040	ug/L		03/11/22 09:25	03/14/22 13:36	1
1,4-Dichlorobenzene	0.090	U	0.40	0.040	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,4,5-Trichlorophenol	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,4,6-Trichlorophenol	0.30	U	0.60	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,4-Dichlorophenol	0.50	U	1.0	0.20	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,4-Dimethylphenol	0.50	U	4.0	0.16	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,4-Dinitrotoluene	0.30	U	1.0	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
2,6-Dinitrotoluene	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
2-Chloronaphthalene	0.15	U M	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 13:36	1
2-Chlorophenol	0.15	U	1.0	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
2-Nitrophenol	0.15	U	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 13:36	1
3,3'-Dichlorobenzidine	0.60	U	1.0	0.26	ug/L		03/11/22 09:25	03/14/22 13:36	1
4-Bromophenyl phenyl ether	0.15	U	0.60	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
4-Chloro-3-methylphenol	0.30	U	0.60	0.13	ug/L		03/11/22 09:25	03/14/22 13:36	1
4-Chlorophenyl phenyl ether	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
Azobenzene	0.15	U M	2.0	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
Bis(2-chloroethoxy)methane	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
Bis(2-chloroethyl)ether	0.090	U	0.10	0.030	ug/L		03/11/22 09:25	03/14/22 13:36	1
bis (2-chloroisopropyl) ether	0.15	U	0.25	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
Butyl benzyl phthalate	0.60	U	4.0	0.27	ug/L		03/11/22 09:25	03/14/22 13:36	1
Diethyl phthalate	0.177	J	1.0	0.15	ug/L		03/11/22 09:25	03/14/22 13:36	1
Dimethyl phthalate	0.15	U	0.60	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
Di-n-butyl phthalate	0.50	U	3.0	0.19	ug/L		03/11/22 09:25	03/14/22 13:36	1
Di-n-octyl phthalate	0.30	U M	1.0	0.13	ug/L		03/11/22 09:25	03/14/22 13:36	1
Hexachlorobenzene	0.090	U	0.60	0.040	ug/L		03/11/22 09:25	03/14/22 13:36	1
Hexachlorobutadiene	0.15	U	1.0	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
Hexachlorocyclopentadiene	0.30	U	1.0	0.14	ug/L		03/11/22 09:25	03/14/22 13:36	1
Hexachloroethane	0.15	U	1.0	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
Isophorone	0.30	U	0.40	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
m+p-Cresol	0.30	U M	0.60	0.10	ug/L		03/11/22 09:25	03/14/22 13:36	1
Nitrobenzene	0.090	U	1.0	0.040	ug/L		03/11/22 09:25	03/14/22 13:36	1
N-Nitrosodimethylamine	0.60	U	2.0	0.26	ug/L		03/11/22 09:25	03/14/22 13:36	1
N-Nitrosodi-n-propylamine	0.090	U	0.40	0.060	ug/L		03/11/22 09:25	03/14/22 13:36	1
N-Nitrosodiphenylamine	0.15	U M	1.0	0.070	ug/L		03/11/22 09:25	03/14/22 13:36	1
o-Cresol	0.15	U	0.60	0.050	ug/L		03/11/22 09:25	03/14/22 13:36	1
Pentachlorophenol	1.0	U	10	0.51	ug/L		03/11/22 09:25	03/14/22 13:36	1
Phenol	0.60	U M	1.0	0.36	ug/L		03/11/22 09:25	03/14/22 13:36	1
Pyrene	0.090	U	1.0	0.040	ug/L		03/11/22 09:25	03/14/22 13:36	1
Pyridine	3.2	U	10	1.1	ug/L		03/11/22 09:25	03/14/22 13:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*54*		*43 - 140*	*03/11/22 09:25*	*03/14/22 13:36*	*1*
2-Fluorobiphenyl	*83*		*44 - 119*	*03/11/22 09:25*	*03/14/22 13:36*	*1*
2-Fluorophenol (Surr)	*43*		*19 - 119*	*03/11/22 09:25*	*03/14/22 13:36*	*1*
Nitrobenzene-d5 (Surr)	*69*		*44 - 120*	*03/11/22 09:25*	*03/14/22 13:36*	*1*
Phenol-d5 (Surr)	*26*		*10 - 120*	*03/11/22 09:25*	*03/14/22 13:36*	*1*

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

Lab Sample ID: MB 580-383558/1-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383558

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		50 - 134	03/11/22 09:25	03/14/22 13:36	1

Lab Sample ID: LCS 580-383558/2-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383558

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2.00	1.12		ug/L		56	29 - 116
1,2-Dichlorobenzene	2.00	1.15		ug/L		57	32 - 111
1,3-Dichlorobenzene	2.00	1.07		ug/L		53	28 - 110
1,4-Dichlorobenzene	2.00	1.08		ug/L		54	29 - 112
2,4,5-Trichlorophenol	2.00	1.46		ug/L		73	53 - 123
2,4,6-Trichlorophenol	2.00	1.24		ug/L		62	50 - 125
2,4-Dichlorophenol	2.00	1.34		ug/L		67	47 - 121
2,4-Dimethylphenol	2.00	1.21	J	ug/L		60	31 - 124
2,4-Dinitrotoluene	2.00	1.49		ug/L		75	57 - 128
2,6-Dinitrotoluene	2.00	1.35		ug/L		67	57 - 124
2-Chloronaphthalene	2.00	1.27		ug/L		63	40 - 116
2-Chlorophenol	2.00	1.45		ug/L		73	38 - 117
2-Nitrophenol	2.00	1.52		ug/L		76	47 - 123
3,3'-Dichlorobenzidine	4.00	3.68		ug/L		92	27 - 129
4-Bromophenyl phenyl ether	2.00	1.40		ug/L		70	55 - 124
4-Chloro-3-methylphenol	2.00	1.36		ug/L		68	52 - 119
4-Chlorophenyl phenyl ether	2.00	1.30		ug/L		65	53 - 121
Azobenzene	2.00	1.44	J	ug/L		72	61 - 116
Bis(2-chloroethoxy)methane	2.00	1.35		ug/L		67	48 - 120
Bis(2-chloroethyl)ether	2.00	1.49		ug/L		74	43 - 118
bis (2-chloroisopropyl) ether	2.00	1.33		ug/L		67	37 - 130
Butyl benzyl phthalate	2.00	1.84	J	ug/L		92	53 - 134
Diethyl phthalate	2.00	1.71		ug/L		85	56 - 125
Dimethyl phthalate	2.00	1.47		ug/L		74	45 - 127
Di-n-butyl phthalate	2.00	1.74	J	ug/L		87	59 - 127
Di-n-octyl phthalate	2.00	1.72		ug/L		86	51 - 140
Hexachlorobenzene	2.00	1.39		ug/L		69	53 - 125
Hexachlorobutadiene	2.00	0.893	J	ug/L		45	22 - 124
Hexachlorocyclopentadiene	2.00	0.876	J	ug/L		44	20 - 125
Hexachloroethane	2.00	0.936	J	ug/L		47	21 - 115
Isophorone	2.00	1.33		ug/L		66	42 - 124
m+p-Cresol	2.00	1.21		ug/L		60	29 - 110
Nitrobenzene	2.00	1.36		ug/L		68	45 - 121
N-Nitrosodimethylamine	2.00	1.12	J	ug/L		56	45 - 125
N-Nitrosodi-n-propylamine	2.00	1.38		ug/L		69	49 - 119
N-Nitrosodiphenylamine	2.00	1.51		ug/L		75	51 - 123
o-Cresol	2.00	1.25		ug/L		62	30 - 117
Pentachlorophenol	4.00	1.86	J	ug/L		47	35 - 138
Phenol	2.00	0.693	J	ug/L		35	13 - 120
Pyrene	2.00	1.73		ug/L		87	57 - 126
Pyridine	4.00	1.42	J	ug/L		35	20 - 125

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

Lab Sample ID: LCS 580-383558/2-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383558

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*70*		*43 - 140*
2-Fluorobiphenyl	*62*		*44 - 119*
2-Fluorophenol (Surr)	*50*		*19 - 119*
Nitrobenzene-d5 (Surr)	*69*		*44 - 120*
Phenol-d5 (Surr)	*31*		*10 - 120*
Terphenyl-d14	*88*		*50 - 134*

Lab Sample ID: LCSD 580-383558/3-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene			2.00	1.16		ug/L		58	29 - 116	4	20
1,2-Dichlorobenzene			2.00	1.11		ug/L		56	32 - 111	3	20
1,3-Dichlorobenzene			2.00	1.01		ug/L		51	28 - 110	5	20
1,4-Dichlorobenzene			2.00	1.06		ug/L		53	29 - 112	2	20
2,4,5-Trichlorophenol			2.00	1.55		ug/L		78	53 - 123	6	20
2,4,6-Trichlorophenol			2.00	1.42		ug/L		71	50 - 125	14	20
2,4-Dichlorophenol			2.00	1.49		ug/L		74	47 - 121	10	20
2,4-Dimethylphenol			2.00	1.31	J	ug/L		65	31 - 124	8	20
2,4-Dinitrotoluene			2.00	1.63		ug/L		81	57 - 128	9	20
2,6-Dinitrotoluene			2.00	1.56		ug/L		78	57 - 124	15	20
2-Chloronaphthalene			2.00	1.40		ug/L		70	40 - 116	10	20
2-Chlorophenol			2.00	1.43		ug/L		71	38 - 117	2	20
2-Nitrophenol			2.00	1.50		ug/L		75	47 - 123	1	20
3,3'-Dichlorobenzidine			4.00	3.80		ug/L		95	27 - 129	3	20
4-Bromophenyl phenyl ether			2.00	1.50		ug/L		75	55 - 124	7	20
4-Chloro-3-methylphenol			2.00	1.51		ug/L		76	52 - 119	10	20
4-Chlorophenyl phenyl ether			2.00	1.46		ug/L		73	53 - 121	11	20
Azobenzene			2.00	1.52	J	ug/L		76	61 - 116	5	20
Bis(2-chloroethoxy)methane			2.00	1.43		ug/L		71	48 - 120	6	20
Bis(2-chloroethyl)ether			2.00	1.47		ug/L		73	43 - 118	1	20
bis (2-chloroisopropyl) ether			2.00	1.38		ug/L		69	37 - 130	4	20
Butyl benzyl phthalate			2.00	2.06	J	ug/L		103	53 - 134	12	20
Diethyl phthalate			2.00	1.93		ug/L		96	56 - 125	12	20
Dimethyl phthalate			2.00	1.70		ug/L		85	45 - 127	14	20
Di-n-butyl phthalate			2.00	1.83	J	ug/L		92	59 - 127	5	20
Di-n-octyl phthalate			2.00	1.95		ug/L		97	51 - 140	12	20
Hexachlorobenzene			2.00	1.44		ug/L		72	53 - 125	4	20
Hexachlorobutadiene			2.00	0.854	J	ug/L		43	22 - 124	4	20
Hexachlorocyclopentadiene			2.00	0.865	J	ug/L		43	20 - 125	1	20
Hexachloroethane			2.00	0.860	J	ug/L		43	21 - 115	9	20
Isophorone			2.00	1.40		ug/L		70	42 - 124	6	20
m+p-Cresol			2.00	1.16		ug/L		58	29 - 110	4	20
Nitrobenzene			2.00	1.46		ug/L		73	45 - 121	6	20
N-Nitrosodimethylamine			2.00	1.09	J	ug/L		55	45 - 125	3	20
N-Nitrosodi-n-propylamine			2.00	1.45		ug/L		72	49 - 119	5	20
N-Nitrosodiphenylamine			2.00	1.58		ug/L		79	51 - 123	5	20

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

Lab Sample ID: LCSD 580-383558/3-A
Matrix: Water
Analysis Batch: 383728

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
o-Cresol			2.00	1.21		ug/L		61	30 - 117	3	20
Pentachlorophenol			4.00	1.79	J	ug/L		45	35 - 138	4	20
Phenol			2.00	0.683	J	ug/L		34	13 - 120	1	20
Pyrene			2.00	1.88		ug/L		94	57 - 126	8	20
Pyridine			4.00	3.2	U Q	ug/L		13	20 - 125	95	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*74*		*43 - 140*
2-Fluorobiphenyl	*70*		*44 - 119*
2-Fluorophenol (Surr)	*51*		*19 - 119*
Nitrobenzene-d5 (Surr)	*75*		*44 - 120*
Phenol-d5 (Surr)	*30*		*10 - 120*
Terphenyl-d14	*92*		*50 - 134*

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

Lab Sample ID: MB 580-383558/1-A
Matrix: Water
Analysis Batch: 384307

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383558

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol - RA	3.2	U	5.0	1.6	ug/L		03/11/22 09:25	03/18/22 11:22	1
4,6-Dinitro-2-methylphenol - RA	1.2	U	2.0	0.55	ug/L		03/11/22 09:25	03/18/22 11:22	1
4-Nitrophenol - RA	6.0	U	10	1.7	ug/L		03/11/22 09:25	03/18/22 11:22	1
Bis(2-ethylhexyl) phthalate - RA	1.6	U	3.0	0.74	ug/L		03/11/22 09:25	03/18/22 11:22	1
bis (2-chloroisopropyl) ether - RA	0.15	U M	0.25	0.060	ug/L		03/11/22 09:25	03/18/22 11:22	1

Lab Sample ID: LCS 580-383558/2-A
Matrix: Water
Analysis Batch: 384307

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383558

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-Dinitrophenol - RA			4.00	2.50	J M	ug/L		62	23 - 143
4,6-Dinitro-2-methylphenol - RA			4.00	3.29		ug/L		82	44 - 137
Bis(2-ethylhexyl) phthalate - RA			2.00	2.14	J	ug/L		107	55 - 135
bis (2-chloroisopropyl) ether - RA			2.00	1.42		ug/L		71	37 - 130

Lab Sample ID: LCSD 580-383558/3-A
Matrix: Water
Analysis Batch: 384307

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrophenol - RA			4.00	2.91	J M	ug/L		73	23 - 143	15	20
4,6-Dinitro-2-methylphenol - RA			4.00	3.17		ug/L		79	44 - 137	4	20
4-Nitrophenol - RA			4.00	2.50	J	ug/L		63	35 - 145	0	20
Bis(2-ethylhexyl) phthalate - RA			2.00	2.42	J	ug/L		121	55 - 135	12	20
bis (2-chloroisopropyl) ether - RA			2.00	1.55		ug/L		77	37 - 130	9	20

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

Lab Sample ID: MB 580-383558/1-A
Matrix: Water
Analysis Batch: 383722

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 383558

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	0.032	U M	0.10	0.019	ug/L		03/11/22 09:25	03/14/22 15:17	1
2-Methylnaphthalene	0.080	U M	0.20	0.039	ug/L		03/11/22 09:25	03/14/22 15:17	1
Acenaphthene	0.032	U M	0.10	0.014	ug/L		03/11/22 09:25	03/14/22 15:17	1
Acenaphthylene	0.032	U M	0.050	0.0090	ug/L		03/11/22 09:25	03/14/22 15:17	1
Anthracene	0.080	U M	0.10	0.022	ug/L		03/11/22 09:25	03/14/22 15:17	1
Benzo[a]anthracene	0.032	U	0.050	0.014	ug/L		03/11/22 09:25	03/14/22 15:17	1
Benzo[a]pyrene	0.032	U	0.10	0.011	ug/L		03/11/22 09:25	03/14/22 15:17	1
Benzo[b]fluoranthene	0.032	U M	0.050	0.011	ug/L		03/11/22 09:25	03/14/22 15:17	1
Benzo[g,h,i]perylene	0.032	U	0.050	0.012	ug/L		03/11/22 09:25	03/14/22 15:17	1
Benzo[k]fluoranthene	0.032	U	0.050	0.012	ug/L		03/11/22 09:25	03/14/22 15:17	1
Chrysene	0.032	U	0.10	0.016	ug/L		03/11/22 09:25	03/14/22 15:17	1
Dibenz(a,h)anthracene	0.032	U	0.10	0.026	ug/L		03/11/22 09:25	03/14/22 15:17	1
Fluoranthene	0.032	U M	0.20	0.018	ug/L		03/11/22 09:25	03/14/22 15:17	1
Fluorene	0.032	U M	0.10	0.017	ug/L		03/11/22 09:25	03/14/22 15:17	1
Indeno[1,2,3-cd]pyrene	0.032	U	0.050	0.014	ug/L		03/11/22 09:25	03/14/22 15:17	1
Naphthalene	0.080	U M	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 15:17	1
Phenanthrene	0.0445	J	0.10	0.031	ug/L		03/11/22 09:25	03/14/22 15:17	1
Pyrene	0.080	U M	0.10	0.033	ug/L		03/11/22 09:25	03/14/22 15:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-methylnaphthalene-d10	*59*		*40 - 140*	*03/11/22 09:25*	*03/14/22 15:17*	*1*
Fluoranthene-d10 (Surr)	*74*		*40 - 140*	*03/11/22 09:25*	*03/14/22 15:17*	*1*
Terphenyl-d14	*82*		*58 - 132*	*03/11/22 09:25*	*03/14/22 15:17*	*1*

Lab Sample ID: LCS 580-383558/2-A
Matrix: Water
Analysis Batch: 383722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383558

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	2.00	1.20		ug/L		60	41 - 115
2-Methylnaphthalene	2.00	1.31		ug/L		66	39 - 114
Acenaphthene	2.00	1.23		ug/L		61	48 - 114
Acenaphthylene	2.00	1.34		ug/L		67	35 - 121
Anthracene	2.00	1.35		ug/L		68	53 - 119
Benzo[a]anthracene	2.00	1.69		ug/L		85	59 - 120
Benzo[a]pyrene	2.00	1.33		ug/L		66	53 - 120
Benzo[b]fluoranthene	2.00	1.56		ug/L		78	53 - 126
Benzo[g,h,i]perylene	2.00	1.46		ug/L		73	44 - 128
Benzo[k]fluoranthene	2.00	1.38		ug/L		69	54 - 125
Chrysene	2.00	1.36		ug/L		68	57 - 120
Dibenz(a,h)anthracene	2.00	1.51	M	ug/L		76	44 - 131
Fluoranthene	2.00	1.49		ug/L		75	58 - 120
Fluorene	2.00	1.32		ug/L		66	50 - 118
Indeno[1,2,3-cd]pyrene	2.00	2.23		ug/L		112	48 - 130
Naphthalene	2.00	1.30		ug/L		65	43 - 114
Phenanthrene	2.00	1.52		ug/L		76	53 - 115
Pyrene	2.00	1.46		ug/L		73	53 - 121

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

Lab Sample ID: LCS 580-383558/2-A
Matrix: Water
Analysis Batch: 383722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 383558

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-methylnaphthalene-d10	*57*		*40 - 140*
Fluoranthene-d10 (Surr)	*69*		*40 - 140*
Terphenyl-d14	*78*		*58 - 132*

Lab Sample ID: LCSD 580-383558/3-A
Matrix: Water
Analysis Batch: 383722

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 383558

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene			2.00	1.24		ug/L		62	41 - 115	4	20
2-Methylnaphthalene			2.00	1.36		ug/L		68	39 - 114	4	20
Acenaphthene			2.00	1.37		ug/L		68	48 - 114	11	20
Acenaphthylene			2.00	1.47		ug/L		74	35 - 121	10	20
Anthracene			2.00	1.49		ug/L		74	53 - 119	10	20
Benzo[a]anthracene			2.00	1.77		ug/L		89	59 - 120	5	20
Benzo[a]pyrene			2.00	1.38		ug/L		69	53 - 120	4	20
Benzo[b]fluoranthene			2.00	1.65		ug/L		82	53 - 126	5	20
Benzo[g,h,i]perylene			2.00	1.47		ug/L		73	44 - 128	0	20
Benzo[k]fluoranthene			2.00	1.43		ug/L		71	54 - 125	3	20
Chrysene			2.00	1.41		ug/L		71	57 - 120	4	20
Dibenz(a,h)anthracene			2.00	1.55	M	ug/L		78	44 - 131	3	20
Fluoranthene			2.00	1.69		ug/L		84	58 - 120	12	20
Fluorene			2.00	1.47		ug/L		73	50 - 118	10	20
Indeno[1,2,3-cd]pyrene			2.00	2.31		ug/L		116	48 - 130	4	20
Naphthalene			2.00	1.36		ug/L		68	43 - 114	5	20
Phenanthrene			2.00	1.70		ug/L		85	53 - 115	11	20
Pyrene			2.00	1.67		ug/L		84	53 - 121	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-methylnaphthalene-d10	*59*		*40 - 140*
Fluoranthene-d10 (Surr)	*74*		*40 - 140*
Terphenyl-d14	*82*		*58 - 132*

Lab Chronicle

Client: AECOM
Job ID: 580-111087-1
Project/Site: Red Hill NOI GW

Client Sample ID: ERH2672 (RHMW10)
Lab Sample ID: 580-111087-1
Date Collected: 03/04/22 11:30
Matrix: Water
Date Received: 03/07/22 11:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E		1	383728	03/14/22 16:42	E1L	FGS SEA
Total/NA	Prep	3510C	RA		383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E	RA	1	384307	03/18/22 13:43	ADB	FGS SEA
Total/NA	Prep	3510C			383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E SIM		1	383722	03/14/22 21:46	CJ	FGS SEA

Client Sample ID: ERH2670 (RHMW19)
Lab Sample ID: 580-111087-2
Date Collected: 03/04/22 14:35
Matrix: Water
Date Received: 03/07/22 11:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E		1	383728	03/14/22 17:05	E1L	FGS SEA
Total/NA	Prep	3510C	RA		383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E	RA	1	384307	03/18/22 14:06	ADB	FGS SEA
Total/NA	Prep	3510C			383558	03/11/22 09:25	JJY	FGS SEA
Total/NA	Analysis	8270E SIM		1	383722	03/14/22 22:11	CJ	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: 580-111087-1
Project/Site: Red Hill NOI GW

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 NOI GW

Job ID: 580-111087-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-111087-1	ERH2672 (RHMW10)	Water	03/04/22 11:30	03/07/22 11:28
580-111087-2	ERH2670 (RHMW19)	Water	03/04/22 14:35	03/07/22 11:28

580-111087 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing America

	Sampler:	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: EURO202203-18
Client Contact: Alethea Ramos (alternate: Margie Pascua)	Phone:	E-Mail: M.Elaine.Walker@EurofinsET.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: AECOM	PWSID:	Analysis Requested		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#:			

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, 1-2-Mathylnap, PAH) by 8270DSIM	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	I	X	
ERH2672 (RHMW10)	3/4/22	1130	G	W	N		x	2	

AN 3/6/22

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: Alek Edmonds	Date/Time: 3/6/22 1300	Company: AECOM	Received by: [signature]	Date/Time: 3/7/22 0940	Company: EETSAC	
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: IR8 -0.2/-0.4			

Ver: 01/16/2019

3/22/2022

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM: Elaine Walker	Carrier Tracking No(s): FedEx	COC No: EURO202203-15
Client Contact: Alethea Ramos (alternate: Margie Pascua)	Phone:	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, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, 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, 1-2-Mathylnap, PAH) by 8270DSIM	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	I	X	
ERH2670 (RHMW19)	3/4/22	1435	G	W	N		x	2	

un 3/6/22

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
Alex Edmonds	3/6/22 1300	AECOM	[signature]	3/7/22 0940	EFO

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: FR8 -0.2/-0.4

LS Blue Ice Wet

Ver: 01/16/2019 3/22/2022

Login Sample Receipt Checklist

Client: AECOM

Job Number: 580-111087-1

Login Number: 111087
List Number: 1
Creator: Greene, Ashton R

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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.	True	
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	