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## **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 11/22/2023 7:56:22 AM

## **JOB DESCRIPTION**

**RED-HILL** 

### **JOB NUMBER**

380-59480-2

Eurofins Eaton Analytical Pomona 941 Corporate Center Drive Pomona CA 91768-2642



## **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 11/22/2023 7:56:22 AM

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

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### **Definitions/Glossary**

Client: City & County of Honolulu Job ID: 380-59480-2

Project/Site: RED-HILL

#### **Qualifiers**

**Subcontract** 

Qualifier Qualifier Description

U This analyte was not detected.

### **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

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#### **Case Narrative**

Client: City & County of Honolulu

Project/Site: RED-HILL

Job ID: 380-59480-2

Job ID: 380-59480-2

**Laboratory: Eurofins Eaton Analytical Pomona** 

**Narrative** 

Job Narrative 380-59480-2

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 8/17/2023 9:39 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 0.4°C and 3.1°C

#### **Subcontract Work**

Methods 8015 Gas (Purgeable) LL (EAL), 8015 LL DRO/MRO/JP5/JP8: These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

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.

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### **Detection Summary**

Client: City & County of Honolulu Project/Site: RED-HILL	Job ID: 380-59480-2
Client Sample ID: MOANALUA WELLS Pump 2	Lab Sample ID: 380-59480-1
No Detections.	
Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1	Lab Sample ID: 380-59480-2
No Detections.	
Client Sample ID: TB MOANALUA WELLS	Lab Sample ID: 380-59480-3
No Detections.	
Client Sample ID: TB HALAWA WELLS UNITS 1 & 2	Lab Sample ID: 380-59480-4

No Detections.

Client: City & County of Honolulu Job ID: 380-59480-2

Project/Site: RED-HILL

Surrogate

BROMOBENZENE

Client Sample ID: MOANALUA WELLS Pump 2

Lab Sample ID: 380-59480-1 Date Collected: 08/15/23 11:00 **Matrix: Drinking Water** 

Date Received: 08/17/23 09:39

Analyte	Result	Qualifier	RL	MIDE	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	•
1-Methylphenanthrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	•
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	•
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	
2-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	•
Acenaphthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	
Acenaphthylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	
Anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	
Benz[a]anthracene	ND		0.005	0.001			08/21/23 00:00	09/24/23 08:08	
Benzo[a]pyrene	ND		0.005	0.001			08/21/23 00:00	09/24/23 08:08	
Benzo[b]fluoranthene	ND		0.005	0.001			08/21/23 00:00	09/24/23 08:08	
Benzo[e]pyrene	ND		0.005	0.001	. 0			09/24/23 08:08	
Benzo[g,h,i]perylene	ND		0.005	0.001				09/24/23 08:08	
Benzo[k]fluoranthene	ND		0.005	0.001	. 0			09/24/23 08:08	
Biphenyl	ND ND		0.005	0.001				09/24/23 08:08	,
Chrysene	ND		0.005	0.001				09/24/23 08:08	,
Dibenz[a,h]anthracene	ND ND		0.005	0.001	. 0			09/24/23 08:08	
Dibenzo[a,l]pyrene	ND		0.005	0.001	. 0			09/24/23 08:08	
Dibenzothiophene	ND		0.005	0.001				09/24/23 08:08	
•	ND ND		0.005	0.001	. •			09/24/23 08:08	
Disalicylidenepropanediamine	ND ND				. •			09/24/23 08:08	
Fluoranthene			0.005	0.001					
Fluorene	ND		0.005	0.001	. •			09/24/23 08:08	•
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	. 0			09/24/23 08:08	
Naphthalene	ND		0.005	0.001			08/21/23 00:00		
Perylene	ND		0.005	0.001	. •			09/24/23 08:08	•
Phenanthrene	ND		0.005	0.001	. •			09/24/23 08:08	•
Pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 08:08	,
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
(d10-Acenaphthene)	80		27 - 133				08/21/23 00:00	09/24/23 08:08	
(d10-Phenanthrene)	87		43 - 129				08/21/23 00:00	09/24/23 08:08	
(d12-Chrysene)	84		52 - 144				08/21/23 00:00	09/24/23 08:08	
(d12-Perylene)	85		36 - 161				08/21/23 00:00	09/24/23 08:08	
(d8-Naphthalene)	72		25 - 125				08/21/23 00:00	09/24/23 08:08	•
Mathadi 2045 Caa (Diimaa)	ble) II (EAI)	CIMO 4C DO	AED Caralin	- D	0				
Method: 8015 Gas (Purgeal Analyte		Qualifier	115B Gasolin RL		Unit	S D	Prepared	Analyzed	Dil Fa
GASOLINE	ND		0.02		mg/L	=		08/21/23 14:32	
							_		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
BROMOFLUOROBENZENE	81		60 - 140					08/21/23 14:32	
Method: 8015 LL DRO/MRC									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
DIESEL	ND	U	0.025		mg/L			08/28/23 22:09	
JP5	ND	U	0.049		mg/L			08/28/23 22:09	
JP8	ND	U	0.049		mg/L			08/28/23 22:09	
MOTOR OIL	ND	U	0.049		mg/L			08/28/23 22:09	

Limits

60 - 130

%Recovery Qualifier

67

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Analyzed

08/28/23 22:09

Dil Fac

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Prepared

### **Client Sample Results**

Client: City & County of Honolulu

Project/Site: RED-HILL

Client Sample ID: MOANALUA WELLS Pump 2

Date Collected: 08/15/23 11:00 Date Received: 08/17/23 09:39 Lab Sample ID: 380-59480-1

. Matrix: Drinking Water

Job ID: 380-59480-2

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

 Surrogate
 %Recovery
 Qualifier
 Limits
 Prepared
 Analyzed
 Dil Fac

 HEXACOSANE
 88
 60 - 130
 08/28/23 22:09
 1

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1 Lab Sample ID: 380-59480-2

Date Collected: 08/15/23 10:00 Matrix: Drinking Water

Date Received: 08/17/23 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
1-Methylphenanthrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
2-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Acenaphthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Acenaphthylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benz[a]anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benzo[a]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benzo[b]fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benzo[e]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benzo[g,h,i]perylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Benzo[k]fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Biphenyl	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Chrysene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Dibenz[a,h]anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Dibenzothiophene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Disalicylidenepropanediamine	ND		0.1	0.05	μg/L		08/21/23 00:00	09/24/23 09:56	1
Fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Fluorene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Naphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Perylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Phenanthrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/24/23 09:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	75		27 - 133				08/21/23 00:00	09/24/23 09:56	1
(d10-Phenanthrene)	85		43 - 129				08/21/23 00:00	09/24/23 09:56	1
(d12-Chrysene)	84		52 - 144				08/21/23 00:00	09/24/23 09:56	1
(d12-Perylene)	88		36 - 161				08/21/23 00:00	09/24/23 09:56	1
(d8-Naphthalene)	67		25 - 125				08/21/23 00:00	09/24/23 09:56	1

Method: 8015 Gas (Purgeable)	LL (EAL) - SW846 801	5B Gasoline	Range Organics
Analyte	Result Qualifier	RL	MDL Unit

Analyte GASOLINE	Result ND	Qualifier U		MDL	Unit mg/L	<u>D</u>	Prepared	Analyzed 08/21/23 16:24	Dil Fac
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	82		60 - 140					08/21/23 16:24	1

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### **Client Sample Results**

Client: City & County of Honolulu

Project/Site: RED-HILL

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1

Date Collected: 08/15/23 10:00

Date Received: 08/17/23 09:39

Lab Sample ID: 380-59480-2

Lab Sample ID: 380-59480-3

**Matrix: Water** 

**Matrix: Water** 

**Matrix: Drinking Water** 

Job ID: 380-59480-2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			08/28/23 22:27	1
JP5	ND	U	0.05		mg/L			08/28/23 22:27	1
JP8	ND	U	0.05		mg/L			08/28/23 22:27	1
MOTOR OIL	ND	U	0.05		mg/L			08/28/23 22:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	68		60 - 130					08/28/23 22:27	1
HEXACOSANE	83		60 - 130					08/28/23 22:27	1

**Client Sample ID: TB MOANALUA WELLS** 

Date Collected: 08/15/23 11:00

Date Received: 08/17/23 09:39

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/21/23 17:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	80		60 - 140					08/21/23 17:01	

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2

Date Collected: 08/15/23 10:00

Date Received: 08/17/23 09:39

M	ethod: 8015 Gas (Purgeable)	LL (EAL) -	SW846 80	15B Gasolin	e Range	Organio	cs			
An	nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GA	ASOLINE	ND	U	0.02		mg/L			08/21/23 17:38	1
Su	ırrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BF	ROMOFLUOROBENZENE	82		60 - 140			_		08/21/23 17:38	1

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

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

Matrix: BlankMatrix Prep Type: Total/NA

			Pe	rcent Surre	ogate Reco	very (Acce
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
109956-B1	Method Blank	88	95	92	79	92
109956-BS1	Lab Control Sample	90	95	94	84	96
109956-BS2	Lab Control Sample Dup	94	100	98	87	99
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: Drinking Water** Prep Type: Total/NA

			Pe	rcent Surre	ogate Reco	very (Acce
		Acenapht	Phenanth	CRY	NPT	PRY
Lab Sample ID	Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
380-59480-1	MOANALUA WELLS Pump 2	80	87	84	72	85
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	75	85	84	67	88
Surrogato Logand						

Surrogate Legend

(d10-Acenaphthene) = (d10-Acenaphthene) (d10-Phenanthrene) = (d10-Phenanthrene)

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

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

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

-			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(60-140)	
380-59480-1	MOANALUA WELLS Pump 2	81	
380-59480-2	HALAWA WELLS UNITS 1 & 2	82	
	Pump 1		
Surrogate Legend			
BFB = BROMOFLUC	PROBENZENE		

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

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

			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(60-140)	
380-59480-3	TB MOANALUA WELLS	80	
380-59480-4	TB HALAWA WELLS UNITS 1 & 2	82	
Surrogate Legend			
BFB = BROMOFLUOR	OBENZENE		

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Job ID: 380-59480-2

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

**Matrix: WATER** Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)						
		BFB						
Lab Sample ID	Client Sample ID	(60-140)						
23H149-01M	Matrix Spike	104						
23H149-01S	Matrix Spike Duplicate	107						

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

**Matrix: WATER** Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
	BFB	
Client Sample ID		
Method Blank		
OROBENZENE		
		Client Sample ID  Method Blank

Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

**Matrix: WATER** Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		BFB	
Lab Sample ID	Client Sample ID	(70-130)	
23VG39H07C	LCD	101	
23VG39H07L	Lab Control Sample	104	
Surrogate Legend			

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

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

			Percent Surrogate Recovery (Acceptance Limits)			
		ВВ	XACOSA			
Lab Sample ID	Client Sample ID	(60-130)	(60-130)			
380-59480-1	MOANALUA WELLS Pump 2	67	88			
380-59480-2	HALAWA WELLS UNITS 1 & 2	68	83			
	Pump 1					
Surrogate Legend						
BB = BROMOBENZENE	<u> </u>					
HEXACOSANE = HEXA	COSANE					

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

**Matrix: WATER** Prep Type: Total/NA

_			Power Community Brown (According to Livelie)
			Percent Surrogate Recovery (Acceptance Limits)
		ВВ	XACOSAI
Lab Sample ID	Client Sample ID		
23DSH028WB	Method Blank		
Surrogate Legend			
BB = BROMOBEN	ZENE		
HEXACOSANE = F	HEXACOSANE		

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### **Surrogate Summary**

Client: City & County of Honolulu Job ID: 380-59480-2

Project/Site: RED-HILL

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

Matrix: WATER Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		ВВ	XACOSA				
Lab Sample ID	Client Sample ID	(60-130)	(60-130)				
23DSH028WC	LCD	67	78				
23DSH028WL	Lab Control Sample	72	84				
23J5H028WC	LCD	77	84				
23J5H028WL	Lab Control Sample	68	79				
23J8H028WC	LCD	79	72				
23J8H028WL	Lab Control Sample	92	81				
Surrogate Legend	I						
BB = BROMOBEN	ZENE						
HEXACOSANE = H	HEXACOSANE						

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Client: City & County of Honolulu Job ID: 380-59480-2

Project/Site: RED-HILL

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

Lab Sample ID: 109956-B1

Matrix: BlankMatrix

Analysis Batch: O-42060

Prep Batch: O-42060\_P

	Blank	Blank							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
1-Methylphenanthrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
2-Methylnaphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Acenaphthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Acenaphthylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benz[a]anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benzo[a]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benzo[b]fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benzo[e]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benzo[g,h,i]perylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Benzo[k]fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Biphenyl	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Chrysene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Dibenz[a,h]anthracene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Dibenzothiophene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Disalicylidenepropanediamine	ND		0.1	0.05	μg/L		08/21/23 00:00	09/23/23 23:07	1
Fluoranthene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Fluorene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Naphthalene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Perylene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Phenanthrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1
Pyrene	ND		0.005	0.001	μg/L		08/21/23 00:00	09/23/23 23:07	1

	Blank	Blank				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	88		27 - 133	08/21/23 00:00	09/23/23 23:07	1
(d10-Phenanthrene)	95		43 - 129	08/21/23 00:00	09/23/23 23:07	1
(d12-Chrysene)	92		52 - 144	08/21/23 00:00	09/23/23 23:07	1
(d12-Perylene)	92		36 - 161	08/21/23 00:00	09/23/23 23:07	1
(d8-Naphthalene)	79		25 - 125	08/21/23 00:00	09/23/23 23:07	1

Lab Sample ID: 109956-BS1 Matrix: BlankMatrix Analysis Batch: O-42060 Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-42060\_P

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1-Methylnaphthalene	0.5	0.431		μg/L		86	31 - 128	
1-Methylphenanthrene	0.5	0.46		μg/L		92	66 - 127	
2,3,5-Trimethylnaphthalene	0.5	0.451		μg/L		90	55 - 122	
2,6-Dimethylnaphthalene	0.5	0.451		μg/L		90	48 - 120	
2-Methylnaphthalene	0.5	0.436		μg/L		87	47 - 130	
Acenaphthene	0.5	0.451		μg/L		90	53 - 131	
Acenaphthylene	0.5	0.455		μg/L		91	43 - 140	
Anthracene	0.5	0.402		μg/L		80	58 - 135	

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Job ID: 380-59480-2

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

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

Lab Sample ID: 109956-BS1

Matrix: BlankMatrix

Analysis Batch: O-42060

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: O-42060\_P

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benz[a]anthracene	0.5	0.447		μg/L		89	55 - 145	
Benzo[a]pyrene	0.5	0.477		μg/L		95	51 - 143	
Benzo[b]fluoranthene	0.5	0.435		μg/L		87	46 - 165	
Benzo[e]pyrene	0.5	0.421		μg/L		84	42 - 152	
Benzo[g,h,i]perylene	0.5	0.462		μg/L		92	63 - 133	
Benzo[k]fluoranthene	0.5	0.454		μg/L		91	56 - 145	
Biphenyl	0.5	0.457		μg/L		91	56 - 119	
Chrysene	0.5	0.442		μg/L		88	56 - 141	
Dibenz[a,h]anthracene	0.5	0.427		μg/L		85	55 - 150	
Dibenzo[a,l]pyrene	0.5	0.544		μg/L		109	50 - 150	
Dibenzothiophene	0.5	0.472		μg/L		94	46 - 126	
Disalicylidenepropanediamine	50	40.5		μg/L		81	50 - 150	
Fluoranthene	0.5	0.462		μg/L		92	60 - 146	
Fluorene	0.5	0.451		μg/L		90	58 - 131	
Indeno[1,2,3-cd]pyrene	0.5	0.365		μg/L		73	50 - 151	
Naphthalene	0.5	0.437		μg/L		87	41 - 126	
Perylene	0.5	0.426		μg/L		85	48 - 141	
Phenanthrene	0.5	0.464		μg/L		93	67 - 127	
Pyrene	0.5	0.453		μg/L		91	54 - 156	

LCS LCS

Surrogate	%Recovery Qu	alifier Limits
(d10-Acenaphthene)	90	27 - 133
(d10-Phenanthrene)	95	43 - 129
(d12-Chrysene)	94	52 - 144
(d12-Perylene)	96	36 - 161
(d8-Naphthalene)	84	25 - 125

Lab Sample ID: 109956-BS2

Matrix: BlankMatrix

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

Analysis Batch: O-42060 Prep Batch: O-42060\_P

Spike	LCS DUP	LCS DUP				%Rec		RPD
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
0.5	0.453		μg/L		91	31 - 128	6	30
0.5	0.463		μg/L		93	66 - 127	1	30
0.5	0.459		μg/L		92	55 - 122	2	30
0.5	0.453		μg/L		91	48 - 120	1	30
0.5	0.44		μg/L		88	47 - 130	1	30
0.5	0.457		μg/L		91	53 - 131	1	30
0.5	0.464		μg/L		93	43 - 140	2	30
0.5	0.457		μg/L		91	58 - 135	13	30
0.5	0.451		μg/L		90	55 - 145	1	30
0.5	0.48		μg/L		96	51 - 143	1	30
0.5	0.438		μg/L		88	46 - 165	1	30
0.5	0.434		μg/L		87	42 - 152	4	30
0.5	0.458		μg/L		92	63 - 133	0	30
0.5	0.448		μg/L		90	56 - 145	1	30
0.5	0.465		μg/L		93	56 - 119	2	30
0.5	0.443		μg/L		89	56 - 141	1	30
	Added  0.5  0.5  0.5  0.5  0.5  0.5  0.5  0.	Added         Result           0.5         0.453           0.5         0.463           0.5         0.459           0.5         0.453           0.5         0.444           0.5         0.457           0.5         0.457           0.5         0.451           0.5         0.438           0.5         0.434           0.5         0.458           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.465	Added         Result         Qualifier           0.5         0.453           0.5         0.459           0.5         0.453           0.5         0.444           0.5         0.457           0.5         0.457           0.5         0.457           0.5         0.451           0.5         0.438           0.5         0.438           0.5         0.458           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448           0.5         0.448	Added         Result         Qualifier         Unit           0.5         0.453         μg/L           0.5         0.463         μg/L           0.5         0.459         μg/L           0.5         0.453         μg/L           0.5         0.444         μg/L           0.5         0.457         μg/L           0.5         0.457         μg/L           0.5         0.457         μg/L           0.5         0.451         μg/L           0.5         0.48         μg/L           0.5         0.438         μg/L           0.5         0.458         μg/L           0.5         0.448         μg/L           0.5         0.465         μg/L	Added         Result         Qualifier         Unit         D           0.5         0.453         μg/L         μg/L           0.5         0.463         μg/L         μg/L           0.5         0.459         μg/L         μg/L           0.5         0.453         μg/L         μg/L           0.5         0.444         μg/L         μg/L           0.5         0.464         μg/L         μg/L           0.5         0.457         μg/L         μg/L           0.5         0.451         μg/L         μg/L           0.5         0.438         μg/L           0.5         0.438         μg/L           0.5         0.458         μg/L           0.5         0.448         μg/L           0.5         0.465         μg/L	Added         Result         Qualifier         Unit         D         %Rec           0.5         0.453         μg/L         91           0.5         0.463         μg/L         93           0.5         0.459         μg/L         92           0.5         0.453         μg/L         91           0.5         0.444         μg/L         88           0.5         0.457         μg/L         93           0.5         0.457         μg/L         91           0.5         0.457         μg/L         91           0.5         0.451         μg/L         90           0.5         0.434         μg/L         88           0.5         0.438         μg/L         88           0.5         0.434         μg/L         87           0.5         0.458         μg/L         92           0.5         0.448         μg/L         90           0.5         0.448         μg/L         90           0.5         0.448         μg/L         90           0.5         0.458         μg/L         90           0.5         0.448         μg/L         90 <td>Added         Result         Qualifier         Unit         D         %Rec         Limits           0.5         0.453         μg/L         91         31 - 128           0.5         0.463         μg/L         93         66 - 127           0.5         0.459         μg/L         92         55 - 122           0.5         0.453         μg/L         91         48 - 120           0.5         0.444         μg/L         88         47 - 130           0.5         0.457         μg/L         91         53 - 131           0.5         0.464         μg/L         93         43 - 140           0.5         0.457         μg/L         91         58 - 135           0.5         0.457         μg/L         91         58 - 145           0.5         0.457         μg/L         90         55 - 145           0.5         0.451         μg/L         96         51 - 143           0.5         0.48         μg/L         96         51 - 143           0.5         0.438         μg/L         88         46 - 165           0.5         0.458         μg/L         92         63 - 133           0.5</td> <td>Added         Result         Qualifier         Unit         D         %Rec         Limits         RPD           0.5         0.453         μg/L         91         31-128         6           0.5         0.463         μg/L         93         66-127         1           0.5         0.459         μg/L         92         55-122         2           0.5         0.453         μg/L         91         48-120         1           0.5         0.444         μg/L         88         47-130         1           0.5         0.457         μg/L         91         53-131         1           0.5         0.464         μg/L         93         43-140         2           0.5         0.457         μg/L         91         58-135         13           0.5         0.457         μg/L         91         58-135         13           0.5         0.451         μg/L         90         55-145         1           0.5         0.48         μg/L         96         51-143         1           0.5         0.438         μg/L         88         46-165         1           0.5         0.458</td>	Added         Result         Qualifier         Unit         D         %Rec         Limits           0.5         0.453         μg/L         91         31 - 128           0.5         0.463         μg/L         93         66 - 127           0.5         0.459         μg/L         92         55 - 122           0.5         0.453         μg/L         91         48 - 120           0.5         0.444         μg/L         88         47 - 130           0.5         0.457         μg/L         91         53 - 131           0.5         0.464         μg/L         93         43 - 140           0.5         0.457         μg/L         91         58 - 135           0.5         0.457         μg/L         91         58 - 145           0.5         0.457         μg/L         90         55 - 145           0.5         0.451         μg/L         96         51 - 143           0.5         0.48         μg/L         96         51 - 143           0.5         0.438         μg/L         88         46 - 165           0.5         0.458         μg/L         92         63 - 133           0.5	Added         Result         Qualifier         Unit         D         %Rec         Limits         RPD           0.5         0.453         μg/L         91         31-128         6           0.5         0.463         μg/L         93         66-127         1           0.5         0.459         μg/L         92         55-122         2           0.5         0.453         μg/L         91         48-120         1           0.5         0.444         μg/L         88         47-130         1           0.5         0.457         μg/L         91         53-131         1           0.5         0.464         μg/L         93         43-140         2           0.5         0.457         μg/L         91         58-135         13           0.5         0.457         μg/L         91         58-135         13           0.5         0.451         μg/L         90         55-145         1           0.5         0.48         μg/L         96         51-143         1           0.5         0.438         μg/L         88         46-165         1           0.5         0.458

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LI.

Job ID: 380-59480-2

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

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

Lab Sample ID: 109956-BS2 Matrix: BlankMatrix				ment Sa	impie		Control S Prep Ty	pe: Tot	al/NA
Analysis Batch: O-42060	Spike	I CS DUP	LCS DUP			PI	rep Batch %Rec	: 0-420	RPD
Analyte	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dibenz[a,h]anthracene	0.5	0.452		μg/L		90	55 - 150	6	30
Dibenzo[a,l]pyrene	0.5	0.544		μg/L		109	50 - 150	0	30
Dibenzothiophene	0.5	0.476		μg/L		95	46 - 126	1	30
Disalicylidenepropanediamine	50	43.3		μg/L		87	50 - 150	7	30
Fluoranthene	0.5	0.475		μg/L		95	60 - 146	3	30
Fluorene	0.5	0.462		μg/L		92	58 - 131	2	30
Indeno[1,2,3-cd]pyrene	0.5	0.37		μg/L		74	50 - 151	1	30
Naphthalene	0.5	0.436		μg/L		87	41 - 126	0	30
Perylene	0.5	0.426		μg/L		85	48 - 141	0	30
Phenanthrene	0.5	0.473		μg/L		95	67 - 127	2	30
Pyrene	0.5	0.462		μg/L		92	54 - 156	1	30

LCS DUP LCS DUP

its
133
129
144
161
125

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics

Lab Sample ID: 23VG39H07B Client Sample ID: Method Blank **Matrix: WATER** Prep Type: Total/NA

Analysis Batch: 23VG39H07

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			08/21/23 12:41	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE						_		08/21/23 12:41	1

Lab Sample ID: 23VG39H07L **Client Sample ID: Lab Control Sample** 

**Matrix: WATER** 

Analysis Batch: 23VG39H07

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
GASOLINE	 0.5	0.476		mg/L		95	60 - 130	

LCS LCS %Recovery Qualifier Surrogate Limits BROMOFLUOROBENZENE 104 70 - 130

**Client Sample ID: Matrix Spike Lab Sample ID: 23H149-01M** 

**Matrix: WATER** 

Analysis Batch: 23VG39H07

	Sample	Sample	Spike	MS	MS					%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	I	)	%Rec	Limits		
GASOLINE	ND		0.5	0.461		mg/L			92	50 - 130	 	_

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08/21/23 12:41

Prep Type: Total/NA

Job ID: 380-59480-2

Client: City & County of Honolulu

Project/Site: RED-HILL

**Prep Type: Total/NA** 

**Client Sample ID: Matrix Spike** 

### Method: 8015 Gas (Purgeable) LL (EAL) - SW846 8015B Gasoline Range Organics (Continued)

Lab Sample ID: 23H149-01M

**Matrix: WATER** 

**Analysis Batch: 23VG39H07** 

MS MS

%Recovery Qualifier Limits Surrogate BROMOFLUOROBENZENE 104 60 - 140

Lab Sample ID: 23H149-01S

Sample Sample Result Qualifier

Spike Added 0.5

MSD MSD 0.463

Result Qualifier

Unit mg/L

%Rec 93

Limits 50 - 130

%Rec

Client Sample ID: Method Blank

**Client Sample ID: Matrix Spike Duplicate** 

RPD Limit 0

**Prep Type: Total/NA** 

Prep Type: Total/NA

30

**RPD** 

**Matrix: WATER** 

**Analyte** 

GASOLINE

Analysis Batch: 23VG39H07

Surrogate BROMOFLUOROBENZENE

MSD MSD %Recovery Qualifier 107

Limits 60 - 140

#### Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO

ND

Lab Sample ID: 23DSH028WB

**Matrix: WATER** 

Analysis Batch: 23DSH028W

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.025		mg/L			08/28/23 19:20	1
JP5	ND	U	0.05		mg/L			08/28/23 19:20	1
JP8	ND	U	0.05		mg/L			08/28/23 19:20	1
MOTOR OIL	ND	U	0.05		mg/L			08/28/23 19:20	1

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac **BROMOBENZENE** 08/28/23 19:20 **HEXACOSANE** 08/28/23 19:20

Lab Sample ID: 23DSH028WL

**Matrix: WATER** 

**Analysis Batch: 23DSH028W** 

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

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits DIESEL 2.5 1.89 mg/L 50 - 130

LCS LCS

%Recovery Qualifier Surrogate I imits BROMOBENZENE 60 - 130 72 **HEXACOSANE** 84 60 - 130

Lab Sample ID: 23J5H028WL

**Matrix: WATER** 

JP5

Analysis	Batch:	23DSH028W

Alialysis Balcii. 23D3HU20W	
Δnalvto	

LCS LCS Spike Added Result Qualifier 2.5 1.55

Unit mg/L %Rec

62

%Rec Limits

30 - 160

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

### **QC Sample Results**

Client: City & County of Honolulu Job ID: 380-59480-2

Project/Site: RED-HILL

Method: 8015 LL DRO/MRO/JP5/JP8 - 8015 - TPH DRO/ORO (Continued)

**Client Sample ID: Lab Control Sample** Lab Sample ID: 23J5H028WL Prep Type: Total/NA

**Matrix: WATER** 

**Analysis Batch: 23DSH028W** 

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	68		60 - 130
HEXACOSANE	79		60 - 130

Lab Sample ID: 23J8H028WL **Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

**Matrix: WATER** 

**Analysis Batch: 23DSH028W** 

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit D %Rec Limits JP8 2.5 30 - 160 2.63 mg/L 105

LCS LCS

Surrogate	%Recovery Qualifi	ier Limits
BROMOBENZENE	92	60 - 130
HEXACOSANE	81	60 - 130

### **QC Association Summary**

Client: City & County of Honolulu Project/Site: RED-HILL Job ID: 380-59480-2

### Subcontract

### **Analysis Batch: O-42060**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-59480-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	625 PAH Physis	O-42060_P
				LL (EAL) + TICs	
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	625 PAH Physis	O-42060_P
				LL (EAL) + TICs	
109956-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis	O-42060_P
				LL (EAL) + TICs	
109956-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis	O-42060_P
				LL (EAL) + TICs	
109956-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis	O-42060_P
				LL (EAL) + TICs	

### Analysis Batch: 23DSH028W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-59480-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 LL	
				DRO/MRO/JP5/J	
				P8	
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23DSH028WB	Method Blank	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23DSH028WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23J5H028WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23J8H028WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	

### Analysis Batch: 23VG39H07

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
380-59480-1	MOANALUA WELLS Pump 2	Total/NA	Drinking Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
380-59480-3	TB MOANALUA WELLS	Total/NA	Water	8015 Gas	
				(Purgeable) LL	
000 50400 4				(EAL)	
380-59480-4	TB HALAWA WELLS UNITS 1 & 2	Total/NA	Water	8015 Gas	
				(Purgeable) LL	
23VG39H07B	Method Blank	Total/NA	WATER	(EAL) 8015 Gas	
23 (	Method Blank	IOIai/NA	WAIEN		
				(Purgeable) LL (EAL)	
23VG39H07L	Lab Control Sample	Total/NA	WATER	8015 Gas	
20100011072	Edb Control Campio	10(0)/14/ (	VV/ (I LIX	(Purgeable) LL	
				(EAL)	
23H149-01M	Matrix Spike	Total/NA	WATER	8015 Gas	
	·			(Purgeable) LL	
				(EAL)	
23H149-01S	Matrix Spike Duplicate	Total/NA	WATER	8015 Gas	
				(Purgeable) LL	
				(EAL)	

Eurofins Eaton Analytical Pomona

### **QC Association Summary**

Client: City & County of Honolulu Project/Site: RED-HILL Job ID: 380-59480-2

### Subcontract

### Prep Batch: O-42060\_P

<b>Lab Sample ID</b> 380-59480-1	Client Sample ID  MOANALUA WELLS Pump 2	Prep Type Total/NA	Matrix Drinking Water	Method EPA 625	Prep Batch
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	Total/NA	Drinking Water	EPA_625	
109956-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
109956-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
109956-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

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Client: City & County of Honolulu

Project/Site: RED-HILL

Client Sample ID: MOANALUA WELLS Pump 2

Date Collected: 08/15/23 11:00 Date Received: 08/17/23 09:39 Lab Sample ID: 380-59480-1

**Matrix: Drinking Water** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	EPA_625		1	O-42060_P			08/21/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42060	YC		09/24/23 08:08
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H07	SCerva		08/21/23 14:32
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSH028W	SDees		08/28/23 22:09

Client Sample ID: HALAWA WELLS UNITS 1 & 2 Pump 1

Date Collected: 08/15/23 10:00 Date Received: 08/17/23 09:39

Lab Sample ID: 380-59480-2

**Matrix: Drinking Water** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	EPA_625		1	O-42060_P			08/21/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-42060	YC		09/24/23 09:56
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VG39H07	SCerva		08/21/23 16:24
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSH028W	SDees		08/28/23 22:27

Client Sample ID: TB MOANALUA WELLS

Date Collected: 08/15/23 11:00 Date Received: 08/17/23 09:39

Lab Sample ID: 380-59480-3

Lab Sample ID: 380-59480-4

**Matrix: Water** 

**Matrix: Water** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8015 Gas		1	23VG39H07	SCerva	-	08/21/23 17:01
		(Purgeable) LL (EAL)						

Client Sample ID: TB HALAWA WELLS UNITS 1 & 2

Date Collected: 08/15/23 10:00

Date Received: 08/17/23 09:39

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Туре	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)	-	1	23VG39H07	SCerva		08/21/23 17:38

#### **Laboratory References:**

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

### **Method Summary**

Client: City & County of Honolulu

Project/Site: RED-HILL

Job ID: 380-59480-2

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

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### **Sample Summary**

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

Job ID: 380-59480-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-59480-1	MOANALUA WELLS Pump 2	Drinking Water	08/15/23 11:00	08/17/23 09:39
380-59480-2	HALAWA WELLS UNITS 1 & 2 Pump 1	<b>Drinking Water</b>	08/15/23 10:00	08/17/23 09:39
380-59480-3	TB MOANALUA WELLS	Water	08/15/23 11:00	08/17/23 09:39
380-59480-4	TB HALAWA WELLS UNITS 1 & 2	Water	08/15/23 10:00	08/17/23 09:39

3051 Fujita Street Torrance, CA 90505 Tel: (310)-618-8889

Date: 09-13-2023 EMAX Batch No.: 23H149

Attn: Jackie Contreras

Eurofins Eaton Analytical 750 Royal Oaks Dr., Suite 100 Monrovia, CA 91016-3629

Subject: Laboratory Report

Project: 380-59480

Enclosed is the Laboratory report for samples received on 0B/18/23. The data reported relate only to samples listed below:

Sample ID	Control # Col Date	Matrix	Analysis
******			
380-59480-1	H149-01 0B/15/23	WATER	TPH GASOLINE TPH
380-59480-2	H149-02 08/15/23	WATER	TPH GASOLINE TPH
380-59480-3	H149-03 08/15/23	WATER	TPH GASOLINE
380-59480-4	H149-04 08/15/23	WATER	TPH GASOLINE
380-59480-1MS	H149-01M 08/15/23	WATER	TPH GASOLINE
380-59480-1MSD	H149-01S 08/15/23	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-24 ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing California ELAP Accredited Certificate Number 2672

REPORT ID: 23H149

Page 1 of 37

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Custody Seals Intact:   Custody Seal No.:	Relinquished by:	Relinquished by:	Refinquished.by:	Empty Kit Relinquished by:	Deliverable Requested: I, II, III, IV, Other (specify)	Possible Hazard Identification Unconfirmed	Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation compliance upon our subcontrat currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC it accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Eaton Analytical.				TB HALAWA WELLS UNITS 1 & 2 (380-59480-4)	TB MOANALUA WELLS (380-59480-3)	HALAWA WELLS UNITS 1 & 2 (380-59480-2)	MOANALUA WELLS (380-59480-1)		Sample Identification - Client ID (Lab ID)	Site: Honolulu BWS Sites	Project Name:	Emait	Phone:	State, Zip: CA, 90505	Zity. Forrance	Address: 3051 Fujita Street, ,	Company: EMAX Laboratories Inc		Client Information (Sub Contract Lab)	Eurofins Eaton Analytical Pomona 941 Corporate Center Drive Pomona, CA 91768-2642 Phone: 626-386-1100
	Date/Time:	rkime:	17/03/18		Primary Deliverable Rank: 2		tical, LLC places the c s/matrix being analyze ns are current to date				8/15/23	8/15/23	8/15/23	8/15/23	$\bigvee$	Sample Date	SSOW#:	Project #: 38001111	WO#	PO#	-	TAT Requested (days):	Due Date Requested: 8/28/2023		Phone:	Sampler:	0
			B	Date:	able Rank:		wnership of ed, the samp , return the s				10:00 Hawaiian	11:00 Hawaiian	10:00 Hawaiian	11:00 Hawaiian	X	Sample Time						ys):	, ă.				hain
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	Company	Company	Company				& accreditation pped back to the Sustody attestin				Water	Water	Water	Water	Preservation Code:	Matrix (Wewater, Besoild, Owwastafoll, BT=Tissue, A#Air)									Rache	Lab PM: Arada,	tody R
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	Received by:	Received by.	Received by:		Special Instructions/Q	Sample Disposal ( A Return To Client	upon our su aton Analytic mpliance to E				×	×	×	×		(Purgeable) L SUB (8915 LL DRO/MRO/JP	L (EAL) DRO/M	RO/JP5	iJP8)i	8015 L	L			Accreditations Required (See note): State - Hawaii	E-Mail: Rachelle.Arada@et.eurofinsus	lle	<u>a</u>
Cooler Temporature(s) of			Z	5	റ		abcontract la al, LLC labor urofins Eatc				 				金属								Anal	(See note):	ofinsus.com		
°C and Other Remarks:		(			Requirements	may be	boratories. ratory or oth on Analytical																alysis Re		3		. <u>231 - 1-11</u> .
				Met		fee may be assessed if samples are retained longer than 1 month)  Disposal By Lab Archive For Mon	ct laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eaton Analytical. LLC.													-			Requested		State of Origin: Hawaii	Carrier To	
	Date	Date	S Date	Method of Shipment:		if sampl	shipment is ns will be pro																		rigin:	Carrier Tracking No(s):	***********
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TIM .			D73	DOC vs received	D11 Container count mismatch
RIO			D77		D10 No initial/date on correction
68		No sample for moisture deter			D9 Sample received is not liste
RS TABONOO ( LUM)	lved analysis	ossib 101 olni nousatlit oV			Oste/Time mismatch COC (Td)  Date/Time mismatch COC is no
R7 Filter and properved as necessary		Insufficient Sample			Do Date/Time is not indicated  OO dosemer mirmatch (Td)
R6 Adjust pH as necessary	·	Insufficient chemical prese			D5 Container -[improper] [leak
R5 Log-in with latest sampling date and time+1 min		Preservation not indicated  Dreservation mismatch CO		,	D4 Sample ID is not indicated
R3 Cancel the analysis R4 Use vial with smallest bubble first	u.	No trip blank in cooler			D3 Sample ID mismatch COC
R2 Refer to attached instruction		Bubble is >6mm			D2 Analysis mismatch COC vs
RI Proceed as indicated in COC   Label		Out of Holding Time			III Analysis is not indicated in
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N/S - a	N/S - 2	<u> ครรเคนางร (</u> 8	`	871298127N/S-V	Тһегтотелет
Cooler 9 C Cooler 10	O Cooler 8 □		     	Cooler 6 "C	(Coo), ≤6 °C but not frozen).
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CABORATORIES, INC.

#### REPORTING CONVENTIONS

#### **DATA QUALIFIERS:**

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
В	· В	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

#### **ACRONYMS AND ABBREVIATIONS:**

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

#### **DATES**

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

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### LABORATORY REPORT FOR

### **EUROFINS EATON ANALYTICAL**

380-59480

# METHOD 5030B/8015B TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 23H149

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#### CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-59480

SDG : 23H149

#### METHOD 5030B/8015B

#### TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of four(4) water samples were received on 08/18/23 to be analyzed for Total Petroleum Hydrocarbons by Purge and Trap in accordance with Method 5030B/8015B and project specific requirements.

#### Holding Time

Samples were analyzed within the prescribed holding time.

#### Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

#### Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. VG39H07B - result was compliant to project requirement. Refer to sample result summary form for details.

#### Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. VG39H07L/VG39H07C were within LCS limits. Refer to LCS summary form for details.

#### Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Gasoline was within MS QC limits in H149-01M/H149-01S. Refer to Matrix QC summary form for details.

Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Project :	EURUFINS EATUN ANALYTICAL 380-59480							SDG NO. : 23H149 Instrument ID : GCT039	: 23H149 : GCT039
				WAT	WATER				
Client	Laboratory	/ Dilution	<b>&gt;</b> e	Analysis	Extraction	Sample	Calibration Prep.	n Prep.	
Sample ID	Sample ID	Factor	Moist	DateTime	DateTime	Data FN	Data FN	Batch Notes	
			:			:	:		
MBLK1W	VG39H07B	1	A	08/21/2312:41	08/21/2312:41	EH21005A	EH21003A	23VG39H07 Method	1 Blank
LCS1W	VG39H07L		NA	08/21/2313:18	08/21/2313:18	EH21006A		23VG39H07 Lab Co	ontrol Sample (LCS)
LCD1W	VG39H07C		A	08/21/2313:55	08/21/2313:55	EH21007A		23VG39H07 LCS DI	plicate
380-59480-1	H149-01	1	¥	08/21/2314:32	08/21/2314:32	EH21008A		23VG39H07 Field	Sample
380-59480-1MS	_		¥	08/21/2315:09	08/21/2315:09	EH21009A		23VG39H07 Matri)	23VG39H07 Matrix Spike Sample (MS)
380-59480-1MSD	_	1	¥	08/21/2315:47	08/21/2315:47	EH21010A	EH21003A	23VG39H07 MS Dup	MS Duplicate (MSD)
380-59480-2	H149-02	1	¥	08/21/2316:24	08/21/2316:24	EH21011A	EH21003A	23VG39H07 Field	Field Sample
380 - 59480 - 3	H149-03		¥	08/21/2317:01	08/21/2317:01	EH21012A	EH21003A		Field Sample
380-59480-4	H149-04	1	Ä	08/21/2317:38	08/21/2317:38	EH21013A	EH21003A		Field Sample

# **SAMPLE RESULTS**

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08/15/23 11:00

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 11:00

Project : 380-59480 Date Received: 08/18/23

Batch No. : 23H149 Date Extracted: 08/21/23 14:32

Sample ID : 380-59480·1 Date Analyzed: 08/21/23 14:32

Lab Samp ID: H149-01 Dilution Factor: 1
Lab File ID: EH21008A Matrix: WATER
Ext Btch ID: 23VG39H07 % Moisture: NA
Calib. Ref.: EH21003A Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0323	0.0400	81	60-140

Notes:

Parameter H.C Range

Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml Final Volume : 5ml

Prepared by : SCerva Analyzed by : SCerva

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 10:00

Project

: 380-59480

Date Received: 08/18/23

Batch No. : 23H149

Date Extracted: 08/21/23 16:24

Sample ID : 380-59480-2

Date Analyzed: 08/21/23 16:24 Dilution Factor: 1

Lab Samp ID: H149-02 Lab File ID: EH21011A

Matrix: WATER

Ext Btch ID: 23VG39H07

% Moisture: NA

Calib. Ref.: EH21003A

Instrument ID: 39

PARAMETERS

RESULTS (mg/L)

RL

(mg/L)

MDL (mg/L)

GASOLINE

ND 0.020 0.010

SURROGATE PARAMETERS

RESULT SPK AMT

\*RECOVERY

QC LIMIT

60-140

....... Bromofluorobenzene

0.0328 0.0400 82

Notes:

Parameter

H-C Range

Gasoline

C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by

: SCerva

Client : EUROFINS EATON ANALYTICAL

Date Collected: 08/15/23 11:00

Project : 380-59480

Date Received: 08/18/23 Date Extracted: 08/21/23 17:01

Batch No. : 23H149 Sample ID : 380-59480-3

Date Analyzed: 08/21/23 17:01

Lab Samp ID: H149-03 Lab File ID: EH21012A Ext Btch ID: 23VG39H07

Calib. Ref.: EH21003A

Dilution Factor: 1 Matrix: WATER % Moisture: NA

Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0319	0.0400	80	60-140

Notes:

Parameter

H-C Range

Gasoline

C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 10:00

: 380-59480 Project Batch No. : 23H149

Date Received: 08/18/23 Date Extracted: 08/21/23 17:38

Sample ID : 380-59480-4

Date Analyzed: 08/21/23 17:38 Dilution Factor: 1

Lab Samp ID: H149-04 Lab File ID: EH21013A Ext Btch ID: 23VG39H07

Matrix: WATER % Moisture: NA

Calib. Ref.: EH21003A

Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0328	0.0400	82	60-140

Notes:

Parameter

H-C Range

Gasoline

C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by

: SCerva

**QC SUMMARIES** 

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/21/23	12:41			
/21/23				

Client	:	EUROFINS EATON ANALYTICAL	Date Collected:	08/21/23 12:41
Project	:	380 - 59480	Date Received:	08/21/23
Batch No.	:	23H149	Date Extracted:	08/21/23 12:41
Sample ID	:	MBLK1W	Date Analyzed:	08/21/23 12:41

Lab Samp ID: VG39H07B Dilution Factor: 1 Lab File ID: EH21005A Matrix: WATER Ext Btch ID: 23VG39H07 % Moisture: NA Calib. Ref.: EH21003A Instrument ID: 39

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
GASOLINE	ND	0.020	0.010	
SURROGATE PARAMETERS	RESULT	SPK_AMT	*RECOVERY	QC LIMIT
Bromofluorobenzene	0.0322	0.0400	81	60-140

Notes:

Parameter H-C Range Gasoline C6-C10

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 5ml

Final Volume : 5ml

Prepared by : SCerva

#### EMAX QUALITY CONTROL DATA LAB CONTROL SAMPLE ANALYSIS

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT

: 380-59480

BATCH NO.

: 23H149

METHOD

: 5030B/8015B

: WATER

DILUTION FACTOR: 1

SAMPLE ID

: MBLK1W LAB SAMPLE ID : VG39H07B

LAB FILE ID : EH21005A

DATE PREPARED : 08/21/23 12:41 DATE ANALYZED : 08/21/23 12:41

PREP BATCH

: 23VG39H07 CALIBRATION REF: EH21003A

1 LCS1W

VG39H07L EH21006A

08/21/23 13:18 08/21/23 13:18 23VG39H07

EH21003A

% MOISTURE:NA

1

LCD1W VG39H07C EH21007A

08/21/23 13:55 08/21/23 13:55

23VG39H07 EH21003A

ACCESSION:

	MBResult	SpikeAmt	LCSResult	LCSRec	SpikeAmt	LCDResult	LCDRec	RPD	QCLimit	MaxRPD
PARAMETERS	(mg/L)	(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)	(%)	(%)
	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •	•••••	• • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • •
Gasoline	ND	0.500	0.476	95	0.500	0.449	90 .	6	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0416	104	0.0400	0.0404	101	70-130

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

#### EMAX QUALITY CONTROL DATA MS/MSD ANALYSIS

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT

: 380-59480

BATCH NO.

: 23H149

METHOD

: 5030B/8015B

MATRIX
--------

: WATER

DILUTION FACTOR: 1

SAMPLE ID : 380-59480-1

LAB SAMPLE ID : H149-01 LAB FILE ID : EH21008A

DATE PREPARED : 08/21/23 14:32 DATE ANALYZED : 08/21/23 14:32

PREP BATCH

CALIBRATION REF: EH21003A

: 23VG39H07

380-59480-1MS

H149-01M EH21009A

08/21/23 15:09 08/21/23 15:09

23VG39H07 EH21003A

% MOISTURE:NA

380 - 59480 - 1MSD

H149-01S EH21010A

08/21/23 15:47 08/21/23 15:47

23VG39H07 EH21003A

ACCESSION:

	PSResult	SpikeAmt	MSResult	MSRec	SpikeAmt	MSDResult	MSDRec	RPD	QCLimit	MaxRPD
PARAMETERS	(mg/L)	(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)	(%)	(%)
	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	••••••		• • • • • • • •	• • • • • • • •	• • • • • • •		• • • • • • •
Gasoline	ND	0.500	0.461	92	0.500	0.463	93	0	50-130	30

	SpikeAmt	MSResult	MSRec	SpikeAmt	MSDResult	MSDRec	QCLimit
SURROGATE PARAMETER	(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)
Bromofluorobenzene	0.0400	0.0415	104	0.0400	0.0429	107	60-140

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

## LABORATORY REPORT FOR

## **EUROFINS EATON ANALYTICAL**

380-59480

## METHOD 3520C/8015B TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 23H149

#### CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-59480

SDG : 23H149

METHOD 3520C/8015B TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/18/23 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time Samples were analyzed within the prescribed holding time.

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing

calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DSH028WL/DSH028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample No matrix QC sample was provided on this SDG.

Surrogates were added on QC and field samples. All surrogate recoveries were within OC limits. Refer to sample result summary forms for details.

Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

REPORT ID: 23H149

Page 18 of 37/2023

#### CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-59480

SDG : 23H149

#### METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/18/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

#### Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

#### Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB - result was compliant to project requirement. Refer to sample result summary form for details.

#### Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J5H028WL/J5H028WC were within LCS limits. Refer to LCS summary form for details.

#### Matrix QC Sample

No matrix QC sample was provided on this SDG.

#### Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

#### Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

REPORT ID: 23H149

#### CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-59480

SDG : 23H149

#### METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 08/18/23 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

Holding Time

Samples were analyzed within the prescribed holding time.

#### Calibration

Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details. MRL was analyzed as required by the project. Refer to MRL summary form for details.

#### Method Blank

Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSH028WB - result was compliant to project requirement. Refer to sample result summary form for details.

#### Lab Control Sample

Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. J8H028WL/J8H028WC were within LCS limits. Refer to LCS summary form for details.

#### Matrix QC Sample

No matrix QC sample was provided on this SDG.

#### Surrogate

Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

#### Sample Analysis

Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

REPORT ID: 23H149

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Lab Control Sample (LCS)

23DSH028W

23DSH028W Method Blank Notes

Batch

Calibration Prep.

Sample Data FN

Extraction DateTime

Analysis DateTime

Moist

Factor

Sample ID

Sample ID

MBLK1W LCS1W

Client

DSH028WB

Laboratory Dilution

: EUROFINS EATON ANALYTICAL : 380-59480

Project Client

WATER

23DSH028W LCS Duplicate 23DSH028W Field Sample 23DSH028W Field Sample

LH28003A LH28003A LH28003A LH28003A LH28003A Data FN

LH28010A LH28011A LH28018A LH28019A

08/24/2314:00 08/24/2314:00 08/24/2314:00 08/24/2314:00

08/28/2319:20 08/28/2319:39 08/28/2319:57 08/28/2322:09 08/28/2322:27

**A A A A A** 

DSH028WL DSH028WC H149-01 H149-02

LCD1W 380-59480-1 380-59480-2

FN - Filename % Moist - Percent Moisture

LH28009A

08/24/2314:00

: 23H149 : D5

SDG NO. Instrument ID

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11/22/2023

Client Project	: EUROFINS EATON ANALYTICAL : 380-59480	TICAL							SDG NO. Instrumen	SDG NO. : 23H149 Instrument ID : D5
					WATER	ER				
Client	Labo	aboratory	Dilution	96	Analysis	Extraction	Sample	Calibration Prep.	n Prep.	
Sample ID	Saml	Sample ID	Factor	Moist	DateTime	DateTime	Data FN	Data FN	Batch	Notes
				:				:	:	
MBLK1W	HSO	028WB	1	NA	08/28/2319:20	08/24/2314:00	LH28009A	LH28004A	23DSH028W	Method Blank
LCS1W	JSH	028WL	1	¥	08/28/2320:16	08/24/2314:00	LH28012A	LH28004A	23DSH028W	23DSH028W Lab Control Sample (LCS)
LCD1W	JSH	J5H028WC	1	W	08/28/2320:35	08/24/2314:00	LH28013A	LH28004A	23DSH028W	23DSH028W LCS Duplicate
380 - 59480 - 1	-	9-01	1	NA	08/28/2322:09	08/24/2314:00	LH28018A	LH28004A	23DSH028W	3DSH028W Field Sample
380-59480-2		9-05	1	NA	08/28/2322:27	08/24/2314:00	LH28019A	LH28004A	23DSH028W	Field Sample

FN - Filename % Moist - Percent Moisture

5

23H149 D5

SDG NO. Instrument

23DSH028W Lab Control Sample (LCS)
23DSH028W LCS Duplicate
23DSH028W Field Sample
23DSH028W Field Sample

LH28005A LH28005A LH28005A

LH28015A LH28018A LH28019A

08/24/2314:00 08/24/2314:00 08/24/2314:00 08/24/2314:00

08/28/2319:20 08/28/2320:53 08/28/2321:12 08/28/2322:09 08/28/2322:27

**A A A A A** 

J8H028WL J8H028WC H149-01 H149-02

LCD1W 380-59480-1 380-59480-2

FN · Filename % Moist · Percent Moisture - Filename

23DSH028W Method Blank Notes

> LH28005A LH28005A

> LH28009A LH28014A

08/24/2314:00

Calibration Prep. Data FN Batch

Sample Data FN

Extraction DateTime

Analysis DateTime

Moist

. . . . .

DSH028WB

Laboratory Dilution Sample ID Factor

Sample ID

MBLK1W LCS1W

Client

: EUROFINS EATON ANALYTICAL : 380-59480

**Project** Client

WATER

11/22/2023

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# SAMPLE RESULTS

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Date Collected: 08/15/23 11:00

Client : EUROFINS EATON ANALYTICAL Project : 380-59480 Date Received: 08/18/23 Batch No. : 23H149 Date Extracted: 08/24/23 14:00

Sample ID : 380-59480-1 Date Analyzed: 08/28/23 22:09 Lab Samp ID: 23H149-01 Dilution Factor: 1

Lab File ID: LH28018A Matrix: WATER Ext Btch ID: 23DSH028W % Moisture: NA Calib. Ref.: LH28003A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel Motor Oil	ND ND	0.025	0.012 0.025	
SURROGATE PARAMÉTERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.330 0.107	0.490 0.123	67 88	60-130 60-130

Notes:

H-C Range Parameter C10-C24 Diesel C24-C36 Motor Oil

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1020ml

Final Volume : 5ml Analyzed by : SDeeso Prepared by : RGalan

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 11:00 : 380-59480 Project Date Received: 08/18/23

Batch No. : 23H149 Date Extracted: 08/24/23 14:00 Sample ID : 380-59480-1 Date Analyzed: 08/28/23 22:09

Lab Samp ID: 23H149-01 Dilution Factor: 1 Lab File ID: LH28018A Matrix: WATER Ext Btch ID: 23DSH028W % Moisture: NA Calib. Ref.: LH28004A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.049	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.330 0.107	0.490 0.123	67 88	60-130 60-130

Notes:

: Reporting Limit Parameter H-C Range JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1020ml

Final Volume : 5ml

Prepared by

: RGalan

Analyzed by : SDeeso

REPORT ID: 23H149

: EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 11:00

Project : 380-59480 Date Received: 08/18/23
Batch No. : 23H149 Date Extracted: 08/24/23 14:00
Sample ID : 380-59480-1 Date Analyzed: 08/28/23 22:09

Lab Samp ID: 23H149-01 Dilution Factor: 1
Lab File ID: LH28018A Matrix: WATER
Ext Btch ID: 23DSH028W % Moisture: NA
Calib. Ref.: LH28005A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.049	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.330 0.107	0.490 0.123	67 88	60-130 60-130

Notes:

Client

RL: Reporting Limit
Parameter H-C Range
JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1020ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

REPORT ID: 23H149

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 10:00 Date Received: 08/18/23 Project : 380-59480

Batch No. : 23H149 Date Extracted: 08/24/23 14:00 Sample ID : 380-59480-2 Date Analyzed: 08/28/23 22:27 Lab Samp ID: 23H149-02 Dilution Factor: 1

Lab File ID: LH28019A Matrix: WATER Ext Btch ID: 23DSH028W % Moisture: NA Calib. Ref.: LH28003A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.337	0.495	68	60-130
Hexacosane	0.102	0.124	83	60-130

Notes:

Parameter H-C Range Diesel C10-C24 C24-C36 Motor 0il

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1010ml

Final Volume : 5ml

Prepared by

: RGalan

Analyzed by : SDeeso

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 10:00

Project : 380-59480 Date Received: 08/18/23

Batch No. : 23H149 Date Extracted: 08/24/23 14:00

Sample ID : 380-59480-2 Date Analyzed: 08/28/23 22:27

Lab Samp ID: 23H149-02 Dilution Factor: 1
Lab File ID: LH28019A Matrix: WATER
Ext Btch ID: 23DSH028W % Moisture: NA

Calib. Ref.: LH28004A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.337 0.102	0.495 0.124	68 83	60-130 60-130

Notes:

RL: Reporting Limit
Parameter H-C Range
JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1010ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

: EUROFINS EATON ANALYTICAL Date Collected: 08/15/23 10:00

 Project
 : 380-59480
 Date Received: 08/18/23

 Batch No.
 : 23H149
 Date Extracted: 08/24/23 14:00

 Sample ID
 : 380-59480-2
 Date Analyzed: 08/28/23 22:27

Lab File ID: LH28019A

Date Analyzed: 08/28/23 22:2/

Dilution Factor: 1

Matrix: WATER

RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
ND	0.050	0.025	
RESULT	SPK_AMT	%RECOVERY	QC LIMIT
0.337 0.102	0.495 0.124	68 83	60-130 60-130
	(mg/L) ND RESULT 0.337	(mg/L) (mg/L)  ND 0.050  RESULT SPK_AMT  0.337 0.495	(mg/L)         (mg/L)         (mg/L)           ND         0.050         0.025           RESULT         SPK_AMT         %RECOVERY           0.337         0.495         68

Notes:

Client

RL : Reporting Limit
Parameter H-C Range
JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1010ml Final Volume : 5ml

Prepared by : RGalan Analyzed by : SDeeso

QC SUMMARIES

-5

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/24/23 14:00 Date Received: 08/24/23

Project

: 380-59480 Batch No. : 23H149

Date Extracted: 08/24/23 14:00

Sample ID : MBLK1W

Date Analyzed: 08/28/23 19:20

Lab Samp ID: DSH028WB Lab File ID: LH28009A Dilution Factor: 1 Matrix: WATER

Ext Btch ID: 23DSH028W

% Moisture: NA

Instrument ID: D5 Calib. Ref.: LH28003A

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.370	0.500	74	60-130
Hexacosane	0.0946	0.125	76	60-130

Notes:

Parameter

H-C Range

Diesel

C10-C24

Motor 0il

C24-C36

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by

: RGalan

Analyzed by : SDeeso

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT

: 380-59480

BATCH NO.

: 23H149

METHOD

: 3520C/8015B

MAT	RI	X	

: WATER

% MOISTURE:NA

DILUTION FACTOR: 1

1

1

SAMPLE ID

: MBLK1W

LCS1W

LCD1W

LAB SAMPLE ID : DSH028WB LAB FILE ID

: LH28009A

DSH028WL LH28010A DSH028WC LH28011A

DATE PREPARED : 08/24/23 14:00

08/24/23 14:00

08/24/23 14:00

PREP BATCH

DATE ANALYZED : 08/28/23 19:20

08/28/23 19:39 23DSH028W

08/28/23 19:57 23DSH028W

: 23DSH028W CALIBRATION REF: LH28003A

LH28003A

LH28003A

#### ACCESSION:

PARAMETERS Diesel	MBResult (mg/L) ND	SpikeAmt (mg/L) 2.50	LCSResult (mg/L) 	LCSRec (%) 76	SpikeAmt (mg/L) 2.50	LCDResult (mg/L) 	LCDRec (%) 	RPD (%)	QCLimit (%) 50-130	MaxRPD (%) 
SURROGATE PARAMETERS		SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)		QCLimit	
Bromobenzene Hexacosane		0.500 0.125	0.360 0.105	72 84	0.500 0.125	0.336 0.0977	67 78		60-130 60-130	

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

Date Collected: 08/24/23 14:00

Client : EUROFINS EATON ANALYTICAL Project : 380-59480 Date Received: 08/24/23

Batch No. : 23H149 Date Extracted: 08/24/23 14:00 Date Analyzed: 08/28/23 19:20 Sample ID : MBLK1W

Lab Samp ID: DSH028WB Dilution Factor: 1 Lab File ID: LH28009A Matrix: WATER Ext Btch ID: 23DSH028W % Moisture: NA

Calib. Ref.: LH28004A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.370 0.0946	0.500 0.125	74 76	60-130 60-130

Notes:

: Reporting Limit Parameter H-C Range JP5 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

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Prepared by : RGalan Analyzed by : SDeeso

REPORT ID: 23H149

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT BATCH NO. : 380-59480

: 23H149

METHOD

: 3520C/8015B

MAT	RIX

: WATER

% MOISTURE:NA

DILUTION FACTOR: 1

: MBLK1W

1 LCS1W 1

SAMPLE ID

LAB SAMPLE ID : DSH028WB

J5H028WL

LCD1W

LAB FILE ID : LH28009A

LH28012A

J5H028WC LH28013A

DATE PREPARED : 08/24/23 14:00

08/24/23 14:00

08/24/23 14:00

DATE ANALYZED : 08/28/23 19:20 PREP BATCH

: 23DSH028W

08/28/23 20:16 23DSH028W

08/28/23 20:35 23DSH028W

CALIBRATION REF: LH28004A

LH28004A

LH28004A

ACCESSION:

MBResult SpikeAmt LCSResult LCSRec SpikeAmt LCDResult LCDRec RPD QCLimit MaxRPD **PARAMETERS** (mg/L) (mg/L) (%) (mg/L) (mg/L) (mg/L) (%) (%) (%) (%) JP5 ND 2.50 1.55 62 2.50 1.81 30 72 15 30-160

SpikeAmt	LC\$Result	LCSRec	SpikeAmt	LCDResult	LCDRec	QCLimit
(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)
0.500	0.341	68	0.500	0.384	77	60-130
0.125	0.0984	79	0.125	0.105	84	60-130
	(mg/L) 0.500	(mg/L) (mg/L) 0.500 0.341	(mg/L) (mg/L) (%) 0.500 0.341 68	(mg/L) (mg/L) (%) (mg/L) 0.500 0.341 68 0.500	(mg/L) (mg/L) (%) (mg/L) (mg/L) 0.500 0.341 68 0.500 0.384	(mg/L) (mg/L) (%) (mg/L) (mg/L) (%) 0.500 0.341 68 0.500 0.384 77

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

Client : EUROFINS EATON ANALYTICAL Date Collected: 08/24/23 14:00 : 380-59480

Date Received: 08/24/23

Project Batch No. : 23H149 Date Extracted: 08/24/23 14:00 Sample ID : MBLK1W Date Analyzed: 08/28/23 19:20

Lab Samp ID: DSH028WB Dilution Factor: 1 Lab File ID: LH28009A Matrix: WATER Ext Btch ID: 23DSH028W % Moisture: NA Calib. Ref.: LH28005A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.370 0.0946	0.500 0.125	74 76	60-130 60-130

Notes:

RL : Reporting Limit Parameter H-C Range JP8 C8-C18

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 1000ml

Final Volume : 5ml

Prepared by

: RGalan

Analyzed by : SDeeso

REPORT ID: 23H149

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#### EMAX QUALITY CONTROL DATA LAB CONTROL SAMPLE ANALYSIS

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT

: 380-59480

BATCH NO.

: 23H149

METHOD

: 3520C/8015B

MATRIX
--------

: WATER

% MOISTURE:NA

DILUTION FACTOR: 1

1

SAMPLE ID

: MBLK1W

LCS1W

1 LCD1W

LAB SAMPLE ID : DSH028WB

J8H028WL LH28014A J8H028WC

LAB FILE ID : LH28009A

DATE PREPARED : 08/24/23 14:00

08/24/23 14:00

LH28015A 08/24/23 14:00

DATE ANALYZED : 08/28/23 19:20

08/28/23 20:53 23DSH028W

08/28/23 21:12 23DSH028W

PREP BATCH CALIBRATION REF: LH28005A

: 23DSH028W

LH28005A

LH28005A

#### ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD
JP8	ND	2.50	2.63	105	2.50	2.31	92	13	30-160	30
		SpikeAmt	LCSResult	LCSRec	SpikeAmt	LCDResult	LCDRec		QCLimit	
SURROGATE PARAMETERS		(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)		(%)	
Bromobenzene		0.500	0.461	92	0.500	0.396	79		60-130	•
Hexacosane		0.125	0.101	81	0.125	0.0901	72		60-130	

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate



September 25, 2023

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

Project Name: Red-HILL Project # 38001111 Job # 380-59480-1

Physis Project ID: 1407003-437

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 8/18/2023. A total of 2 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** 

Red-HILL Project # 38001111 Job # 380-59480-1

PHYSIS Project ID: 1407003-437

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
109957	MOANALUA WELLS	380-59480-1	8/15/2023	11:00	Samplewater	Grab
109958	HALAWA WELLS UNITS 1 & 2	380-59480-2	8/15/2023	10:00	Samplewater	Grab



## **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.

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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.



## PHYSIS QUALIFIER CODES

CODE	DEFINITION
#	see Case Narrative
ND	analyte not detected at or above the MDL
В	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**

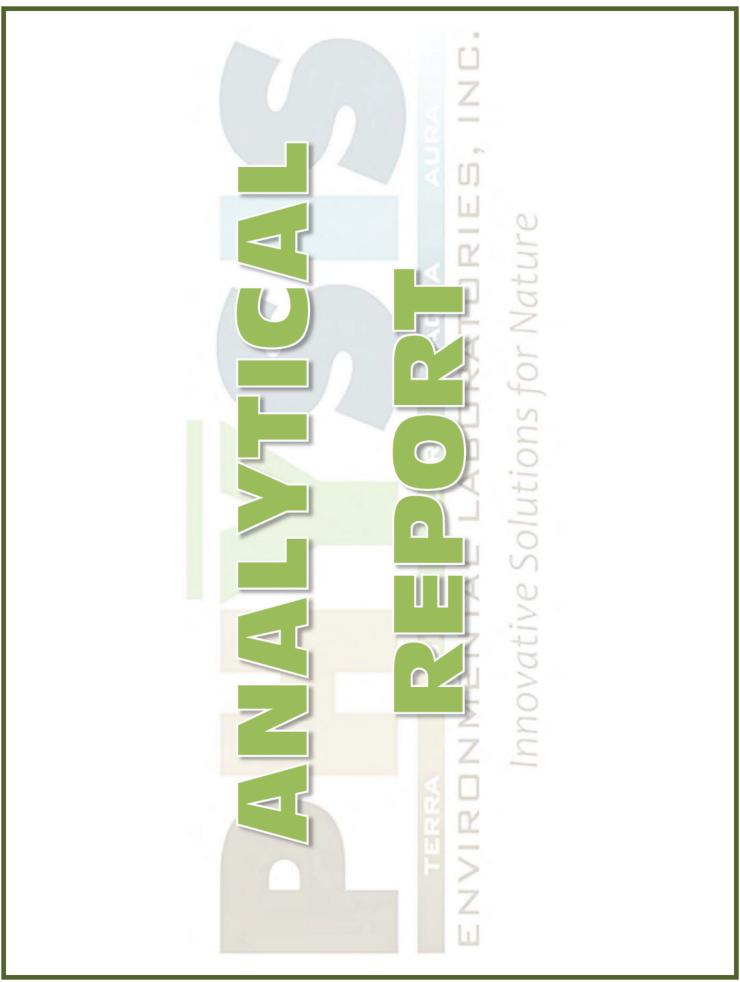
In addition to the use of analyte specific Physis Qualifier Codes where applicable, the following were also noted.

#### ND

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



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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

Method

**ANALYTE** 

	Base/Neutral Extractable Compounds										
t	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	Date Processed	Date Analyzed		
_											

Sample ID: 109957-R1	MOANALUA WELLS 380	Matrix: Samplewater			Sampled:	15-Aug-23 11:00	Received:	18-Aug-23		
Disalicylidenepropanediamine	EPA 625.1	μg/L	ND	1	0.05	0.1	Total	O-42060	21-Aug-23	24-Sep-23
Sample ID: 109958-R1 HALAWA WELLS UNITS 1 & 2 380-5 Matrix: Samplewater								15-Aug-23 10:00	Received:	18-Aug-23

μg/L 0.05 0.1 Disalicylidenepropanediamine ND Total EPA 625.1 0-42060 21-Aug-23 24-Sep-23

11/22/2023



Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

## **Polynuclear Aromatic Hydrocarbons**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	<b>Date Processed</b>	Date Analyzed
Sample ID: 109957-R1	MOANALUA WELLS 38	0-59480-1	Matrix: Sample	ewateı	•		Sampled:	15-Aug-23 11:00	Received:	18-Aug-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	80	1			Total	0-42060	21-Aug-23	24-Sep-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	87	1			Total	0-42060	21-Aug-23	24-Sep-23
(d12-Chrysene)	EPA 625.1	% Recovery	84	1			Total	0-42060	21-Aug-23	24-Sep-23
(d12-Perylene)	EPA 625.1	% Recovery	85	1			Total	0-42060	21-Aug-23	24-Sep-23
(d8-Naphthalene)	EPA 625.1	% Recovery	72	1			Total	O-42060	21-Aug-23	24-Sep-23
1-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
1-Methylphenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2,3,5-Trimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2,6-Dimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Acenaphthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Acenaphthylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benz[a]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benzo[a]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benzo[b]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benzo[e]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benzo[g,h,i]perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Benzo[k]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
Biphenyl	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Chrysene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenz[a,h]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenzo[a,l]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenzothiophene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23

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CA ELAP #2769

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

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Polynuclear Aromatic Hydrocarbons											
ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	<b>Date Processed</b>	Date Analyzed	
Fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Fluorene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Indeno[1,2,3-cd]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Naphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Phenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23	

CA ELAP #2769

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

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## **Polynuclear Aromatic Hydrocarbons**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	Date Processed	Date Analyzed
Sample ID: 109958-R1	R1 HALAWA WELLS UNITS 1 & 2 380-5 Matrix: Samplewater							15-Aug-23 10:00	Received:	18-Aug-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	75	1			Total	0-42060	21-Aug-23	24-Sep-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	85	1			Total	0-42060	21-Aug-23	24-Sep-23
(d12-Chrysene)	EPA 625.1	% Recovery	84	1			Total	0-42060	21-Aug-23	24-Sep-23
(d12-Perylene)	EPA 625.1	% Recovery	88	1			Total	0-42060	21-Aug-23	24-Sep-23
(d8-Naphthalene)	EPA 625.1	% Recovery	67	1			Total	O-42060	21-Aug-23	24-Sep-23
1-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
1-Methylphenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2,3,5-Trimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2,6-Dimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23
2-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Acenaphthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Acenaphthylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benz[a]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benzo[a]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benzo[b]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benzo[e]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benzo[g,h,i]perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Benzo[k]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Biphenyl	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Chrysene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenz[a,h]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenzo[a,l]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23
Dibenzothiophene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

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-42060	21-Aug-23	24-Sep-23	
Fluorene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23	
Indeno[1,2,3-cd]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23	
Naphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23	
Perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Phenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-42060	21-Aug-23	24-Sep-23	
Pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-42060	21-Aug-23	24-Sep-23	

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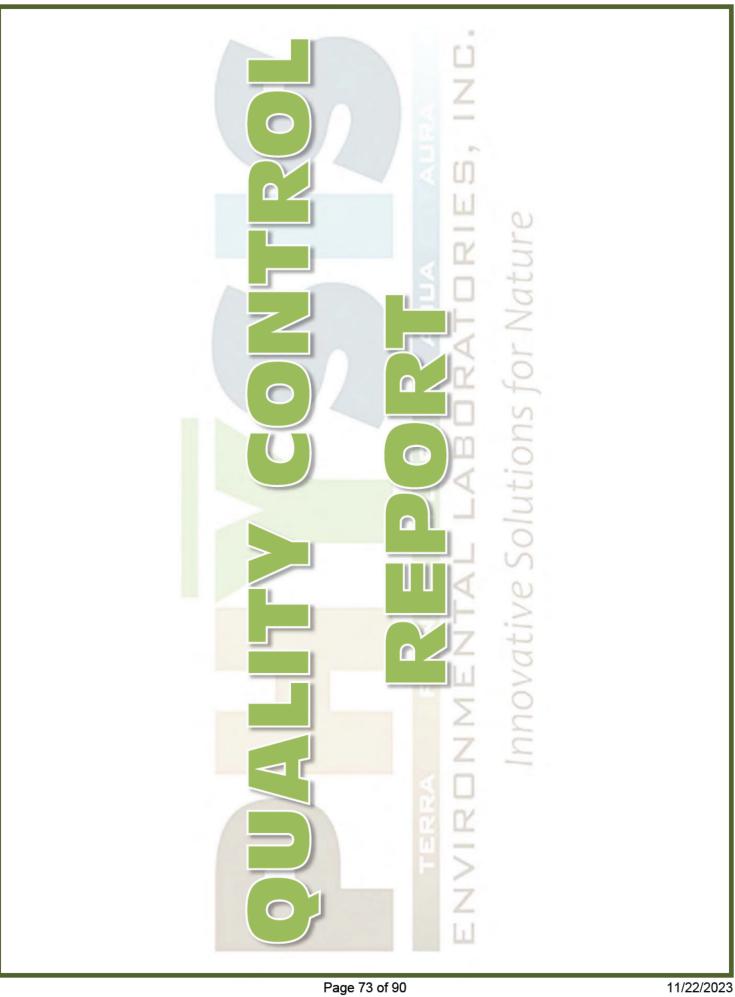
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Innovative Solutions for Nature

PHYSIS Project ID: 1407003-437 Client: Eurofins Eaton Analytical

Project: Red-HILL Project # 38001111 Job # 380-59480-1

Base	/Neu	ıtral I	Extra	cta	ble Co	omp	ounds	5	QUALITY CONTROL REPORT					RT	
ANALYTE	FRACT	ION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURG	E.	ACCURACY		PF	RECISION	QA CODEc
								LEVEL	RESU	LT %	LIMITS		%	LIMITS	
Sample ID: 10995	6-B1	QAQC P	rocedura	l Blan	nk		Matrix:	BlankMatri	x :	Sampled:			F	Received:	
		Method:	EPA 625.1				Batch ID:	0-42060		Prepared:	21-Aug-23			Analyzed: 23	-Sep-23
Disalicylidenepropanediamine	Total	l NE	)	1	0.05	0.1	μg/L								
Sample ID: 10995	6-BS1	QAQC P	rocedura	l Blan	nk		Matrix:	Blank Matri	x :	Sampled:			F	Received:	
		Method:	EPA 625.1				Batch ID:	0-42060		Prepared:	21-Aug-23			Analyzed: 24	-Sep-23
Disalicylidenepropanediamine	Total	l	40.5	1	0.05	0.1	μg/L	50	0	81	50 - 150%	PASS			
Sample ID: 10995	6-BS2	QAQC P	rocedura	l Blan	nk		Matrix:	BlankMatri	x :	Sampled:			F	Received:	
Method: EPA 625.1 Batch ID: O-42060 Prep									Prepared:	21-Aug-23			Analyzed: 24	-Sep-23	
Disalicylidenepropanediamine	Total		43.3	1	0.05	0.1	μg/L	50	0	87	50 - 150%	PASS	7	30 PASS	

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

# **Polynuclear Aromatic Hydrocarbons**

# **QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE SOURCE	ACCURACY	PRECISION	QA CODEc
							LEVEL RESULT	% LIMITS	% LIMITS	3

							LEVEL	RESULT	%	LIMITS	% LIMITS
Sample ID: 109956	5-B1	QAQC Procedur	al Blank			Matrix: Bla	nkMatrix	San (	npled:		Received:
		Method: EPA 625.1				Batch ID: O-42		Pre	-	21-Aug-23	Analyzed: 23-Sep-23
(d10-Acenaphthene)	Total	88	1			% Recovery	100		88	27 - 133%	PASS
(d10-Phenanthrene)	Total	95	1			% Recovery	100		95	43 - 129%	PASS
(d12-Chrysene)	Total	92	1			% Recovery	100		92	52 - 144%	PASS
(d12-Perylene)	Total	92	1			% Recovery	100		92	36 - 161%	PASS
(d8-Naphthalene)	Total	79	1			% Recovery	100		79	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					

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

Poly	ynuclear	Aroma	itic	Hydr	ocar	bons	QUALITY CONTROL REPORT						RT
ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	А	CCURACY	PRE	CISION	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							

11/22/2023



Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

# **Polynuclear Aromatic Hydrocarbons**

# **QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE S	SOURCE	AC	CURACY	PRE	CISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	

						LEVEL	KESULI	%	LIMITS	% LIMITS
BS <sub>1</sub>	QAQC Procedur	al Blank			Matrix: Bla	nkMatrix	Sam	pled:		Received:
	Method: EPA 625.1				Batch ID: O-4	2060	Pre	pared: 2	1-Aug-23	Analyzed: 24-Sep-23
Total	90	1			% Recovery	100	0	90	27 - 133% F	PASS
Total	95	1			% Recovery	100	0	95	43 - 129% F	PASS
Total	94	1			% Recovery	100	0	94	52 - 144% F	PASS
Total	96	1			% Recovery	100	0	96	36 - 161% F	PASS
Total	84	1			% Recovery	100	0	84	25 - 125% F	PASS
Total	0.431	1	0.001	0.005	μg/L	0.5	0	86	31 - 128% F	PASS
Total	0.46	1	0.001	0.005	μg/L	0.5	0	92	66 - 127% F	PASS
Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	55 - 122% F	PASS
Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	48 - 120% F	PASS
Total	0.436	1	0.001	0.005	μg/L	0.5	0	87	47 - 130% F	PASS
Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	53 - 131% F	PASS
Total	0.455	1	0.001	0.005	μg/L	0.5	0	91	43 - 140% F	PASS
Total	0.402	1	0.001	0.005	μg/L	0.5	0	80	58 - 135% F	PASS
Total	0.447	1	0.001	0.005	μg/L	0.5	0	89	55 - 145% F	PASS
Total	0.477	1	0.001	0.005	μg/L	0.5	0	95	51 - 143% F	PASS
Total	0.435	1	0.001	0.005	μg/L	0.5	0	87	46 - 165% F	PASS
Total	0.421	1	0.001	0.005	μg/L	0.5	0	84	42 - 152% F	PASS
Total	0.462	1	0.001	0.005	μg/L	0.5	0	92	63 - 133% F	PASS
Total	0.454	1	0.001	0.005	μg/L	0.5	0	91	56 - 145% F	PASS
Total	0.457	1	0.001	0.005	μg/L	0.5	0	91	56 - 119% F	PASS
Total	0.442	1	0.001	0.005	μg/L	0.5	0	88	56 - 141% F	PASS
Total	0.427	1	0.001	0.005	μg/L	0.5	0	85	55 - 150% F	PASS
Total	0.544	1	0.001	0.005	μg/L	0.5	0	109	50 - 150% F	PASS
	Total	Method: EPA 625.1 Total 90 Total 95 Total 96 Total 96 Total 84 Total 0.431 Total 0.451 Total 0.451 Total 0.455 Total 0.455 Total 0.455 Total 0.402 Total 0.477 Total 0.435 Total 0.477 Total 0.435 Total 0.477 Total 0.435 Total 0.457 Total 0.454 Total 0.454 Total 0.457 Total 0.442 Total 0.442 Total 0.442	Method:         EPA 625.1           Total         90         1           Total         95         1           Total         94         1           Total         96         1           Total         84         1           Total         0.431         1           Total         0.46         1           Total         0.451         1           Total         0.436         1           Total         0.451         1           Total         0.455         1           Total         0.402         1           Total         0.447         1           Total         0.435         1           Total         0.421         1           Total         0.454         1           Total         0.454         1           Total         0.457         1           Total         0.442         1           Total         0.442         1           Total         0.442         1           Total         0.442         1	Method: EPA 625.1           Total         90         1           Total         95         1           Total         94         1           Total         96         1           Total         84         1           Total         0.431         1         0.001           Total         0.46         1         0.001           Total         0.451         1         0.001           Total         0.436         1         0.001           Total         0.436         1         0.001           Total         0.451         1         0.001           Total         0.455         1         0.001           Total         0.447         1         0.001           Total         0.447         1         0.001           Total         0.435         1         0.001           Total         0.421         1         0.001           Total         0.462         1         0.001           Total         0.454         1         0.001           Total         0.454         1         0.001           Total         0.457         1	Method:         EPA 625.1           Total         90         1           Total         95         1           Total         94         1           Total         96         1           Total         84         1           Total         0.431         1         0.001         0.005           Total         0.466         1         0.001         0.005           Total         0.451         1         0.001         0.005           Total         0.436         1         0.001         0.005           Total         0.436         1         0.001         0.005           Total         0.451         1         0.001         0.005           Total         0.451         1         0.001         0.005           Total         0.451         1         0.001         0.005           Total         0.455         1         0.001         0.005           Total         0.447         1         0.001         0.005           Total         0.477         1         0.001         0.005           Total         0.462         1         0.001         0.005	Method:         EPA 625.1         Batch ID: O-4           Total         90         1         % Recovery           Total         95         1         % Recovery           Total         94         1         % Recovery           Total         96         1         % Recovery           Total         84         1         % Recovery           Total         0.431         1         0.001         0.005         µg/L           Total         0.46         1         0.001         0.005         µg/L           Total         0.451         1         0.001         0.005         µg/L           Total         0.455         1         0.001         0.005         µg/L           Total         0.447         1         0.001         0.005         µg/L           Total         0.447         1         0.001         0.005         µg/L           Total </td <td>  Method: EPA 625.1   Blank   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Method: PA 625</td> <td>  Matrix: Blank   Matrix   Same   Matrix   Blank   Matrix   Same   Method: EPA 625.1   Batch ID: O-42060   Presented   Present</td> <td>BS1         QAQC Procedural Blank         Matrix: Blank Matrix         Sampled: Prepared: 2: 100 moles.           Total         90         1         % Recovery         100         0         90         1           Total         95         1         % Recovery         100         0         95         1           Total         94         1         % Recovery         100         0         94         1           Total         96         1         % Recovery         100         0         96         1         % Recovery         100         0         96         1         % Recovery         100         0         96         1         96         1         % Recovery         100         0         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96</td> <td>Method: EPA 625.1         Batch ID: O-42060         Prepared: 2+Aug-23           Total         90         1         % Recovery         100         0         90         27 - 133%         6           Total         95         1         % Recovery         100         0         95         43 - 129%         6           Total         94         1         % Recovery         100         0         94         52 - 144%         6           Total         96         1         % Recovery         100         0         96         36 - 161%         6           Total         84         1         0.001         0.005         µg/L         0.5         0         86         31 - 128%         6           Total         0.431         1         0.001         0.005         µg/L         0.5         0         86         31 - 128%         6           Total         0.461         1         0.001         0.005         µg/L         0.5         0         90         55 - 122%         6           Total         0.451         1         0.001         0.005         µg/L         0.5         0         90         53 - 122%         6</td>	Method: EPA 625.1   Blank   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Batch ID: O-420-60   Method: PA 625.1   Method: PA 625	Matrix: Blank   Matrix   Same   Matrix   Blank   Matrix   Same   Method: EPA 625.1   Batch ID: O-42060   Presented   Present	BS1         QAQC Procedural Blank         Matrix: Blank Matrix         Sampled: Prepared: 2: 100 moles.           Total         90         1         % Recovery         100         0         90         1           Total         95         1         % Recovery         100         0         95         1           Total         94         1         % Recovery         100         0         94         1           Total         96         1         % Recovery         100         0         96         1         % Recovery         100         0         96         1         % Recovery         100         0         96         1         96         1         % Recovery         100         0         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96         1         96	Method: EPA 625.1         Batch ID: O-42060         Prepared: 2+Aug-23           Total         90         1         % Recovery         100         0         90         27 - 133%         6           Total         95         1         % Recovery         100         0         95         43 - 129%         6           Total         94         1         % Recovery         100         0         94         52 - 144%         6           Total         96         1         % Recovery         100         0         96         36 - 161%         6           Total         84         1         0.001         0.005         µg/L         0.5         0         86         31 - 128%         6           Total         0.431         1         0.001         0.005         µg/L         0.5         0         86         31 - 128%         6           Total         0.461         1         0.001         0.005         µg/L         0.5         0         90         55 - 122%         6           Total         0.451         1         0.001         0.005         µg/L         0.5         0         90         53 - 122%         6

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

Pol	ynuclear <i>i</i>	Aroma	tic	Hydro	ocar	bons	S QUALITY CONTROL REPORT						
ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	4	ACCURACY	PR	ECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.472	1	0.001	0.005	μg/L	0.5	0	94	46 - 126% PASS			
Fluoranthene	Total	0.462	1	0.001	0.005	μg/L	0.5	0	92	60 - 146% PASS			
Fluorene	Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	58 - 131% PASS			
Indeno[1,2,3-cd]pyrene	Total	0.365	1	0.001	0.005	μg/L	0.5	0	73	50 - 151% PASS			
Naphthalene	Total	0.437	1	0.001	0.005	μg/L	0.5	0	87	41 - 126% PASS			
Perylene	Total	0.426	1	0.001	0.005	μg/L	0.5	0	85	48 - 141% PASS			
Phenanthrene	Total	0.464	1	0.001	0.005	μg/L	0.5	0	93	67 - 127% PASS			
Pyrene	Total	0.453	1	0.001	0.005	μg/L	0.5	0	91	54 - 156% PASS			

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

# Polynuclear Aromatic Hydrocarbons

# **QUALITY CONTROL REPORT**

ANALYTE	FRACTIO	ON RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE		ACCURACY	PR	ECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Sample ID: 10995	56-BS2 (	QAQC Procedura	al Blar	nk		Matrix: Bla	nkMatri:	x Sam	pled:		F	Received:	
		Method: EPA 625.1				Batch ID: O-4			•	1-Aug-23		Analyzed: 24-9	iep-23
(d10-Acenaphthene)	Total	94	1			% Recovery	100	0	94	27 - 133% PASS	4	30 PASS	
(d10-Phenanthrene)	Total	100	1			% Recovery	100	0	100	43 - 129% PASS	5	30 PASS	
(d12-Chrysene)	Total	98	1			% Recovery	100	0	98	52 - 144% PASS	4	30 PASS	
(d12-Perylene)	Total	99	1			% Recovery	100	0	99	36 - 161% PASS	3	30 PASS	
(d8-Naphthalene)	Total	87	1			% Recovery	100	0	87	25 - 125% PASS	4	30 PASS	
1-Methylnaphthalene	Total	0.453	1	0.001	0.005	μg/L	0.5	0	91	31 - 128% PASS	6	30 PASS	
1-Methylphenanthrene	Total	0.463	1	0.001	0.005	μg/L	0.5	0	93	66 - 127% PASS	1	30 PASS	
2,3,5-Trimethylnaphthalene	Total	0.459	1	0.001	0.005	μg/L	0.5	0	92	55 - 122% PASS	2	30 PASS	
2,6-Dimethylnaphthalene	Total	0.453	1	0.001	0.005	μg/L	0.5	0	91	48 - 120% PASS	1	30 PASS	
2-Methylnaphthalene	Total	0.44	1	0.001	0.005	μg/L	0.5	0	88	47 - 130% PASS	1	30 PASS	
Acenaphthene	Total	0.457	1	0.001	0.005	μg/L	0.5	0	91	53 - 131% PASS	1	30 PASS	
Acenaphthylene	Total	0.464	1	0.001	0.005	μg/L	0.5	0	93	43 - 140% PASS	2	30 PASS	
Anthracene	Total	0.457	1	0.001	0.005	μg/L	0.5	0	91	58 - 135% PASS	13	30 PASS	
Benz[a]anthracene	Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	55 - 145% PASS	1	30 PASS	
Benzo[a]pyrene	Total	0.48	1	0.001	0.005	μg/L	0.5	0	96	51 - 143% PASS	1	30 PASS	
Benzo[b]fluoranthene	Total	0.438	1	0.001	0.005	μg/L	0.5	0	88	46 - 165% PASS	1	30 PASS	
Benzo[e]pyrene	Total	0.434	1	0.001	0.005	μg/L	0.5	0	87	42 - 152% PASS	4	30 PASS	
Benzo[g,h,i]perylene	Total	0.458	1	0.001	0.005	μg/L	0.5	0	92	63 - 133% PASS	0	30 PASS	
Benzo[k]fluoranthene	Total	0.448	1	0.001	0.005	μg/L	0.5	0	90	56 - 145% PASS	1	30 PASS	
Biphenyl	Total	0.465	1	0.001	0.005	μg/L	0.5	0	93	56 - 119% PASS	2	30 PASS	
Chrysene	Total	0.443	1	0.001	0.005	μg/L	0.5	0	89	56 - 141% PASS	1	30 PASS	
Dibenz[a,h]anthracene	Total	0.452	1	0.001	0.005	μg/L	0.5	0	90	55 - 150% PASS	6	30 PASS	
Dibenzo[a,l]pyrene	Total	0.544	1	0.001	0.005	μg/L	0.5	0	109	50 - 150% PASS	0	30 PASS	

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Project: Red-HILL Project # 38001111 Job # 380-59480-1

Innovative Solutions for Nature

Pol	ynuclear <i>i</i>	Aroma	tic	Hydro	ocar	bons	QUALITY CONTROL REPORT						RT
ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE		ACCURACY	PRI	ECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.476	1	0.001	0.005	μg/L	0.5	0	95	46 - 126% PASS	1	30 PASS	
Fluoranthene	Total	0.475	1	0.001	0.005	μg/L	0.5	0	95	60 - 146% PASS	3	30 PASS	
Fluorene	Total	0.462	1	0.001	0.005	μg/L	0.5	0	92	58 - 131% PASS	2	30 PASS	
Indeno[1,2,3-cd]pyrene	Total	0.37	1	0.001	0.005	μg/L	0.5	0	74	50 - 151% PASS	1	30 PASS	
Naphthalene	Total	0.436	1	0.001	0.005	μg/L	0.5	0	87	41 - 126% PASS	0	30 PASS	
Perylene	Total	0.426	1	0.001	0.005	μg/L	0.5	0	85	48 - 141% PASS	0	30 PASS	
Phenanthrene	Total	0.473	1	0.001	0.005	μg/L	0.5	0	95	67 - 127% PASS	2	30 PASS	
Pyrene	Total	0.462	1	0.001	0.005	μg/L	0.5	0	92	54 - 156% PASS	1	30 PASS	

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Sample ID: Lab Blank B1\_42060

	Area				
Retention	(% of	Concentration			Match Quality
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
33.3045	5.7776	1111	Anthracene-D10-	1517-22-2	95
22.6704	9.8939	1903	Butylated Hydroxytoluene	128-37-0	98
10.0543	3.0543	587	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
21.1522	2.5444	489	2,6-Di-tert-butyl-4-hydroxy-4-methylcyclohexa-2,5-dien-1-one	10396-80-2	91
48.1120	2.5355	488	Eicosyl acetate	822-24-2	90
27.7666	0.6990	134	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	96

Concentration estimated using the response for Anthracene-d10

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Sample ID: 109958

Retention	Area (% of	Concentration			Match Quality
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
33.2977	6.7048	1111	Anthracene-D10-	1719-06-8	96
10.0567	6.2975	1044	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
10.3717	0.9042	150	3,3-Diethoxy-1-propyne	10160-87-9	94
27.7635	0.7765	129	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	96

Concentration estimated using the response for Anthracene-d10

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Sample ID: 109957

	Area				
Retention	(% of	Concentration			<b>Match Quality</b>
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
33.3002	7.3568	1111	Anthracene-D10-	1517-22-2	94
10.0565	5.6324	851	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	89
22.6669	2.9323	443	Butylated Hydroxytoluene	128-37-0	96
27.7635	0.9631	145	Hexanoic acid, 3,5,5-trimethyl-, 2-ethylhexyl ester	1000406-82-2	96
21.1523	0.7425	112	2,6-Di-tert-butyl-4-hydroxy-4-methylcyclohexa-2,5-dien-1-one	10396-80-2	84

Concentration estimated using the response for Anthracene-d10

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# Eurofins Eaton Analytical Pomona 941 Corporate Center Drive Pomona, CA 91768-2642

Chain of Custody Record

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eurofins

Environment Testing

Phone: 626-386-1100					1								
Client Information (Sub Contract Lab)	Sampler:			Lab PM: Arada,	Lab PM: Arada, Rachelle			Carrier Tra	Carrier Tracking No(s):		380-71679.1	1679.1	
- 1	Phone:			Rache	E-Mail: Rachelle.Arada@et.eurofinsus.co	et.eurofinsu	s.com	State of Origin: Hawaii	igin:		Page: Page 1 of 1	of 1	
Company:  Company:  Physis Environmental Laboratories					Accreditations Re State - Hawaii	kcoreditations Required (See note): State - Hawaii	iote):				Job #: 380-59480-1	480-1	
Address: 1904 Wright Circle	Due Date Requested: 8/28/2023	ed:				Þ	Analysis Ro	Requested			Presen	Preservation Codes:	des: MHexane
City Anaheim	TAT Requested (days):	ays):									B- NaOH C- Zn Acetale	Cetate	N - None O - Assao2 P - Na2048
State, Zlp: CA, 92806					5 PAH						E-NaH504	1504	Q - Na2SO3 R - Na2S2O3
Phone:	PO#										G - Amchlor H - Ascorbic	G - Amehlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate
Email:	WO#				No)						200	Vater	W-PH4-6
Project Name:	Project #: 38001111				es or								Y - Trizma Z - other (specify)
Site: Honolulu BWS Sites	SSOW#:				ISD (Y	_					Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp,	Matrix (www.eter, Smeolid, Oww.eter/oit, BT=Tiesure, A=Air)	Field Filtered Perform MS/N SUB (625 PAH Physis LL (EAL				_	Total Number		Special In	Special Instructions/Note:
	V	$\wedge$	1 00 1		X							V	
MOANALUA WELLS (380-59480-1)	8/15/23	11:00 Hawaiian		Water	×						2 See All	See Attached Instructions	tructions
HALAWA WELLS UNITS 1 & 2 (380-59480-2)	8/15/23	10:00 Hawaiian		Water	×						2 See Att	See Attached Instructions	tructions
Note: Since laboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & 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/lests/matrix 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.	ialytical, LLC places the lests/matrix being analy, ations are current to dal	ownership of me zed, the samples a, return the sign	thod, analyte i must be shipp ed Chain of Cu	& accreditation and back to the astody attesting	compliance up Eurofins Eaton to said compli	on our subcontin Analytical, LLC	act laboratories. laboratory or of	This sample her instruction	shipment is f	orwarded unided. Any ch	der chain-of	f-custody. If coreditation s	the laborstory does not status should be brought to
Possible Hazard Identification Unconfirmed					Sample	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  Return To Client Disposal By Leb Archive For Mon	fee may be	Disposal By Lab	if sample By Lab	s are reta	tained long Archive For	ger than 1	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	able Rank: 2			Special	Special Instructions/QC R	C Requirements:	1					
Empty Kit Relinquished by:		Date:			Time:			Meth	Method of Shipment	int			
Relinquished by: Relinquished by:	Date/Time: SIGN >>		377	Company	Recei	Received by:	WADIL	ME	Date/Time:	Time: /2	u	1230	Company YS /S
Relinquished by:	Date/Time:			Company	Recei	Received by:			Date/Time	lime			Company
Custody Seals Intact: Custody Seal No.:  ∆ Yes ∆ No					Coole	Cooler Temperature(s) °C	) °C and Other Remarks:	Remarks:					Ver: 06/08/2021
													The state of the state of the state of



## Sample Receipt Summary

	PH
	ENVIRONMEN
roject Iteration ID:	140700
lient Name:	Eurofin
main of Ninesas	Dod III

Project Iteration ID:	1407003-437
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s Eaton Analytical

Red-HILL Project # 38001111 Job Project Name:

# 380-59480-1

COC Page Number: 2 of 2 Bottle Label Color: NA

1. Initials Inspected By:	Boxes • None • Carboy Cap(s) • Other
3. Time Received: 1230 4. Client Name: EUROFING 5. Courier Information: (Please circle) 6. Client	Ontrac      PAMS      iii. Total Mileage:     iv. Number of Pickups:  or circle none)      Boxes     None     Carboy Cap(s)      Water     None
4. Client Name:	Ontrac      PAMS      iii. Total Mileage:     iv. Number of Pickups:  or circle none)      Boxes     None     Carboy Cap(s)      Water     None
5. Courier Information: (Please circle) Client	Ontrac      PAMS      iii. Total Mileage:     iv. Number of Pickups:  or circle none)      Boxes     None     Carboy Cap(s)      Water     None
Client FedEx GSO/GLS PHYSIS Driver:  i. Start Time:  ii. End Time:  ii. End Time:  Cooler Carboy(s) Carboy Trash Can(s)  What type of ice was used: (Please circle any that apply Wet Ice Blue Ice Randomly Selected Samples Temperature (°C):  Spection Info Initials Inspected By:  Imple Integrity Upon Receipt:	Ontrac      PAMS      iii. Total Mileage:     iv. Number of Pickups:  or circle none)      Boxes     None     Carboy Cap(s)      Water     None
• FedEx • PHYSIS Driver:  i. Start Time:  ii. End Time:  6. Container Information: (Please put the # of containers of the policy	Ontrac      PAMS      iii. Total Mileage:     iv. Number of Pickups:  or circle none)      Boxes     None     Carboy Cap(s)      Water     None
<ul> <li>PHYSIS Driver: <ol> <li>i. Start Time:</li> <li>ii. End Time:</li> </ol> </li> <li>6. Container Information: (Please put the # of containers of the properties of the</li></ul>	iii. Total Mileage: iv. Number of Pickups: or circle none)  • Boxes  • None • Carboy Cap(s) • Other  • Water  • None
i. Start Time:  ii. End Time:  6. Container Information: (Please put the # of containers of the policy of the poli	iv. Number of Pickups: or circle none)  Boxes Carboy Cap(s)  Water  None  None
ii. End Time:  6. Container Information: (Please put the # of containers of the property of th	iv. Number of Pickups: or circle none)  Boxes Carboy Cap(s)  Water  None  None
<ul> <li>6. Container Information: (Please put the # of containers   <ul> <li> Cooler</li> <li> Carboy(s)</li> <li> Carboy Trash Can(s)</li> </ul> </li> <li>7. What type of ice was used: (Please circle any that apply   <ul> <li>Wet Ice</li> <li>Blue Ice</li> <li>Dry Ice</li> </ul> </li> <li>8. Randomly Selected Samples Temperature (°C):</li></ul>	or circle none)  Boxes Carboy Cap(s)  Water  None None
<ul> <li> Cooler</li></ul>	Boxes • None • Carboy Cap(s) • Other
<ul> <li> Carboy(s)</li> <li> Carboy Trash Can(s)</li> <li>7. What type of ice was used: (Please circle any that apply</li> <li> Wet Ice</li> <li>Blue Ice</li> <li>Dry Ice</li> <li>Randomly Selected Samples Temperature (°C):</li></ul>	Carboy Cap(s) • Other  Water • None
7. What type of ice was used: (Please circle any that apply  • Wet Ice • Blue Ice • Dry Ice  8. Randomly Selected Samples Temperature (°C): 7.5  spection Info  1. Initials Inspected By:	• Water • None
Wet Ice  Blue Ice  Dry Ice  Randomly Selected Samples Temperature (°C): 7.5  Spection Info  Initials Inspected By:  Imple Integrity Upon Receipt:	Water     None
Wet Ice  Blue Ice  Dry Ice  Randomly Selected Samples Temperature (°C): 7.5  Sepection Info  Initials Inspected By:  Imple Integrity Upon Receipt:	Water     None
1. Initials Inspected By:	Used I/R Thermometer #
1. Initials Inspected By:	
<ol> <li>All sample containers arrived intact</li></ol>	
8. Name of sampler included on COC(s)	Yes / (No)
Notes	

P:\Sample Logistics (SL)\SRS

Page 1 of 1

# **Chain of Custody Record**

Analysis Con   Analysis Con   Analysis Requested   State of Origin   Page 2 of 2	Mater Water		Sampler B 75.77 Phone B08-748-5840  Due Date Requested (days)  TAT Requested (days)  Compliance Project: Project # 38001111 SSOW#  \$\frac{1}{2}\frac{1}{2}\frac{2}{2}\frac{1}{2}	Cilient Information
	П	:ej		Empty Kit Relinquished by:
Special insuracions/20 hed				stable requested i, ii, iii, iv, Otter (specify)
Special Instructions/QC Req				erable Requested <sup>-</sup> I, II, IV, Other (specify)
Special Instructions/QC Req		-	1	ant
Sample Disposal ( A fee m:Return To Client		Ц		ant
	1			
1	٨٨		1112/2003	ALES CINIS 182
2	Water		SIICIOSS	ALAWA WELLS UNITS 1&2
	Water			LIEA WELLS PUMPS 1&2 (260)
	Water			JEA GULCH WELLS PUMP2
	vvaltei		115/2028	TOANALUA WELLS
2	Water		415/2023	MOANALUA WELLS
			-	
7	Water	00		
	Water			A WELLS PUMPS 1&2 (260)
	water			A GULCH WELLS PUMP2
	Motor	3	+	COLUMN TO DIAMO
7	Water	00	<del>}</del>	ANALUA WELLS
R RA RA	ation Code:		<u> </u>	
SUBCONTRACT SUBCONTRACT  SUBCONTRACT  M) - 3PREC - (M SUBCONTRACT	Matrix (w-water, S=solid, O=waste/oll, BT=TISSUE, A=AIr)			Identification
626 - T 108 - T 168 - T 2 (GOM	dwes		#MOSS	
PAH 5 Gas 5 Dies 525plu 5 Gas	e∀) el		Project #- 38001111	
Physis (Purg s PLU	10 s		₩O#-	ws org
EAL)	(0)	312023	PO#* C20525101 exp 053	18-5091 (tel)
W put		∆ No	Compliance Project:	43
(L) 040r Oi			IAI Kequested (days)	ılı
e .			Due Date Requested:	uth Beretania Street; Chemistry Lab
Analysi		DISMA		y County of Honolulu
Arada@et.euronisus com	Rachelle		808-748-5840	
			Phone	
achelle		Z	020	
				26) 386-1100
	Sample Disposal (A fee may be asset of lons of long of	Matrix (Water Water Wate	Sample Matrix George Sample Water Company Company	PWSID   PWSI

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# Chain of Custody Record

Monrovia, CA (Suite 100)

750 Royal Oaks Drive Surte 100

Monrovia, CA 91016 Phone (626) 386-1100

M - Hexane
N - None
O - Ashoo2
P - Na204S
Q - Na2SO3
R - Na2SSO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone Special Instructions/Note: Company (2) O 6" - O. 2" > O 4"
Ver 01/16/2019 7730 7432 1312 Method of Shipment FED EX(2) 7730 7432 1323 V - MCAA W - pH 4-5 Y - Trizma Company Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Monti 380-27941-2757 2 reservation Codes A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid 62.60 Rump Durch Page 2 of 2 Job # I - Ice J - DI Water K - EDTA L - EDA Date/Time @8 | 17 | 2@23 Total Number of containers Cooler Temperature(s) "C and Other Remarks:  $\Theta \in \mathbb{C} - \mathbb{C} \times \mathbb{C} = \mathbb{C} \times \mathbb{C} \times \mathbb{C} \times \mathbb{C} = \mathbb{C} \times \mathbb{C} \times \mathbb{C} \times \mathbb{C} = \mathbb{C} \times \mathbb{C} \times \mathbb{C} \times \mathbb{C} \times \mathbb{C} \times \mathbb{C} = \mathbb{C} \times \mathbb$ Date/Time Carner Tracking No(s) State of Origin Analysis Requested KEITAER Special Instructions/QC Requirements: Z 3 3 e93ylsnA IIA - ££8 W 0 0 ĺV 537.1\_DW\_PREC - 537.1 Full List E-Mail Rachelle Arada@et euronisus com SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) ₹ ₹ SUBCONTRACT - 8915 Diesel LL (EAL) and Motor Oil Received by Received by-SUBCONTRACT - 8015 Gas (Purgable ) LL (EAL) Lab PM Arada, Rachelle ĸ SUBCONTRACT - 625 PAH Physis LL (EAL) + TICs Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) BT=TIssue, A=Air) Preservation Code: Water Water Water Water Water Water Water Water Company Company Company HBWS Brown Natramoto Radiological (C=comb, G=grab) Sample Type 5 5 1200 C20525101 exp 05312023 Sample Time 00 000 8/15/123 Date. Unknown FAT Requested (days): Due Date Requested: Compliance Project: Sample Date 8/15/2023 9/15/2023 8/15/2023 808-748-5840 8/15/2023 Project #\* 38001111 Date/Time. Date/Time Poison B Project Name RED-HILL/HBWS sites Event Desc. RUSH Weekly Red Hill Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) FB AIEA WELLS PUMPS 1&2 (260) FB HALAWA WELLS UNITS 1&2 FB AIEA GULCH WELLS PUMP2 ab MOANALUA WELLS

See AIEA GULCH WELLS PUMP2

O AIEA WELLS PUMPS 1&2 (260) AIEA WELLS PUMPS 1&2 (260) Custody Seal No.: 630 South Beretania Street, Chemistry Lab HALAWA WELLS UNITS 1&2 Possible Hazard Identification
Non-Hazard Hammable FB MOANALUA WELLS Empty Kit Relinquished by ensternacher@hbws org City & County of Honolulu Custody Seals Intact: Client Information Dr Ron Fenstermacher Sample Identification Phone. 808-748-5091 (tel) Non-Hazard elinquished by elinquished by: elinquished by State, Zip HI, 96843 Honolulu

### **Login Sample Receipt Checklist**

Client: City & County of Honolulu Job Number: 380-59480-2

Login Number: 59480 List Source: Eurofins Eaton Analytical Pomona

List Number: 1

Creator: Elyas, Matthew

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	

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