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ANALYTICAL REPORT

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Laboratory Job ID: 380-11218-1
Client Project/Site: RED-HILL
Revision: 1

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

Attn: Mr. Erwin Kawata

Authorized for release by:
10/14/2022 6:43:36 PM
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Designee for

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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)

Kathleen Robb
Client Program Manager
10/14/2022 6:43:36 PM

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Definitions/Glossary

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

Job ID: 380-11218-1

Qualifiers

Subcontract

Qualifier	Qualifier Description
U	This analyte was not detected.

Glossary

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

Case Narrative

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

Job ID: 380-11218-1

Job ID: 380-11218-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative
380-11218-1

Comments
No additional comments.

Receipt
The samples were received on 7/20/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1º C.

Receipt Exceptions
Method Subcontract: Sample container(s) were not received for DRO/MRO/JP5/JP8.

Subcontract non-Sister
See attached subcontract report.

Subcontract Work
Methods 8015 Ethanol, 8015 Gas (Purgeable) LL (EAL): These methods were subcontracted to EMAX Laboratories Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Methods 625 Acid LL (EAL) Physis, 625 Base Neutral LL (EAL) Physis, 625 PAH Physis LL (EAL) + TICs: These methods were subcontracted to Physis Environmental Laboratories. The subcontract laboratory certifications are different from that of the facility issuing the final report.

Detection Summary

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

Job ID: 380-11218-1

Client Sample ID: HALAWA SHAFT VIEWING POOL (331-241-TP401)

Lab Sample ID: 380-11218-1

No Detections.

Client Sample ID: TB::HALAWA SHAFT SHAFT VIEWING POOL (331-241-TP401)

Lab Sample ID: 380-11218-2

No Detections.

This Detection Summary does not include radiochemical test results.

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

Job ID: 380-11218-1

Client Sample ID: HALAWA SHAFT VIEWING POOL (331-241-TP401)
Date Collected: 07/18/22 09:45
Date Received: 07/20/22 10:00

Lab Sample ID: 380-11218-1
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Acenaphthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Biphenyl	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Chrysene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/25/22 00:00	07/31/22 13:50	1
Fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Fluorene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Naphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Phenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1
Pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*89*		*45 - 118*	*07/25/22 00:00*	*07/31/22 13:50*	*1*
(d10-Phenanthrene)	*90*		*56 - 123*	*07/25/22 00:00*	*07/31/22 13:50*	*1*
(d12-Chrysene)	*92*		*36 - 142*	*07/25/22 00:00*	*07/31/22 13:50*	*1*
(d12-Perylene)	*79*		*36 - 161*	*07/25/22 00:00*	*07/31/22 13:50*	*1*
(d8-Naphthalene)	*84*		*20 - 112*	*07/25/22 00:00*	*07/31/22 13:50*	*1*

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			07/26/22 16:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/22/22 23:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*87*		*60 - 140*		*07/22/22 23:32*	*1*

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

Job ID: 380-11218-1

Client Sample ID: TB::HALAWA SHAFT SHAFT VIEWING POOL (331-241-TP401)
Date Collected: 07/18/22 09:45
Date Received: 07/20/22 10:00

Lab Sample ID: 380-11218-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/23/22 00:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE	*86*		*60 - 140*		*07/23/22 00:07*	*1*

Surrogate Summary

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

Job ID: 380-11218-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		ANT	CRY	NPT	PHN	PRY
Lab Sample ID	Client Sample ID	(45-118)	(36-142)	(20-112)	(56-123)	(36-161)
380-11218-1	HALAWA SHAFT VIEWING PO(	89	92	84	90	79

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)				
		ANT	CRY	NPT	PHN	PRY
Lab Sample ID	Client Sample ID	(65-113)	(60-139)	(44-119)	(80-111)	(36-161)
98652-B1	Method Blank	98	92	99	97	87
98652-BS1	Lab Control Sample	101	101	98	98	87
98652-BS2	Lab Control Sample Dup	100	107	98	99	85

Surrogate Legend

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

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)
380-11218-1	HALAWA SHAFT VIEWING PO(	87
380-11218-2	TB::HALAWA SHAFT SHAFT VIEWING POOL (331-241-TP401)	86

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
Lab Sample ID	Client Sample ID	
22VGH7G04B	Method Blank	

Surrogate Legend

BFB = BROMOFLUOROBENZENE

Surrogate Summary

Client: City & County of Honolulu
Job ID: 380-11218-1
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								
Lab Sample ID	Client Sample ID	(70-130)								
22VGH7G04C	LCD	112								
22VGH7G04L	Lab Control Sample	110								

Surrogate Legend

BFB = BROMOFLUOROBENZENE

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

Lab Sample ID: 98652-B1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Blank Result	Blank Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
1-Methylphenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,3,5-Trimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2,6-Dimethylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
2-Methylnaphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Acenaphthylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benz[a]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[a]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[b]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[e]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[g,h,i]perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Benzo[k]fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Biphenyl	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Chrysene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenz[a,h]anthracene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzo[a,l]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Dibenzothiophene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Disalicylidenepropanediamine	ND		0.1	0.05	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluoranthene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Fluorene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Indeno[1,2,3-cd]pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Naphthalene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Perylene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Phenanthrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1
Pyrene	ND		0.005	0.001	µg/L		07/25/22 00:00	07/31/22 06:55	1

Surrogate	*Blank %Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
(d10-Acenaphthene)	*98*		*65 - 113*	*07/25/22 00:00*	*07/31/22 06:55*	*1*
(d10-Phenanthrene)	*97*		*80 - 111*	*07/25/22 00:00*	*07/31/22 06:55*	*1*
(d12-Chrysene)	*92*		*60 - 139*	*07/25/22 00:00*	*07/31/22 06:55*	*1*
(d12-Perylene)	*87*		*36 - 161*	*07/25/22 00:00*	*07/31/22 06:55*	*1*
(d8-Naphthalene)	*99*		*44 - 119*	*07/25/22 00:00*	*07/31/22 06:55*	*1*

Lab Sample ID: 98652-BS1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1-Methylnaphthalene	0.5	0.478		µg/L		96	49 - 117
1-Methylphenanthrene	0.5	0.414		µg/L		83	66 - 127
2,3,5-Trimethylnaphthalene	0.5	0.453		µg/L		91	57 - 120
2,6-Dimethylnaphthalene	0.5	0.463		µg/L		93	54 - 117
2-Methylnaphthalene	0.5	0.484		µg/L		97	47 - 130
Acenaphthene	0.5	0.471		µg/L		94	53 - 131
Acenaphthylene	0.5	0.475		µg/L		95	43 - 140
Anthracene	0.5	0.434		µg/L		87	58 - 135

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

Lab Sample ID: 98652-BS1
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benz[a]anthracene			0.5	0.401		µg/L		80	55 - 145		
Benzo[a]pyrene			0.5	0.415		µg/L		83	51 - 143		
Benzo[b]fluoranthene			0.5	0.496		µg/L		99	46 - 165		
Benzo[e]pyrene			0.5	0.454		µg/L		91	42 - 152		
Benzo[g,h,i]perylene			0.5	0.438		µg/L		88	63 - 133		
Benzo[k]fluoranthene			0.5	0.445		µg/L		89	56 - 145		
Biphenyl			0.5	0.485		µg/L		97	56 - 119		
Chrysene			0.5	0.432		µg/L		86	56 - 141		
Dibenz[a,h]anthracene			0.5	0.437		µg/L		87	55 - 150		
Dibenzo[a,l]pyrene			0.25	0.202		µg/L		81	50 - 150		
Dibenzothiophene			0.5	0.449		µg/L		90	75 - 113		
Disalicylidenepropanediamine			10	9.48		µg/L		95	50 - 150		
Fluoranthene			0.5	0.436		µg/L		87	60 - 146		
Fluorene			0.5	0.469		µg/L		94	58 - 131		
Indeno[1,2,3-cd]pyrene			0.5	0.435		µg/L		87	50 - 151		
Naphthalene			0.5	0.479		µg/L		96	41 - 126		
Perylene			0.5	0.397		µg/L		79	48 - 141		
Phenanthrene			0.5	0.458		µg/L		92	67 - 127		
Pyrene			0.5	0.411		µg/L		82	54 - 156		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
(d10-Acenaphthene)	*101*		*65 - 113*
(d10-Phenanthrene)	*98*		*80 - 111*
(d12-Chrysene)	*101*		*60 - 139*
(d12-Perylene)	*87*		*36 - 161*
(d8-Naphthalene)	*98*		*44 - 119*

Lab Sample ID: 98652-BS2
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1-Methylnaphthalene			0.5	0.48		µg/L		96	49 - 117	0	30
1-Methylphenanthrene			0.5	0.431		µg/L		86	66 - 127	4	30
2,3,5-Trimethylnaphthalene			0.5	0.466		µg/L		93	57 - 120	2	30
2,6-Dimethylnaphthalene			0.5	0.47		µg/L		94	54 - 117	1	30
2-Methylnaphthalene			0.5	0.489		µg/L		98	47 - 130	1	30
Acenaphthene			0.5	0.472		µg/L		94	53 - 131	0	30
Acenaphthylene			0.5	0.478		µg/L		96	43 - 140	1	30
Anthracene			0.5	0.447		µg/L		89	58 - 135	2	30
Benz[a]anthracene			0.5	0.43		µg/L		86	55 - 145	7	30
Benzo[a]pyrene			0.5	0.436		µg/L		87	51 - 143	5	30
Benzo[b]fluoranthene			0.5	0.531		µg/L		106	46 - 165	7	30
Benzo[e]pyrene			0.5	0.48		µg/L		96	42 - 152	5	30
Benzo[g,h,i]perylene			0.5	0.444		µg/L		89	63 - 133	1	30
Benzo[k]fluoranthene			0.5	0.473		µg/L		95	56 - 145	7	30
Biphenyl			0.5	0.489		µg/L		98	56 - 119	1	30
Chrysene			0.5	0.449		µg/L		90	56 - 141	5	30

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

Lab Sample ID: 98652-BS2
Matrix: water
Analysis Batch: O-38064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: O-38064_P

Analyte			Spike Added	LCS DUP Result	LCS DUP Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]anthracene			0.5	0.438		µg/L		88	55 - 150	1	30
Dibenzo[a,l]pyrene			0.25	0.213		µg/L		85	50 - 150	5	30
Dibenzothiophene			0.5	0.459		µg/L		92	75 - 113	2	30
Disalicylidenepropanediamine			10	9.77		µg/L		98	50 - 150	3	30
Fluoranthene			0.5	0.441		µg/L		88	60 - 146	1	30
Fluorene			0.5	0.474		µg/L		95	58 - 131	1	30
Indeno[1,2,3-cd]pyrene			0.5	0.435		µg/L		87	50 - 151	0	30
Naphthalene			0.5	0.478		µg/L		96	41 - 126	0	30
Perylene			0.5	0.421		µg/L		84	48 - 141	6	30
Phenanthrene			0.5	0.468		µg/L		94	67 - 127	2	30
Pyrene			0.5	0.421		µg/L		84	54 - 156	2	30

Surrogate	*LCS DUP %Recovery*	*LCS DUP Qualifier*	*Limits*
(d10-Acenaphthene)	*100*		*65 - 113*
(d10-Phenanthrene)	*99*		*80 - 111*
(d12-Chrysene)	*107*		*60 - 139*
(d12-Perylene)	*85*		*36 - 161*
(d8-Naphthalene)	*98*		*44 - 119*

Method: 8015 Ethanol - SW846 8015B Gasoline Range Organics

Lab Sample ID: 22MEG003WB
Matrix: WATER
Analysis Batch: 22MEG003W

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ETHANOL	ND	U	2000		ug/L			07/26/22 11:42	1

Lab Sample ID: 22MEG003WL
Matrix: WATER
Analysis Batch: 22MEG003W

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
ETHANOL			10000	9140		ug/L		91	60 - 130		

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

Lab Sample ID: 22VGH7G04B
Matrix: WATER
Analysis Batch: 22VGH7G04

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GASOLINE	ND	U	0.02		mg/L			07/22/22 14:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
BROMOFLUOROBENZENE					*07/22/22 14:05*	*1*

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

Lab Sample ID: 22VGH7G04L
Matrix: WATER
Analysis Batch: 22VGH7G04

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
GASOLINE			0.5	0.455		mg/L		91	60 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
BROMOFLUOROBENZENE	*110*		*70 - 130*

QC Association Summary

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

Job ID: 380-11218-1

Subcontract

Analysis Batch: O-38064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11218-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Water	625 Base Neutral LL (EAL) Physis	O-38064_P
98652-B1	Method Blank	Total/NA	water	625 Base Neutral LL (EAL) Physis	O-38064_P
98652-BS1	Lab Control Sample	Total/NA	water	625 Base Neutral LL (EAL) Physis	O-38064_P
98652-BS2	Lab Control Sample Dup	Total/NA	water	625 Base Neutral LL (EAL) Physis	O-38064_P

Analysis Batch: 22MEG003W

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11218-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Water	8015 Ethanol	
22MEG003WB	Method Blank	Total/NA	WATER	8015 Ethanol	
22MEG003WL	Lab Control Sample	Total/NA	WATER	8015 Ethanol	

Analysis Batch: 22VGH7G04

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11218-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
380-11218-2	TB::HALAWA SHAFT SHAFT VIEWING POOL (3	Total/NA	Water	8015 Gas (Purgeable) LL (EAL)	
22VGH7G04B	Method Blank	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	
22VGH7G04L	Lab Control Sample	Total/NA	WATER	8015 Gas (Purgeable) LL (EAL)	

Prep Batch: O-38064_P

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-11218-1	HALAWA SHAFT VIEWING POOL (331-241-TP4	Total/NA	Water	EPA_625	
98652-B1	Method Blank	Total/NA	water	EPA_625	
98652-BS1	Lab Control Sample	Total/NA	water	EPA_625	
98652-BS2	Lab Control Sample Dup	Total/NA	water	EPA_625	

Lab Chronicle

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

Job ID: 380-11218-1

Client Sample ID: HALAWA SHAFT VIEWING POOL (331-241-TP401)

Lab Sample ID: 380-11218-1

Date Collected: 07/18/22 09:45
Date Received: 07/20/22 10:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	EPA_625		1	O-38064_P			07/25/22 00:00
Total/NA	Analysis	625 Base Neutral LL (EAL) Physis		1	O-38064	YC		07/31/22 13:50
Total/NA	Analysis	8015 Ethanol		1	22MEG003W	ASitu		07/26/22 16:53
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7G04	SCerva		07/22/22 23:32

Client Sample ID: TB::HALAWA SHAFT SHAFT VIEWING POOL (331-241-TP401)

Lab Sample ID: 380-11218-2

Date Collected: 07/18/22 09:45
Date Received: 07/20/22 10:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8015 Gas (Purgeable) LL (EAL)		1	22VGH7G04	SCerva		07/23/22 00:07

Laboratory References:

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

Method Summary

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

Job ID: 380-11218-1

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

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

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

Job ID: 380-11218-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
380-11218-1	HALAWA SHAFT VIEWING POOL (331-241-TP401)	Water	07/18/22 09:45	07/20/22 10:00
380-11218-2	TB::HALAWA SHAFT SHAFT VIEWING POOL (331-241-TP401)	Water	07/18/22 09:45	07/20/22 10:00

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 08-17-2022
EMAX Batch No.: 22G215

Attn: Jackie Contreras

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

Subject: Laboratory Report
Project: 380-11218

Enclosed is the Laboratory report for samples received on 07/22/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
380-11218-1	G215-01	07/18/22	WATER	TPH GASOLINE
				ETHANOL
380-11218-2	G215-02	07/18/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

for CP

Caspar J. Pang
Laboratory Director

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

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

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

226215

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-13746.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: EMAX Laboratories Inc		Accreditations Required (See note): State - Hawaii		Job #: 380-11218-1
Address: 3051 Fujita Street, ,	Due Due Requested: 8/3/2022			
City: Torrance	TAT Requested (days):			
State, Zip: CA, 90505				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (8015 Ethanol)/ 8015 Ethanol	SUB (8015 Gas (Purgeable) LL (EAL))/ 8015 Gas (Purgeable) LL (EAL)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
HALAWA SHAFT (331-241-TP401) (380-11218-1)	7/18/22	09:45 Hawaiian		Water			X	X	3	See Attached Instructions
TB::HALAWA SHAFT (331-241-TP401) (380-11218-2)	7/18/22	09:45 Hawaiian		Water				X	2	See Attached Instructions

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	7/22/22 1015	EMAX	Alan R.	7/22/22 1015	Emax
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.1/4.9 ① 4.7/4.5 ②

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10/14/2022 (Rev. 1)

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 226215
☐ Fedex ☐ UPS ☐ GSO ☐ Others		Recipient Alan Ramos
☐ EMAX Courier ☒ Client Delivery		Date 07/22/22 Time 10:15

COC INSPECTION

☒ Client Name	☒ Client PM/FC	☐ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☐ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☐ Preservative (if any)	☒ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☒ Cooler	☐ Box	☐ Other		
Condition *Correction	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging Factor.	☒ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures -0.2	☒ Cooler 1 5.1/4.9 °C	☒ Cooler 2 4.7/4.5 °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
(Cool, ≤6 °C but not frozen)	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 210583479	(B) *S/N* 210760237	*C - S/N* 2102713999	*D - S/N* _____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	5	D1		R1
2	7,8	D22	2nd Date reads: 7/8/22	R8
1		D8	Ethanol	↓
1	5-6	D9	2-1L w/Sod. Thiosulfate and HCl	R8

7/22/22

AB 7/22/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
(D1)	Analysis is not indicated in (gbc)
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 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

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
(D22)	2nd date on label is incorrect
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☒ COC ☐ Label
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	Informed Client.
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling Marla Rivera — Date 07/22/22 7/22/22

SRF — Date 7/22/22

PM — Date 7/22/22

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.
B	B	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.

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11218

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

SDG#: 22G215

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11218

SDG : 22G215

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

A total of two(2) water samples were received on 07/22/22 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. VGH7G04B - 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. VGH7G04L/VGH7G04C 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 G209-01M/G209-01S. 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.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : EUROFINS EATON ANALYTICAL
Project : 380-11218

SDG NO. : 22G215
Instrument ID : H7

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VGH7G04B	1	NA	07/22/2214:05	07/22/2214:05	AG22005A	AG22004A	22VGH7G04	Method Blank
LCS1W	VGH7G04L	1	NA	07/22/2214:40	07/22/2214:40	AG22006A	AG22004A	22VGH7G04	Lab Control Sample (LCS)
LCD1W	VGH7G04C	1	NA	07/22/2215:16	07/22/2215:16	AG22007A	AG22004A	22VGH7G04	LCS Duplicate
380-11218-1	G215-01	1	NA	07/22/2223:32	07/22/2223:32	AG22021A	AG22014A	22VGH7G04	Field Sample
380-11218-2	G215-02	1	NA	07/23/2200:07	07/23/2200:07	AG22022A	AG22014A	22VGH7G04	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/18/22 09:45
Project	: 380-11218	Date Received:	07/22/22
Batch No.	: 22G215	Date Extracted:	07/22/22 23:32
Sample ID	: 380-11218-1	Date Analyzed:	07/22/22 23:32
Lab Samp ID:	G215-01	Dilution Factor:	1
Lab File ID:	AG22021A	Matrix:	WATER
Ext Btch ID:	22VGH7G04	% Moisture:	NA
Calib. Ref.:	AG22014A	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	0.0349	0.0400	87	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

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/18/22 09:45
Project	: 380-11218	Date Received:	07/22/22
Batch No.	: 22G215	Date Extracted:	07/23/22 00:07
Sample ID	: 380-11218-2	Date Analyzed:	07/23/22 00:07
Lab Samp ID:	G215-02	Dilution Factor:	1
Lab File ID:	AG22022A	Matrix:	WATER
Ext Btch ID:	22VGH7G04	% Moisture:	NA
Calib. Ref.:	AG22014A	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	0.0343	0.0400	86	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

QC SUMMARIES

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

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/22/22 14:05
Project	: 380-11218	Date Received:	07/22/22
Batch No.	: 22G215	Date Extracted:	07/22/22 14:05
Sample ID	: MBLK1W	Date Analyzed:	07/22/22 14:05
Lab Samp ID:	VGH7G04B	Dilution Factor:	1
Lab File ID:	AG22005A	Matrix:	WATER
Ext Btch ID:	22VGH7G04	% Moisture:	NA
Calib. Ref.:	AG22004A	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	0.0336	0.0400	84	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

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-11218
BATCH NO. : 22G215
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: VGH7G04B	VGH7G04L	VGH7G04C
LAB FILE ID	: AG22005A	AG22006A	AG22007A
DATE PREPARED	: 07/22/22 14:05	07/22/22 14:40	07/22/22 15:16
DATE ANALYZED	: 07/22/22 14:05	07/22/22 14:40	07/22/22 15:16
PREP BATCH	: 22VGH7G04	22VGH7G04	22VGH7G04
CALIBRATION REF	: AG22004A	AG22004A	AG22004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.455	91	0.500	0.440	88	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0438	110	0.0400	0.0446	112	70-130

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

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL
PROJECT : 380-11135
BATCH NO. : 22G209
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: 380-11135-1	380-11135-1MS	380-11135-1MSD
LAB SAMPLE ID	: G209-01	G209-01M	G209-01S
LAB FILE ID	: AG22010A	AG22011A	AG22012A
DATE PREPARED	: 07/22/22 17:02	07/22/22 17:38	07/22/22 18:13
DATE ANALYZED	: 07/22/22 17:02	07/22/22 17:38	07/22/22 18:13
PREP BATCH	: 22VGH7G04	22VGH7G04	22VGH7G04
CALIBRATION REF	: AG22004A	AG22004A	AG22004A

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	0.443	89	0.500	0.430	86	3	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0442	111	0.0400	0.0428	107	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

380-11218

METHOD SW8015C
ALCOHOLS BY GC

SDG#: 22G215

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 380-11218

SDG : 22G215

METHOD SW8015C
ALCOHOLS BY GC

One(1) water sample was received on 07/22/22 to be analyzed for Alcohols by GC in accordance with Method SW8015C and project specific requirements.

Holding Time
The sample was analyzed out of 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. MEG003WB - 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. MEG003WL/MEG003WC 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. Ethanol was within MS QC limits in G238-01M/G238-01S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
ALCOHOLS BY GC

Client : EUROFINS EATON ANALYTICAL
Project : 380-11218

SDG NO. : 22G215
Instrument ID : GCT050

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	MEG003WB	1	NA	07/26/2211:42	NA	TG26004A	TG26002A	MEG003W	Method Blank
LCS1W	MEG003WL	1	NA	07/26/2211:57	NA	TG26005A	TG26002A	MEG003W	Lab Control Sample (LCS)
LCD1W	MEG003WC	1	NA	07/26/2212:11	NA	TG26006A	TG26002A	MEG003W	LCS Duplicate
380-11218-1	G215-01	1	NA	07/26/2216:53	NA	TG26013A	TG26010A	MEG003W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW8015C
ALCOHOLS BY GC

Client	: EUROFINS EATON ANALYTICAL	Date Collected:	07/18/22
Project	: 380-11218	Date Received:	07/22/22
Batch No.	: 22G215	Date Extracted:	NA
Sample ID:	380-11218-1	Date Analyzed:	07/26/22 16:53
Lab Samp ID:	G215-01	Dilution Factor:	1
Lab File ID:	TG26013A	Matrix :	WATER
Ext Btch ID:	MEG003W	% Moisture :	NA
Calib. Ref.:	TG26010A	Instrument ID :	GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANOL	ND	2000	500

RL : Reporting Limit

QC SUMMARIES

METHOD SW8015C
ALCOHOLS BY GC

Client : EUROFINS EATON ANALYTICAL	Date Collected: NA
Project : 380-11218	Date Received: NA
Batch No. : 22G215	Date Extracted: NA
Sample ID: MBLK1W	Date Analyzed: 07/26/22 11:42
Lab Samp ID: MEG003WB	Dilution Factor: 1
Lab File ID: TG26004A	Matrix : WATER
Ext Btch ID: MEG003W	% Moisture : NA
Calib. Ref.: TG26002A	Instrument ID : GCT050

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ETHANOL	ND	2000	500

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-11218
BATCH NO.: 22G215
METHOD: METHOD SW8015C

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	MEG003WB	MEG003WL	MEG003WC		
LAB FILE ID:	TG26004A	TG26005A	TG26006A		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	NA
DATE ANALYZED:	07/26/2211:42	07/26/2211:57	07/26/2212:11	DATE RECEIVED:	NA
PREP. BATCH:	MEG003W	MEG003W	MEG003W		
CALIB. REF:	TG26002A	TG26002A	TG26002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9140	91	10000	8960	90	2	60-130	30

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL
PROJECT: 380-11532
BATCH NO.: 22G238
METHOD: METHOD SW8015C

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	380-11532-1				
LAB SAMP ID:	G238-01	G238-01M	G238-01S		
LAB FILE ID:	TG26007A	TG26008A	TG26009A		
DATE EXTRACTED:	NA	NA	NA	DATE COLLECTED:	07/20/22
DATE ANALYZED:	07/26/2212:27	07/26/2212:40	07/26/2212:53	DATE RECEIVED:	07/25/22
PREP. BATCH:	MEG003W	MEG003W	MEG003W		
CALIB. REF:	TG26002A	TG26002A	TG26002A		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethanol	ND	10000	9900	99	10000	9320	93	6	60-130	30

August 08, 2022

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

Project Name: RED-HILL Project # 38001111 Job # 380-11218-1
Physis Project ID: 1407003-252

Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 7/22/2022. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

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

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

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

Regards,

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

PROJECT SAMPLE LIST

Eurofins Eaton Analytical

PHYSIS Project ID: 1407003-252

RED-HILL Project # 38001111 Job # 380-11218-1

Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
98653	HALAWA SHAFT	331-241-T P401 (380-11218-1)	7/18/2022	9:45	Samplewater	Not Specified

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ABBREVIATIONS and ACRONYMS

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

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QUALITY ASSURANCE SUMMARY

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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PHYSIS QUALIFIER CODES

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

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CASE NARRATIVE

QUALIFIER NOTES

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

ND

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

ANALYTICAL REPORT

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 98653-R1	**HALAWA SHAFT 331-241-T P401 (3**		**Matrix: Samplewater**					**Sampled:**	**18-Jul-22 9:45**	**Received:**	**22-Jul-22**
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total		O-38064	25-Jul-22	31-Jul-22

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Sample ID: 98653-R1	**HALAWA SHAFT 331-241-T P401 (3**	**Matrix: Samplewater**					**Sampled:**	**18-Jul-22**	**9:45**	**Received:**	**22-Jul-22**
(d10-Acenaphthene)	EPA 625.1	% Recovery	89	1			Total		O-38064	25-Jul-22	31-Jul-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	90	1			Total		O-38064	25-Jul-22	31-Jul-22
(d12-Chrysene)	EPA 625.1	% Recovery	92	1			Total		O-38064	25-Jul-22	31-Jul-22
(d12-Perylene)	EPA 625.1	% Recovery	79	1			Total		O-38064	25-Jul-22	31-Jul-22
(d8-Naphthalene)	EPA 625.1	% Recovery	84	1			Total		O-38064	25-Jul-22	31-Jul-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benzo[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benzo[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benzo[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benzo[g,h,i]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Benzo[k]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22

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Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
Fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-38064	25-Jul-22	31-Jul-22

QUALITY CONTROL REPORT

Base/Neutral Extractable Compounds QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98652-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38064			Prepared: 25-Jul-22				Analyzed: 31-Jul-22	
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L								
Sample ID: 98652-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38064			Prepared: 25-Jul-22				Analyzed: 31-Jul-22	
Disalicylidenepropanediamin	Total	9.48	1	0.05	0.1	µg/L	10	0	95	50 - 150%	PASS			
Sample ID: 98652-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**						**Received:**	
		Method: EPA 625.1				Batch ID: O-38064			Prepared: 25-Jul-22				Analyzed: 31-Jul-22	
Disalicylidenepropanediamin	Total	9.77	1	0.05	0.1	µg/L	10	0	98	50 - 150%	PASS	3	30 PASS	

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98652-B1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-38064		Prepared: 25-Jul-22				Analyzed: 31-Jul-22	
(d10-Acenaphthene)	Total	98	1			% Recovery	100	98		65 - 113%		PASS	
(d10-Phenanthrene)	Total	97	1			% Recovery	100	97		80 - 111%		PASS	
(d12-Chrysene)	Total	92	1			% Recovery	100	92		60 - 139%		PASS	
(d12-Perylene)	Total	87	1			% Recovery	100	87		36 - 161%		PASS	
(d8-Naphthalene)	Total	99	1			% Recovery	100	99		44 - 119%		PASS	
1-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
1-Methylphenanthrene	Total	ND	1	0.001	0.005	µg/L							
2,3,5-Trimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2,6-Dimethylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
2-Methylnaphthalene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthene	Total	ND	1	0.001	0.005	µg/L							
Acenaphthylene	Total	ND	1	0.001	0.005	µg/L							
Anthracene	Total	ND	1	0.001	0.005	µg/L							
Benz[a]anthracene	Total	ND	1	0.001	0.005	µg/L							
Benzo[a]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[b]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Benzo[e]pyrene	Total	ND	1	0.001	0.005	µg/L							
Benzo[g,h,i]perylene	Total	ND	1	0.001	0.005	µg/L							
Benzo[k]fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Biphenyl	Total	ND	1	0.001	0.005	µg/L							
Chrysene	Total	ND	1	0.001	0.005	µg/L							
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L							
Dibenzo[a,l]pyrene	Total	ND	1	0.001	0.005	µg/L							

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

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

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS	PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98652-BS1	**QAQC Procedural Blank**					**Matrix: BlankMatrix**	**Sampled:**					**Received:**	
		Method: EPA 625.1				Batch ID: O-38064			Prepared: 25-Jul-22			Analyzed: 31-Jul-22	
(d10-Acenaphthene)	Total	101	1			% Recovery	100	0	101	65 - 113%	PASS		
(d10-Phenanthrene)	Total	98	1			% Recovery	100	0	98	80 - 111%	PASS		
(d12-Chrysene)	Total	101	1			% Recovery	100	0	101	60 - 139%	PASS		
(d12-Perylene)	Total	87	1			% Recovery	100	0	87	36 - 161%	PASS		
(d8-Naphthalene)	Total	98	1			% Recovery	100	0	98	44 - 119%	PASS		
1-Methylnaphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	49 - 117%	PASS		
1-Methylphenanthrene	Total	0.414	1	0.001	0.005	µg/L	0.5	0	83	66 - 127%	PASS		
2,3,5-Trimethylnaphthalene	Total	0.453	1	0.001	0.005	µg/L	0.5	0	91	57 - 120%	PASS		
2,6-Dimethylnaphthalene	Total	0.463	1	0.001	0.005	µg/L	0.5	0	93	54 - 117%	PASS		
2-Methylnaphthalene	Total	0.484	1	0.001	0.005	µg/L	0.5	0	97	47 - 130%	PASS		
Acenaphthene	Total	0.471	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS		
Acenaphthylene	Total	0.475	1	0.001	0.005	µg/L	0.5	0	95	43 - 140%	PASS		
Anthracene	Total	0.434	1	0.001	0.005	µg/L	0.5	0	87	58 - 135%	PASS		
Benz[a]anthracene	Total	0.401	1	0.001	0.005	µg/L	0.5	0	80	55 - 145%	PASS		
Benzo[a]pyrene	Total	0.415	1	0.001	0.005	µg/L	0.5	0	83	51 - 143%	PASS		
Benzo[b]fluoranthene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	46 - 165%	PASS		
Benzo[e]pyrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	42 - 152%	PASS		
Benzo[g,h,i]perylene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	63 - 133%	PASS		
Benzo[k]fluoranthene	Total	0.445	1	0.001	0.005	µg/L	0.5	0	89	56 - 145%	PASS		
Biphenyl	Total	0.485	1	0.001	0.005	µg/L	0.5	0	97	56 - 119%	PASS		
Chrysene	Total	0.432	1	0.001	0.005	µg/L	0.5	0	86	56 - 141%	PASS		
Dibenz[a,h]anthracene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	55 - 150%	PASS		
Dibenzo[a,l]pyrene	Total	0.202	1	0.001	0.005	µg/L	0.25	0	81	50 - 150%	PASS		

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Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	75 - 113%	PASS			
Fluoranthene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	60 - 146%	PASS			
Fluorene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	58 - 131%	PASS			
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS			
Naphthalene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS			
Perylene	Total	0.397	1	0.001	0.005	µg/L	0.5	0	79	48 - 141%	PASS			
Phenanthrene	Total	0.458	1	0.001	0.005	µg/L	0.5	0	92	67 - 127%	PASS			
Pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	54 - 156%	PASS			

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

PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Sample ID: 98652-BS2	**QAQC Procedural Blank**					**Matrix: BlankMatrix**		**Sampled:**				**Received:**		
		Method: EPA 625.1				Batch ID: O-38064		Prepared: 25-Jul-22				Analyzed: 31-Jul-22		
(d10-Acenaphthene)	Total	100	1			% Recovery	100	0	100	65 - 113%	PASS	1	30	PASS
(d10-Phenanthrene)	Total	99	1			% Recovery	100	0	99	80 - 111%	PASS	1	30	PASS
(d12-Chrysene)	Total	107	1			% Recovery	100	0	107	60 - 139%	PASS	6	30	PASS
(d12-Perylene)	Total	85	1			% Recovery	100	0	85	36 - 161%	PASS	2	30	PASS
(d8-Naphthalene)	Total	98	1			% Recovery	100	0	98	44 - 119%	PASS	0	30	PASS
1-Methylnaphthalene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	49 - 117%	PASS	0	30	PASS
1-Methylphenanthrene	Total	0.431	1	0.001	0.005	µg/L	0.5	0	86	66 - 127%	PASS	4	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.466	1	0.001	0.005	µg/L	0.5	0	93	57 - 120%	PASS	2	30	PASS
2,6-Dimethylnaphthalene	Total	0.47	1	0.001	0.005	µg/L	0.5	0	94	54 - 117%	PASS	1	30	PASS
2-Methylnaphthalene	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	47 - 130%	PASS	1	30	PASS
Acenaphthene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	94	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	43 - 140%	PASS	1	30	PASS
Anthracene	Total	0.447	1	0.001	0.005	µg/L	0.5	0	89	58 - 135%	PASS	2	30	PASS
Benz[a]anthracene	Total	0.43	1	0.001	0.005	µg/L	0.5	0	86	55 - 145%	PASS	7	30	PASS
Benzo[a]pyrene	Total	0.436	1	0.001	0.005	µg/L	0.5	0	87	51 - 143%	PASS	5	30	PASS
Benzo[b]fluoranthene	Total	0.531	1	0.001	0.005	µg/L	0.5	0	106	46 - 165%	PASS	7	30	PASS
Benzo[e]pyrene	Total	0.48	1	0.001	0.005	µg/L	0.5	0	96	42 - 152%	PASS	5	30	PASS
Benzo[g,h,i]perylene	Total	0.444	1	0.001	0.005	µg/L	0.5	0	89	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	56 - 145%	PASS	7	30	PASS
Biphenyl	Total	0.489	1	0.001	0.005	µg/L	0.5	0	98	56 - 119%	PASS	1	30	PASS
Chrysene	Total	0.449	1	0.001	0.005	µg/L	0.5	0	90	56 - 141%	PASS	5	30	PASS
Dibenz[a,h]anthracene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	55 - 150%	PASS	1	30	PASS
Dibenzo[a,l]pyrene	Total	0.213	1	0.001	0.005	µg/L	0.25	0	85	50 - 150%	PASS	5	30	PASS

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PHYSIS Project ID: 1407003-252
Client: Eurofins Eaton Analytical
Project: RED-HILL Project # 38001111 Job # 380-11218-1

Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	ACCURACY LIMITS		PRECISION %	PRECISION LIMITS	QA CODEc
Dibenzothiophene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	75 - 113%	PASS	2	30	PASS
Fluoranthene	Total	0.441	1	0.001	0.005	µg/L	0.5	0	88	60 - 146%	PASS	1	30	PASS
Fluorene	Total	0.474	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	PASS	1	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.435	1	0.001	0.005	µg/L	0.5	0	87	50 - 151%	PASS	0	30	PASS
Naphthalene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	41 - 126%	PASS	0	30	PASS
Perylene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	48 - 141%	PASS	6	30	PASS
Phenanthrene	Total	0.468	1	0.001	0.005	µg/L	0.5	0	94	67 - 127%	PASS	2	30	PASS
Pyrene	Total	0.421	1	0.001	0.005	µg/L	0.5	0	84	54 - 156%	PASS	2	30	PASS

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TENTATIVELY IDENTIFIED COMPOUNDS

Sample ID: 98653

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6448	5.8734	1111	Anthracene-D10-	1719-06-8	93
43.1776	1.5205	288	Terephthalic acid, isobutyl butyl ester	1000323-56-2	94
14.9730	1.1514	218	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	83
25.1161	0.8583	162	Diethyl Phthalate	84-66-2	98
14.8112	0.5863	111	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	82
64.5789	0.5748	109	1,4-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	6422-86-2	93
15.6917	0.5068	96	3-Octene, 2,2-dimethyl-	86869-76-3	80

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-38064

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
32.6440	5.5511	1111	Anthracene-D10-	1719-06-8	96
14.9715	1.2315	246	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	82
14.9715	1.2098	242	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	82
43.1778	0.9236	185	Terephthalic acid, isobutyl butyl ester	1000323-56-2	95
60.3753	0.7547	151	Heneicosane	629-94-7	91
14.8120	0.6560	131	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	83
25.1154	0.6335	127	Diethyl Phthalate	84-66-2	99
66.0814	0.5730	115	Heneicosane	629-94-7	94
15.6916	0.5092	102	3-Octene, 2,2-dimethyl-	86869-76-3	84

Concentration estimated using the response for Anthracene-d10

CHAIN OF CUSTODY

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 Information (Sub Contract Lab)	Sampler:	Lab PM: Frank, Debbie L	Carrier Tracking No(s):	COC No: 380-13748.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Debbie.Frank@et.eurofinsus.com	State of Origin: Hawaii	Page: Page 1 of 1
Company: Physis Environmental Laboratories		Accreditations Required (See note): State - Hawaii		Job #: 380-11218-1
Address: 1904 Wright Circle, ,	Due Date Requested: 8/3/2022			
City: Anaheim	TAT Requested (days):			
State, Zip: CA, 92806				
Phone:	PO #:			
Email:	WO #:			
Project Name: RED-HILL	Project #: 38001111			
Site: Honolulu BWS Sites	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (625 Acid LL (EAL) Physis)/ 625 Acid LL (EAL) Physis	SUB (625 Base Neutral LL (EAL) Physis)/ 625 Base Neutral LL (EAL) Physis	SUB (625 PAH Physis LL (EAL) + TICs)/ 625 PAH Physis LL (EAL) + TICs	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
HALAWA SHAFT (331-241-TP401) (380-11218-1)	7/18/22	09:45 Hawaiian		Water			X	X	X	5	See Attached Instructions

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

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	7/22/22 1153	CEA	[signature]	7/22/22 1153	Physis
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.
Innovative Solutions for Nature

PHYSIS
ENVIRONMENTAL LABORATORIES, INC.

Project Iteration ID: 1407003-252
Client Name: Eurofins Eaton Analytical
Project Name: RED-HILL Project # 38001111
Job # 380-11218-1
COC Page Number: 2 of 2
Bottle Label Color: NA

Sample Receipt Summary

Receiving Info

1. Initials Received By: [redacted]
2. Date Received: 7/22/22
3. Time Received: 1153
4. Client Name: Eurofins
5. ~~Courier~~ Information: (Please circle)
   - Client
   - UPS
   - Area Fast
   - DRS
   - FedEx
   - GSO/GLS
   - Ontrac
   - PAMS
   - PHYSIS Driver:
     - i. Start Time:_____
     - ii. End Time:_____
     - iii. Total Mileage: _____
     - iv. Number of Pickups:_____
6. Container Information: (Please put the # of containers or circle none)
   - 3 Cooler
   - __ Styrofoam Cooler
   - ____ Boxes
   - None
   - ___ Carboy(s)
   - __Carboy Trash Can(s)
   - ____ Carboy Cap(s)
   - Other _____
7. ~~What type~~ of ice was used: (Please circle any that apply)
   - Wet Ice
   - Blue Ice
   - Dry Ice
   - Water
   - None
8. Randomly Selected Samples Temperature (°C): 1.2 Used I/R Thermometer # I-2

Inspection Info

1. Initials Inspected By: [redacted]

Sample Integrity Upon Receipt:

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

Notes:

Cancelled

CHAIN OF CUSTODY RECORD

eurofins | E

750 Royal Oaks Drive, S
Monrovia, CA 91016-362

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

380-11218 COC

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: M

SAMPLES LOGGED IN BY: GS

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

SAMPLE TEMP RECEIVED AT:

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

☑ Monrovia 2.1 °C (Compliance: 4 ± 2 °C)

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

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: BWS HONOLULU	**PROJECT CODE:** Red Hill Special
EEA CLIENT CODE:	**COC ID:**
	SAMPLE GROUP: Quarterly_RED_HILL (2022)

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

(check for yes) (check for yes)

COMPLIANCE SAMPLES ☐ **NON-COMPLIANCE SAMPLES** X

- Requires state forms ☐ REGULATION INVOLVED: _____

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

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

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

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	Subcon-625 Acid LL (EAL) Physics (4x1L)	Subcon PAH Physics LL (EAL) + TIC (2x1L)	No Analysis on Bottle(comment:2mL 50% HCl on side (Glass	Subcon 8015 Ethanol (4x40mL)	Subcon GAC (											SAMPLER COMMENTS
07/18/22	945	Halawa Shaft Static (Viewing Pool)		RGW			X	X	X	X	X											Halawa Shaft- Static Sample (Viewing Pool)
																						Temp Blank:__°C

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

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:		Olaf Happe	Honolulu Board of Water Supply	7/18/2022	945
RELINQUISHED BY:		Olaf Happe	Honolulu Board of Water Supply	7/18/2022	1130
RECEIVED BY:				7.20.22	1000
RELINQUISHED BY:					
RECEIVED BY:					

10/4/2022 (rev. 1)

PAGE 1 OF 1

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INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:
Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.
SAMPLES REC'D DAY OF COLLECTION? Yes / (No)

IR Gun ID = 630 (Observation= 2.3 °C) (Corr.Factor -0.2 °C) (Final = 2.1 °C)

TYPE OF ICE: Real ____ Synthetic ✓ No Ice ____ **CONDITION OF ICE:** Frozen ✓ Partially Frozen ____ Thawed ____ N/A ____

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

Compliance Acceptance Criteria:

1) **Chemistry:** >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)

2) **Microbiology, Distribution:** < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)

3) **Microbiology, Surface Water:** < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation= ____ °C) (Corr.Factor ____ °C) (Final = ____ °C)	2 = (Observation= ____ °C) (Corr.Factor ____ °C) (Final = ____ °C)
3 = (Observation= ____ °C) (Corr.Factor ____ °C) (Final = ____ °C)	4 = (Observation= ____ °C) (Corr.Factor ____ °C) (Final = ____ °C)

4 **Dioxin (1613 or 2,3,7,8 TCDD):** must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) **pH Check.** Manufacturer: ________ Lot Number: ________ pH strip type: 0 - 14 or ________ Expiration Date ________ Results: ________

6) **Chlorine check.** Manufacturer: Sansafe. Lot No.: ________ Expiration Date: ________ Results ________

7) **VOA and Radon Headspace:** **No Samples with Headspace:** ☐ **Samples with Headspace (see below):** ☐

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 515.4, HAA(6251,552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	None/<6 mm	>6mm	Test

Samp ID	Bottle #	None/<6 mm	>6mm	Test

Samp ID	Bottle #	None/<6 mm	>6mm	Test

Samp ID	Bottle #	None/<6 mm	>6mm	Test

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors): ________

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RECEIVED BY:	[signature]	[illegible]	Eurofins Eaton Analytical	7-20-22	1010
SAMPLES CHECKED AGAINST COC BY:	[signature]		Eurofins Eaton Analytical		

QA FO-FRM5504 (9.28.21) Ver 9

Page ___ of ___

ORIGIN ID:HIKA (808) 748-5840
BWS CHEMLAB
HONOLULU BOARD OF WATER SUPPLY
630 S. BERETANIA ST.
CHEMICAL LABORATORY
HONOLULU, HI 96843
UNITED STATES US

SHIP DATE: 19JUL22
ACTWGT: 75.00 LB
CAD: 100205419/INET4490

BILL RECIPIENT

TO C CHUCK
EUROFINS EATON ANALYTICAL, INC
750 ROYAL OAKS DR
SUITE 100
MONROVIA CA 91016
(626) 386-1178
INV
PO
REF
DEPT

581J20A92FE4A

FedEx Express

J22202041201uu

WED - 20 JUL 10:30A
PRIORITY OVERNIGHT

4 of 12
MPS# 7774 2766 5549
0263
Mstr# 7774 2766 5413
0201

91016
CA-US BUR

WZ WHPA

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-11218-1

Login Number: 11218
List Number: 1
Creator: Sanchez Velasquez, Gustavo

List Source: Eurofins Eaton Monrovia

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
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	