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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 9/9/2023 10:26:33 AM

# **JOB DESCRIPTION**

**RED-HILL** 

# **JOB NUMBER**

380-53453-2

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**

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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: 380-53453-2 Project/Site: RED-HILL

#### **Qualifiers**

#### **Subcontract**

Qualifier **Qualifier Description** 

This analyte was not detected.

#### **Glossary**

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

Duplicate Error Ratio (normalized absolute difference) **DER** 

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)

Estimated Detection Limit (Dioxin) **EDL** 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 MLMinimum Level (Dioxin) MPN Most Probable Number Method Quantitation Limit MQL

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** 

Relative Error Ratio (Radiochemistry) **RER** 

Reporting Limit or Requested Limit (Radiochemistry) RL

**RPD** Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

Too Numerous To Count **TNTC** 

**Eurofins Eaton Analytical Pomona** 

#### **Case Narrative**

Client: City & County of Honolulu

Job ID: 380-53453-2 Project/Site: RED-HILL

Job ID: 380-53453-2

**Laboratory: Eurofins Eaton Analytical Pomona** 

**Narrative** 

Job Narrative 380-53453-2

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/6/2023 9:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 1.3° C, 1.6° C, 2.1° C, 2.6° C and 3.5° C.

#### **Subcontract non-Sister**

See attached subcontract report.

#### **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.

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

# **Detection Summary**

Project/Site: RED-HILL

Client Sample ID: MOANALUA WELLS

No Detections.

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

No Detections.

Client Sample ID: TB: MOANALUA WELLS

No Detections.

Client Sample ID: TB: MOANALUA WELLS

Lab Sample ID: 380-53453-3

No Detections.

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

Lab Sample ID: 380-53453-4

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Job ID: 380-53453-2

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Client: City & County of Honolulu

No Detections.

Job ID: 380-53453-2

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

**Client Sample ID: MOANALUA WELLS** 

Date Collected: 07/03/23 10:08 Date Received: 07/06/23 09:50 Lab Sample ID: 380-53453-1

**Matrix: Drinking Water** 

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
1-Methylphenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
2-Methylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Acenaphthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Acenaphthylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benz[a]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benzo[a]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benzo[b]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benzo[e]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benzo[g,h,i]perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Benzo[k]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Biphenyl	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Chrysene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Dibenz[a,h]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Dibenzothiophene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Disalicylidenepropanediamine	ND		0.1	0.05	μg/L		07/07/23 00:00	07/30/23 03:22	1
Fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Fluorene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Naphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Phenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 03:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	64		27 - 133				07/07/23 00:00	07/30/23 03:22	1
(d10-Phenanthrene)	99		43 - 129				07/07/23 00:00	07/30/23 03:22	1
(d12-Chrysene)	99		52 - 144				07/07/23 00:00	07/30/23 03:22	1
(d12-Perylene)	77		36 - 161				07/07/23 00:00	07/30/23 03:22	1
(d8-Naphthalene)	75		25 - 125				07/07/23 00:00	07/30/23 03:22	1
Method: 8015 Gas (Purgea	ble) LL (EAL) -	SW846 80	15B Gasolin	e Range	Organio	cs			
Analyte		Qualifier	RL	MDL	_	D	Prepared	Analyzed	Dil Fac

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/07/23 22:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE	103		60 - 140			,		07/07/23 22:43	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.026		mg/L			07/14/23 21:57	1
JP5	ND	U	0.052		mg/L			07/14/23 21:57	1
JP8	ND	U	0.052		mg/L			07/14/23 21:57	1
MOTOR OIL	ND	U	0.052		mg/L			07/14/23 21:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	61		60 - 130					07/14/23 21:57	1

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### **Client Sample Results**

Client: City & County of Honolulu

Project/Site: RED-HILL

Client Sample ID: MOANALUA WELLS

Date Collected: 07/03/23 10:08 Date Received: 07/06/23 09:50 Lab Sample ID: 380-53453-1

Matrix: Drinking Water

Job ID: 380-53453-2

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

Surrogate%RecoveryQualifierLimitsPreparedAnalyzedDil FacHEXACOSANE9060 - 13007/14/23 21:571

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1 Lab Sample ID: 380-53453-2

Date Collected: 07/03/23 10:34 Matrix: Drinking Water

Date Received: 07/06/23 09:50

BROMOFLUOROBENZENE

Analyte	Result Q	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
1-Methylphenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
2-Methylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Acenaphthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Acenaphthylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benz[a]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benzo[a]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benzo[b]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benzo[e]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benzo[g,h,i]perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Benzo[k]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Biphenyl	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Chrysene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Dibenz[a,h]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Dibenzothiophene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Disalicylidenepropanediamine	ND		0.1	0.05	μg/L		07/07/23 00:00	07/30/23 05:10	1
Fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Fluorene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Naphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Phenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/30/23 05:10	1
Surrogate	%Recovery Q	Qualifier	Limits				Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	67		27 - 133				07/07/23 00:00	07/30/23 05:10	1
(d10-Phenanthrene)	102		43 - 129				07/07/23 00:00	07/30/23 05:10	1
(d12-Chrysene)	107		52 - 144				07/07/23 00:00	07/30/23 05:10	1
(d12-Perylene)	85		36 - 161				07/07/23 00:00	07/30/23 05:10	1
(d8-Naphthalene)	76		25 - 125				07/07/23 00:00	07/30/23 05:10	1

Method: 8015 Gas (Purgeable)	LL (EAL) -	SW846 80	15B Gasoline	e Range O	rganics			
Analyte	Result	Qualifier	RL	MDL Un	nit D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02	mg	g/L		07/07/23 23:20	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac

60 - 140

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07/07/23 23:20

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## **Client Sample Results**

Client: City & County of Honolulu

Project/Site: RED-HILL

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Date Collected: 07/03/23 10:34 Date Received: 07/06/23 09:50

Lab Sample ID: 380-53453-2

Lab Sample ID: 380-53453-3

**Matrix: Water** 

**Matrix: Drinking Water** 

Job ID: 380-53453-2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	ND	U	0.028		mg/L			07/14/23 22:16	1
JP5	ND	U	0.055		mg/L			07/14/23 22:16	1
JP8	ND	U	0.055		mg/L			07/14/23 22:16	1
MOTOR OIL	ND	U	0.055		mg/L			07/14/23 22:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOBENZENE	62		60 - 130			-		07/14/23 22:16	1
HEXACOSANE	95		60 - 130					07/14/23 22:16	1

**Client Sample ID: TB: MOANALUA WELLS** 

Date Collected: 07/03/23 10:08

Date Received: 07/06/23 09:50

Method: 8015 Gas (Purgeable)	LL (EAL) -	SW846 80	15B Gasoline	e Range	Organio	cs			
Analyte GASOLINE	Result ND	Qualifier U	RL		Unit mg/L	D	Prepared	Analyzed 07/07/23 23:58	Dil Fac
Surrogate BROMOFLUOROBENZENE	%Recovery	Qualifier	Limits 60 - 140			-	Prepared	Analyzed 07/07/23 23:58	Dil Fac

Client Sample ID: TB: HALAWA WELLS UNITS 1 & 2 P1 Lab Sample ID: 380-53453-4 **Matrix: Water** 

Date Collected: 07/03/23 10:34

Date Received: 07/06/23 09:50

Method: 8015 Gas (Purgeable)	LL (EAL) -	SW846 80	15B Gasolin	e Range	Organi	cs			
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/08/23 00:36	1
Surrogate BROMOFLUOROBENZENE	%Recovery	Qualifier	60 - 140			-	Prepared	Analyzed 07/08/23 00:36	Dil Fac

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
Client Sample ID	(27-133)	(43-129)	(52-144)	(25-125)	(36-161)
Method Blank	80	108	107	105	96
Lab Control Sample	82	102	104	89	92
Lab Control Sample Dup	80	96	104	85	94
Lab Control Campic Bup	00	50	104	03	54
	Method Blank Lab Control Sample	Client Sample ID (27-133)  Method Blank 80  Lab Control Sample 82	Client Sample ID         Acenaphtl (27-133)         Phenanth (43-129)           Method Blank         80         108           Lab Control Sample         82         102	Client Sample ID         Acenaphtl (27-133)         Phenanth (43-129)         CRY (52-144)           Method Blank         80         108         107           Lab Control Sample         82         102         104	Client Sample ID         (27-133)         (43-129)         (52-144)         (25-125)           Method Blank         80         108         107         105           Lab Control Sample         82         102         104         89

(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)
380-53453-1	MOANALUA WELLS	64	99	99	75	77
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	67	102	107	76	85

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 Re
		BFB	
Lab Sample ID	Client Sample ID	(60-140)	
380-53453-1	MOANALUA WELLS	103	
380-53453-2	HALAWA WELLS UNITS 1 & 2	106	
	P1		
Surrogate Legend			
BFB = BROMOFLUOROB	ENZENE		

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)	
380-53453-3	TB: MOANALUA WELLS	105	
380-53453-4	TB: HALAWA WELLS UNITS 1 & 2 P1	108	
Surrogate Legend			
BFB = BROMOFLUO	ROBENZENE		

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Job ID: 380-53453-2

Job ID: 380-53453-2

Client: City & County of Honolulu

Project/Site: RED-HILL

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 Lab Sample ID 23VGH7G03B Method Blank

**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** (70-130)Lab Sample ID Client Sample ID 23VGH7G03C LCD 111 23VGH7G03L Lab Control Sample 119

**Surrogate Legend** 

BFB = BROMOFLUOROBENZENE

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

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

Percent Surrogate Recovery (Acceptance Limits) BB XACOSA Lab Sample ID Client Sample ID (60-130)(60-130)380-53453-1 MOANALUA WELLS 61 90 380-53453-2 HALAWA WELLS UNITS 1 & 2 62 95

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

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

**Percent Surrogate Recovery (Acceptance Limits)** RR XACOSAI

Client Sample ID Lab Sample ID 23DSG017WB Method Blank

Surrogate Legend

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

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

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

			Percent S	urrogate Recovery (Acceptance Limits)
		ВВ	XACOSAI	
Lab Sample ID	Client Sample ID	(60-130)	(60-130)	
23DSG017WC	LCD	69	88	
23DSG017WL	Lab Control Sample	73	90	
23J5G017WC	LCD	78	93	
23J5G017WL	Lab Control Sample	76	89	
23J8G017WC	LCD	85	86	

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## **Surrogate Summary**

Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

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

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

	Percent Surrogate Recovery (Acceptance Limits)	
~~	NA I	

BB XACOSA Lab Sample ID Client Sample ID (60-130)(60-130)23J8G017WL Lab Control Sample 96 88

**Surrogate Legend** 

BB = BROMOBENZENE

HEXACOSANE = HEXACOSANE

Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

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

Lab Sample ID: 108035-B1 **Client Sample ID: Method Blank Matrix: BlankMatrix Prep Type: Total/NA Analysis Batch: O-41138** Prep Batch: O-41138\_P Rlank Rlank

	Blank	Blank							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
1-Methylphenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
2-Methylnaphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Acenaphthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Acenaphthylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benz[a]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[a]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[b]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[e]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[g,h,i]perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Benzo[k]fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Biphenyl	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Chrysene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenz[a,h]anthracene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Dibenzothiophene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Disalicylidenepropanediamine	ND		0.1	0.05	μg/L		07/07/23 00:00	07/29/23 18:19	1
Fluoranthene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Fluorene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Naphthalene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Perylene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Phenanthrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1
Pyrene	ND		0.005	0.001	μg/L		07/07/23 00:00	07/29/23 18:19	1

	Blank	Blank				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
(d10-Acenaphthene)	80		27 - 133	07/07/23 00:00	07/29/23 18:19	1
(d10-Phenanthrene)	108		43 - 129	07/07/23 00:00	07/29/23 18:19	1
(d12-Chrysene)	107		52 - 144	07/07/23 00:00	07/29/23 18:19	1
(d12-Perylene)	96		36 - 161	07/07/23 00:00	07/29/23 18:19	1
(d8-Naphthalene)	105		25 - 125	07/07/23 00:00	07/29/23 18:19	1

**Lab Sample ID: 108035-BS1 Matrix: BlankMatrix Analysis Batch: O-41138** 

**Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: O-41138\_P

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1-Methylnaphthalene	0.5	0.436		μg/L		87	31 - 128	
1-Methylphenanthrene	0.5	0.536		μg/L		107	66 - 127	
2,3,5-Trimethylnaphthalene	0.5	0.481		μg/L		96	55 - 122	
2,6-Dimethylnaphthalene	0.5	0.46		μg/L		92	48 - 120	
2-Methylnaphthalene	0.5	0.476		μg/L		95	47 - 130	
Acenaphthene	0.5	0.436		μg/L		87	53 - 131	
Acenaphthylene	0.5	0.496		μg/L		99	43 - 140	
Anthracene	0.5	0.459		μg/L		92	58 - 135	

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Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

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

Lab Sample ID: 108035-BS1 Matrix: BlankMatrix Analysis Batch: O-41138 Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-41138\_P

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benz[a]anthracene	0.5	0.504		μg/L		101	55 - 145	
Benzo[a]pyrene	0.5	0.444		μg/L		89	51 - 143	
Benzo[b]fluoranthene	0.5	0.51		μg/L		102	46 - 165	
Benzo[e]pyrene	0.5	0.491		μg/L		98	42 - 152	
Benzo[g,h,i]perylene	0.5	0.482		μg/L		96	63 - 133	
Benzo[k]fluoranthene	0.5	0.514		μg/L		103	56 - 145	
Biphenyl	0.5	0.532		μg/L		106	56 - 119	
Chrysene	0.5	0.471		μg/L		94	56 - 141	
Dibenz[a,h]anthracene	0.5	0.482		μg/L		96	55 - 150	
Dibenzo[a,l]pyrene	0.5	0.413		μg/L		83	50 - 150	
Dibenzothiophene	0.5	0.527		μg/L		105	46 - 126	
Disalicylidenepropanediamine	50	28		μg/L		56	50 - 150	
Fluoranthene	0.5	0.608		μg/L		122	60 - 146	
Fluorene	0.5	0.477		μg/L		95	58 - 131	
Indeno[1,2,3-cd]pyrene	0.5	0.467		μg/L		93	50 - 151	
Naphthalene	0.5	0.46		μg/L		92	41 - 126	
Perylene	0.5	0.426		μg/L		85	48 - 141	
Phenanthrene	0.5	0.476		μg/L		95	67 - 127	
Pyrene	0.5	0.57		μg/L		114	54 - 156	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
(d10-Acenaphthene)	82		27 - 133
(d10-Phenanthrene)	102		43 - 129
(d12-Chrysene)	104		52 - 144
(d12-Perylene)	92		36 - 161
(d8-Naphthalene)	89		25 - 125

**Lab Sample ID: 108035-BS2** 

Matrix: BlankMatrix Analysis Batch: 0-41138 Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA Prep Batch: O-41138\_P

Spike LCS DUP LCS DUP %Rec RPD Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit 1-Methylnaphthalene 0.5 0.424 85 31 - 128 2 30 µg/L 1-Methylphenanthrene 0.5 0.512 μg/L 102 66 - 127 5 30 2,3,5-Trimethylnaphthalene 0.5 0.484 μg/L 97 55 - 122 30 1 2,6-Dimethylnaphthalene 0.5 0.451 90 2 30 µg/L 48 - 120 μg/L 2-Methylnaphthalene 0.5 0.462 92 47 - 130 3 30 Acenaphthene 0.5 0.424 85 53 - 131 2 30 µg/L 0.5 Acenaphthylene 0.482 μg/L 96 43 - 140 30 Anthracene 0.5 0.456 µg/L 91 58 - 135 30 Benz[a]anthracene 0.5 0.521 µg/L 104 55 - 145 30 51 - 143 0.5 0.459 92 3 30 Benzo[a]pyrene μg/L Benzo[b]fluoranthene 0.5 0.523 105 46 - 165 30 μg/L Benzo[e]pyrene 0.5 0.476 µg/L 95 42 - 152 30 Benzo[g,h,i]perylene 0.5 0.489 µg/L 98 63 - 133 30 Benzo[k]fluoranthene 0.5 0.521 104 56 - 145 30 µg/L Biphenyl 0.5 0.531 µg/L 106 56 - 119 0 30 Chrysene 0.483 µg/L 97 56 - 141 30

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Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

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

Lab Sample ID: 108035-BS2	Client Sample	le ID: Lab Control Sample Dup
Matrix: BlankMatrix		Prep Type: Total/NA
Analysis Batch: O-41138		Prep Batch: O-41138_P

	Spike	LCS DUP	LCS DUP				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dibenz[a,h]anthracene	0.5	0.475		μg/L		95	55 - 150	1	30
Dibenzo[a,l]pyrene	0.5	0.416		μg/L		83	50 - 150	0	30
Dibenzothiophene	0.5	0.492		μg/L		98	46 - 126	7	30
Disalicylidenepropanediamine	50	27.2		μg/L		54	50 - 150	4	30
Fluoranthene	0.5	0.596		μg/L		119	60 - 146	2	30
Fluorene	0.5	0.458		μg/L		92	58 - 131	3	30
Indeno[1,2,3-cd]pyrene	0.5	0.461		μg/L		92	50 - 151	1	30
Naphthalene	0.5	0.451		μg/L		90	41 - 126	2	30
Perylene	0.5	0.45		μg/L		90	48 - 141	6	30
Phenanthrene	0.5	0.463		μg/L		93	67 - 127	2	30
Pyrene	0.5	0.557		μg/L		111	54 - 156	3	30

LCS DUP LCS DUP

Surrogate	%Recovery	Qualifier	Limits
(d10-Acenaphthene)	80		27 - 133
(d10-Phenanthrene)	96		43 - 129
(d12-Chrysene)	104		52 - 144
(d12-Perylene)	94		36 - 161
(d8-Naphthalene)	85		25 - 125

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

Lab Sample ID: 23VGH7G03B Client Sample ID: Method Blank **Matrix: WATER** Prep Type: Total/NA

**Analysis Batch: 23VGH7G03** 

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/07/23 15:09	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
BROMOFLUOROBENZENE						_		07/07/23 15:09	1

Lab Sample ID: 23VGH7G03L **Client Sample ID: Lab Control Sample Matrix: WATER Prep Type: Total/NA** 

**Analysis Batch: 23VGH7G03** 

	Spike	LUS	LUS				70KeC	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
GASOLINE	0.5	0.451		mg/L		90	60 - 130	

LCS LCS %Recovery Qualifier Surrogate Limits BROMOFLUOROBENZENE 119 70 - 130

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9/9/2023

Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

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

Lab Sample ID: 23DSG017WB	Client Sample ID: Method Blank
Matrix: WATER	Pron Type: Total/NA

**Analysis Batch: 23DSG017W** 

_	MB	MB						
Analyte	Result	Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
DIESEL	MD	U	0.025	mg/L			07/14/23 19:09	1
JP5	ND	U	0.05	mg/L			07/14/23 19:09	1
JP8	ND	U	0.05	mg/L			07/14/23 19:09	1
MOTOR OIL	ND	U	0.05	mg/L			07/14/23 19:09	1
	MB	МВ						
Surrogate	%Recovery	Qualifier	l imits			Prepared	Analyzed	Dil Fac

Anaiyzea 07/14/23 19:09 BROMOBENZENE **HEXACOSANE** 07/14/23 19:09

Lab Sample ID: 23DSG017WL **Client Sample ID: Lab Control Sample Matrix: WATER** Prep Type: Total/NA

**Analysis Batch: 23DSG017W** 

		Spike	LCS	LCS				%Rec	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
DIESEL		2.5	2.5		mg/L		100	50 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	73		60 - 130
HEXACOSANE	90		60 - 130

Lab Sample ID: 23J5G017WL **Client Sample ID: Lab Control Sample Matrix: WATER** Prep Type: Total/NA

**Analysis Batch: 23DSG017W** 

		Spike	LCS	LCS				%Rec	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
JP5	 	2.5	2.42		ma/L		97	30 - 160	 

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	76		60 - 130
HEXACOSANE	89		60 - 130

Lab Sample ID: 23J8G017WL **Client Sample ID: Lab Control Sample Prep Type: Total/NA** 

**Matrix: WATER** 

**Analysis Batch: 23DSG017W** 

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
JP8	2.5	2.92		mg/L		117	30 - 160	 

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
BROMOBENZENE	96		60 - 130
HEXACOSANE	88		60 - 130

9/9/2023

# **QC Association Summary**

Client: City & County of Honolulu Job ID: 380-53453-2 Project/Site: RED-HILL

### **Subcontract**

#### **Analysis Batch: O-41138**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53453-1	MOANALUA WELLS	Total/NA	Drinking Water	625 PAH Physis	O-41138_P
				LL (EAL) + TICs	
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	625 PAH Physis	O-41138_P
				LL (EAL) + TICs	
108035-B1	Method Blank	Total/NA	BlankMatrix	625 PAH Physis	O-41138_P
				LL (EAL) + TICs	
108035-BS1	Lab Control Sample	Total/NA	BlankMatrix	625 PAH Physis	O-41138_P
				LL (EAL) + TICs	
108035-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	625 PAH Physis	O-41138_P
				LL (EAL) + TICs	

### Analysis Batch: 23DSG017W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53453-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 LL	
				DRO/MRO/JP5/J	
				P8	
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23DSG017WB	Method Blank	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23DSG017WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23J5G017WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	
23J8G017WL	Lab Control Sample	Total/NA	WATER	8015 LL	
				DRO/MRO/JP5/J	
				P8	

#### **Analysis Batch: 23VGH7G03**

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53453-1	MOANALUA WELLS	Total/NA	Drinking Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
380-53453-3	TB: MOANALUA WELLS	Total/NA	Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
380-53453-4	TB: HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Water	8015 Gas	
				(Purgeable) LL	
				(EAL)	
23VGH7G03B	Method Blank	Total/NA	WATER	8015 Gas	
				(Purgeable) LL	
				(EAL)	
23VGH7G03L	Lab Control Sample	Total/NA	WATER	8015 Gas	
				(Purgeable) LL	
				(EAL)	

### Prep Batch: O-41138\_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-53453-1	MOANALUA WELLS	Total/NA	Drinking Water	EPA_625	
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	Total/NA	Drinking Water	EPA_625	

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# **QC Association Summary**

Client: City & County of Honolulu Job ID: 380-53453-2

Project/Site: RED-HILL

# **Subcontract (Continued)**

#### Prep Batch: O-41138\_P (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
108035-B1	Method Blank	Total/NA	BlankMatrix	EPA_625	
108035-BS1	Lab Control Sample	Total/NA	BlankMatrix	EPA_625	
108035-BS2	Lab Control Sample Dup	Total/NA	BlankMatrix	EPA_625	

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**Client Sample ID: MOANALUA WELLS** 

Date Collected: 07/03/23 10:08 Date Received: 07/06/23 09:50 Lab Sample ID: 380-53453-1

**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-41138_P			07/07/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41138	YC		07/30/23 03:22
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7G03	SCerva		07/07/23 22:43
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSG017W	SDees		07/14/23 21:57

Client Sample ID: HALAWA WELLS UNITS 1 & 2 P1

Date Collected: 07/03/23 10:34 Date Received: 07/06/23 09:50

Lab Sample ID: 380-53453-2

**Matrix: Drinking Water** 

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	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Prep	EPA_625		1	O-41138_P			07/07/23 00:00
Total/NA	Analysis	625 PAH Physis LL (EAL) + TICs		1	O-41138	YC		07/30/23 05:10
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7G03	SCerva		07/07/23 23:20
Total/NA	Analysis	8015 LL DRO/MRO/JP5/JP8		1	23DSG017W	SDees		07/14/23 22:16

Client Sample ID: TB: MOANALUA WELLS

Date Collected: 07/03/23 10:08

Date Received: 07/06/23 09:50

Lab Sample	ID: 380-53453-3
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Lab Sample ID: 380-53453-4

**Matrix: Water** 

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	23VGH7G03	SCerva		07/07/23 23:58

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

Date Collected: 07/03/23 10:34

**Matrix: Water** Date Received: 07/06/23 09:50

	Batch	Batch		Dilution	Batch			Prepared
Prep Type	Type	Method	Run	Factor	Number	Analyst	Lab	or Analyzed
Total/NA	Analysis	8015 Gas		1	23VGH7G03	SCerva		07/08/23 00:36
		(Purgeable) LL (EAL)						

#### **Laboratory References:**

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

9/9/2023

# **Method Summary**

Client: City & County of Honolulu

Project/Site: RED-HILL

Job ID: 380-53453-2

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: 380-53453-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-53453-1	MOANALUA WELLS	Drinking Water	07/03/23 10:08	07/06/23 09:50
380-53453-2	HALAWA WELLS UNITS 1 & 2 P1	Drinking Water	07/03/23 10:34	07/06/23 09:50
380-53453-3	TB: MOANALUA WELLS	Water	07/03/23 10:08	07/06/23 09:50
380-53453-4	TB: HALAWA WELLS UNITS 1 & 2 P1	Water	07/03/23 10:34	07/06/23 09:50

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

Date: 07-28-2023 EMAX Batch No.: 23G033

Attn: Jackie Contreras

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

Subject: Laboratory Report

Project: 3B0-53453

Enclosed is the Laboratory report for samples received on 07/07/23. The data reported relate only to samples listed below :

Sample ID	Control # Col Date	Matrix	Analysis
380-53453-1	G033-01 07/03/23	WATER	TPH GASOLINE TPH
380-53453-2	G033-02 07/03/23	WATER	TPH GASOLINE TPH
380-53453-3 380-53453-4	G033-03 07/03/23 G033-04 07/03/23	WATER WATER	TPH GASOLINE TPH GASOLINE

The results are summarized on the following pages.

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

⊈aspar J. Pang Laboratory Director

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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

Eurofins Eaton Analytical Pomona 941 Corporate Center Drive Pomona, CA 91768-2642	0	Chain c	of Cust	ain of Custody Record		2361033	**************************************		💸 eurofins	Environment Testing
(Substant 1 sh)	Sampler.			Lab PM: Arada,	Lab PM: Arada, Rachelle		Carrier Tracking No(s)	g No(s):	COC No: 380-61604.1	
	Phone:			E-Mail: Rache	lle.Arada@et.e	eurofinsus.com	State of Origin: Hawaii		Page: Page 1 of 1	
Company: EMAX Laboratories Inc				4 00	Accreditations Requ State - Hawaii	Accreditations Required (See note): State - Hawaii			Job #: 380-53453-1	
	Due Date Requested: 7/20/2023	ij				Analys	Analysis Requested		is S	es: M - Hexane
	TAT Requested (days)	ys):			SEĐ				B - NaOH C - Zn Aœtate D - Nitric Acid E - NaHSO4	None O - AshaO2 P - Na2O4S C - Na2SO3 R - Na2SO3
	PO #.				9108 /((				ס	S - H2SO4 T - TSP Dodecahydrate
Email:	,#OM				(oV) L (EAL			<b>S1</b>	I - Ice J - DI Water	V - Acetone V - MCAA W - pH 4-5
Project Name: RED-HII I	Project #: 38001111				es or l able) L			anisir	L-EDA	Y - Trizma Z - other (specify)
BWS Sites	SSOW#:				NSD (Yales (Purge: (EAL)			100 10	Other:	
		Sample			ield Filtered erform MS/M UB (8015 Gas burgeable) LL UB (8015 LL I IRO/MRO/JPS/			edmuN Isto		Special Instructions/Note:
Sample Identification - Client ID (Lab ID)	Sample Date		Preservation Code:	<b>a</b> i (	s () s					
MOANALUA WELLS (380-53453-1)	7/3/23	10:08 Hawaiian		Water	×			. <b></b>	See Attached Instructions	uctions
7 HALAWA WELLS UNITS 1 & 2 P1 (380-53453-2)	7/3/23	10:34 Hawaiian		Water	×			9	See Attached Instructions	uctions
7 TB: MOANALUA WELLS (380-53453-3)	7/3/23	10:08 Hawaiian		Water	×				2 See Attached Instructions	uctions
( TB: HALAWA WELLS UNITS 1 & 2 P1 (380-53453-4)	7/3/23	10:34 Hawaiian		Water	×				See Attached Instructions	uctions
									14800	
Note: Since jaboratory accreditations are subject to change, Eurofins Eaton Analytical, LLC places the ownership of method, analyte & accreditation our subcontract laboratory or other instructions are subject to change, Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to currently maintain accreditation in the State of Origin listed above for analysis/lests/marxix being analyzed, the samples must be shipped back to the Eurofins Eaton Analytical, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Eaton Analytical, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to 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, LLC.	rical, LLC places the c is/matrix being analyze ins are current to date	ownership of mied, the samples , return the sign	ethod, analyte s must be shipl ned Chain of C	& accreditation or ped back to the E ustody attesting	ompliance upon or urofins Eaton Ana o said compliance	ur subcontract labor lytical, LLC laboratc to Eurofins Eaton A	atories. This sample ship ry or other instructions wi nalytical, LLC.	ment is forwarded und II be provided. Any ch≀	er chain-of-custody. If anges to accreditation s	the laboratory does not tatus should be brought to
Possible Hazard Identification					Sample Dis	posal ( A fee m	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	samples are retain	ned longer than 1	month)
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank:	able Rank: 2			Retun Special Instr	Special Instructions/QC Requirements	Uisposal By Lab uirements:		Arcnive For	Months
Empty Kit Relinquished by:		Date:			Time:	,	Method	Method of Shipment:		
	Date/Time:	0/	000,	Company	Received by:	×		Date/Time:	0001	Company
	Date/Time:	à.		Company	Received by	).		Date/Time:		Сотрапу
	Date/Time:			Company	Received by:	уу:		Date/Time:		Сотрапу
Custody Seals Intact: Custody Seal No.: REPO⊕T∆IN: 23G033					Cooler Ter	Cooler Temperature(s) °C and Other Remarks:		TEMP. 28/3.	7 * 66	* C E 3 6 6 9 39



# SAMPLE RECEIPT FORM 1

DECRETOR   Decrement   Decre	Type of D	Pelivery	Airbill / Track	ing Number	ECN 236033	
COC INSPECTION   Closer PMPC    Sampler Name   Sampler Name   Question Required   Department   Question Required   Que	□ Fedex □ UPS □ GSO	☐ Others				
Court Name   Collect PASPC   Collect PASPC   Collect Signature	☐ EMAX Courier ♥ Client Del	ivery			Date 07/07/23	Time /0.00
Course Name	COCINSPECTION				- August	
Section   Control   Cont		Sclient PM/FC	☐ Sampler Name	Sampling Date/Time	Sample ID	Matrix
Suffey Issues (if any)   Sight consensations expanded   Short Superfund Site   Skad science ing required    PACKACING INSPECTION   Consider   Discount   Consider   Discount   D			☐ Courier Signature	Analysis Required	Preservative (if any)	DIAT
PACKAGING INSPECTION   Cooler   Discontinue   Cooler   Discontinue   Cooler   Discontinue   Cooler   Discontinue   Cooler   Discontinue   Cooler   Service   Discontinue	•	•	ected	•		`
PACKAGING INSPECTION  Constains  Condition  Constains		_ mg. concentrations and	•	,		
Consider OPECHO	11010.					
Consider OPECHO						
Contribution COMPCCIGOT   Control to Control to Control to Company   Control to Control		*	D Pov	D Other		1
Packaging   Carl (Art of )   Deputies Pack   Deputies	1	<b>\</b>				
Cooler   28/87   Cool	00110011017	•			□ Sufficient	П
Cooler 5	Packaging factor:		•	• -	· ·	
Condense	Temperatures - O.					
Comments:     Temperature is out of range. PM was informed IMMEDIATELY.	(Cool, ≤6 °C but not frozen)		Cooler 7 °C			Cooler 10C
DISCREPANCIES  LabSampleContained D Code  ChemSample Label ID / Information  Corrective Action  1-2			~	C - 3/IV	D - 3/14	
DISCREPANCIES  LabSample(D)  LabSample(Container(D)  \$\frac{1-2}{5\leftimer(b)\left(1)\leftimer(1)\leftimer(1)\left(1)\left(1)\left(2)\right)} \text{Local time to next page.} \text{Container to next page.} Code Description-Sample Management Manag		out of range. PM was informe	d IMMEDIATELY.			
LabSampleID LabSampleContainerID Code    1-2	Note:					1
LabSampleID LabSampleContainerID Code    1-2						
1-2   5,6 / III   1   1   1   1   1   1   1   1   1	DISCREPANCIES			. 1-17D / T-C	C	n Action
Syphia   10   13   18   16   16   17   18   17   18   18   18   18   18	LabSampleID	······································				e Action
Dit holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    NOTES/OBSERVATIONS:	1-2		1 1 :		<u> </u>	
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.	3,4	13,14,16	D22 2nd Date re	ends: 6/26/23		
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Description   Descripti						
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.					***************************************	
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.	. :					
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Description   Descripti	:				:	
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.						
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.						
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.						
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.		<del></del>				
□ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.    □ Continue to next page.						
NOTES/OBSERVATIONS:  SAMPLE MATRIX IS DRINKING WATER? PYES DINO    Continue to next page.				JSR 07/07		40 1 10
NOTES/OBSERVATIONS:  SAMPLE MATRIX IS DRINKING WATER? PYES DINO    Continue to next page.	Classification and an income	ont for water camples is 15 m	ins Water samples for pH ana	alvsis are received beyond 15	minutes from sampling time.	1457/10/6
Code Description-Sample Management   RI Proceed as indicated in   COC   Label   R2 Refer to attached instruction   R3 Cancel the analysis   R3 Cancel the analysis   R4 Use vial with smallest bubble first   R5 Log-in with latest sampling date and time+1 min   R6 Adjust pH as necessary   R7 Filter and preserved as necessary   R8   R9   R9   R9   R9   R9   R9   R9	□ pH notding time requireme	ent for water samples is 15 m	inis. Water sumples to: pri and	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1, 0	, ,
LEGEND:  Code Description-Sample Management  D13 Out of Holding Time  P14 Proceed as indicated in COC   Label    D2 Analysis mismatch COC vs label   D3 Sample ID mismatch COC vs label   D4 Sample ID is not indicated in   D5 Container - [improper] [leaking] [broken]   D6 Date/Time is not indicated in   D7 Date/Time mismatch COC vs label   D8 Sample Isted in COC is not received   D9 Sample received is not listed in COC   D10 No initial/date on corrections in COC/label   D11 Container size mismatch COC vs received   D12 Container size mismatch COC vs received   D13 Out of Holding Time   D14 Bubble is >6mm   R1 Proceed as indicated in   R2 Refer to attached instruction   R3 Cancel the analysis   R4 Use vial with smallest bubble first   R5 Log-in with latest sampling date and time+1 min   R6 Adjust pH as necessary   R7 Filter and preserved as necessary   R7 Filter and preserved as necessary   R8   Sample Labeling Filter   D14 Bubble is >6mm   R2 Refer to attached instruction   R3 Cancel the analysis   R4 Use vial with smallest bubble first   R5 Log-in with latest sampling date and time+1 min   R6 Adjust pH as necessary   R7 Filter and preserved as necessary   R8   Sample Labeling Filter   D10 No sample for moisture determination   D21 No sample for moisture determination   R9   D22   D23   D24   D24   D25   D26   D26   D27   D27   D28   D29   D2	NOTES/OBSERVATION	S:				
Code Description- Sample Management    Code Description- Sample Management   D13 Out of Holding Time   R1 Proceed as indicated in   COC   Label	SAMPLE MATRIX IS DRINKIN	IG WATER? ☐ YES ☐ NO	· · · · · · · · · · · · · · · · · · ·			
Code Description- Sample Management    Code Description- Sample Management   D13 Out of Holding Time   R1 Proceed as indicated in   COC   Label						
Code Description- Sample Management    Code Description- Sample Management   D13 Out of Holding Time   R1 Proceed as indicated in   COC   Label						
Code Description- Sample Management    Code Description- Sample Management   D13 Out of Holding Time   R1 Proceed as indicated in   COC   Label						
Analysis is not indicated in Ave D13 Out of Holding Time R1 Proceed as indicated in CCC Label  D2 Analysis mismatch COC vs label D14 Bubble is >6mm R2 Refer to attached instruction  D3 Sample ID mismatch COC vs label D15 No trip blank in cooler R3 Cancel the analysis  D4 Sample ID is not indicated in D16 Preservation not indicated in R4 Use vial with smallest bubble first  D5 Container -[improper] [leaking] [broken] D17 Preservation mismatch COC vs label R5 Log-in with latest sampling date and time+1 min  D6 Date/Time is not indicated in D18 Insufficient chemical preservative R6 Adjust pH as necessary  D7 Date/Time mismatch COC vs label D19 Insufficient Sample R7 Filter and preserved as necessary  D8 Sample listed in COC is not received D20 No filtration info for dissolved analysis R8  D9 Sample received is not listed in COC D21 No sample for moisture determination R9  D10 No initial/date on corrections in COC/label D23 R11  D11 Container count mismatch COC vs received D23 R11  D12 Container size mismatch COC vs received D23 R11  D24 REVIEWS: Notice Sample Labeling Fiver Sample Sample COC Sample Sample Cock Sample Sam	LEGEND:					
Analysis mismatch COC vs label  D14 Bubble is >6mm  R2 Refer to attached instruction  R3 Cancel the analysis  R5 Cancel the analysis  D15 No trip blank in cooler  R3 Cancel the analysis  R4 Use vial with smallest bubble first  D16 Preservation not indicated in	Code Description-Sample Ma	nagement		inagement		
D15 No trip blank in cooler  D15 No trip blank in cooler  D16 Preservation not indicated in	Analysis is not indicated	in label	-	•	, ,	'
Sample ID is not indicated in	D2 Analysis mismatch COC	vs label	· - · · · · · · · · · · · · · · · ·			n
D5 Container - [improper] [leaking] [broken] D6 Date/Time is not indicated in	D3 Sample ID mismatch CO	C vs label	•		· · · · · · · · · · · · · · · · · · ·	1- <i>C</i> 1
D6 Date/Time is not indicated in	D4 Sample ID is not indicate	ed in				
D7 Date/Time mismatch COC vs label D8 Sample listed in COC is not received D9 Sample received is not listed in COC D10 No initial/date on corrections in COC/label D11 Container count mismatch COC vs received D12 Container size mismatch COC vs received R10 Container size mismatch COC vs received R11 Container size mismatch COC vs received R12 Sample Labeling Pivera Date 07/67/23 17/07/25 Date 07/07/25	D5 Container -[improper] [le	eaking] [broken]			-,	date and time+1 min
D8 Sample listed in COC is not received D9 Sample received is not listed in COC D11 No sample for moisture determination D12 Container count mismatch COC vs received D12 Container size mismatch COC vs received D13 Sample Labeling Pivera D15 Sample Labeling Pivera D16 Sample Labeling Pivera D17 Sample Labeling Pivera D18 Sample Labeling Pivera D19 Sample Labeling Pivera D20 Sample Labeling Pivera D20 Sample Labeling Pivera D21 Sample Labeling Pivera D22 Sample Labeling Pivera D23 Sample Labeling Pivera D24 Sample Labeling Pivera D25 Sample Labeling Pivera D26 Sample Labeling Pivera D27 Sample Labeling Pivera D27 Sample Labeling Pivera D28 Sample Labeling Pivera D29 Sample Labeling Pivera D20 Sample Labeling Pivera	D6 Date/Time is not indicate	ed in	•	eservative	* . *	
D10 No initial/date on corrections in COC/abel  D11 Container count mismatch COC vs received  D12 Container size mismatch COC vs received  REVIEWS:  Sample Labeling Fivera  Date 07/07/23 17/07	D7 Date/Time mismatch CO	C vs label	•			essary
D10 No initial/date on corrections in COC/label  D11 Container count mismatch COC vs received  D12 Container size mismatch COC vs received  R11  R12  REVIEWS:  Sample Labeling Fivera  Date 07/07/23 07/07/23 07/07/25  Date 07/07/25 07/07/25  Date 07/07/25 07/07/25  Date 07/07/25  Date 07/07/25  Date 07/07/25  Date 07/07/25  PM  Date 07/07/25  Date 07/07/25  PM  Date 07/07/25  Date 07/07/25  PM  Date 07/07/25  PAGE 3 of 30	D8 Sample listed in COC is	not received				
D11 Container count mismatch COC vs received D12 Container size mismatch COC vs received REVIEWS:    Nation   John   John   SRF   Solid-Ramas     Date   07/07/23   07/07/23   07/07/25     Date   07/07/25   Date	D9 Sample received is not li	sted in COC				
D12 Container size mismatch COC vs received  REVIEWS:  Sample Labeling Fivera Colls-Pames  Date 07/07/23 07/07/23 07/07/25  PAGE 3 of 39	D10 No initial/date on correct	ions in COC/label		on label is incorrect		
REVIEWS:  Sample Labeling Fivera Colls-Pames  Date 07/67/23 07/07/23 07/07/25  Date 07/07/25  Date 07/07/25  Date 07/07/25  PAGE 3 of 39						
Sample Labeling Fiver   Colls-PAMO   SRF   Solis Ramos   PM   10   13    Date 07/67/23 07/07/25   Date 07/07/25   Date 07/07/25    PEPOPT ID: 23 C033   Page 3 of 39		· I MERAVIT		LACOLULA D.	K12	A
Date 07/07/23 07/07/25 Date 07/07/25 Date 07/07/25 Date 07/07/25		I O II O KAW	nØ		Υ	M AS
PEDORT ID: 23C033	Sample Labeli	ng PIVEY9 DUIS PAR	- Si		•	0110122
REPURT ID: 23G033 Page 3 of 39/2023 Page 3 of 39/2023		ate 07/67/23   07/07/05	 D:	ate vilviles		
	REPURT ID: 23G	U33 ¹	Page 24 of	89 ta St. Townson CA 0051	<sub>s</sub> Pag	e ១ ០វ <u>ភូ</u> 9/ <sub>2023</sub>

# 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**

380-53453

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

SDG#: 23G033

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#### CASE NARRATIVE

Client: EUROFINS EATON ANALYTICAL

Project: 380-53453

SDG : 23G033

#### METHOD 5030B/8015B

TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of four(4) water samples were received on 07/07/23 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. VGH7G03B - 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. VGH7G03L/VGH7G03C 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 G030-01M/G030-01S. Refer to Matrix QC summary form for details.

#### Surrogate

Surrogate was 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: 23G033 Page 27 of 89 Page 6 of 39/9/2023

LAB CHRONICLE TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client Project	: EUROFINS EATON ANALYTICAL : 380-53453	ANALYTICAL							SDG NO. : 23G033 Instrument ID : H7
					_WA_	WATER			
Client		Laboratory	Dilution	%			Sample	Calibratio	n Prep.
Sample ID		Sample ID Factor	Factor	Moist	DateTime	DateTime	Data FN	Data FN Batch	Batch Notes
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
MBI K1W		VGH7G03B	Н	¥	07/07/2315:09	07/07/2315:09		AG07003A	23VGH7G03 Method Blank
I CS1W		VGH7G03L	П	¥	07/07/2315:48	07/07/2315:48		AG07003A	23VGH7G03 Lab Control Sampl
LCD1W		VGH7G03C	П	M	07/07/2316:26	07/07/2316:26		AG07003A	23VGH7G03 LCS Duplicate
380-53453-	•	6033-01	Н	¥	07/07/2322:43	07/07/2322:43		AG07014A	23VGH7G03 Field Sample
380-53453-2	. 2	6033-02	1	¥	07/07/2323:20	07/07/2323:20	AG07018A	AG07014A	23VGH7G03 Field Sample
380-53453-	က်	6033-03	Н	¥	07/07/2323:58	07/07/2323:58		AG07014A	23VGH7G03 Field Sample
380-53453-4	· 4	G033-04	1	A	07/08/2300:36	07/08/2300:36		AG07014A	23VGH7G03 Field Sample

REPORT ID: 23G033

# **SAMPLE RESULTS**

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/03/23 10:08

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 23G033
 Date Extracted: 07/07/23 22:43

 Sample ID
 : 380-53453-1
 Date Analyzed: 07/07/23 22:43

Lab Samp ID: G033-01 Dilution Factor: 1
Lab File ID: AG07017A Matrix: WATER
Ext Btch ID: 23VGH7G03 % Moisture: NA
Calib. Ref.: AG07014A Instrument ID: H7

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	0.0414	0.0400	103	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
Prepared by : SCerva

Final Volume : 5ml

Prepared by : SCerva Analyzed by : SCerva

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/03/23 10:34

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 236033
 Date Extracted: 07/07/23 23:20

 Sample ID
 : 380-53453-2
 Date Analyzed: 07/07/23 23:20

Lab Samp ID: G033-02 Dilution Factor: 1
Lab File ID: AG07018A Matrix: WATER
Ext Btch ID: 23VGH7G03 % Moisture: NA
Calib. Ref.: AG07014A Instrument ID: H7

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	0.0424	0.0400	106	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

REPORT ID: 23G033 Page 31 of 89 Page 10 of 39/9/2023

Client	: EUROFINS EATON ANALYTICAL	Date Collected: 07/03/23 10:08

Date Received: 07/07/23 Project : 380-53453

Batch No. : 23G033 Date Extracted: 07/07/23 23:58 Sample ID : 380-53453-3 Date Analyzed: 07/07/23 23:58

Dilution Factor: 1 Lab Samp ID: G033-03 Lab File ID: AG07019A Matrix: WATER Ext Btch ID: 23VGH7G03 % Moisture: NA Calib. Ref.: AG07014A Instrument ID: H7

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	0.0422	0.0400	105	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: 07/03/23 10:34

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 23G033
 Date Extracted: 07/08/23 00:36

 Sample ID
 : 380-53453-4
 Date Analyzed: 07/08/23 00:36

Lab Samp ID: G033-04 Dilution Factor: 1
Lab File ID: AG07020A Matrix: WATER
Ext Btch ID: 23VGH7G03 % Moisture: NA
Calib. Ref.: AG07014A Instrument ID: H7

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	0.0431	0.0400	108	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

REPORT ID: 23G033

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# **QC SUMMARIES**

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## 2

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

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 23G033
 Date Extracted: 07/07/23 15:09

 Sample ID
 : MBLK1W
 Date Analyzed: 07/07/23 15:09

 Lab Samp ID: VGH7G03B
 Dilution Factor: 1

Lab Samp ID: VGH7G03B Dilution Factor: 1
Lab File ID: AG07005A Matrix: WATER
Ext Btch ID: 23VGH7G03 % Moisture: NA
Calib. Ref.: AG07003A Instrument ID: H7

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)

GASOLINE ND 0.020 0.010

SURROGATE PARAMETERS RESULT SPK\_AMT %RECOVERY QC LIMIT

Bromofluorobenzene 0.0403 0.0400 101 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

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CLIENT

: EUROFINS EATON ANALYTICAL

**PROJECT** BATCH NO. : 380-53453 : 23G033

METHOD

: 5030B/8015B

MATRIX	
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: WATER

DILUTION FACTOR: 1

: MBLK1W SAMPLE ID

LAB SAMPLE ID : VGH7G03B LAB FILE ID : AG07005A

DATE PREPARED : 07/07/23 15:09

DATE ANALYZED : 07/07/23 15:09

PREP BATCH

: 23VGH7G03

CALIBRATION REF: AG07003A

1

LCS1W VGH7G03L

AG07006A 07/07/23 15:48 07/07/23 15:48

23VGH7G03 AG07003A

% MOISTURE:NA

LCD1W

VGH7G03C AG07007A 07/07/23 16:26

07/07/23 16:26 23VGH7G03

AG07003A

ACCESSION:

RPD MBResult SpikeAmt LCSResult LCSRec SpikeAmt LCDResult LCDRec QCLimit MaxRPD **PARAMETERS** (mg/L) (mg/L) (mg/L) (%) (mg/L) (mg/L) (%) (%) (%) 0.500 0.451 90 0.500 0.426 85 6 60-130 30 Gasoline ND

SURROGATE PARAMETER	SpikeAmt	LCSResult	LCSRec	SpikeAmt	LCDResult	LCDRec	QCLimit
	(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)
Bromofluorobenzene	0.0400	0.0474	119	0.0400	0.0443	111	70-130

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

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT BATCH NO. : 380-53442

**METHOD** 

: 23G030

: 5030B/8015B

: WATER

% MOISTURE:NA

DILUTION FACTOR: 1

: 380-53442-1

SAMPLE ID LAB SAMPLE ID : G030-01

380-53442-1MS G030-01M

380-53442-1MSD G030-01S

LAB FILE ID

: AG07008A DATE PREPARED : 07/07/23 17:04 AG07009A

AG07010A 07/07/23 18:19

DATE ANALYZED : 07/07/23 17:04

07/07/23 17:42 07/07/23 17:42

07/07/23 18:19

PREP BATCH CALIBRATION REF: AG07003A

: 23VGH7G03

23VGH7G03 AG07003A

23VGH7G03 AG07003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.421	84	0.500	0.426	85	1	50-130	30

SURROGATE PARAMETER	SpikeAmt	MSResult	MSRec	SpikeAmt	MSDResult	MSDRec	QCLimit
	(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)	(%)
Bromofluorobenzene	0.0400	0.0457	114	0.0400	0.0455	114	60-140

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

### LABORATORY REPORT FOR

### **EUROFINS EATON ANALYTICAL**

380-53453

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

SDG#: 23G033

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#### CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-53453

SDG : 23G033

#### METHOD 3520C/8015B

#### TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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.

#### 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. DSG017WB - 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. DSG017WL/DSG017WC 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. Diesel was within MS QC limits in 23G078-01M/23G078-01S. Refer to Matrix QC summary form for details.

#### 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.

Page 18 of 39/9/2023 REPORT ID: 23G033 Page 39 of 89

Client: EUROFINS EATON ANALYTICAL

Project: 380-53453

SDG : 23G033<sup>-</sup>

#### METHOD 3520C/8015B

#### PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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. DSG017WB - 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. J5G017WL/J5G017WC 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. JP5 was within MS QC limits in 23G078-01M/23G078-01S. Refer to Matrix QC summary form for details.

#### 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.

#### CASE NARRATIVE

Client: EUROFINS EATON ANALYTICAL

Project: 380-53453

SDG : 23G033

### METHOD 3520C/8015B

#### PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two(2) water samples were received on 07/07/23 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. DSG017WB - 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. J8G017WL/J8G017WC 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.

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LAB CHRONICLE TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client: Project: Client Sample ID MBLKIW LCSIW LCSIW	: EUROFINS EATON ANALYTICAL : 380-53453 Laborator Sample ID DSG017WE DSG017WE	ANALYTICAL Laboratory C Sample ID DSG017WB DSG017WC DSG017WC	Dilution Factor 1	Moist NA	MA Analysis DateTime 07/14/2319:28 07/14/2319:28	WATER Extraction DateTime 07/13/2313:00 07/13/2313:00	Sample Data FN  LG14009A LG14011A	SDG 1 Insti Calibration Prep. Data FN Batch 	SDG NO. : 23G033 Instrument ID : D5 Instrument ID : D6 Instrument ID :
380 - 53453 380 - 53453	-2 -1	G033-01 G033-02		≨≨	07/14/2322:16	07/13/2313:00	LG14019A	LG14003A	23DSG017W Field Sample

LAB CHRONICLE PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: EUROFINS EATON ANALYTICAL	ICAL							SDG NO. : 23G033	
Project	: 380-53453								Instrument ID : D5	
					MA	WATER				
Client		ratory	Dilution	%	Analysis	Extraction	Sample	Calibration Prep.		
Sample ID		Sample ID	Factor	Moist	DateTime	DateTime	Data FN	Data FN	Batch Notes	
		:								
MBI K1W		17WB		NA	07/14/2319:09	07/13/2313:00	LG14009A	LG14004A	23DSG017W Method Blank	
I COTU		17WI	۰,	N	07/14/2320:05	07/13/2313:00	LG14012A	LG14004A	23DSG017W Lab Control Sampl	F (LCS)
CD1W		17WC	ı <del></del>	¥	07/14/2320:24	07/13/2313:00	LG14013A	LG14004A	23DSG017W LCS Duplicate	
380.53453.	, _	-01		¥	07/14/2321:57	07/13/2313:00	LG14018A	LG14004A	23DSG017W Field Sample	
380-53453-2		3033-02	П	¥	07/14/2322:16	07/13/2313:00	LG14019A	LG14004A	23DSG017W Field Sample	

REPORT ID: 23G033

LAB CHRONICLE PETROLEUM HYDROCARBONS BY EXTRACTION

Client		LYTICAL							SDG NO. : 23G033
Project	: 380-53453								Instrument ID : D5
					MA	WATER			
Client		aboratory	Dilution	%	Analysis	Extraction	Sample	Calibratio	η Prep.
Sample ID		Sample ID	Factor	Moist	DateTime	DateTime	Data FN	Data FN Batch	Batch Notes
MRI K1W		SG017WB		¥	07/14/2319:09	07/13/2313:00	LG14009A	LG14005A	23DSG017W Method Blank
		8G017WI		W	07/14/2320:43	07/13/2313:00	LG14014A	LG14005A	23DSG017W Lab Control Sample (LCS)
CD1#		8G017WC	Н	¥	07/14/2321:01	07/13/2313:00	LG14015A	LG14005A	23DSG017W LCS Duplicate
380-53453		033-01	Н	N A	07/14/2321:57	07/13/2313:00	LG14018A	LG14005A	23DSG017W Field Sample
380-53453-2		6033-02	П	¥	07/14/2322:16	07/13/2313:00	LG14019A	LG14005A	23DSG017W Field Sample

# **SAMPLE RESULTS**

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

Date Collected: 07/03/23 10:08 : EUROFINS EATON ANALYTICAL Client

Date Received: 07/07/23 Project : 380-53453 Date Extracted: 07/13/23 13:00 Batch No. : 23G033 Date Analyzed: 07/14/23 21:57

Sample ID : 380-53453-1 Dilution Factor: 1 Lab Samp ID: 23G033-01

Matrix: WATER Lab File ID: LG14018A % Moisture: NA Ext Btch ID: 23DSG017W Instrument ID: D5 Calib. Ref.: LG14003A

	RESULTS	RL	MDL	
PARAMETERS	(mg/L)	(mg/L)	(mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.315	0.520	61	60-130
Hexacosane	0.116	0.130	90	60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Prepared by

Final Volume : 5ml

Analyzed by : SDeeso : RGalan

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

Date Collected: 07/03/23 10:08

: EUROFINS EATON ANALYTICAL Client Date Received: 07/07/23 Project | : 380-53453

Date Extracted: 07/13/23 13:00 Batch No. : 23G033 Sample ID : 380-53453-1 Date Analyzed: 07/14/23 21:57 Dilution Factor: 1

Lab Samp ID: 23G033-01 Matrix: WATER Lab File ID: LG14018A Ext Btch ID: 23DSG017W % Moisture: NA Instrument ID: D5 Calib. Ref.: LG14004A

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	П	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.315 0.116	0.520 0.130	61 90	60-130 60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Final Volume : 5ml Sample Amount : 960ml

Analyzed by : SDeeso Prepared by : RGalan

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

Date Collected: 07/03/23 10:08 Client : EUROFINS EATON ANALYTICAL Date Received: 07/07/23

: 380-53453 Project Date Extracted: 07/13/23 13:00 Batch No. : 23G033 Date Analyzed: 07/14/23 21:57 Sample ID : 380-53453-1

Dilution Factor: 1 Lab Samp ID: 23G033-01 Matrix: WATER Lab File ID: LG14018A % Moisture: NA Ext Btch ID: 23DSG017W Instrument ID: D5 Calib. Ref.: LG14005A

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.315 0.116	0.520 0.130	61 90	60-130 60-130

Notes:

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

Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.

Sample Amount : 960ml

Final Volume : 5ml

Prepared by : RGalan

Analyzed by : SDeeso

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

Date Collected: 07/03/23 10:34 : EUROFINS EATON ANALYTICAL Client Date Received: 07/07/23

Project : 380-53453 Date Extracted: 07/13/23 13:00 Batch No. : 23G033 Date Analyzed: 07/14/23 22:16 Sample ID : 380-53453-2

Dilution Factor: 1 Lab Samp ID: 23G033-02 Lab File ID: LG14019A Matrix: WATER % Moisture: NA Ext Btch ID: 23DSG017W Calib. Ref.: LG14003A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.028	0.014	
Motor Oil	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.343	0.550	62	60 - 130
Hexacosane	0.130	0.138	95	60 - 130

Notes:

Parameter H-C Range 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 : 910ml

Final Volume : 5ml

Analyzed by : SDeeso

Prepared by : RGalan

# METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/03/23 10:34

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 23G033
 Date Extracted: 07/13/23 13:00

 Sample ID
 : 380-53453-2
 Date Analyzed: 07/14/23 22:16

Lab Samp ID: 23G033-02 Dilution Factor: 1 Lab File ID: LG14019A Matrix: WATER Ext Btch ID: 23DSG017W % Moisture: NA Calib. Ref.: LG14004A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.343 0.130	0.550 0.138	62 95	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 : 910ml Final Volume : 5ml Prepared by : RGalan Analyzed by : SDeeso

# METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/03/23 10:34

 Project
 : 380-53453
 Date Received: 07/07/23

 Batch No.
 : 23G033
 Date Extracted: 07/13/23 13:00

 Sample ID
 : 380-53453-2
 Date Analyzed: 07/14/23 22:16

Lab Samp ID: 23G033-02 Dilution Factor: 1 Lab File ID: LG14019A Matrix: WATER Ext Btch ID: 23DSG017W % Moisture: NA Calib. Ref.: LG14005A Instrument ID: D5

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.028	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene Hexacosane	0.343 0.130	0.550 0.138	62 95	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 : 910ml Final Volume : 5ml

Prepared by : RGalan Analyzed by : SDeeso

QC SUMMARIES

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

Date Collected: 07/13/23 13:00 Client : EUROFINS EATON ANALYTICAL

: 380-53453 Date Received: 07/13/23 Project Date Extracted: 07/13/23 13:00 Batch No. : 23G033 Sample ID : MBLK1W Date Analyzed: 07/14/23 19:09

Lab Samp ID: DSG017WB Dilution Factor: 1 Matrix: WATER Lab File ID: LG14009A Ext Btch ID: 23DSG017W % Moisture: NA Instrument ID: D5 Calib. Ref.: LG14003A

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	0.373	0.500	75	60-130
Hexacosane	0.114	0.125	92	60-130

Notes:

Parameter H-C Range Diesel C10-C24 Motor Oil 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

: 380-53453

BATCH NO.

: 23G033

**METHOD** 

: 3520C/8015B

MATRIX
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: WATER

% MOISTURE:NA

DILUTION FACTOR: 1 SAMPLE ID

: MBLK1W

1 LCS1W LCD1W

LAB SAMPLE ID : DSG017WB LAB FILE ID : LG14009A DSG017WL LG14010A DSG017WC LG14011A 07/13/23 13:00

DATE PREPARED : 07/13/23 13:00 DATE ANALYZED : 07/14/23 19:09 PREP BATCH : 23DSG017W

CALIBRATION REF: LG14003A

07/13/23 13:00 07/14/23 19:28 23DSG017W

LG14003A

07/14/23 19:47 23DSG017W LG14003A

#### ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.50	100	2.50	2.32	93	7	50-130	30
SURROGATE PARAMETERS		SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec		QCLimit (%)	
Bromobenzene Hexacosane		0.500 0.125	0.366 0.112	73 90	0.500 0.125	0.344	69 88		60-130 60-130	

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

CLIENT : EUROFINS EATON ANALYTICAL

PROJECT : 380-54001 BATCH NO. : 23G078 METHOD : 3520C/8015B

% MOISTURE:NA MATRIX : WATER

DILUTION FACTOR: 1

380-54001-1MS 380-54001-1MSD SAMPLE ID : 380-54001-1 23G078-01S LAB SAMPLE ID : 23G078-01 23G078-01M LG14022A LG14021A LAB FILE ID : LG14020A 07/13/23 13:00 DATE PREPARED : 07/13/23 13:00 07/13/23 13:00 07/14/23 23:12 07/14/23 22:53 DATE ANALYZED : 07/14/23 22:35 23DSG017W PREP BATCH : 23DSG017W 23DSG017W LG14003A CALIBRATION REF: LG14003A LG14003A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.70	2.61	97	2.65	2.61	98	0	50-130	30
CURROCATE DADAMETERS		SpikeAmt	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)		QCLimit (%)	
SURROGATE PARAMETERS  Bromobenzene		(mg/L)  0.540	0.341	63	0.530	0.338	64		60-130	-
Hexacosane		0.135	0.117	87	0.132	0.114	86		60-130	

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

# METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/13/23 13:00

 Project
 : 380-53453
 Date Received: 07/13/23

 Batch No.
 : 23G033
 Date Extracted: 07/13/23 13:00

 Sample ID
 : MBLK1W
 Date Analyzed: 07/14/23 19:09

Lab Samp ID: DSG017WB Dilution Factor: 1
Lab File ID: LG14009A Matrix: WATER
Ext Btch ID: 23DSG017W % Moisture: NA
Calib. Ref.: LG14004A Instrument ID: D5

arib. Ret.: Lai4004A Instrument ib. D3

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	0.373 0.114	0.500 0.125	75 92	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 : 1000ml Final Volume : 5ml Prepared by : RGalan Analyzed by : SDeeso

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CLIENT : EUROFINS EATON ANALYTICAL PROJECT : 380-53453

BATCH NO. : 23G033 **METHOD** : 3520C/8015B

% MOISTURE:NA MATRIX : WATER

DILUTION FACTOR: 1 1 SAMPLE ID : MBLK1W LCS1W LCD1W LAB SAMPLE ID : DSG017WB J5G017WL J5G017WC LAB FILE ID : LG14009A LG14012A LG14013A DATE PREPARED : 07/13/23 13:00 07/13/23 13:00 07/13/23 13:00 07/14/23 20:05 DATE ANALYZED : 07/14/23 19:09 07/14/23 20:24 PREP BATCH : 23DSG017W 23DSG017W 23DSG017W CALIBRATION REF: LG14004A LG14004A LG14004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.42	97	2.50	2.72	109	12	30-160	30
		SpikeAmt	LCSResult	LCSRec	SpikeAmt	LCDResult	LCDRec		QCLimit	
SURROGATE PARAMETERS		(mg/L)	(mg/L)	(%)	(mg/L)	(mg/L)	(%)		(%)	
Bromobenzene Hexacosane		0.500	0.379	76 89	0.500	0.392	78 93		60-130 60-130	•
Tionacocanic		0.120	V.111	03	3,120	01110	30		11 200	

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

CLIENT : EUROFINS EATON ANALYTICAL

PROJECT : 380-54001 : 23G078 BATCH NO. METHOD : 3520C/8015B

% MOISTURE:NA MATRIX : WATER

DILUTION FACTOR: 1

380-54001-1MS 380-54001-1MSD SAMPLE ID : 380-54001-1 23G078-01S LAB SAMPLE ID : 23G078-01 23G078-01M LG14024A LG14023A LAB FILE ID : LG14020A 07/13/23 13:00 DATE PREPARED : 07/13/23 13:00 07/13/23 13:00 07/14/23 23:49 07/14/23 23:31 DATE ANALYZED : 07/14/23 22:35 23DSG017W PREP BATCH : 23DSG017W 23DSG017W LG14004A CALIBRATION REF: LG14004A LG14004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.50	2.48	99	2.50	2.33	93	6	30-160	30
SURROGATE PARAMETERS		SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)		QCLimit (%)	
Bromobenzene Hexacosane		0.500 0.125	0.363 0.105	73 84	0.500 0.125	0.325 0.102	65 82		60-130 60-130	-

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

# METHOD 3520C/8015B PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL Date Collected: 07/13/23 13:00

Lab Samp ID: DSG017WB Dilution Factor: 1
Lab File ID: LG14009A Matrix: WATER
Ext Btch ID: 23DSG017W % Moisture: NA
Calib. Ref.: LG14005A 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	0.373 0.114	0.500 0.125	75 92	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

CLIENT

: EUROFINS EATON ANALYTICAL

PROJECT

: 380-53453

BATCH NO.

: 23G033

METHOD

: 3520C/8015B

MATRIX

: WATER

% MOISTURE:NA

DILUTION FACTOR: 1

: MBLK1W

1 LCS1W

SAMPLE ID LAB SAMPLE ID : DSG017WB

LAB FILE ID : LG14009A

J8G017WL LG14014A LCD1W J8G017WC LG14015A

DATE PREPARED : 07/13/23 13:00 DATE ANALYZED : 07/14/23 19:09

07/13/23 13:00 07/14/23 20:43

07/13/23 13:00 07/14/23 21:01

PREP BATCH : 23DSG017W 23DSG017W

23DSG017W LG14005A

CALIBRATION REF: LG14005A

LG14005A

ACCESSION:

LCDResult LCDRec QCLimit MaxRPD LCSResult LCSRec SpikeAmt RPD MBResult SpikeAmt (%) **PARAMETERS** (mg/L) (mg/L) (mg/L) (%) (mg/L) (mg/L) (%) (%) ...... ..... 2.50 2.54 102 30-160 30 JP8 ND 2.50 2.92 117 14

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.479	96	0.500	0.426	85 86	60-130
Hexacosane	0.125	0.110	88	0.125	0.108	86	60-130

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

REPORT ID: 23G033

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August 01, 2023

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

Project Name: RED-HILL Project # 38001111 Job # 380-53453-1

Physis Project ID: 1407003-413

Dear Rachelle,

Enclosed are the analytical results for samples submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/7/2023. 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 # 380-53453-1

PHYSIS Project ID: 1407003-413

Total Samples: 2

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
108036	MOANALUA WELLS	380-53453-1	7/3/2023	10:08	Samplewater	Not Specified
108037 H	ALAWA WELLS UNITS 1 & 2 P1	380-53453-2	7/3/2023	10:34	Samplewater	Not Specified



### **ABBREVIATIONS and ACRONYMS**

QM	Quality Manual
QA	Quality Assurance
QC	Quality Control
MDL	method detection limit
RL	reporting limit
R1	project sample
R <sub>2</sub>	project sample replicate
MS1	matrix spike
MS2	matrix spike replicate
B1	procedural blank
B2	procedural blank replicate
BS1	blank spike
BS2	blank spike replicate
LCS1	laboratory control spike
LCS2	laboratory control spike replicate
LCM1	laboratory control material
LCM2	laboratory control material replicate
CRM1	certified reference material
CRM2	certified reference material replicate
RPD	relative percent difference
LMW	low molecular weight
HMW	high molecular weight



### **QUALITY ASSURANCE SUMMARY**

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

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

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

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

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

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

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

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

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

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

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

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

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

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



# PHYSIS QUALIFIER CODES

DEFINITION
see Case Narrative
analyte not detected at or above the MDL
analyte was detected in the procedural blank greater than 10 times the MDL
analyte concentration exceeds the upper limit of the linear calibration range, reported value is estimated
sample received and/or analyzed past the recommended holding time
analyte was detected at a concentration below the RL and above the MDL, reported value is estimated
insufficient sample, analysis could not be performed
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
analyte concentration in the project sample exceeded the spike concentration, therefore accuracy and/or precision acceptance limits do not apply
analyte results were lower than 10 times the MDL, therefore accuracy and/or precision acceptance limits do not apply
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
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
Physis' QM allows for 5% of the target compounds greater than 10 times the MDL to be outside the specified acceptance limits for precision and/or accuracy. This is often due to random error and does not indicate any significant problems with the analysis of these project samples



### **CASE NARRATIVE**

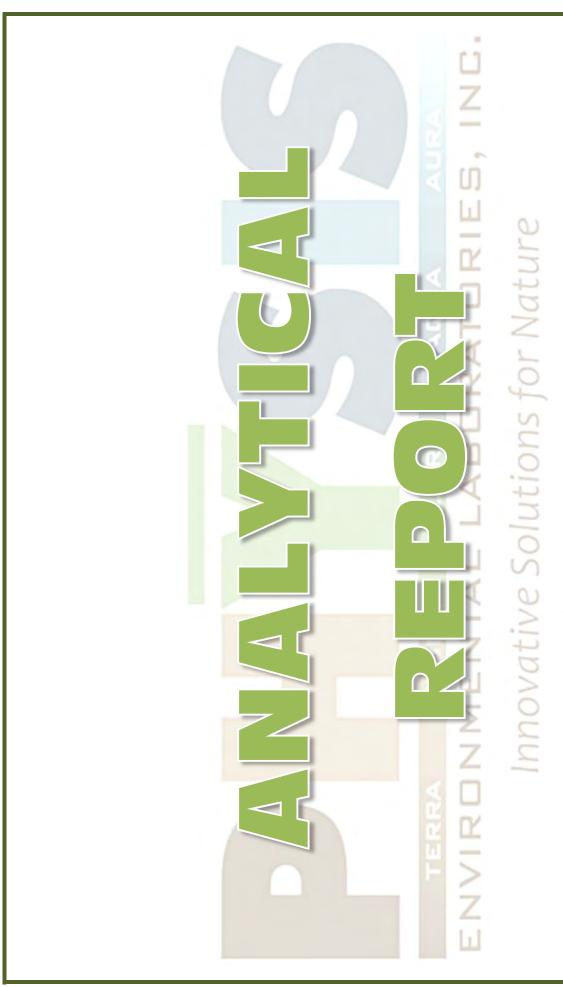
### **QUALIFIER NOTES**

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

#### ND

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







PHYSIS Project ID: 1407003-413 Client: Eurofins Eaton Analytical

Project: RED-HILL Project # 38001111 Job # 380-53453-1

# **Polynuclear Aromatic Hydrocarbons**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	<b>Date Processed</b>	Date Analyzed
Sample ID: 108036-R1	MOANALUA WELLS 38	0-53453-1	Matrix: Sample	ewate	r		Sampled:	03-Jul-23 10:08	Received:	07-Jul-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	64	1			Total	0-41138	07-Jul-23	30-Jul-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	99	1			Total	0-41138	07-Jul-23	30-Jul-23
(d12-Chrysene)	EPA 625.1	% Recovery	99	1			Total	O-41138	07-Jul-23	30-Jul-23
(d12-Perylene)	EPA 625.1	% Recovery	77	1			Total	O-41138	07-Jul-23	30-Jul-23
(d8-Naphthalene)	EPA 625.1	% Recovery	75	1			Total	O-41138	07-Jul-23	30-Jul-23
1-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
1-Methylphenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2,3,5-Trimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2,6-Dimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Acenaphthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Acenaphthylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benz[a]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[a]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[b]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[e]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[g,h,i]perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[k]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Biphenyl	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Chrysene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23
Dibenz[a,h]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Dibenzo[a,l]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Dibenzothiophene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23

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CA ELAP #2769

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PHYSIS Project ID: 1407003-413 **Client: Eurofins Eaton Analytical** 

Project: RED-HILL Project # 38001111 Job # 380-53453-1

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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	
Disalicylidenepropanediamine	EPA 625.1	μg/L	ND	1	0.05	0.1	Total	O-41138	07-Jul-23	30-Jul-23	
Fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	
Fluorene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Indeno[1,2,3-cd]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	
Naphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Phenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	

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PHYSIS Project ID: 1407003-413 Client: Eurofins Eaton Analytical

Project: RED-HILL Project # 38001111 Job # 380-53453-1

# **Polynuclear Aromatic Hydrocarbons**

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE Batch ID	<b>Date Processed</b>	Date Analyzed
Sample ID: 108037-R1	HALAWA WELLS UNITS	51&2P138 M	atrix: Sampl	ewateı	•		Sampled:	03-Jul-23 10:34	Received:	07-Jul-23
(d10-Acenaphthene)	EPA 625.1	% Recovery	67	1			Total	0-41138	07-Jul-23	30-Jul-23
(d10-Phenanthrene)	EPA 625.1	% Recovery	102	1			Total	0-41138	07-Jul-23	30-Jul-23
(d12-Chrysene)	EPA 625.1	% Recovery	107	1			Total	0-41138	07-Jul-23	30-Jul-23
(d12-Perylene)	EPA 625.1	% Recovery	85	1			Total	0-41138	07-Jul-23	30-Jul-23
(d8-Naphthalene)	EPA 625.1	% Recovery	76	1			Total	O-41138	07-Jul-23	30-Jul-23
1-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
1-Methylphenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2,3,5-Trimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2,6-Dimethylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
2-Methylnaphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Acenaphthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Acenaphthylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benz[a]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[a]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[b]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[e]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[g,h,i]perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Benzo[k]fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Biphenyl	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Chrysene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Dibenz[a,h]anthracene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Dibenzo[a,l]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23
Dibenzothiophene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23

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PHYSIS Project ID: 1407003-413 Client: Eurofins Eaton Analytical

Project: RED-HILL Project # 38001111 Job # 380-53453-1

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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	
Disalicylidenepropanediamine	EPA 625.1	μg/L	ND	1	0.05	0.1	Total	O-41138	07-Jul-23	30-Jul-23	
Fluoranthene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	
Fluorene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Indeno[1,2,3-cd]pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	
Naphthalene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Perylene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Phenanthrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	0-41138	07-Jul-23	30-Jul-23	
Pyrene	EPA 625.1	μg/L	ND	1	0.001	0.005	Total	O-41138	07-Jul-23	30-Jul-23	

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Project: RED-HILL Project # 38001111 Job # 380-53453-1

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## **Polynuclear Aromatic Hydrocarbons**

#### **QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	A	CCURACY	PR	ECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	

							LEVEL	KESULI	%	LIMITS		%	LIMITS
Sample ID: 108035	-B1	QAQC Procedu	ıral Blank			Matrix: Bla	nkMatri	x Sar	npled:				Received:
		Method: EPA 625	.1			Batch ID: O-41	1138	Pr	epared: c	7-Jul-23			Analyzed: 29-Jul-23
(d10-Acenaphthene)	Total	80	1			% Recovery	100		80	27 - 133%	PASS		
(d10-Phenanthrene)	Total	108	1			% Recovery	100		108	43 - 129%	PASS		
(d12-Chrysene)	Total	107	1			% Recovery	100		107	52 - 144%	PASS		
(d12-Perylene)	Total	96	1			% Recovery	100		96	36 - 161%	PASS		
(d8-Naphthalene)	Total	105	1			% Recovery	100		105	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 # 380-53453-1

Innovative Solutions for Nature

Poly	nuclear	Aroma	Hydr	QUALITY CONTROL REPORT									
ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE		ACCURACY	PRE	CISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	ND	1	0.00	0.005	μg/L							
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	μg/L							
Fluoranthene	Total	ND	1	0.00	0.005	μg/L							
Fluorene	Total	ND	1	0.001	0.005	μg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.00	0.005	μg/L							
Naphthalene	Total	ND	1	0.001	0.005	μg/L							
Perylene	Total	ND	1	0.00	0.005	μg/L							
Phenanthrene	Total	ND	1	0.00	0.005	μg/L							
Pyrene	Total	ND	1	0.00	0.005	μg/L							

9/9/2023



Innovative Solutions for Nature

PHYSIS Project ID: 1407003-413 Client: Eurofins Eaton Analytical

Project: RED-HILL Project # 38001111 Job # 380-53453-1

## **Polynuclear Aromatic Hydrocarbons**

#### **QUALITY CONTROL REPORT**

Sample ID: 10%	35 BC4 OA6	C Brosodur	al Dia	m le		Matrixe	Dlamk Matrix	Cama	lode		Dogoissods	
							LEVEL RE	SULT	% LIMITS	%	LIMITS	
ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE SOL	URCE	ACCURACY	PR	ECISION	QA CODEc

							LEVEL	KESULI	%	LIMITS		%	LIMITS
Sample ID: 108035	-BS1	QAQC Procedu	ral Blank			Matrix: Bla	nkMatri	x San	npled:				Received:
		Method: EPA 625.	1			Batch ID: O-4	1138	Pr	epared: o	7-Jul-23			Analyzed: 29-Jul-23
(d10-Acenaphthene)	Total	82	1			% Recovery	100	0	82	27 - 133%	PASS		
(d10-Phenanthrene)	Total	102	1			% Recovery	100	0	102	43 - 129%	PASS		
(d12-Chrysene)	Total	104	1			% Recovery	100	0	104	52 - 144%	PASS		
(d12-Perylene)	Total	92	1			% Recovery	100	0	92	36 - 161%	PASS		
(d8-Naphthalene)	Total	89	1			% Recovery	100	0	89	25 - 125%	PASS		
1-Methylnaphthalene	Total	0.436	1	0.001	0.005	μg/L	0.5	0	87	31 - 128%	PASS		
1-Methylphenanthrene	Total	0.536	1	0.001	0.005	μg/L	0.5	0	107	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.481	1	0.001	0.005	μg/L	0.5	0	96	55 - 122%	PASS		
2,6-Dimethylnaphthalene	Total	0.46	1	0.001	0.005	μg/L	0.5	0	92	48 - 120%	PASS		
2-Methylnaphthalene	Total	0.476	1	0.001	0.005	μg/L	0.5	0	95	47 - 130%	PASS		
Acenaphthene	Total	0.436	1	0.001	0.005	μg/L	0.5	0	87	53 - 131%	PASS		
Acenaphthylene	Total	0.496	1	0.001	0.005	μg/L	0.5	0	99	43 - 140%	PASS		
Anthracene	Total	0.459	1	0.001	0.005	μg/L	0.5	0	92	58 - 135%	PASS		
Benz[a]anthracene	Total	0.504	1	0.001	0.005	μg/L	0.5	0	101	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.444	1	0.001	0.005	μg/L	0.5	0	89	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.51	1	0.001	0.005	μg/L	0.5	0	102	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.491	1	0.001	0.005	μg/L	0.5	0	98	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.482	1	0.001	0.005	μg/L	0.5	0	96	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.514	1	0.001	0.005	μg/L	0.5	0	103	56 - 145%	PASS		
Biphenyl	Total	0.532	1	0.001	0.005	μg/L	0.5	0	106	56 - 119%	PASS		
Chrysene	Total	0.471	1	0.001	0.005	μg/L	0.5	0	94	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.482	1	0.001	0.005	μg/L	0.5	0	96	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.413	1	0.001	0.005	μg/L	0.5	0	83	50 - 150%	PASS		

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Project: RED-HILL Project # 38001111 Job # 380-53453-1

Innovative Solutions for Nature

# **Polynuclear Aromatic Hydrocarbons**

#### **QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	А	CCURACY	PF	RECISION	QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS	
Dibenzothiophene	Total	0.527	1	0.001	0.005	μg/L	0.5	0	105	46 - 126% PASS			
Disalicylidenepropanediamin	Total	28	1	0.05	0.1	μg/L	50	0	56	50 - 150% PASS			
Fluoranthene	Total	0.608	1	0.001	0.005	μg/L	0.5	0	122	60 - 146% PASS			
Fluorene	Total	0.477	1	0.001	0.005	μg/L	0.5	0	95	58 - 131% PASS			
Indeno[1,2,3-cd]pyrene	Total	0.467	1	0.001	0.005	μg/L	0.5	0	93	50 - 151% PASS			
Naphthalene	Total	0.46	1	0.001	0.005	μg/L	0.5	0	92	41 - 126% PASS			
Perylene	Total	0.426	1	0.001	0.005	μg/L	0.5	0	85	48 - 141% PASS			
Phenanthrene	Total	0.476	1	0.001	0.005	μg/L	0.5	0	95	67 - 127% PASS			
Pyrene	Total	0.57	1	0.001	0.005	μg/L	0.5	0	114	54 - 156% PASS			

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**ACCURACY** 

Project: RED-HILL Project # 38001111 Job # 380-53453-1

Innovative Solutions for Nature

**FRACTION** 

**ANALYTE** 

## **Polynuclear Aromatic Hydrocarbons**

DF MDL

RESULT

#### **QUALITY CONTROL REPORT**

**PRECISION** 

							LEVEL	RESULT	%	LIMITS		%	LIMITS
Sample ID: 108035	-BS2 C	(AQC Procedura	l Blank			Matrix: Bla	nkMatr	ix Sar	npled:			F	Received:
	٨	Nethod: EPA 625.1				Batch ID: O-41	138	Pr	epared: o	7-Jul-23			Analyzed: 29-Jul-23
(d10-Acenaphthene)	Total	80	1			% Recovery	100	0	80	27 - 133% F	PASS	2	30 PASS
(d10-Phenanthrene)	Total	96	1			% Recovery	100	0	96	43 - 129% F	PASS	6	30 PASS
(d12-Chrysene)	Total	104	1			% Recovery	100	0	104	52 - 144% F	PASS	0	30 PASS
(d12-Perylene)	Total	94	1			% Recovery	100	0	94	36 - 161% F	PASS	2	30 PASS
(d8-Naphthalene)	Total	85	1			% Recovery	100	0	85	25 - 125% F	PASS	5	30 PASS
1-Methylnaphthalene	Total	0.424	1	0.001	0.005	μg/L	0.5	0	85	31 - 128% F	PASS	2	30 PASS
1-Methylphenanthrene	Total	0.512	1	0.001	0.005	μg/L	0.5	0	102	66 - 127% F	PASS	5	30 PASS
2,3,5-Trimethylnaphthalene	Total	0.484	1	0.001	0.005	μg/L	0.5	0	97	55 - 122% F	PASS	1	30 PASS
2,6-Dimethylnaphthalene	Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	48 - 120% F	PASS	2	30 PASS
2-Methylnaphthalene	Total	0.462	1	0.001	0.005	μg/L	0.5	0	92	47 - 130% F	PASS	3	30 PASS
Acenaphthene	Total	0.424	1	0.001	0.005	μg/L	0.5	0	85	53 - 131% F	PASS	2	30 PASS
Acenaphthylene	Total	0.482	1	0.001	0.005	μg/L	0.5	0	96	43 - 140% F	PASS	3	30 PASS
Anthracene	Total	0.456	1	0.001	0.005	μg/L	0.5	0	91	58 - 135% F	PASS	1	30 PASS
Benz[a]anthracene	Total	0.521	1	0.001	0.005	μg/L	0.5	0	104	55 - 145% F	PASS	3	30 PASS
Benzo[a]pyrene	Total	0.459	1	0.001	0.005	μg/L	0.5	0	92	51 - 143% F	PASS	3	30 PASS
Benzo[b]fluoranthene	Total	0.523	1	0.001	0.005	μg/L	0.5	0	105	46 - 165% F	PASS	3	30 PASS
Benzo[e]pyrene	Total	0.476	1	0.001	0.005	μg/L	0.5	0	95	42 - 152% F	PASS	3	30 PASS
Benzo[g,h,i]perylene	Total	0.489	1	0.001	0.005	μg/L	0.5	0	98	63 - 133% F	PASS	2	30 PASS
Benzo[k]fluoranthene	Total	0.521	1	0.001	0.005	μg/L	0.5	0	104	56 - 145% F	PASS	1	30 PASS
Biphenyl	Total	0.531	1	0.001	0.005	μg/L	0.5	0	106	56 - 119% F	PASS	0	30 PASS
Chrysene	Total	0.483	1	0.001	0.005	μg/L	0.5	0	97	56 - 141% F	PASS	3	30 PASS
Dibenz[a,h]anthracene	Total	0.475	1	0.001	0.005	μg/L	0.5	0	95	55 - 150% F	PASS	1	30 PASS
Dibenzo[a,l]pyrene	Total	0.416	1	0.001	0.005	μg/L	0.5	0	83	50 - 150% F	PASS	0	30 PASS

**UNITS** 

SPIKE SOURCE

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**QA CODEc** 

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Project: RED-HILL Project # 38001111 Job # 380-53453-1

Innovative Solutions for Nature

# **Polynuclear Aromatic Hydrocarbons**

#### **QUALITY CONTROL REPORT**

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE	SOURCE	A	CCURACY	PRI	ECISION QA CODEc
							LEVEL	RESULT	%	LIMITS	%	LIMITS
Dibenzothiophene	Total	0.492	1	0.001	0.005	μg/L	0.5	0	98	46 - 126% PASS	7	30 PASS
Disalicylidenepropanediamin	Total	27.2	1	0.05	0.1	μg/L	50	0	54	50 - 150% PASS	4	30 PASS
Fluoranthene	Total	0.596	1	0.001	0.005	μg/L	0.5	0	119	60 - 146% PASS	2	30 PASS
Fluorene	Total	0.458	1	0.001	0.005	μg/L	0.5	0	92	58 - 131% PASS	3	30 PASS
Indeno[1,2,3-cd]pyrene	Total	0.461	1	0.001	0.005	μg/L	0.5	0	92	50 - 151% PASS	1	30 PASS
Naphthalene	Total	0.451	1	0.001	0.005	μg/L	0.5	0	90	41 - 126% PASS	2	30 PASS
Perylene	Total	0.45	1	0.001	0.005	μg/L	0.5	0	90	48 - 141% PASS	6	30 PASS
Phenanthrene	Total	0.463	1	0.001	0.005	μg/L	0.5	0	93	67 - 127% PASS	2	30 PASS
Pyrene	Total	0.557	1	0.001	0.005	μg/L	0.5	0	111	54 - 156% PASS	3	30 PASS

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Innovative Solutions for Nature

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Sample ID: 108036

	Area				
Retention	(% of	Concentration			<b>Match Quality</b>
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
34.8364	3.0872	1111	Anthracene-D10	1517-22-2	90
10.3992	11.8988	4282	2-Pentene, 2,4-dimethyl-	625-65-0	89
10.1776	5.2186	1878	m-Menthane, (1S,3S)-(+)-	13837-67-7	87
10.1209	2.8750	1035	Octane, 3-methyl-6-methylene-	74630-07-2	85
10.0477	2.6695	961	Hydroperoxide, 1-ethylbutyl	24254-56-6	87
10.7307	2.0687	745	Cyclohexane, methyl-	108-87-2	88
10.8821	0.5078	183	Cyclohexane, nitro-	1122-60-7	87

Concentration estimated using the response for Anthracene-d10

Q

Sample ID: 108037

	Area				
Retention	(% of	Concentration			<b>Match Quality</b>
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
34.8388	2.7804	1111	Anthracene-D10	1517-22-2	90
10.3991	11.9024	4757	2-Pentene, 2,4-dimethyl-	625-65-0	90
10.1771	5.8206	2326	Cyclohexane, 1-methyl-2-propyl-	4291-79-6	88
10.1201	2.5498	1019	2-Nonene, 3-methyl-, (E)-	17003-99-5	84
10.0468	2.3373	934	Hydroperoxide, 1-ethylbutyl	24254-56-6	85
10.7306	1.8940	757	2,4-Hexadien-1-ol	111-28-4	87
10.1651	0.6094	244	2-Propanone, 1-methoxy-	5878-19-3	82

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank B1\_41138

	Area				
Retention	(% of	Concentration			<b>Match Quality</b>
Time	total)	(ng/L)	Library/ID	Cas Number	(%)
34.8456	2.1122	1111	Anthracene-D10	1517-22-2	90
10.4002	9.1209	4798	2-Pentene, 2,4-dimethyl-	625-65-0	90
10.1770	6.2969	3312	m-Menthane, (1S,3S)-(+)-	13837-67-7	89
10.1202	2.3524	1237	Octane, 3-methyl-6-methylene-	74630-07-2	88
10.0480	1.8008	947	Hydroperoxide, 1-ethylbutyl	24254-56-6	82
10.7690	1.2610	663	2-Pentene, 3,4-dimethyl-, (E)-	4914-92-5	84
10.7691	1.1482	604	Cyclohexane, methyl-	108-87-2	84
10.2315	0.4050	213	1-Hexene, 4,5-dimethyl-	16106-59-5	80
10.8834	0.2061	108	Cyclohexane, nitro-	1122-60-7	85

Concentration estimated using the response for Anthracene-d10

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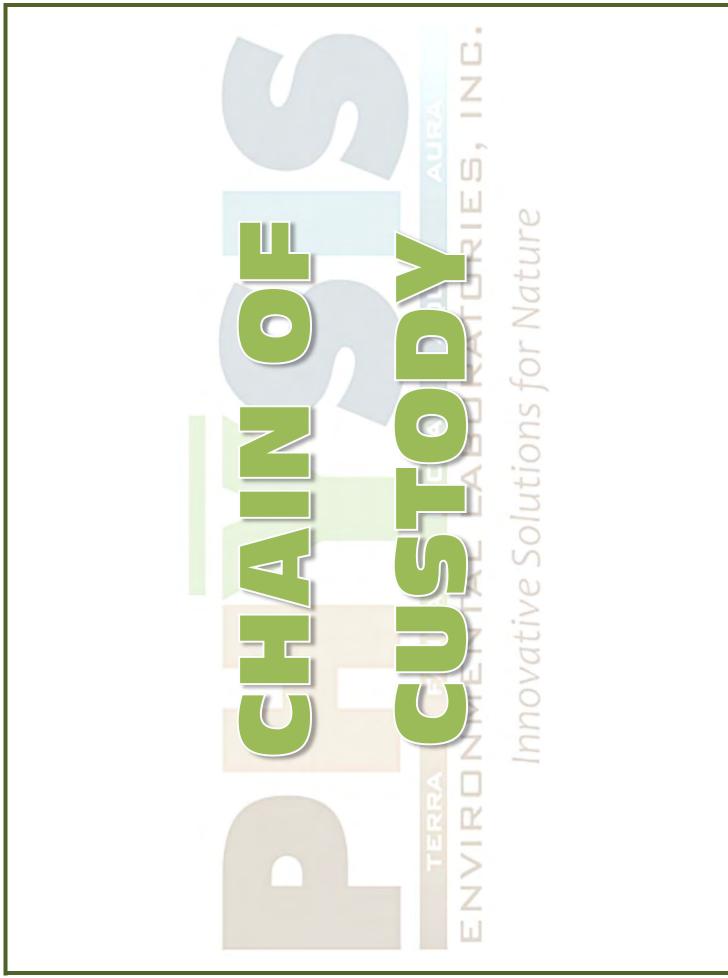
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# 941 Corporate Center Drive **Eurofins Eaton Analytical Pomona**

Pomona, CA 91768-2642 Phone: 626-386-1100

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Sample Identification - Client ID (Lab ID)	Sample Date	Time	G=grab) B	5	-	sι	Ph	H	L	L	L		Г	Т	$\vdash$	L			H	L		Tr	۲	Special Instructions/Note:	/Note:
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**Environment Testing** 

💸 eurofins



Project Iteration ID: 1407003-413

Client Name:

**Eurofins Eaton Analytical** 

Project Name:

RED-HILL Project # 38001111 Job

# 380-53453-1

COC Page Number: 2 of 2

Sample	Recei	pt S	umn	nary
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1. Initials Received By:
2. Date Received: 7/7/23
3. Time Received: 1135
4. Client Name: Etrofia
5. Courier Information: (Please circle)
Offent     UPS     Area Fast     DRS
• FedEx • GSO/GLS • Ontrac • PAMS
PHYSIS Driver:
i. Start Time: iii. Total Mileage:
ii. End Time: iv. Number of Pickups:
<ol><li>Container Information: (Please put the # of containers or circle none)</li></ol>
•Cooler     • Boxes     • None
• Carboy(s) •Carboy Trash Can(s) • Carboy Cap(s) • Other
7. What type of ice was used: (Please circle any that apply)
Wet ice     Blue ice     Dry ice     Water     None
8. Randomly Selected Samples Temperature (°C): <u>D-9</u> Used I/R Thermometer # <u>1</u> - Z
Inspection Info
1. Initials Inspected By: L6#
1. Initials inspected by.
Sample Integrity Upon Receipt:
1. COC(s) included and completely filled out
2. All sample containers arrived intact
3. All samples listed on COC(s) are present
4. Information on containers consistent with information on COC(s)
5. Correct containers and volume for all analyses indicated
6. All samples received within method holding time
7. Correct preservation used for all analyses indicated
8. Name of sampler included on COC(s)
Notes:

P:\Sample Logistics (SL)\SRS

Page 1 of 1

#### Monrovia, CA (Suite 100)

750 Royal Oaks Drive Suite 100 Monrovia, CA 91016

#### **Chain of Custody Record**

eurofins Environment Testing America

Phone (626) 386-1100																
Client Information	Sampler	ELP.			ab PM: rada, Ra	achelle	9					Ca	rrier Tracking	No(s):		COC No: 380-27941-2757.2
Dirent Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840			E-	Mail: achelle.			euror	nisus	com		St	ate of Origin:			Page: Page 1 of 2
Company. City & County of Honolulu	1000 / 10 00 10		PWSID:		1	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(ag Ott.	00101			eie F	Sean	ested			Job #:
Address:	Due Date Request	ed:	1		3		T	T		lary	313 1	tega	Julia		ds	Preservation Codes:
630 South Beretania Street; Chemistry Lab	TAT Daniel de de				_										1	A - HCL M - Hexane N - None
čity: Honolulu	TAT Requested (d	ays):				TICs		or Oil		7						B - NaOH O - AsNaO2 C - Zn Acetate P - Na2O4S
tate, Zip: 11, 96843	Compliance Proje	ct: A No			$\dashv$	+	(EAL)	Motor		Gas (Purgeable) LL (EAL)						D - Nitric Add Q - Na2SO3 E - NaHSO4 R - Na2S2O3
hone: 08-748-5091 (tel)	PO #: C20525101 exp	05312023				(EAL)	11(6	L) and	TICs	ole) Li						G - Amchlor S - H2SO4
mail:	WO #:	00012020				sis LL	(Purgable)	L (EA	T SU.	rgeat						I - Ice U - Acetone
enstemacher@hbws.org roject Name:	Project #:				es or	Phys		sel	us PL	s (Pu	Full List				ers	K - EDTA V - Trizma
RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill	38001111				<u>ح</u>	0 (Yes or No) 625 PAH Physis	8015 Gas	5 Diesel	25pl		7.1 FL				ntair	L - EDA Z - other (specify)
ite:	SSOW#:				Sample	0		- 8915	(dol	- 8015	5 - 537.1	S			of co	Other:
		Sample	Туре	Matrix (w=water, S=solid, D=waste/oil	ered	SUBCONTRACT -	SUBCONTRACT	SUBCONTRACT	525.2_PREC - (MOD) 525plus PLUS	SUBCONTRACT	537.1_DW_PREC	3 - All Analytes			Total Number	
Sample Identification	Sample Date	Time		Tissue, A=		1	1	1	-			533		1 100	P P	Special Instructions/Note:
MOANALUA WELLS	3-Jul-2023	1/1/10	Preservatio	Water	<del>I Y</del>	2 R	R	RA 2	2	RA 4	Y	N				11 2701 11711 11170
HALAWA WELLS UNITS 1&2 P	3-Jul-2023	1034	7	Water	++	2	-	2	2	4						#11-7726 4746 4472
INDIAWA WEELS STATE THE P	3-341-2023	1004	7	- Tuto	++	12	-	4	4	4	-					(752A) 2.8° - 0.7° = 2.6°
					+	-	-					-				#2- 7726 4746 5582
					+	-	-					-	-			(752A) 3-1°-0.2°-3.5°
					+	-	-				_	_				43-7726 4746 5126
					$\perp \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \! \!$	-	ļ							_		(752A)18°-0.2°=1.6°
B MOANALUA WELLS	3-Jul-2023	1008		Water			_			2		_	<b>1/2002</b>	2		#4-7726 4746 6464
B HALAWA WELLS UNITS 1&2	3-Jul-2023	1034		Water						2		_				(752A)1.5°-0.2°=1.3°
														æ _		A5-7726 4746 6670
												3	80-53453	coc	1	(752A) 2.3° -0.2° = 2.1°
												-	1 1			
Possible Hazard Identification					S						nay b			Γ		ned longer than 1 month)
─ Non-Hazard	oison B Unki	nown	Radiological		Ş	pecial		-	Client		guire		oosal By L	ab	Arch	hive For Months
impty Kit Relinquished by:		Date:					_				-1-11-01		Method of	Shinment -		
elinquished by:	Date/Time:	1	1 co	mpany	Time		ei/ed l	Dy:	1				Wicanou of	Date/Time:	ED E)	Coolers 1
DAILEY	05tUU202	3	400 HB	ws		1/	7	X		S.P	ETT	NEF		07/06	2023	5 09:50 EEAP
elinquished by:	Date/Time:		Cor	mpany		Rec	eived t	oy:	A					Date/Time:		Company
elinquished by <sup>.</sup>	Date/Time.		Cor	mpany		Rec	eived i	oy:						Date/Time.		Company
Custody Seals Intact: Custody Seal No.:						Coo	ler Ter	nperat	ture(s)	°C and	d Othe	r Rema	ks:	1		A OEL-
Δ Yes Δ No			———Р:	age 8	37 of	89-							(752	A) - C	).2	COPRECTION   FROLES

#### Monrovia, CA (Suite 100)

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

#### **Chain of Custody Record**

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Client Contact: Dr. Ron Fenstermacher	Phone: 808-748-5840	1		E-Ma	iil: helle. <i>F</i>	Arada	@et e	euror	nisus	com		St	ate of Orig	n:			Page: Page 2 of 2
Company:	12221100010		PWSID:	11.00	1		J. U.									_	Job #:
City & County of Honolulu  Address:	Due Date Request	ed:	1				T		Αı	nalys	SIS F	kequ	ested				Preservation Codes:
630 South Beretania Street; Chemistry Lab																	A - HCI M - Hexane
Sity: Honolulu	TAT Requested (d	ays):						ō									B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zip:						TICs	AL)	Diesel LL (EAL) and Motor Oil		Gas (Purgeable) LL (EAL)							D - Nitric Acid P - Na2O4S
HI, 96843 Phone:	Compliance Proje	ct: A No				LL (EAL) +	- 8015 Gas (Purgable ) LL (EAL)	and A		LL (						10	E - NaHSO4 R - Na2S2O3 S - H2SO4
808-748-5091 (tel)	C20525101 exp	05312023			0	LL (E	ple )	EAL)	TICS	able						E	H - Ascorbic Acid
mail: fenstemacher@hbws.org	WO #:				N (o		urga	1	SUJ	urge	ist						I DI Water V - MCAA
Project Name:	Project #:				Yes	625 PAH Physis	as (P	ese	sulo F	as (F						containers	W - pH 4-5  K - EDTA Y - Trizma  L - EDA 7 - Trizma
RED-HILL/HBWS sites Event Desc: RUSH Weekly Red Hill lite:	38001111 SSOW#:				ple (	5 PA	15 G	8915 D	525	15 G	37.1					onta	Z - other (specify)  Other:
	000,000				Sam			T - 89	MOD)	T - 80	C - 5.	S S				0	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oll, BT=Tissue, A=Air)	Field Filtered Samp	SUBCONTRACT	SUBCONTRACT	SUBCONTRACT -	525.2_PREC - (MOD) 525plus PLUS TICs	SUBCONTRACT - 8015	537.1_DW_PREC - 537.1 Full List	533 - All Analytes				Total Number	Special Instructions/Note:
		><	1	ation Code:		R		RA				N		= 17, 2		X	
MOANALUA WELLS	3-Jul-2023	1008	G	Water	П						3	3			1	1	HI- 7926 4746 4472
HALAWA WELLS UNITS 1&2	3-Jul-2023	1084	G	Water							3	3					(75ZA) 2.8° -0.2° - 2.6°
																*	12-7726 4746 5582
																	(752A) 3.7° - 0.2° - 3.5°
																1	13-7726 4746 5126
FB MOANALUA WELLS	3-Jul-2023	1008		Water							1	1					(752A) 1.8" - 0.2" = 1.6"
B HALAWA WELLS UNITS 1&2	3-Jul-2023	1034		Water							1	1				. 1	44-7726 4746 6464
																	(752A) 1.5° - 0.2° -1.3°
																	15-77264746 6670
																1.	752A)23" 0.2"=2.1"
															1		
Possible Hazard Identification		1	1		Sa	ample	Dis	oosa	I ( A	fee m	ay b	e ass	essed if	samples a	are retai	ine	d longer than 1 month)
Non-Hazard Flammable Skin Irritant	Poison B Unkr	nown	Radiologica	a/			Returr	то (	Clien	t	С	] <sub>Disi</sub>	oosal By				ve For Months
Deliverable Requested: I, II, III, IV, Other (specify)					Sp	pecial	Instr	uctio	ns/Q	C Req	uirer	ments					
Empty Kit Relinquished by:		Date:			Time	:	1		1	1			Method	of Shipment:	FED	Ex	5 COOLERS 1
telinquished by:	Date/Time:	77	1400	Company			11	у: —	1		2-			Date/Tim	e.	10.17	Company
elinquished by:	Date/Time:	(10)	1400	Company	-	Rece	eived b	y:	Y	0	KE	772	FR	Date/Tim		225	Company
	0.45				1												
Relinquished by:	Date/Time:			Company		Rece	eived b	iy:						Date/Tim	e.		Company
Custody Seals Intact: Custody Seal No.:						Cool	or Ton	norat	uso(n)	°C and	Othor	r Rema	ke:	1			PRECTION " PROZENJE

#### **Login Sample Receipt Checklist**

Client: City & County of Honolulu Job Number: 380-53453-2

Login Number: 53453 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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