

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Erwin Kawata
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 310
Honolulu, Hawaii 96843

Generated 1/16/2024 4:46:11 PM

JOB DESCRIPTION

RED-HILL
8015, 625
RUSH Weekly Red Hill

JOB NUMBER

380-74776-2

Eurofins Eaton Analytical Pomona

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Eaton Analytical, LLC Project Manager.

Compliance Statement

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW, Water matrices)

Authorization



Generated
1/16/2024 4:46:11 PM

Authorized for release by
Rachelle Arada, Project Manager
Rachelle.Arada@et.eurofinsus.com
(626)386-1106



Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Detection Summary	6
Client Sample Results	7
Surrogate Summary	13
QC Sample Results	16
QC Association Summary	22
Lab Chronicle	24
Certification Summary	26
Method Summary	27
Sample Summary	28
Subcontract Data	29
Chain of Custody	63
Receipt Checklists	65

Definitions/Glossary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

Case Narrative

Client: City & County of Honolulu
Project: RED-HILL

Job ID: 380-74776-2

Job ID: 380-74776-2

Eurofins Eaton Analytical Pomona

Job Narrative 380-74776-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 12/13/2023 10:10 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.7°C and 2.0°C

Receipt Exceptions

One 8015 Travel Blank vial from site MOANALUA WELLS was received broken.

Subcontract Work

Method 625 PAH Physis LL (EAL) + TICs: This method was subcontracted to Physis Environmental Laboratories. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

Gasoline Range Organics

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

GC Semi VOA

Method 8015B_DRO_LL_CS: A portion of the following samples were used for analysis, rather than testing the entire sample amount in the original container, due to the samples were prepared using an exact volume as opposed to the volume received: MOANALUA WELLS (380-74776-1), AIEA GULCH WELLS PUMP 2 (380-74776-2), AIEA WELLS PUMPS 1&2 (260) P2 (380-74776-3) and HALAWA WELLS UNITS 1 & 2 P1 (380-74776-4). As such, the required solvent rinse of the original container could not be performed.

8015B_DRO_LL_CS

Method 8015B_DRO_LL_CS: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 570-393864. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

8015B_DRO_LL_CS

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

Eurofins Eaton Analytical Pomona

Detection Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: MOANALUA WELLS
PWSID Number: HI0000331

Lab Sample ID: 380-74776-1

No Detections.

Client Sample ID: AIEA GULCH WELLS PUMP 2
PWSID Number: HI0000331

Lab Sample ID: 380-74776-2

No Detections.

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2
PWSID Number: HI0000331

Lab Sample ID: 380-74776-3

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1
PWSID Number: HI0000331

Lab Sample ID: 380-74776-4

No Detections.

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-74776-5

No Detections.

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-74776-6

No Detections.

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-7

No Detections.

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-74776-1

Date Collected: 12/11/23 09:50

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 21:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		38 - 134				12/20/23 21:46	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		12/18/23 13:33	01/05/24 02:08	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		12/18/23 13:33	01/05/24 02:08	1
C8-C18	<25		25	ug/L		12/18/23 13:33	01/05/24 02:08	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	85		60 - 130			12/18/23 13:33	01/05/24 02:08	1

Method: SW846 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	<0.10		0.10	mg/L			12/23/23 20:26	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
Hexafluoro-2-propanol (Surr)	105		54 - 120				12/23/23 20:26	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Acenaphthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Biphenyl	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Chrysene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/18/23 00:00	12/26/23 15:23	1
Fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Fluorene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Naphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Phenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1
Pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 15:23	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: MOANALUA WELLS

Date Collected: 12/11/23 09:50
Date Received: 12/13/23 10:10

Lab Sample ID: 380-74776-1

Matrix: Drinking Water
PWSID Number: HI0000331

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	53		27 - 133	12/18/23 00:00	12/26/23 15:23	1
(d10-Phenanthrene)	64		43 - 129	12/18/23 00:00	12/26/23 15:23	1
(d12-Chrysene)	78		52 - 144	12/18/23 00:00	12/26/23 15:23	1
(d12-Perylene)	84		36 - 161	12/18/23 00:00	12/26/23 15:23	1
(d8-Naphthalene)	50		25 - 125	12/18/23 00:00	12/26/23 15:23	1

Client Sample ID: AIEA GULCH WELLS PUMP 2

Date Collected: 12/11/23 10:48
Date Received: 12/13/23 10:10

Lab Sample ID: 380-74776-2

Matrix: Drinking Water
PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 22:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		38 - 134		12/20/23 22:12	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		12/18/23 13:33	01/05/24 02:29	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		12/18/23 13:33	01/05/24 02:29	1
C8-C18	<25		25	ug/L		12/18/23 13:33	01/05/24 02:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	93		60 - 130	12/18/23 13:33	01/05/24 02:29	1

Method: SW846 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	<0.10		0.10	mg/L			12/23/23 20:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Hexafluoro-2-propanol (Surr)	94		54 - 120		12/23/23 20:48	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Acenaphthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Biphenyl	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Chrysene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-74776-2

Date Collected: 12/11/23 10:48

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		12/18/23 00:00	12/26/23 17:08	1
Fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Fluorene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Naphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Phenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 17:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	50		27 - 133				12/18/23 00:00	12/26/23 17:08	1
(d10-Phenanthrene)	58		43 - 129				12/18/23 00:00	12/26/23 17:08	1
(d12-Chrysene)	79		52 - 144				12/18/23 00:00	12/26/23 17:08	1
(d12-Perylene)	99		36 - 161				12/18/23 00:00	12/26/23 17:08	1
(d8-Naphthalene)	54		25 - 125				12/18/23 00:00	12/26/23 17:08	1

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-3

Date Collected: 12/11/23 11:15

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
GRO (C6-C10)	<10		10	ug/L			12/20/23 22:38	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		38 - 134				12/20/23 22:38	1	

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Diesel Range Organics (C10-C24)	<24		24	ug/L		12/18/23 13:33	01/05/24 02:50	1	
Motor Oil Range Organics [C24-C36]	<24		24	ug/L		12/18/23 13:33	01/05/24 02:50	1	
C8-C18	<24		24	ug/L		12/18/23 13:33	01/05/24 02:50	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	93		60 - 130				12/18/23 13:33	01/05/24 02:50	1

Method: SW846 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Ethanol	<0.10		0.10	mg/L			12/23/23 21:10	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Hexafluoro-2-propanol (Surr)	91		54 - 120				12/23/23 21:10	1	

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-3

Date Collected: 12/11/23 11:15

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Biphenyl	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Chrysene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/18/23 00:00	12/26/23 18:52	1
Fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Fluorene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Naphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Phenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1
Pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	61		27 - 133	12/18/23 00:00	12/26/23 18:52	1
(d10-Phenanthrene)	68		43 - 129	12/18/23 00:00	12/26/23 18:52	1
(d12-Chrysene)	91		52 - 144	12/18/23 00:00	12/26/23 18:52	1
(d12-Perylene)	82		36 - 161	12/18/23 00:00	12/26/23 18:52	1
(d8-Naphthalene)	66		25 - 125	12/18/23 00:00	12/26/23 18:52	1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-4

Date Collected: 12/11/23 10:21

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 23:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		38 - 134		12/20/23 23:05	1

Method: SW846 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<24		24	ug/L		12/18/23 13:33	01/05/24 03:11	1
Motor Oil Range Organics [C24-C36]	<24		24	ug/L		12/18/23 13:33	01/05/24 03:11	1
C8-C18	<24		24	ug/L		12/18/23 13:33	01/05/24 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane (Surr)	89		60 - 130	12/18/23 13:33	01/05/24 03:11	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-4

Date Collected: 12/11/23 10:21

Matrix: Drinking Water

Date Received: 12/13/23 10:10

PWSID Number: HI0000331

Method: SW846 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	<0.10		0.10	mg/L			12/23/23 21:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Hexafluoro-2-propanol (Surr)	92		54 - 120		12/23/23 21:31	1

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Acenaphthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Biphenyl	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Chrysene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		12/18/23 00:00	12/26/23 20:37	1
Fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Fluorene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Naphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Phenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1
Pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	54		27 - 133	12/18/23 00:00	12/26/23 20:37	1
(d10-Phenanthrene)	62		43 - 129	12/18/23 00:00	12/26/23 20:37	1
(d12-Chrysene)	71		52 - 144	12/18/23 00:00	12/26/23 20:37	1
(d12-Perylene)	78		36 - 161	12/18/23 00:00	12/26/23 20:37	1
(d8-Naphthalene)	61		25 - 125	12/18/23 00:00	12/26/23 20:37	1

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-74776-5

Date Collected: 12/11/23 09:50

Matrix: Water

Date Received: 12/13/23 10:10

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	µg/L			12/20/23 18:51	1

Eurofins Eaton Analytical Pomona

Client Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-74776-5

Date Collected: 12/11/23 09:50

Matrix: Water

Date Received: 12/13/23 10:10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		38 - 134		12/20/23 18:51	1

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-74776-6

Date Collected: 12/11/23 10:48

Matrix: Water

Date Received: 12/13/23 10:10

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		38 - 134		12/20/23 19:44	1

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-7

Date Collected: 12/11/23 11:15

Matrix: Water

Date Received: 12/13/23 10:10

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		38 - 134		12/20/23 20:11	1

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-8

Date Collected: 12/11/23 10:21

Matrix: Water

Date Received: 12/13/23 10:10

Method: SW846 8015B GRO LL - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		38 - 134		12/20/23 20:37	1

Surrogate Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-74776-1	MOANALUA WELLS	88
380-74776-2	AIEA GULCH WELLS PUMP 2	106
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	110
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	111

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (38-134)
380-74776-5	TB MOANALUA WELLS	105
380-74776-6	TB AIEA GULCH WELLS PUMP 2	109
380-74776-7	TB AIEA WELLS PUMPS 1&2 (260) P2	110
380-74776-8	TB HALAWA WELLS UNITS 1 & 2 P1	107
570-164449-C-2 MS	Matrix Spike	93
570-164449-C-2 MSD	Matrix Spike Duplicate	111
LCS 570-394808/4	Lab Control Sample	116
LCSD 570-394808/5	Lab Control Sample Dup	114
MB 570-394808/8	Method Blank	109
MRL 570-394808/7	Lab Control Sample	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
380-74776-1	MOANALUA WELLS	85
380-74776-2	AIEA GULCH WELLS PUMP 2	93
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	93
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	89

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-74776-2
 SDG: 8015, 625

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTCSN1 (60-130)
LCS 570-393864/2-A	Lab Control Sample	90
LCSD 570-393864/3-A	Lab Control Sample Dup	98
MB 570-393864/1-A	Method Blank	92
MRL 570-393864/4-A	Lab Control Sample	82

Surrogate Legend

OTCSN = n-Octacosane (Surr)

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Matrix: Drinking Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HF2PP1 (54-120)
380-74776-1	MOANALUA WELLS	105
380-74776-2	AIEA GULCH WELLS PUMP 2	94
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	91
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	92

Surrogate Legend

HF2PP = Hexafluoro-2-propanol (Surr)

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HF2PP1 (54-120)
570-165758-A-1 MS	Matrix Spike	97
570-165758-A-1 MSD	Matrix Spike Duplicate	114
LCS 570-396065/4	Lab Control Sample	95
LCSD 570-396065/5	Lab Control Sample Dup	103
MB 570-396065/3	Method Blank	98
MRL 570-396065/6	Lab Control Sample	104

Surrogate Legend

HF2PP = Hexafluoro-2-propanol (Surr)

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: BlankMatrix

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
113489-B1	Method Blank	93	93	100	96	84
113489-BS1	Lab Control Sample	87	96	95	89	90
113489-BS2	Lab Control Sample Dup	74	93	90	71	84

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)

(d10-Phenanthrene) = (d10-Phenanthrene)

CRY = (d12-Chrysene)

Surrogate Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL
 NPT = (d8-Naphthalene)
 PRY = (d12-Perylene)

Job ID: 380-74776-2
 SDG: 8015, 625

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Matrix: Drinking Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)				
		Acenaphtl (27-133)	Phenanth (43-129)	CRY (52-144)	NPT (25-125)	PRY (36-161)
380-74776-1	MOANALUA WELLS	53	64	78	50	84
380-74776-2	AIEA GULCH WELLS PUMP 2	50	58	79	54	99
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	61	68	91	66	82
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	54	62	71	61	78

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene)
 (d10-Phenanthrene) = (d10-Phenanthrene)
 CRY = (d12-Chrysene)
 NPT = (d8-Naphthalene)
 PRY = (d12-Perylene)



QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: MB 570-394808/8
Matrix: Water
Analysis Batch: 394808

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C6-C10)	<10		10	ug/L			12/20/23 18:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		38 - 134				12/20/23 18:13	1

Lab Sample ID: LCS 570-394808/4
Matrix: Water
Analysis Batch: 394808

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	389	431		ug/L		111	78 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	116		38 - 134				

Lab Sample ID: LCSD 570-394808/5
Matrix: Water
Analysis Batch: 394808

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	389	421		ug/L		108	78 - 120	2	10
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	114		38 - 134						

Lab Sample ID: MRL 570-394808/7
Matrix: Water
Analysis Batch: 394808

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	10.0	12.4		ug/L		124	50 - 150
Surrogate	MRL %Recovery	MRL Qualifier	Limits				
4-Bromofluorobenzene (Surr)	109		38 - 134				

Lab Sample ID: 570-164449-C-2 MS
Matrix: Water
Analysis Batch: 394808

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (C4-C13)	<10		389	416		ug/L		107	68 - 122
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	93		38 - 134						

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 8015B GRO LL - Gasoline Range Organics - (GC)

Lab Sample ID: 570-164449-C-2 MSD
Matrix: Water
Analysis Batch: 394808

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (C4-C13)	<10		389	430		ug/L		111	68 - 122	3	18
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
4-Bromofluorobenzene (Surr)	111		38 - 134								

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 570-393864/1-A
Matrix: Water
Analysis Batch: 398593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393864

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C24)	<25		25	ug/L		12/18/23 13:33	01/04/24 22:59	1
Motor Oil Range Organics [C24-C36]	<25		25	ug/L		12/18/23 13:33	01/04/24 22:59	1
C8-C18	<25		25	ug/L		12/18/23 13:33	01/04/24 22:59	1
Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac		
n-Octacosane (Surr)	92		60 - 130	12/18/23 13:33	01/04/24 22:59	1		

Lab Sample ID: LCS 570-393864/2-A
Matrix: Water
Analysis Batch: 398593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393864

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
C10-C28	1600	1110		ug/L		69	56 - 127
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
n-Octacosane (Surr)	90		60 - 130				

Lab Sample ID: LCSD 570-393864/3-A
Matrix: Water
Analysis Batch: 398593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393864

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
C10-C28	1600	1100		ug/L		69	56 - 127	0	23
Surrogate	%Recovery	LCSD Qualifier	LCSD Limits						
n-Octacosane (Surr)	98		60 - 130						

Lab Sample ID: MRL 570-393864/4-A
Matrix: Water
Analysis Batch: 398593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393864

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
C10-C28	0.0200	0.0386	^3+	mg/L		193	50 - 150

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: MRL 570-393864/4-A
Matrix: Water
Analysis Batch: 398593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393864

Surrogate	%Recovery	MRL MRL Qualifier	Limits
<i>n</i> -Octacosane (Surr)	82		60 - 130

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC)

Lab Sample ID: MB 570-396065/3
Matrix: Water
Analysis Batch: 396065

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	<0.10		0.10	mg/L			12/23/23 17:54	1
Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac		
Hexafluoro-2-propanol (Surr)	98		54 - 120		12/23/23 17:54	1		

Lab Sample ID: LCS 570-396065/4
Matrix: Water
Analysis Batch: 396065

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethanol	2.00	2.41		mg/L		121	78 - 131
Surrogate	%Recovery	LCS LCS Qualifier	Limits				
Hexafluoro-2-propanol (Surr)	95		54 - 120				

Lab Sample ID: LCSD 570-396065/5
Matrix: Water
Analysis Batch: 396065

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethanol	2.00	2.30		mg/L		115	78 - 131	5	25
Surrogate	%Recovery	LCSD LCSD Qualifier	Limits						
Hexafluoro-2-propanol (Surr)	103		54 - 120						

Lab Sample ID: MRL 570-396065/6
Matrix: Water
Analysis Batch: 396065

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Ethanol	0.100	0.0864	J	mg/L		86	50 - 150
Surrogate	%Recovery	MRL MRL Qualifier	Limits				
Hexafluoro-2-propanol (Surr)	104		54 - 120				

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 8015B - Nonhalogenated Organic Compounds - Direct Injection (GC) (Continued)

Lab Sample ID: 570-165758-A-1 MS
Matrix: Water
Analysis Batch: 396065

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethanol	<0.10		2.00	2.71		mg/L		135	20 - 173
Surrogate	%Recovery	MS Qualifier	MS Limits						
Hexafluoro-2-propanol (Surr)	97		54 - 120						

Lab Sample ID: 570-165758-A-1 MSD
Matrix: Water
Analysis Batch: 396065

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ethanol	<0.10		2.00	2.35		mg/L		118	20 - 173	14	21
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
Hexafluoro-2-propanol (Surr)	114		54 - 120								

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 113489-B1
Matrix: BlankMatrix
Analysis Batch: O-44040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-44040_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Acenaphthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Acenaphthylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Biphenyl	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Chrysene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Dibenzothiophene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Disalicylidenepranediamine	ND		0.1	0.05	µg/L		12/18/23 00:00	12/26/23 10:08	1
Fluoranthene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Fluorene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Naphthalene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Perylene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Phenanthrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1

Eurofins Eaton Analytical Pomona

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i (Continued)

Lab Sample ID: 113489-B1
Matrix: BlankMatrix
Analysis Batch: O-44040

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-44040_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	ND		0.005	0.001	µg/L		12/18/23 00:00	12/26/23 10:08	1
Surrogate	Blank %Recovery	Blank Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	93		27 - 133				12/18/23 00:00	12/26/23 10:08	1
(d10-Phenanthrene)	93		43 - 129				12/18/23 00:00	12/26/23 10:08	1
(d12-Chrysene)	100		52 - 144				12/18/23 00:00	12/26/23 10:08	1
(d12-Perylene)	84		36 - 161				12/18/23 00:00	12/26/23 10:08	1
(d8-Naphthalene)	96		25 - 125				12/18/23 00:00	12/26/23 10:08	1

Lab Sample ID: 113489-BS1
Matrix: BlankMatrix
Analysis Batch: O-44040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-44040_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.398		µg/L		80	31 - 128
1-Methylphenanthrene	0.5	0.444		µg/L		89	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.448		µg/L		90	55 - 122
2,6-Dimethylnaphthalene	0.5	0.427		µg/L		85	48 - 120
2-Methylnaphthalene	0.5	0.433		µg/L		87	47 - 130
Acenaphthene	0.5	0.435		µg/L		87	53 - 131
Acenaphthylene	0.5	0.414		µg/L		83	43 - 140
Anthracene	0.5	0.486		µg/L		97	58 - 135
Benz[a]anthracene	0.5	0.428		µg/L		86	55 - 145
Benzo[a]pyrene	0.5	0.451		µg/L		90	51 - 143
Benzo[b]fluoranthene	0.5	0.477		µg/L		95	46 - 165
Benzo[e]pyrene	0.5	0.436		µg/L		87	42 - 152
Benzo[g,h,i]perylene	0.5	0.492		µg/L		98	63 - 133
Benzo[k]fluoranthene	0.5	0.461		µg/L		92	56 - 145
Biphenyl	0.5	0.434		µg/L		87	56 - 119
Chrysene	0.5	0.546		µg/L		109	56 - 141
Dibenz[a,h]anthracene	0.5	0.503		µg/L		101	55 - 150
Dibenzo[a,l]pyrene	0.5	0.568		µg/L		114	50 - 150
Dibenzothiophene	0.5	0.474		µg/L		95	46 - 126
Disalicylidenepropanediamine	50	72.2		µg/L		144	50 - 150
Fluoranthene	0.5	0.456		µg/L		91	60 - 146
Fluorene	0.5	0.448		µg/L		90	58 - 131
Indeno[1,2,3-cd]pyrene	0.5	0.506		µg/L		101	50 - 151
Naphthalene	0.5	0.44		µg/L		88	41 - 126
Perylene	0.5	0.477		µg/L		95	48 - 141
Phenanthrene	0.5	0.476		µg/L		95	67 - 127
Pyrene	0.5	0.466		µg/L		93	54 - 156
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
(d10-Acenaphthene)	87		27 - 133				
(d10-Phenanthrene)	96		43 - 129				
(d12-Chrysene)	95		52 - 144				
(d12-Perylene)	90		36 - 161				
(d8-Naphthalene)	89		25 - 125				

QC Sample Results

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method: 625 PAH Physis LL (EAL) + TICs - EPA 625 Base/Neutral and Acid Organics i

Lab Sample ID: 113489-BS2
Matrix: BlankMatrix
Analysis Batch: O-44040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-44040_P

Analyte	Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1-Methylnaphthalene	0.5	0.339		µg/L		68	31 - 128	16	30	
1-Methylphenanthrene	0.5	0.418		µg/L		84	66 - 127	6	30	
2,3,5-Trimethylnaphthalene	0.5	0.396		µg/L		79	55 - 122	13	30	
2,6-Dimethylnaphthalene	0.5	0.383		µg/L		77	48 - 120	10	30	
2-Methylnaphthalene	0.5	0.368		µg/L		74	47 - 130	16	30	
Acenaphthene	0.5	0.385		µg/L		77	53 - 131	12	30	
Acenaphthylene	0.5	0.362		µg/L		72	43 - 140	14	30	
Anthracene	0.5	0.459		µg/L		92	58 - 135	5	30	
Benz[a]anthracene	0.5	0.397		µg/L		79	55 - 145	8	30	
Benzo[a]pyrene	0.5	0.431		µg/L		86	51 - 143	5	30	
Benzo[b]fluoranthene	0.5	0.475		µg/L		95	46 - 165	0	30	
Benzo[e]pyrene	0.5	0.411		µg/L		82	42 - 152	6	30	
Benzo[g,h,i]perylene	0.5	0.469		µg/L		94	63 - 133	4	30	
Benzo[k]fluoranthene	0.5	0.424		µg/L		85	56 - 145	8	30	
Biphenyl	0.5	0.36		µg/L		72	56 - 119	19	30	
Chrysene	0.5	0.531		µg/L		106	56 - 141	3	30	
Dibenz[a,h]anthracene	0.5	0.518		µg/L		104	55 - 150	3	30	
Dibenzo[a,l]pyrene	0.5	0.441		µg/L		88	50 - 150	26	30	
Dibenzothiophene	0.5	0.43		µg/L		86	46 - 126	10	30	
Disalicylidenepropanediamine	50	69		µg/L		138	50 - 150	4	30	
Fluoranthene	0.5	0.433		µg/L		87	60 - 146	4	30	
Fluorene	0.5	0.433		µg/L		87	58 - 131	3	30	
Indeno[1,2,3-cd]pyrene	0.5	0.488		µg/L		98	50 - 151	3	30	
Naphthalene	0.5	0.349		µg/L		70	41 - 126	23	30	
Perylene	0.5	0.423		µg/L		85	48 - 141	11	30	
Phenanthrene	0.5	0.442		µg/L		88	67 - 127	8	30	
Pyrene	0.5	0.434		µg/L		87	54 - 156	7	30	

Surrogate	LCS DUP		Limits
	%Recovery	Qualifier	
(d10-Acenaphthene)	74		27 - 133
(d10-Phenanthrene)	93		43 - 129
(d12-Chrysene)	90		52 - 144
(d12-Perylene)	84		36 - 161
(d8-Naphthalene)	71		25 - 125

QC Association Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

GC VOA

Analysis Batch: 394808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	8015B GRO LL	
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015B GRO LL	
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015B GRO LL	
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B GRO LL	
380-74776-5	TB MOANALUA WELLS	Total/NA	Water	8015B GRO LL	
380-74776-6	TB AIEA GULCH WELLS PUMP 2	Total/NA	Water	8015B GRO LL	
380-74776-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Water	8015B GRO LL	
380-74776-8	TB HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	8015B GRO LL	
MB 570-394808/8	Method Blank	Total/NA	Water	8015B GRO LL	
LCS 570-394808/4	Lab Control Sample	Total/NA	Water	8015B GRO LL	
LCSD 570-394808/5	Lab Control Sample Dup	Total/NA	Water	8015B GRO LL	
MRL 570-394808/7	Lab Control Sample	Total/NA	Water	8015B GRO LL	
570-164449-C-2 MS	Matrix Spike	Total/NA	Water	8015B GRO LL	
570-164449-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B GRO LL	

GC Semi VOA

Prep Batch: 393864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	3510C	
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	3510C	
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	3510C	
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	3510C	
MB 570-393864/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-393864/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-393864/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MRL 570-393864/4-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 396065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	8015B	
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015B	
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015B	
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B	
MB 570-396065/3	Method Blank	Total/NA	Water	8015B	
LCS 570-396065/4	Lab Control Sample	Total/NA	Water	8015B	
LCSD 570-396065/5	Lab Control Sample Dup	Total/NA	Water	8015B	
MRL 570-396065/6	Lab Control Sample	Total/NA	Water	8015B	
570-165758-A-1 MS	Matrix Spike	Total/NA	Water	8015B	
570-165758-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8015B	

Analysis Batch: 398593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	8015B	393864
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	8015B	393864
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	8015B	393864
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015B	393864
MB 570-393864/1-A	Method Blank	Total/NA	Water	8015B	393864
LCS 570-393864/2-A	Lab Control Sample	Total/NA	Water	8015B	393864
LCSD 570-393864/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	393864
MRL 570-393864/4-A	Lab Control Sample	Total/NA	Water	8015B	393864

QC Association Summary

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-74776-2
 SDG: 8015, 625

Subcontract

Analysis Batch: O-44040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-44040_P
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-44040_P
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-44040_P
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-44040_P
113489-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-44040_P
113489-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-44040_P
113489-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis LL (EAL) + TICs	O-44040_P

Prep Batch: O-44040_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-74776-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-74776-2	AIEA GULCH WELLS PUMP 2	Total/NA	Drinking Water	EPA_625	
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Total/NA	Drinking Water	EPA_625	
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	EPA_625	
113489-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
113489-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
113489-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

Lab Chronicle

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Client Sample ID: MOANALUA WELLS

Lab Sample ID: 380-74776-1

Date Collected: 12/11/23 09:50

Matrix: Drinking Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 21:46
Total/NA	Prep	3510C			393864	JC	EET CAL 4	12/18/23 13:33
Total/NA	Analysis	8015B		1	398593	SP9M	EET CAL 4	01/05/24 02:08
Total/NA	Analysis	8015B		1	396065	J7WE	EET CAL 4	12/23/23 20:26
Total/NA	Prep	EPA_625		1	O-44040_P			12/18/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-44040	YC		12/26/23 15:23

Client Sample ID: AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-74776-2

Date Collected: 12/11/23 10:48

Matrix: Drinking Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 22:12
Total/NA	Prep	3510C			393864	JC	EET CAL 4	12/18/23 13:33
Total/NA	Analysis	8015B		1	398593	SP9M	EET CAL 4	01/05/24 02:29
Total/NA	Analysis	8015B		1	396065	J7WE	EET CAL 4	12/23/23 20:48
Total/NA	Prep	EPA_625		1	O-44040_P			12/18/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-44040	YC		12/26/23 17:08

Client Sample ID: AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-3

Date Collected: 12/11/23 11:15

Matrix: Drinking Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 22:38
Total/NA	Prep	3510C			393864	JC	EET CAL 4	12/18/23 13:33
Total/NA	Analysis	8015B		1	398593	SP9M	EET CAL 4	01/05/24 02:50
Total/NA	Analysis	8015B		1	396065	J7WE	EET CAL 4	12/23/23 21:10
Total/NA	Prep	EPA_625		1	O-44040_P			12/18/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-44040	YC		12/26/23 18:52

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-4

Date Collected: 12/11/23 10:21

Matrix: Drinking Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 23:05
Total/NA	Prep	3510C			393864	JC	EET CAL 4	12/18/23 13:33
Total/NA	Analysis	8015B		1	398593	SP9M	EET CAL 4	01/05/24 03:11
Total/NA	Analysis	8015B		1	396065	J7WE	EET CAL 4	12/23/23 21:31
Total/NA	Prep	EPA_625		1	O-44040_P			12/18/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-44040	YC		12/26/23 20:37

Eurofins Eaton Analytical Pomona

Lab Chronicle

Client: City & County of Honolulu
 Project/Site: RED-HILL

Job ID: 380-74776-2
 SDG: 8015, 625

Client Sample ID: TB MOANALUA WELLS

Lab Sample ID: 380-74776-5

Date Collected: 12/11/23 09:50

Matrix: Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 18:51

Client Sample ID: TB AIEA GULCH WELLS PUMP 2

Lab Sample ID: 380-74776-6

Date Collected: 12/11/23 10:48

Matrix: Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 19:44

Client Sample ID: TB AIEA WELLS PUMPS 1&2 (260) P2

Lab Sample ID: 380-74776-7

Date Collected: 12/11/23 11:15

Matrix: Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 20:11

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2 P1

Lab Sample ID: 380-74776-8

Date Collected: 12/11/23 10:21

Matrix: Water

Date Received: 12/13/23 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015B GRO LL		1	394808	A9VE	EET CAL 4	12/20/23 20:37

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806
 EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
California	Los Angeles County Sanitation Districts	10109	08-01-24
California	State	3082	07-31-24
Kansas	NELAP	E-10420	08-01-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Method Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Method	Method Description	Protocol	Laboratory
8015B GRO LL	Gasoline Range Organics - (GC)	SW846	EET CAL 4
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	EET CAL 4
8015B	Nonhalogenated Organic Compounds - Direct Injection (GC)	SW846	EET CAL 4
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

= Physis Environmental Laboratories, 1904 Wright Circle, Anaheim, CA 92806

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: City & County of Honolulu
Project/Site: RED-HILL

Job ID: 380-74776-2
SDG: 8015, 625

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-74776-1	MOANALUA WELLS	Drinking Water	12/11/23 09:50	12/13/23 10:10	HI0000331
380-74776-2	AIEA GULCH WELLS PUMP 2	Drinking Water	12/11/23 10:48	12/13/23 10:10	HI0000331
380-74776-3	AIEA WELLS PUMPS 1&2 (260) P2	Drinking Water	12/11/23 11:15	12/13/23 10:10	HI0000331
380-74776-4	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	12/11/23 10:21	12/13/23 10:10	HI0000331
380-74776-5	TB MOANALUA WELLS	Water	12/11/23 09:50	12/13/23 10:10	
380-74776-6	TB AIEA GULCH WELLS PUMP 2	Water	12/11/23 10:48	12/13/23 10:10	
380-74776-7	TB AIEA WELLS PUMPS 1&2 (260) P2	Water	12/11/23 11:15	12/13/23 10:10	
380-74776-8	TB HALAWA WELLS UNITS 1 & 2 P1	Water	12/11/23 10:21	12/13/23 10:10	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

December 30, 2023

Rachelle Arada
Eurofins Eaton Analytical
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-

Project Name: RED-HILL Project # 38001111 Job # 380-74776-1
Physis Project ID: 1407003-465

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 12/14/2023. A total of 4 samples were received for analysis in accordance with the attached chain of custody (COC). Per the COC, the samples were analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1

Analytical results in this report apply only to samples submitted to PHYSIS in accordance with the COC and are intended to be considered in their entirety.

Please feel free to contact me at any time with any questions. PHYSIS appreciates the opportunity to provide you with our analytical and support services.

Regards,

Rachel Hansen
714 602-5320
Extension 203
rachelhansen@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-465

RED-HILL Project # 38001111 Job # 380-74776-1

Total Samples: 4

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
113490	MOANALUA WELLS	380-74776-1	12/11/202	9:50	Samplewater	Not Specified
113491	AIEA GULCH WELLS PUMP 2	380-74776-2	12/11/202	10:48	Samplewater	Not Specified
113492	AIEA WELLS PUMPS 1&2 (260) P2	380-74776-3	12/11/202	11:15	Samplewater	Not Specified
113493	HALAWA WELLS UNITS 1 & 2 P	380-74776-4	12/11/202	10:21	Samplewater	Not Specified

ABBREVIATIONS and ACRONYMS

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R2	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight

QUALITY ASSURANCE SUMMARY

LABORATORY BATCH: Physis' QM defines a laboratory batch as a group of 20 or fewer project samples of similar matrix, processed together under the same conditions and with the same reagents. QC samples are associated with each batch and were used to assess the validity of the sample analyses.

PROCEDURAL BLANK: Laboratory contamination introduced during method use is assessed through the preparation and analysis of procedural blanks is provided at a minimum frequency of one per batch.

ACCURACY: Accuracy of analytical measurements is the degree of closeness based on percent recovery calculations between measured values and the actual or true value and includes a combination of reproducibility error and systematic bias due to sampling and analytical operations. Accuracy of the project data was indicated by analysis of MS, BS, LCS, LCM, CRM, and/or surrogate spikes on a minimum frequency of one per batch. Physis' QM requires that 95% of the target compounds greater than 10 times the MDL be within the specified acceptance limits.

PRECISION: Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS₁/MS₂, BS₁/BS₂, LCS₁/LCS₂, LCM₁/LCM₂, CRM₁/CRM₂, surrogate spikes and/or replicate project sample analysis (R₁/R₂) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

BLANK SPIKES: BS is the introduction of a known concentration of analyte into the procedural blank. BS demonstrates performance of the preparation and analytical methods on a clean matrix void of potential matrix related interferences. The BS is performed in laboratory deionized water, making these recoveries a better indicator of the efficiency of the laboratory method per se.

MATRIX SPIKES: MS is the introduction of a known concentration of analyte into a sample. MS samples demonstrate the effect a particular project sample matrix has on the accuracy of a measurement. Individually, MS samples also indicate the bias of analytical measurements due to chemical interferences inherent in the in the specific project sample spiked. Intrinsic target analyte concentration in the specific project sample can also significantly impact MS recovery.

CERTIFIED REFERENCE MATERIALS: CRMs are materials of various matrices for which analytical information has been determined and certified by a recognized authority. These are used to provide a quantitative assessment of the accuracy of an analytical method. CRMs provide evidence that the laboratory preparation and analysis produces results that are comparable to those obtained by an independent organization.

LABORATORY CONTROL MATERIAL: LCM is provided because a suitable natural seawater CRM is not available and can be used to indicate accuracy of the method. Physis' internal LCM is seawater collected at ~800 meters in the Southern California San Pedro Basin and can be used as a reference for background concentrations in clean, natural seawater for comparison to project samples.

LABORATORY CONTROL SPIKES: LCS is the introduction of a known concentration of analyte into Physis' LCM. LCS samples were employed to assess the effect the seawater matrix has on the accuracy of a measurement. LCS also indicate the bias of this method due to chemical interferences inherent in the in the seawater matrix. Intrinsic LCM concentration can also significantly impact LCS recovery.

SURROGATES: A surrogate is a pure analyte unlikely to be found in any project sample, behaves similarly to

the target analyte and most often used with organic analytical procedures. Surrogates are added in known concentration to all samples and are measured to indicate overall efficiency of the method including processing and analyses.

HOLDING TIME: Method recommended holding times are the length of time a project sample can be stored under specific conditions after collection and prior to analysis without significantly affecting the analyte's concentration. Holding times can be extended if preservation techniques are employed to reduce biodegradation, volatilization, oxidation, sorption, precipitation, and other physical and chemical processes.

SAMPLE STORAGE/RETENTION: In order to maintain chemical integrity prior to analysis, all samples submitted to Physis are refrigerated (liquids) or frozen (solids) upon receipt unless otherwise recommended by applicable methods. Solid samples are retained for 1 year from collection while liquid samples are retained until method recommended holding times elapse.

TOTAL/DISSOLVED FRACTION: In some instances, the results for the dissolved fraction may be higher than the total fraction for a particular analyte (e.g. trace metals). This is typically caused by the analytical variation for each result and indicates that the target analyte is primarily in the dissolved phase, within the sample.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
B	analyte was detected in the procedural blank greater than 10 times the MDL
E	analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
H	sample received and/or analyzed past the recommended holding time
J	analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
N	insufficient sample, analysis could not be performed
M	analyte was outside the specified accuracy and/or precision acceptance limits due to matrix interference. The associated B/BS were within limits, therefore the sample data was reported without further clarification
SH	analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
SL	analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
NH	project sample was heterogeneous and sample homogeneity could not be readily achieved using routine laboratory practices, therefore accuracy and/or precision acceptance limits do not apply
Q	analyte was outside the specified QAPP acceptance limits for precision and/or accuracy but within Physis derived acceptance limits, therefore the sample data was reported without further clarification
R	Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples

CASE NARRATIVE

QUALIFIER NOTES

In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

ND

MDL is listed due to report format restrictions; it is not used in reporting. Analytical results reported are ND at the RL.

ANALYTICAL REPORT

TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 113490-R1	MOANALUA WELLS 380-74776-1		Matrix: Samplewater					Sampled: 11-Dec-23 9:50		Received: 14-Dec-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-44040	18-Dec-23	26-Dec-23
Sample ID: 113491-R1	AIEA GULCH WELLS PUMP 2 380-7		Matrix: Samplewater					Sampled: 11-Dec-23 10:48		Received: 14-Dec-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-44040	18-Dec-23	26-Dec-23
Sample ID: 113492-R1	AIEA WELLS PUMPS 1&2 (260) P2 3		Matrix: Samplewater					Sampled: 11-Dec-23 11:15		Received: 14-Dec-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-44040	18-Dec-23	26-Dec-23
Sample ID: 113493-R1	HALAWA WELLS UNITS 1 & 2 P 380		Matrix: Samplewater					Sampled: 11-Dec-23 10:21		Received: 14-Dec-23	
Disalicylideneprapanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-44040	18-Dec-23	26-Dec-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 113490-R1	MOANALUA WELLS 380-74776-1	Matrix: Samplewater					Sampled:	11-Dec-23	9:50	Received:	14-Dec-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	53	1			Total		O-44040	18-Dec-23	26-Dec-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	64	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Chrysene)	EPA 625.1	% Recovery	78	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Perylene)	EPA 625.1	% Recovery	84	1			Total		O-44040	18-Dec-23	26-Dec-23
(d8-Naphthalene)	EPA 625.1	% Recovery	50	1			Total		O-44040	18-Dec-23	26-Dec-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 113491-R1	AIEA GULCH WELLS PUMP 2 380-7 Matrix: Samplewater						Sampled:	11-Dec-23 10:48	Received:	14-Dec-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	50	1			Total		O-44040	18-Dec-23	26-Dec-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	58	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Chrysene)	EPA 625.1	% Recovery	79	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Perylene)	EPA 625.1	% Recovery	99	1			Total		O-44040	18-Dec-23	26-Dec-23
(d8-Naphthalene)	EPA 625.1	% Recovery	54	1			Total		O-44040	18-Dec-23	26-Dec-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 113492-R1	AIEA WELLS PUMPS 1&2 (260) P2 3 Matrix: Samplewater						Sampled:	11-Dec-23	11:15	Received:	14-Dec-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	61	1			Total		O-44040	18-Dec-23	26-Dec-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	68	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Chrysene)	EPA 625.1	% Recovery	91	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Perylene)	EPA 625.1	% Recovery	82	1			Total		O-44040	18-Dec-23	26-Dec-23
(d8-Naphthalene)	EPA 625.1	% Recovery	66	1			Total		O-44040	18-Dec-23	26-Dec-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23



Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 113493-R1	HALAWA WELLS UNITS 1 & 2 P 380 Matrix: Samplewater						Sampled:	11-Dec-23 10:21	Received:	14-Dec-23	
(d10-Acenaphthene)	EPA 625.1	% Recovery	54	1			Total		O-44040	18-Dec-23	26-Dec-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	62	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Chrysene)	EPA 625.1	% Recovery	71	1			Total		O-44040	18-Dec-23	26-Dec-23
(d12-Perylene)	EPA 625.1	% Recovery	78	1			Total		O-44040	18-Dec-23	26-Dec-23
(d8-Naphthalene)	EPA 625.1	% Recovery	61	1			Total		O-44040	18-Dec-23	26-Dec-23
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-44040	18-Dec-23	26-Dec-23



QUALITY CONTROL REPORT

TERRA CONSULTING AURA ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Base/Neutral Extractable Compounds

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 113489-B1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-44040			Prepared: 18-Dec-23		Analyzed: 26-Dec-23			
Disalicylideneprapanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 113489-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-44040			Prepared: 18-Dec-23		Analyzed: 26-Dec-23			
Disalicylideneprapanediamin	Total	72.2	1	0.05	0.1	µg/L	50	0	144	50 - 150%	PASS		
Sample ID: 113489-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:			
		Method: EPA 625.1			Batch ID: O-44040			Prepared: 18-Dec-23		Analyzed: 26-Dec-23			
Disalicylideneprapanediamin	Total	69	1	0.05	0.1	µg/L	50	0	138	50 - 150%	PASS	4	30 PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL	RESULT	% LIMITS	% LIMITS	
Sample ID: 113489-B1		QAQC Procedural Blank			Matrix: BlankMatrix		Sampled:		Received:		
		Method: EPA 625.1				Batch ID: O-44040	Prepared: 18-Dec-23		Analyzed: 26-Dec-23		
(d10-Acenaphthene)	Total	93	1			% Recovery	100	93	27 - 133%	PASS	
(d10-Phenanthrene)	Total	93	1			% Recovery	100	93	43 - 129%	PASS	
(d12-Chrysene)	Total	100	1			% Recovery	100	100	52 - 144%	PASS	
(d12-Perylene)	Total	84	1			% Recovery	100	84	36 - 161%	PASS	
(d8-Naphthalene)	Total	96	1			% Recovery	100	96	25 - 125%	PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L					
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthene	Total	ND	1	0.001	0.005	µg/L					
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L					
Anthracene	Total	ND	1	0.001	0.005	µg/L					
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L					
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L					
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L					
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L					
Biphenyl	Total	ND	1	0.001	0.005	µg/L					
Chrysene	Total	ND	1	0.001	0.005	µg/L					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L					

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							



Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY	PRECISION	QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Sample ID: 113489-BS1		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
Method: EPA 625.1		Batch ID: O-44040			Prepared: 18-Dec-23		Analyzed: 26-Dec-23					
(d10-Acenaphthene)	Total	87	1			% Recovery	100	0	87	27 - 133%	PASS	
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129%	PASS	
(d12-Chrysene)	Total	95	1			% Recovery	100	0	95	52 - 144%	PASS	
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS	
(d8-Naphthalene)	Total	89	1			% Recovery	100	0	89	25 - 125%	PASS	
1-Methylnaphthalene	Total	0.398	1	0.001	0.005	µg/L	0.5	0	80	31 - 128%	PASS	
1-Methylphenanthrene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	66 - 127%	PASS	
2,3,5-Trimethylnaphthalene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	55 - 122%	PASS	
2,6-Dimethylnaphthalene	Total	0.427	1	0.001	0.005	µg/L	0.5	0	85	48 - 120%	PASS	
2-Methylnaphthalene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	47 - 130%	PASS	
Acenaphthene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	53 - 131%	PASS	
Acenaphthylene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	43 - 140%	PASS	
Anthracene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	58 - 135%	PASS	
Benz[a]anthracene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	55 - 145%	PASS	
Benzo[a]pyrene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	51 - 143%	PASS	
Benzo[b]fluoranthene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	46 - 165%	PASS	
Benzo[e]pyrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	42 - 152%	PASS	
Benzo[g,h,i]perylene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	63 - 133%	PASS	
Benzo[k]fluoranthene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	56 - 145%	PASS	
Biphenyl	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	56 - 119%	PASS	
Chrysene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	56 - 141%	PASS	
Dibenz[a,h]anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	55 - 150%	PASS	
Dibenzo[a,l]pyrene	Total	0.568	1	0.001	0.005	µg/L	0.5	0	114	50 - 150%	PASS	

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	46 - 126%	PASS		
Fluoranthene	Total	0.456	1	0.001	0.005	µg/L	0.5	0	91	60 - 146%	PASS		
Fluorene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	58 - 131%	PASS		
Indeno[1,2,3-cd]pyrene	Total	0.506	1	0.001	0.005	µg/L	0.5	0	101	50 - 151%	PASS		
Naphthalene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	41 - 126%	PASS		
Perylene	Total	0.477	1	0.001	0.005	µg/L	0.5	0	95	48 - 141%	PASS		
Phenanthrene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	67 - 127%	PASS		
Pyrene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	54 - 156%	PASS		

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODEc	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Sample ID: 113489-BS2		QAQC Procedural Blank			Matrix: BlankMatrix			Sampled:			Received:			
		Method: EPA 625.1			Batch ID: O-44040			Prepared: 18-Dec-23			Analyzed: 26-Dec-23			
(d10-Acenaphthene)	Total	74	1			% Recovery	100	0	74	27 - 133%	PASS	16	30	PASS
(d10-Phenanthrene)	Total	93	1			% Recovery	100	0	93	43 - 129%	PASS	3	30	PASS
(d12-Chrysene)	Total	90	1			% Recovery	100	0	90	52 - 144%	PASS	5	30	PASS
(d12-Perylene)	Total	84	1			% Recovery	100	0	84	36 - 161%	PASS	7	30	PASS
(d8-Naphthalene)	Total	71	1			% Recovery	100	0	71	25 - 125%	PASS	22	30	PASS
1-Methylnaphthalene	Total	0.339	1	0.001	0.005	µg/L	0.5	0	68	31 - 128%	PASS	16	30	PASS
1-Methylphenanthrene	Total	0.418	1	0.001	0.005	µg/L	0.5	0	84	66 - 127%	PASS	6	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.396	1	0.001	0.005	µg/L	0.5	0	79	55 - 122%	PASS	13	30	PASS
2,6-Dimethylnaphthalene	Total	0.383	1	0.001	0.005	µg/L	0.5	0	77	48 - 120%	PASS	10	30	PASS
2-Methylnaphthalene	Total	0.368	1	0.001	0.005	µg/L	0.5	0	74	47 - 130%	PASS	16	30	PASS
Acenaphthene	Total	0.385	1	0.001	0.005	µg/L	0.5	0	77	53 - 131%	PASS	12	30	PASS
Acenaphthylene	Total	0.362	1	0.001	0.005	µg/L	0.5	0	72	43 - 140%	PASS	14	30	PASS
Anthracene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	58 - 135%	PASS	5	30	PASS
Benz[a]anthracene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	55 - 145%	PASS	8	30	PASS
Benzo[a]pyrene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	51 - 143%	PASS	5	30	PASS
Benzo[b]fluoranthene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	46 - 165%	PASS	0	30	PASS
Benzo[e]pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	42 - 152%	PASS	6	30	PASS
Benzo[g,h,i]perylene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	63 - 133%	PASS	4	30	PASS
Benzo[k]fluoranthene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	56 - 145%	PASS	8	30	PASS
Biphenyl	Total	0.36	1	0.001	0.005	µg/L	0.5	0	72	56 - 119%	PASS	19	30	PASS
Chrysene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	56 - 141%	PASS	3	30	PASS
Dibenz[a,h]anthracene	Total	0.518	1	0.001	0.005	µg/L	0.5	0	104	55 - 150%	PASS	3	30	PASS
Dibenzo[a,l]pyrene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	50 - 150%	PASS	26	30	PASS

Polynuclear Aromatic Hydrocarbons

QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	ACCURACY		PRECISION		QA CODE _c	
							LEVEL	RESULT	%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	46 - 126%	PASS	10	30	PASS
Fluoranthene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	60 - 146%	PASS	4	30	PASS
Fluorene	Total	0.433	1	0.001	0.005	µg/L	0.5	0	87	58 - 131%	PASS	3	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.488	1	0.001	0.005	µg/L	0.5	0	98	50 - 151%	PASS	3	30	PASS
Naphthalene	Total	0.349	1	0.001	0.005	µg/L	0.5	0	70	41 - 126%	PASS	23	30	PASS
Perylene	Total	0.423	1	0.001	0.005	µg/L	0.5	0	85	48 - 141%	PASS	11	30	PASS
Phenanthrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	67 - 127%	PASS	8	30	PASS
Pyrene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	54 - 156%	PASS	7	30	PASS

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

PHYSICS

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

Innovative Solutions for Nature

Sample ID: 113491

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
32.9214	2.6763	1111	Anthracene-D10	1517-22-2	90
11.6633	2.2051	915	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	82
11.0826	1.9561	812	2-(Chloromethyl)tetrahydropyran	18420-41-2	83
66.3484	1.1761	488	Squalene	111-02-4	90
12.7473	0.3698	154	Cyclooctane, cyclohexyl-	92369-78-3	87
13.1232	0.3538	147	Cyclohexane, octyl-	1795-15-9	86
12.1836	0.3106	129	Decane, 5,6-dimethyl-	1636-43-7	91
29.5627	0.2398	100	Benzoic acid, 3-methylbutyl-2 ester	41757-90-8	80
18.8623	0.2322	96	2,4,7,9-Tetramethyl-5-decyn-4,7-diol	126-86-3	80
29.5561	0.2229	93	Benzoic acid, 2-ethylhexyl ester	5444-75-7	81
12.9071	0.2096	87	Acetic acid, trifluoro-, cyclohexyl ester	1549-45-7	86

Concentration estimated using the response for Anthracene-d10

Sample ID: 113492

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
32.5275	0.7095	1111	Anthracene-D10	1517-22-2	86
11.6625	2.2412	3510	Cyclopropane, 2-chloro-1,1,3-trimethyl-	98485-99-5	83
11.0827	2.2305	3493	2-(Chloromethyl)tetrahydropyran	18420-41-2	84
11.6625	2.0978	3285	2,6-Octadiene, 2,4-dimethyl-	63843-03-8	84
12.7638	0.4261	667	Cyclooctane, cyclohexyl-	92369-78-3	83
11.9338	0.2941	461	Heptane, 3,4,5-trimethyl-	20278-89-1	87
13.1237	0.2585	405	(Z)-(Z)-Hex-3-en-1-yl 2-methylbut-2-enoate	84060-80-0	86
25.1902	0.2113	331	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	87
29.5613	0.1843	289	Benzoic acid, 2-ethylhexyl ester	5444-75-7	83
25.2751	0.1611	252	Diethyl Phthalate	84-66-2	88
12.9082	0.1354	212	(Z)-Hex-3-enyl (E)-2-methylbut-2-enoate	67883-79-8	85

Concentration estimated using the response for Anthracene-d10

Sample ID: 113493

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
32.9213	2.4487	1111	Anthracene-D10-	1517-22-2	85
11.6595	1.5014	681	3,3-Dimethylacryloyl chloride	3350-78-5	83
11.0806	1.2571	570	2-(Chloromethyl)tetrahydropyran	18420-41-2	82
11.9255	0.8115	368	Octane, 4,5-diethyl-	1636-41-5	88
12.7573	0.6773	307	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	89
13.1211	0.5136	233	Cyclohexane, octyl-	1795-15-9	88
11.9243	0.5075	230	Nonane, 4-ethyl-5-methyl-	1632-71-9	89
29.5806	0.2601	118	Benzoic acid, 2-ethylhexyl ester	5444-75-7	83
11.9243	0.1743	79	1H-Tetrazol-5-amine	4418-61-5	88
25.1976	0.1483	67	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	86
25.2552	0.1049	48	Phthalic acid, cyclobutyl ethyl ester	1000315-41-1	84
25.2595	0.1039	47	Phthalic acid, pentyl tridec-2-yn-1-yl ester	1000315-43-8	82
10.9012	0.0253	11	dro-7-hydroxy-1,4b,8,8-tetramethyl-10-oxo-2(1H)-phenanthrenylidene)-,2-(dim	1000143-97-2	81
87.0826	0.0158	7	Hexanenitrile, 2-amino-3-(dibenzylamino)-5-methyl-	1000162-32-9	86
63.6769	0.0003	0	l-Alanine, n-pentadecafluorooctanoyl-, octyl ester	1000327-91-3	81

Concentration estimated using the response for Anthracene-d10

Sample ID: 113490

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
32.9010	2.7687	1111	Anthracene-D10-	1719-06-8	87
25.1959	1.4611	586	2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	94
11.6562	0.6273	252	Cyclopropane, 2-bromo-1,1,3-trimethyl-	36617-00-2	82
11.0774	0.5825	234	2-(Chloromethyl)tetrahydropyran	18420-41-2	81
12.7468	0.5751	231	Cyclooctane, cyclohexyl-	92369-78-3	88
12.7465	0.5588	224	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	88
11.9298	0.4821	193	Nonane, 4-ethyl-5-methyl-	1632-71-9	90
11.9355	0.4513	181	Octane, 4,5-diethyl-	1636-41-5	87
39.0896	0.2777	111	Dibutyl phthalate	84-74-2	90
17.7814	0.2221	89	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	88
35.5526	0.2146	86	1,2-Benzenedicarboxylic acid, bis(2-methylpropyl) ester	84-69-5	89
18.8549	0.2072	83	2,4,7,9-Tetramethyl-5-decyn-4,7-diol	126-86-3	82

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1_44040

Retention Time	Area (% of total)	Concentration (ng/L)	Library/ID	Cas Number	Match Quality (%)
32.9180	2.4606	1111	Anthracene-D10-	1517-22-2	90
11.0835	2.0144	910	2-(Chloromethyl)tetrahydropyran	18420-41-2	84
11.6639	1.9148	865	3,3-Dimethylacryloyl chloride	3350-78-5	82
12.7570	0.3853	174	Cyclooctane, cyclohexyl-	92369-78-3	88
13.1234	0.2671	121	Cyclohexane, octyl-	1795-15-9	84

Concentration estimated using the response for Anthracene-d10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

Innovative Solutions for Nature

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Eurofins Eaton Analytical Pomona
941 Corporate Center Drive
Pomona, CA 91768-2642
Phone: 626-366-1100

Chain of Custody Record



Client Information (Sub Contract Lab)
 Client Contact: Phone: Lab P.M.: Arada, Rachelle
 Shipping/Receiving: E-Mail: Rachelle.Arada@et.eurofins.com
 Company: Physis Environmental Laboratories
 Address: 1904 Wright Circle, Due Date Requested: 12/27/2023
 City: Anaheim TAT Requested (days):
 State Zip: CA, 92806
 Phone: PO #: WOC #: Project #: 38001111
 Project Name: RED-HILL SSOV#: Honolulu BWS Sites

Analysis Requested
 Carrier Tracking No(s):
 State of Origin: Hawaii
 Accreditations Required (See note): State - Hawaii
 COC No: 380-95183-1
 Page: Page 1 of 1
 Job #: 380-74778-1
 Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Anichlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 M - Hexane
 N - None
 O - AsHAcO2
 P - Na2CO3
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecylhydrate
 U - Acetone
 V - MCAA
 W - PH 4-5
 Y - Trizma
 Z - other (specify)
 Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Seawater, Other)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note:
MOANALUA WELLS (380-74776-1)	12/11/23	09:50		Water	X		2	See Attached Instructions
AIEA GULCH WELLS PUMP 2 (380-74776-2)	12/11/23	10:48		Water	X		2	See Attached Instructions
AIEA WELLS PUMPS 1&2 (260) P2 (380-74776-3)	12/11/23	11:15		Water	X		2	See Attached Instructions
HALAWA WELLS UNITS 1 & 2 P1 (380-74776-4)	12/11/23	10:21		Water	X		2	See Attached Instructions

Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyze & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/estimates/mark being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to Eurofins Eaton Analytical, LLC.

Possible Hazard Identification

Unconfirmed Deliverable Requested: I, II, III, IV, Other (Specify) Primary Deliverable Rank: 2
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	Date/Time: 12/14/23	1915	Company: GBA
Relinquished by: <i>[Signature]</i>	Date/Time: 12/14/23	1915	Company: Physis
Relinquished by:	Date/Time:		Company:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	



Project Iteration ID: 1407003-465
 Client Name: Eurofins Eaton Analytical
 Project Name: RED-HILL Project # 38001111 Job # 380-74776-1
 COC Page Number: 2 of 2
 Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: JA/AG
2. Date Received: 2-15-12/14
3. Time Received: 2:15 PM R6H 1415
4. Client Name: EUROFINS
5. Courier Information: (Please circle)
 - Client
 - UPS
 - Area Fast
 - DRS
 - FedEx
 - GSO/GLS
 - Ontrac
 - PAMS
 - PHYSIS Driver:
 - i. Start Time: _____
 - ii. End Time: _____
 - iii. Total Mileage: _____
 - iv. Number of Pickups: _____
6. Container Information: (Please put the # of containers or circle none)
 - Cooler
 - Styrofoam Cooler
 - Boxes
 - None
 - Carboy(s)
 - Carboy Trash Can(s)
 - Carboy Cap(s)
 - Other _____
7. What type of ice was used: (Please circle any that apply)
 - Wet Ice
 - Blue Ice
 - Dry Ice
 - Water
 - None
8. Randomly Selected Samples Temperature (°C): 1-8 Used I/R Thermometer # 1-2

Inspection Info

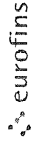
1. Initials Inspected By: AL

Sample Integrity Upon Receipt:

1. COC(s) included and completely filled out..... Yes / No
2. All sample containers arrived intact..... Yes / No
3. All samples listed on COC(s) are present..... Yes / No
4. Information on containers consistent with information on COC(s)..... Yes / No
5. Correct containers and volume for all analyses indicated..... Yes / No
6. All samples received within method holding time..... Yes / No
7. Correct preservation used for all analyses indicated..... Yes / No
8. Name of sampler included on COC(s)..... Yes / No

Notes:

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia, CA 91016
 Phone (626) 386-1100



Chain of Custody Record

Client Information Client Contact: Dr. Ron Fenstermacher Company: City & County of Honolulu Address: 630 South Beretania Street, Chemistry Lab City: Honolulu State/Zip: HI, 96843 Phone: 808-748-5091 (tel) Email: rfenstermacher@hbws.org Project Name: RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill Site:		Lab PM: Arada, Rachelle E-Mail: Rachelle.Arada@et.eurofins.com State of Origin:		Carrier Tracking No(s): 380-27941-2757 2 Page: Page 1 of 2 Job #:	
Due Date Requested: TAT Requested (days): Compliance Project: <input type="checkbox"/> No <input type="checkbox"/> Yes PO #: C20525101 exp 05312023 WO #:		Analysis Requested SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) RA Y N SUBCONTRACT - (MOD) 525plus PLUS TICs RA Y N SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil RA Y N SUBCONTRACT - 825 PAH Physis LL (EAL) + TICs RA Y N Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Preservation Codes: A - HCL B - NaOH O - AsNaO2 C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification MOANALUA WELLS AIEA GULCH WELLS PUMP2 AIEA WELLS PUMPS 1&2 (260) PZ HALAWA WELLS UNITS 1&2 P1		Sample Date 11-Dec-2023 11-Dec-2023 11-Dec-2023 11-Dec-2023		Sample Time 0950 1048 1115 1021	
Sample Type G=Comp, G=grab G G G G		Matrix (W=water, S=solid, O=wastebot) Water Water Water Water		Total Number of Containers chlorinated chlorinated 100% OF 2 ARRIVED BROKEN	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Special Instructions/Note: 380-74776 COC		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months	
Empty Kit Relinquished by: BAILEY Relinquished by: BAILEY Relinquished by:		Date/Time 12 Oct 2023 1400 Date/Time Date/Time		Method of Shipment: FED EX 1 7444947 3054 Date/Time: 12/13/2023 10:10 Company: EEFAP	
Custody Seals Intact. <input type="checkbox"/> Yes <input type="checkbox"/> No		Cycle Temperature(s) °C and Other Remarks (37A) 0.21°-0.1°-2.0° (3) 1.8°-0.1°-1.7° - GEL-FRAGEN		Ver 01/16/2019	

Monrovia, CA (Suite 100)
 750 Royal Oaks Drive Suite 100
 Monrovia CA 91016
 Phone (626) 386-1100



Chain of Custody Record

Client Information	Company: BAILEY	Lab PM: Arada, Rachelle	COC No: 380-27941-2757.2	Carmer Tracking No(s):	Page: Page 2 of 2	Job #:					
Client Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840	E-Mail: Rachelle.Arada@et.eurofins.com	City & County of Honolulu	State of Origin:							
Address: 630 South Beretania Street, Chemistry Lab	Due Date Requested:		Analysis Requested Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No SUBCONTRACT - 625 PAH Physis LL (EAL) + TICS SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil SUBCONTRACT - (MOD) 525plus PLUS TICs SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) SUBCONTRACT - 537 1 DW_PREC - 537 1 Full List 533 - All Analyses								
City: Honolulu	TAT Requested (days):										
State, Zip: HI, 96843	Compliance Project Δ No										
Phone: 808-748-5091 (tel)	PO #: C20525101 exp 05312023										
Email: rfenstermacher@hbws.org	WO #:										
Project Name: RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill	Project #: 38001111										
Site: RED-HILL/HBWS sites Event Desc RUSH Weekly Red Hill	SSOW#:										
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=washbott, BF=Tissue, A=Air)	RA	Y	N	Special Instructions/Note:			
MOANALUA WELLS	11-Dec-2023	0950	G	Water		3	3		chlorinated		
AIEA GULCH WELLS PUMP2	11-Dec-2023	1048	G	Water		3	3		chlorinated		
AIEA WELLS PUMPS 1&2 (260) P2	11-Dec-2023	1115	G	Water		3	3				
HALAWA WELLS UNITS 1&2 P1	11-Dec-2023	1021	G	Water		3	3				
FB MOANALUA WELLS	11-Dec-2023	0950		Water		1	1				
FB AIEA GULCH WELLS PUMP2	11-Dec-2023	1048		Water		1	1				
FB AIEA WELLS PUMPS 1&2 (260)	11-Dec-2023	1115		Water		1	1				
FB HALAWA WELLS UNITS 1&2	11-Dec-2023	1021		Water		1	1				
Possible Hazard Identification			<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological			
Deliverable Requested I, II, III, IV Other (specify)											
Empty Kit Relinquished by											
Relinquished by: BAILEY	Date: 12-Dec-2023	Time: 1400	Company: HBWS								
Relinquished by:	Date/Time:										
Relinquished by:	Date/Time:										
Custody Seals Intact:											
Δ Yes Δ No											

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	Return To Client <input type="checkbox"/>	Disposal By Lab <input type="checkbox"/>	Archive For	Months
Special Instructions/QC Requirements	FED EX 1 7744 4947 3054			
Method of Shipment:	2 7744 4947 3065			
Received by: BAILEY	Date/Time: 12/13/2023	Date/Time: 10/10	Company: BAILEY	Company: BAILEY
Received by:	Date/Time:	Date/Time:	Company:	Company:
Received by:	Date/Time:	Date/Time:	Company:	Company:
Cooler Temperature(s) °C and Other Remarks	21.0 °C (72.0 °F) - 17.0 °C (62.6 °F)			

Ver 01/16/2019

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-74776-2

SDG Number: 8015, 625

Login Number: 74776

List Number: 1

Creator: Elyas, Matthew

List Source: Eurofins Eaton Analytical Pomona

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	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	
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.	False	Refer to NCM for affected item.
Sample collection date/times are provided.	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").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	



Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-74776-2

SDG Number: 8015, 625

Login Number: 74776

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 12/14/23 05:30 PM

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.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	1.6
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?	N/A	Received project as a subcontract.
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

