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ANALYTICAL REPORT

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Laboratory Job ID: 380-18926-1
Client Project/Site: INTERA - Red-Hill-Incident

For:
City & County of Honolulu
630 South Beretania Street
Public Service Bldg. Room 308
Honolulu, Hawaii 96843

Attn: Mr. Erwin Kawata

Rachelle Arada

Authorized for release by:
10/25/2022 11:29:08 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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)

Rachelle Arada

Manager of Project Management

10/25/2022 11:29:08 PM

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Definitions/Glossary

Client: City & County of Honolulu
Job ID: 380-18926-1
Project/Site: INTERA - Red-Hill-Incident

Glossary

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

Job ID: 380-18926-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative
380-18926-1

Comments
No additional comments.

Receipt
The samples were received on 8/24/2022 9:44 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.4º C.

Subcontract non-Sister
See attached subcontract report.

Subcontract Work
Methods 8015 Gas (purgeable), TPH Diesel and Motor Oil: These methods were subcontracted to Asset Laboratories. The subcontract laboratory certifications are different from that of the facility issuing the final report.

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.

Detection Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Client Sample ID: BWS2253-J1-AQ — Lab Sample ID: 380-18926-1

No Detections.

Client Sample ID: BWS2253-J1-TB — Lab Sample ID: 380-18926-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Client Sample ID: BWS2253-J1-AQ

Date Collected: 08/23/22 09:00
Date Received: 08/24/22 09:44

Lab Sample ID: 380-18926-1

Matrix: Drinking Water

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		08/25/22 00:00	08/30/22 23:19	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Acenaphthene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Anthracene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Biphenyl	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Chrysene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/25/22 00:00	08/30/22 23:19	1
Fluoranthene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Fluorene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Naphthalene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Perylene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Phenanthrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1
Pyrene	ND		0.005	0.001	µg/L		08/25/22 00:00	08/30/22 23:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*63*		*45 - 118*	*08/25/22 00:00*	*08/30/22 23:19*	*1*
(d10-Phenanthrene)	*69*		*56 - 123*	*08/25/22 00:00*	*08/30/22 23:19*	*1*
(d12-Chrysene)	*83*		*36 - 142*	*08/25/22 00:00*	*08/30/22 23:19*	*1*
(d12-Perylene)	*78*		*36 - 161*	*08/25/22 00:00*	*08/30/22 23:19*	*1*
(d8-Naphthalene)	*65*		*20 - 112*	*08/25/22 00:00*	*08/30/22 23:19*	*1*

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO	ND		0.050		mg/L		08/27/22 00:00	08/27/22 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorobenzene - d5	*92.3*		*69 - 130*	*08/27/22 00:00*	*08/27/22 12:30*	*1*

Method: TPH Diesel and Motor Oil - 8015 - TPH DRO/ORO

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (C10-C28)	ND		50		ug/L		08/26/22 00:00	08/26/22 14:33	1
Oil Range Organics (C28-C40)	ND		50		ug/L		08/26/22 00:00	08/26/22 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl	*84.4*		*33 - 138*	*08/26/22 00:00*	*08/26/22 14:33*	*1*

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Client Sample ID: BWS2253-J1-TB
Date Collected: 08/23/22 09:00
Date Received: 08/24/22 09:44

Lab Sample ID: 380-18926-2
Matrix: Drinking Water

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO	ND		0.050		mg/L		08/27/22 00:00	08/27/22 11:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Chlorobenzene - d5	*97.8*		*69 - 130*	*08/27/22 00:00*	*08/27/22 11:59*	*1*

Surrogate Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

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

Matrix: Drinking Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(45-118)	(56-123)	(36-142)	(20-112)	(36-161)
380-18926-1	BWS2253-J1-AQ	63	69	83	65	78

Surrogate Legend

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

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

Matrix: water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(65-113)	(80-111)	(60-139)	(44-119)	(36-161)
99559-B1	Method Blank	94	93	99	87	91
99559-BS1	Lab Control Sample	107	94	90	108	101
99559-BS2	Lab Control Sample Dup	104	100	93	84	96

Surrogate Legend

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

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics

Matrix: Drinking Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		robenzene
Lab Sample ID	Client Sample ID	(69-130)
380-18926-1	BWS2253-J1-AQ	92.3
380-18926-2	BWS2253-J1-TB	97.8

Surrogate Legend

Chlorobenzene - d5 = Chlorobenzene - d5

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		robenzene
Lab Sample ID	Client Sample ID	(69-130)
E220827LCS	Lab Control Sample	96.8
E220827MB	MBLK	95.6
N052296-001EMS	Matrix Spike	101
N052296-001EMSD	Matrix Spike Duplicate	106

Surrogate Legend

Chlorobenzene - d5 = Chlorobenzene - d5

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-18926-1
Project/Site: INTERA - Red-Hill-Incident

Method: TPH Diesel and Motor Oil - 8015 - TPH DRO/ORO

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TPH (33-138)								
380-18926-1	BWS2253-J1-AQ	84.4								

Surrogate Legend

TPH = p-Terphenyl

Method: TPH Diesel and Motor Oil - 8015 - TPH DRO/ORO

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	TPH (33-138)								
LCS-94436	Lab Control Sample	87.7								
MB-94436	MBLK	83.7								
N052272-001A-MS	BWS2253-J1-AQ (380-18926-1) MS	85.8								
N052272-001A-MSD	BWS2253-J1-AQ (380-18926-1) MSD	80.6								

Surrogate Legend

TPH = p-Terphenyl

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

Lab Sample ID: 99559-B1
Matrix: water
Analysis Batch: O-38098

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38098_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Acenaphthene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Acenaphthylene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Anthracene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Biphenyl	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Chrysene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Dibenzothiophene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		08/22/22 00:00	08/30/22 14:40	1
Fluoranthene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Fluorene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Naphthalene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Perylene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Phenanthrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1
Pyrene	ND		0.005	0.001	µg/L		08/22/22 00:00	08/30/22 14:40	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*94*		*65 - 113*	*08/22/22 00:00*	*08/30/22 14:40*	*1*
(d10-Phenanthrene)	*93*		*80 - 111*	*08/22/22 00:00*	*08/30/22 14:40*	*1*
(d12-Chrysene)	*99*		*60 - 139*	*08/22/22 00:00*	*08/30/22 14:40*	*1*
(d12-Perylene)	*91*		*36 - 161*	*08/22/22 00:00*	*08/30/22 14:40*	*1*
(d8-Naphthalene)	*87*		*44 - 119*	*08/22/22 00:00*	*08/30/22 14:40*	*1*

Lab Sample ID: 99559-BS1
Matrix: water
Analysis Batch: O-38098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38098_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.569		µg/L		114	49 - 117
1-Methylphenanthrene	0.5	0.488		µg/L		98	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.502		µg/L		100	57 - 120
2,6-Dimethylnaphthalene	0.5	0.584		µg/L		117	54 - 117
2-Methylnaphthalene	0.5	0.545		µg/L		109	47 - 130
Acenaphthene	0.5	0.597		µg/L		119	53 - 131
Acenaphthylene	0.5	0.561		µg/L		112	43 - 140
Anthracene	0.5	0.425		µg/L		85	58 - 135

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

Lab Sample ID: 99559-BS1
Matrix: water
Analysis Batch: O-38098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38098_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benz[a]anthracene			0.5	0.428		µg/L		86	55 - 145		
Benzo[a]pyrene			0.5	0.468		µg/L		94	51 - 143		
Benzo[b]fluoranthene			0.5	0.517		µg/L		103	46 - 165		
Benzo[e]pyrene			0.5	0.492		µg/L		98	42 - 152		
Benzo[g,h,i]perylene			0.5	0.429		µg/L		86	63 - 133		
Benzo[k]fluoranthene			0.5	0.495		µg/L		99	56 - 145		
Biphenyl			0.5	0.597		µg/L		119	56 - 119		
Chrysene			0.5	0.426		µg/L		85	56 - 141		
Dibenz[a,h]anthracene			0.5	0.526		µg/L		105	55 - 150		
Dibenzo[a,l]pyrene			0.5	0.503		µg/L		101	50 - 150		
Dibenzothiophene			0.5	0.409		µg/L		82	75 - 113		
Disalicylidenepropanediamine			50	39.6		µg/L		79	50 - 150		
Fluoranthene			0.5	0.468		µg/L		94	60 - 146		
Fluorene			0.5	0.517		µg/L		103	58 - 131		
Indeno[1,2,3-cd]pyrene			0.5	0.519		µg/L		104	50 - 151		
Naphthalene			0.5	0.476		µg/L		95	41 - 126		
Perylene			0.5	0.486		µg/L		97	48 - 141		
Phenanthrene			0.5	0.417		µg/L		83	67 - 127		
Pyrene			0.5	0.466		µg/L		93	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*107*		*65 - 113*
(d10-Phenanthrene)	*94*		*80 - 111*
(d12-Chrysene)	*90*		*60 - 139*
(d12-Perylene)	*101*		*36 - 161*
(d8-Naphthalene)	*108*		*44 - 119*

Lab Sample ID: 99559-BS2
Matrix: water
Analysis Batch: O-38098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38098_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.461		µg/L		92	49 - 117	21	30
1-Methylphenanthrene			0.5	0.511		µg/L		102	66 - 127	4	30
2,3,5-Trimethylnaphthalene			0.5	0.492		µg/L		98	57 - 120	2	30
2,6-Dimethylnaphthalene			0.5	0.494		µg/L		99	54 - 117	17	30
2-Methylnaphthalene			0.5	0.432		µg/L		86	47 - 130	24	30
Acenaphthene			0.5	0.494		µg/L		99	53 - 131	18	30
Acenaphthylene			0.5	0.479		µg/L		96	43 - 140	15	30
Anthracene			0.5	0.44		µg/L		88	58 - 135	3	30
Benz[a]anthracene			0.5	0.447		µg/L		89	55 - 145	3	30
Benzo[a]pyrene			0.5	0.448		µg/L		90	51 - 143	4	30
Benzo[b]fluoranthene			0.5	0.493		µg/L		99	46 - 165	4	30
Benzo[e]pyrene			0.5	0.488		µg/L		98	42 - 152	0	30
Benzo[g,h,i]perylene			0.5	0.431		µg/L		86	63 - 133	0	30
Benzo[k]fluoranthene			0.5	0.479		µg/L		96	56 - 145	3	30
Biphenyl			0.5	0.443		µg/L		89	56 - 119	29	30
Chrysene			0.5	0.437		µg/L		87	56 - 141	2	30

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

Lab Sample ID: 99559-BS2
Matrix: water
Analysis Batch: O-38098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38098_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene			0.5	0.516		µg/L		103	55 - 150	2	30
Dibenzo[a,l]pyrene			0.5	0.451		µg/L		90	50 - 150	12	30
Dibenzothiophene			0.5	0.446		µg/L		89	75 - 113	8	30
Disalicylidenepropanediamine			50	43.5		µg/L		87	50 - 150	10	30
Fluoranthene			0.5	0.503		µg/L		101	60 - 146	7	30
Fluorene			0.5	0.485		µg/L		97	58 - 131	6	30
Indeno[1,2,3-cd]pyrene			0.5	0.497		µg/L		99	50 - 151	5	30
Naphthalene			0.5	0.384		µg/L		77	41 - 126	21	30
Perylene			0.5	0.451		µg/L		90	48 - 141	7	30
Phenanthrene			0.5	0.451		µg/L		90	67 - 127	8	30
Pyrene			0.5	0.504		µg/L		101	54 - 156	8	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*104*		*65 - 113*
(d10-Phenanthrene)	*100*		*80 - 111*
(d12-Chrysene)	*93*		*60 - 139*
(d12-Perylene)	*96*		*36 - 161*
(d8-Naphthalene)	*84*		*44 - 119*

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics

Lab Sample ID: E220827LCS
Matrix: Water
Analysis Batch: E22VW097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: E22VW097_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
GRO			1.000	0.825		mg/L		82.5	69 - 143		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Chlorobenzene - d5	*96.8*		*69 - 130*

Lab Sample ID: N052296-001EMS
Matrix: Water
Analysis Batch: E22VW097

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: E22VW097_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
GRO	0		1.000	0.815		mg/L		81.5	49 - 156		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Chlorobenzene - d5	*101*		*69 - 130*

Lab Sample ID: N052296-001EMSD
Matrix: Water
Analysis Batch: E22VW097

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: E22VW097_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
GRO	0		1.000	0.865		mg/L		86.5	49 - 156	5.95	20

Method: 8015 Gas (purgeable) - SW846 8015B Gasoline Range Organics (Continued)

Lab Sample ID: N052296-001EMSD
Matrix: Water
Analysis Batch: E22VW097

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: E22VW097_P

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Chlorobenzene - d5	*106*		*69 - 130*

Method: TPH Diesel and Motor Oil - 8015 - TPH DRO/ORO

Lab Sample ID: LCS-94436
Matrix: Water
Analysis Batch: 94436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 94436_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics (C10-C28)			1000	653.186		ug/L		65.3	48 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
p-Terphenyl	*87.7*		*33 - 138*

Lab Sample ID: N052272-001A-MS
Matrix: Water
Analysis Batch: 94436

Client Sample ID: BWS2253-J1-AQ (380-18926-1) MS
Prep Type: Total/NA
Prep Batch: 94436_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel Range Organics (C10-C28)	0		1000	706.122		ug/L		70.6	48 - 120		

Surrogate	MS %Recovery	MS Qualifier	Limits
p-Terphenyl	*85.8*		*33 - 138*

Lab Sample ID: N052272-001A-MSD
Matrix: Water
Analysis Batch: 94436

Client Sample ID: BWS2253-J1-AQ (380-18926-1) MSD
Prep Type: Total/NA
Prep Batch: 94436_P

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel Range Organics (C10-C28)	0		1000	701.599		ug/L		70.2	48 - 120	0.643	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
p-Terphenyl	*80.6*		*33 - 138*

Subcontract

Analysis Batch: 94436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	TPH Diesel and Motor Oil	94436_P
LCS-94436	Lab Control Sample	Total/NA	Water	TPH Diesel and Motor Oil	94436_P
N052272-001A-MS	BWS2253-J1-AQ (380-18926-1) MS	Total/NA	Water	TPH Diesel and Motor Oil	94436_P
N052272-001A-MSD	BWS2253-J1-AQ (380-18926-1) MSD	Total/NA	Water	TPH Diesel and Motor Oil	94436_P

Prep Batch: 94436_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	SW3510C	
LCS-94436	Lab Control Sample	Total/NA	Water	SW3510C	
N052272-001A-MS	BWS2253-J1-AQ (380-18926-1) MS	Total/NA	Water	SW3510C	
N052272-001A-MSD	BWS2253-J1-AQ (380-18926-1) MSD	Total/NA	Water	SW3510C	

Analysis Batch: O-38098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	625 PAH Physis LL (EAL) + TICs	O-38098_P
99559-B1	Method Blank	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38098_P
99559-BS1	Lab Control Sample	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38098_P
99559-BS2	Lab Control Sample Dup	Total/NA	water	625 PAH Physis LL (EAL) + TICs	O-38098_P

Analysis Batch: E22VW097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	8015 Gas (purgeable)	E22VW097_P
380-18926-2	BWS2253-J1-TB	Total/NA	Drinking Water	8015 Gas (purgeable)	E22VW097_P
E220827LCS	Lab Control Sample	Total/NA	Water	8015 Gas (purgeable)	E22VW097_P
N052296-001EMS	Matrix Spike	Total/NA	Water	8015 Gas (purgeable)	E22VW097_P
N052296-001EMSD	Matrix Spike Duplicate	Total/NA	Water	8015 Gas (purgeable)	E22VW097_P

Prep Batch: O-38098_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	EPA_625	
99559-B1	Method Blank	Total/NA	water	EPA_625	
99559-BS1	Lab Control Sample	Total/NA	water	EPA_625	
99559-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

Prep Batch: E22VW097_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-18926-1	BWS2253-J1-AQ	Total/NA	Drinking Water	SW5030	
380-18926-2	BWS2253-J1-TB	Total/NA	Drinking Water	SW5030	
E220827LCS	Lab Control Sample	Total/NA	Water	SW5030	
N052296-001EMS	Matrix Spike	Total/NA	Water	SW5030	
N052296-001EMSD	Matrix Spike Duplicate	Total/NA	Water	SW5030	

Lab Chronicle

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Client Sample ID: BWS2253-J1-AQ

Lab Sample ID: 380-18926-1

Date Collected: 08/23/22 09:00

Matrix: Drinking Water

Date Received: 08/24/22 09:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-38098_P			08/25/22 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-38098	YC		08/30/22 23:19
Total/NA	Prep	SW5030		1	E22VW097_P			08/27/22 00:00
Total/NA	Analysis	8015 Gas (purgeable)		1	E22VW097	CA		08/27/22 12:30
Total/NA	Prep	SW3510C		1	94436_P			08/26/22 00:00
Total/NA	Analysis	TPH Diesel and Motor Oil		1	94436	MCC		08/26/22 14:33

Client Sample ID: BWS2253-J1-TB

Lab Sample ID: 380-18926-2

Date Collected: 08/23/22 09:00

Matrix: Drinking Water

Date Received: 08/24/22 09:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SW5030		1	E22VW097_P			08/27/22 00:00
Total/NA	Analysis	8015 Gas (purgeable)		1	E22VW097	CA		08/27/22 11:59

Laboratory References:

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

Method Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Method	Method Description	Protocol	Laboratory
625	EPA 625 Base/Neutral and Acid Organics i	EPA	
8015	8015 - TPH DRO/ORO	EPA	
8015B	SW846 8015B Gasoline Range Organics	SW846	

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

Sample Summary

Client: City & County of Honolulu
Project/Site: INTERA - Red-Hill-Incident

Job ID: 380-18926-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-18926-1	BWS2253-J1-AQ	Drinking Water	08/23/22 09:00	08/24/22 09:44
380-18926-2	BWS2253-J1-TB	Drinking Water	08/23/22 09:00	08/24/22 09:44

September 06, 2022

Debbie Frank
Eurofins Eaton Analytical
750 Royal Oaks Drive
Suite 100
Monrovia, CA 91016-

Project Name: RED HILL
Physis Project ID: 1407003-278

Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/24/2022. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was 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,

Misty Mercier
714 602-5320
Extension 202
mistymercier@physislabs.com

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-278

RED HILL

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
99560	BWS2253-J1-AQ		8/23/2022	9:00	Samplewater	Not Specified

1904 E. Wright Circle Anaheim, CA 92806 (714) 602-5320 fax (714) 602-5321 www.physislabs.com CA ELAP #2769

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

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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

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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.

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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

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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

PHYSIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 1407003-278
Client: Eurofins Eaton Analytical
Project: RED HILL

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 99560-R1	**BWS2253-J1-AQ**		**Matrix: Samplewater**					**Sampled:**	**23-Aug-22 9:00**	**Received:**	**24-Aug-22**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38098	25-Aug-22	30-Aug-22

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 99560-R1	**BWS2253-J1-AQ**		**Matrix: Samplewater**					**Sampled: 23-Aug-22 9:00**		**Received:**	**24-Aug-22**
(d10-Acenaphthene)	EPA 625.1	% Recovery	63	1			Total		O-38098	25-Aug-22	30-Aug-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	69	1			Total		O-38098	25-Aug-22	30-Aug-22
(d12-Chrysene)	EPA 625.1	% Recovery	83	1			Total		O-38098	25-Aug-22	30-Aug-22
(d12-Perylene)	EPA 625.1	% Recovery	78	1			Total		O-38098	25-Aug-22	30-Aug-22
(d8-Naphthalene)	EPA 625.1	% Recovery	65	1			Total		O-38098	25-Aug-22	30-Aug-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22

PHYSIS Project ID: 1407003-278
Client: Eurofins Eaton Analytical
Project: RED HILL

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-38098	25-Aug-22	30-Aug-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38098	25-Aug-22	30-Aug-22

QUALITY CONTROL REPORT

PHYSIS
TERRA AQUA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS Project ID: 1407003-278
Client: Eurofins Eaton Analytical
Project: RED HILL

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 99559-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-38098		Prepared: 22-Aug-22		Analyzed: 30-Aug-22			
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L							
Sample ID: 99559-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-38098		Prepared: 22-Aug-22		Analyzed: 30-Aug-22			
Disalicylidenepropanediamin	Total	39.6	1	0.05	0.1	µg/L	50	0	79	50 - 150% PASS			
Sample ID: 99559-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**			**Received:**			
		Method: EPA 625.1				Batch ID: O-38098		Prepared: 22-Aug-22		Analyzed: 30-Aug-22			
Disalicylidenepropanediamin	Total	43.5	1	0.05	0.1	µg/L	50	0	87	50 - 150% PASS	10	30 PASS	

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 99559-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-38098		Prepared: 22-Aug-22				Analyzed: 30-Aug-22	
(d10-Acenaphthene)	Total	94	1			% Recovery	100	94		65 - 113%		PASS	
(d10-Phenanthrene)	Total	93	1			% Recovery	100	93		80 - 111%		PASS	
(d12-Chrysene)	Total	99	1			% Recovery	100	99		60 - 139%		PASS	
(d12-Perylene)	Total	91	1			% Recovery	100	91		36 - 161%		PASS	
(d8-Naphthalene)	Total	87	1			% Recovery	100	87		44 - 119%		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							

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 99559-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**	
	Method: EPA 625.1					Batch ID: O-38098		Prepared: 22-Aug-22				Analyzed: 30-Aug-22	
(d10-Acenaphthene)	Total	107	1			% Recovery	100	0	107	65 - 113%	PASS		
(d10-Phenanthrene)	Total	94	1			% Recovery	100	0	94	80 - 111%	PASS		
(d12-Chrysene)	Total	90	1			% Recovery	100	0	90	60 - 139%	PASS		
(d12-Perylene)	Total	101	1			% Recovery	100	0	101	36 - 161%	PASS		
(d8-Naphthalene)	Total	108	1			% Recovery	100	0	108	44 - 119%	PASS		
1-Methylnaphthalene	Total	0.569	1	0.001	0.005	µg/L	0.5	0	114	49 - 117%	PASS		
1-Methylphenanthrene	Total	0.488	1	0.001	0.005	µg/L	0.5	0	98	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.502	1	0.001	0.005	µg/L	0.5	0	100	57 - 120%	PASS		
2,6-Dimethylnaphthalene	Total	0.584	1	0.001	0.005	µg/L	0.5	0	117	54 - 117%	PASS		
2-Methylnaphthalene	Total	0.545	1	0.001	0.005	µg/L	0.5	0	109	47 - 130%	PASS		
Acenaphthene	Total	0.597	1	0.001	0.005	µg/L	0.5	0	119	53 - 131%	PASS		
Acenaphthylene	Total	0.561	1	0.001	0.005	µg/L	0.5	0	112	43 - 140%	PASS		
Anthracene	Total	0.425	1	0.001	0.005	µg/L	0.5	0	85	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	0.468	1	0.001	0.005	µg/L	0.5	0	94	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.429	1	0.001	0.005	µg/L	0.5	0	86	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.495	1	0.001	0.005	µg/L	0.5	0	99	56 - 145%	PASS		
Biphenyl	Total	0.597	1	0.001	0.005	µg/L	0.5	0	119	56 - 119%	PASS		
Chrysene	Total	0.426	1	0.001	0.005	µg/L	0.5	0	85	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.526	1	0.001	0.005	µg/L	0.5	0	105	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	50 - 150%	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.409	1	0.001	0.005	µg/L	0.5	0	82	75 - 113%	PASS			
Fluoranthene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	60 - 146%	PASS			
Fluorene	Total	0.517	1	0.001	0.005	µg/L	0.5	0	103	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	50 - 151%	PASS			
Naphthalene	Total	0.476	1	0.001	0.005	µg/L	0.5	0	95	41 - 126%	PASS			
Perylene	Total	0.486	1	0.001	0.005	µg/L	0.5	0	97	48 - 141%	PASS			
Phenanthrene	Total	0.417	1	0.001	0.005	µg/L	0.5	0	83	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 LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 99559-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-38098		Prepared: 22-Aug-22				Analyzed: 30-Aug-22		
(d10-Acenaphthene)	Total	104	1			% Recovery	100	0	104	65 - 113%	PASS	3	30	PASS
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	80 - 111%	PASS	6	30	PASS
(d12-Chrysene)	Total	93	1			% Recovery	100	0	93	60 - 139%	PASS	3	30	PASS
(d12-Perylene)	Total	96	1			% Recovery	100	0	96	36 - 161%	PASS	5	30	PASS
(d8-Naphthalene)	Total	84	1			% Recovery	100	0	84	44 - 119%	PASS	25	30	PASS
1-Methylnaphthalene	Total	0.461	1	0.001	0.005	µg/L	0.5	0	92	49 - 117%	PASS	21	30	PASS
1-Methylphenanthrene	Total	0.511	1	0.001	0.005	µg/L	0.5	0	102	66 - 127%	PASS	4	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.492	1	0.001	0.005	µg/L	0.5	0	98	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	54 - 117%	PASS	17	30	PASS
2-Methylnaphthalene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	47 - 130%	PASS	24	30	PASS
Acenaphthene	Total	0.494	1	0.001	0.005	µg/L	0.5	0	99	53 - 131%	PASS	18	30	PASS
Acenaphthylene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	43 - 140%	PASS	15	30	PASS
Anthracene	Total	0.44	1	0.001	0.005	µg/L	0.5	0	88	58 - 135%	PASS	3	30	PASS
Benz[a]anthracene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	55 - 145%	PASS	3	30	PASS
Benzo[a]pyrene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	51 - 143%	PASS	4	30	PASS
Benzo[b]fluoranthene	Total	0.493	1	0.001	0.005	µg/L	0.5	0	99	46 - 165%	PASS	4	30	PASS
Benzo[e]pyrene	Total	0.488	1	0.001	0.005	µg/L	0.5	0	98	42 - 152%	PASS	0	30	PASS
Benzo[g,h,i]perylene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	63 - 133%	PASS	0	30	PASS
Benzo[k]fluoranthene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	56 - 145%	PASS	3	30	PASS
Biphenyl	Total	0.443	1	0.001	0.005	µg/L	0.5	0	89	56 - 119%	PASS	29	30	PASS
Chrysene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	56 - 141%	PASS	2	30	PASS
Dibenz[a,h]anthracene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	55 - 150%	PASS	2	30	PASS
Dibenzo[a,l]pyrene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	50 - 150%	PASS	12	30	PASS

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Project: RED HILL

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS		QA CODEc
Dibenzothiophene	Total	0.446	1	0.001	0.005	µg/L	0.5	0	89	75 - 113%	PASS	8	30	PASS	
Fluoranthene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	60 - 146%	PASS	7	30	PASS	
Fluorene	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	58 - 131%	PASS	6	30	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	50 - 151%	PASS	5	30	PASS	
Naphthalene	Total	0.384	1	0.001	0.005	µg/L	0.5	0	77	41 - 126%	PASS	21	30	PASS	
Perylene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	48 - 141%	PASS	7	30	PASS	
Phenanthrene	Total	0.451	1	0.001	0.005	µg/L	0.5	0	90	67 - 127%	PASS	8	30	PASS	
Pyrene	Total	0.504	1	0.001	0.005	µg/L	0.5	0	101	54 - 156%	PASS	8	30	PASS	

TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

Sample ID: 99560

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.5343	6.4742	1111	Anthracene-D10-	1719-06-8	97
10.8754	0.7052	121	2-(Chloromethyl)tetrahydropyran	18420-41-2	85
12.6035	0.6301	108	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	91
11.7804	0.6166	106	Octane, 4,5-diethyl-	1636-41-5	94

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-38098

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.5397	7.9071	1111	Anthracene-D10-	1517-22-2	96
11.7799	0.7980	112	Octane, 4,5-diethyl-	1636-41-5	94
12.6179	0.7912	111	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	89
12.9766	0.7064	99	Cyclohexane, octyl-	1795-15-9	94

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

PHASIS
TERRA AURA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

eurofins | Eaton Analytical

CHAIN OF CUSTODY RECORD

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____ SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT: SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☐ Monrovia _____ °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:	PROJECT CODE:
Honolulu Board of Water Supply	RED HILL

EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:
HONOLULU		MW - INTERA Albuquerque +

TAT requested: rush by adv notice only: **RUSH** STD __ 1 wk ___ 3 day __X_ 2 day ___ 1 day ___

(check for yes) (check for yes)

COMPLIANCE SAMPLES ☐ - Requires state forms ☐ NON-COMPLIANCE SAMPLES ☒ REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	625 PAH Physis LL (EAL) + TIC				SAMPLER COMMENTS
8/23	0900		BWS2253-J1-AQ	RGW			6				kit# 12676
											Provided by EEA
			[Bottle Size								

Ship to:

Physis Laboratories
Misty Mercier mistymercier@physislabs.com
1904 E. Wright Circle
Anaheim, CA 92806
(714) 602-5320

Bill and Report to EEA-Monrovia

*** MATRIX TYPES:** **RSW** = Raw Surface Water **CFW** = Chlor(am)inated Finished Water **SEAW** = Sea Water **BW** = Bottled Water **SO** = Soil **O** = Other - Please Identify
RGW = Raw Ground Water **FW** = Other Finished Water **WW** = Waste Water **SW** = Storm Water **SL** = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	0900
RELINQUISHED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/20	1115
RECEIVED BY:		Adam Idell	Physis	8/24/22	0945
RELINQUISHED BY:					
RECEIVED BY:					

PAGE 1 OF 1

10/25/2022

Bottle Order Information

Bottle Order: INTERA - 8015 & TPH
Bottle Order #: 3323
Request From Client: 8/5/2022
Date Order Posted: 8/5/2022 12:00:16PM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: 8/9/2022 11:59:00PM
Lab Project Number: 38000861
PWSID:

Order Completion Information

Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	4	24	Voa Vial 40ml Amber - unpreserved	None	SUBCONTRACT - 8015 Gas (purgeable)	Water	Normal		
6	2	12	VOA vial 40mL Trip BL - HCL	Hydrochloric Acid	SUBCONTRACT - 8015 Gas (purgeable)	Water	Trip Blank		
6	4	24	Amber Glass 1 liter - unpreserved	None	SUBCONTRACT - TPH Diesel and Motor Oil	Water	Normal		

Total Bottle Summary

Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 liter - unpreserved	None	24
Voa Vial 40ml Amber - unpreserved	None	24
VOA vial 40mL Trip BL - HCL	Hydrochloric Acid	12
	Total Bottles:	60

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative	Comment
Hydrochloric Acid	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Relinquished By	Company	Date	Time	Received By	Company	Seal #
						Seal #
						Seal #
Relinquished By	Company	Date	Time	Received By	Company	Seal #
						Seal #
						Seal #

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Shipping Order ID: 12676

Printed on 8/5/2022 3:48:25PM

Project Name: RED HILL
COC Page Number: 2 of 6
Bottle Label Color: NA

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical

10/25/2022

Bottle Order Information

Bottle Order: INTERA - 625 PAH
Bottle Order #: 3322
Request From Client: 8/5/2022
Date Order Posted: 8/5/2022 11:46:26AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: 8/9/2022 11:59:00PM
Lab Project Number: 38000861
PWSID:

Order Completion Information

Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	4	24	Amber Glass 1 liter - unpreserved	None	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal		

Total Bottle Summary

Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 liter - unpreserved	None	24
	Total Bottles:	24

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative	Comment
Hydrochloric Acid	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Printed on 8/5/2022 3:48:25PM

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical

Project Name: RED HILL
COC Page Number: 3 of 6
Bottle Label Color: NA

Shipping Assets

Assets	Quantity	Description	Filled
Gel Ice	1	Add addtional ice per cooler	☐

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Printed on: 8/5/2022 1:48:25PM

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Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical
Project Name: RED HILL

COC Page Number: 4 of 6
Bottle Label Color: NA

Shipping Order Form - Bottle Order

eurofins | Environment Testing America

S380-12676

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

Shipping Order ID: 12676

Ship Via: FedEx

Due On: 8/9/2022 11:59:00PM

Ship To Information

Project Manager: Debbie Frank
Em: Debbie.Frank@et.eurofinsus.com
Company Name: INTERA Inc
Attention: Kevin Gooding
Address 1: 41-038A Manana St.
Address 2:
Address 3:
City: Waimanalo
State: HI
Zip: 96795
Phone #:
Project Ref: INTERA - Red-Hill-Incident

Notes to Bottle/Shipping Department

Label Cooler(s) "Intera 625 PAH LL"

Shipping Method: **Standard packing**

- ☑ Ready to Fill
- ☐ Preprinted COC
  - ☐ Number of COC Copies
- ☐ Seals on Bottle
- ☐ Seals on Coolers
- ☐ Priority
- ☐ Return Shipment Labels
  - ☐ Prepaid Return Monrovia, CA (Suite 100)
- ☐ Short Hold Times
- ☑ Temperature Control
- ☐ Rush

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Shipping Order ID: 12676

Printed on 8/5/2022 3:48:25PM

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PHYSIS

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical

Project Name: RED HILL
COC Page Number: 5 of 6
Bottle Label Color: NA

PHYSIS
TERRA FAUNA FLORA AQUA
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical
Project Name: RED HILL
COC Page Number: 6 of 6
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: [illegible]
2. Date Received: 8/24/22
3. Time Received: 0945
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - FedEx
   - GSO/GLS
   - Ontrac
   - PAMS
   - PHYSIS Driver:
     i. Start Time:_____ iii. Total Mileage:_____
     ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 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): 6.0 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [illegible]

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:

August 31, 2022

Debbie Frank
Eurofins
750 Royal Oaks Drive Suite 100
Monrovia, CA 91016-3629

TEL: (626) 386-1158
FAX:

Workorder No.: N052272

RE: INTERA-Red-Hill-Incident, 38000861

Attention: Debbie Frank

Enclosed are the results for sample(s) received on August 24, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

ASSET Laboratories **Date:** *31-Aug-22*

CLIENT: Eurofins
Project: INTERA-Red-Hill-Incident, 38000861
Lab Order: N052272

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *31-Aug-22*

CLIENT: Eurofins
Project: INTERA-Red-Hill-Incident, 38000861
Lab Order: N052272
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N052272-001A	BWS2253-J1-AQ (380-18926-1)	Raw Groundwater	8/23/2022 9:00:00 AM	8/24/2022	8/31/2022
N052272-001B	BWS2253-J1-AQ (380-18926-1)	Raw Groundwater	8/23/2022 9:00:00 AM	8/24/2022	8/31/2022
N052272-002A	BWS2253-J1-TB (380-18926-2)	Bottled Water	8/23/2022 9:00:00 AM	8/24/2022	8/31/2022

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *31-Aug-22*

CLIENT: Eurofins
Lab Order: N052272
Project: INTERA-Red-Hill-Incident, 38000861
Lab ID: N052272-001

Client Sample ID: BWS2253-J1-AQ (380-18926-1)
Collection Date: 8/23/2022 9:00:00 AM
Matrix: RAW GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TPH CARBON CHAIN EPA 8015						
	EPA 3510C			**EPA 8015B(M)**		
RunID: NV00922-GC1_220826B	QC Batch: 94436			PrepDate:	8/26/2022	Analyst: **MCC**
Diesel Range Organics (C10-C28)	ND	50		ug/L	1	8/26/2022 02:33 PM
Oil Range Organics (C28-C40)	ND	50		ug/L	1	8/26/2022 02:33 PM
Surr: p-Terphenyl	84.4	33-138		%REC	1	8/26/2022 02:33 PM
GASOLINE RANGE ORGANICS BY GC/FID						
				EPA 8015B		
RunID: NV00922-GC4_220827A	QC Batch: E22VW097			PrepDate:		Analyst: **CA**
GRO	ND	0.050		mg/L	1	8/27/2022 12:30 PM
Surr: Chlorobenzene - d5	92.3	69-130		%REC	1	8/27/2022 12:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *31-Aug-22*

CLIENT:	Eurofins	**Client Sample ID:**	BWS2253-J1-TB (380-18926-2)
Lab Order:	N052272	**Collection Date:**	8/23/2022 9:00:00 AM
Project:	INTERA-Red-Hill-Incident, 38000861	**Matrix:**	BOTTLED WATER
Lab ID:	N052272-002		

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID						
EPA 8015B						
RunID: NV00922-GC4_220827A	QC Batch: E22VW097			PrepDate:		Analyst: **CA**
GRO	ND	0.050		mg/L	1	8/27/2022 11:59 AM
Surr: Chlorobenzene - d5	97.8	69-130		%REC	1	8/27/2022 11:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: Eurofins
Work Order: N052272
Project: INTERA-Red-Hill-Incident, 38000861

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DM_W_CC

Sample ID: **MB-94436**	SampType: **MBLK**	TestCode: **8015DM_W_C**	Units: **ug/L**	Prep Date: **8/26/2022**	RunNo: **165169**
Client ID: **PBW**	Batch ID: **94436**	TestNo: **EPA 8015B(M**	**EPA 3510C**	Analysis Date: **8/26/2022**	SeqNo: **4801603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (C10-C28)	ND	50									
Oil Range Organics (C28-C40)	ND	50									
Surr: p-Terphenyl	66.975		80.00		83.7	33	138				

Sample ID: **LCS-94436**	SampType: **LCS**	TestCode: **8015DM_W_C**	Units: **ug/L**	Prep Date: **8/26/2022**	RunNo: **165169**
Client ID: **LCSW**	Batch ID: **94436**	TestNo: **EPA 8015B(M**	**EPA 3510C**	Analysis Date: **8/26/2022**	SeqNo: **4801604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (C10-C28)	653.186	50	1000	0	65.3	48	120				
Surr: p-Terphenyl	70.133		80.00		87.7	33	138				

Sample ID: **N052272-001A-MS**	SampType: **MS**	TestCode: **8015DM_W_C**	Units: **ug/L**	Prep Date: **8/26/2022**	RunNo: **165169**
Client ID: **ZZZZZZ**	Batch ID: **94436**	TestNo: **EPA 8015B(M**	**EPA 3510C**	Analysis Date: **8/26/2022**	SeqNo: **4801606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (C10-C28)	706.122	50	1000	0	70.6	48	120				
Surr: p-Terphenyl	68.662		80.00		85.8	33	138				

Sample ID: **N052272-001A-MSD**	SampType: **MSD**	TestCode: **8015DM_W_C**	Units: **ug/L**	Prep Date: **8/26/2022**	RunNo: **165169**
Client ID: **ZZZZZZ**	Batch ID: **94436**	TestNo: **EPA 8015B(M**	**EPA 3510C**	Analysis Date: **8/26/2022**	SeqNo: **4801607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (C10-C28)	701.599	50	1000	0	70.2	48	120	706.1	0.643	20	
Surr: p-Terphenyl	64.488		80.00		80.6	33	138		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Eurofins
Work Order: N052272
Project: INTERA-Red-Hill-Incident, 38000861

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WP

Sample ID: **E220827LCS**	SampType: **LCS**	TestCode: **8015GAS_WP**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **LCSW**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.825	0.050	1.000	0	82.5	69	143				
Surr: Chlorobenzene - d5	48.460		50.00		96.9	69	130				

Sample ID: **E220827MB**	SampType: **MBLK**	TestCode: **8015GAS_WP**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **PBW**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0.050									
Surr: Chlorobenzene - d5	47.893		50.00		95.8	69	130				

Sample ID: **N052296-001EMS**	SampType: **MS**	TestCode: **8015GAS_WP**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **ZZZZZZ**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.815	0.050	1.000	0	81.5	49	156				
Surr: Chlorobenzene - d5	49.487		50.00		99.0	69	130				

Sample ID: **N052296-001EMSD**	SampType: **MSD**	TestCode: **8015GAS_WP**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **ZZZZZZ**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802452**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.865	0.050	1.000	0	86.5	49	156	0.8150	5.95	20	
Surr: Chlorobenzene - d5	53.405		50.00		107	69	130		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: Eurofins
Work Order: N052272
Project: INTERA-Red-Hill-Incident, 38000861

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GAS_WU

Sample ID: **E220827LCS**	SampType: **LCS**	TestCode: **8015GAS_WU**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **LCSW**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.825	0.050	1.000	0	82.5	69	143				
Surr: Chlorobenzene - d5	48.460		50.00		96.9	69	130				

Sample ID: **E220827MB**	SampType: **MBLK**	TestCode: **8015GAS_WU**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **PBW**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0.050									
Surr: Chlorobenzene - d5	47.893		50.00		95.8	69	130				

Sample ID: **N052296-001EMS**	SampType: **MS**	TestCode: **8015GAS_WU**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **ZZZZZZ**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.815	0.050	1.000	0	81.5	49	156				
Surr: Chlorobenzene - d5	49.487		50.00		99.0	69	130				

Sample ID: **N052296-001EMSD**	SampType: **MSD**	TestCode: **8015GAS_WU**	Units: **mg/L**	Prep Date:	RunNo: **165194**
Client ID: **ZZZZZZ**	Batch ID: **E22VW097**	TestNo: **EPA 8015B**		Analysis Date: **8/27/2022**	SeqNo: **4802464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.865	0.050	1.000	0	86.5	49	156	0.8150	5.95	20	
Surr: Chlorobenzene - d5	53.405		50.00		107	69	130		0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CHAIN OF CUSTODY RECORD

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

SAMPLE TEMP RECEIVED AT:
☐ Colton / No. California / Arizona 4.4 IR#3 °C (Compliance: 4 ± 2 °C)
☐ Monrovia _____ °C (Compliance: 4 ± 2 °C)

FEDEX #7996

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:	**PROJECT CODE:**
Honolulu Board of Water Supply	RED HILL

EEA CLIENT CODE:	**COC ID:**	**SAMPLE GROUP:**
HONOLULU		MW - INTERA Albuquerque +

TAT requested: rush by adv notice only: RUSH STD __ 1 wk ___ 3 day __X_ 2 day ___ 1 day ___

(check for yes) (check for yes)

COMPLIANCE SAMPLES ☐ **NON-COMPLIANCE SAMPLES** ☒
- Requires state forms ☐ REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample

Ship to: Asset Laboratories
3151 West Post Road
Las Vegas NV 89118
702-307-2659
Attn: Marlon Cartin
marlon@assetlaboratories.com

Bill and Report to EEA-Monvovia

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	TPH 8015 Diesel and Motor Oil		8015 Gas Travel Blank		8015 Gas										**SAMPLER COMMENTS**
8/23	0900	N052272-01	BWS2253-J1-AQ	RGW			4				4										kit# 12576
		-02	BWS2253-J1-TB	BW					2												Provided by EEA
			[Bottle Size																		

*** MATRIX TYPES:** **RSW** = Raw Surface Water; **RGW** = Raw Ground Water; **CFW** = Chlor(am)inated Finished Water; **FW** = Other Finished Water; **SEAW** = Sea Water; **WW** = Waste Water; **BW** = Bottled Water; **SW** = Storm Water; **SO** = Soil; **SL** = Sludge; **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	0900
RELINQUISHED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	1115
RECEIVED BY:	Peter Fanelo			8/24/22	0849
RELINQUISHED BY:					
RECEIVED BY:					

PAGE 1 OF 1

10/25/2022

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	8/24/2022	Workorder:	N052272
Rep sample Temp (Deg C):	4.4	IR Gun ID:	3

Temp Blank: ☐ Yes ☑ No

Carrier name: FedEx

Last 4 digits of Tracking No.: 7996 Packing Material Used: Bubble Wrap

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample 2: Same collection date and time of the associated field sample (sample 1).

Checklist Completed B EF EFanegoF 8/24/2022

Reviewed By: for: MBC 8/30/2022

ASSET Laboratories

WORK ORDER Summary

30-Aug-22

WorkOrder: N052272

Client ID: EUROF01

Project: INTERA-Red-Hill-Incident, 38000861 **QC Level:** RTNE **Date Received:** 8/24/2022 9:44 AM

Comments: MRL only

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N052272-001A	BWS2253-J1-AQ (380-18926-1)	8/23/2022 9:00:00 AM	8/26/2022	Raw Groundwater	EPA 3510C	SEPARATORY FUNNEL EXTRACTION: EXTRACTABLE FUELS	☐	☐	☐	WW
			8/26/2022		EPA 8015B(M)	TPH Carbon Chain EPA 8015	☐	☐	☐	WW
N052272-001B			8/26/2022		EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
N052272-002A	BWS2253-J1-TB (380-18926-2)		8/26/2022	Bottled Water	EPA 8015B	GASOLINE RANGE ORGANICS BY GC/FID	☐	☐	☐	VW
N052272-003A	FOLDER	8/26/2022	8/26/2022		Folder	Folder	☐	☐	☐	LAB
			8/26/2022		Folder	Folder	☐	☐	☐	LAB

ORIGIN ID:HNLA (808) 382-6853
KEVIN GOODING
INTERA INC
74 KIHAPAI ST.

KAILUA, HI 96734
UNITED STATES US

SHIP DATE: 23AUG22
ACTWGT: 19.85 LB
CAD: 6994244/SSFE2322
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO **ASSET LABS**
SAMPLE RCVG. ATTN: MARLON CARTIN
3151 WEST POST RD.

LAS VEGAS NV 89118
(702) 307-2659 REF:
INV:
PO: DEPT:

FedEx

TRK# 0201 **2771 3100 7996**

WED - 24 AUG 10:30A
PRIORITY OVERNIGHT

AHS
89118
NV-US **LAS**

WR LASA

CHAIN OF CUSTODY RECORD

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____ SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: JS

SAMPLE TEMP RECEIVED AT: ☐ Colton / No. California / Arizona 4.4 °C (Compliance: 4 ± 2 °C) IR#3

☐ Monrovia _____ °C (Compliance: 4 ± 2 °C)

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes) FEDEX #7996

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:	PROJECT CODE:
Honolulu Board of Water Supply	RED HILL

EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:
HONOLULU		MW - INTERA Albuquerque +

COMPLIANCE SAMPLES ☐ (check for yes) - Requires state forms ☐

NON-COMPLIANCE SAMPLES ☒ (check for yes)

REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

TAT requested: rush by adv notice only: **RUSH** STD __ 1 wk __ 3 day _X_ 2 day __ 1 day __

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	TPH 8015 Diesel and Motor Oil	8015 Gas Travel Blank	8015 Gas	SAMPLER COMMENTS
8/23	0900	N052272-01	BWS2253-J1-AQ	RGW			4		4	kit# 12676
		-02	BWS2253-J1-TB	BW				2		Provided by EEA
		380-18926 COC	[Bottle Size							

Ship to: Asset Laboratories
3151 West Post Road
Las Vegas NV 89118
702-307-2659
Attn: Marlon Cartin
marlon@assetlaboratories.com

Bill and Report to EEA-Monvovia

Loc: 380
18926

* **MATRIX TYPES:** **RSW** = Raw Surface Water; **RGW** = Raw Ground Water; **CFW** = Chlor(am)inated Finished Water; **FW** = Other Finished Water; **SEAW** = Sea Water; **WW** = Waste Water; **BW** = Bottled Water; **SW** = Storm Water; **SO** = Soil; **SL** = Sludge; **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	0900
RELINQUISHED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	1115
RECEIVED BY:	Qilin Fanelo 8/24			8/24/22	0949
RELINQUISHED BY:					
RECEIVED BY:					

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____ SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT: SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☐ Monrovia _____ °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice _____ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:	PROJECT CODE:
Honolulu Board of Water Supply	RED HILL

EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:
HONOLULU		MW - INTERA Albuquerque +

TAT requested: rush by adv notice only: **RUSH** STD __ 1 wk ___ 3 day __X_ 2 day ___ 1 day ___

(check for yes) (check for yes)

COMPLIANCE SAMPLES ☐ NON-COMPLIANCE SAMPLES ☒

- Requires state forms ☐ REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☒ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	625 PAH Physis LL (EAL) + TIC			SAMPLER COMMENTS
8/23	0900		BWS2253-J1-AQ	RGW			6			kit# 12676 Provided by EEA
			[Bottle Size							

Ship to:

Physis Laboratories
Misty Mercier mistymercier@physislabs.com
1904 E. Wright Circle
Anaheim, CA 92806
(714) 602-5320

Bill and Report to EEA-Monrovia

* **MATRIX TYPES:** **RSW** = Raw Surface Water **RGW** = Raw Ground Water **CFW** = Chlor(am)inated Finished Water **FW** = Other Finished Water **SEAW** = Sea Water **WW** = Waste Water **BW** = Bottled Water **SW** = Storm Water **SO** = Soil **SL** = Sludge **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	0900
RELINQUISHED BY:		Kevin Gooding	INTERA Incorporated / Senior Hydrogeologis	8/23/22	1115
RECEIVED BY:	Adam Idell	Adam Idell	Physis	8/24/22	0945
RELINQUISHED BY:					
RECEIVED BY:					

PAGE 1 OF 1

Project Name: RED HILL
COC Page Number: 2 of 6
Bottle Label Color: NA

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical

Bottle Order Information

Bottle Order: INTERA - 8015 & TPH
Bottle Order #: 3323
Request From Client: 8/5/2022
Date Order Posted: 8/5/2022 12:00:16PM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: 8/9/2022 11:59:00PM
Lab Project Number: 38000861
PWSID:

Order Completion Information

Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	4	24	Voa Vial 40ml Amber - unpreserved	None	SUBCONTRACT - 8015 Gas (purgeable)	Water	Normal		
6	2	12	VOA vial 40mL Trip BL - HCL	Hydrochloric Acid	SUBCONTRACT - 8015 Gas (purgeable)	Water	Trip Blank		
6	4	24	Amber Glass 1 liter - unpreserved	None	SUBCONTRACT - TPH Diesel and Motor Oil	Water	Normal		

Total Bottle Summary

Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 liter - unpreserved	None	24
Voa Vial 40ml Amber - unpreserved	None	24
VOA vial 40mL Trip BL - HCL	Hydrochloric Acid	12
	Total Bottles:	60

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative	Comment
Hydrochloric Acid	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Relinquished By	Company	Date	Time	Received By	Company	Seal #
						Seal #
						Seal #
Relinquished By	Company	Date	Time	Received By	Company	Seal #
						Seal #
						Seal #

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Shipping Order ID: 12676

Printed on 8/5/2022 3:48:25PM

PHYSI ENVIRONMENTAL LABORATORIES, INC.

Project Name: RED HILL
COC Page Number: 3 of 6
Bottle Label Color: NA

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical

Bottle Order Information

Bottle Order: INTERA - 625 PAH
Bottle Order #: 3922
Request From Client: 8/5/2022
Date Order Posted: 8/5/2022 11:46:26AM
Order Status: Ready To Process
Prepared By: Davis Haley
Deliver By Date: 8/9/2022 11:59:00PM
Lab Project Number: 38000861
PWSID:

Order Completion Information

Creator: Davis Haley
Filled by:
Sent Date:
Sent Via:
Tracking #:

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #
6	4	24	Amber Glass 1 liter - unpreserved	None	SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs	Water	Normal		

Total Bottle Summary

Bottle Type Description	Preservative	Bottle Count
Amber Glass 1 liter - unpreserved	None	24
	Total Bottles:	24

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative	Comment
Hydrochloric Acid	CAUTION! CONTAINS 1:1 HYDROCHLORIC ACID. Avoid skin and eye contact. If contact is made, FLUSH IMMEDIATELY with water.

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Shipping Order ID: 12678

Printed on 8/5/2022 3:48:25PM

Page 3 of 4

PHYSIS

Project Iteration ID: 1407003-278

Client Name: Eurofins Eaton Analytical

Project Name: RED HILL

COC Page Number: 4 of 6

Bottle Label Color: NA

Shipping Assets

Assets	Quantity	Description	Filled
Gel Ice	1	Add additional ice per cooler	☐

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Printed on 8/5/2022 3:48:28PM

Page 2 of 4

PHYSI

Project Iteration ID: 1407003-278

Client Name: Eurofins Eaton Analytical

Project Name: RED HILL

COC Page Number: 5 of 6

Bottle Label Color: NA

eurofins

Shipping Order Form - Bottle Order

Shipping Order ID: 12676

Ship Via: FedEx

Due On: 8/9/2022 11:59:00PM

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

Ship To Information
Project Manager: Debbie Frank
Email: Debbie.Frank@et.eurofinsus.com
Company Name: INTERA Inc
Attention: Kevin Goeding
Address 1: 41-038A Manana St
Address 2:
Address 3:
City: Waimanalo
State: HI
Zip: 96795
Phone #:
Project Ref: INTERA - Red Hill Incident

Notes to Bottle/Shipping Department

Label Cooler(s) "Intera 625 PAH LL"

Shipping Method: Standard packing

☑ Ready to Fill
☐ Prepainted COC
☐ Number of COC Copies
☐ Seals on Bottle
☐ Seals on Coolers
☐ Priority

☐ Return Shipment Labels
☐ Prepaid Return
Monrovia, CA (Suite 100)
☐ Short Hold Times
☑ Temperature Control
☐ Rush

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

Printed on: 8/5/2022 3:48:25PM

Shipping Order ID: 12676

Page 1 of 1

PHYSI
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSI

Project Iteration ID: 1407003-278
Client Name: Eurofins Eaton Analytical
Project Name: RED HILL
COC Page Number: 6 of 6
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: [illegible]
2. Date Received: 8/24/22
3. Time Received: 0945
4. Client Name: Eurofins
5. Courier Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - FedEx
   - GSO/GLS
   - Ontrac
   - PAMS
   - ~~PHYSIS~~ Driver:
     i. Start Time:_____ iii. Total Mileage:_____
     ii. End Time:_____ iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 1 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): 6.0 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [illegible]

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:

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-18926-1

Login Number: 18926
List Number: 1
Creator: Sanchez, Joseph G

List Source: Eurofins Eaton Monrovia

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.	True	
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	