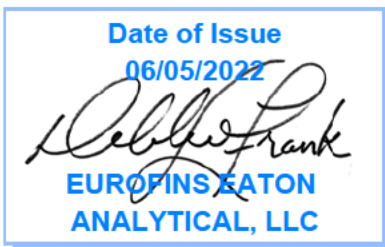


750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (866) 988-3757  
1 800 566 LABS (1 800 566 5227)

## 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



Utah ELCP CA00006

DEB: Debbie L Frank  
Project Manager

Report: 1004391  
Project: RED-HILL  
Group: Weekly TPH-8015\_RED-HILL (2022) - EMAX

\* 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	Test(s)	Method(s)	Potable Water *	Waste Water
Enterococci	Enterolert	x	x	Gross Alpha coprecipitation	SM 7110 C	x	x
<i>Escherichia coli</i> (Enumeration)	SM 9221 B.1 SM 9221 F	x		Hardness	SM 2340 B	x	x
Fecal Coliform (P/A and Enumeration)	SM 9221 C (MTF/EC), SM 9221 E (MTF/EC)	x	x	Hexavalent Chromium	EPA 218.6,	x	x
Fecal Streptococci and Enterococci	SM 9230 B	x	x	Hexavalent Chromium	EPA 218.7,	x	
Heterotrophic Bacteria	SM 9215 B	x		Hexavalent Chromium	SM 3500-Cr B		x
Legionella	Legiolert®	x		Inorganic Anions and DBPs	EPA 300.0	x	x
<i>Pseudomonas aeruginosa</i>	Idexx Pseudalert	x		Norganic Anions and DBPs	EPA 300.1	x	
Total Coliform (P/A and Enumeration)	SM 9221A, SM 9221B, SM 9221 C	x	x	Kjeldahl Nitrogen	EPA 351.2		x
Total Coliform, Total Coliform with Chlorine Present	SM 9221 B	x	x	Metals	EPA 200.7, EPA200.8	x	x
Total Coliform/ <i>E. coli</i> (P/A and Enumeration, Idexx Colilert, Idexx Colilert 18, Colisure)	SM 9223	x		Nitrosamines	EEA-Agilent 521.1 (GCMS-24250)	x	
Total Microcystins and Nodularins	EPA 546	X		Nitrate/Nitrite Nitrogen	EPA 353.2	x	x
Yeast and Mold	SM 9610	x		Odor	SM2150B	x	
1,2,3-Trichloropropane (TCP) at 5 PPT	CA SRL 524M-TCP	x		Organohalide Pesticides and PCB	EPA 505	x	
1,4-Dioxane	EPA 522	x		Ortho Phosphate	SM 4500P E	x	
2,3,7,8-TCDD	Modified EPA 1613 B	x		Oxyhalides Disinfect ion Byproducts	EPA 317.0	x	
Acrylamide	+ LCMS 2440)	x		Perchlorate	EPA 331.0	x	
Algal Toxins/Microcys in	+ LCMS 3570	x		Perchlorate (Low and High Levels)	EPA 314.0	x	
Alkalinity	SM 2320B	x	x	Perfluorinated Alkyl Acids	EPA 533, EPA 537, EPA 537.1	x	
Ammonia	EPA 350.1, SM 4500-NH3 H		x	PPCP and EDC	+ LCMS-2443	x	
Asbestos	EPA 100.2	x	x	pH	EPA 150.1 SM 4500-H+ B	x	x
Bicarbonate Alkalinity as HCO3	SM 2330 B	x	x	Phenolics – Low Level	+WC 2493 (EPA 420.2 and EPA 420.4 MOD)	x	x
BOD/CBOD	SM 5210 B		x	Phenylurea Pesticides/Herbicides	+ LCMS-2448	x	
Bromate	+ LCMS- 2447	x		Radium-226, Radium-228	GA Tech (Rad-2374)	x	
Carbonate as CO3	SM 2330 B	x	x	Radon-222	SM 7500RN	x	
Carbonyls	EPA 556	x	x	Residue (Filterable)	SM 2540C	x	x
Chemical Oxygen Demand	EPA 410.4, SM 5220D		x	Residue (Non-Filterable)	SM 2540D		x
Chlorinated Acids	EPA 515.4	x		Residue (Total)	SM 2540B		x
Chlorine Dioxide	Palin Test Chlordio X Plus, SM 4500-CLO2 D	x		Residue (Volatile)	EPA 160.4		x
Chlorine, Free, Combined, Total Residual, Chloramines	SM 4500-Cl G	x		Semi-Volatile Compounds	EPA 525.2	x	
Color	SM2120B	x		Silica	SM 4500-SiO2 C	x	x
Conductivity	EPA 120.1, SM 2510B	x	x	Sulfide	SM 4500-S D		x
Corrosivity (Langelier Index), Carbonate as CO3, Hydroxide as OH Calculated	SM 2330 B	x		Sulfite	SM 4500-SO3 B	x	x
Cyanide (Amenable)	SM 4500-CN G	x	x	Surfactants	SM 5540C	x	x
Cyanide (Free)	SM 4500CN F	x	x	Taste and Odor	SM 6040 E	x	
Cyanide (Total)	EPA 335.4	x	x	Total Organic Carbon	SM 5310 C	x	x
Cyanogen Chloride (Screen)	+ 335 Mod (WC-24467)	x		Total Phenols	EPA 420.1		x
Diquat and Paraquat	EPA 549.2	x		Total Phenols	EPA 420.4	x	x
DBP and HAA	SM 6251 B	x		Triazine Pesticides and their Degradates	+ LCMS-3617	x	
Dissolved Organic Carbon	SM 5310 C	x		Turbidity	EPA 180.1	x	x
Dissolved Oxygen	SM 4500-O G		x	Uranium by ICP/MS	EPA 200.8	x	
EDB/DCBP/TCP	EPA 504.1	x		UV 254 Organic Constituents	SM 5910B	x	
EDB/DBCP and Disinfection Byproducts	EPA 551.1	x		VOCs	EPA 524.2	x	
EDTA and NTA	+ WC-2454	x		VOCs	+ (GCMS 2412) by EPA 524.2 modified	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				

(\*) 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 #: 1004391  
Project: RED-HILL  
Sample Group: Weekly TPH-8015\_RED-HILL (2022)  
- EMAX  
Project Manager: Debbie L Frank  
Phone: (626) 386-1149  
PO #: C20525101 exp 05312023

The following samples were received from you on **May 18, 2022 at 1200**. 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
<u>202205190010</u>	Halawa Shaft Viewing Pool	05/16/2022 0930
	@525PLUS C PLUS TICS (SUB)Gas Fraction Hydrocarbons TPH 8015 Diesel and Motor Oil	
<u>202205190011</u>	TB:Halawa Shaft Viewing Pool	05/16/2022 0930
	( UB)Gas Fraction Hydrocarbons	

**Test Description**

@525PLUS C PLUS TICS -- Semivolatiles by GCMS

# CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

**LOGIN COMMENTS:** \_\_\_\_\_

**SAMPLES CHECKED AGAINST COC BY:** \_\_\_\_\_

**SAMPLES LOGGED IN BY:** \_\_\_\_\_

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

**SAMPLE TEMP RECEIVED AT:** \_\_\_\_\_ °C (Compliance: 4 ± 2 °C)

Colton / No. California / Arizona

Monrovia

**CONDITION OF BLUE ICE:** Frozen \_\_\_\_\_ Thawed \_\_\_\_\_

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

Wet Ice \_\_\_\_\_ No Ice \_\_\_\_\_

110751  
GR

750 Royal Oaks Drive, Suite 100  
Monrovia, CA 91016-3629  
Phone: 626 386 1100  
Fax: 626 386 1101  
800 566 LABS (800 566 5227)

**TO BE COMPLETED BY SAMPLER:**

**COMPANY/AGENCY NAME:** BWS HONOLULU

**PROJECT CODE:** Red Hill

**EEA CLIENT CODE:** Honolulu

**COC ID:** \_\_\_\_\_

**TAT requested:** rush by adv notice only

STD \_\_\_ 1 wk \_\_\_ X \_\_\_ 3 day \_\_\_ 2 day \_\_\_ 1 day \_\_\_

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA		SEAW = Sea Water WW = Waste Water	BW = Bottled Water SW = Storm Water	SO = Soil SL = Sludge	SAMPLER COMMENTS
					TPH 8015	8015 Gas C				
5-16-22	0930	Halawa Shaft Viewing Pool		RGW						
		Travel Blank		CFW						
		Temperature Blank								
										Temp Blank: 4.5 °C

**COMPLIANCE SAMPLES** (check for yes)  **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)

**\* MATRIX TYPES:** RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water

**PRINT NAME:** Derek Dotson

**COMPANY/TITLE:** Honolulu Board of Water Supply

**DATE:** 5-16-2022

**TIME:** 12:00

**SAMPLED BY:** \_\_\_\_\_

**RELINQUISHED BY:** \_\_\_\_\_

**RECEIVED BY:** G. RETNER

**RECEIVED BY:** \_\_\_\_\_

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number: 10771

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

IR Gun ID = 649A (Observation = 4.5 °C) (Corr. Factor = 0.3 °C) (Final = 4.2 °C)

TYPE OF ICE: Real  Synthetic  No Ice  Partially Frozen  Thawed  Frozen  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)

6) pH Check, Manufacturer: \_\_\_\_\_ Lot Number: \_\_\_\_\_ pH strip type: 0 - 14 or \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results: \_\_\_\_\_

8) Chlorine check, Manufacturer: Sansafe, Lot No.: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results: \_\_\_\_\_

7) 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 816.4, HAA(8281,882), 806, 8PMR, @CH, 532LCMS, 886, 888, Anatoxin, LCMB methods using 40 ml vials, international allants;  
 . Samp ID Bottle # None/<8 >8mm Test

Samp ID Bottle #	None/<8	>8mm	Test	Samp ID Bottle #	None/<8	>8mm	Test

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

RECEIVED BY: [Signature] SIGNATURE: G. RETNER PRINT NAME: \_\_\_\_\_ DATE: 05/18/2022 TIME: 12:00

SAMPLES CHECKED AGAINST COC BY: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ PRINT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

# INTERNAL CHAIN OF CUSTODY RECORD

IR Gun ID = 649A (Observation = 3.8 °C) (Corr. Factor = 0.3 °C) (Final = 3.5 °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) Results: \_\_\_\_\_

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

6) Chlorine check, Manufacturer: Samsafe. 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 616.4, HAA(6267,662), 606, SPME, @CH, 632LCMS, 666, 668, Anatoxin, LCMS methods using 40 ml vials, International clients:	Samp ID	Bottle #	None/<6	>8mm	Test	Samp ID	Bottle #	None/<6	>8mm	Test

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

SIGNATURE 	PRINT NAME G. P. MILLER	COMPANY/TITLE Eurofins Eaton Analytical	DATE 05/18/2022	TIME 12:00
SIGNATURE	PRINT NAME	COMPANY/TITLE Eurofins Eaton Analytical	DATE	TIME

ORIGIN ID: HKA (809) 748-5840  
BWS CHEM LAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 17MAY22  
ACTWTGT: 64.00 LB  
CAD: 100205419/NET/4490

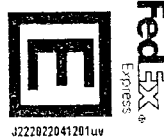
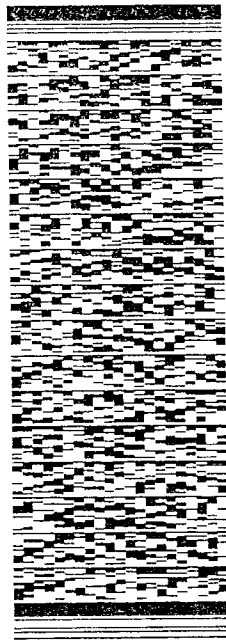
BILL RECIPIENT

TO BROOKS

EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100

MONROVIA CA 91016  
REF: (629) 386-1178

PO INV DEPT



J222022041201uv

577J51BC6/FE4A

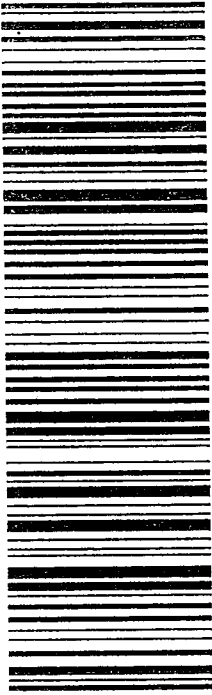
1 of 2

TRK# 7768 8383 9324  
0201  
## MASTER ##

WED - 18 MAY 10:30A  
PRIORITY OVERNIGHT

WZ WHPA

CA-US 91016  
BUR



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BWS CHEMLAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST.  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

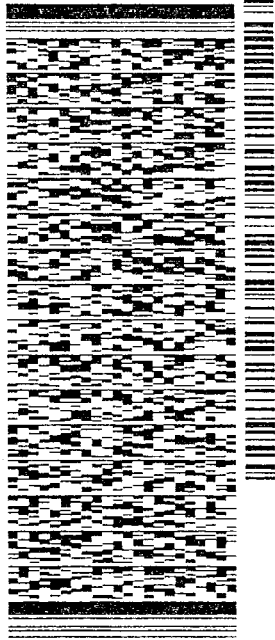
SHIP DATE: 17MAY22  
ACTWGT: 04.00 LB  
CAD: 100205419/NET4490  
BILL RECIPIENT

TO **BROOKS**

**EUROFINS EATON ANALYTICAL, INC**  
**750 ROYAL OAKS DR**  
**SUITE 100**  
**MONROVIA CA 91016**

REF: (629) 386-1178  
PO #1/1

DEPT



J222022041201uv

577J5HBD6FE4A

2 of 2

MPS# 7768 8383 9986  
0263

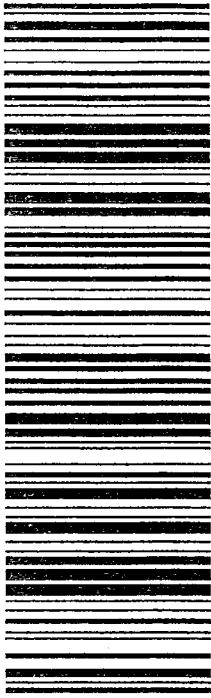
MStt# 7768 8383 9324

0201

WED - 18 MAY 10:30A  
PRIORITY OVERNIGHT

**WZ WHPA**

91016  
CA-US BUR



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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 Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

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

## Laboratory Comments

**Report:** 1004391  
**Project:** RED-HILL  
**Group:** Weekly TPH-8015\_RED-HILL (2022)  
- EMAX

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

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**Folder Comments**

Analytical results for TPH Gas, Diesel, and Motor Oil are submitted by EMAX Laboratories, Inc., Torrance, CA

Subcontracted Data -- Please review Subcontractor's report in full. EEA enters Subcontractor data into EEA system for archive tracking purposes of final result. See subcontractor's report for Qualifier definition.

ND reporting (subcontract lab reports)

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

Tentatively Identified compounds (TIC).

The analyte has been "tentatively identified" as present and the associated numerical value is the estimated concentration in the sample. The analytes are not positively identified or quantified. Presentation of results in this report does not indicate actual presence of the compound identified in the TIC summary. Information is for study purposes only.

@525.2 (SVOC by GCMS)

202205190010 @525.2 TIC's

Compound	Estimated Conc.	Retention Time
Unknown	0.9 ug/L	3.64 minutes
Unknown	0.8 ug/L	3.67 minutes
Phthalic anhydride	0.6 ug/L	3.74 minutes
Substituted Phenol	0.6 ug/L	3.82 minutes

Testing specification updated to 8015+525, due to detections by 525, in one of the quarterly sites.

**Flags Legend:**

BM - Target analyte detected in method blank above the MDL, but below the minimum reporting limit (MRL) and analyte not present in the sample, no impact on data.



Eaton Analytical

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

Laboratory Hits

**Report:** 1004391  
**Project:** RED-HILL  
**Group:** Weekly TPH-8015\_RED-HILL (2022)  
- EMAX

**Honolulu Board of Water Supply**

Erwin Kawata  
630 South Beretania Street  
Public Service Bldg." Room 308  
Honolulu, HI 96843

Samples Received on:  
05/18/2022 1200

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Analyzed	Analyte	Sample ID	Result	HI Limit	Units	MRL
----------	---------	-----------	--------	----------	-------	-----

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**SUMMARY OF POSITIVE DATA ONLY**

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

Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

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

Samples Received on:  
 05/18/2022 1200

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<b>Halawa Shaft Viewing Pool (202205190010)</b>						<b>Sampled on 05/16/2022 0930</b>			
<b>EPA 525.2 - Semivolatiles by GCMS</b>									
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	1-Methylnaphthalene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2,4-DDD	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2,4-DDE	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2,4-DDT	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2,4-Dinitrotoluene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2,6-Dinitrotoluene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	2-methylnaphthalene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	4,4-DDD	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	4,4-DDE	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	4,4-DDT	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Acenaphthene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Acenaphthylene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Acetochlor	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Alachlor	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Alpha-BHC	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	alpha-Chlordane	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Anthracene	ND	ug/L	0.020	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Atrazine	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Benz(a)Anthracene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.020	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Benzo(b)Fluoranthene	ND	ug/L	0.020	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Benzo(g,h,i)Perylene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Benzo(k)Fluoranthene	ND	ug/L	0.020	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Beta-BHC	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Bromacil	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Butachlor	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Butylbenzylphthalate	ND	ug/L	0.50	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Caffeine by method 525mod	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chlorobenzilate	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chloroneb	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chlorothalonil(Draconil,Bravo)	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chlorpyrifos (Dursban)	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chrysene	ND	ug/L	0.020	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Delta-BHC	ND	ug/L	0.10	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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 1 800 566 LABS (1 800 566 5227)

**Report:** 1004391  
**Project:** RED-HILL  
**Group:** Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

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

Samples Received on:  
 05/18/2022 1200

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND	ug/L	0.60	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.60	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Diazinon (Qualitative)	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Dibenz(a,h)Anthracene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Dichlorvos (DDVP)	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Dieldrin	ND	ug/L	0.20	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Diethylphthalate	ND	ug/L	0.50	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Dimethoate	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Dimethylphthalate	ND	ug/L	0.50	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Di-n-Butylphthalate	ND (BM)	ug/L	1.0	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Di-N-octylphthalate	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Endosulfan I (Alpha)	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Endosulfan II (Beta)	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Endosulfan Sulfate	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Endrin	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Endrin Aldehyde	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	EPTC	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Fluoranthene	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Fluorene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	gamma-Chlordane	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Heptachlor	ND	ug/L	0.040	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Heptachlor Epoxide (isomer B)	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Hexachlorobenzene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Hexachlorocyclopentadiene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Isophorone	ND	ug/L	0.50	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Lindane	ND	ug/L	0.040	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Malathion	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Methoxychlor	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Metolachlor	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Metribuzin	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Molinate	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Naphthalene	ND	ug/L	0.30	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Parathion	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Pendimethalin	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Permethrin (mixed isomers)	ND	ug/L	0.20	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Phenanthrene	ND	ug/L	0.040	1

Rounding on totals after summation.  
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Laboratory Data

**Report:** 1004391  
**Project:** RED-HILL  
**Group:** Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

**Honolulu Board of Water Supply**  
 Erwin Kawata  
 630 South Beretania Street  
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Samples Received on:  
 05/18/2022 1200

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Propachlor	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Pyrene	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Simazine	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Terbacil	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Terbutylazine	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Thiobencarb (ELAP)	ND	ug/L	0.20	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	trans-Nonachlor	ND	ug/L	0.050	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Trifluralin	ND	ug/L	0.10	1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	95	%		1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Acenaphthene-d10	71	%		1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Chrysene-d12	76	%		1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Perylene-d12	94	%		1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Phenanthrene-d10	76	%		1
05/19/22	05/23/22 17:29	1407377	1408762	(EPA 525.2)	Triphenylphosphate	108	%		1
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
05/19/22	05/19/22 19:13			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1
<b>SW 8015B - TPH 8015 Diesel and Motor Oil</b>									
05/22/22	05/23/22 14:36			(SW 8015B)	TPH Diesel	ND	mg/L	0.026	1
05/22/22	05/23/22 14:36			(SW 8015B)	TPH Motor Oil	ND	mg/L	0.052	1
<b>TB:Halawa Shaft Viewing Pool (202205190011)</b>						<b>Sampled on 05/16/2022 0930</b>			
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
05/19/22	05/19/22 20:56			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1

Rounding on totals after summation.  
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Eaton Analytical

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**Laboratory QC Summary**

**Report:** 1004391  
**Project:** RED-HILL  
**Group:** Weekly TPH-8015\_RED-HILL (2022)  
- EMAX

Honolulu Board of Water Supply

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**Semivolatiles by GCMS**

**Prep Batch: 1407377 Analytical Batch: 1408762**  
202205190010 Halawa Shaft Viewing Pool

**Analysis Date: 05/23/2022**  
Analyzed by: JWC

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Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
<b>Semivolatiles by GCMS by EPA 525.2</b>									
<b>Prep Batch: 1407377 Analytical Batch: 1408762</b>					<b>Analysis Date: 05/23/2022</b>				
DUP_202205170037	1,3-Dimethyl-2-nitrobenzene (S)			96.6	%	97	(70-130)		
LCS1	1,3-Dimethyl-2-nitrobenzene (S)		5	94.6	%	95	(70-130)		
LC 2	1,3 Dimethyl 2 nitrobenzene ( )		5	95.6	%	96	(70-130)		
MBLK	1,3-Dimethyl-2-nitrobenzene (S)			96.0	%	96	(70-130)		
MRL_CHK	1,3-Dimethyl-2-nitrobenzene (S)		5	95.6	%	96	(70-130)		
MS_202205170375	1,3-Dimethyl-2-nitrobenzene (S)		5	94.6	%	95	(70-130)		
DUP_202205170037	1-Methylnaphthalene			ND	ug/L		(0-20)		
LCS1	1-Methylnaphthalene		2	1.92	ug/L	96	(70-130)		
LCS2	1-Methylnaphthalene		2	1.94	ug/L	97	(70-130)	20	1.0
MBLK	1-Methylnaphthalene			<0.1	ug/L				
MRL_CHK	1-Methylnaphthalene		0.1	0.104	ug/L	104	(50-150)		
MS_202205170375	1-Methylnaphthalene		2	1.93	ug/L	97	(70-130)		
DUP_202205170037	2,4-DDD	ND		ND	ug/L		(0-20)		
LCS1	2,4-DDD		2	2.19	ug/L	110	(70-130)		
LCS2	2,4-DDD		2	2.10	ug/L	105	(70-130)	20	4.2
MBLK	2,4-DDD			<0.1	ug/L				
MRL_CHK	2,4-DDD		0.1	0.134	ug/L	134	(50-150)		
MS_202205170375	2,4-DDD		2	2.31	ug/L	116	(70-130)		
DUP_202205170037	2,4-DDE	ND		ND	ug/L		(0-20)		
LCS1	2,4-DDE		2	2.14	ug/L	107	(70-130)		
LCS2	2,4-DDE		2	2.08	ug/L	104	(70-130)	20	2.4
MBLK	2,4-DDE			<0.1	ug/L				
MRL_CHK	2,4-DDE		0.1	0.114	ug/L	114	(50-150)		
MS_202205170375	2,4-DDE		2	2.22	ug/L	111	(70-130)		
DUP_202205170037	2,4-DDT	ND		ND	ug/L		(0-20)		
LCS1	2,4-DDT		2	2.11	ug/L	105	(70-130)		
LCS2	2,4-DDT		2	2.02	ug/L	101	(70-130)	20	4.4
MBLK	2,4-DDT			<0.1	ug/L				
MRL_CHK	2,4-DDT		0.1	0.118	ug/L	118	(50-150)		
MS_202205170375	2,4-DDT		2	2.17	ug/L	109	(70-130)		
DUP_202205170037	2,4-Dinitrotoluene	ND		ND	ug/L		(0-20)		
LCS1	2,4-Dinitrotoluene		2	2.15	ug/L	108	(70-130)		
LCS2	2,4-Dinitrotoluene		2	2.07	ug/L	104	(70-130)	20	3.8
MBLK	2,4-Dinitrotoluene			<0.1	ug/L				
MRL_CHK	2,4-Dinitrotoluene		0.1	0.113	ug/L	113	(50-150)		

Spike recovery is already corrected for native results.  
 Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.  
 RPD not calculated for LCS2 when different a concentration than LCS1 is used.  
 RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).  
 (S) - Indicates surrogate compound.  
 (I) - Indicates internal standard compound.



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Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202205170375	2,4-Dinitrotoluene	ND	2	2.23	ug/L	112	(70-130)		
DUP_202205170037	2,6-Dinitrotoluene	ND		ND	ug/L		(0-20)		
LCS1	2,6-Dinitrotoluene		2	2.30	ug/L	115	(70-130)		
LCS2	2,6-Dinitrotoluene		2	2.20	ug/L	110	(70-130)	20	4.4
MBLK	2,6-Dinitrotoluene			<0.1	ug/L				
MRL_CHK	2,6-Dinitrotoluene		0.1	0.106	ug/L	106	(50-150)		
MS_202205170375	2,6-Dinitrotoluene	ND	2	2.40	ug/L	120	(70-130)		
DUP_202205170037	2-methylnaphthalene			ND	ug/L		(0-20)		
LCS1	2-methylnaphthalene		2	1.95	ug/L	97	(70-130)		
LCS2	2-methylnaphthalene		2	1.96	ug/L	98	(70-130)	20	0.51
MBLK	2-methylnaphthalene			<0.1	ug/L				
MRL_CHK	2-methylnaphthalene		0.1	0.102	ug/L	102	(50-150)		
MS_202205170375	2-methylnaphthalene		2	1.93	ug/L	96	(70-130)		
DUP_202205170037	4,4-DDD	ND		ND	ug/L		(0-20)		
LCS1	4,4-DDD		2	2.19	ug/L	110	(70-130)		
LCS2	4,4-DDD		2	2.10	ug/L	105	(70-130)	20	4.2
MBLK	4,4-DDD			<0.1	ug/L				
MRL_CHK	4,4-DDD		0.1	0.119	ug/L	119	(50-150)		
MS_202205170375	4,4-DDD	ND	2	2.31	ug/L	115	(70-130)		
DUP_202205170037	4,4-DDE	ND		ND	ug/L		(0-20)		
LCS1	4,4-DDE		2	2.24	ug/L	112	(70-130)		
LCS2	4,4-DDE		2	2.16	ug/L	108	(70-130)	20	3.2
MBLK	4,4-DDE			<0.1	ug/L				
MRL_CHK	4,4-DDE		0.1	0.111	ug/L	111	(50-150)		
MS_202205170375	4,4-DDE	ND	2	2.26	ug/L	113	(70-130)		
DUP_202205170037	4,4-DDT	ND		ND	ug/L		(0-20)		
LCS1	4,4-DDT		2	2.30	ug/L	115	(70-130)		
LCS2	4,4-DDT		2	2.15	ug/L	108	(70-130)	20	6.7
MBLK	4,4-DDT			<0.1	ug/L				
MRL_CHK	4,4-DDT		0.1	0.115	ug/L	115	(50-150)		
MS_202205170375	4,4-DDT	ND	2	2.38	ug/L	119	(70-130)		
DUP_202205170037	Acenaphthene	ND		ND	ug/L		(0-20)		
LCS1	Acenaphthene		2	1.89	ug/L	95	(70-130)		
LCS2	Acenaphthene		2	1.90	ug/L	95	(70-130)	20	1.1
MBLK	Acenaphthene			<0.1	ug/L				
MRL_CHK	Acenaphthene		0.1	0.0990	ug/L	99	(50-150)		
MS_202205170375	Acenaphthene	ND	2	1.91	ug/L	96	(70-130)		
DUP_202205170037	Acenaphthene-d10 (I)			75.8	%	76	(50-150)		

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Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Acenaphthene-d10 (I)		5	70.0	%	70	(50-150)		
LCS2	Acenaphthene-d10 (I)		5	65.5	%	66	(50-150)		
MBLK	Acenaphthene-d10 (I)			73.6	%	74	(50-150)		
MRL_CHK	Acenaphthene-d10 (I)		5	77.0	%	77	(50-150)		
MS_202205170375	Acenaphthene-d10 (I)		5	79.7	%	80	(50-150)		
DUP_202205170037	Acenaphthylene	ND		ND	ug/L		(0-20)		
LCS1	Acenaphthylene		2	1.90	ug/L	95	(70-130)		
LCS2	Acenaphthylene		2	1.93	ug/L	97	(70-130)	20	1.6
MBLK	Acenaphthylene			<0.1	ug/L				
MRL_CHK	Acenaphthylene		0.1	0.0900	ug/L	90	(50-150)		
MS_202205170375	Acenaphthylene	ND	2	1.95	ug/L	97	(70-130)		
DUP_202205170037	Acetochlor	ND		ND	ug/L		(0-20)		
LCS1	Acetochlor		2	2.26	ug/L	113	(70-130)		
LCS2	Acetochlor		2	2.19	ug/L	110	(70-130)	20	3.6
MBLK	Acetochlor			<0.1	ug/L				
MRL_CHK	Acetochlor		0.05	0.0460	ug/L	92	(50-150)		
MS_202205170375	Acetochlor	ND	2	2.31	ug/L	116	(70-130)		
DUP_202205170037	Alachlor	ND		ND	ug/L		(0-20)		
LCS1	Alachlor		2	2.25	ug/L	113	(70-130)		
LCS2	Alachlor		2	2.20	ug/L	110	(70-130)	20	2.3
MBLK	Alachlor			<0.05	ug/L				
MRL_CHK	Alachlor		0.05	0.0580	ug/L	116	(50-150)		
MS_202205170375	Alachlor	ND	2	2.31	ug/L	115	(70-130)		
DUP_202205170037	Alpha-BHC	ND		ND	ug/L		(0-20)		
LCS1	Alpha-BHC		2	2.11	ug/L	105	(70-130)		
LCS2	Alpha-BHC		2	2.14	ug/L	107	(70-130)	20	1.4
MBLK	Alpha-BHC			<0.1	ug/L				
MRL_CHK	Alpha-BHC		0.1	0.117	ug/L	117	(50-150)		
MS_202205170375	Alpha-BHC	ND	2	2.16	ug/L	108	(70-130)		
DUP_202205170037	alpha-Chlordane	ND		ND	ug/L		(0-20)		
LCS1	alpha-Chlordane		2	2.10	ug/L	105	(70-130)		
LCS2	alpha-Chlordane		2	2.04	ug/L	102	(70-130)	20	2.9
MBLK	alpha-Chlordane			<0.05	ug/L				
MRL_CHK	alpha-Chlordane		0.05	0.0590	ug/L	118	(50-150)		
MS_202205170375	alpha-Chlordane	ND	2	2.14	ug/L	107	(70-130)		
DUP_202205170037	Anthracene	ND		ND	ug/L		(0-20)		
LCS1	Anthracene		2	2.06	ug/L	103	(70-130)		
LCS2	Anthracene		2	2.03	ug/L	101	(70-130)	20	1.5

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Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Anthracene			<0.02	ug/L				
MRL_CHK	Anthracene		0.02	0.0210	ug/L	105	(50-150)		
MS_202205170375	Anthracene	ND	2	2.11	ug/L	106	(70-130)		
DUP_202205170037	Atrazine	ND		ND	ug/L		(0-20)		
LCS1	Atrazine		2	2.28	ug/L	114	(70-130)		
LCS2	Atrazine		2	2.23	ug/L	111	(70-130)	20	2.2
MBLK	Atrazine			<0.05	ug/L				
MRL_CHK	Atrazine		0.05	0.0540	ug/L	108	(50-150)		
MS_202205170375	Atrazine	ND	2	2.51	ug/L	125	(70-130)		
DUP_202205170037	Benz(a)Anthracene	ND		ND	ug/L		(0-20)		
LCS1	Benz(a)Anthracene		2	2.23	ug/L	112	(70-130)		
LCS2	Benz(a)Anthracene		2	2.08	ug/L	104	(70-130)	20	7.0
MBLK	Benz(a)Anthracene			<0.05	ug/L				
MRL_CHK	Benz(a)Anthracene		0.05	0.0620	ug/L	124	(50-150)		
MS_202205170375	Benz(a)Anthracene	ND	2	2.31	ug/L	116	(70-130)		
DUP_202205170037	Benzo(a)pyrene	ND		ND	ug/L		(0-20)		
LCS1	Benzo(a)pyrene		2	2.10	ug/L	105	(70-130)		
LCS2	Benzo(a)pyrene		2	2.10	ug/L	105	(70-130)	20	0.0
MBLK	Benzo(a)pyrene			<0.02	ug/L				
MRL_CHK	Benzo(a)pyrene		0.02	0.0190	ug/L	95	(50-150)		
MS_202205170375	Benzo(a)pyrene	ND	2	2.04	ug/L	102	(70-130)		
DUP_202205170037	Benzo(b)Fluoranthene	ND		ND	ug/L		(0-20)		
LCS1	Benzo(b)Fluoranthene		2	2.12	ug/L	106	(70-130)		
LCS2	Benzo(b)Fluoranthene		2	2.15	ug/L	107	(70-130)	20	1.4
MBLK	Benzo(b)Fluoranthene			<0.02	ug/L				
MRL_CHK	Benzo(b)Fluoranthene		0.02	0.0220	ug/L	110	(50-150)		
MS_202205170375	Benzo(b)Fluoranthene	ND	2	2.11	ug/L	105	(70-130)		
DUP_202205170037	Benzo(g,h,i)Perylene	ND		ND	ug/L		(0-20)		
LCS1	Benzo(g,h,i)Perylene		2	2.24	ug/L	112	(70-130)		
LCS2	Benzo(g,h,i)Perylene		2	2.16	ug/L	108	(70-130)	20	3.6
MBLK	Benzo(g,h,i)Perylene			<0.05	ug/L				
MRL_CHK	Benzo(g,h,i)Perylene		0.05	0.0380	ug/L	76	(50-150)		
MS_202205170375	Benzo(g,h,i)Perylene	ND	2	2.09	ug/L	105	(70-130)		
DUP_202205170037	Benzo(k)Fluoranthene	ND		ND	ug/L		(0-20)		
LCS1	Benzo(k)Fluoranthene		2	2.24	ug/L	112	(70-130)		
LCS2	Benzo(k)Fluoranthene		2	2.20	ug/L	110	(70-130)	20	1.8
MBLK	Benzo(k)Fluoranthene			<0.02	ug/L				
MRL_CHK	Benzo(k)Fluoranthene		0.02	0.0190	ug/L	95	(50-150)		

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Report: 1004391  
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 - EMAX

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202205170375	Benzo(k)Fluoranthene	ND	2	2.24	ug/L	112	(70-130)		
DUP_202205170037	Beta-BHC	ND		ND	ug/L		(0-20)		
LCS1	Beta-BHC		2	2.32	ug/L	116	(70-130)		
LCS2	Beta-BHC		2	2.30	ug/L	115	(70-130)	20	0.87
MBLK	Beta-BHC			<0.1	ug/L				
MRL_CHK	Beta-BHC		0.1	0.120	ug/L	120	(50-150)		
MS_202205170375	Beta-BHC	ND	2	2.32	ug/L	116	(70-130)		
DUP_202205170037	Bromacil	ND		ND	ug/L		(0-20)		
LCS1	Bromacil		2	2.55	ug/L	127	(70-130)		
LCS2	Bromacil		2	2.41	ug/L	121	(70-130)	20	5.7
MBLK	Bromacil			<0.2	ug/L				
MRL_CHK	Bromacil		0.1	0.138	ug/L	138	(50-150)		
MS_202205170375	Bromacil	ND	2	2.68	ug/L	<u>134</u>	(70-130)		
DUP_202205170037	Butachlor	ND		ND	ug/L		(0 20)		
LCS1	Butachlor		2	2.36	ug/L	118	(70-130)		
LCS2	Butachlor		2	2.30	ug/L	115	(70-130)	20	2.6
MBLK	Butachlor			<0.05	ug/L				
MRL_CHK	Butachlor		0.05	0.0620	ug/L	124	(50-150)		
MS_202205170375	Butachlor	ND	2	2.47	ug/L	124	(70-130)		
DUP_202205170037	Butylbenzylphthalate	ND		ND	ug/L		(0-20)		
LCS1	Butylbenzylphthalate		2	2.34	ug/L	117	(70-130)		
LCS2	Butylbenzylphthalate		2	2.25	ug/L	113	(70-130)	20	3.9
MBLK	Butylbenzylphthalate			<0.5	ug/L				
MRL_CHK	Butylbenzylphthalate		0.15	0.194	ug/L	129	(50-150)		
MS_202205170375	Butylbenzylphthalate	ND	2	2.45	ug/L	123	(70-130)		
DUP_202205170037	Caffeine by method 525mod	ND		ND	ug/L		(0-20)		
LCS1	Caffeine by method 525mod		2	1.97	ug/L	99	(45-137)		
LCS2	Caffeine by method 525mod		2	1.68	ug/L	84	(45-137)	20	16
MBLK	Caffeine by method 525mod			<0.05	ug/L				
MRL_CHK	Caffeine by method 525mod		0.05	0.0430	ug/L	86	(50-150)		
MS_202205170375	Caffeine by method 525mod	ND	2	2.06	ug/L	103	(46-144)		
DUP_202205170037	Chlorobenzilate	ND		ND	ug/L		(0-20)		
LCS1	Chlorobenzilate		2	2.47	ug/L	123	(70-130)		
LCS2	Chlorobenzilate		2	2.41	ug/L	121	(70-130)	20	2.5
MBLK	Chlorobenzilate			<0.1	ug/L				
MRL_CHK	Chlorobenzilate		0.1	0.127	ug/L	127	(50-150)		
MS_202205170375	Chlorobenzilate	ND	2	2.60	ug/L	130	(70-130)		
DUP_202205170037	Chloroneb	ND		ND	ug/L		(0-20)		

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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Chloroneb		2	2.06	ug/L	103	(70-130)		
LCS2	Chloroneb		2	2.07	ug/L	103	(70-130)	20	0.0
MBLK	Chloroneb			<0.1	ug/L				
MRL_CHK	Chloroneb		0.1	0.111	ug/L	111	(50-150)		
MS_202205170375	Chloroneb	ND	2	2.11	ug/L	105	(70-130)		
DUP_202205170037	Chlorothalonil(Draconil,Bravo)	ND		ND	ug/L		(0-20)		
LCS1	Chlorothalonil(Draconil,Bravo)		2	2.36	ug/L	118	(70-130)		
LCS2	Chlorothalonil(Draconil,Bravo)		2	2.26	ug/L	113	(70-130)	20	4.3
MBLK	Chlorothalonil(Draconil,Bravo)			<0.1	ug/L				
MRL_CHK	Chlorothalonil(Draconil,Bravo)		0.1	0.102	ug/L	102	(50-150)		
MS_202205170375	Chlorothalonil(Draconil,Bravo)	ND	2	2.42	ug/L	121	(70-130)		
DUP_202205170037	Chlorpyrifos (Dursban)	ND		ND	ug/L		(0-20)		
LCS1	Chlorpyrifos (Dursban)		2	2.12	ug/L	106	(70-130)		
LCS2	Chlorpyrifos (Dursban)		2	2.05	ug/L	103	(70-130)	20	3.4
MBLK	Chlorpyrifos (Dursban)			<0.05	ug/L				
MRL_CHK	Chlorpyrifos (Dursban)		0.05	0.0580	ug/L	116	(50-150)		
MS_202205170375	Chlorpyrifos (Dursban)	ND	2	2.18	ug/L	109	(70-130)		
DUP_202205170037	Chrysene	ND		ND	ug/L		(0-20)		
LCS1	Chrysene		2	2.12	ug/L	106	(70-130)		
LCS2	Chrysene		2	2.16	ug/L	108	(70-130)	20	1.9
MBLK	Chrysene			<0.02	ug/L				
MRL_CHK	Chrysene		0.02	0.0230	ug/L	115	(50-150)		
MS_202205170375	Chrysene	ND	2	2.09	ug/L	104	(70-130)		
DUP_202205170037	Chrysene-d12 (I)			79.6	%	80	(50-150)		
LCS1	Chrysene-d12 (I)		5	78.9	%	79	(50-150)		
LCS2	Chrysene-d12 (I)		5	68.0	%	68	(50-150)		
MBLK	Chrysene-d12 (I)			79.3	%	79	(50-150)		
MRL_CHK	Chrysene-d12 (I)		5	82.3	%	82	(50-150)		
MS_202205170375	Chrysene-d12 (I)		5	91.2	%	91	(50-150)		
DUP_202205170037	Delta-BHC	ND		ND	ug/L		(0-20)		
LCS1	Delta-BHC		2	2.19	ug/L	110	(70-130)		
LCS2	Delta-BHC		2	2.10	ug/L	105	(70-130)	20	4.2
MBLK	Delta-BHC			<0.1	ug/L				
MRL_CHK	Delta-BHC		0.1	0.119	ug/L	119	(50-150)		
MS_202205170375	Delta-BHC	ND	2	2.14	ug/L	107	(70-130)		
DUP_202205170037	Di-(2-Ethylhexyl)adipate	ND		ND	ug/L		(0-20)		
LCS1	Di-(2-Ethylhexyl)adipate		2	2.40	ug/L	120	(70-130)		
LCS2	Di-(2-Ethylhexyl)adipate		2	2.25	ug/L	113	(70-130)	20	6.5

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Di-(2-Ethylhexyl)adipate			<0.6	ug/L				
MRL_CHK	Di-(2-Ethylhexyl)adipate		0.3	0.401	ug/L	134	(50-150)		
MS_202205170375	Di-(2-Ethylhexyl)adipate	ND	2	2.42	ug/L	121	(70-130)		
DUP_202205170037	Di(2-E hylhexyl)phthalate	ND		ND	ug/L		(0-20)		
LCS1	Di(2-E hylhexyl)phthalate		2	2.22	ug/L	111	(70-130)		
LCS2	Di(2-E hylhexyl)phthalate		2	2.40	ug/L	120	(70-130)	20	7.8
MBLK	Di(2-E hylhexyl)phthalate			<0.6	ug/L				
MRL_CHK	Di(2-E hylhexyl)phthalate		0.6	0.888	ug/L	148	(50-150)		
MS_202205170375	Di(2-E hylhexyl)phthalate	ND	2	2.14	ug/L	107	(70-130)		
DUP_202205170037	Diazinon (Qualitative)	ND		ND	ug/L		(0-20)		
LCS1	Diazinon (Qualitative)		2	1.91	ug/L	95	(15-132)		
LCS2	Diazinon (Qualitative)		2	1.95	ug/L	97	(15-132)	20	2.1
MBLK	Diazinon (Qualitative)			<0.10	ug/L				
MRL_CHK	Diazinon (Qualitative)		0.1	0.0990	ug/L	99	(15-132)		
MS_202205170375	Diazinon (Qualitative)	ND	2	2.03	ug/L	102	(15-132)		
DUP_202205170037	Dibenz(a,h)Anthracene	ND		ND	ug/L		(0-20)		
LCS1	Dibenz(a,h)Anthracene		2	2.43	ug/L	121	(70-130)		
LCS2	Dibenz(a,h)Anthracene		2	2.35	ug/L	118	(70-130)	20	3.4
MBLK	Dibenz(a,h)Anthracene			<0.05	ug/L				
MRL_CHK	Dibenz(a,h)Anthracene		0.05	0.0420	ug/L	84	(50-150)		
MS_202205170375	Dibenz(a,h)Anthracene	ND	2	2.26	ug/L	113	(70-130)		
DUP_202205170037	Dichlorvos (DDVP)	ND		ND	ug/L		(0-20)		
LCS1	Dichlorvos (DDVP)		2	2.31	ug/L	115	(70-130)		
LCS2	Dichlorvos (DDVP)		2	2.30	ug/L	115	(70-130)	20	0.43
MBLK	Dichlorvos (DDVP)			<0.05	ug/L				
MRL_CHK	Dichlorvos (DDVP)		0.05	0.0530	ug/L	106	(50-150)		
MS_202205170375	Dichlorvos (DDVP)	ND	2	2.37	ug/L	118	(70-130)		
DUP_202205170037	Dieldrin	ND		ND	ug/L		(0-20)		
LCS1	Dieldrin		2	2.22	ug/L	111	(70-130)		
LCS2	Dieldrin		2	2.11	ug/L	105	(70-130)	20	5.1
MBLK	Dieldrin			<0.2	ug/L				
MRL_CHK	Dieldrin		0.1	0.124	ug/L	124	(50-150)		
MS_202205170375	Dieldrin	ND	2	2.30	ug/L	115	(70-130)		
DUP_202205170037	Diethylphthalate	ND		ND	ug/L		(0-20)		
LCS1	Diethylphthalate		2	2.10	ug/L	105	(70-130)		
LCS2	Diethylphthalate		2	2.14	ug/L	107	(70-130)	20	1.9
MBLK	Diethylphthalate			<0.5	ug/L				
MRL_CHK	Diethylphthalate		0.15	0.194	ug/L	129	(50-150)		

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Report: 1004391  
 Project: RED-HILL  
 Group: Weekly TPH-8015\_RED-HILL (2022)  
 - EMAX

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202205170375	Diethylphthalate	ND	2	2.15	ug/L	108	(70-130)		
DUP_202205170037	Dimethoate	ND		ND	ug/L		(0-20)		
LCS1	Dimethoate		2	1.90	ug/L	95	(35-100)		
LCS2	Dimethoate		2	1.60	ug/L	80	(35-100)	20	17
MBLK	Dimethoate			<0.1	ug/L				
MRL_CHK	Dimethoate		0.1	0.0920	ug/L	92	(35-100)		
MS_202205170375	Dimethoate	ND	2	1.88	ug/L	94	(34-111)		
DUP_202205170037	Dimethylphthalate	ND		ND	ug/L		(0-20)		
LCS1	Dimethylphthalate		2	2.26	ug/L	113	(70-130)		
LCS2	Dimethylphthalate		2	2.26	ug/L	113	(70-130)	20	0.0
MBLK	Dimethylphthalate			<0.5	ug/L				
MRL_CHK	Dimethylphthalate		0.3	0.343	ug/L	114	(50-150)		
MS_202205170375	Dimethylphthalate	ND	2	2.28	ug/L	114	(70-130)		
DUP_202205170037	Di-n-Butylphthalate	ND		ND	ug/L		(0-20)		
LCS1	Di-n-Butylphthalate		4	4.25	ug/L	106	(70-130)		
LCS2	Di-n-Butylphthalate		4	4.22	ug/L	105	(70-130)	20	0.71
MBLK	Di-n-Butylphthalate			<1	ug/L				
MRL_CHK	Di-n-Butylphthalate		0.3	0.370	ug/L	123	(50-150)		
MS_202205170375	Di-n-Butylphthalate	ND	4	4.47	ug/L	112	(70-130)		
DUP_202205170037	Di-N-octylphthalate	ND		ND	ug/L		(0-20)		
LCS1	Di-N-octylphthalate		2	2.01	ug/L	101	(70-130)		
LCS2	Di-N-octylphthalate		2	1.97	ug/L	99	(70-130)	20	2.0
MBLK	Di-N-octylphthalate			<0.1	ug/L				
MRL_CHK	Di-N-octylphthalate		0.1	0.102	ug/L	102	(50-150)		
MS_202205170375	Di-N-octylphthalate	ND	2	1.86	ug/L	93	(70-130)		
DUP_202205170037	Endosulfan I (Alpha)	ND		ND	ug/L		(0-20)		
LCS1	Endosulfan I (Alpha)		2	2.19	ug/L	110	(70-130)		
LCS2	Endosulfan I (Alpha)		2	2.14	ug/L	107	(70-130)	20	2.3
MBLK	Endosulfan I (Alpha)			<0.1	ug/L				
MRL_CHK	Endosulfan I (Alpha)		0.1	0.112	ug/L	112	(50-150)		
MS_202205170375	Endosulfan I (Alpha)	ND	2	2.22	ug/L	111	(70-130)		
DUP_202205170037	Endosulfan II (Beta)	ND		ND	ug/L		(0-20)		
LCS1	Endosulfan II (Beta)		2	2.24	ug/L	112	(70-130)		
LCS2	Endosulfan II (Beta)		2	2.18	ug/L	109	(70-130)	20	2.3
MBLK	Endosulfan II (Beta)			<0.1	ug/L				
MRL_CHK	Endosulfan II (Beta)		0.1	0.129	ug/L	129	(50-150)		
MS_202205170375	Endosulfan II (Beta)	ND	2	2.34	ug/L	117	(70-130)		
DUP_202205170037	Endosulfan Sulfate	ND		ND	ug/L		(0-20)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Report: 1004391  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Endosulfan Sulfate		2	2.32	ug/L	116	(70-130)		
LCS2	Endosulfan Sulfate		2	2.21	ug/L	111	(70-130)	20	4.9
MBLK	Endosulfan Sulfate			<0.1	ug/L				
MRL_CHK	Endosulfan Sulfate		0.1	0.120	ug/L	120	(50-150)		
MS_202205170375	Endosulfan Sulfate	ND	2	2.50	ug/L	125	(70-130)		
DUP_202205170037	Endrin	ND		ND	ug/L		(0-20)		
LCS1	Endrin		2	2.22	ug/L	111	(70-130)		
LCS2	Endrin		2	2.15	ug/L	107	(70-130)	20	3.2
MBLK	Endrin			<0.1	ug/L				
MRL_CHK	Endrin		0.1	0.134	ug/L	134	(50-150)		
MS_202205170375	Endrin	ND	2	2.28	ug/L	114	(70-130)		
DUP_202205170037	Endrin Aldehyde	ND		ND	ug/L		(0-20)		
LCS1	Endrin Aldehyde		2	2.14	ug/L	107	(70-130)		
LCS2	Endrin Aldehyde		2	2.00	ug/L	100	(70-130)	20	6.8
MBLK	Endrin Aldehyde			<0.1	ug/L				
MRL_CHK	Endrin Aldehyde		0.1	0.0950	ug/L	95	(50-150)		
MS_202205170375	Endrin Aldehyde	ND	2	2.09	ug/L	104	(70-130)		
DUP_202205170037	EPTC	ND		ND	ug/L		(0-20)		
LCS1	EPTC		2	2.06	ug/L	103	(70-130)		
LCS2	EPTC		2	2.05	ug/L	103	(70-130)	20	0.49
MBLK	EPTC			<0.1	ug/L				
MRL_CHK	EPTC		0.1	0.103	ug/L	103	(50-150)		
MS_202205170375	EPTC	ND	2	2.08	ug/L	104	(70-130)		
DUP_202205170037	Fluoranthene	ND		ND	ug/L		(0-20)		
LCS1	Fluoranthene		2	2.15	ug/L	108	(70-130)		
LCS2	Fluoranthene		2	2.10	ug/L	105	(70-130)	20	2.4
MBLK	Fluoranthene			<0.1	ug/L				
MRL_CHK	Fluoranthene		0.05	0.0580	ug/L	116	(50-150)		
MS_202205170375	Fluoranthene	ND	2	2.20	ug/L	110	(70-130)		
DUP_202205170037	Fluorene	ND		ND	ug/L		(0-20)		
LCS1	Fluorene		2	2.09	ug/L	104	(70-130)		
LCS2	Fluorene		2	2.11	ug/L	106	(70-130)	20	0.95
MBLK	Fluorene			<0.05	ug/L				
MRL_CHK	Fluorene		0.05	0.0540	ug/L	108	(50-150)		
MS_202205170375	Fluorene	ND	2	2.12	ug/L	106	(70-130)		
DUP_202205170037	gamma-Chlordane	ND		ND	ug/L		(0-20)		
LCS1	gamma-Chlordane		2	2.12	ug/L	106	(70-130)		
LCS2	gamma-Chlordane		2	2.06	ug/L	103	(70-130)	20	2.9

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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	gamma-Chlordane			<0.05	ug/L				
MRL_CHK	gamma-Chlordane		0.05	0.0570	ug/L	114	(50-150)		
MS_202205170375	gamma-Chlordane	ND	2	2.14	ug/L	107	(70-130)		
DUP_202205170037	Heptachlor	ND		ND	ug/L		(0-20)		
LCS1	Heptachlor		2	1.94	ug/L	97	(70-130)		
LCS2	Heptachlor		2	1.96	ug/L	98	(70-130)	20	0.51
MBLK	Heptachlor			<0.04	ug/L				
MRL_CHK	Heptachlor		0.04	0.0430	ug/L	108	(50-150)		
MS_202205170375	Heptachlor	ND	2	2.07	ug/L	103	(70-130)		
DUP_202205170037	Heptachlor Epoxide (isomer B)	ND		ND	ug/L		(0-20)		
LCS1	Heptachlor Epoxide (isomer B)		2	2.17	ug/L	109	(70-130)		
LCS2	Heptachlor Epoxide (isomer B)		2	2.10	ug/L	105	(70-130)	20	3.3
MBLK	Heptachlor Epoxide (isomer B)			<0.05	ug/L				
MRL_CHK	Heptachlor Epoxide (isomer B)		0.05	0.0560	ug/L	112	(50-150)		
MS_202205170375	Heptachlor Epoxide (isomer B)	ND	2	2.24	ug/L	112	(70-130)		
DUP_202205170037	Hexachlorobenzene	ND		ND	ug/L		(0-20)		
LCS1	Hexachlorobenzene		2	2.06	ug/L	103	(70-130)		
LCS2	Hexachlorobenzene		2	2.10	ug/L	105	(70-130)	20	1.9
MBLK	Hexachlorobenzene			<0.05	ug/L				
MRL_CHK	Hexachlorobenzene		0.05	0.0600	ug/L	120	(50-150)		
MS_202205170375	Hexachlorobenzene	ND	2	2.15	ug/L	108	(70-130)		
DUP_202205170037	Hexachlorocyclopentadiene	ND		ND	ug/L		(0-20)		
LCS1	Hexachlorocyclopentadiene		2	1.85	ug/L	93	(70-130)		
LCS2	Hexachlorocyclopentadiene		2	1.91	ug/L	95	(70-130)	20	3.2
MBLK	Hexachlorocyclopentadiene			<0.05	ug/L				
MRL_CHK	Hexachlorocyclopentadiene		0.05	0.0450	ug/L	90	(50-150)		
MS_202205170375	Hexachlorocyclopentadiene	ND	2	1.94	ug/L	97	(70-130)		
DUP_202205170037	Indeno(1,2,3,c,d)Pyrene	ND		ND	ug/L		(0-20)		
LCS1	Indeno(1,2,3,c,d)Pyrene		2	2.43	ug/L	121	(70-130)		
LCS2	Indeno(1,2,3,c,d)Pyrene		2	2.33	ug/L	116	(70-130)	20	4.2
MBLK	Indeno(1,2,3,c,d)Pyrene			<0.05	ug/L				
MRL_CHK	Indeno(1,2,3,c,d)Pyrene		0.05	0.0370	ug/L	74	(50-150)		
MS_202205170375	Indeno(1,2,3,c,d)Pyrene	ND	2	2.24	ug/L	112	(70-130)		
DUP_202205170037	Isophorone	ND		ND	ug/L		(0-20)		
LCS1	Isophorone		2	2.01	ug/L	101	(70-130)		
LCS2	Isophorone		2	1.96	ug/L	98	(70-130)	20	2.5
MBLK	Isophorone			<0.5	ug/L				
MRL_CHK	Isophorone		0.1	0.0800	ug/L	80	(50-150)		

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202205170375	Isophorone	ND	2	1.96	ug/L	98	(70-130)		
DUP_202205170037	Lindane	ND		ND	ug/L		(0-20)		
LCS1	Lindane		2	2.04	ug/L	102	(70-130)		
LCS2	Lindane		2	2.05	ug/L	103	(70-130)	20	0.49
MBLK	Lindane			<0.04	ug/L				
MRL_CHK	Lindane		0.04	0.0470	ug/L	118	(50-150)		
MS_202205170375	Lindane	ND	2	2.05	ug/L	103	(70-130)		
DUP_202205170037	Malathion	ND		ND	ug/L		(0-20)		
LCS1	Malathion		2	2.36	ug/L	118	(70-130)		
LCS2	Malathion		2	2.27	ug/L	114	(70-130)	20	3.9
MBLK	Malathion			<0.1	ug/L				
MRL_CHK	Malathion		0.1	0.112	ug/L	112	(50-150)		
MS_202205170375	Malathion	ND	2	2.44	ug/L	122	(70-130)		
DUP_202205170037	Methoxychlor	ND		ND	ug/L		(0-20)		
LCS1	Methoxychlor		2	2.25	ug/L	113	(70-130)		
LCS2	Methoxychlor		2	2.34	ug/L	117	(70-130)	20	4.3
MBLK	Methoxychlor			<0.1	ug/L				
MRL_CHK	Methoxychlor		0.1	0.109	ug/L	109	(50-150)		
MS_202205170375	Methoxychlor	ND	2	2.34	ug/L	117	(70-130)		
DUP_202205170037	Metolachlor	ND		ND	ug/L		(0-20)		
LCS1	Metolachlor		2	2.17	ug/L	109	(70-130)		
LCS2	Metolachlor		2	2.07	ug/L	104	(70-130)	20	4.7
MBLK	Metolachlor			<0.05	ug/L				
MRL_CHK	Metolachlor		0.05	0.0600	ug/L	120	(50-150)		
MS_202205170375	Metolachlor	ND	2	2.20	ug/L	110	(70-130)		
DUP_202205170037	Metribuzin	ND		ND	ug/L		(0-20)		
LCS1	Metribuzin		2	2.20	ug/L	110	(70-130)		
LCS2	Metribuzin		2	2.05	ug/L	102	(70-130)	20	7.1
MBLK	Metribuzin			<0.05	ug/L				
MRL_CHK	Metribuzin		0.05	0.0560	ug/L	112	(50-150)		
MS_202205170375	Metribuzin	ND	2	2.14	ug/L	107	(70-130)		
DUP_202205170037	Molinate	ND		ND	ug/L		(0-20)		
LCS1	Molinate		2	2.20	ug/L	110	(70-130)		
LCS2	Molinate		2	2.18	ug/L	109	(70-130)	20	0.46
MBLK	Molinate			<0.1	ug/L				
MRL_CHK	Molinate		0.1	0.111	ug/L	111	(50-150)		
MS_202205170375	Molinate	ND	2	2.24	ug/L	112	(70-130)		
DUP_202205170037	Naphthalene	ND		ND	ug/L		(0-20)		

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Naphthalene		2	1.85	ug/L	93	(70-130)		
LCS2	Naphthalene		2	1.88	ug/L	94	(70-130)	20	2.1
MBLK	Naphthalene			<0.3	ug/L				
MRL_CHK	Naphthalene		0.1	0.0960	ug/L	96	(50-150)		
MS_202205170375	Naphthalene	ND	2	1.85	ug/L	92	(70-130)		
DUP_202205170037	Parathion	ND		ND	ug/L		(0-20)		
LCS1	Parathion		2	2.26	ug/L	113	(70-130)		
LCS2	Parathion		2	2.22	ug/L	111	(70-130)	20	1.3
MBLK	Parathion			<0.1	ug/L				
MRL_CHK	Parathion		0.1	0.110	ug/L	110	(50-150)		
MS_202205170375	Parathion	ND	2	2.40	ug/L	120	(70-130)		
DUP_202205170037	Pendimethalin	ND		ND	ug/L		(0-20)		
LCS1	Pendimethalin		2	2.13	ug/L	106	(70-130)		
LCS2	Pendimethalin		2	2.05	ug/L	103	(70-130)	20	3.8
MBLK	Pendimethalin			<0.1	ug/L				
MRL_CHK	Pendimethalin		0.1	0.108	ug/L	108	(50-150)		
MS_202205170375	Pendimethalin	ND	2	2.26	ug/L	113	(70-130)		
DUP_202205170037	Permethrin (mixed isomers)	ND		ND	ug/L		(0-20)		
LCS1	Permethrin (mixed isomers)		4	4.22	ug/L	106	(70-130)		
LCS2	Permethrin (mixed isomers)		4	4.23	ug/L	106	(70-130)	20	0.24
MBLK	Permethrin (mixed isomers)			<0.2	ug/L				
MRL_CHK	Permethrin (mixed isomers)		0.2	0.225	ug/L	113	(50-150)		
MS_202205170375	Permethrin (mixed isomers)	ND	4	4.15	ug/L	104	(70-130)		
DUP_202205170037	Perylene-d12 (S)			94.6	%	95	(70-130)		
LCS1	Perylene-d12 (S)		5	99.2	%	99	(70-130)		
LCS2	Perylene-d12 (S)		5	95.4	%	95	(70-130)		
MBLK	Perylene-d12 (S)			93.0	%	93	(70-130)		
MRL_CHK	Perylene-d12 (S)		5	89.2	%	89	(70-130)		
MS_202205170375	Perylene-d12 (S)		5	97.8	%	98	(70-130)		
DUP_202205170037	Phenanthrene	ND		ND	ug/L		(0-20)		
LCS1	Phenanthrene		2	1.97	ug/L	99	(70-130)		
LCS2	Phenanthrene		2	1.94	ug/L	97	(70-130)	20	1.5
MBLK	Phenanthrene			<0.04	ug/L				
MRL_CHK	Phenanthrene		0.02	0.0230	ug/L	115	(50-150)		
MS_202205170375	Phenanthrene	ND	2	2.02	ug/L	101	(70-130)		
DUP_202205170037	Phenanthrene-d10 (I)			79.6	%	80	(50-150)		
LCS1	Phenanthrene-d10 (I)		5	73.6	%	74	(50-150)		
LCS2	Phenanthrene-d10 (I)		5	70.4	%	70	(50-150)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Phenanthrene-d10 (I)			79.4	%	79	(50-150)		
MRL_CHK	Phenanthrene-d10 (I)		5	79.5	%	80	(50-150)		
MS_202205170375	Phenanthrene-d10 (I)		5	83.1	%	83	(50-150)		
DUP_202205170037	Propachlor	ND		ND	ug/L		(0-20)		
LCS1	Propachlor		2	2.30	ug/L	115	(70-130)		
LCS2	Propachlor		2	2.32	ug/L	116	(70-130)	20	1.3
MBLK	Propachlor			<0.05	ug/L				
MRL_CHK	Propachlor		0.05	0.0570	ug/L	114	(50-150)		
MS_202205170375	Propachlor	ND	2	2.39	ug/L	120	(70-130)		
DUP_202205170037	Pyrene	ND		ND	ug/L		(0-20)		
LCS1	Pyrene		2	2.15	ug/L	107	(70-130)		
LCS2	Pyrene		2	2.09	ug/L	105	(70-130)	20	2.8
MBLK	Pyrene			<0.05	ug/L				
MRL_CHK	Pyrene		0.05	0.0590	ug/L	118	(50-150)		
MS_202205170375	Pyrene	ND	2	2.20	ug/L	110	(70-130)		
DUP_202205170037	Simazine	ND		ND	ug/L		(0-20)		
LCS1	Simazine		2	2.36	ug/L	118	(70-130)		
LCS2	Simazine		2	2.36	ug/L	118	(70-130)	20	0.0
MBLK	Simazine			<0.05	ug/L				
MRL_CHK	Simazine		0.05	0.0690	ug/L	138	(50-150)		
MS_202205170375	Simazine	ND	2	2.47	ug/L	124	(70-130)		
DUP_202205170037	Terbacil	ND		ND	ug/L		(0-20)		
LCS1	Terbacil		2	2.34	ug/L	117	(70-130)		
LCS2	Terbacil		2	2.17	ug/L	108	(70-130)	20	7.5
MBLK	Terbacil			<0.1	ug/L				
MRL_CHK	Terbacil		0.1	0.128	ug/L	128	(50-150)		
MS_202205170375	Terbacil	ND	2	2.43	ug/L	121	(70-130)		
DUP_202205170037	Terbutylazine	ND		ND	ug/L		(0-20)		
LCS1	Terbutylazine		2	2.35	ug/L	117	(70-130)		
LCS2	Terbutylazine		2	2.29	ug/L	115	(70-130)	20	2.6
MBLK	Terbutylazine			<0.1	ug/L				
MRL_CHK	Terbutylazine		0.1	0.116	ug/L	116	(50-150)		
MS_202205170375	Terbutylazine	ND	2	2.40	ug/L	120	(70-130)		
DUP_202205170037	Thiobencarb	ND		ND	ug/L		(0-20)		
LCS1	Thiobencarb		2	2.14	ug/L	107	(70-130)		
LCS2	Thiobencarb		2	2.06	ug/L	103	(70-130)	20	3.8
MBLK	Thiobencarb			<0.2	ug/L				
MRL_CHK	Thiobencarb		0.1	0.121	ug/L	121	(50-150)		

Spike recovery is already corrected for native results.  
 Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.  
 Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.  
 RPD not calculated for LCS2 when different a concentration than LCS1 is used.  
 RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).  
 (S) - Indicates surrogate compound.  
 (I) - Indicates internal standard compound.

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202205170375	Thiobencarb	ND	2	2.17	ug/L	108	(70-130)		
DUP_202205170037	trans-Nonachlor	ND		ND	ug/L		(0-20)		
LCS1	trans-Nonachlor		2	2.09	ug/L	104	(70-130)		
LCS2	trans-Nonachlor		2	2.01	ug/L	100	(70-130)	20	3.9
MBLK	trans-Nonachlor			<0.05	ug/L				
MRL_CHK	trans-Nonachlor		0.05	0.0590	ug/L	118	(50-150)		
MS_202205170375	trans-Nonachlor	ND	2	2.12	ug/L	106	(70-130)		
DUP_202205170037	Trifluralin	ND		ND	ug/L		(0-20)		
LCS1	Trifluralin		2	2.02	ug/L	101	(70-130)		
LCS2	Trifluralin		2	2.06	ug/L	103	(70-130)	20	2.0
MBLK	Trifluralin			<0.1	ug/L				
MRL_CHK	Trifluralin		0.1	0.105	ug/L	105	(50-150)		
MS_202205170375	Trifluralin	ND	2	2.16	ug/L	108	(70-130)		
DUP_202205170037	Triphenylphosphate (S)			108	%	108	(70-130)		
LCS1	Triphenylphosphate (S)		5	110	%	110	(70-130)		
LCS2	Triphenylphosphate (S)		5	104	%	104	(70-130)		
MBLK	Triphenylphosphate (S)			105	%	105	(70-130)		
MRL_CHK	Triphenylphosphate (S)		5	110	%	110	(70-130)		
MS_202205170375	Triphenylphosphate (S)		5	115	%	115	(70-130)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.



Eaton Analytical

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

Laboratory Hits

Report: 1004391  
Project: RED-HILL  
Group: Weekly TPH-8015\_RED-HILL (2022)  
- EMAX

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

Samples Received on:  
05/18/2022 1200

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
----------	---------	-----------	--------	-------------	-------	-----

SUMMARY OF POSITIVE DATA ONLY



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

Date: 05-26-2022  
EMAX Batch No.: 22E227

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 1004391

-----  
Enclosed is the Laboratory report for samples received on 05/19/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
202205190010	E227-01	05/16/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
202205190011	E227-02	05/16/22	WATER	TPH GASOLINE
202205190010MS	E227-01M	05/16/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL
202205190010MSD	E227-01S	05/16/22	WATER	TPH GASOLINE TPH DIESEL & MOTOR OIL

The results are summarized on the following pages.

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

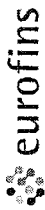
Sincerely yours,

-----  
Caspar J. Pang  
Laboratory Director

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

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

NELAP Accredited Certificate Number CA002912022-22  
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 #: 1004391 Report Due: 05/25/2022

Sample ID: 202205190010 (1) Client Sample ID for reference onl  
Halawa Shaft Viewing Pool

Sample type: Sample Event: Facility ID: Sample Point ID: Static ID: JLS

Method: SW 8015B EPA 5030C Analysis Requested: (SUB)Gas Fraction Hydrocarbons

SW 8015B EPA 3550B TPH 8015 Diesel and Motor Oil

Sample ID: 202205190011 (2) Client Sample ID for reference onl  
TB:Halawa Shaft Viewing Pool

Sample type: Sample Event: Facility ID: Sample Point ID: Static ID: JLS

Method: SW 8015B EPA 5030C Analysis Requested: (SUB)Gas Fraction Hydrocarbons

SW 8015B EPA 3550B TPH 8015 Diesel and Motor Oil

Submittal Form 22E227 Date: 5/19/2022

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers!  
Report & Invoice must have the Folder# 1004391 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

2-3 day rush

Relinquished by: *Alan R.* Sample Control Date: 5/19/22 Time: 11:11

Received by: *Alan R.* Date: 5/19/22 Time: 11:11

Relinquished by: Sample Control Date: Time:

Received by: Sample Control Date: Time:

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to ath: Jackie Contreras

Temp. 1.0/1.2





Type of Delivery	Airbill / Tracking Number	ECN 22E227
<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>05/19/22</u> Time <u>11:11</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 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: \_\_\_\_\_

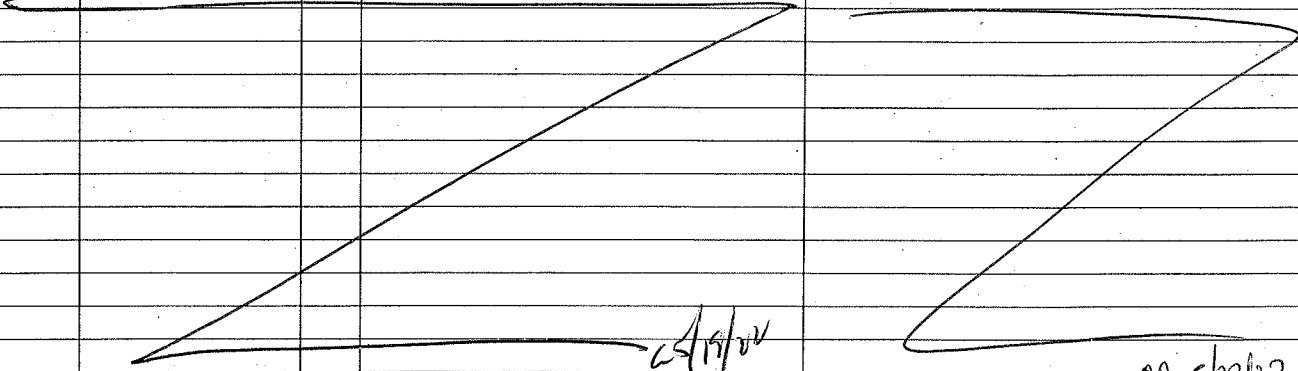
**PACKAGING INSPECTION**

Container <u># correction</u>	<input checked="" type="checkbox"/> Cooler	<input type="checkbox"/> Box	<input type="checkbox"/> Other
Condition	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging <u>Factor:</u>	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures <u>+ 0.2</u>	<input checked="" type="checkbox"/> Cooler <u>11.4/1.2</u> °C	<input type="checkbox"/> Cooler 2 _____ °C	<input type="checkbox"/> Cooler 3 _____ °C
(Cool, ≤6 °C but not frozen)	<input type="checkbox"/> Cooler 6 _____ °C	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C
Thermometer:	<u>A - S/N 210583479</u>	B - S/N _____	C - S/N <u>210271399</u>
			D - S/N _____

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

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
				

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

MS 5/24/22

**NOTES/OBSERVATIONS:**

SAMPLE MATRIX IS DRINKING WATER?  YES  NO

**LEGEND:**

<input type="checkbox"/> Continue to next page.		
Code Description- Sample Management	Code Description-Sample Management	Code Description-Sample Management
D1 Analysis is not indicated in _____	D13 Out of Holding Time	R1 Proceed as indicated in <input type="checkbox"/> COC <input type="checkbox"/> Label
D2 Analysis mismatch COC vs label	D14 Bubble is >6mm	R2 Refer to attached instruction
D3 Sample ID mismatch COC vs label	D15 No trip blank in cooler	R3 Cancel the analysis
D4 Sample ID is not indicated in _____	D16 Preservation not indicated in _____	R4 Use vial with smallest bubble first
D5 Container -[improper] [leaking] [broken]	D17 Preservation mismatch COC vs label	R5 Log-in with latest sampling date and time+1 min
D6 Date/Time is not indicated in _____	D18 Insufficient chemical preservative	R6 Adjust pH as necessary
D7 Date/Time mismatch COC vs label	D19 Insufficient Sample	R7 Filter and preserved as necessary
D8 Sample listed in COC is not received	D20 No filtration info for dissolved analysis	R8 _____
D9 Sample received is not listed in COC	D21 No sample for moisture determination	R9 _____
D10 No initial/date on corrections in COC/label	D22 _____	R10 _____
D11 Container count mismatch COC vs received	D23 _____	R11 _____
D12 Container size mismatch COC vs received	D24 _____	R12 _____

**REVIEWS:**

Sample Labeling <u>Maria Rivera</u>	SRF <u>[Signature]</u>	PM <u>[Signature]</u>
Date <u>05/19/22</u>	Date <u>5/19/22</u>	Date <u>5/24/22</u>

## 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

1004391

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

SDG#: 22E227

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 1004391

SDG : 22E227

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

A total of two (2) water samples were received on 05/19/22 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. VGH7E08B - 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. VGH7E08L/VGH7E08C 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 E227-01M/E227-01S. 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 : 1004391

SDG NO. : 22E227  
Instrument ID : H7

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				WATER					
MBLK1W	VGH7E08B	1	NA	05/19/2217:30	05/19/2217:30	AE19005A	AE19004A	22VGH7E08	Method Blank
LCS1W	VGH7E08L	1	NA	05/19/2218:04	05/19/2218:04	AE19006A	AE19004A	22VGH7E08	Lab Control Sample (LCS)
LCD1W	VGH7E08C	1	NA	05/19/2218:38	05/19/2218:38	AE19007A	AE19004A	22VGH7E08	LCS Duplicate
202205190010	E227-01	1	NA	05/19/2219:13	05/19/2219:13	AE19008A	AE19004A	22VGH7E08	Field Sample
202205190010MS	E227-01M	1	NA	05/19/2219:47	05/19/2219:47	AE19009A	AE19004A	22VGH7E08	Matrix Spike Sample (MS)
202205190010MSD	E227-01S	1	NA	05/19/2220:21	05/19/2220:21	AE19010A	AE19004A	22VGH7E08	MS Duplicate (MSD)
202205190011	E227-02	1	NA	05/19/2220:56	05/19/2220:56	AE19011A	AE19004A	22VGH7E08	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: 05/16/22 09:30
Project    : 1004391                     Date Received: 05/19/22
Batch No.  : 22E227                       Date Extracted: 05/19/22 19:13
Sample ID  : 202205190010                 Date Analyzed: 05/19/22 19:13
Lab Samp ID: E227-01                      Dilution Factor: 1
Lab File ID: AE19008A                     Matrix: WATER
Ext Btch ID: 22VGH7E08                   % Moisture: NA
Calib. Ref.: AE19004A                    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	0.0376	0.0400	94	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: 05/16/22 09:30
Project      : 1004391                     Date Received: 05/19/22
Batch No.    : 22E227                       Date Extracted: 05/19/22 20:56
Sample ID    : 202205190011                Date Analyzed: 05/19/22 20:56
Lab Samp ID  : E227-02                      Dilution Factor: 1
Lab File ID  : AE19011A                     Matrix: WATER
Ext Btch ID  : 22VGH7E08                   % Moisture: NA
Calib. Ref.  : AE19004A                    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	0.0330	0.0400	82	60-140	

Notes:

Parameter H-C Range  
Gasoline C6-C10  
Reported ND at RL quantitated per pattern recognition.

Detection limits are reported relative to sample result significant figures.  
Sample Amount : 5ml Final Volume : 5ml  
Prepared by : SCerva Analyzed by : SCerva



# QC SUMMARIES

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

```
=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/19/22 17:30
Project     : 1004391                     Date Received: 05/19/22
Batch No.   : 22E227                       Date Extracted: 05/19/22 17:30
Sample ID   : MBLK1W                       Date Analyzed: 05/19/22 17:30
Lab Samp ID: VGH7E08B                       Dilution Factor: 1
Lab File ID: AE19005A                       Matrix: WATER
Ext Btch ID: 22VGH7E08                      % Moisture: NA
Calib. Ref.: AE19004A                       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	0.0368	0.0400	92	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 : 1004391  
BATCH NO. : 22E227  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W      LCD1W
LAB SAMPLE ID : VGH7E08B                         VGH7E08L  VGH7E08C
LAB FILE ID  : AE19005A                         AE19006A  AE19007A
DATE PREPARED : 05/19/22 17:30                 05/19/22 18:04  05/19/22 18:38
DATE ANALYZED : 05/19/22 17:30                 05/19/22 18:04  05/19/22 18:38
PREP BATCH   : 22VGH7E08                       22VGH7E08  22VGH7E08
CALIBRATION REF: AE19004A                      AE19004A  AE19004A
  
```

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	0.472	94	0.500	0.487	97	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0469	117	0.0400	0.0465	116	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 : 1004391  
BATCH NO. : 22E227  
METHOD : 5030B/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 202205190010	202205190010MS	202205190010MSD
LAB SAMPLE ID	: E227-01	E227-01M	E227-01S
LAB FILE ID	: AE19008A	AE19009A	AE19010A
DATE PREPARED	: 05/19/22 19:13	05/19/22 19:47	05/19/22 20:21
DATE ANALYZED	: 05/19/22 19:13	05/19/22 19:47	05/19/22 20:21
PREP BATCH	: 22VGH7E08	22VGH7E08	22VGH7E08
CALIBRATION REF:	AE19004A	AE19004A	AE19004A

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	0.468	94	0.500	0.461	92	2	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0462	116	0.0400	0.0442	111	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

1004391

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22E227

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 1004391

SDG : 22E227

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

One(1) water sample was received on 05/19/22 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. DSE029WB - 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. DSE029WL/DSE029WC were within LCS limits. Refer to LCS summary form for details.

#### Matrix QC Sample

Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 22E227-01M/22E227-01S. 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 : 1004391

SDG NO. : 22E227  
 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	
				WATER						
MBLK1W	DSE029WB	1	NA	05/23/2213:40	05/22/2210:00	LE23008A	LE23004A	22DSE029W	Method Blank	
LCS1W	DSE029WL	1	NA	05/23/2213:59	05/22/2210:00	LE23009A	LE23004A	22DSE029W	Lab Control Sample (LCS)	
LCD1W	DSE029WC	1	NA	05/23/2214:18	05/22/2210:00	LE23010A	LE23004A	22DSE029W	LCS Duplicate	
202205190010	E227-01	1	NA	05/23/2214:36	05/22/2210:00	LE23011A	LE23004A	22DSE029W	Field Sample	
202205190010MS	E227-01M	1	NA	05/23/2214:55	05/22/2210:00	LE23012A	LE23004A	22DSE029W	Matrix Spike Sample (MS)	
202205190010MSD	E227-01S	1	NA	05/23/2215:13	05/22/2210:00	LE23013A	LE23004A	22DSE029W	MS Duplicate (MSD)	

FN - Filename  
 % Moist - Percent Moisture

# **SAMPLE RESULTS**



METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/16/22 09:30
Project     : 1004391                    Date Received: 05/19/22
Batch No.   : 22E227                     Date Extracted: 05/22/22 10:00
Sample ID   : 202205190010              Date Analyzed: 05/23/22 14:36
Lab Samp ID : 22E227-01                  Dilution Factor: 1
Lab File ID : LE23011A                   Matrix: WATER
Ext Btch ID: 22DSE029W                   % Moisture: NA
Calib. Ref.: LE23004A                    Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.026	0.013	
Motor Oil	ND	0.052	0.026	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.394	0.520	76	60-130
Hexacosane	0.119	0.130	91	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 : 960ml                      Final Volume : 5ml  
Prepared by : POreto                        Analyzed by : SDeeso

# QC SUMMARIES

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 05/22/22 10:00
Project     : 1004391                     Date Received: 05/22/22
Batch No.   : 22E227                       Date Extracted: 05/22/22 10:00
Sample ID   : MBLK1W                       Date Analyzed: 05/23/22 13:40
Lab Samp ID: DSE029WB                     Dilution Factor: 1
Lab File ID: LE23008A                     Matrix: WATER
Ext Btch ID: 22DSE029W                   % Moisture: NA
Calib. Ref.: LE23004A                     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	0.421	0.500	84	60-130	
Hexacosane	0.117	0.125	94	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 : P0reto                         Analyzed by : SDeeso

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 1004391  
BATCH NO. : 22E227  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : MBLK1W                             LCS1W           LCD1W
LAB SAMPLE ID : DSE029WB                         DSE029WL       DSE029WC
LAB FILE ID  : LE23008A                         LE23009A       LE23010A
DATE PREPARED : 05/22/22 10:00                 05/22/22 10:00 05/22/22 10:00
DATE ANALYZED : 05/23/22 13:40                 05/23/22 13:59 05/23/22 14:18
PREP BATCH   : 22DSE029W                       22DSE029W     22DSE029W
CALIBRATION REF: LE23004A                       LE23004A     LE23004A
  
```

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.50	2.27	91	2.50	2.20	88	3	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromobenzene	0.500	0.468	94	0.500	0.448	90	60-130
Hexacosane	0.125	0.103	82	0.125	0.120	96	60-130

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 : 1004391  
BATCH NO. : 22E227  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 202205190010                       202205190010MSD
LAB SAMPLE ID : 22E227-01                         22E227-01S
LAB FILE ID  : LE23011A                           LE23012A
DATE PREPARED : 05/22/22 10:00                   05/22/22 10:00
DATE ANALYZED : 05/23/22 14:36                   05/23/22 15:13
PREP BATCH   : 22DSE029W                          22DSE029W
CALIBRATION REF: LE23004A                         LE23004A
=====
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.35	2.09	89	2.35	2.04	87	2	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.470	0.372	79	0.470	0.352	75	60-130
Hexacosane	0.118	0.114	97	0.118	0.109	93	60-130

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