

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (866) 988-3757  
1 800 566 LABS (1 800 566 5227)

## Laboratory Report

for

Honolulu Board of Water Supply  
630 South Beretania Street  
Public Service Bldg." Room 308  
Honolulu, HI 96843  
Attention: Erwin Kawata  
Fax: 808-550-5018

Date of Issue  
04/04/2022

*Rinda Seddas*  
EUROFINS EATON  
ANALYTICAL, LLC



Utah ELCP CA00006

DEB: Debbie L Frank  
Project Manager

Report: 989088  
Project: RED-HILL  
Group: Red-Hill Expanded List (Albuquerque+)

\* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

\* Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis.

\* As applicable, this report consists of the cover page, State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms.

\* Test results relate only to the sample(s) tested.

\* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

\* This report shall not be reproduced except in full, without the written approval of the laboratory.

\* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

## STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	NE-OS-21-13
Arkansas	CA00006	Nevada	CA00006
California	2813	New Hampshire *	2959
Colorado	CA00006	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	CA00006
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	21-008R	Ohio - 537.1	87786
Hawaii	CA00006	Oregon *	4034
Idaho	CA00006	Pennsylvania *	68-00565
Illinois	200033	Puerto Rico	CA00006
Indiana	C-CA-01	Rhode Island	LAO00326
Iowa – Asbestos	413	South Carolina	87016
Kansas *	E-10268	South Dakota	CA11320
Kentucky	90107	Tennessee	TN02839
Louisiana *	LA008	Texas *	T104704230-20-18
Maine	CA00006	Utah (Primary AB) *	CA00006
Maryland	224	Vermont	VT0114
Marianas Islands	MP0004	Virginia *	460260
Massachusetts	M-CA006	Washington	C838
Michigan	9906	EPA Region 5	CA00006
Mississippi	CA00006	Los Angeles County Sanitation Districts	10264

\* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025:2017 Accredited Method List

The test listed below are accredited and met the requirements of ISO/IEC 17025 as verify by A2LA.

Refer to our certificates and scope of accreditations (no. 5890-1 and 5890-2) found at:

<https://www.eurofinsus.com/Eaton>

Test(s)	Method(s)	Potable Water *	Waste Water
Enterococci	Enterolert	x	x
Escherichia coli (Enumeration)	SM 9221 B.1 SM 9221 F	x	
Fecal Coliform (P/A and Enumeration)	SM 9221 C (MTF/EC), SM 9221 E (MTF/EC)	x	x
Fecal Streptococci and Enterococci	SM 9230 B	x	x
Heterotrophic Bacteria	SM 9215 B	x	
Legionella	Legiolert®	x	
Pseudomonas aeruginosa	Idexx Pseudalert	x	
Total Coliform (P/A and Enumeration)	SM 9221A, SM 9221B, SM 9221 C	x	x
Total Coliform, Total Coliform with Chlorine Present	SM 9221 B	x	x
Total Coliform/E. coli (P/A and Enumeration, Idexx Colilert, Idexx Colilert 18, Colisure)	SM 9223	x	
Total Microcystins and Nodularins	EPA 546	X	
Yeast and Mold	SM 9610	x	
1,2,3-Trichloropropane (TCP) at 5 PPT	CA SRL 524M-TCP	x	
1,4-Dioxane	EPA 522	x	
2,3,7,8-TCDD	Modified EPA 1613 B	x	
Acrylamide	+ LCMS 2440)	x	
Algal Toxins/Microcys in	+ LCMS 3570	x	
Alkalinity	SM 2320B	x	x
Ammonia	EPA 350.1, SM 4500-NH3 H		x
Asbestos	EPA 100.2	x	x
Bicarbonate Alkalinity as HCO3	SM 2330 B	x	x
BOD/CBOD	SM 5210 B		x
Bromate	+ LCMS- 2447	x	
Carbonate as CO3	SM 2330 B	x	x
Carbonyls	EPA 556	x	x
Chemical Oxygen Demand	EPA 410.4, SM 5220D		x
Chlorinated Acids	EPA 515.4	x	
Chlorine Dioxide	Palin Test Chlordio X Plus, SM 4500-CLO2 D	x	
Chlorine, Free, Combined, Total Residual, Chloramines	SM 4500-Cl G	x	
Color	SM2120B	x	
Conductivity	EPA 120.1, SM 2510B	x	x
Corrosivity (Langelier Index), Carbonate as CO3, Hydroxide as OH Calculated	SM 2330 B	x	
Cyanide (Amenable)	SM 4500-CN G	x	x
Cyanide (Free)	SM 4500CN F	x	x
Cyanide (Total)	EPA 335.4	x	x
Cyanogen Chloride (Screen)	+ 335 Mod (WC-24467)	x	
Diquat and Paraquat	EPA 549.2	x	
DBP and HAA	SM 6251 B	x	
Dissolved Organic Carbon	SM 5310 C	x	
Dissolved Oxygen	SM 4500-O G		x
EDB/DCBP/TCP	EPA 504.1	x	
EDB/DBCP and Disinfection Byproducts	EPA 551.1	x	
EDTA and NTA	+ WC-2454	x	
Endothall	EPA 548.1, +(LCMS-2445)	x	
Fluoride	SM 4500F C	x	x
Glyphosate	EPA 547	x	
Glyphosate and AMPA	+ LCMS-3618	x	
Gross Alpha and Gross Beta	EPA 900.0	x	x

Test(s)	Method(s)	Potable Water *	Waste Water
Gross Alpha coprecipitation	SM 7110 C	x	x
Hardness	SM 2340 B	x	x
Hexavalent Chromium	EPA 218.6,	x	x
Hexavalent Chromium	EPA 218.7,	x	
Hexavalent Chromium	SM 3500-Cr B		x
Inorganic Anions and DBPs	EPA 300.0	x	x
Norganic Anions and DBPs	EPA 300.1	x	
Kjeldahl Nitrogen	EPA 351.2		x
Metals	EPA 200.7, EPA200.8	x	x
Nitrosamines	EEA-Agilent 521.1 (GCMS-24250)	x	
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x
Odor	SM2150B	x	
Organohalide Pesticides and PCB	EPA 505	x	
Ortho Phosphate	SM 4500P E	x	
Oxyhalides Disinfect ion Byproducts	EPA 317.0	x	
Perchlorate	EPA 331.0	x	
Perchlorate (Low and High Levels)	EPA 314.0	x	
Perfluorinated Alkyl Acids	EPA 533, EPA 537, EPA 537.1	x	
PPCP and EDC	+ LCMS-2443	x	
pH	EPA 150.1 SM 4500-H+ B	x	x
Phenolics – Low Level	+WC 2493 (EPA 420.2 and EPA 420.4 MOD)	x	x
Phenylurea Pesticides/Herbicides	+ LCMS-2448	x	
Radium-226, Radium-228	GA Tech (Rad-2374)	x	
Radon-222	SM 7500RN	x	
Residue (Filterable)	SM 2540C	x	x
Residue (Non-Filterable)	SM 2540D		x
Residue (Total)	SM 2540B		x
Residue (Volatile)	EPA 160.4		x
Semi-Volatile Compounds	EPA 525.2	x	
Silica	SM 4500-SiO2 C	x	x
Sulfide	SM 4500-S D		x
Sulfite	SM 4500-SO3 B	x	x
Surfactants	SM 5540C	x	x
Taste and Odor	SM 6040 E	x	
Total Organic Carbon	SM 5310 C	x	x
Total Phenols	EPA 420.1		x
Total Phenols	EPA 420.4	x	x
Triazine Pesticides and their Degradates	+ LCMS-3617	x	
Turbidity	EPA 180.1	x	x
Uranium by ICP/MS	EPA 200.8	x	
UV 254 Organic Constituents	SM 5910B	x	
VOCs	EPA 524.2	x	
VOCs	+(GCMS 2412) by EPA 524.2 modified	x	

(\* ) includes: Bottled Water, Drinking Water and Water as Component of Food & Beverage.

(+ ) In-House Method

### Acknowledgement of Samples Received

Addr: **Honolulu Board of Water Supply**  
 630 South Beretania Street  
 Public Service Bldg." Room 308  
 Honolulu, HI 96843

Attn: Erwin Kawata  
 Phone: 808-748-5091

Client ID: HONOLULU  
 Folder #: 989088  
 Project: RED-HILL  
 Sample Group: Red-Hill Expanded List  
 (Albuquerque+)  
 Project Manager: Debbie L Frank  
 Phone: (626) 386-1149  
 PO #: C20525101 exp 05312023

The following samples were received from you on **February 23, 2022 at 1535**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
202202231101	HALAWA SHAFT-331-241-TP401	02/21/2022 0940
	@625A_Physis C (SUB)Gas Fraction Hydrocarbons TPH 8015 Jet Fuel 5	@625BN_Physis C Miscellaneous Charges TPH 8015 Jef Fuel 8
		@625PAH_Physis_TICS_C TPH 8015 Diesel and Motor Oil
202202231102	TRAVEL BLANK::HALAWA SHAFT-331-241-TP401	02/21/2022 0940
	(SUB)Gas Fraction Hydrocarbons	

#### Test Description

- @625A\_Physis C -- 625 Acid Extractable in ug/L
- @625BN\_Physis C -- 625 Base Neutral Extractable in ug/L
- @625PAH\_Physis\_TICS\_C -- 625PAH in ug/L





Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: 181056

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 = 401 (Observation = 5.3 °C) (Corr.Factor -0.2 °C) (Final = 5.1 °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(6251,652), 505, SPME,@CH, 522LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients: None/<6 mm

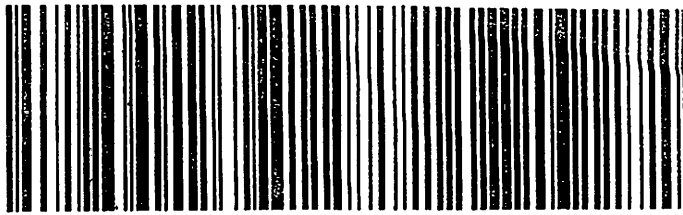
Samp ID	Bottle #	None/<6 mm	>6mm	Test	Samp ID	Bottle #	None/<6 mm	>6mm	Test

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

RECEIVED BY: Chuck Brack SIGNATURE PRINT NAME COMPANY/TITLE Eurofins Eaton Analytical DATE 2.23.22 TIME 1535

SAMPLES CHECKED AGAINST COC BY: \_\_\_\_\_ SIGNATURE PRINT NAME COMPANY/TITLE Eurofins Eaton Analytical DATE \_\_\_\_\_ TIME \_\_\_\_\_

2/22/22, 11:47 AM



CA-US  
BUR  
91016

**WZ WHPA**

## MASTER ##

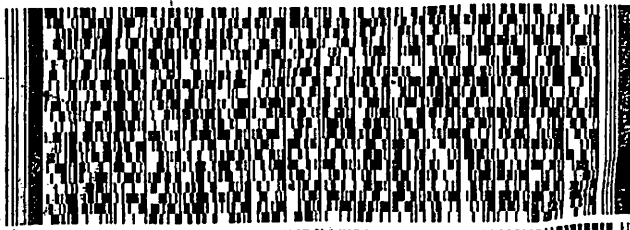
TRK# 0201 7761 1325 9791

1 of 2

PRIORITY OVERNIGHT

WED - 23 FEB 10:30A

FedEx Ship Manager - Print Your Label(s)



DEPT

PO

INV

(626) 386-1178

REF MONROVIA CA 91016

SUITE 100

750 ROYAL OAKS DR

EUROFINS EATON ANALYTICAL, INC

TO C CHUCK

UNITED STATES US

HONOLULU HI 96843

CHEMICAL LABORATORY

630 S. BERETANIA ST.

HONOLULU BOARD OF WATER SUPPLY

BWS CHEMLAB

(808) 748-5840

560.D2027CFE4A

BILL RECIPIENT

SHIP DATE: 22FEB22  
ACTWGT: 63.00 LB  
CAD: 100205419/NET4460

Tel: (626) 386-1100  
Fax: (866) 988-3757  
1 800 566 LABS (1 800 566 5227)

**Laboratory Comments**

**Report:** 989088  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
(Albuquerque+)

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**Folder Comments**

Results for TPH Gas, Diesel, Motor Oil and Jet Fuels are submitted by Emax in Torrance CA  
Results for 625 BNA are submitted by Physis Environmental

Add 625BN for BCEE February monitoring start, per Erwin Kawata.





Eaton Analytical

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Laboratory Hits

**Report:** 989088  
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**Honolulu Board of Water Supply**  
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630 South Beretania Street  
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Honolulu, HI 96843

Samples Received on:  
02/23/2022 1535

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Analyzed	Analyte	Sample ID	Result	HI Limit	Units	MRL
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**SUMMARY OF POSITIVE DATA ONLY**

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**Honolulu Board of Water Supply**  
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Samples Received on:  
 02/23/2022 1535

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<b>HALAWA SHAFT-331-241-TP401 (202202231101)</b>						<b>Sampled on 02/21/2022 0940</b>			
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
02/24/22	02/24/22 19:56			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1
<b>SW 8015B - TPH 8015 Diesel and Motor Oil</b>									
02/24/22	02/25/22 17:18			(SW 8015B)	TPH Diesel	ND	mg/L	0.024	1
02/24/22	02/25/22 17:18			(SW 8015B)	TPH Motor Oil	ND	mg/L	0.048	1
<b>EPA 8015 - Jet Fuel 5 C8-C18</b>									
02/24/22	02/25/22 17:18			(EPA 8015)	Jet Fuel 5	ND	mg/L	0.048	1
<b>EPA 625 - 625PAH in ug/L</b>									
03/17/22	03/17/22 00:00			(EPA 625)	1-Methylnaphthalene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	1-Methylphenanthrene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	2,3,5-Trimethylnaphthalene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	2,4,6-Trichlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,6-Dimethylnaphthalene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	2-Methylnaphthalene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Acenaphthene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Acenaphthylene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Anthracene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benz(a)Anthracene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzo(a)pyrene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzo(b)fluoranthene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzo(e)pyrene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzo(g,h,i)perylene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzo(k)fluoranthene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Biphenyl	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Chrysene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Dibenz(a,h)Anthracene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Dibenzo(a,l)pyrene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Dibenzothiophene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Fluoranthene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Fluorene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Naphthalene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Pentachlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	Perylene	ND	ug/L	0.005	1
03/17/22	03/17/22 00:00			(EPA 625)	Phenanthrene	ND	ug/L	0.005	1

Rounding on totals after summation.  
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

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 02/23/2022 1535

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
03/17/22	03/17/22 00:00			(EPA 625)	Pyrene	ND	ug/L	0.005	1
<b>EPA 8015 - Jet Fuel 8 C8-C18</b>									
	02/25/22 17:18			(EPA 8015)	Jet Fuel 8	ND	mg/L	0.048	1
<b>EPA 625 - 625 Acid Extractable in ug/L</b>									
03/17/22	03/17/22 00:00			(EPA 625)	2,4,5-Trichlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,4,6-Trichlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,4-Dichlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,4-Dinitrophenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	2,6-Dichlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,6-Di-tert-butyl-4-methylphenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2,6-Di-tert-butylphenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2-Chlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	2-Methylphenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	2-Nitrophenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	4,6-Dinitro-2-methylphenol	NA	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	4-Chloro-3-methyl phenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	4-Methylphenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	4-Nitrophenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	6-tert-Butyl-2,4-dimethylphenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzoic acid	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	Benzyl alcohol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	pentachlorophenol	ND	ug/L	0.1	1
03/17/22	03/17/22 00:00			(EPA 625)	Phenol	ND	ug/L	0.2	1
03/17/22	03/17/22 00:00			(EPA 625)	p-tert-Butylphenol	ND	ug/L	0.1	1
<b>EPA 625 - 625 Base Neutral Extractable in ug/L</b>									
02/24/22	03/17/22 00:00			(EPA 625)	2-Chloronaphthalene	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	2-Nitroaniline	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	3-Nitroaniline	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	4-Bromophenylphenyl Ether	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	4-Chlorophenylphenyl Ether	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	4-Nitroaniline	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	Aniline	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	Benzidine	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	bis(2-Chloroethoxy)methane	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	bis(2-Chloroethyl)ether	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	bis(2-Chloroisopropyl) ether	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	Dibenzofuran	ND	ug/L	0.1	1

Rounding on totals after summation.  
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

Tel: (626) 386-1100  
 Fax: (626) 988-3757  
 1 800 566 LABS (1 800 566 5227)

Laboratory Data

**Report:** 989088  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
 (Albuquerque+)

**Honolulu Board of Water Supply**  
 Erwin Kawata  
 630 South Beretania Street  
 Public Service Bldg." Room 308  
 Honolulu, HI 96843

Samples Received on:  
 02/23/2022 1535

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
02/24/22	03/17/22 00:00			(EPA 625)	Disalicylideneopropanediamine	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	Hexachloroethane	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	Nitrobenzene	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	N-Nitrosodi-N-propylamine	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	N-Nitrosodiphenylamine	ND	ug/L	0.1	1
02/24/22	03/17/22 00:00			(EPA 625)	p-Chloroaniline	ND	ug/L	0.1	1
<b>TRAVEL BLANK::HALAWA SHAFT-331-241-TP401 (202202231102)</b>						<b>Sampled on 02/21/2022 0940</b>			
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
02/24/22	02/24/22 21:45			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1

Rounding on totals after summation.  
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.



Eaton Analytical

Tel: (626) 386-1100  
Fax: (626) 988-3757  
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

**Report:** 989088  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
(Albuquerque+)

**Honolulu Board of Water Supply**  
Erwin Kawata  
630 South Beretania Street  
Public Service Bldg.” Room 308  
Honolulu, HI 96843

Samples Received on:  
02/23/2022 1535

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
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March 23, 2022

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

Project Name: Folder # 989088 Job # 1000014  
 Physis Project ID: 1407003-221

Dear Debbie,

Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 2/24/2022. A total of 1 sample was received for analysis in accordance with the attached chain of custody (COC). Per the COC, the sample was analyzed for:

Organics
Polynuclear Aromatic Hydrocarbons by EPA 625.1
Disalicylidenepropanediamine by EPA 625.1
Dibenzo [a,l] Pyrene w/ PAHs by EPA 625.1
Base/Neutral Extractable Compounds by EPA 625.1
Acid Extractable Compounds w/ PAHs by EPA 625.1
6-tert-Butyl-2,4-dimethylphenol by EPA 625.1
2,6-Di-tert-butylphenol by EPA 625.1
2,6-Di-tert-butyl-4-methylphenol by EPA 625.1
p-tert-Butylphenol 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  
 Folder # 989088 Job # 1000014

PHYSIS Project ID: 1407003-221  
 Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
95432	202202231101	HALAWA SHAFT-331-241-TP401	2/21/2022	9:40	Samplewater	Not Specified

## ABBREVIATIONS and ACRONYMS

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



## QUALITY ASSURANCE SUMMARY

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

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

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

**PRECISION:** Precision is the agreement among a set of replicate measurements without assumption of knowledge of the true value and is based on RPD calculations between repeated values. Precision of the project data was determined by analysis of replicate MS<sub>1</sub>/MS<sub>2</sub>, BS<sub>1</sub>/BS<sub>2</sub>, LCS<sub>1</sub>/LCS<sub>2</sub>, LCM<sub>1</sub>/LCM<sub>2</sub>, CRM<sub>1</sub>/CRM<sub>2</sub>, surrogate spikes and/or replicate project sample analysis (R<sub>1</sub>/R<sub>2</sub>) on a minimum frequency of one per batch. Physis' QM requires that for 95% of the compounds greater than 10 times the MDL, the percent RPD should be within the specified acceptance range.

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

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

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

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

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

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

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

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

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

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

## PHYSIS QUALIFIER CODES

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

## CASE NARRATIVE

### QUALIFIER NOTES

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

#### **ND**

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

# ANALYTICAL REPORT

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ENVIRONMENTAL LABORATORIES, INC.

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## Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 95432-R1 202202231101 HALAWA SHAFT-331- Matrix: Samplewater</b>											
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
Benzoic Acid	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	24-Feb-22	24-Feb-22	17-Mar-22



PHYSIS Project ID: 1407003-221  
 Client: Eurofins Eaton Analytical  
 Project: Folder # 989088 Job # 1000014

## Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 95432-R1 202202231101 HALAWA SHAFT-331- Matrix: Samplewater</b>											
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	24-Feb-22
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
D benzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35086	O-35086	24-Feb-22	17-Mar-22





## 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-35086	O-35086	24-Feb-22	17-Mar-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35086	O-35086	24-Feb-22	17-Mar-22

# QUALITY CONTROL REPORT

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## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Matrix: BlankMatrix											
Sampled: Received:											
Batch ID: O-35086 Prepared: 24-Feb-22 Analyzed: 16-Mar-22											
Method: EPA 625.1											
QAQC Procedural Blank											
2,4,5-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4,6-Trichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,4-Dinitrophenol	Total	ND	1	0.1	0.2	µg/L					
2,6-Dichlorophenol	Total	ND	1	0.05	0.1	µg/L					
2,6-Di-tert-butyl-4-methylphe	Total	ND	1	0.05	0.1	µg/L					
2,6-Di-tert-butylphenol	Total	ND	1	0.05	0.1	µg/L					
2-Chlorophenol	Total	ND	1	0.05	0.1	µg/L					
2-Methyl-4,6-dinitrophenol	Total	ND	1	0.1	0.2	µg/L					
2-Methylphenol	Total	ND	1	0.1	0.2	µg/L					
2-Nitrophenol	Total	ND	1	0.1	0.2	µg/L					
3+4-Methylphenol	Total	ND	1	0.1	0.2	µg/L					
4-Chloro-3-methylphenol	Total	ND	1	0.1	0.2	µg/L					
4-Nitrophenol	Total	ND	1	0.1	0.2	µg/L					
6-tert-butyl-2,4-dimethylphen	Total	ND	1	0.05	0.1	µg/L					
Benzoic Acid	Total	ND	1	0.1	0.2	µg/L					
Benzyl Alcohol	Total	ND	1	0.1	0.2	µg/L					
Pentachlorophenol	Total	ND	1	0.05	0.1	µg/L					
Phenol	Total	ND	1	0.1	0.2	µg/L					
p-tert-Butylphenol	Total	ND	1	0.05	0.1	µg/L					

## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE	Matrix: BlankMatrix			
												Sampled:	Received:		
Method: EPA 625.1													Batch ID: O-35086	Prepared: 24-Feb-22	Analyzed: 16-Mar-22
2,4,5-Trichlorophenol	Total	0.652	1	0.05	0.1	µg/L	1	0	65	57 - 116%	PASS				
2,4,6-Trichlorophenol	Total	0.656	1	0.05	0.1	µg/L	1	0	66	56 - 118%	PASS				
2,4-Dichlorophenol	Total	0.564	1	0.05	0.1	µg/L	1	0	56	51 - 117%	PASS				
2,4-Dinitrophenol	Total	1.05	1	0.1	0.2	µg/L	1	0	105	0 - 152%	PASS				
2,6-Dichlorophenol	Total	0.228	1	0.05	0.1	µg/L	0.5	0	46	30 - 130%	PASS				
2,6-Di-tert-butyl-4-methylphe	Total	0.746	1	0.05	0.1	µg/L	1	0	75	50 - 150%	PASS				
2,6-Di-tert-butylphenol	Total	0.857	1	0.05	0.1	µg/L	1	0	86	50 - 150%	PASS				
2-Chlorophenol	Total	0.463	1	0.05	0.1	µg/L	1	0	46	41 - 110%	PASS				
2-Methyl-4,6-dinitrophenol	Total	1.36	1	0.1	0.2	µg/L	1	0	136	0 - 141%	PASS				
2-Methylphenol	Total	0.471	1	0.1	0.2	µg/L	1	0	47	40 - 117%	PASS				
2-Nitrophenol	Total	0.635	1	0.1	0.2	µg/L	1	0	63	40 - 117%	PASS				
3+4-Methylphenol	Total	0.42	1	0.1	0.2	µg/L	1	0	42	0 - 130%	PASS				
4-Chloro-3-methylphenol	Total	0.557	1	0.1	0.2	µg/L	1	0	56	51 - 128%	PASS				
4-Nitrophenol	Total	0.737	1	0.1	0.2	µg/L	1	0	74	10 - 164%	PASS				
6-tert-butyl-2,4-dimethylphen	Total	0.763	1	0.05	0.1	µg/L	1	0	76	50 - 150%	PASS				
Benzoic Acid	Total	0.65	1	0.1	0.2	µg/L	1	0	65	2 - 145%	PASS				
Benzyl Alcohol	Total	0.485	1	0.1	0.2	µg/L	1	0	49	43 - 148%	PASS				
Pentachlorophenol	Total	0.768	1	0.05	0.1	µg/L	1	0	77	36 - 111%	PASS				
Phenol	Total	0.364	1	0.1	0.2	µg/L	1	0	36	29 - 114%	PASS				
p-tert-Butylphenol	Total	0.535	1	0.05	0.1	µg/L	1	0	54	50 - 150%	PASS				

## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE	Matrix: BlankMatrix			
												Sampled:	Received:		
Method: EPA 625.1													Batch ID: O-35086	Prepared: 24-Feb-22	Analyzed: 17-Mar-22
2,4,5-Trichlorophenol	Total	0.629	1	0.05	0.1	µg/L	1	0	63	57 - 116%	PASS	3	30	PASS	
2,4,6-Trichlorophenol	Total	0.623	1	0.05	0.1	µg/L	1	0	62	56 - 118%	PASS	6	30	PASS	
2,4-Dichlorophenol	Total	0.539	1	0.05	0.1	µg/L	1	0	54	51 - 117%	PASS	4	30	PASS	
2,4-Dinitrophenol	Total	0.978	1	0.1	0.2	µg/L	1	0	98	0 - 152%	PASS	7	30	PASS	
2,6-Dichlorophenol	Total	0.217	1	0.05	0.1	µg/L	0.5	0	43	30 - 130%	PASS	7	30	PASS	
2,6-Di-tert-butyl-4-methylphe	Total	0.736	1	0.05	0.1	µg/L	1	0	74	50 - 150%	PASS	1	30	PASS	
2,6-Di-tert-butylphenol	Total	0.849	1	0.05	0.1	µg/L	1	0	85	50 - 150%	PASS	1	30	PASS	
2-Chlorophenol	Total	0.439	1	0.05	0.1	µg/L	1	0	44	41 - 110%	PASS	4	30	PASS	
2-Methyl-4,6-dinitrophenol	Total	1.35	1	0.1	0.2	µg/L	1	0	135	0 - 141%	PASS	1	30	PASS	
2-Methylphenol	Total	0.447	1	0.1	0.2	µg/L	1	0	45	40 - 117%	PASS	4	30	PASS	
2-Nitrophenol	Total	0.595	1	0.1	0.2	µg/L	1	0	60	40 - 117%	PASS	6	30	PASS	
3+4-Methylphenol	Total	0.394	1	0.1	0.2	µg/L	1	0	39	0 - 130%	PASS	7	30	PASS	
4-Chloro-3-methylphenol	Total	0.533	1	0.1	0.2	µg/L	1	0	53	51 - 128%	PASS	6	30	PASS	
4-Nitrophenol	Total	0.716	1	0.1	0.2	µg/L	1	0	72	10 - 164%	PASS	3	30	PASS	
6-tert-butyl-2,4-dimethylphen	Total	0.752	1	0.05	0.1	µg/L	1	0	75	50 - 150%	PASS	1	30	PASS	
Benzoic Acid	Total	0.616	1	0.1	0.2	µg/L	1	0	62	2 - 145%	PASS	5	30	PASS	
Benzyl Alcohol	Total	0.46	1	0.1	0.2	µg/L	1	0	46	43 - 148%	PASS	4	30	PASS	
Pentachlorophenol	Total	0.765	1	0.05	0.1	µg/L	1	0	76	36 - 111%	PASS	1	30	PASS	
Phenol	Total	0.34	1	0.1	0.2	µg/L	1	0	34	29 - 114%	PASS	6	30	PASS	
p-tert-Butylphenol	Total	0.524	1	0.05	0.1	µg/L	1	0	52	50 - 150%	PASS	4	30	PASS	

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE	
Sample ID: 95431-B1		QA/QC Procedural Blank			Matrix: BlankMatrix			Sampled:		Received:		
		Method: EPA 625.1			Batch ID: O-35086			Prepared: 24-Feb-22		Analyzed: 16-Mar-22		
2-Chloronaphthalene	Total	ND	1	0.05	0.1	µg/L						
2-Nitroaniline	Total	ND	1	0.05	0.1	µg/L						
3-Nitroaniline	Total	ND	1	0.05	0.1	µg/L						
4-Bromophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L						
4-Chloroaniline	Total	ND	1	0.05	0.1	µg/L						
4-Chlorophenylphenyl ether	Total	ND	1	0.05	0.1	µg/L						
4-Nitroaniline	Total	ND	1	0.05	0.1	µg/L						
Aniline	Total	ND	1	0.05	0.1	µg/L						
Benzidine	Total	ND	1	0.05	0.1	µg/L						
Bis(2-Chloroethoxy) methane	Total	ND	1	0.05	0.1	µg/L						
Bis(2-Chloroethyl) ether	Total	ND	1	0.05	0.1	µg/L						
Bis(2-Chloroisopropyl) ether	Total	ND	1	0.05	0.1	µg/L						
D benzofuran	Total	ND	1	0.05	0.1	µg/L						
Disalicylidenepropanediamin	Total	ND	1	0.05	0.1	µg/L						
Hexachloroethane	Total	ND	1	0.05	0.1	µg/L						
Nitrobenzene	Total	ND	1	0.05	0.1	µg/L						
N-Nitrosodi-n-propylamine	Total	ND	1	0.05	0.1	µg/L						
N-Nitrosodiphenylamine	Total	ND	1	0.05	0.1	µg/L						

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	Spike Level	SOURCE	ACCURACY		PRECISION		QA CODE
									RESULT	%	LIMITS	%	
Sample ID: 95431-BS1													
Matrix: BlankMatrix													
Method: EPA 625.1													
Batch ID: O-35086													
Prepared: 24-Feb-22													
Analyzed: 16-Mar-22													
2-Chloronaphthalene	Total	0.59	1	0.05	0.1	µg/L	1	0	59	53 - 130%	PASS		
2-Nitroaniline	Total	0.687	1	0.05	0.1	µg/L	1	0	69	69 - 114%	PASS		
3-Nitroaniline	Total	0.628	1	0.05	0.1	µg/L	1	0	63	23 - 137%	PASS		
4-Bromophenylphenyl ether	Total	0.628	1	0.05	0.1	µg/L	1	0	63	61 - 132%	PASS		
4-Chloroaniline	Total	0.533	1	0.05	0.1	µg/L	1	0	53	50 - 150%	PASS		
4-Chlorophenylphenyl ether	Total	0.422	1	0.05	0.1	µg/L	0.5	0	84	63 - 130%	PASS		
4-Nitroaniline	Total	0.903	1	0.05	0.1	µg/L	1	0	90	10 - 159%	PASS		
Aniline	Total	0.381	1	0.05	0.1	µg/L	0.5	0	76	50 - 150%	PASS		
Benzidine	Total	0.737	1	0.05	0.1	µg/L	1	0	74	0 - 125%	PASS		
Bis(2-Chloroethoxy) methane	Total	0.725	1	0.05	0.1	µg/L	1	0	73	66 - 122%	PASS		
Bis(2-Chloroethyl) ether	Total	0.481	1	0.05	0.1	µg/L	1	0	48	43 - 127%	PASS		
Bis(2-Chloroisopropyl) ether	Total	0.58	1	0.05	0.1	µg/L	1	0	58	49 - 128%	PASS		
D benzofuran	Total	0.406	1	0.05	0.1	µg/L	0.5	0	81	50 - 150%	PASS		
Disalicylidenepropanediamin	Total	0.443	1	0.05	0.1	µg/L	0.5	0	89	50 - 150%	PASS		
Hexachloroethane	Total	0.884	1	0.05	0.1	µg/L	1	0	88	27 - 130%	PASS		
Nitrobenzene	Total	0.579	1	0.05	0.1	µg/L	1	0	58	54 - 111%	PASS		
N-Nitrosodi-n-propylamine	Total	0.633	1	0.05	0.1	µg/L	1	0	63	61 - 152%	PASS		
N-Nitrosodiphenylamine	Total	0.596	1	0.05	0.1	µg/L	1	0	60	49 - 142%	PASS		

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	Spike Level	SOURCE	ACCURACY		PRECISION		QA CODE
									RESULT	%	LIMITS	%	
Sample ID: 95431-BS2													
Matrix: Blank/Matrix													
QAQC Procedural Blank													
Method: EPA 625.1													
Batch ID: O-35086													
Prepared: 24-Feb-22													
Analyzed: 17-Mar-22													
2-Chloronaphthalene	Total	0.572	1	0.05	0.1	µg/L	1	0	57	53 - 130%	PASS	3	30 PASS
2-Nitroaniline	Total	0.768	1	0.05	0.1	µg/L	1	0	77	69 - 114%	PASS	11	30 PASS
3-Nitroaniline	Total	0.684	1	0.05	0.1	µg/L	1	0	68	23 - 137%	PASS	8	30 PASS
4-Bromophenylphenyl ether	Total	0.605	1	0.05	0.1	µg/L	1	0	61	61 - 132%	PASS	5	30 PASS
4-Chloroaniline	Total	0.513	1	0.05	0.1	µg/L	1	0	51	50 - 150%	PASS	4	30 PASS
4-Chlorophenylphenyl ether	Total	0.407	1	0.05	0.1	µg/L	0.5	0	81	63 - 130%	PASS	4	30 PASS
4-Nitroaniline	Total	1.11	1	0.05	0.1	µg/L	1	0	111	10 - 159%	PASS	21	30 PASS
Aniline	Total	0.381	1	0.05	0.1	µg/L	0.5	0	76	50 - 150%	PASS	0	30 PASS
Benzidine	Total	0.764	1	0.05	0.1	µg/L	1	0	76	0 - 125%	PASS	3	30 PASS
Bis(2-Chloroethoxy) methane	Total	0.703	1	0.05	0.1	µg/L	1	0	70	66 - 122%	PASS	3	30 PASS
Bis(2-Chloroethyl) ether	Total	0.481	1	0.05	0.1	µg/L	1	0	48	43 - 127%	PASS	0	30 PASS
Bis(2-Chloroisopropyl) ether	Total	0.555	1	0.05	0.1	µg/L	1	0	56	49 - 128%	PASS	4	30 PASS
D benzofuran	Total	0.389	1	0.05	0.1	µg/L	0.5	0	78	50 - 150%	PASS	4	30 PASS
Disalicylidenepropanediamin	Total	0.437	1	0.05	0.1	µg/L	0.5	0	87	50 - 150%	PASS	2	30 PASS
Hexachloroethane	Total	0.856	1	0.05	0.1	µg/L	1	0	86	27 - 130%	PASS	2	30 PASS
Nitrobenzene	Total	0.55	1	0.05	0.1	µg/L	1	0	55	54 - 111%	PASS	5	30 PASS
N-Nitrosodi-n-propylamine	Total	0.684	1	0.05	0.1	µg/L	1	0	68	61 - 152%	PASS	8	30 PASS
N-Nitrosodiphenylamine	Total	0.584	1	0.05	0.1	µg/L	1	0	58	49 - 142%	PASS	3	30 PASS



## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Matrix: BlankMatrix											
Sampled: Received:											
Batch ID: O-35086 Prepared: 24-Feb-22 Analyzed: 16-Mar-22											
Method: EPA 625.1											
(d10-Acenaphthene)	Total	74	1			% Recovery	100	74	65 - 113%	PASS	
(d10-Phenanthrene)	Total	84	1			% Recovery	100	84	80 - 111%	PASS	
(d12-Chrysene)	Total	76	1			% Recovery	100	76	60 - 139%	PASS	
(d12-Perylene)	Total	92	1			% Recovery	100	92	36 - 161%	PASS	
(d8-Naphthalene)	Total	52	1			% Recovery	100	52	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
Benzo[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
D benzo[a,h]anthracene	Total	ND	1	0.001	0.005						µg/L
D benzo[a,i]pyrene	Total	ND	1	0.001	0.005						µg/L

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

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

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Matrix: BlankMatrix											
Sample ID: 95431-BS1											
QAQC Procedural Blank											
Method: EPA 625.1											
Batch ID: O-35086											
Prepared: 24-Feb-22											
Analyzed: 16-Mar-22											
Received:											
(d10-Acenaphthene)	Total	73	1			% Recovery	100	0	73	65 - 113%	PASS
(d10-Phenanthrene)	Total	82	1			% Recovery	100	0	82	80 - 111%	PASS
(d12-Chrysene)	Total	81	1			% Recovery	100	0	81	60 - 139%	PASS
(d12-Perylene)	Total	85	1			% Recovery	100	0	85	36 - 161%	PASS
(d8-Naphthalene)	Total	61	1			% Recovery	100	0	61	44 - 119%	PASS
1-Methylnaphthalene	Total	0.303	1	0.001	0.005	µg/L	0.5	0	61	49 - 117%	PASS
1-Methylphenanthrene	Total	0.454	1	0.001	0.005	µg/L	0.5	0	91	66 - 127%	PASS
2,3,5-Trimethylnaphthalene	Total	0.541	1	0.001	0.005	µg/L	0.5	0	108	57 - 120%	PASS
2,6-Dimethylnaphthalene	Total	0.406	1	0.001	0.005	µg/L	0.5	0	81	54 - 117%	PASS
2-Methylnaphthalene	Total	0.317	1	0.001	0.005	µg/L	0.5	0	63	47 - 130%	PASS
Acenaphthene	Total	0.332	1	0.001	0.005	µg/L	0.5	0	66	53 - 131%	PASS
Acenaphthylene	Total	0.352	1	0.001	0.005	µg/L	0.5	0	70	43 - 140%	PASS
Anthracene	Total	0.322	1	0.001	0.005	µg/L	0.5	0	64	58 - 135%	PASS
Benz[a]anthracene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	55 - 145%	PASS
Benzo[a]pyrene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	51 - 143%	PASS
Benzo[b]fluoranthene	Total	0.508	1	0.001	0.005	µg/L	0.5	0	102	46 - 165%	PASS
Benzo[e]pyrene	Total	0.358	1	0.001	0.005	µg/L	0.5	0	72	42 - 152%	PASS
Benzo[g,h,i]perylene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	63 - 133%	PASS
Benzo[k]fluoranthene	Total	0.547	1	0.001	0.005	µg/L	0.5	0	109	56 - 145%	PASS
Biphenyl	Total	0.306	1	0.001	0.005	µg/L	0.5	0	61	56 - 119%	PASS
Chrysene	Total	0.529	1	0.001	0.005	µg/L	0.5	0	106	56 - 141%	PASS
D benz[a,h]anthracene	Total	0.457	1	0.001	0.005	µg/L	0.5	0	91	55 - 150%	PASS
D benzof[a,i]pyrene	Total	1.75	1	0.001	0.005	µg/L	2	0	88	50 - 150%	PASS

## Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE
									%	LIMITS	%	LIMITS	
D benzothiophene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	75 - 113%	113%	PASS	
Fluoranthene	Total	0.496	1	0.001	0.005	µg/L	0.5	0	99	60 - 146%	146%	PASS	
Fluorene	Total	0.473	1	0.001	0.005	µg/L	0.5	0	95	58 - 131%	131%	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.411	1	0.001	0.005	µg/L	0.5	0	82	50 - 151%	151%	PASS	
Naphthalene	Total	0.298	1	0.001	0.005	µg/L	0.5	0	60	41 - 126%	126%	PASS	
Perylene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	48 - 141%	141%	PASS	
Phenanthrene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	67 - 127%	127%	PASS	
Pyrene	Total	0.552	1	0.001	0.005	µg/L	0.5	0	110	54 - 156%	156%	PASS	

## Polynuclear Aromatic Hydrocarbons QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	Spike Level	SOURCE	ACCURACY		PRECISION		QA CODE
									%	LIMITS	%	LIMITS	
Sample ID: 95431-BS2													
Matrix: BlankMatrix													
Method: EPA 625.1													
Batch ID: O-35086													
Prepared: 24-Feb-22													
Analyzed: 17-Mar-22													
QAQC Procedural Blank													
Sample ID	Result	DF	MDL	RL	Units	Spike Level	Source	Accuracy %	Accuracy Limits	Precision %	Precision Limits	QA Code	Received
(d10-Acenaphthene)	Total	66	1		% Recovery	100	0	66	65 - 113%	PASS	10	30	PASS
(d10-Phenanthrene)	Total	86	1		% Recovery	100	0	86	80 - 111%	PASS	5	30	PASS
(d12-Chrysene)	Total	69	1		% Recovery	100	0	69	60 - 139%	PASS	16	30	PASS
(d12-Perylene)	Total	92	1		% Recovery	100	0	92	36 - 161%	PASS	8	30	PASS
(d8-Naphthalene)	Total	55	1		% Recovery	100	0	55	44 - 119%	PASS	10	30	PASS
1-Methylnaphthalene	Total	0.271	1	0.001	µg/L	0.5	0	54	49 - 117%	PASS	12	30	PASS
1-Methylphenanthrene	Total	0.611	1	0.001	µg/L	0.5	0	122	66 - 127%	PASS	29	30	PASS
2,3,5-Trimethylnaphthalene	Total	0.576	1	0.001	µg/L	0.5	0	115	57 - 120%	PASS	6	30	PASS
2,6-Dimethylnaphthalene	Total	0.372	1	0.001	µg/L	0.5	0	74	54 - 117%	PASS	9	30	PASS
2-Methylnaphthalene	Total	0.32	1	0.001	µg/L	0.5	0	64	47 - 130%	PASS	2	30	PASS
Acenaphthene	Total	0.328	1	0.001	µg/L	0.5	0	66	53 - 131%	PASS	0	30	PASS
Acenaphthylene	Total	0.342	1	0.001	µg/L	0.5	0	68	43 - 140%	PASS	3	30	PASS
Anthracene	Total	0.333	1	0.001	µg/L	0.5	0	67	58 - 135%	PASS	5	30	PASS
Benz[a]anthracene	Total	0.512	1	0.001	µg/L	0.5	0	102	55 - 145%	PASS	12	30	PASS
Benzo[a]pyrene	Total	0.412	1	0.001	µg/L	0.5	0	82	51 - 143%	PASS	7	30	PASS
Benzo[b]fluoranthene	Total	0.456	1	0.001	µg/L	0.5	0	91	46 - 165%	PASS	11	30	PASS
Benzo[e]pyrene	Total	0.334	1	0.001	µg/L	0.5	0	67	42 - 152%	PASS	7	30	PASS
Benzo[g,h,i]perylene	Total	0.414	1	0.001	µg/L	0.5	0	83	63 - 133%	PASS	1	30	PASS
Benzo[k]fluoranthene	Total	0.497	1	0.001	µg/L	0.5	0	99	56 - 145%	PASS	10	30	PASS
Biphenyl	Total	0.343	1	0.001	µg/L	0.5	0	69	56 - 119%	PASS	12	30	PASS
Chrysene	Total	0.552	1	0.001	µg/L	0.5	0	110	56 - 141%	PASS	4	30	PASS
D benzo[a,h]anthracene	Total	0.47	1	0.001	µg/L	0.5	0	94	55 - 150%	PASS	3	30	PASS
D benzo[a,i]pyrene	Total	1.65	1	0.001	µg/L	2	0	82	50 - 150%	PASS	7	30	PASS

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
									LIMITS	LIMITS	
D benzothiophene	Total	0.472	1	0.001	0.005	µg/L	0.5	0	75 - 113% PASS	7	30 PASS
Fluoranthene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	60 - 146% PASS	10	30 PASS
Fluorene	Total	0.46	1	0.001	0.005	µg/L	0.5	0	58 - 131% PASS	3	30 PASS
Indeno[1,2,3-cd]pyrene	Total	0.45	1	0.001	0.005	µg/L	0.5	0	50 - 151% PASS	9	30 PASS
Naphthalene	Total	0.307	1	0.001	0.005	µg/L	0.5	0	41 - 126% PASS	2	30 PASS
Perylene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	48 - 141% PASS	7	30 PASS
Phenanthrene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	67 - 127% PASS	1	30 PASS
Pyrene	Total	0.567	1	0.001	0.005	µg/L	0.5	0	54 - 156% PASS	3	30 PASS

# PREVIOUS TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

**Sample ID: 95432**

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Match Qual
33.0958	2.6881	1111	Anthracene-D10	1517-22-2	95
14.7237	0.2788	115	Caprolactam	105-60-2	95
12.8942	0.2424	100	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	89

Concentration estimated using the response for Anthracene-d10



Sample ID: Lab Blank B1\_35086

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Qual
33.0953	3.2674	1111	Anthracene-D10-	1517-22-2	95
89.2158	1.3996	476	DL-2,3-Butanediol	6982-25-8	99
89.2235	0.8282	282	1H-Tetrazol-5-amine	4418-61-5	81
11.1123	0.5627	191	Hexane, 2-nitro-	14255-44-8	86
12.8885	0.5255	179	Cyclohexane, (1,2-dimethylbutyl)-	61142-37-8	90
11.6244	0.4608	157	2,6-Octadiene, 2,4-dimethyl-	63843-03-8	81
10.8796	0.4555	155	2H-Pyran-2-methanol, tetrahydro-	100-72-1	81
12.0319	0.3917	133	Octane, 4,5-diethyl-	1636-41-5	94
11.6923	0.3470	118	1,5-Heptadien-4-one, 3,3,6-trimethyl-	546-49-6	84
25.5174	0.3115	106	Diethyl Phthalate	84-66-2	97

Concentration estimated using the response for Anthracene-d10

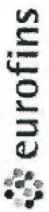
# PERFORMANCE CHAIN OF CUSTODY

TERRA

AURA

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*



Eaton Analytical

Ship To:  
Physis Environmental Laboratories,  
Inc  
1904 East Wright Circle  
Anaheim, CA 92806-6028

Phone: 714-602-5320 Fax:

Folder #: 989088 Report Due: 03/02/2022

Sample ID: 202202231101 Client Sample ID for reference on!  
HALAWA SHAFT-331-241-TP401

Sample type: Sample Event:

Method	Prep Method	Analysis Requested
EPA 625	EPA 625	625 Acid Extractable in ug/L
EPA 625	EPA 625	625 Base Neutral Extractable in ug/L
EPA 625	EPA 625m	625PAH in ug/L

Date: 2/24/2022

Submittal Form

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!  
Report & invoice must have the Folder # 989088 Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.  
Results must have Complete data & QC with Approval Signature

Reports: Jackie Contreras Sub-Contracting Administrator  
EMAIL TO: Eaton-MonroviaSubContract@eurofins.com  
Eurofins Eaton Analytical, LLC 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016  
Phone (626) 386-1165 Fax (626) 386-1122  
Invoices to: Eurofins Eaton Analytical, LLC  
Accounts Payable 2425 New Holland Pike, Lancaster, PA 17605

Provide in each Report the  
Specified State Certification # and  
Exp Date for requested tests + matrix.  
Samples from: HAWAII

Physis - 8 containers per sample for MS/MSD batch QC. Only report to RL and place a comment in the report stating RL reporting only

Sample Date & Time Matrix Clp Code PWSID  
02/21/22 0940 DW JLS

Facility ID: Sample Point ID: Static ID:

Relinquished by: Jan Sample Control Date 2/24/22 Time 1411

Received by: MONGA NENY Date 2/24/22 Time 1411

Relinquished by: \_\_\_\_\_ Sample Control Date \_\_\_\_\_ Time \_\_\_\_\_

Received by: \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to aith: Jackie Contreras

Project Iteration ID: 1407003-221  
 Client Name: Eurofins Eaton Analytical  
 Project Name: Folder # 989088 Job # 1000014  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

Receiving Info

1. Initials Received By: MN
2. Date Received: 2/24/22
3. Time Received: 1411
4. Client Name: Eurofins
5. Courier Information: (Please circle)
  - Client
  - UPS
  - Area Fast
  - DRS
  - FedEx
  - GSO/GLS
  - Ontrac
  - PAMS
  - PHYSIS Driver:
  - i. Start Time: \_\_\_\_\_
  - ii. End Time: \_\_\_\_\_
  - iii. Total Mileage: \_\_\_\_\_
  - iv. Number of Pickups: \_\_\_\_\_
6. Container Information: (Please put the # of containers or circle none)
  - Cooler
  - Styrofoam Cooler
  - Boxes
  - None
  - Carboy(s)
  - Carboy Trash Can(s)
  - Carboy Cap(s)
  - Other \_\_\_\_\_
7. What type of ice was used: (Please circle any that apply)
  - Wet Ice
  - Blue Ice
  - Dry Ice
  - Water
  - None
8. Randomly Selected Samples Temperature (°C): 46  
 Used I/R Thermometer # 1-2

Inspection Info

1. Initials Inspected By: [Signature]

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:



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

Date: 03-10-2022  
EMAX Batch No.: 22B231

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 989088

Enclosed is the Laboratory report for samples received on 02/24/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
202202231101	B231-01	02/21/22	WATER	TPH GASOLINE TPH
202202231102	B231-02	02/21/22	WATER	TPH GASOLINE
202202231101MS	B231-01M	02/21/22	WATER	TPH GASOLINE TPH
202202231101MSD	B231-01S	02/21/22	WATER	TPH GASOLINE TPH

The results are summarized on the following pages.

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

Sincerely yours,

  
Caspar J. Pang  
Laboratory Director

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

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

NELAP Accredited Certificate Number CA002912021-19  
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing  
California ELAP Accredited Certificate Number 2672



Eaton Analytical

Ship To:  
EMAX Laboratories, Inc.  
3051 Fujita St.  
Torrance, CA 90505

Phone: 310-618-8889 Fax: 310-618-0818

Folder #: 989088 Report Due: 03/02/2022

22 B231

Submittal Form

Date: 2/24/2022

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!  
Report & Invoice must have the Folder # 989088 Job # 1000014

Report all quality control data according to Method. Include dates analyzed. Date extracted (if extracted) and Method reference on the report.  
Results must have Complete data & QC with Approval Signature.

Reports: Jackie Contreras, Sub-Contracting Administrator  
 EMAIL TO: Eaton-MonroviaSubContracting@eurofins.com  
 Eurofins Eaton Analytical, LLC 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016  
 Phone (626) 386-1165 Fax (626) 386-1122  
 Invoices to: Eurofins Eaton Analytical, LLC  
 Accounts Payable 2425 New Holland Pike, Lancaster, PA 17605

Provide in each Report the  
 Specified Start/End Date for # and  
 Exp Date for requested tests + matrix.  
 Samples from: HAWAII

2-3 day rush

Sample ID	Client Sample ID for reference on!	Sample Date & Time Matrix	Clip Code	PWSID
202202231101	HALAWA SHAFT-331-241-TP401	02/21/22 0940 DW		JLS

Method	Prep Method	Analysis Requested	Sample Event:	Facility ID:	Sample Point ID:	Static ID:
SW 8015B	EPA 5030C	(SUB)Gas Fraction Hydrocarbons				
SW 8015B	EPA 3550B	TPH 8015 Diesel and Motor Oil				
EPA 8015	EPA 8015	Jet Fuel 5 C8-C18				
EPA 8015		Jet Fuel 8 C8-C18				

Sample ID	Client Sample ID for reference on!	Sample Date & Time Matrix	Clip Code	PWSID
202202231102	TRAVEL BLANK: HALAWA SHAFT-331-241-TP401	02/21/22 0940 DW		JLS

Method	Prep Method	Analysis Requested	Sample Event:	Facility ID:	Sample Point ID:	Static ID:
SW 8015B	EPA 5030C	(SUB)Gas Fraction Hydrocarbons				

Relinquished by: *[Signature]* Date: 2/24/22 Time: 13:13  
 Received by: *[Signature]* Date: 2/24/22 Time: 13:13  
 Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS  
 An Acknowledgement of Receipt is requested to attn: Jackie Contreras  
 Temp: ① 2.1° / 1.6°  
 ② 3.0° / 2.5°

Type of Delivery	Airbill / Tracking Number	ECN <u>22B231</u>
<input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others		Recipient <u>Alan Ramos</u>
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Date <u>02/24/22</u> Time <u>13:13</u>

**COC INSPECTION**

<input checked="" type="checkbox"/> Client Name	<input checked="" type="checkbox"/> Client PM/FC	<input type="checkbox"/> Sampler Name	<input checked="" type="checkbox"/> Sampling Date/Time	<input checked="" type="checkbox"/> Sample ID	<input checked="" type="checkbox"/> Matrix
<input checked="" type="checkbox"/> Address	<input checked="" type="checkbox"/> Tel # / Fax #	<input type="checkbox"/> Courier Signature	<input checked="" type="checkbox"/> Analysis Required	<input type="checkbox"/> Preservative (if any)	<input checked="" type="checkbox"/> TAT
Safety Issues (if any)	<input type="checkbox"/> High concentrations expected	<input type="checkbox"/> From Superfund Site	<input type="checkbox"/> Rad screening required		

Note: \_\_\_\_\_

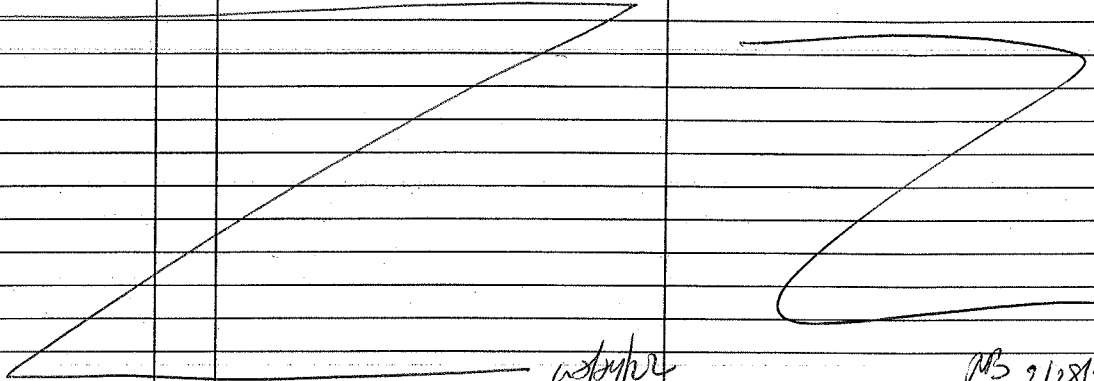
**PACKAGING INSPECTION**

Container <input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition <u>Correction</u>	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact
Packaging <u>factor - 0.5</u>	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam
Temperatures	<input checked="" type="checkbox"/> Cooler 1 <u>2.1/1.6</u> °C	<input checked="" type="checkbox"/> Cooler 2 <u>3.0/2.5</u> °C
(Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C
Thermometer: <u>A - S/N 210191066 a 14/14</u>	<u>B - S/N 210271396</u>	<u>C - S/N 210271399</u>

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

Note: \_\_\_\_\_

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
<u>1</u>	<u>5-11</u>	<u>D2</u>	<u>Jet Fuel 0 is not indicated on label</u>	<u>NR</u>
				

MS 2/28/22

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:**

**LEGEND:**

**Code Description-Sample Management**

- D1 Analysis is not indicated in \_\_\_\_\_
- 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 \_\_\_\_\_
- D23 \_\_\_\_\_
- D24 \_\_\_\_\_

Continue to next page.

**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 Jocelyne Solis-Ramos  
 Date 02/24/22

SRF [Signature]  
 Date [Signature]

PM MS  
 Date 2/28/22

## 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

989088

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

SDG#: 22B231

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 989088

SDG : 22B231

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

A total of two(2) water samples were received on 02/24/22 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. VG39B12B - 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. VG39B12L/VG39B12C 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 B231-01M/B231-01S. 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 : 989088

SDG NO. : 22B231  
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39812B	1	NA	02/24/2212:40	02/24/2212:40	EB24005A	EB24004A	22VG39812	Method Blank
LCS1W	VG39812L	1	NA	02/24/2213:16	02/24/2213:16	EB24006A	EB24004A	22VG39812	Lab Control Sample (LCS)
LCD1W	VG39812C	1	NA	02/24/2213:53	02/24/2213:53	EB24007A	EB24004A	22VG39812	LCS Duplicate
202202231101	B231-01	1	NA	02/24/2219:56	02/24/2219:56	EB24017A	EB24015A	22VG39812	Field Sample
202202231101MS	B231-01M	1	NA	02/24/2220:32	02/24/2220:32	EB24018A	EB24015A	22VG39812	Matrix Spike Sample (MS)
202202231101MSD	B231-01S	1	NA	02/24/2221:09	02/24/2221:09	EB24019A	EB24015A	22VG39812	MS Duplicate (MSD)
202202231102	B231-02	1	NA	02/24/2221:45	02/24/2221:45	EB24020A	EB24015A	22VG39812	Field Sample

FN - Filename  
% Moist - Percent Moisture

# SAMPLE RESULTS





# QC SUMMARIES

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 02/24/22 12:40
Project     : 989088                     Date Received: 02/24/22
Batch No.   : 22B231                     Date Extracted: 02/24/22 12:40
Sample ID   : MBLK1W                     Date Analyzed: 02/24/22 12:40
Lab Samp ID : VG39B12B                   Dilution Factor: 1
Lab File ID : EB24005A                     Matrix: WATER
Ext Btch ID : 22VG39B12                   % Moisture: NA
Calib. Ref. : EB24004A                     Instrument ID: 39
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.020	0.010

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromofluorobenzene	0.0308	0.0400	77	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 : 989088  
BATCH NO. : 22B231  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W         LCD1W
LAB SAMPLE ID : VG39B12B                         VG39B12L     VG39B12C
LAB FILE ID  : EB24005A                         EB24006A     EB24007A
DATE PREPARED : 02/24/22 12:40                 02/24/22 13:16 02/24/22 13:53
DATE ANALYZED : 02/24/22 12:40                 02/24/22 13:16 02/24/22 13:53
PREP BATCH   : 22VG39B12                       22VG39B12   22VG39B12
CALIBRATION REF: EB24004A                      EB24004A    EB24004A
    
```

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRcc (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRcc (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Gasoline	ND	0.500	0.434	87	0.500	0.422	84	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRcc (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRcc (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0397	99	0.0400	0.0400	100	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 : 989088  
BATCH NO. : 22B231  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 202202231101	202202231101MS	202202231101MSD
LAB SAMPLE ID	: B231-01	B231-01M	B231-01S
LAB FILE ID	: EB24017A	EB24018A	EB24019A
DATE PREPARED	: 02/24/22 19:56	02/24/22 20:32	02/24/22 21:09
DATE ANALYZED	: 02/24/22 19:56	02/24/22 20:32	02/24/22 21:09
PREP BATCH	: 22VG39B12	22VG39B12	22VG39B12
CALIBRATION REF:	EB24015A	EB24015A	EB24015A

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	0.494	99	0.500	0.500	100	1	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0410	103	0.0400	0.0428	107	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

989088

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22B231

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 989088

SDG : 22B231

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

One(1) water sample was received on 02/24/22 to be analyzed for Total Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

#### Holding Time

The sample was 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. DSB034WB - 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) LCS was analyzed. Percent recovery for Diesel was within LCS QC limits in DSB034WL. 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 22B231-01M/22B231-01S. 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

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.

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 989088

SDG : 22B231

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

One(1) water sample was received on 02/24/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

#### Holding Time

The sample was 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. DSB034WB - 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) LCS was analyzed. Percent recovery for JP5 was within LCS QC limits in J5B034WL. 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 22B231-01M/22B231-01S. 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

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.

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 989088

SDG : 22B231

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

One(1) water sample was received on 02/24/22 to be analyzed for Petroleum Hydrocarbons by Extraction in accordance with Method 3520C/8015B and project specific requirements.

#### Holding Time

The sample was 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. DSB034WB - 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) LCS was analyzed. Percent recovery for JP8 was within LCS QC limits in J8B034WL. 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. JP8 was within MS QC limits in 22B231-01M/22B231-01S. 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

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  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL
Project     : 989088
SDG NO.    : 22B231
Instrument ID : D5
=====
  
```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis Date/Time	Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSB034WB	1	NA	02/25/2216:05	02/24/2216:15	LB25009A	LB25003A	22DSB034W	Method Blank
LCS1W	DSB034WL	1	NA	02/25/2216:23	02/24/2216:15	LB25010A	LB25003A	22DSB034W	Lab Control Sample (LCS)
202202231101	B231-01	1	NA	02/25/2217:18	02/24/2216:15	LB25013A	LB25003A	22DSB034W	Field Sample
202202231101MS	B231-01M	1	NA	02/25/2217:36	02/24/2216:15	LB25014A	LB25003A	22DSB034W	Matrix Spike Sample (MS)
202202231101MSD	B231-01S	1	NA	02/25/2217:55	02/24/2216:15	LB25015A	LB25003A	22DSB034W	MS Duplicate (MSD)

```

FN      - Filename
% Moist - Percent Moisture
  
```

LAB CHRONICLE  
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : EUROFINS EATON ANALYTICAL  
Project : 989088

SDG NO. : 22B231  
Instrument ID : D5

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER		Extraction Date/Time	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				Analysis Date/Time	Extraction Date/Time					
MBLK1W	DSB034WB	1	NA	02/25/2216:05	02/24/2216:15	LB25009A	LB25004A	22DSB034W	Method Blank	
LCS1W	J5B034WL	1	NA	02/25/2216:41	02/24/2216:15	LB25011A	LB25004A	22DSB034W	Lab Control Sample (LCS)	
202202231101	B231-01	1	NA	02/25/2217:18	02/24/2216:15	LB25013A	LB25004A	22DSB034W	Field Sample	
202202231101MS	B231-01M	1	NA	02/25/2218:13	02/24/2216:15	LB25016A	LB25004A	22DSB034W	Matrix Spike Sample (MS)	
202202231101MSD	B231-01S	1	NA	02/25/2218:31	02/24/2216:15	LB25017A	LB25004A	22DSB034W	MS Duplicate (MSD)	

FN - Filename  
% Moist - Percent Moisture





# SAMPLE RESULTS



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 02/21/22 09:40
Project     : 989088                     Date Received: 02/24/22
Batch No.   : 22B231                     Date Extracted: 02/24/22 16:15
Sample ID   : 202202231101              Date Analyzed: 02/25/22 17:18
Lab Samp ID : 22B231-01                 Dilution Factor: 1
Lab File ID : LB25013A                  Matrix: WATER
Ext Btch ID : 22DSB034W                 % Moisture: NA
Calib. Ref. : LB25004A                  Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)		
JP5	ND	0.048	0.024		
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT	
Bromobenzene	0.406	0.475	86	60-130	
Hexacosane	0.136	0.119	115	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 : 1050ml                      Final Volume : 5ml  
 Prepared by : JMuert                              Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 02/21/22 09:40
Project     : 989088                     Date Received: 02/24/22
Batch No.   : 22B231                     Date Extracted: 02/24/22 16:15
Sample ID   : 202202231101              Date Analyzed: 02/25/22 17:18
Lab Samp ID : 22B231-01                 Dilution Factor: 1
Lab File ID : LB25013A                  Matrix: WATER
Ext Btch ID : 22DSB034W                 % Moisture: NA
Calib. Ref.: LB25005A                   Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.048	0.024	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.406	0.475	86	60-130
Hexacosane	0.136	0.119	115	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 : 1050ml                      Final Volume : 5ml  
 Prepared by : JMuert                         Analyzed by : SDeeso

# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 02/24/22 16:15
Project     : 989088                      Date Received: 02/24/22
Batch No.   : 22B231                      Date Extracted: 02/24/22 16:15
Sample ID   : MBLK1W                      Date Analyzed: 02/25/22 16:05
Lab Samp ID: DSB034WB                    Dilution Factor: 1
Lab File ID: LB25009A                    Matrix: WATER
Ext Btch ID: 22DSB034W                  % Moisture: NA
Calib. Ref.: LB25003A                   Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.025	0.012	
Motor Oil	ND	0.050	0.025	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.402	0.500	80	60-130
Hexacosane	0.143	0.125	115	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSB034WB DSB034WL  
LAB FILE ID : LB25009A LB25010A  
DATE PREPARED : 02/24/22 16:15 02/24/22 16:15  
DATE ANALYZED : 02/25/22 16:05 02/25/22 16:23  
PREP BATCH : 22DSB034W 22DSB034W  
CALIBRATION REF: LB25003A LB25003A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.37	95	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.426	85	60-130
Hexacosane	0.125	0.145	116	60-130

MB: Method Blank sample LCS: Lab Control Sample



EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 202202231101                       202202231101MSD
LAB SAMPLE ID : 22B231-01                         22B231-01S
LAB FILE ID  : LB25013A                           LB25014A
DATE PREPARED : 02/24/22 16:15                   02/24/22 16:15
DATE ANALYZED : 02/25/22 17:18                   02/25/22 17:55
PREP BATCH   : 22DSB034W                          22DSB034W
CALIBRATION REF: LB25003A                          LB25003A
=====
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.58	2.42	94	2.55	2.26	89	7	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.515	0.437	85	0.510	0.383	75	60-130
Hexacosane	0.129	0.156	121	0.127	0.150	118	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: 02/24/22 16:15
Project    : 989088                       Date Received: 02/24/22
Batch No.  : 22B231                       Date Extracted: 02/24/22 16:15
Sample ID  : MBLK1W                       Date Analyzed: 02/25/22 16:05
Lab Samp ID: DSB034WB                    Dilution Factor: 1
Lab File ID: LB25009A                    Matrix: WATER
Ext Btch ID: 22DSB034W                   % Moisture: NA
Calib. Ref.: LB25004A                    Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
JP5	ND	0.050	0.025

SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.402	0.500	80	60-130
Hexacosane	0.143	0.125	115	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSB034WB J5B034WL  
LAB FILE ID : LB25009A LB25011A  
DATE PREPARED : 02/24/22 16:15 02/24/22 16:15  
DATE ANALYZED : 02/25/22 16:05 02/25/22 16:41  
PREP BATCH : 22DSB034W 22DSB034W  
CALIBRATION REF: LB25004A LB25004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP5	ND	2.50	2.55	102	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.460	92	60-130
Hexacosane	0.125	0.146	117	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 202202231101	202202231101MS	202202231101MSD
LAB SAMPLE ID	: 22B231-01	22B231-01M	22B231-01S
LAB FILE ID	: LB25013A	LB25016A	LB25017A
DATE PREPARED	: 02/24/22 16:15	02/24/22 16:15	02/24/22 16:15
DATE ANALYZED	: 02/25/22 17:18	02/25/22 18:13	02/25/22 18:31
PREP BATCH	: 22DSB034W	22DSB034W	22DSB034W
CALIBRATION REF:	LB25004A	LB25004A	LB25004A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.65	2.71	102	2.62	2.95	112	8	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.469	88	0.525	0.493	94	60-130
Hexacosane	0.132	0.141	106	0.131	0.150	114	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: 02/24/22 16:15
Project     : 989088                      Date Received: 02/24/22
Batch No.   : 22B231                      Date Extracted: 02/24/22 16:15
Sample ID   : MBLK1W                      Date Analyzed: 02/25/22 16:05
Lab Samp ID: DSB034WB                    Dilution Factor: 1
Lab File ID: LB25009A                    Matrix: WATER
Ext Btch ID: 22DSB034W                   % Moisture: NA
Calib. Ref.: LB25005A                    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	0.402	0.500	80	60-130
Hexacosane	0.143	0.125	115	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 : JMuert Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSB034WB J8B034WL  
LAB FILE ID : LB25009A LB25012A  
DATE PREPARED : 02/24/22 16:15 02/24/22 16:15  
DATE ANALYZED : 02/25/22 16:05 02/25/22 17:00  
PREP BATCH : 22DSB034W 22DSB034W  
CALIBRATION REF: LB25005A LB25005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	2.28	91	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.529	106	60-130
Hexacosane	0.125	0.147	118	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 989088  
BATCH NO. : 22B231  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 202202231101	202202231101MS	202202231101MSD
LAB SAMPLE ID	: 22B231-01	22B231-01M	22B231-01S
LAB FILE ID	: LB25013A	LB25018A	LB25019A
DATE PREPARED	: 02/24/22 16:15	02/24/22 16:15	02/24/22 16:15
DATE ANALYZED	: 02/25/22 17:18	02/25/22 18:50	02/25/22 19:08
PREP BATCH	: 22DSB034W	22DSB034W	22DSB034W
CALIBRATION REF:	LB25005A	LB25005A	LB25005A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.65	2.33	88	2.60	2.68	103	14	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.530	0.549	104	0.520	0.528	102	60-130
Hexacosane	0.132	0.160	121	0.130	0.156	120	60-130

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