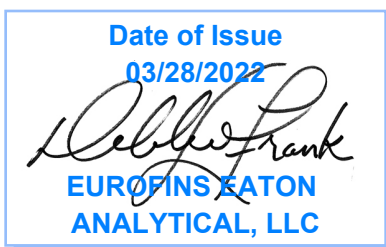


750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
Tel: (626) 386-1100  
Fax: (866) 988-3757  
1 800 566 LABS (1 800 566 5227)

## 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: 979941  
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 17025:2917 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 Pseudalart	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/Microcystin	+ 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 Disinfection 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

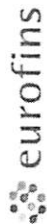
Client ID: HONOLULU  
 Folder #: 979941  
 Project: RED-HILL  
 Sample Group: Red-Hill Expanded List  
 (Albuquerque+)  
 Project Manager: Debbie L Frank  
 Phone: (626) 386-1149  
 PO #: C20525101 exp 05312023

The following samples were received from you on **January 12, 2022 at 1405**. 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																														
202201120762	HALAWA SHAFT-331-241-TP401	01/10/2022 0930																														
	<table border="1"> <tr> <td>@ICPMS</td> <td>@504MOD C</td> <td>@505_EAL</td> </tr> <tr> <td>@525PLUS C PLUS TICS</td> <td>@625A_Physis C</td> <td>@625BN_Physis C</td> </tr> <tr> <td>@625PAH_Physis_TICS_C</td> <td>@8015 Ethanol_Subbed</td> <td>@ML505</td> </tr> <tr> <td>@VOASDWA C plus plus TICs C</td> <td>@VOA-TBA C</td> <td>(SUB)Gas Fraction Hydrocarbons</td> </tr> <tr> <td>Alkalinity in CaCO3 units</td> <td>Bicarb.Alkalinity as HCO3,calc</td> <td>Bromide by 300.0</td> </tr> <tr> <td>Calcium Total ICAP</td> <td>Carbonate as CO3, Calculated</td> <td>Magnesium Total ICAP</td> </tr> <tr> <td>Mercury ICPMS</td> <td>PH (H3=past HT not compliant)</td> <td>Potassium Total ICAP</td> </tr> <tr> <td>Sodium Total ICAP</td> <td>Specific Conductance</td> <td>Miscellaneous Charges</td> </tr> <tr> <td>Total Dissolved Solid (TDS)</td> <td>TPH 8015 Diesel and Motor Oil</td> <td>TPH 8015 Jet Fuel 5</td> </tr> <tr> <td>TPH 8015 Jef Fuel 8</td> <td></td> <td></td> </tr> </table>	@ICPMS	@504MOD C	@505_EAL	@525PLUS C PLUS TICS	@625A_Physis C	@625BN_Physis C	@625PAH_Physis_TICS_C	@8015 Ethanol_Subbed	@ML505	@VOASDWA C plus plus TICs C	@VOA-TBA C	(SUB)Gas Fraction Hydrocarbons	Alkalinity in CaCO3 units	Bicarb.Alkalinity as HCO3,calc	Bromide by 300.0	Calcium Total ICAP	Carbonate as CO3, Calculated	Magnesium Total ICAP	Mercury ICPMS	PH (H3=past HT not compliant)	Potassium Total ICAP	Sodium Total ICAP	Specific Conductance	Miscellaneous Charges	Total Dissolved Solid (TDS)	TPH 8015 Diesel and Motor Oil	TPH 8015 Jet Fuel 5	TPH 8015 Jef Fuel 8			
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**Test Description**

- @ICPMS -- ICPMS Metals
- @504MOD C -- EPA Method 504.1
- @504MOD TB C -- EPA Method 504.1
- @505\_EAL -- Organochlorine Pesticides
- @525PLUS C PLUS TICS -- Semivolatiles by GCMS
- @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
- @8015 Ethanol\_Subbed -- Ethanol
- @ML505 -- Organochlorine Pesticides/PCBs
- @VOASDWA C plus plus TICs C -- Volatile Organics by GCMS
- @VOASDWA C plus plus TICs TBC -- Volatile Organics by GCMS
- @VOA-TBA C -- TBA by EPA 524.2 Modified
- @VOA-TBA TB C -- TBA by EPA 524.2 Modified



Eaton Analytical

750 Royal Oaks Drive, Suite 100  
Monrovia, CA 91016-3629

Phone: 626 386 1100  
Fax: 626 386 1101

800 566 LABS (800 566 5227)

# CHAIN OF CUSTODY RECORD

979 941

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:  $4 \pm 2$  °C )

Colton / No. California / Arizona 3.6 °C ( Compliance:  $4 \pm 2$  °C )

Monrovia

CONDITION OF BLUE ICE: Frozen  Partially Frozen \_\_\_\_\_ Thawed \_\_\_\_\_ Wet Ice \_\_\_\_\_ No Ice \_\_\_\_\_

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

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: BWS HONOLULU PROJECT CODE: Red Hill

EEA CLIENT CODE: Honolulu COC ID: \_\_\_\_\_

TAT requested: rush by adv notice only STD X 1 wk \_\_\_ 3 day \_\_\_ 2 day \_\_\_ 1 day \_\_\_

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	COMPLIANCE SAMPLES - Requires state forms	NON-COMPLIANCE SAMPLES	SAMPLER COMMENTS
1-10-2022	0730	HALAWA SHAFT	H10000331-241	CFW			ROUTINE	<input checked="" type="checkbox"/>	
		Temperature Blank					SPECIAL	<input checked="" type="checkbox"/>	Temp Blank: 20 °C

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

SIGNED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:		Derek Dotson	Honolulu Board of Water Supply	1-10-2022	
RECEIVED BY:		Derek Dotson	Honolulu Board of Water Supply	1-11-2022	1200
RELINQUISHED BY:					
RECEIVED BY:				11/2/22	1405



750 Royal Oaks Drive, Suite 100  
 Monrovia, California 91016-3629  
 (626) 386-1100 FAX (866) 988-3757

Debbie L Frank is your Eurofins Eaton Analytical, LLC Service Manager

Created Date & Time: 12/9/2021 11:23:08AM

Kit #: 307494



Client ID: HONOLULU



Created By: Debbie L Frank - [DEB]

Deliver By: 12/17/2021

STG: Bottle Orders

Ice Type: G

Project Code: RED-HILL Bottle Orders  
 Group Name: Red-Hill Expanded List (Albuquerque+)

PO#/JOB#: C20525101 exp 05312023

Description: Stock - HALAWA SHAFT - Stock 1

**Note: Sampler Please return this paper with your samples**

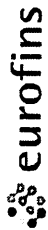
**Ship Sample Kits to**  
 Honolulu Board of Water Supply  
 630 South Beretania Street  
 Chemistry Lab  
 Honolulu, HI 96843  
 Attn: Ron Fenstermacher  
 Phone: 808-748-5841  
 Fax: 808-550-5572

**Send Report to**  
 Honolulu Board of Water Supply  
 630 South Beretania Street  
 Public Service Bldg. Room 308  
 Honolulu, HI 96843  
 Attn: Erwin Kawata  
 Phone: 808-748-5091  
 Fax: 808-550-5018

**Billing Address**  
 Honolulu Board of Water Supply  
 630 South Beretania Street  
 Public Service Bldg. Room 308  
 Honolulu, HI 96843  
 Attn: Erwin Kawata  
 Phone: 808-748-5091  
 Fax: 808-550-5018

# of Sample Tests	Bottle Qty - Type [preservative information]	Total	UN DOT #
1	Chloride, Nitrate as Nitrogen by IC, Nitrite Nitrogen by IC, Sulfate	1	
1	@625A_Physis C	2	
1	@625BN_Physis C	2	
1	@625PAH_Physis_TICS_C	4	
1	TPH 8015 Diesel and Motor Oil_C, TPH 8015 Jet Fuel 5_C, TPH 8015 Jet Fuel 8_C	9	
1	@525PLUS C PLUS TICS	2	UN1789
1	Fluoride	1	
1	Alkalinity in CaCO3 units, PH (H3=past HT not compliant), Specific Conductance	1	
1	@VOA-TBA C	4	UN1789
1	Acetone by 624_Subbed C	4	UN1789
1	Acetone by 624_Subbed C TB	2	UN1789
1	@504MOD C	3	
1	@505_EAL,@ML505	4	
1	8015 Gas_C	3	
1	@504MOD TB C	2	
1	8015 Gas_C TB	2	
1	@VOASDWA C plus plus TICs TBC	3	UN1789
1	@VOASDWA C plus plus TICs C	3	UN1789
1	@8015 Ethanol_Subbed	4	
1	@ICPMS, Calcium Total ICAP, Magnesium Total ICAP, Mercury ICPMS, Potassium Total ICAP, Sodium Total ICAP	1	UN2031
1	Total Dissolved Solid (TDS)	1	
1	Bromide by 300.0	1	

*Extras returned from kit, Added 4 TPH 8015 bottles from spare kit.*



Eaton Analytical

**Kit Order for Honolulu Board of Water Supply**

Debbie L Frank is your Eurofins Eaton Analytical, LLC Service Manager

750 Royal Oaks Drive, Suite 100  
Monrovia, California 91016-3629  
(626) 386-1100 FAX (866) 988-3757

Created Date & Time: 12/9/2021 11:23:08AM

**Note: Sampler Please return this paper with your samples**

Client ID: HONOLULU  
Project Code: RED-HILL Bottle Orders  
Group Name: Red-Hill Expanded List (Albuquerque+)  
PO#/JOB#: C20525101 exp 05312023  
Description: Stock - HALAWA SHAFT - Stock 1

Kit #: 307494  
Created By: Debbie L Frank - [DEB]  
Deliver By: 12/17/2021  
STG: Bottle Orders  
Ice Type: G

**Ship Sample Kits to**  
Honolulu Board of Water Supply  
630 South Beretania Street  
Chemistry Lab  
Honolulu, HI 96843  
Attr: Ron Fenstermacher  
Phone: 808-748-5841  
Fax: 808-550-5572

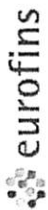
**Send Report to**  
Honolulu Board of Water Supply  
630 South Beretania Street  
Public Service Bldg." Room 308  
Honolulu, HI 96843  
Attr: Erwin Kawata  
Phone: 808-748-5091  
Fax: 808-550-5018

**Billing Address**  
Honolulu Board of Water Supply  
630 South Beretania Street  
Public Service Bldg." Room 308  
Honolulu, HI 96843  
Attr: Erwin Kawata  
Phone: 808-748-5091  
Fax: 808-550-5018

# of Sample Tests	Bottle Qty - Type [ preservative information ]	Total	UN DOT #
<b>Sum Tests: 22</b>			<b>Sum Bottles: 59</b>
<b>Comments</b>			
2nd MS/MSD SITE ID: 331-241 HALAWA SHAFT			
SAMPLER: Eight 1 LITER AMBER GLASS BOTTLES FOR 625 SERIES and Nine 1 LITER AMBER GLASS BOTTLES FOR TPH 8015 SERIES.			
SHIPPING: Travel Blanks - TBAMTBE, VOASDWA - Prepare TBs in the VOA LAB. Label Cooler on TOP and right below both Handles with Site description of contents ( use extra Contaienr Labels)			
ASM: Be sure to coordinate Follow-up as needed for any new detections in Field samples. Acetone - follow-ups need to use EPA 624			







Eaton Analytical

# INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 63108 (Observation = 4-3 °C) (Corr. Factor = 0.2 °C) (Final = 4.1 °C)

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

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

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

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

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

- 4) Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)
- 5) pH Check. Manufacturer: \_\_\_\_\_ Lot Number: \_\_\_\_\_ pH strip type: 0 - 14 or \_\_\_\_\_ Expiration Date \_\_\_\_\_ Results: \_\_\_\_\_
- 6) Chlorine check. Manufacturer: Sansafe. Lot No.: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ Results \_\_\_\_\_

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

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

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

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: [Signature] SIGNATURE PRINT NAME: Salvador H. L. COMPANY/TITLE: Eurofins Eaton Analytical DATE: 1/12/22 TIME: 1409

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

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

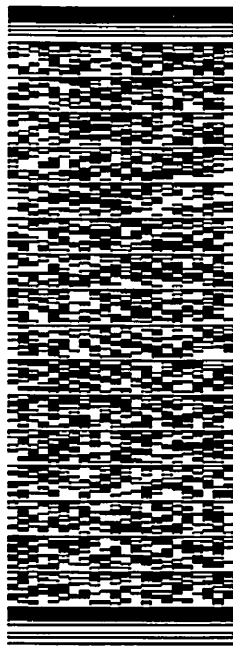
SHIP DATE: 11JAN22  
ACTWGT: 50.00 LB  
CAD: 100205419/NET/4400

BILL RECEIPT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC  
750 ROYAL OAKS DR  
SUITE 100  
MONROVIA CA 91016  
REF: (620) 386-1178  
INVT: (620) 386-1178  
DEPT:

56D.J201EF/FE4A



2 of 8

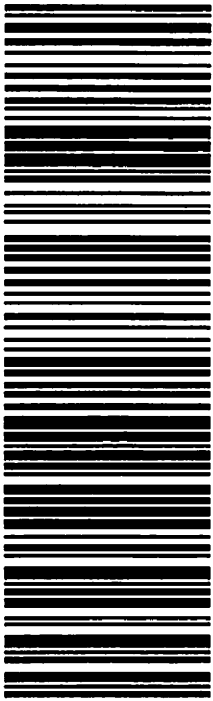
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0263  
Mst# 7757 2326 6474

WED - 12 JAN 10:30A  
PRIORITY OVERNIGHT

0201

WZ WHPA

91016  
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ORIGIN ID:HIKA (808) 748-5840  
BMS CHEM LAB  
HONOLULU BOARD OF WATER SUPPLY  
630 S. BERETANIA ST  
CHEMICAL LABORATORY  
HONOLULU, HI 96843  
UNITED STATES US

SHIP DATE: 11JAN22  
ACTWGT: 50.00 LB  
CAD: 100205419/NET 4400  
BILL RECIPIENT

TO C CHUCK

EUROFINS EATON ANALYTICAL, INC

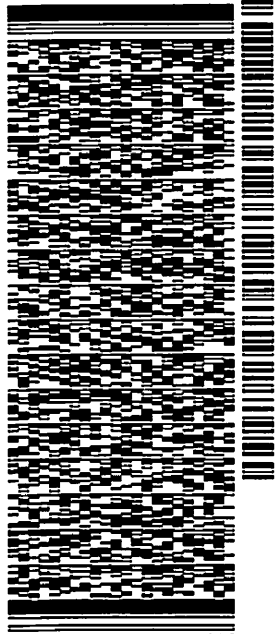
750 ROYAL OAKS DR

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MONROVIA CA 91016

REF: (929) 388-1178  
INV: PO: DEPT:

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J21222112180177

7 of 8

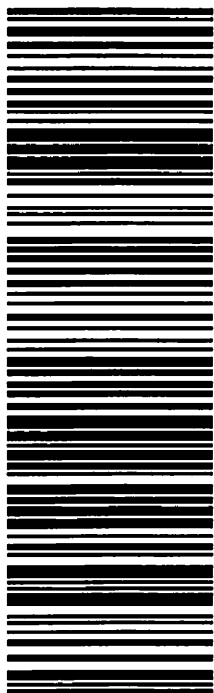
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Mstr# 7757 2326 6474

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SHIP DATE: 11JAN22  
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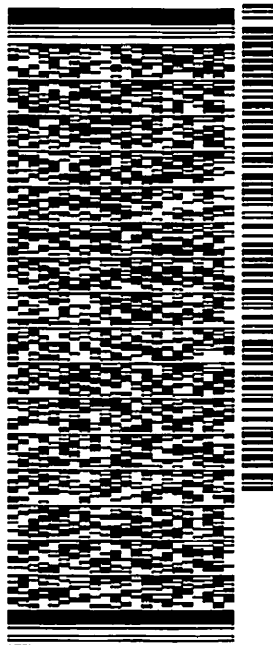
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56DJ201EF/FE4A

6 of 8

MPS# 7757 2326 8650

Mstr# 7757 2326 6474

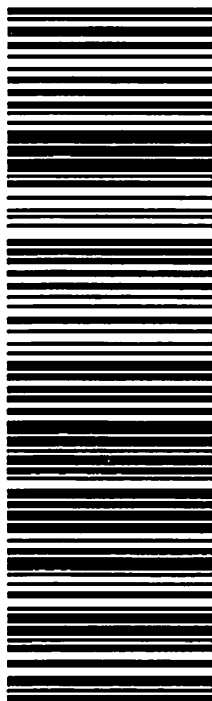
0201

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PRIORITY OVERNIGHT

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UNITED STATES US

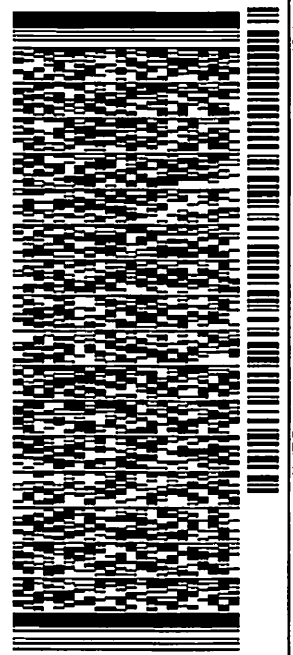
SHIP DATE: 11JAN22  
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5 of 8

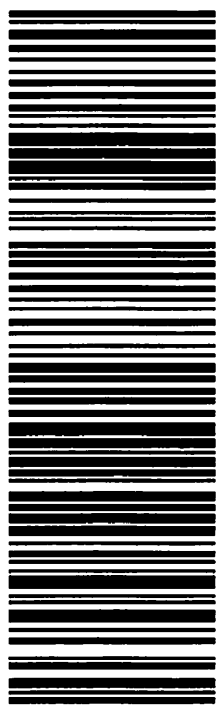
MP# 7757 2326 8180  
Mstr# 7757 2326 6474

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 1 800 566 LABS (1 800 566 5227)

**Report:** 979941  
**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

**Folder Comments**

Results for TPH Gas, Diesel, Motor Oil, Jet Fuels and Ethanol are submitted by EMAX Laboratories  
 Results for 625 PAHs, BNA and Acids are submitted by Eurofins Eaton Analytical in Southbend IN

Subcontracted Data -- Please review Subcontractor's report in full. EEA enters Subcontractor data into EEA system for archive tracking purposes of final result. EEA reports results to 2 sigfig. 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.

@625mod (Low Level SVOCs by GCMS (PAH/BNA - Base/Neutral/Acid Extractables)  
 See subcontractor's report. Physis reports TICs in addendum report titled Total Ion Chromatogram.

@524.2 (VOC by GCMS)

202201120762	524.2	TICs	None Detected
202201120763	524.2	TICs	
Compound Name	Estimated Retention Time	Estimated Concentration	
Unknown compound	1.305 minutes	10.58 ug/L	
Furfural	9.584 minutes	7.46 ug/L	

@525.2 (SVOC by GCMS)

202201120762	525.2	TICs	None Detected
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Project change per communication with Erwin Kawata, 071718  
 Ethanol - ELLE method 1671 2000 ug/L. EMAX method 8015, RL 2000 ug/L. MRLs are the same.  
 MTBE - 524.3 0.02 ug/L (20 ng/L) is not reported, method decommissioned. See 524.2 at elevated RL of 0.5 ug/L.  
 TBA - 524.3 1 ug/L is not reported, method decommissioned. See 524.2 at elevated RL of 2 ug/L  
 ACETONE MRL elevated to 500 due to matrix artifact of preservation, project spec change  
 Erwin Kawata. 021821

The Comments Report may be blank if there are no comments for this report.

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**Laboratory Comments**

**Report:** 979941  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
(Albuquerque+)

Honolulu Board of Water Supply  
Erwin Kawata  
630 South Beretania Street  
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Honolulu, HI 96843

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**Flags Legend:**

B4 - Target analyte detected in blank at or above method acceptance criteria.

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.

FB - Target analyte detected in TB > MRL but sample is ND.

LK - The associated blank spike recovery was above method acceptance limits. This target analyte was not detected in the sample.

LM - MRL Check recovery was above laboratory acceptance limits. This target analyte was not detected in the sample.

VC - CCV is high biased, ND data are reportable as per TNI V1M4 1.7.2.e).i.

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Report: 979941  
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 Group: Red-Hill Expanded List  
 (Albuquerque+)

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

Samples Received on:  
 01/12/2022 1405

Analyzed	Analyte	Sample ID	Result	HI Limit	Units	MRL
	<b>202201120762</b>	<b><u>HALAWA SHAFT-331-241-TP401</u></b>				
01/17/2022 22:53	Alkalinity in CaCO3 units		56		mg/L	2.0
01/18/2022 13:01	Bicarb.Alkalinity as HCO3calc		68		mg/L	2.0
01/19/2022 15:56	Bromide		420		ug/L	10
01/14/2022 12:51	Calcium Total ICAP		27		mg/L	1.0
01/14/2022 20:26	Chromium Total ICAP/MS		2.3	100	ug/L	1.0
01/14/2022 20:26	Copper Total ICAP/MS		3.1	1300	ug/L	2.0
01/14/2022 12:51	Magnesium Total ICAP		23		mg/L	0.10
01/17/2022 22:53	PH (H3=past HT not compliant)		7.9	8.5	Units	0.10
01/14/2022 12:51	Potassium Total ICAP		2.6		mg/L	1.0
01/14/2022 12:51	Sodium Total ICAP		42		mg/L	1.0
01/17/2022 22:53	Specific Conductance, 25 C		560	--	umho/cm	10
01/13/2022 18:01	Total Dissolved Solids (TDS)		360	500	mg/L	10



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 (Albuquerque+)

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 Honolulu, HI 96843

Samples Received on:  
 01/12/2022 1405

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<b>HALAWA SHAFT-331-241-TP401 (202201120762)</b>						<b>Sampled on 01/10/2022 0930</b>			
<b>EPA 200.8 - ICPMS Metals</b>									
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Antimony Total ICAP/MS	ND	ug/L	1.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Arsenic Total ICAP/MS	ND	ug/L	1.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Beryllium Total ICAP/MS	ND	ug/L	1.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Cadmium Total ICAP/MS	ND	ug/L	0.50	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Chromium Total ICAP/MS	2.3	ug/L	1.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Copper Total ICAP/MS	3.1	ug/L	2.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Lead Total ICAP/MS	ND	ug/L	0.50	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Nickel Total ICAP/MS	ND	ug/L	5.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Selenium Total ICAP/MS	ND	ug/L	5.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Silver Total ICAP/MS	ND (B4)	ug/L	0.50	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Thallium Total ICAP/MS	ND	ug/L	1.0	1
01/13/22	01/14/22 20:26	1379307	1379503	(EPA 200.8)	Zinc Total ICAP/MS	ND	ug/L	20	1
<b>EPA 200.7 - ICP Metals</b>									
01/13/22	01/14/22 12:51	1379307	1379527	(EPA 200.7)	Calcium Total ICAP	27	mg/L	1.0	1
01/13/22	01/14/22 12:51	1379307	1379527	(EPA 200.7)	Magnesium Total ICAP	23	mg/L	0.10	1
01/13/22	01/14/22 12:51	1379307	1379527	(EPA 200.7)	Potassium Total ICAP	2.6	mg/L	1.0	1
01/13/22	01/14/22 12:51	1379307	1379527	(EPA 200.7)	Sodium Total ICAP	42	mg/L	1.0	1
<b>EPA 200.8 - Mercury ICPMS</b>									
01/13/22	01/14/22 20:26	1379307	1379504	(EPA 200.8)	Mercury ICPMS	ND	ug/L	0.20	1
<b>SM2330B - Carbonate as CO3, Calculated</b>									
	01/18/22 22:36			(SM2330B)	Carbonate as CO3, Calculated	ND (c)	mg/L	2.0	1
<b>SM2330B - Bicarb.Alkalinity as HCO3,calc</b>									
	01/18/22 13:01			(SM2330B)	Bicarb.Alkalinity as HCO3calc	68 (c)	mg/L	2.0	1
<b>EPA 505 - Organochlorine Pesticides/PCBs</b>									
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Alachlor (Alanex)	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Aldrin	ND	ug/L	0.010	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Chlordane	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Dieldrin	ND	ug/L	0.0100	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Endrin	ND	ug/L	0.010	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Heptachlor	ND	ug/L	0.010	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Heptachlor Epoxide	ND	ug/L	0.010	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Lindane (gamma-BHC)	ND	ug/L	0.010	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Methoxychlor	ND	ug/L	0.050	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1016 Aroclor	ND	ug/L	0.080	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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Samples Received on:  
 01/12/2022 1405

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1221 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1232 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1242 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1248 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1254 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	PCB 1260 Aroclor	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Total PCBs	ND	ug/L	0.10	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Toxaphene	ND	ug/L	0.50	1
01/13/22	01/14/22 05:15	1379413	1380291	(EPA 505)	Tetrachlorometaxylene	85	%		1
<b>EPA 505 - Organochlorine Pesticides</b>									
01/13/22	01/14/22 05:15	1379419	1382356	(EPA 505)	Aldrin	ND	ug/L	0.0020	1
01/13/22	01/14/22 05:15	1379419	1382356	(EPA 505)	Dieldrin	ND	ug/L	0.0020	1
01/13/22	01/14/22 05:15	1379419	1382356	(EPA 505)	Toxaphene	ND	ug/L	0.10	1
<b>EPA 504.1 - EPA Method 504.1</b>									
01/15/22	01/16/22 00:33	1379842	1380120	(EPA 504.1)	1,2,3-Trichloropropane (TCP)	ND	ug/L	0.040	1
01/15/22	01/16/22 00:33	1379842	1380120	(EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/L	0.010	1
01/15/22	01/16/22 00:33	1379842	1380120	(EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/L	0.010	1
01/15/22	01/16/22 00:33	1379842	1380120	(EPA 504.1)	1,2-Dibromopropane	99	%		1
<b>EPA 525.2 - Semivolatiles by GCMS</b>									
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	2,4-DDD	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	2,4-DDE	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	2,4-DDT	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	2,4-Dinitrotoluene	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	2,6-Dinitrotoluene	ND (VC)	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	4,4-DDD	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	4,4-DDE	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	4,4-DDT	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Acenaphthene	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Acenaphthylene	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Acetochlor	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Alachlor	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Alpha-BHC	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	alpha-Chlordane	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Anthracene	ND	ug/L	0.020	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Atrazine	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Benz(a)Anthracene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Benzo(a)pyrene	ND	ug/L	0.020	1

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**Report:** 979941  
**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:  
 01/12/2022 1405

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Benzo(b)Fluoranthene	ND	ug/L	0.020	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Benzo(g,h,i)Perylene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Benzo(k)Fluoranthene	ND	ug/L	0.020	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Beta-BHC	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Bromacil	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Butachlor	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Butylbenzylphthalate	ND	ug/L	0.50	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Caffeine by method 525mod	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chlorobenzilate	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chloroneb	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chlorothalonil(Draconil,Bravo)	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chlorpyrifos (Dursban)	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chrysene	ND	ug/L	0.020	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Delta-BHC	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Di-(2-Ethylhexyl)adipate	ND	ug/L	0.60	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Di(2-Ethylhexyl)phthalate	ND	ug/L	0.60	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Diazinon (Qualitative)	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Dibenz(a,h)Anthracene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Dichlorvos (DDVP)	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Dieldrin	ND	ug/L	0.20	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Diethylphthalate	ND (BM)	ug/L	0.50	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Dimethoate	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Dimethylphthalate	ND	ug/L	0.50	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Di-n-Butylphthalate	ND	ug/L	1.0	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Di-N-octylphthalate	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Endosulfan I (Alpha)	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Endosulfan II (Beta)	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Endosulfan Sulfate	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Endrin	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Endrin Aldehyde	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	EPTC	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Fluoranthene	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Fluorene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	gamma-Chlordane	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Heptachlor	ND	ug/L	0.040	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Heptachlor Epoxide (isomer B)	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Hexachlorobenzene	ND	ug/L	0.050	1

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 (Albuquerque+)

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01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Hexachlorocyclopentadiene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Isophorone	ND	ug/L	0.50	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Lindane	ND	ug/L	0.040	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Malathion	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Methoxychlor	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Metolachlor	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Metribuzin	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Molinate	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Naphthalene	ND	ug/L	0.30	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Parathion	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Pendimethalin	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Permethrin (mixed isomers)	ND	ug/L	0.20	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Phenanthrene	ND	ug/L	0.040	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Propachlor	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Pyrene	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Simazine	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Terbacil	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Terbutylazine	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Thiobencarb (ELAP)	ND	ug/L	0.20	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	trans-Nonachlor	ND	ug/L	0.050	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Trifluralin	ND	ug/L	0.10	1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	1,3-Dimethyl-2-nitrobenzene	97	%		1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Acenaphthene-d10	68	%		1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Chrysene-d12	69	%		1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Perylene-d12	91	%		1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Phenanthrene-d10	79	%		1
01/13/22	01/14/22 17:36	1379053	1379938	(EPA 525.2)	Triphenylphosphate	91	%		1
<b>EPA 300.0 - Disinfection ByProducts by 300.0</b>									
	01/19/22 15:56		1380296	(EPA 300.0)	Bromide	420	ug/L	10	2
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
01/13/22	01/13/22 17:20			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1
<b>SW 8015B - TPH 8015 Diesel and Motor Oil</b>									
01/13/22	01/14/22 22:26			(SW 8015B)	TPH Diesel	ND	mg/L	0.027	1
01/13/22	01/14/22 22:26			(SW 8015B)	TPH Motor Oil	ND	mg/L	0.055	1
<b>EPA 8015 - Jet Fuel 5 C8-C18</b>									
01/13/22	01/14/22 22:26			(EPA 8015)	Jet Fuel 5	ND	mg/L	0.055	1

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<b>EPA 625 - 625PAH in ug/L</b>									
01/17/22	02/24/22 00:00			(EPA 625)	1-Methylnaphthalene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	1-Methylphenanthrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	2,3,5-Trimethylnaphthalene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	2,4,6-Trichlorophenol	NA	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2,6-Dimethylnaphthalene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	2-Methylnaphthalene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Acenaphthene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Acenaphthylene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Anthracene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benz(a)Anthracene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzo(a)pyrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzo(b)fluoranthene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzo(e)pyrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzo(g,h,i)perylene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzo(k)fluoranthene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Biphenyl	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Chrysene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Dibenz(a,h)Anthracene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Dibenzo(a,l)pyrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Dibenzothiophene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Fluoranthene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Fluorene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Indeno(1,2,3,c,d)Pyrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Naphthalene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Pentachlorophenol	NA	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Perylene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Phenanthrene	ND	ug/L	0.005	1
01/17/22	02/24/22 00:00			(EPA 625)	Pyrene	ND	ug/L	0.005	1
<b>EPA 8015 - Jet Fuel 8 C8-C18</b>									
	01/14/22 22:26			(EPA 8015)	Jet Fuel 8	ND	mg/L	0.055	1
<b>EPA 625 - 625 Acid Extractable in ug/L</b>									
01/17/22	02/24/22 00:00			(EPA 625)	2,4,5-Trichlorophenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2,4,6-Trichlorophenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2,4-Dichlorophenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2,4-Dinitrophenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	2,6-Dichlorophenol	ND	ug/L	0.1	1

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01/17/22	02/24/22 00:00			(EPA 625)	2,6-Di-tert-butyl-4-methylphenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2,6-Di-tert-butylphenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2-Chlorophenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2-Methylphenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	2-Nitrophenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	4,6-Dinitro-2-methylphenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Chloro-3-methyl phenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Methylphenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Nitrophenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	6-tert-Butyl-2,4-dimethylphenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzoic acid	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzyl alcohol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	pentachlorophenol	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Phenol	ND	ug/L	0.2	1
01/17/22	02/24/22 00:00			(EPA 625)	p-tert-Butylphenol	ND	ug/L	0.1	1
<b>EPA 625 - 625 Base Neutral Extractable in ug/L</b>									
01/17/22	02/24/22 00:00			(EPA 625)	2-Chloronaphthalene	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	2-Nitroaniline	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	3-Nitroaniline	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Bromophenylphenyl Ether	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Chlorophenylphenyl Ether	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	4-Nitroaniline	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Aniline	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Benzidine	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	bis(2-Chloroethoxy)methane	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	bis(2-Chloroethyl)ether	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	bis(2-Chloroisopropyl) ether	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Dibenzofuran	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Disalicylidenepropanediamine	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Hexachloroethane	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	Nitrobenzene	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	N-Nitrosodi-N-propylamine	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	N-Nitrosodiphenylamine	ND	ug/L	0.1	1
01/17/22	02/24/22 00:00			(EPA 625)	p-Chloroaniline	ND	ug/L	0.1	1
<b>SW8015C - Ethanol</b>									
	01/13/22 19:14			(SW8015C)	Ethanol	ND	ug/L	2000	1
<b>EPA 524.2 - Volatile Organics by GCMS</b>									

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 1 800 566 LABS (1 800 566 5227)

**Report:** 979941  
**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:  
 01/12/2022 1405

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1,1-Trichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1,2-Trichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1-Dichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,1-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2,3-Trichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2-Dichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2-Dichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,3-Dichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	2,2-Dichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	2-Butanone (MEK)	ND	ug/L	5.0	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	2-Hexanone	ND	ug/L	10	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Acetone	ND (FB)	ug/L	500	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Benzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromochloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromodichloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromoethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromoform	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Carbon disulfide	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Carbon Tetrachloride	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Chlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Chlorodibromomethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Chloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Dibromomethane	ND	ug/L	0.50	1

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**Report:** 979941  
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 (Albuquerque+)

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Dichloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Hexachlorobutadiene	ND (LM,BM)	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Naphthalene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	n-Butylbenzene	ND (BM)	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	o-Xylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Styrene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Toluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Total THM	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Total xylenes	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	trans-1,3-Dichloropropene	ND (LK)	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.30	1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	1,2-Dichloroethane-d4	100	%		1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	4-Bromofluorobenzene	101	%		1
01/14/22	01/14/22 17:33	1379835	1379837	(EPA 524.2)	Toluene-d8	91	%		1

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<b>EPA 524.2 SIM - TBA by EPA 524.2 Modified</b>									
01/17/22	01/17/22 20:14	1380135	1380137	(EPA 524.2 SIM)	t-Butyl Alcohol	ND	ug/L	2.0	1
01/17/22	01/17/22 20:14	1380135	1380137	(EPA 524.2 SIM)	1,2-Dichloroethane-d4	124	%		1
01/17/22	01/17/22 20:14	1380135	1380137	(EPA 524.2 SIM)	4-Bromofluorobenzene	98	%		1
01/17/22	01/17/22 20:14	1380135	1380137	(EPA 524.2 SIM)	Toluene-d8	104	%		1
<b>SM 2320B - Alkalinity in CaCO3 units</b>									
	01/17/22 22:53		1380061	(SM 2320B)	Alkalinity in CaCO3 units	56	mg/L	2.0	1
<b>E160.1/SM2540C - Total Dissolved Solids (TDS)</b>									
01/13/22	01/13/22 18:01	1379091	1379409	(E160.1/SM2540C)	Total Dissolved Solids (TDS)	360	mg/L	10	1
<b>SM4500-HB - PH (H3=past HT not compliant)</b>									
	01/17/22 22:53		1380064	(SM4500-HB)	PH (H3=past HT not compliant)	7.9	Units	0.10	1
<b>SM2510B - Specific Conductance</b>									
	01/17/22 22:53		1380069	(SM2510B)	Specific Conductance, 25 C	560	umho/cm	10	1
<b>TRAVEL BLANK::HALAWA SHAFT-331-241-TP401 (202201120763)</b>						<b>Sampled on 01/10/2022 0930</b>			
<b>EPA 504.1 - EPA Method 504.1</b>									
01/15/22	01/16/22 01:08	1379842	1380120	(EPA 504.1)	1,2,3-Trichloropropane (TCP)	ND	ug/L	0.040	1
01/15/22	01/16/22 01:08	1379842	1380120	(EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/L	0.010	1
01/15/22	01/16/22 01:08	1379842	1380120	(EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/L	0.010	1
01/15/22	01/16/22 01:08	1379842	1380120	(EPA 504.1)	1,2-Dibromopropane	104	%		1
<b>SW 8015B - (SUB)Gas Fraction Hydrocarbons</b>									
01/13/22	01/13/22 17:57			(SW 8015B)	(SUB)Gas Fraction Hydrocarbons	ND	mg/L	0.02	1
<b>EPA 524.2 - Volatile Organics by GCMS</b>									
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1,1-Trichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1,2-Trichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1-Dichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,1-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2,3-Trichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2-Dichloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2-Dichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,3-Dichloropropane	ND	ug/L	0.50	1

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01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	2,2-Dichloropropane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	2-Butanone (MEK)	ND	ug/L	5.0	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	2-Hexanone	ND	ug/L	10	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Acetone	ND	ug/L	500	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Benzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromochloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromodichloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromoethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromoform	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Carbon disulfide	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Carbon Tetrachloride	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Chlorobenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Chlorodibromomethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Chloroethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Dibromomethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Dichlorodifluoromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Dichloromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Di-isopropyl ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Ethyl benzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Hexachlorobutadiene	ND (LM,BM)	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Isopropylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	m,p-Xylenes	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Naphthalene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	n-Butylbenzene	ND (BM)	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	n-Propylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	o-Chlorotoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	o-Xylene	ND	ug/L	0.50	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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**Report:** 979941  
**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:  
 01/12/2022 1405

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	p-Chlorotoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	p-Isopropyltoluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	sec-Butylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Styrene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	tert-amyl Methyl Ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/L	3.0	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	tert-Butylbenzene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Toluene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Total 1,3-Dichloropropene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Total THM	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Total xylenes	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	trans-1,3-Dichloropropene	ND (LK)	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Trichloroethylene (TCE)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Trichlorofluoromethane	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Trichlorotrifluoroethane(Freon 113)	ND	ug/L	0.50	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Vinyl chloride (VC)	ND	ug/L	0.30	1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	1,2-Dichloroethane-d4	107	%		1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	4-Bromofluorobenzene	94	%		1
01/14/22	01/14/22 17:55	1379835	1379837	(EPA 524.2)	Toluene-d8	97	%		1
<b>EPA 524.2 SIM - TBA by EPA 524.2 Modified</b>									
01/13/22	01/13/22 21:38	1374875	1379539	(EPA 524.2 SIM)	t-Butyl Alcohol	ND	ug/L	2.0	1
01/13/22	01/13/22 21:38	1374875	1379539	(EPA 524.2 SIM)	1,2-Dichloroethane-d4	124	%		1
01/13/22	01/13/22 21:38	1374875	1379539	(EPA 524.2 SIM)	4-Bromofluorobenzene	102	%		1
01/13/22	01/13/22 21:38	1374875	1379539	(EPA 524.2 SIM)	Toluene-d8	106	%		1

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**Report:** 979941  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

**Total Dissolved Solids (TDS)**

**Prep Batch: 1379091 Analytical Batch: 1379409** **Analysis Date: 01/13/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: TJ52

**ICPMS Metals**

**Prep Batch: 1379307 Analytical Batch: 1379503** **Analysis Date: 01/14/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: DHX7

**Mercury ICPMS**

**Prep Batch: 1379307 Analytical Batch: 1379504** **Analysis Date: 01/14/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: DHX7

**ICP Metals**

**Prep Batch: 1379307 Analytical Batch: 1379527** **Analysis Date: 01/14/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: NINA

**TBA by EPA 524.2 Modified**

**Prep Batch: 1374875 Analytical Batch: 1379539** **Analysis Date: 01/13/2022**  
 202201120763 TRAVEL BLANK::HALAWA SHAFT-331-241-TP401 Analyzed by: KCP

**Volatile Organics by GCMS**

**Prep Batch: 1379835 Analytical Batch: 1379837** **Analysis Date: 01/14/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: TG9W  
 202201120763 TRAVEL BLANK::HALAWA SHAFT-331-241-TP401 Analyzed by: TG9W

**Semivolatiles by GCMS**

**Prep Batch: 1379053 Analytical Batch: 1379938** **Analysis Date: 01/14/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: PAC

**Alkalinity in CaCO3 units**

**Analytical Batch: 1380061** **Analysis Date: 01/17/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: D5MQ

**PH (H3=past HT not compliant)**

**Analytical Batch: 1380064** **Analysis Date: 01/17/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: D5MQ

**Specific Conductance**

**Analytical Batch: 1380069** **Analysis Date: 01/17/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: D5MQ

**EPA Method 504.1**

**Prep Batch: 1379842 Analytical Batch: 1380120** **Analysis Date: 01/16/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: DYM  
 202201120763 TRAVEL BLANK::HALAWA SHAFT-331-241-TP401 Analyzed by: DYM

**TBA by EPA 524.2 Modified**

**Prep Batch: 1380135 Analytical Batch: 1380137** **Analysis Date: 01/17/2022**  
 202201120762 HALAWA SHAFT-331-241-TP401 Analyzed by: KCP

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**Report:** 979941  
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(Albuquerque+)

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**Organochlorine Pesticides/PCBs**

**Prep Batch: 1379413 Analytical Batch: 1380291**

202201120762 HALAWA SHAFT-331-241-TP401

**Analysis Date: 01/14/2022**

Analyzed by: LRL

**Disinfection ByProducts by 300.0**

**Analytical Batch: 1380296**

202201120762 HALAWA SHAFT-331-241-TP401

**Analysis Date: 01/19/2022**

Analyzed by: NJR

**Organochlorine Pesticides**

**Prep Batch: 1379419 Analytical Batch: 1382356**

202201120762 HALAWA SHAFT-331-241-TP401

**Analysis Date: 01/14/2022**

Analyzed by: LRL

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Report: 979941  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
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**Total Dissolved Solids (TDS) by E160.1/SM2540C**

Analytical Batch: 1379409

Analysis Date: 01/13/2022

DUP_202201070125	Total Dissolved Solid (TDS)	510		504	mg/L		(0-10)	10	1.2
DUP_202201120762	Total Dissolved Solid (TDS)	360		356	mg/L		(0-10)	10	1.7
LCS1	Total Dissolved Solid (TDS)		175	182	mg/L	104	(80-114)		
LCS2	Total Dissolved Solid (TDS)		700	702	mg/L	100	(80-114)		
MBLK	Total Dissolved Solid (TDS)			<u>5.00</u>	mg/L				
MRL_CHK	Total Dissolved Solid (TDS)		10	14.0	mg/L	140	(50-150)		

**ICPMS Metals by EPA 200.8**

Analytical Batch: 1379503

Analysis Date: 01/14/2022

LCS1	Antimony Total ICAP/MS		50	52.5	ug/L	105	(85-115)		
LCS2	Antimony Total ICAP/MS		50	52.2	ug/L	104	(85-115)	20	0.57
MBLK	Antimony Total ICAP/MS			<0.2437	ug/L				
MRL_CHK	Antimony Total ICAP/MS		1	1.15	ug/L	115	(50-150)		
MS_202201050429	Antimony Total ICAP/MS	ND	50	54.0	ug/L	108	(70-130)		
MS2_202201050210	Antimony Total ICAP/MS	ND	50	53.5	ug/L	107	(70-130)		
MSD_202201050429	Antimony Total ICAP/MS	ND	50	53.4	ug/L	107	(70-130)	20	1.2
MSD2_202201050210	Antimony Total ICAP/MS	ND	50	53.9	ug/L	108	(70-130)	20	0.80
LCS1	Arsenic Total ICAP/MS		50	51.0	ug/L	102	(85-115)		
LCS2	Arsenic Total ICAP/MS		50	50.8	ug/L	102	(85-115)	20	0.39
MBLK	Arsenic Total ICAP/MS			<0.4134	ug/L				
MRL_CHK	Arsenic Total ICAP/MS		1	1.06	ug/L	106	(50-150)		
MS_202201050429	Arsenic Total ICAP/MS	ND	50	52.4	ug/L	104	(70-130)		
MS2_202201050210	Arsenic Total ICAP/MS	ND	50	51.0	ug/L	102	(70-130)		
MSD_202201050429	Arsenic Total ICAP/MS	ND	50	52.0	ug/L	104	(70-130)	20	0.68
MSD2_202201050210	Arsenic Total ICAP/MS	ND	50	51.2	ug/L	102	(70-130)	20	0.35
LCS1	Beryllium Total ICAP/MS		25	25.3	ug/L	101	(85-115)		
LCS2	Beryllium Total ICAP/MS		25	25.4	ug/L	102	(85-115)	20	0.39
MBLK	Beryllium Total ICAP/MS			<0.1106	ug/L				
MRL_CHK	Beryllium Total ICAP/MS		1	1.05	ug/L	105	(50-150)		
MS_202201050429	Beryllium Total ICAP/MS	ND	25	26.3	ug/L	105	(70-130)		
MS2_202201050210	Beryllium Total ICAP/MS	ND	25	25.6	ug/L	102	(70-130)		
MSD_202201050429	Beryllium Total ICAP/MS	ND	25	25.8	ug/L	103	(70-130)	20	1.5
MSD2_202201050210	Beryllium Total ICAP/MS	ND	25	26.0	ug/L	104	(70-130)	20	1.6
LCS1	Cadmium Total ICAP/MS		25	25.4	ug/L	102	(85-115)		
LCS2	Cadmium Total ICAP/MS		25	25.1	ug/L	101	(85-115)	20	1.2
MBLK	Cadmium Total ICAP/MS			<0.0546	ug/L				

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: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Cadmium Total ICAP/MS		0.5	0.543	ug/L	109	(50-150)		
MS_202201050429	Cadmium Total ICAP/MS	ND	25	25.7	ug/L	102	(70-130)		
MS2_202201050210	Cadmium Total ICAP/MS	ND	25	25.0	ug/L	100	(70-130)		
MSD_202201050429	Cadmium Total ICAP/MS	ND	25	25.5	ug/L	101	(70-130)	20	0.86
MSD2_202201050210	Cadmium Total ICAP/MS	ND	25	25.5	ug/L	102	(70-130)	20	1.9
LCS1	Chromium Total ICAP/MS		50	51.3	ug/L	103	(85-115)		
LCS2	Chromium Total ICAP/MS		50	50.8	ug/L	102	(85-115)	20	0.98
MBLK	Chromium Total ICAP/MS			<0.580	ug/L				
MRL_CHK	Chromium Total ICAP/MS		1	0.828	ug/L	83	(50-150)		
MS_202201050429	Chromium Total ICAP/MS	ND	50	51.5	ug/L	103	(70-130)		
MS2_202201050210	Chromium Total ICAP/MS	ND	50	50.1	ug/L	100	(70-130)		
MSD_202201050429	Chromium Total ICAP/MS	ND	50	51.6	ug/L	103	(70-130)	20	0.21
MSD2_202201050210	Chromium Total ICAP/MS	ND	50	50.9	ug/L	102	(70-130)	20	1.6
LCS1	Copper Total ICAP/MS		50	51.1	ug/L	102	(85-115)		
LCS2	Copper Total ICAP/MS		50	51.2	ug/L	102	(85-115)	20	0.20
MBLK	Copper Total ICAP/MS			<1.343	ug/L				
MRL_CHK	Copper Total ICAP/MS		2	2.07	ug/L	104	(50-150)		
MS_202201050429	Copper Total ICAP/MS	ND	50	50.4	ug/L	101	(70-130)		
MS2_202201050210	Copper Total ICAP/MS	9.3	50	57.4	ug/L	96	(70-130)		
MSD_202201050429	Copper Total ICAP/MS	ND	50	50.0	ug/L	100	(70-130)	20	0.80
MSD2_202201050210	Copper Total ICAP/MS	9.3	50	57.6	ug/L	97	(70-130)	20	0.42
LCS1	Lead Total ICAP/MS		50	51.9	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.9	ug/L	102	(85-115)	20	2.0
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.527	ug/L	105	(50-150)		
MS_202201050429	Lead Total ICAP/MS	ND	50	51.0	ug/L	102	(70-130)		
MS2_202201050210	Lead Total ICAP/MS	ND	50	48.6	ug/L	97	(70-130)		
MSD_202201050429	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)	20	2.6
MSD2_202201050210	Lead Total ICAP/MS	ND	50	50.7	ug/L	101	(70-130)	20	4.1
LCS1	Nickel Total ICAP/MS		50	50.1	ug/L	100	(85-115)		
LCS2	Nickel Total ICAP/MS		50	50.1	ug/L	100	(85-115)	20	0.0
MBLK	Nickel Total ICAP/MS			<0.4959	ug/L				
MRL_CHK	Nickel Total ICAP/MS		5	5.04	ug/L	101	(50-150)		
MS_202201050429	Nickel Total ICAP/MS	ND	50	50.2	ug/L	100	(70-130)		
MS2_202201050210	Nickel Total ICAP/MS	ND	50	48.7	ug/L	96	(70-130)		
MSD_202201050429	Nickel Total ICAP/MS	ND	50	50.2	ug/L	100	(70-130)	20	0.10
MSD2_202201050210	Nickel Total ICAP/MS	ND	50	48.8	ug/L	96	(70-130)	20	0.13
LCS1	Selenium Total ICAP/MS		50	52.3	ug/L	105	(85-115)		

Spike recovery is already corrected for native results.  
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Report: 979941  
 Project: RED-HILL  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS2	Selenium Total ICAP/MS		50	51.8	ug/L	104	(85-115)	20	0.96
MBLK	Selenium Total ICAP/MS			<0.6224	ug/L				
MRL_CHK	Selenium Total ICAP/MS		5	5.11	ug/L	102	(50-150)		
MS_202201050429	Selenium Total ICAP/MS	ND	50	52.3	ug/L	104	(70-130)		
MS2_202201050210	Selenium Total ICAP/MS	ND	50	50.8	ug/L	102	(70-130)		
MSD_202201050429	Selenium Total ICAP/MS	ND	50	52.3	ug/L	104	(70-130)	20	0.034
MSD2_202201050210	Selenium Total ICAP/MS	ND	50	51.4	ug/L	103	(70-130)	20	1.1
LCS1	Silver Total ICAP/MS		25	25.3	ug/L	101	(85-115)		
LCS2	Silver Total ICAP/MS		25	25.3	ug/L	101	(85-115)	20	0.0
MBLK	Silver Total ICAP/MS			<0.1929	ug/L				
MRL_CHK	Silver Total ICAP/MS		0.5	0.530	ug/L	106	(50-150)		
MS_202201050429	Silver Total ICAP/MS	ND	25	24.7	ug/L	99	(70-130)		
MS2_202201050210	Silver Total ICAP/MS	ND	25	24.6	ug/L	98	(70-130)		
MSD_202201050429	Silver Total ICAP/MS	ND	25	24.9	ug/L	100	(70-130)	20	0.77
MSD2_202201050210	Silver Total ICAP/MS	ND	25	24.9	ug/L	99	(70-130)	20	1.1
LCS1	Thallium Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
LCS2	Thallium Total ICAP/MS		50	49.5	ug/L	99	(85-115)	20	2.6
MBLK	Thallium Total ICAP/MS			<0.1449	ug/L				
MRL_CHK	Thallium Total ICAP/MS		1	1.01	ug/L	101	(50-150)		
MS_202201050429	Thallium Total ICAP/MS	ND	50	48.9	ug/L	98	(70-130)		
MS2_202201050210	Thallium Total ICAP/MS	ND	50	47.6	ug/L	95	(70-130)		
MSD_202201050429	Thallium Total ICAP/MS	ND	50	49.0	ug/L	98	(70-130)	20	0.13
MSD2_202201050210	Thallium Total ICAP/MS	ND	50	49.3	ug/L	99	(70-130)	20	3.4
LCS1	Zinc Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Zinc Total ICAP/MS		50	51.5	ug/L	103	(85-115)	20	0.19
MBLK	Zinc Total ICAP/MS			<10.62	ug/L				
MRL_CHK	Zinc Total ICAP/MS		20	20.5	ug/L	103	(50-150)		
MS_202201050429	Zinc Total ICAP/MS	ND	50	52.3	ug/L	103	(70-130)		
MS2_202201050210	Zinc Total ICAP/MS	ND	50	58.4	ug/L	98	(70-130)		
MSD_202201050429	Zinc Total ICAP/MS	ND	50	52.2	ug/L	103	(70-130)	20	0.23
MSD2_202201050210	Zinc Total ICAP/MS	ND	50	59.0	ug/L	99	(70-130)	20	1.1

Mercury ICPMS by EPA 200.8

Analytical Batch: 1379504

Analysis Date: 01/14/2022

LCS1	Mercury ICPMS		0.75	0.782	ug/L	104	(85-115)		
LCS2	Mercury ICPMS		0.75	0.786	ug/L	105	(85-115)	20	0.51
MBLK	Mercury ICPMS			<0.1	ug/L				
MRL_CHK	Mercury ICPMS		0.2	0.225	ug/L	113	(50-150)		

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 1 800 566 LABS (1 800 566 5227)

Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201050429	Mercury ICPMS	ND	0.75	0.773	ug/L	102	(70-130)		
MS2_202201050210	Mercury ICPMS	ND	0.75	0.772	ug/L	101	(70-130)		
MSD_202201050429	Mercury ICPMS	ND	0.75	0.763	ug/L	101	(70-130)	20	1.3
MSD2_202201050210	Mercury ICPMS	ND	0.75	0.800	ug/L	105	(70-130)	20	3.6

ICP Metals by EPA 200.7

Analytical Batch: 1379527

Analysis Date: 01/14/2022

LCS1	Calcium Total ICAP		50	50.4	mg/L	101	(85-115)		
LCS2	Calcium Total ICAP		50	49.5	mg/L	99	(85-115)	20	1.8
MBLK	Calcium Total ICAP			<0.043087	mg/L				
MRL_CHK	Calcium Total ICAP		1	0.986	mg/L	99	(50-150)		
MS_202201120772	Calcium Total ICAP	22	50	73.7	mg/L	103	(70-130)		
MS2_202201120567	Calcium Total ICAP	61	50	110	mg/L	99	(70-130)		
MSD_202201120772	Calcium Total ICAP	22	50	73.2	mg/L	102	(70-130)	20	0.71
MSD2_202201120567	Calcium Total ICAP	61	50	113	mg/L	104	(70-130)	20	2.3
LCS1	Magnesium Total ICAP		20	19.8	mg/L	99	(85-115)		
LCS2	Magnesium Total ICAP		20	19.4	mg/L	97	(85-115)	20	1.5
MBLK	Magnesium Total ICAP			<0.009606	mg/L				
MRL_CHK	Magnesium Total ICAP		0.1	0.0938	mg/L	94	(50-150)		
MS_202201120772	Magnesium Total ICAP	17	20	37.9	mg/L	104	(70-130)		
MS2_202201120567	Magnesium Total ICAP	42	20	62.6	mg/L	100	(70-130)		
MSD_202201120772	Magnesium Total ICAP	17	20	37.5	mg/L	102	(70-130)	20	1.1
MSD2_202201120567	Magnesium Total ICAP	42	20	63.8	mg/L	106	(70-130)	20	1.9
LCS1	Potassium Total ICAP		20	20.1	mg/L	101	(85-115)		
LCS2	Potassium Total ICAP		20	19.8	mg/L	99	(85-115)	20	1.0
MBLK	Potassium Total ICAP			<0.233312	mg/L				
MRL_CHK	Potassium Total ICAP		1	0.650	mg/L	65	(50-150)		
MS_202201120772	Potassium Total ICAP	2.2	20	24.5	mg/L	112	(70-130)		
MS2_202201120567	Potassium Total ICAP	2	20	24.5	mg/L	113	(70-130)		
MSD_202201120772	Potassium Total ICAP	2.2	20	24.3	mg/L	111	(70-130)	20	0.86
MSD2_202201120567	Potassium Total ICAP	2	20	25.0	mg/L	115	(70-130)	20	2.1
LCS1	Sodium Total ICAP		50	49.6	mg/L	99	(85-115)		
LCS2	Sodium Total ICAP		50	48.9	mg/L	98	(85-115)	20	1.4
MBLK	Sodium Total ICAP			<0.4255	mg/L				
MRL_CHK	Sodium Total ICAP		1	1.06	mg/L	106	(50-150)		
MS_202201120772	Sodium Total ICAP	35	50	84.6	mg/L	99	(70-130)		
MS2_202201120567	Sodium Total ICAP	30	50	80.6	mg/L	100	(70-130)		
MSD_202201120772	Sodium Total ICAP	35	50	83.6	mg/L	97	(70-130)	20	1.2

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: 979941  
 Project: RED-HILL  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MSD2_202201120567	Sodium Total ICAP	30	50	82.1	mg/L	103	(70-130)	20	1.8

**TBA by EPA 524.2 Modified by EPA 524.2 SIM**

Analytical Batch: 1379539

Analysis Date: 01/13/2022

LCS1	1,2-Dichloroethane-d4 (S)			124	%	124	(70-130)		
LCS2	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
MBLK	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
MRL_CHK	1,2-Dichloroethane-d4 (S)			124	%	124	(70-130)		
LCS1	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
LCS2	4-Bromofluorobenzene (S)			104	%	104	(70-130)		
MBLK	4-Bromofluorobenzene (S)			102	%	102	(70-130)		
MRL_CHK	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
LCS1	t-Butyl Alcohol		5	5.78	ug/L	116	(70-130)		
LCS2	t-Butyl Alcohol		5	6.02	ug/L	120	(70-130)	20	3.9
MBLK	t-Butyl Alcohol			<2	ug/L				
MRL_CHK	t-Butyl Alcohol		2	2.44	ug/L	122	(50-150)		
LCS1	Toluene-d8 (S)			104	%	104	(70-130)		
LCS2	Toluene-d8 (S)			104	%	104	(70-130)		
MBLK	Toluene-d8 (S)			104	%	104	(70-130)		
MRL_CHK	Toluene-d8 (S)			104	%	104	(70-130)		

**Volatile Organics by GCMS by EPA 524.2**

Analytical Batch: 1379837

Analysis Date: 01/14/2022

LCS1	1,1,1,2-Tetrachloroethane		5	5.49	ug/L	110	(70-130)		
LCS2	1,1,1,2-Tetrachloroethane		5	5.63	ug/L	113	(70-130)	20	2.5
MBLK	1,1,1,2-Tetrachloroethane			<0.5	ug/L				
MRL_CHK	1,1,1,2-Tetrachloroethane		0.5	0.460	ug/L	92	(50-150)		
LCS1	1,1,1-Trichloroethane		5	4.66	ug/L	93	(70-130)		
LCS2	1,1,1-Trichloroethane		5	4.98	ug/L	100	(70-130)	20	6.6
MBLK	1,1,1-Trichloroethane			<0.5	ug/L				
MRL_CHK	1,1,1-Trichloroethane		0.5	0.470	ug/L	94	(50-150)		
LCS1	1,1,2,2-Tetrachloroethane		5	4.72	ug/L	94	(70-130)		
LCS2	1,1,2,2-Tetrachloroethane		5	5.06	ug/L	101	(70-130)	20	7.0
MBLK	1,1,2,2-Tetrachloroethane			<0.5	ug/L				
MRL_CHK	1,1,2,2-Tetrachloroethane		0.5	0.570	ug/L	114	(50-150)		
LCS1	1,1,2-Trichloroethane		5	4.90	ug/L	98	(70-130)		
LCS2	1,1,2-Trichloroethane		5	5.19	ug/L	104	(70-130)	20	5.8
MBLK	1,1,2-Trichloroethane			<0.5	ug/L				
MRL_CHK	1,1,2-Trichloroethane		0.5	0.530	ug/L	106	(50-150)		

Spike recovery is already corrected for native results.

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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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Report: 979941  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	1,1-Dichloroethane		5	4.65	ug/L	93	(70-130)		
LCS2	1,1-Dichloroethane		5	4.91	ug/L	98	(70-130)	20	5.4
MBLK	1,1-Dichloroethane			<0.5	ug/L				
MRL_CHK	1,1-Dichloroethane		0.5	0.550	ug/L	110	(50-150)		
LCS1	1,1-Dichloroethylene		5	4.46	ug/L	89	(70-130)		
LCS2	1,1-Dichloroethylene		5	4.68	ug/L	94	(70-130)	20	4.8
MBLK	1,1-Dichloroethylene			<0.5	ug/L				
MRL_CHK	1,1-Dichloroethylene		0.5	0.530	ug/L	106	(50-150)		
LCS1	1,1-Dichloropropene		5	4.57	ug/L	91	(70-130)		
LCS2	1,1-Dichloropropene		5	4.64	ug/L	93	(70-130)	20	1.5
MBLK	1,1-Dichloropropene			<0.5	ug/L				
MRL_CHK	1,1-Dichloropropene		0.5	0.480	ug/L	96	(50-150)		
LCS1	1,2,3-Trichlorobenzene		5	4.97	ug/L	99	(70-130)		
LCS2	1,2,3-Trichlorobenzene		5	5.34	ug/L	107	(70-130)	20	7.2
MBLK	1,2,3-Trichlorobenzene			<0.5	ug/L				
MRL_CHK	1,2,3-Trichlorobenzene		0.5	0.700	ug/L	140	(50-150)		
LCS1	1,2,3-Trichloropropane		5	4.71	ug/L	94	(70-130)		
LCS2	1,2,3-Trichloropropane		5	4.94	ug/L	99	(70-130)	20	4.8
MBLK	1,2,3-Trichloropropane			<0.5	ug/L				
MRL_CHK	1,2,3-Trichloropropane		0.5	0.580	ug/L	116	(50-150)		
LCS1	1,2,4-Trichlorobenzene		5	5.00	ug/L	100	(70-130)		
LCS2	1,2,4-Trichlorobenzene		5	5.38	ug/L	108	(70-130)	20	7.3
MBLK	1,2,4-Trichlorobenzene			<0.5	ug/L				
MRL_CHK	1,2,4-Trichlorobenzene		0.5	0.700	ug/L	140	(50-150)		
LCS1	1,2,4-Trimethylbenzene		5	4.71	ug/L	94	(70-130)		
LCS2	1,2,4-Trimethylbenzene		5	4.95	ug/L	99	(70-130)	20	5.0
MBLK	1,2,4-Trimethylbenzene			<0.5	ug/L				
MRL_CHK	1,2,4-Trimethylbenzene		0.5	0.450	ug/L	90	(50-150)		
LCS1	1,2-Dichloroethane		5	4.85	ug/L	97	(70-130)		
LCS2	1,2-Dichloroethane		5	5.05	ug/L	101	(70-130)	20	4.0
MBLK	1,2-Dichloroethane			<0.5	ug/L				
MRL_CHK	1,2-Dichloroethane		0.5	0.570	ug/L	114	(50-150)		
LCS1	1,2-Dichloroethane-d4 (S)		5	98.8	%	99	(70-130)		
LCS2	1,2-Dichloroethane-d4 (S)		5	98.4	%	98	(70-130)		
MBLK	1,2-Dichloroethane-d4 (S)			103	%	103	(70-130)		
MRL_CHK	1,2-Dichloroethane-d4 (S)		5	105	%	105	(70-130)		
MRLLLW	1,2-Dichloroethane-d4 (S)		5	100	%	100	(70-130)		
LCS1	1,2-Dichloropropane		5	4.97	ug/L	99	(70-130)		

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 RPD not calculated for LCS2 when different a concentration than LCS1 is used.  
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Report: 979941  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS2	1,2-Dichloropropane		5	5.02	ug/L	100	(70-130)	20	1.0
MBLK	1,2-Dichloropropane			<0.5	ug/L				
MRL_CHK	1,2-Dichloropropane		0.5	0.550	ug/L	110	(50-150)		
LCS1	1,3,5-Trimethylbenzene		5	4.72	ug/L	94	(70-130)		
LCS2	1,3,5-Trimethylbenzene		5	5.08	ug/L	102	(70-130)	20	7.3
MBLK	1,3,5-Trimethylbenzene			<0.5	ug/L				
MRL_CHK	1,3,5-Trimethylbenzene		0.5	0.460	ug/L	92	(50-150)		
LCS1	1,3-Dichloropropane		5	4.99	ug/L	100	(70-130)		
LCS2	1,3-Dichloropropane		5	5.18	ug/L	104	(70-130)	20	3.7
MBLK	1,3-Dichloropropane			<0.5	ug/L				
MRL_CHK	1,3-Dichloropropane		0.5	0.530	ug/L	106	(50-150)		
LCS1	2,2-Dichloropropane		5	4.55	ug/L	91	(70-130)		
LCS2	2,2-Dichloropropane		5	4.58	ug/L	92	(70-130)	20	0.66
MBLK	2,2-Dichloropropane			<0.5	ug/L				
MRL_CHK	2,2-Dichloropropane		0.5	0.510	ug/L	102	(50-150)		
LCS1	2-Butanone (MEK)		50	50.0	ug/L	100	(70-130)		
LCS2	2-Butanone (MEK)		50	49.7	ug/L	99	(70-130)	20	0.60
MBLK	2-Butanone (MEK)			<5.0	ug/L				
MRL_CHK	2-Butanone (MEK)		5	5.90	ug/L	118	(50-150)		
LCS1	2-Hexanone		50	54.7	ug/L	109	(70-130)		
LCS2	2-Hexanone		50	55.5	ug/L	111	(70-130)	20	1.5
MBLK	2-Hexanone			<5.0	ug/L				
MRL_CHK	2-Hexanone		5	5.33	ug/L	107	(50-150)		
LCS1	4-Bromofluorobenzene (S)		5	96.4	%	96	(70-130)		
LCS2	4-Bromofluorobenzene (S)		5	94.6	%	95	(70-130)		
MBLK	4-Bromofluorobenzene (S)			96.8	%	97	(70-130)		
MRL_CHK	4-Bromofluorobenzene (S)		5	95.0	%	95	(70-130)		
MRLLLW	4-Bromofluorobenzene (S)		5	97.4	%	97	(70-130)		
LCS1	4-Methyl-2-Pentanone (MIBK)		50	53.8	ug/L	108	(70-130)		
LCS2	4-Methyl-2-Pentanone (MIBK)		50	54.6	ug/L	109	(70-130)	20	1.5
MBLK	4-Methyl-2-Pentanone (MIBK)			<5.0	ug/L				
MRL_CHK	4-Methyl-2-Pentanone (MIBK)		5	5.03	ug/L	101	(50-150)		
LCS1	Acetone		50	55.6	ug/L	111	(70-130)		
LCS2	Acetone		50	58.1	ug/L	116	(70-130)	20	4.4
MBLK	Acetone			<10	ug/L				
MRL_CHK	Acetone		5	3.80	ug/L	76	(50-150)		
LCS1	Benzene		5	4.78	ug/L	96	(70-130)		
LCS2	Benzene		5	4.88	ug/L	98	(70-130)	20	2.1

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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%
MBLK	Benzene			<0.5	ug/L				
MRL_CHK	Benzene		0.5	0.530	ug/L	106	(50-150)		
LCS1	Bromobenzene		5	4.54	ug/L	91	(70-130)		
LCS2	Bromobenzene		5	4.83	ug/L	97	(70-130)	20	6.2
MBLK	Bromobenzene			<0.5	ug/L				
MRL_CHK	Bromobenzene		0.5	0.450	ug/L	90	(50-150)		
LCS1	Bromochloromethane		5	4.91	ug/L	98	(70-130)		
LCS2	Bromochloromethane		5	5.03	ug/L	101	(70-130)	20	2.4
MBLK	Bromochloromethane			<0.5	ug/L				
MRL_CHK	Bromochloromethane		0.5	0.570	ug/L	114	(50-150)		
LCS1	Bromodichloromethane		5	5.34	ug/L	107	(70-130)		
LCS2	Bromodichloromethane		5	5.38	ug/L	108	(70-130)	20	0.75
MBLK	Bromodichloromethane			<0.5	ug/L				
MRL_CHK	Bromodichloromethane		0.5	0.510	ug/L	102	(50-150)		
LCS1	Bromoethane		5	4.93	ug/L	99	(70-130)		
LCS2	Bromoethane		5	4.77	ug/L	95	(70-130)	20	3.3
MBLK	Bromoethane			<0.5	ug/L				
MRL_CHK	Bromoethane		0.5	0.580	ug/L	116	(50-150)		
LCS1	Bromoform		5	6.02	ug/L	120	(70-130)		
LCS2	Bromoform		5	6.02	ug/L	120	(70-130)	20	0.0
MBLK	Bromoform			<0.5	ug/L				
MRL_CHK	Bromoform		0.5	0.280	ug/L	56	(50-150)		
LCS1	Bromomethane (Methyl Bromide)		5	4.70	ug/L	94	(70-130)		
LCS2	Bromomethane (Methyl Bromide)		5	5.08	ug/L	102	(70-130)	20	7.8
MBLK	Bromomethane (Methyl Bromide)			<0.5	ug/L				
MRL_CHK	Bromomethane (Methyl Bromide)		0.5	0.690	ug/L	138	(50-150)		
LCS1	Carbon disulfide		5	4.44	ug/L	89	(70-130)		
LCS2	Carbon disulfide		5	4.58	ug/L	92	(70-130)	20	3.1
MBLK	Carbon disulfide			<0.5	ug/L				
MRL_CHK	Carbon disulfide		0.5	0.460	ug/L	92	(50-150)		
LCS1	Carbon Tetrachloride		5	4.62	ug/L	92	(70-130)		
LCS2	Carbon Tetrachloride		5	4.76	ug/L	95	(70-130)	20	3.0
MBLK	Carbon Tetrachloride			<0.5	ug/L				
MRL_CHK	Carbon Tetrachloride		0.5	0.470	ug/L	94	(50-150)		
LCS1	Chlorobenzene		5	4.84	ug/L	97	(70-130)		
LCS2	Chlorobenzene		5	4.96	ug/L	99	(70-130)	20	2.5
MBLK	Chlorobenzene			<0.5	ug/L				
MRL_CHK	Chlorobenzene		0.5	0.500	ug/L	100	(50-150)		

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Chlorodibromomethane		5	5.87	ug/L	117	(70-130)		
LCS2	Chlorodibromomethane		5	5.84	ug/L	117	(70-130)	20	0.51
MBLK	Chlorodibromomethane			<0.5	ug/L				
MRL_CHK	Chlorodibromomethane		0.5	0.340	ug/L	68	(50-150)		
LCS1	Chloroethane		5	4.53	ug/L	91	(70-130)		
LCS2	Chloroethane		5	4.85	ug/L	97	(70-130)	20	6.8
MBLK	Chloroethane			<0.5	ug/L				
MRL_CHK	Chloroethane		0.5	0.600	ug/L	120	(50-150)		
LCS1	Chloroform (Trichloromethane)		5	4.79	ug/L	96	(70-130)		
LCS2	Chloroform (Trichloromethane)		5	5.00	ug/L	100	(70-130)	20	4.3
MBLK	Chloroform (Trichloromethane)			<0.5	ug/L				
MRL_CHK	Chloroform (Trichloromethane)		0.5	0.510	ug/L	102	(50-150)		
LCS1	Chloromethane(Methyl Chloride)		5	4.65	ug/L	93	(70-130)		
LCS2	Chloromethane(Methyl Chloride)		5	4.81	ug/L	96	(70-130)	20	3.4
MBLK	Chloromethane(Methyl Chloride)			<0.5	ug/L				
MRL_CHK	Chloromethane(Methyl Chloride)		0.5	0.620	ug/L	124	(50-150)		
LCS1	cis-1,2-Dichloroethylene		5	4.67	ug/L	93	(70-130)		
LCS2	cis-1,2-Dichloroethylene		5	4.85	ug/L	97	(70-130)	20	3.8
MBLK	cis-1,2-Dichloroethylene			<0.5	ug/L				
MRL_CHK	cis-1,2-Dichloroethylene		0.5	0.560	ug/L	112	(50-150)		
LCS1	cis-1,3-Dichloropropene		5	6.28	ug/L	126	(70-130)		
LCS2	cis-1,3-Dichloropropene		5	6.16	ug/L	123	(70-130)	20	1.9
MBLK	cis-1,3-Dichloropropene			<0.5	ug/L				
MRL_CHK	cis-1,3-Dichloropropene		0.5	0.450	ug/L	90	(50-150)		
LCS1	Dibromomethane		5	5.02	ug/L	100	(70-130)		
LCS2	Dibromomethane		5	5.00	ug/L	100	(70-130)	20	0.40
MBLK	Dibromomethane			<0.5	ug/L				
MRL_CHK	Dibromomethane		0.5	0.530	ug/L	106	(50-150)		
LCS1	Dichlorodifluoromethane		5	4.28	ug/L	86	(70-130)		
LCS2	Dichlorodifluoromethane		5	4.42	ug/L	88	(70-130)	20	3.2
MBLK	Dichlorodifluoromethane			<0.5	ug/L				
MRL_CHK	Dichlorodifluoromethane		0.5	0.470	ug/L	94	(50-150)		
LCS1	Dichloromethane		5	4.54	ug/L	91	(70-130)		
LCS2	Dichloromethane		5	4.77	ug/L	95	(70-130)	20	4.9
MBLK	Dichloromethane			<0.5	ug/L				
MRL_CHK	Dichloromethane		0.5	0.580	ug/L	116	(50-150)		
LCS1	Di-isopropyl ether		5	4.73	ug/L	95	(70-130)		
LCS2	Di-isopropyl ether		5	4.78	ug/L	96	(70-130)	20	1.1

Spike recovery is already corrected for native results.

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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.

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 1 800 566 LABS (1 800 566 5227)

Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Di-isopropyl ether			<3.0	ug/L				
MRL_CHK	Di-isopropyl ether		0.5	0.580	ug/L	116	(50-150)		
LCS1	Ethyl benzene		5	4.86	ug/L	97	(70-130)		
LCS2	Ethyl benzene		5	4.97	ug/L	99	(70-130)	20	2.2
MBLK	Ethyl benzene			<0.5	ug/L				
MRL_CHK	Ethyl benzene		0.5	0.450	ug/L	90	(50-150)		
LCS1	Hexachlorobutadiene		5	5.12	ug/L	102	(70-130)		
LCS2	Hexachlorobutadiene		5	5.18	ug/L	104	(70-130)	20	1.2
MBLK	Hexachlorobutadiene			<0.5	ug/L				
MRL_CHK	Hexachlorobutadiene		0.5	0.770	ug/L	<b>154</b>	(50-150)		
LCS1	Isopropylbenzene		5	4.55	ug/L	91	(70-130)		
LCS2	Isopropylbenzene		5	4.84	ug/L	97	(70-130)	20	6.2
MBLK	Isopropylbenzene			<0.5	ug/L				
MRL_CHK	Isopropylbenzene		0.5	0.490	ug/L	98	(50-150)		
LCS1	m,p-Xylenes		10	9.94	ug/L	99	(70-130)		
LCS2	m,p-Xylenes		10	10.0	ug/L	100	(70-130)	20	0.60
MBLK	m,p-Xylenes			<0.5	ug/L				
MRL_CHK	m,p-Xylenes		1	0.900	ug/L	90	(50-150)		
MRL_W	m,p-Xylenes		0.5	0.550	ug/L	110	(50-150)		
LCS1	m-Dichlorobenzene (1,3-DCB)		5	4.53	ug/L	91	(70-130)		
LCS2	m-Dichlorobenzene (1,3-DCB)		5	4.86	ug/L	97	(70-130)	20	7.0
MBLK	m-Dichlorobenzene (1,3-DCB)			<0.5	ug/L				
MRL_CHK	m-Dichlorobenzene (1,3-DCB)		0.5	0.500	ug/L	100	(50-150)		
LCS1	Methyl Tert-butyl ether (MTBE)		5	5.17	ug/L	103	(70-130)		
LCS2	Methyl Tert-butyl ether (MTBE)		5	5.25	ug/L	105	(70-130)	20	1.5
MBLK	Methyl Tert-butyl ether (MTBE)			<0.5	ug/L				
MRL_CHK	Methyl Tert-butyl ether (MTBE)		0.5	0.610	ug/L	122	(50-150)		
LCS1	Naphthalene		5	4.98	ug/L	100	(70-130)		
LCS2	Naphthalene		5	5.37	ug/L	107	(70-130)	20	7.5
MBLK	Naphthalene			<0.5	ug/L				
MRL_CHK	Naphthalene		0.5	0.610	ug/L	122	(50-150)		
LCS1	n-Butylbenzene		5	4.83	ug/L	97	(70-130)		
LCS2	n-Butylbenzene		5	5.06	ug/L	101	(70-130)	20	4.7
MBLK	n-Butylbenzene			<0.5	ug/L				
MRL_CHK	n-Butylbenzene		0.5	0.570	ug/L	114	(50-150)		
LCS1	n-Propylbenzene		5	4.61	ug/L	92	(70-130)		
LCS2	n-Propylbenzene		5	4.76	ug/L	95	(70-130)	20	3.2
MBLK	n-Propylbenzene			<0.5	ug/L				

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

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	n-Propylbenzene		0.5	0.470	ug/L	94	(50-150)		
LCS1	o-Chlorotoluene		5	4.58	ug/L	92	(70-130)		
LCS2	o-Chlorotoluene		5	5.02	ug/L	100	(70-130)	20	9.2
MBLK	o-Chlorotoluene			<0.5	ug/L				
MRL_CHK	o-Chlorotoluene		0.5	0.510	ug/L	102	(50-150)		
LCS1	o-Dichlorobenzene (1,2-DCB)		5	4.72	ug/L	94	(70-130)		
LCS2	o-Dichlorobenzene (1,2-DCB)		5	4.94	ug/L	99	(70-130)	20	4.5
MBLK	o-Dichlorobenzene (1,2-DCB)			<0.5	ug/L				
MRL_CHK	o-Dichlorobenzene (1,2-DCB)		0.5	0.560	ug/L	112	(50-150)		
LCS1	o-Xylene		5	4.92	ug/L	98	(70-130)		
LCS2	o-Xylene		5	5.05	ug/L	101	(70-130)	20	2.6
MBLK	o-Xylene			<0.5	ug/L				
MRL_CHK	o-Xylene		0.5	0.490	ug/L	98	(50-150)		
LCS1	p-Chlorotoluene		5	4.64	ug/L	93	(70-130)		
LCS2	p-Chlorotoluene		5	5.08	ug/L	102	(70-130)	20	9.1
MBLK	p-Chlorotoluene			<0.5	ug/L				
MRL_CHK	p-Chlorotoluene		0.5	0.450	ug/L	90	(50-150)		
LCS1	p-Dichlorobenzene (1,4-DCB)		5	4.64	ug/L	93	(70-130)		
LCS2	p-Dichlorobenzene (1,4-DCB)		5	5.05	ug/L	101	(70-130)	20	8.5
MBLK	p-Dichlorobenzene (1,4-DCB)			<0.5	ug/L				
MRL_CHK	p-Dichlorobenzene (1,4-DCB)		0.5	0.530	ug/L	106	(50-150)		
LCS1	p-Isopropyltoluene		5	4.69	ug/L	94	(70-130)		
LCS2	p-Isopropyltoluene		5	5.02	ug/L	100	(70-130)	20	6.8
MBLK	p-Isopropyltoluene			<0.5	ug/L				
MRL_CHK	p-Isopropyltoluene		0.5	0.470	ug/L	94	(50-150)		
LCS1	sec-Butylbenzene		5	4.64	ug/L	93	(70-130)		
LCS2	sec-Butylbenzene		5	4.95	ug/L	99	(70-130)	20	6.5
MBLK	sec-Butylbenzene			<0.5	ug/L				
MRL_CHK	sec-Butylbenzene		0.5	0.500	ug/L	100	(50-150)		
LCS1	Styrene		5	5.04	ug/L	101	(70-130)		
LCS2	Styrene		5	5.12	ug/L	102	(70-130)	20	1.6
MBLK	Styrene			<0.5	ug/L				
MRL_CHK	Styrene		0.5	0.430	ug/L	86	(50-150)		
LCS1	tert-amyl Methyl Ether		5	5.43	ug/L	109	(70-130)		
LCS2	tert-amyl Methyl Ether		5	5.43	ug/L	109	(70-130)	20	0.0
MBLK	tert-amyl Methyl Ether			<3.0	ug/L				
MRL_CHK	tert-amyl Methyl Ether		0.5	0.540	ug/L	108	(50-150)		
LCS1	tert-Butyl Ethyl Ether		5	5.26	ug/L	105	(70-130)		

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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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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS2	tert-Butyl Ethyl Ether		5	5.30	ug/L	106	(70-130)	20	0.76
MBLK	tert-Butyl Ethyl Ether			<3.0	ug/L				
MRL_CHK	tert-Butyl Ethyl Ether		0.5	0.600	ug/L	120	(50-150)		
LCS1	tert-Butylbenzene		5	4.60	ug/L	92	(70-130)		
LCS2	tert-Butylbenzene		5	4.85	ug/L	97	(70-130)	20	5.3
MBLK	tert-Butylbenzene			<0.5	ug/L				
MRL_CHK	tert-Butylbenzene		0.5	0.480	ug/L	96	(50-150)		
LCS1	Tetrachloroethylene (PCE)		5	4.66	ug/L	93	(70-130)		
LCS2	Tetrachloroethylene (PCE)		5	4.81	ug/L	96	(70-130)	20	3.2
MBLK	Tetrachloroethylene (PCE)			<0.5	ug/L				
MRL_CHK	Tetrachloroethylene (PCE)		0.5	0.520	ug/L	104	(50-150)		
LCS1	Toluene		5	4.90	ug/L	98	(70-130)		
LCS2	Toluene		5	4.96	ug/L	99	(70-130)	20	1.2
MBLK	Toluene			<0.5	ug/L				
MRL_CHK	Toluene		0.5	0.510	ug/L	102	(50-150)		
LCS1	Toluene-d8 (S)		5	100	%	100	(70-130)		
LCS2	Toluene-d8 (S)		5	98.8	%	99	(70-130)		
MBLK	Toluene-d8 (S)			93.0	%	93	(70-130)		
MRL_CHK	Toluene-d8 (S)		5	97.8	%	98	(70-130)		
MRL_LW	Toluene-d8 (S)		5	95.6	%	96	(70-130)		
LCS1	trans-1,2-Dichloroethylene		5	4.52	ug/L	90	(70-130)		
LCS2	trans-1,2-Dichloroethylene		5	4.82	ug/L	96	(70-130)	20	6.4
MBLK	trans-1,2-Dichloroethylene			<0.5	ug/L				
MRL_CHK	trans-1,2-Dichloroethylene		0.5	0.530	ug/L	106	(50-150)		
LCS1	trans-1,3-Dichloropropene		5	6.60	ug/L	<u>132</u>	(70-130)		
LCS2	trans-1,3-Dichloropropene		5	6.62	ug/L	<u>132</u>	(70-130)	20	0.30
MBLK	trans-1,3-Dichloropropene			<0.5	ug/L				
MRL_CHK	trans-1,3-Dichloropropene		0.5	0.470	ug/L	94	(50-150)		
LCS1	Trichloroethylene (TCE)		5	4.72	ug/L	94	(70-130)		
LCS2	Trichloroethylene (TCE)		5	4.84	ug/L	97	(70-130)	20	2.5
MBLK	Trichloroethylene (TCE)			<0.5	ug/L				
MRL_CHK	Trichloroethylene (TCE)		0.5	0.540	ug/L	108	(50-150)		
LCS1	Trichlorofluoromethane		5	4.60	ug/L	92	(70-130)		
LCS2	Trichlorofluoromethane		5	4.77	ug/L	95	(70-130)	20	3.6
MBLK	Trichlorofluoromethane			<0.5	ug/L				
MRL_CHK	Trichlorofluoromethane		0.5	0.530	ug/L	106	(50-150)		
LCS1	Trichlorotrifluoroethane(Freon)		5	4.57	ug/L	91	(70-130)		
LCS2	Trichlorotrifluoroethane(Freon)		5	4.62	ug/L	92	(70-130)	20	1.1

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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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Report: 979941  
 Project: RED-HILL  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Trichlorotrifluoroethane(Freon			<0.5	ug/L				
MRL_CHK	Trichlorotrifluoroethane(Freon		0.5	0.560	ug/L	112	(50-150)		
LCS1	Vinyl chloride (VC)		5	4.67	ug/L	93	(70-130)		
LCS2	Vinyl chloride (VC)		5	4.84	ug/L	97	(70-130)	20	3.6
MBLK	Vinyl chloride (VC)			<0.3	ug/L				
MRL_CHK	Vinyl chloride (VC)		0.5	0.570	ug/L	114	(50-150)		
MRLW	Vinyl chloride (VC)		0.25	0.370	ug/L	148	(50-150)		

Semivolatiles by GCMS by EPA 525.2

Prep Batch: 1379053 Analytical Batch: 1379938

Analysis Date: 01/14/2022

LCS1	1,3-Dimethyl-2-nitrobenzene (S)		5	87.8	%	88	(70-130)		
LCS2	1,3-Dimethyl-2-nitrobenzene (S)		5	89.6	%	90	(70-130)		
MBLK	1,3-Dimethyl-2-nitrobenzene (S)			104	%	104	(70-130)		
MRL_CHK	1,3-Dimethyl-2-nitrobenzene (S)		5	92.4	%	92	(70-130)		
MS_202201120077	1,3-Dimethyl-2-nitrobenzene (S)		5	93.6	%	94	(70-130)		
MSD_202201120077	1,3-Dimethyl-2-nitrobenzene (S)		5	87.2	%	87	(70-130)		
LCS1	2,4-DDD		2	1.91	ug/L	96	(70-130)		
LCS2	2,4-DDD		2	1.96	ug/L	98	(70-130)	20	2.6
MBLK	2,4-DDD			<0.1	ug/L				
MRL_CHK	2,4-DDD		0.1	0.102	ug/L	102	(50-150)		
MS_202201120077	2,4-DDD		2	1.99	ug/L	100	(70-130)		
MSD_202201120077	2,4-DDD		2	1.94	ug/L	97	(70-130)	20	2.6
LCS1	2,4-DDE		2	1.77	ug/L	89	(70-130)		
LCS2	2,4-DDE		2	1.80	ug/L	90	(70-130)	20	1.7
MBLK	2,4-DDE			<0.1	ug/L				
MRL_CHK	2,4-DDE		0.1	0.0940	ug/L	94	(50-150)		
MS_202201120077	2,4-DDE		2	1.82	ug/L	91	(70-130)		
MSD_202201120077	2,4-DDE		2	1.78	ug/L	89	(70-130)	20	2.4
LCS1	2,4-DDT		2	1.82	ug/L	91	(70-130)		
LCS2	2,4-DDT		2	1.88	ug/L	94	(70-130)	20	3.2
MBLK	2,4-DDT			<0.1	ug/L				
MRL_CHK	2,4-DDT		0.1	0.0960	ug/L	96	(50-150)		
MS_202201120077	2,4-DDT		2	1.86	ug/L	93	(70-130)		
MSD_202201120077	2,4-DDT		2	1.86	ug/L	93	(70-130)	20	0.11
LCS1	2,4-Dinitrotoluene		2	2.43	ug/L	121	(70-130)		
LCS2	2,4-Dinitrotoluene		2	2.47	ug/L	124	(70-130)	20	1.6
MBLK	2,4-Dinitrotoluene			<0.1	ug/L				
MRL_CHK	2,4-Dinitrotoluene		0.1	0.147	ug/L	147	(50-150)		

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Report: 979941  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201120077	2,4-Dinitrotoluene	ND	2	3.09	ug/L	<b>155</b>	(70-130)		
MSD_202201120077	2,4-Dinitrotoluene	ND	2	2.44	ug/L	122	(70-130)	20	<b>24</b>
LCS1	2,6-Dinitrotoluene		2	2.60	ug/L	130	(70-130)		
LCS2	2,6-Dinitrotoluene		2	2.58	ug/L	129	(70-130)	20	0.77
MBLK	2,6-Dinitrotoluene			<0.1	ug/L				
MRL_CHK	2,6-Dinitrotoluene		0.1	0.129	ug/L	129	(50-150)		
MS_202201120077	2,6-Dinitrotoluene	ND	2	3.03	ug/L	<b>151</b>	(70-130)		
MSD_202201120077	2,6-Dinitrotoluene	ND	2	2.50	ug/L	125	(70-130)	20	19
LCS1	4,4-DDD		2	1.95	ug/L	98	(70-130)		
LCS2	4,4-DDD		2	1.97	ug/L	98	(70-130)	20	1.0
MBLK	4,4-DDD			<0.1	ug/L				
MRL_CHK	4,4-DDD		0.1	0.0920	ug/L	92	(50-150)		
MS_202201120077	4,4-DDD	ND	2	1.99	ug/L	99	(70-130)		
MSD_202201120077	4,4-DDD	ND	2	1.94	ug/L	97	(70-130)	20	2.3
LCS1	4,4-DDE		2	2.05	ug/L	102	(70-130)		
LCS2	4,4-DDE		2	2.04	ug/L	102	(70-130)	20	0.49
MBLK	4,4-DDE			<0.1	ug/L				
MRL_CHK	4,4-DDE		0.1	0.107	ug/L	107	(50-150)		
MS_202201120077	4,4-DDE	ND	2	2.06	ug/L	103	(70-130)		
MSD_202201120077	4,4-DDE	ND	2	2.07	ug/L	103	(70-130)	20	0.73
LCS1	4,4-DDT		2	1.84	ug/L	92	(70-130)		
LCS2	4,4-DDT		2	1.88	ug/L	94	(70-130)	20	2.1
MBLK	4,4-DDT			<0.1	ug/L				
MRL_CHK	4,4-DDT		0.1	0.104	ug/L	104	(50-150)		
MS_202201120077	4,4-DDT	ND	2	1.85	ug/L	93	(70-130)		
MSD_202201120077	4,4-DDT	ND	2	1.88	ug/L	94	(70-130)	20	1.7
LCS1	Acenaphthene		2	2.06	ug/L	103	(70-130)		
LCS2	Acenaphthene		2	2.01	ug/L	100	(70-130)	20	2.5
MBLK	Acenaphthene			<0.1	ug/L				
MRL_CHK	Acenaphthene		0.1	0.106	ug/L	106	(50-150)		
MS_202201120077	Acenaphthene	ND	2	1.99	ug/L	99	(70-130)		
MSD_202201120077	Acenaphthene	ND	2	2.05	ug/L	102	(70-130)	20	3.1
LCS1	Acenaphthene-d10 (I)		5	76.8	%	77	(50-150)		
LCS2	Acenaphthene-d10 (I)		5	78.2	%	78	(50-150)		
MBLK	Acenaphthene-d10 (I)			69.4	%	69	(50-150)		
MRL_CHK	Acenaphthene-d10 (I)		5	70.7	%	71	(50-150)		
MS_202201120077	Acenaphthene-d10 (I)		5	50.6	%	51	(50-150)		
MSD_202201120077	Acenaphthene-d10 (I)		5	77.9	%	78	(50-150)		

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Acenaphthylene		2	1.93	ug/L	97	(70-130)		
LCS2	Acenaphthylene		2	1.93	ug/L	96	(70-130)	20	0.0
MBLK	Acenaphthylene			<0.1	ug/L				
MRL_CHK	Acenaphthylene		0.1	0.0910	ug/L	91	(50-150)		
MS_202201120077	Acenaphthylene	ND	2	1.94	ug/L	97	(70-130)		
MSD_202201120077	Acenaphthylene	ND	2	1.92	ug/L	96	(70-130)	20	1.2
LCS1	Acetochlor		2	2.01	ug/L	100	(70-130)		
LCS2	Acetochlor		2	2.05	ug/L	102	(70-130)	20	2.0
MBLK	Acetochlor			<0.1	ug/L				
MRL_CHK	Acetochlor		0.05	0.0440	ug/L	88	(50-150)		
MS_202201120077	Acetochlor	ND	2	2.14	ug/L	107	(70-130)		
MSD_202201120077	Acetochlor	ND	2	2.02	ug/L	101	(70-130)	20	5.8
LCS1	Alachlor		2	2.01	ug/L	101	(70-130)		
LCS2	Alachlor		2	2.06	ug/L	103	(70-130)	20	2.9
MBLK	Alachlor			<0.05	ug/L				
MRL_CHK	Alachlor		0.05	0.0560	ug/L	112	(50-150)		
MS_202201120077	Alachlor	ND	2	2.14	ug/L	107	(70-130)		
MSD_202201120077	Alachlor	ND	2	2.05	ug/L	102	(70-130)	20	4.2
LCS1	Alpha-BHC		2	2.13	ug/L	107	(70-130)		
LCS2	Alpha-BHC		2	2.10	ug/L	105	(70-130)	20	1.4
MBLK	Alpha-BHC			<0.1	ug/L				
MRL_CHK	Alpha-BHC		0.1	0.135	ug/L	135	(50-150)		
MS_202201120077	Alpha-BHC	ND	2	2.82	ug/L	<b>141</b>	(70-130)		
MSD_202201120077	Alpha-BHC	ND	2	2.16	ug/L	108	(70-130)	20	<b>27</b>
LCS1	alpha-Chlordane		2	1.98	ug/L	99	(70-130)		
LCS2	alpha-Chlordane		2	2.02	ug/L	101	(70-130)	20	2.5
MBLK	alpha-Chlordane			<0.05	ug/L				
MRL_CHK	alpha-Chlordane		0.05	0.0550	ug/L	110	(50-150)		
MS_202201120077	alpha-Chlordane	ND	2	2.04	ug/L	102	(70-130)		
MSD_202201120077	alpha-Chlordane	ND	2	1.95	ug/L	98	(70-130)	20	4.3
LCS1	Anthracene		2	2.11	ug/L	106	(70-130)		
LCS2	Anthracene		2	2.13	ug/L	107	(70-130)	20	0.94
MBLK	Anthracene			<0.02	ug/L				
MRL_CHK	Anthracene		0.02	0.0210	ug/L	105	(50-150)		
MS_202201120077	Anthracene	ND	2	2.11	ug/L	105	(70-130)		
MSD_202201120077	Anthracene	ND	2	2.08	ug/L	104	(70-130)	20	1.3
LCS1	Atrazine		2	2.10	ug/L	105	(70-130)		
LCS2	Atrazine		2	2.15	ug/L	108	(70-130)	20	2.4

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Report: 979941  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Atrazine			<0.05	ug/L				
MRL_CHK	Atrazine		0.05	0.0580	ug/L	116	(50-150)		
MS_202201120077	Atrazine	ND	2	3.20	ug/L	<b>160</b>	(70-130)		
MSD_202201120077	Atrazine	ND	2	2.20	ug/L	110	(70-130)	20	<b>37</b>
LCS1	Benz(a)Anthracene		2	1.88	ug/L	94	(70-130)		
LCS2	Benz(a)Anthracene		2	1.94	ug/L	97	(70-130)	20	3.1
MBLK	Benz(a)Anthracene			<0.05	ug/L				
MRL_CHK	Benz(a)Anthracene		0.05	0.0460	ug/L	92	(50-150)		
MS_202201120077	Benz(a)Anthracene	ND	2	2.02	ug/L	101	(70-130)		
MSD_202201120077	Benz(a)Anthracene	ND	2	1.93	ug/L	97	(70-130)	20	4.6
LCS1	Benzo(a)pyrene		2	2.02	ug/L	101	(70-130)		
LCS2	Benzo(a)pyrene		2	2.00	ug/L	100	(70-130)	20	0.50
MBLK	Benzo(a)pyrene			<0.02	ug/L				
MRL_CHK	Benzo(a)pyrene		0.02	0.0190	ug/L	95	(50-150)		
MS_202201120077	Benzo(a)pyrene	ND	2	1.92	ug/L	96	(70-130)		
MSD_202201120077	Benzo(a)pyrene	ND	2	1.99	ug/L	100	(70-130)	20	3.6
LCS1	Benzo(b)Fluoranthene		2	1.97	ug/L	99	(70-130)		
LCS2	Benzo(b)Fluoranthene		2	2.02	ug/L	101	(70-130)	20	2.5
MBLK	Benzo(b)Fluoranthene			<0.02	ug/L				
MRL_CHK	Benzo(b)Fluoranthene		0.02	0.0230	ug/L	115	(50-150)		
MS_202201120077	Benzo(b)Fluoranthene	ND	2	2.03	ug/L	101	(70-130)		
MSD_202201120077	Benzo(b)Fluoranthene	ND	2	1.99	ug/L	99	(70-130)	20	1.8
LCS1	Benzo(g,h,i)Perylene		2	2.04	ug/L	102	(70-130)		
LCS2	Benzo(g,h,i)Perylene		2	2.05	ug/L	103	(70-130)	20	0.49
MBLK	Benzo(g,h,i)Perylene			<0.05	ug/L				
MRL_CHK	Benzo(g,h,i)Perylene		0.05	0.0480	ug/L	96	(50-150)		
MS_202201120077	Benzo(g,h,i)Perylene	ND	2	1.86	ug/L	93	(70-130)		
MSD_202201120077	Benzo(g,h,i)Perylene	ND	2	1.99	ug/L	100	(70-130)	20	6.7
LCS1	Benzo(k)Fluoranthene		2	2.19	ug/L	109	(70-130)		
LCS2	Benzo(k)Fluoranthene		2	2.08	ug/L	104	(70-130)	20	5.2
MBLK	Benzo(k)Fluoranthene			<0.02	ug/L				
MRL_CHK	Benzo(k)Fluoranthene		0.02	0.0210	ug/L	105	(50-150)		
MS_202201120077	Benzo(k)Fluoranthene	ND	2	1.98	ug/L	99	(70-130)		
MSD_202201120077	Benzo(k)Fluoranthene	ND	2	2.09	ug/L	105	(70-130)	20	5.6
LCS1	Beta-BHC		2	1.99	ug/L	99	(70-130)		
LCS2	Beta-BHC		2	2.03	ug/L	102	(70-130)	20	2.0
MBLK	Beta-BHC			<0.1	ug/L				
MRL_CHK	Beta-BHC		0.1	0.115	ug/L	115	(50-150)		

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Report: 979941  
 Project: RED-HILL  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201120077	Beta-BHC	ND	2	3.02	ug/L	<u>151</u>	(70-130)		
MSD_202201120077	Beta-BHC	ND	2	2.06	ug/L	103	(70-130)	20	<u>38</u>
LCS1	Bromacil		2	2.17	ug/L	108	(70-130)		
LCS2	Bromacil		2	2.24	ug/L	112	(70-130)	20	3.2
MBLK	Bromacil			<0.2	ug/L				
MRL_CHK	Bromacil		0.1	0.103	ug/L	103	(50-150)		
MS_202201120077	Bromacil	ND	2	2.14	ug/L	107	(70-130)		
MSD_202201120077	Bromacil	ND	2	2.04	ug/L	102	(70-130)	20	4.9
LCS1	Butachlor		2	2.14	ug/L	107	(70-130)		
LCS2	Butachlor		2	2.16	ug/L	108	(70-130)	20	1.4
MBLK	Butachlor			<0.05	ug/L				
MRL_CHK	Butachlor		0.05	0.0520	ug/L	104	(50-150)		
MS_202201120077	Butachlor	ND	2	2.24	ug/L	112	(70-130)		
MSD_202201120077	Butachlor	ND	2	2.14	ug/L	107	(70-130)	20	4.6
LCS1	Butylbenzylphthalate		2	2.10	ug/L	105	(70-130)		
LCS2	Butylbenzylphthalate		2	2.17	ug/L	109	(70-130)	20	3.3
MBLK	Butylbenzylphthalate			<0.5	ug/L				
MRL_CHK	Butylbenzylphthalate		0.15	0.175	ug/L	117	(50-150)		
MS_202201120077	Butylbenzylphthalate	ND	2	2.26	ug/L	113	(70-130)		
MSD_202201120077	Butylbenzylphthalate	ND	2	2.15	ug/L	107	(70-130)	20	4.8
LCS1	Caffeine by method 525mod		2	1.56	ug/L	78	(45-137)		
LCS2	Caffeine by method 525mod		2	1.61	ug/L	81	(45-137)	20	3.1
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_202201120077	Caffeine by method 525mod	ND	2	1.33	ug/L	66	(46-144)		
MSD_202201120077	Caffeine by method 525mod	ND	2	1.23	ug/L	62	(46-144)	20	7.6
LCS1	Chlorobenzilate		2	1.94	ug/L	97	(70-130)		
LCS2	Chlorobenzilate		2	1.97	ug/L	98	(70-130)	20	1.5
MBLK	Chlorobenzilate			<0.1	ug/L				
MRL_CHK	Chlorobenzilate		0.1	0.0880	ug/L	88	(50-150)		
MS_202201120077	Chlorobenzilate	ND	2	2.06	ug/L	103	(70-130)		
MSD_202201120077	Chlorobenzilate	ND	2	1.98	ug/L	99	(70-130)	20	4.0
LCS1	Chloroneb		2	2.14	ug/L	107	(70-130)		
LCS2	Chloroneb		2	2.13	ug/L	107	(70-130)	20	0.47
MBLK	Chloroneb			<0.1	ug/L				
MRL_CHK	Chloroneb		0.1	0.122	ug/L	122	(50-150)		
MS_202201120077	Chloroneb	ND	2	2.63	ug/L	<u>132</u>	(70-130)		
MSD_202201120077	Chloroneb	ND	2	2.18	ug/L	109	(70-130)	20	19

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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Chlorothalonil(Draconil,Bravo)		2	2.11	ug/L	106	(70-130)		
LCS2	Chlorothalonil(Draconil,Bravo)		2	2.20	ug/L	110	(70-130)	20	4.2
MBLK	Chlorothalonil(Draconil,Bravo)			<0.1	ug/L				
MRL_CHK	Chlorothalonil(Draconil,Bravo)		0.05	0.0510	ug/L	102	(50-150)		
MS_202201120077	Chlorothalonil(Draconil,Bravo)	ND	2	2.27	ug/L	114	(70-130)		
MSD_202201120077	Chlorothalonil(Draconil,Bravo)	ND	2	2.18	ug/L	109	(70-130)	20	4.1
LCS1	Chlorpyrifos (Dursban)		2	1.97	ug/L	99	(70-130)		
LCS2	Chlorpyrifos (Dursban)		2	2.00	ug/L	100	(70-130)	20	1.5
MBLK	Chlorpyrifos (Dursban)			<0.05	ug/L				
MRL_CHK	Chlorpyrifos (Dursban)		0.05	0.0630	ug/L	126	(50-150)		
MS_202201120077	Chlorpyrifos (Dursban)	ND	2	2.07	ug/L	103	(70-130)		
MSD_202201120077	Chlorpyrifos (Dursban)	ND	2	1.99	ug/L	99	(70-130)	20	3.8
LCS1	Chrysene		2	2.05	ug/L	102	(70-130)		
LCS2	Chrysene		2	2.04	ug/L	102	(70-130)	20	0.49
MBLK	Chrysene			<0.02	ug/L				
MRL_CHK	Chrysene		0.02	0.0220	ug/L	110	(50-150)		
MS_202201120077	Chrysene	ND	2	2.04	ug/L	102	(70-130)		
MSD_202201120077	Chrysene	ND	2	2.06	ug/L	103	(70-130)	20	1.6
LCS1	Chrysene-d12 (I)		5	75.2	%	75	(50-150)		
LCS2	Chrysene-d12 (I)		5	79.6	%	80	(50-150)		
MBLK	Chrysene-d12 (I)			71.3	%	71	(50-150)		
MRL_CHK	Chrysene-d12 (I)		5	70.2	%	70	(50-150)		
MS_202201120077	Chrysene-d12 (I)		5	74.2	%	74	(50-150)		
MSD_202201120077	Chrysene-d12 (I)		5	79.9	%	80	(50-150)		
LCS1	Delta-BHC		2	1.88	ug/L	94	(70-130)		
LCS2	Delta-BHC		2	1.91	ug/L	96	(70-130)	20	1.6
MBLK	Delta-BHC			<0.1	ug/L				
MRL_CHK	Delta-BHC		0.1	0.0980	ug/L	98	(50-150)		
MS_202201120077	Delta-BHC	ND	2	1.98	ug/L	99	(70-130)		
MSD_202201120077	Delta-BHC	ND	2	1.90	ug/L	95	(70-130)	20	4.0
LCS1	Di-(2-Ethylhexyl)adipate		2	2.04	ug/L	102	(70-130)		
LCS2	Di-(2-Ethylhexyl)adipate		2	2.09	ug/L	105	(70-130)	20	2.4
MBLK	Di-(2-Ethylhexyl)adipate			<0.6	ug/L				
MRL_CHK	Di-(2-Ethylhexyl)adipate		0.3	0.302	ug/L	101	(50-150)		
MS_202201120077	Di-(2-Ethylhexyl)adipate	ND	2	1.88	ug/L	94	(70-130)		
MSD_202201120077	Di-(2-Ethylhexyl)adipate	ND	2	2.05	ug/L	103	(70-130)	20	8.5
LCS1	Di(2-Ethylhexyl)phthalate		2	2.27	ug/L	113	(70-130)		
LCS2	Di(2-Ethylhexyl)phthalate		2	2.18	ug/L	109	(70-130)	20	4.0

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Di(2-Ethylhexyl)phthalate			<0.6	ug/L				
MRL_CHK	Di(2-Ethylhexyl)phthalate		0.6	0.692	ug/L	115	(50-150)		
MS_202201120077	Di(2-Ethylhexyl)phthalate	ND	2	1.78	ug/L	89	(70-130)		
MSD_202201120077	Di(2-Ethylhexyl)phthalate	ND	2	2.13	ug/L	106	(70-130)	20	18
LCS1	Diazinon (Qualitative)		2	2.00	ug/L	100	(15-132)		
LCS2	Diazinon (Qualitative)		2	2.01	ug/L	101	(15-132)	20	0.50
MBLK	Diazinon (Qualitative)			<0.10	ug/L				
MRL_CHK	Diazinon (Qualitative)		0.1	0.106	ug/L	106	(15-132)		
MS_202201120077	Diazinon (Qualitative)	ND	2	2.94	ug/L	<b>147</b>	(15-132)		
MSD_202201120077	Diazinon (Qualitative)	ND	2	2.04	ug/L	102	(15-132)	20	<b>36</b>
LCS1	Dibenz(a,h)Anthracene		2	2.54	ug/L	127	(70-130)		
LCS2	Dibenz(a,h)Anthracene		2	2.52	ug/L	126	(70-130)	20	0.79
MBLK	Dibenz(a,h)Anthracene			<0.05	ug/L				
MRL_CHK	Dibenz(a,h)Anthracene		0.05	0.0540	ug/L	108	(50-150)		
MS_202201120077	Dibenz(a,h)Anthracene	ND	2	2.22	ug/L	111	(70-130)		
MSD_202201120077	Dibenz(a,h)Anthracene	ND	2	2.47	ug/L	123	(70-130)	20	11
LCS1	Dichlorvos (DDVP)		2	1.87	ug/L	94	(70-130)		
LCS2	Dichlorvos (DDVP)		2	1.88	ug/L	94	(70-130)	20	0.53
MBLK	Dichlorvos (DDVP)			<0.05	ug/L				
MRL_CHK	Dichlorvos (DDVP)		0.05	0.0490	ug/L	98	(50-150)		
MS_202201120077	Dichlorvos (DDVP)	ND	2	2.29	ug/L	114	(70-130)		
MSD_202201120077	Dichlorvos (DDVP)	ND	2	1.88	ug/L	94	(70-130)	20	20
LCS1	Dieldrin		2	1.75	ug/L	88	(70-130)		
LCS2	Dieldrin		2	1.75	ug/L	87	(70-130)	20	0.0
MBLK	Dieldrin			<0.2	ug/L				
MRL_CHK	Dieldrin		0.1	0.0960	ug/L	96	(50-150)		
MS_202201120077	Dieldrin	ND	2	1.81	ug/L	91	(70-130)		
MSD_202201120077	Dieldrin	ND	2	1.72	ug/L	86	(70-130)	20	5.0
LCS1	Diethylphthalate		2	2.24	ug/L	112	(70-130)		
LCS2	Diethylphthalate		2	2.28	ug/L	114	(70-130)	20	1.8
MBLK	Diethylphthalate			<0.5	ug/L				
MRL_CHK	Diethylphthalate		0.15	0.204	ug/L	136	(50-150)		
MS_202201120077	Diethylphthalate	ND	2	3.04	ug/L	<b>152</b>	(70-130)		
MSD_202201120077	Diethylphthalate	ND	2	2.34	ug/L	117	(70-130)	20	<b>26</b>
LCS1	Dimethoate		2	1.68	ug/L	84	(35-100)		
LCS2	Dimethoate		2	1.93	ug/L	97	(35-100)	20	14
MBLK	Dimethoate			<0.1	ug/L				
MRL_CHK	Dimethoate		0.1	0.0770	ug/L	77	(35-100)		

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201120077	Dimethoate	ND	2	1.88	ug/L	94	(34-111)		
MSD_202201120077	Dimethoate	ND	2	1.46	ug/L	73	(34-111)	20	<u>25</u>
LCS1	Dimethylphthalate		2	2.31	ug/L	115	(70-130)		
LCS2	Dimethylphthalate		2	2.30	ug/L	115	(70-130)	20	0.43
MBLK	Dimethylphthalate			<0.5	ug/L				
MRL_CHK	Dimethylphthalate		0.3	0.375	ug/L	125	(50-150)		
MS_202201120077	Dimethylphthalate	ND	2	2.93	ug/L	<u>146</u>	(70-130)		
MSD_202201120077	Dimethylphthalate	ND	2	2.36	ug/L	118	(70-130)	20	<u>22</u>
LCS1	Di-n-Butylphthalate		4	4.16	ug/L	104	(70-130)		
LCS2	Di-n-Butylphthalate		4	4.23	ug/L	106	(70-130)	20	1.4
MBLK	Di-n-Butylphthalate			<1	ug/L				
MRL_CHK	Di-n-Butylphthalate		0.3	0.330	ug/L	110	(50-150)		
MS_202201120077	Di-n-Butylphthalate	ND	4	4.42	ug/L	110	(70-130)		
MSD_202201120077	Di-n-Butylphthalate	ND	4	4.18	ug/L	105	(70-130)	20	5.6
LCS1	Di-N-octylphthalate		2	1.81	ug/L	91	(70-130)		
LCS2	Di-N-octylphthalate		2	1.72	ug/L	86	(70-130)	20	4.5
MBLK	Di-N-octylphthalate			<0.1	ug/L				
MRL_CHK	Di-N-octylphthalate		0.1	0.0920	ug/L	92	(50-150)		
MS_202201120077	Di-N-octylphthalate	ND	2	1.30	ug/L	<u>65</u>	(70-130)		
MSD_202201120077	Di-N-octylphthalate	ND	2	1.68	ug/L	84	(70-130)	20	<u>25</u>
LCS1	Endosulfan I (Alpha)		2	1.84	ug/L	92	(70-130)		
LCS2	Endosulfan I (Alpha)		2	1.83	ug/L	91	(70-130)	20	0.55
MBLK	Endosulfan I (Alpha)			<0.1	ug/L				
MRL_CHK	Endosulfan I (Alpha)		0.1	0.0990	ug/L	99	(50-150)		
MS_202201120077	Endosulfan I (Alpha)	ND	2	1.88	ug/L	94	(70-130)		
MSD_202201120077	Endosulfan I (Alpha)	ND	2	1.76	ug/L	88	(70-130)	20	6.4
LCS1	Endosulfan II (Beta)		2	1.87	ug/L	94	(70-130)		
LCS2	Endosulfan II (Beta)		2	1.91	ug/L	95	(70-130)	20	2.1
MBLK	Endosulfan II (Beta)			<0.1	ug/L				
MRL_CHK	Endosulfan II (Beta)		0.1	0.128	ug/L	128	(50-150)		
MS_202201120077	Endosulfan II (Beta)	ND	2	1.96	ug/L	98	(70-130)		
MSD_202201120077	Endosulfan II (Beta)	ND	2	1.91	ug/L	96	(70-130)	20	2.5
LCS1	Endosulfan Sulfate		2	1.94	ug/L	97	(70-130)		
LCS2	Endosulfan Sulfate		2	2.00	ug/L	100	(70-130)	20	3.0
MBLK	Endosulfan Sulfate			<0.1	ug/L				
MRL_CHK	Endosulfan Sulfate		0.1	0.103	ug/L	103	(50-150)		
MS_202201120077	Endosulfan Sulfate	ND	2	2.09	ug/L	104	(70-130)		
MSD_202201120077	Endosulfan Sulfate	ND	2	1.99	ug/L	99	(70-130)	20	4.8

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Endrin		2	2.09	ug/L	105	(70-130)		
LCS2	Endrin		2	2.12	ug/L	106	(70-130)	20	1.4
MBLK	Endrin			<0.1	ug/L				
MRL_CHK	Endrin		0.1	0.128	ug/L	128	(50-150)		
MS_202201120077	Endrin	ND	2	2.16	ug/L	108	(70-130)		
MSD_202201120077	Endrin	ND	2	2.13	ug/L	106	(70-130)	20	1.5
LCS1	Endrin Aldehyde		2	1.87	ug/L	93	(70-130)		
LCS2	Endrin Aldehyde		2	1.89	ug/L	95	(70-130)	20	1.1
MBLK	Endrin Aldehyde			<0.1	ug/L				
MRL_CHK	Endrin Aldehyde		0.1	0.0840	ug/L	84	(50-150)		
MS_202201120077	Endrin Aldehyde	ND	2	1.94	ug/L	97	(70-130)		
MSD_202201120077	Endrin Aldehyde	ND	2	1.83	ug/L	92	(70-130)	20	5.9
LCS1	EPTC		2	1.85	ug/L	93	(70-130)		
LCS2	EPTC		2	1.87	ug/L	93	(70-130)	20	1.1
MBLK	EPTC			<0.1	ug/L				
MRL_CHK	EPTC		0.1	0.0940	ug/L	94	(50-150)		
MS_202201120077	EPTC	ND	2	1.74	ug/L	87	(70-130)		
MSD_202201120077	EPTC	ND	2	1.84	ug/L	92	(70-130)	20	5.4
LCS1	Fluoranthene		2	2.01	ug/L	101	(70-130)		
LCS2	Fluoranthene		2	2.05	ug/L	102	(70-130)	20	2.0
MBLK	Fluoranthene			<0.1	ug/L				
MRL_CHK	Fluoranthene		0.05	0.0530	ug/L	106	(50-150)		
MS_202201120077	Fluoranthene	ND	2	2.13	ug/L	107	(70-130)		
MSD_202201120077	Fluoranthene	ND	2	2.03	ug/L	101	(70-130)	20	5.0
LCS1	Fluorene		2	2.33	ug/L	117	(70-130)		
LCS2	Fluorene		2	2.36	ug/L	118	(70-130)	20	1.3
MBLK	Fluorene			<0.05	ug/L				
MRL_CHK	Fluorene		0.05	0.0630	ug/L	126	(50-150)		
MS_202201120077	Fluorene	ND	2	2.79	ug/L	<b>140</b>	(70-130)		
MSD_202201120077	Fluorene	ND	2	2.34	ug/L	117	(70-130)	20	18
LCS1	gamma-Chlordane		2	1.99	ug/L	100	(70-130)		
LCS2	gamma-Chlordane		2	2.01	ug/L	101	(70-130)	20	1.0
MBLK	gamma-Chlordane			<0.05	ug/L				
MRL_CHK	gamma-Chlordane		0.05	0.0520	ug/L	104	(50-150)		
MS_202201120077	gamma-Chlordane	ND	2	2.10	ug/L	105	(70-130)		
MSD_202201120077	gamma-Chlordane	ND	2	2.00	ug/L	100	(70-130)	20	4.6
LCS1	Heptachlor		2	2.03	ug/L	101	(70-130)		
LCS2	Heptachlor		2	2.06	ug/L	103	(70-130)	20	1.5

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Heptachlor			<0.04	ug/L				
MRL_CHK	Heptachlor		0.04	0.0420	ug/L	105	(50-150)		
MS_202201120077	Heptachlor	ND	2	1.98	ug/L	99	(70-130)		
MSD_202201120077	Heptachlor	ND	2	2.04	ug/L	102	(70-130)	20	3.0
LCS1	Heptachlor Epoxide (isomer B)		2	2.04	ug/L	102	(70-130)		
LCS2	Heptachlor Epoxide (isomer B)		2	2.12	ug/L	106	(70-130)	20	3.9
MBLK	Heptachlor Epoxide (isomer B)			<0.05	ug/L				
MRL_CHK	Heptachlor Epoxide (isomer B)		0.05	0.0510	ug/L	102	(50-150)		
MS_202201120077	Heptachlor Epoxide (isomer B)	ND	2	2.12	ug/L	106	(70-130)		
MSD_202201120077	Heptachlor Epoxide (isomer B)	ND	2	2.04	ug/L	102	(70-130)	20	3.7
LCS1	Hexachlorobenzene		2	2.14	ug/L	107	(70-130)		
LCS2	Hexachlorobenzene		2	2.12	ug/L	106	(70-130)	20	0.94
MBLK	Hexachlorobenzene			<0.05	ug/L				
MRL_CHK	Hexachlorobenzene		0.05	0.0710	ug/L	142	(50-150)		
MS_202201120077	Hexachlorobenzene	ND	2	2.70	ug/L	<b>135</b>	(70-130)		
MSD_202201120077	Hexachlorobenzene	ND	2	2.13	ug/L	106	(70-130)	20	<b>24</b>
LCS1	Hexachlorocyclopentadiene		2	1.45	ug/L	73	(70-130)		
LCS2	Hexachlorocyclopentadiene		2	1.47	ug/L	73	(70-130)	20	1.4
MBLK	Hexachlorocyclopentadiene			<0.05	ug/L				
MRL_CHK	Hexachlorocyclopentadiene		0.05	0.0330	ug/L	66	(50-150)		
MS_202201120077	Hexachlorocyclopentadiene	ND	2	1.66	ug/L	83	(70-130)		
MSD_202201120077	Hexachlorocyclopentadiene	ND	2	1.39	ug/L	<b>69</b>	(70-130)	20	18
LCS1	Indeno(1,2,3,c,d)Pyrene		2	2.48	ug/L	124	(70-130)		
LCS2	Indeno(1,2,3,c,d)Pyrene		2	2.50	ug/L	125	(70-130)	20	0.80
MBLK	Indeno(1,2,3,c,d)Pyrene			<0.05	ug/L				
MRL_CHK	Indeno(1,2,3,c,d)Pyrene		0.05	0.0550	ug/L	110	(50-150)		
MS_202201120077	Indeno(1,2,3,c,d)Pyrene	ND	2	2.23	ug/L	111	(70-130)		
MSD_202201120077	Indeno(1,2,3,c,d)Pyrene	ND	2	2.45	ug/L	123	(70-130)	20	9.5
LCS1	Isophorone		2	2.10	ug/L	105	(70-130)		
LCS2	Isophorone		2	2.10	ug/L	105	(70-130)	20	0.0
MBLK	Isophorone			<0.5	ug/L				
MRL_CHK	Isophorone		0.1	0.106	ug/L	106	(50-150)		
MS_202201120077	Isophorone	ND	2	2.10	ug/L	105	(70-130)		
MSD_202201120077	Isophorone	ND	2	2.08	ug/L	104	(70-130)	20	1.1
LCS1	Lindane		2	2.04	ug/L	102	(70-130)		
LCS2	Lindane		2	2.08	ug/L	104	(70-130)	20	1.9
MBLK	Lindane			<0.04	ug/L				
MRL_CHK	Lindane		0.04	0.0530	ug/L	133	(50-150)		

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201120077	Lindane	ND	2	2.84	ug/L	<b>142</b>	(70-130)		
MSD_202201120077	Lindane	ND	2	2.14	ug/L	107	(70-130)	20	<b>28</b>
LCS1	Malathion		2	2.12	ug/L	106	(70-130)		
LCS2	Malathion		2	2.16	ug/L	108	(70-130)	20	1.9
MBLK	Malathion			<0.1	ug/L				
MRL_CHK	Malathion		0.1	0.101	ug/L	101	(50-150)		
MS_202201120077	Malathion	ND	2	2.22	ug/L	111	(70-130)		
MSD_202201120077	Malathion	ND	2	2.13	ug/L	107	(70-130)	20	4.3
LCS1	Methoxychlor		2	2.19	ug/L	109	(70-130)		
LCS2	Methoxychlor		2	2.19	ug/L	109	(70-130)	20	0.0
MBLK	Methoxychlor			<0.1	ug/L				
MRL_CHK	Methoxychlor		0.1	0.100	ug/L	100	(50-150)		
MS_202201120077	Methoxychlor	ND	2	2.18	ug/L	109	(70-130)		
MSD_202201120077	Methoxychlor	ND	2	2.18	ug/L	109	(70-130)	20	0.23
LCS1	Metolachlor		2	2.20	ug/L	110	(70-130)		
LCS2	Metolachlor		2	2.27	ug/L	114	(70-130)	20	3.1
MBLK	Metolachlor			<0.05	ug/L				
MRL_CHK	Metolachlor		0.05	0.0540	ug/L	108	(50-150)		
MS_202201120077	Metolachlor	ND	2	2.34	ug/L	117	(70-130)		
MSD_202201120077	Metolachlor	ND	2	2.24	ug/L	112	(70-130)	20	4.4
LCS1	Metribuzin		2	1.93	ug/L	97	(70-130)		
LCS2	Metribuzin		2	1.96	ug/L	98	(70-130)	20	1.5
MBLK	Metribuzin			<0.05	ug/L				
MRL_CHK	Metribuzin		0.05	0.0480	ug/L	96	(50-150)		
MS_202201120077	Metribuzin	ND	2	1.94	ug/L	97	(70-130)		
MSD_202201120077	Metribuzin	ND	2	1.86	ug/L	93	(70-130)	20	4.2
LCS1	Molinate		2	2.20	ug/L	110	(70-130)		
LCS2	Molinate		2	2.23	ug/L	111	(70-130)	20	1.4
MBLK	Molinate			<0.1	ug/L				
MRL_CHK	Molinate		0.1	0.115	ug/L	115	(50-150)		
MS_202201120077	Molinate	ND	2	2.61	ug/L	130	(70-130)		
MSD_202201120077	Molinate	ND	2	2.25	ug/L	112	(70-130)	20	15
LCS1	Naphthalene		2	2.03	ug/L	101	(70-130)		
LCS2	Naphthalene		2	2.03	ug/L	102	(70-130)	20	0.0
MBLK	Naphthalene			<0.3	ug/L				
MRL_CHK	Naphthalene		0.1	0.116	ug/L	116	(50-150)		
MS_202201120077	Naphthalene	ND	2	2.05	ug/L	102	(70-130)		
MSD_202201120077	Naphthalene	ND	2	1.95	ug/L	98	(70-130)	20	5.0

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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Parathion		2	2.36	ug/L	118	(70-130)		
LCS2	Parathion		2	2.43	ug/L	122	(70-130)	20	2.9
MBLK	Parathion			<0.1	ug/L				
MRL_CHK	Parathion		0.1	0.127	ug/L	127	(50-150)		
MS_202201120077	Parathion	ND	2	2.53	ug/L	127	(70-130)		
MSD_202201120077	Parathion	ND	2	2.43	ug/L	121	(70-130)	20	4.1
LCS1	Pendimethalin		2	1.94	ug/L	97	(70-130)		
LCS2	Pendimethalin		2	2.02	ug/L	101	(70-130)	20	4.0
MBLK	Pendimethalin			<0.1	ug/L				
MRL_CHK	Pendimethalin		0.1	0.104	ug/L	104	(50-150)		
MS_202201120077	Pendimethalin	ND	2	2.04	ug/L	102	(70-130)		
MSD_202201120077	Pendimethalin	ND	2	1.99	ug/L	100	(70-130)	20	2.4
LCS1	Permethrin (mixed isomers)		4	3.80	ug/L	95	(70-130)		
LCS2	Permethrin (mixed isomers)		4	3.72	ug/L	93	(70-130)	20	2.1
MBLK	Permethrin (mixed isomers)			<0.2	ug/L				
MRL_CHK	Permethrin (mixed isomers)		0.2	0.211	ug/L	106	(50-150)		
MS_202201120077	Permethrin (mixed isomers)	ND	4	3.35	ug/L	84	(70-130)		
MSD_202201120077	Permethrin (mixed isomers)	ND	4	3.73	ug/L	93	(70-130)	20	11
LCS1	Perylene-d12 (S)		5	94.2	%	94	(70-130)		
LCS2	Perylene-d12 (S)		5	93.6	%	94	(70-130)		
MBLK	Perylene-d12 (S)			94.2	%	94	(70-130)		
MRL_CHK	Perylene-d12 (S)		5	93.8	%	94	(70-130)		
MS_202201120077	Perylene-d12 (S)		5	89.2	%	89	(70-130)		
MSD_202201120077	Perylene-d12 (S)		5	92.2	%	92	(70-130)		
LCS1	Phenanthrene		2	2.05	ug/L	102	(70-130)		
LCS2	Phenanthrene		2	2.05	ug/L	103	(70-130)	20	0.0
MBLK	Phenanthrene			<0.04	ug/L				
MRL_CHK	Phenanthrene		0.02	0.0250	ug/L	125	(50-150)		
MS_202201120077	Phenanthrene	ND	2	2.02	ug/L	101	(70-130)		
MSD_202201120077	Phenanthrene	ND	2	2.05	ug/L	103	(70-130)	20	1.5
LCS1	Phenanthrene-d10 (I)		5	82.1	%	82	(50-150)		
LCS2	Phenanthrene-d10 (I)		5	83.5	%	84	(50-150)		
MBLK	Phenanthrene-d10 (I)			78.2	%	78	(50-150)		
MRL_CHK	Phenanthrene-d10 (I)		5	79.0	%	79	(50-150)		
MS_202201120077	Phenanthrene-d10 (I)		5	75.9	%	76	(50-150)		
MSD_202201120077	Phenanthrene-d10 (I)		5	85.5	%	86	(50-150)		
LCS1	Propachlor		2	2.24	ug/L	112	(70-130)		
LCS2	Propachlor		2	2.28	ug/L	114	(70-130)	20	1.8

Spike recovery is already corrected for native results.

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

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Propachlor			<0.05	ug/L				
MRL_CHK	Propachlor		0.05	0.0590	ug/L	118	(50-150)		
MS_202201120077	Propachlor	ND	2	3.19	ug/L	<b>159</b>	(70-130)		
MSD_202201120077	Propachlor	ND	2	2.34	ug/L	117	(70-130)	20	<b>31</b>
LCS1	Pyrene		2	2.03	ug/L	101	(70-130)		
LCS2	Pyrene		2	2.07	ug/L	104	(70-130)	20	2.0
MBLK	Pyrene			<0.05	ug/L				
MRL_CHK	Pyrene		0.05	0.0550	ug/L	110	(50-150)		
MS_202201120077	Pyrene	ND	2	2.20	ug/L	110	(70-130)		
MSD_202201120077	Pyrene	ND	2	2.06	ug/L	103	(70-130)	20	5.9
LCS1	Simazine		2	2.23	ug/L	112	(70-130)		
LCS2	Simazine		2	2.29	ug/L	114	(70-130)	20	2.6
MBLK	Simazine			<0.05	ug/L				
MRL_CHK	Simazine		0.05	0.0630	ug/L	126	(50-150)		
MS_202201120077	Simazine	ND	2	3.28	ug/L	<b>164</b>	(70-130)		
MSD_202201120077	Simazine	ND	2	2.25	ug/L	112	(70-130)	20	<b>37</b>
LCS1	Terbacil		2	2.10	ug/L	105	(70-130)		
LCS2	Terbacil		2	2.20	ug/L	110	(70-130)	20	4.7
MBLK	Terbacil			<0.1	ug/L				
MRL_CHK	Terbacil		0.1	0.107	ug/L	107	(50-150)		
MS_202201120077	Terbacil	ND	2	2.26	ug/L	113	(70-130)		
MSD_202201120077	Terbacil	ND	2	2.07	ug/L	103	(70-130)	20	8.8
LCS1	Terbuthylazine		2	2.09	ug/L	105	(70-130)		
LCS2	Terbuthylazine		2	2.10	ug/L	105	(70-130)	20	0.48
MBLK	Terbuthylazine			<0.1	ug/L				
MRL_CHK	Terbuthylazine		0.1	0.107	ug/L	107	(50-150)		
MS_202201120077	Terbuthylazine	ND	2	3.10	ug/L	<b>155</b>	(70-130)		
MSD_202201120077	Terbuthylazine	ND	2	2.13	ug/L	107	(70-130)	20	<b>37</b>
LCS1	Thiobencarb		2	2.08	ug/L	104	(70-130)		
LCS2	Thiobencarb		2	2.16	ug/L	108	(70-130)	20	3.8
MBLK	Thiobencarb			<0.2	ug/L				
MRL_CHK	Thiobencarb		0.1	0.107	ug/L	107	(50-150)		
MS_202201120077	Thiobencarb	ND	2	2.24	ug/L	112	(70-130)		
MSD_202201120077	Thiobencarb	ND	2	2.05	ug/L	103	(70-130)	20	9.1
LCS1	trans-Nonachlor		2	2.04	ug/L	102	(70-130)		
LCS2	trans-Nonachlor		2	2.02	ug/L	101	(70-130)	20	0.99
MBLK	trans-Nonachlor			<0.05	ug/L				
MRL_CHK	trans-Nonachlor		0.05	0.0470	ug/L	94	(50-150)		

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Report: 979941  
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 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202201120077	trans-Nonachlor	ND	2	2.08	ug/L	104	(70-130)		
MSD_202201120077	trans-Nonachlor	ND	2	2.01	ug/L	100	(70-130)	20	3.2
LCS1	Trifluralin		2	2.14	ug/L	107	(70-130)		
LCS2	Trifluralin		2	2.21	ug/L	111	(70-130)	20	3.2
MBLK	Trifluralin			<0.1	ug/L				
MRL_CHK	Trifluralin		0.1	0.0910	ug/L	91	(50-150)		
MS_202201120077	Trifluralin	ND	2	3.04	ug/L	<b>152</b>	(70-130)		
MSD_202201120077	Trifluralin	ND	2	2.26	ug/L	113	(70-130)	20	<b>29</b>
LCS1	Triphenylphosphate (S)		5	93.6	%	94	(70-130)		
LCS2	Triphenylphosphate (S)		5	96.6	%	97	(70-130)		
MBLK	Triphenylphosphate (S)			91.6	%	92	(70-130)		
MRL_CHK	Triphenylphosphate (S)		5	89.4	%	89	(70-130)		
MS_202201120077	Triphenylphosphate (S)		5	99.2	%	99	(70-130)		
MSD_202201120077	Triphenylphosphate (S)		5	93.6	%	94	(70-130)		

Alkalinity in CaCO3 units by SM 2320B

Analytical Batch: 1380061

Analysis Date: 01/17/2022

LCS1	Alkalinity in CaCO3 units		100	98.9	mg/L	99	(90-110)		
LCS2	Alkalinity in CaCO3 units		100	98.8	mg/L	99	(90-110)	20	0.0
MBLK	Alkalinity in CaCO3 units			<1	mg/L				
MRL_CHK	Alkalinity in CaCO3 units		2	2.19	mg/L	110	(50-150)		
MS_202201100147	Alkalinity in CaCO3 units	9.4	100	109	mg/L	100	(80-120)		
MS_202201180158	Alkalinity in CaCO3 units	43	100	141	mg/L	98	(80-120)		
MSD_202201100147	Alkalinity in CaCO3 units	9.4	100	109	mg/L	100	(80-120)	20	0.10
MSD_202201180158	Alkalinity in CaCO3 units	43	100	141	mg/L	98	(80-120)	20	0.23

PH (H3=past HT not compliant) by SM4500-HB

Analytical Batch: 1380064

Analysis Date: 01/17/2022

DUP_202201100147	PH (H3=past HT not compliant)	7.2		7.24	Units		(0-20)	20	0.83
DUP_202201180158	PH (H3=past HT not compliant)	8.2		8.24	Units		(0-20)	20	0.98
LCS1	PH (H3=past HT not compliant)		6	5.94	Units	99	(98-102)		
LCS2	PH (H3=past HT not compliant)		6	5.94	Units	99	(98-102)	20	0.0

Specific Conductance by SM2510B

Analytical Batch: 1380069

Analysis Date: 01/17/2022

DUP1_202201100147	Specific Conductance	56		56.4	umho/cm		(0-20)	20	0.0
DUP1_202201180158	Specific Conductance	530		536	umho/cm		(0-20)	20	0.26
LCS1	Specific Conductance		1000	978	umho/cm	98	(90-110)		
LCS2	Specific Conductance		1000	973	umho/cm	97	(90-110)	20	0.51

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Report: 979941  
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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	Specific Conductance			<1	umho/cm				
MRLHI	Specific Conductance		10	9.40	umho/cm	94	(50-150)		

EPA Method 504.1 by EPA 504.1

Analytical Batch: 1380120

Analysis Date: 01/15/2022

CCCH	1,2,3-Trichloropropane		1.3	1.28	ug/L	103	(70-130)		
CCCM2	1,2,3-Trichloropropane		0.25	0.268	ug/L	107	(70-130)		
DUP_202201130802	1,2,3-Trichloropropane	ND		ND	ug/L		(0-20)		
LCS2	1,2,3-Trichloropropane		0.2	0.224	ug/L	112	(70-130)		
MBLK	1,2,3-Trichloropropane			<0.0133	ug/L				
MRL_CHK	1,2,3-Trichloropropane		0.05	0.0590	ug/L	118	(60-140)		
MRLLW	1,2,3-Trichloropropane		0.04	0.0425	ug/L	106	(60-140)		
MS_202201130801	1,2,3-Trichloropropane	ND	1.3	1.28	ug/L	103	(65-135)		
CCCH	1,2-Dibromo-3-chloropropane		0.25	0.251	ug/L	100	(70-130)		
CCCM2	1,2-Dibromo-3-chloropropane		0.05	0.0506	ug/L	101	(70-130)		
DUP_202201130802	1,2-Dibromo-3-chloropropane	ND		ND	ug/L		(0-20)		
LCS2	1,2-Dibromo-3-chloropropane		0.2	0.213	ug/L	106	(70-130)		
MBLK	1,2-Dibromo-3-chloropropane			<0.002	ug/L				
MRL_CHK	1,2-Dibromo-3-chloropropane		0.01	0.0111	ug/L	111	(60-140)		
MS_202201130801	1,2-Dibromo-3-chloropropane	ND	0.25	0.257	ug/L	103	(65-135)		
CCCH	1,2-Dibromoethane		0.25	0.268	ug/L	107	(70-130)		
CCCM2	1,2-Dibromoethane		0.05	0.0510	ug/L	102	(70-130)		
DUP_202201130802	1,2-Dibromoethane	ND		ND	ug/L		(0-20)		
LCS2	1,2-Dibromoethane		0.2	0.207	ug/L	104	(70-130)		
MBLK	1,2-Dibromoethane			<0.003	ug/L				
MRL_CHK	1,2-Dibromoethane		0.01	0.0126	ug/L	126	(60-140)		
MS_202201130801	1,2-Dibromoethane	ND	0.25	0.260	ug/L	104	(65-135)		
CCCH	1,2-Dibromopropane (S)		100	103	%	103	(60-140)		
CCCM2	1,2-Dibromopropane (S)		100	101	%	101	(60-140)		
DUP_202201130802	1,2-Dibromopropane (S)		100	98.8	%	99	(60-140)		
LCS2	1,2-Dibromopropane (S)		100	99.0	%	99	(60-140)		
MBLK	1,2-Dibromopropane (S)			98.1	%	98	(60-140)		
MRL_CHK	1,2-Dibromopropane (S)		100	97.9	%	98	(60-140)		
MRLLW	1,2-Dibromopropane (S)		100	107	%	107	(60-140)		
MS_202201130801	1,2-Dibromopropane (S)		100	100	%	100	(60-140)		

TBA by EPA 524.2 Modified by EPA 524.2 SIM

Analytical Batch: 1380137

Analysis Date: 01/17/2022

LCS1	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

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Report: 979941  
 Project: RED-HILL  
 Group: Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS2	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
MBLK	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
MRL_CHK	1,2-Dichloroethane-d4 (S)			126	%	126	(70-130)		
LCS1	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
LCS2	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
MBLK	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
MRL_CHK	4-Bromofluorobenzene (S)			100	%	100	(70-130)		
LCS1	t-Butyl Alcohol		5	6.04	ug/L	121	(70-130)		
LCS2	t-Butyl Alcohol		5	5.83	ug/L	117	(70-130)	20	3.5
MBLK	t-Butyl Alcohol			<2	ug/L				
MRL_CHK	t-Butyl Alcohol		2	2.52	ug/L	126	(50-150)		
LCS1	Toluene-d8 (S)			106	%	106	(70-130)		
LCS2	Toluene-d8 (S)			104	%	104	(70-130)		
MBLK	Toluene-d8 (S)			102	%	102	(70-130)		
MRL_CHK	Toluene-d8 (S)			104	%	104	(70-130)		

Organochlorine Pesticides/PCBs by EPA 505

Prep Batch: 1379413 Analytical Batch: 1380291

Analysis Date: 01/13/2022

CCCH	Alachlor (Alanex)		1	1.11	ug/L	111	(70-130)		
CCCH	Alachlor (Alanex)		1	1.04	ug/L	104	(70-130)		
MBLK	Alachlor (Alanex)			<0.1	ug/L				
MRL_CHK	Alachlor (Alanex)		0.1	0.120	ug/L	120	(50-150)		
MS1_202201070169	Alachlor (Alanex)	ND	0.2	0.235	ug/L	117	(65-135)		
MS2_202201070024	Alachlor (Alanex)	ND	1	1.01	ug/L	101	(65-135)		
CCCH	Aldrin		0.1	0.115	ug/L	115	(70-130)		
CCCH	Aldrin		0.1	0.110	ug/L	110	(70-130)		
MBLK	Aldrin			<0.01	ug/L				
MRL_CHK	Aldrin		0.01	0.0119	ug/L	119	(50-150)		
MS1_202201070169	Aldrin	ND	0.02	0.0230	ug/L	115	(65-135)		
MS2_202201070024	Aldrin	ND	0.1	0.0999	ug/L	100	(65-135)		
CCCH	Chlordane		0.5	0.549	ug/L	110	(70-130)		
MBLK	Chlordane			<0.1	ug/L				
MRL_CHK	Chlordane		0.1	0.0978	ug/L	98	(50-150)		
MS1_202201070169	Chlordane	ND	0.5	0.583	ug/L	117	(65-135)		
CCCH	Dieldrin		0.1	0.108	ug/L	108	(70-130)		
CCCH	Dieldrin		0.1	0.104	ug/L	104	(70-130)		
MBLK	Dieldrin			<0.01	ug/L				
MRL_CHK	Dieldrin		0.01	0.0112	ug/L	112	(50-150)		

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Report: 979941  
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Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS1_202201070169	Dieldrin	ND	0.02	0.0214	ug/L	99	(65-135)		
MS2_202201070024	Dieldrin	ND	0.1	0.0988	ug/L	99	(65-135)		
CCCH	Endrin		0.1	0.113	ug/L	113	(70-130)		
CCCH	Endrin		0.1	0.108	ug/L	108	(70-130)		
MBLK	Endrin			<0.01	ug/L				
MRL_CHK	Endrin		0.01	0.0114	ug/L	114	(50-150)		
MS1_202201070169	Endrin	ND	0.02	0.0223	ug/L	112	(65-135)		
MS2_202201070024	Endrin	ND	0.1	0.102	ug/L	102	(65-135)		
CCCH	Heptachlor		0.1	0.106	ug/L	106	(70-130)		
CCCH	Heptachlor		0.1	0.103	ug/L	103	(70-130)		
MBLK	Heptachlor			<0.01	ug/L				
MRL_CHK	Heptachlor		0.01	0.0102	ug/L	102	(50-150)		
MS1_202201070169	Heptachlor	ND	0.02	0.0206	ug/L	103	(65-135)		
MS2_202201070024	Heptachlor	ND	0.1	0.0934	ug/L	93	(65-135)		
CCCH	Heptachlor Epoxide		0.1	0.107	ug/L	107	(70-130)		
CCCH	Heptachlor Epoxide		0.1	0.101	ug/L	101	(70-130)		
MBLK	Heptachlor Epoxide			<0.01	ug/L				
MRL_CHK	Heptachlor Epoxide		0.01	0.0120	ug/L	120	(50-150)		
MS1_202201070169	Heptachlor Epoxide	ND	0.02	0.0218	ug/L	108	(65-135)		
MS2_202201070024	Heptachlor Epoxide	ND	0.1	0.0984	ug/L	98	(65-135)		
CCCH	Lindane (gamma-BHC)		0.1	0.103	ug/L	103	(70-130)		
CCCH	Lindane (gamma-BHC)		0.1	0.0985	ug/L	99	(70-130)		
MBLK	Lindane (gamma-BHC)			<0.01	ug/L				
MRL_CHK	Lindane (gamma-BHC)		0.01	0.0103	ug/L	103	(50-150)		
MS1_202201070169	Lindane (gamma-BHC)	ND	0.02	0.0197	ug/L	99	(65-135)		
MS2_202201070024	Lindane (gamma-BHC)	ND	0.1	0.0945	ug/L	95	(65-135)		
CCCH	Methoxychlor		0.5	0.565	ug/L	113	(70-130)		
CCCH	Methoxychlor		0.5	0.543	ug/L	109	(70-130)		
MBLK	Methoxychlor			<0.05	ug/L				
MRL_CHK	Methoxychlor		0.05	0.0675	ug/L	135	(50-150)		
MS1_202201070169	Methoxychlor	ND	0.1	0.127	ug/L	126	(65-135)		
MS2_202201070024	Methoxychlor	ND	0.5	0.512	ug/L	102	(65-135)		
MBLK	PCB 1016 Aroclor			<0.08	ug/L				
MBLK	PCB 1221 Aroclor			<0.1	ug/L				
MBLK	PCB 1232 Aroclor			<0.1	ug/L				
MBLK	PCB 1242 Aroclor			<0.1	ug/L				
MBLK	PCB 1248 Aroclor			<0.1	ug/L				
MBLK	PCB 1254 Aroclor			<0.1	ug/L				

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QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MBLK	PCB 1260 Aroclor			<0.1	ug/L				
CCCH	Tetrachlorometaxylene (S)			95.1	%	95	(70-130)		
CCCH	Tetrachlorometaxylene (S)			90.8	%	91	(70-130)		
MBLK	Tetrachlorometaxylene (S)			92.4	%	92	(70-130)		
MRL_CHK	Tetrachlorometaxylene (S)			90.7	%	91	(70-130)		
MS1_202201070169	Tetrachlorometaxylene (S)			87.8	%	88	(70-130)		
MS2_202201070024	Tetrachlorometaxylene (S)			87.3	%	87	(70-130)		
CCCH	Toxaphene		2.5	2.63	ug/L	105	(70-130)		
MBLK	Toxaphene			<0.5	ug/L				
MRL_CHK	Toxaphene		0.5	0.523	ug/L	105	(50-150)		
MS2_202201070024	Toxaphene		2.5	2.63	ug/L	105	(65-135)		

Disinfection ByProducts by 300.0 by EPA 300.0

Analytical Batch: 1380296

Analysis Date: 01/19/2022

LCS1	Bromide		100	99.0	ug/L	99	(90-110)		
LCS2	Bromide		100	99.4	ug/L	100	(90-110)	10	0.50
MBLK	Bromide			<2.12	ug/L				
MRL_CHK	Bromide		5	5.74	ug/L	115	(50-150)		
MS_202201070024	Bromide	6.8	50	54.5	ug/L	95	(80-120)		
MS_202201110369	Bromide	46	50	95.4	ug/L	98	(80-120)		
MSD_202201070024	Bromide	6.8	50	57.9	ug/L	102	(80-120)	15	6.0
MSD_202201110369	Bromide	46	50	94.9	ug/L	97	(80-120)	15	0.49

Organochlorine Pesticides by EPA 505

Prep Batch: 1379419 Analytical Batch: 1382356

Analysis Date: 01/13/2022

CCCH	Aldrin		0.1	0.115	ug/L	115	(70-130)		
CCCL	Aldrin		0.002	0.00190	ug/L	95	(50-150)		
MBLK	Aldrin			<0.005	ug/L				
MRL_CHK	Aldrin		0.01	0.0119	ug/L	119	(50-150)		
MS2_202201070024	Aldrin		0.1	0.0999	ug/L	100	(65-135)		
CCCH	Dieldrin		0.1	0.108	ug/L	108	(70-130)		
CCCL	Dieldrin		0.002	0.00210	ug/L	105	(50-150)		
MBLK	Dieldrin			<0.002	ug/L				
MRL_CHK	Dieldrin		0.01	0.0112	ug/L	112	(50-150)		
MS2_202201070024	Dieldrin		0.1	0.0988	ug/L	99	(65-135)		
CCCH	Toxaphene		2.5	2.63	ug/L	105	(70-130)		
CCCL	Toxaphene		0.1	0.100	ug/L	100	(50-150)		
MBLK	Toxaphene			<0.1	ug/L				
MRL_CHK	Toxaphene		0.5	0.523	ug/L	105	(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.

Tel: (626) 386-1100  
 Fax: (666) 988-3757  
 1 800 566 LABS (1 800 566 5227)

**Report:** 979941  
**Project:** RED-HILL  
**Group:** Red-Hill Expanded List  
 (Albuquerque+)

Honolulu Board of Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS2_202201070024	Toxaphene	ND	2.5	2.63	ug/L	105	(65-135)		

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.

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**Report:** 979941  
**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:  
 01/12/2022 1405

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	<b>202201120762</b>	<b><u>HALAWA SHAFT-331-241-TP401</u></b>				
01/17/2022 22:53	Alkalinity in CaCO3 units		56		mg/L	2.0
01/18/2022 13:01	Bicarb.Alkalinity as HCO3calc		68		mg/L	2.0
01/19/2022 15:56	Bromide		420		ug/L	10
01/14/2022 12:51	Calcium Total ICAP		27		mg/L	1.0
01/14/2022 20:26	Chromium Total ICAP/MS		2.3	100	ug/L	1.0
01/14/2022 20:26	Copper Total ICAP/MS		3.1	1300	ug/L	2.0
01/14/2022 12:51	Magnesium Total ICAP		23		mg/L	0.10
01/17/2022 22:53	PH (H3=past HT not compliant)		7.9		Units	0.10
01/14/2022 12:51	Potassium Total ICAP		2.6		mg/L	1.0
01/14/2022 12:51	Sodium Total ICAP		42		mg/L	1.0
01/17/2022 22:53	Specific Conductance, 25 C		560		umho/cm	10
01/13/2022 18:01	Total Dissolved Solids (TDS)		360	500	mg/L	10

March 21, 2022

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

Project Name: Folder # 979941 Job # 1000014  
 Physis Project ID: 1407003-215

Dear Debbie,


Enclosed are the analytical results for the sample submitted to PHYSIS Environmental Laboratories, Inc. (PHYSIS) on 1/13/2022. 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 # 979941 Job # 1000014

PHYSIS Project ID: 1407003-215  
 Total Samples: 1

PHYSIS ID	Sample ID	Description	Date	Time	Matrix	Sample Type
94942	202201120762	HALAWA SHAFT-331-241-TP401	1/10/2022	9:30	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

TERRA  
ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

## Acid Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 94942-R1 202201120762 HALAWA SHAFT-331- Matrix: Samplewater</b>											
(2,4,6-Tribromophenol)	EPA 625.1	% Recovery	66	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	13-Jan-22 24-Feb-22
(d5-Phenol)	EPA 625.1	% Recovery	33	1			Total	O-35070		17-Jan-22	24-Feb-22
2,4,5-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2,4,6-Trichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2,4-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2,4-Dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
2,6-Dichlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2,6-Di-tert-butyl-4-methylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2,6-Di-tert-butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2-Chlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
2-Methyl-4,6-dinitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
2-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
2-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
3+4-Methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
4-Chloro-3-methylphenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
4-Nitrophenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
6-tert-butyl-2,4-dimethylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
Benzoic Acid	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
Benzyl Alcohol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
Pentachlorophenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22
Phenol	EPA 625.1	µg/L	ND	1	0.1	0.2	Total	O-35070		17-Jan-22	24-Feb-22
p-tert-Butylphenol	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070		17-Jan-22	24-Feb-22

## Base/Neutral Extractable Compounds

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 94942-R1 202201120762 HALAWA SHAFT-331- Matrix: Samplewater</b>											
2-Chloronaphthalene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	13-Jan-22
2-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
3-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
4-Bromophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
4-Chloroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
4-Chlorophenylphenyl ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
4-Nitroaniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Aniline	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Benzidine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Bis(2-Chloroethoxy) methane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Bis(2-Chloroethyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Bis(2-Chloroisopropyl) ether	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Dibenzofuran	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Disalicylidenepropanediamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Hexachloroethane	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
Nitrobenzene	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
N-Nitrosodi-n-propylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22
N-Nitrosodiphenylamine	EPA 625.1	µg/L	ND	1	0.05	0.1	Total	O-35070	O-35070	17-Jan-22	24-Feb-22

## Polynuclear Aromatic Hydrocarbons

ANALYTE	Method	Units	RESULT	DF	MDL	RL	Fraction	QA CODE	Batch ID	Date Processed	Date Analyzed
<b>Sample ID: 94942-R1 202201120762 HALAWA SHAFT-331- Matrix: Samplewater</b>											
(d10-Acenaphthene)	EPA 625.1	% Recovery	67	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	13-Jan-22
(d10-Phenanthrene)	EPA 625.1	% Recovery	66	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
(d12-Chrysene)	EPA 625.1	% Recovery	94	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
(d12-Perylene)	EPA 625.1	% Recovery	89	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
(d8-Naphthalene)	EPA 625.1	% Recovery	46	1			Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
1-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
1-Methylphenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
2,3,5-Trimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
2,6-Dimethylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
2-Methylnaphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Acenaphthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Acenaphthylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benz[a]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benz[a]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benz[b]fluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benz[e]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benzof[ghi]perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Benzokjfluoranthene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Biphenyl	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Chrysene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Dibenz[a,h]anthracene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Dibenzo[a,l]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-22
Dibenzothiophene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total	O-35070	10-Jan-22 9:30	Received: 17-Jan-22	24-Feb-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-35070	17-Jan-22	24-Feb-22
Fluorene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22
Indeno[1,2,3-cd]pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22
Naphthalene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22
Perylene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22
Phenanthrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22
Pyrene	EPA 625.1	µg/L	ND	1	0.001	0.005	Total		O-35070	17-Jan-22	24-Feb-22

# QUALITY CONTROL REPORT

TERRA

AURA

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

## 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-35070	Prepared: 17-Jan-22	Analyzed: 23-Feb-22
(2,4,6-Tribromophenol)	Total	55	1				100	100	55	44 - 159%	PASS	% Recovery	55		
(d5-Phenol)	Total	35	1				100	100	35	20 - 121%	PASS	% Recovery	35		
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											
Sample ID: 94941-BS1											
QAQC Procedural Blank											
Method: EPA 625.1											
Batch ID: O-35070											
Prepared: 17-Jan-22											
Analyzed: 23-Feb-22											
(2,4,6-Tribromophenol)	Total	83	1			% Recovery	100	0	83	44 - 159%	PASS
(d5-Phenol)	Total	27	1			% Recovery	100	0	27	20 - 121%	PASS
2,4,5-Trichlorophenol	Total	0.331	1	0.05	0.1	µg/L	0.5	0	66	57 - 116%	PASS
2,4,6-Trichlorophenol	Total	0.373	1	0.05	0.1	µg/L	0.5	0	75	56 - 118%	PASS
2,4-Dichlorophenol	Total	0.297	1	0.05	0.1	µg/L	0.5	0	59	51 - 117%	PASS
2,4-Dinitrophenol	Total	0.103	1	0.1	0.2	µg/L	0.5	0	21	0 - 152%	PASS
2,6-Dichlorophenol	Total	0.172	1	0.05	0.1	µg/L	0.5	0	34	30 - 130%	PASS
2,6-Di-tert-butyl-4-methylphe	Total	0.802	1	0.05	0.1	µg/L	1	0	80	50 - 150%	PASS
2,6-Di-tert-butylphenol	Total	1.15	1	0.05	0.1	µg/L	1	0	115	50 - 150%	PASS
2-Chlorophenol	Total	0.299	1	0.05	0.1	µg/L	0.5	0	60	41 - 110%	PASS
2-Methyl-4,6-dinitrophenol	Total	0.353	1	0.1	0.2	µg/L	0.5	0	71	0 - 141%	PASS
2-Methylphenol	Total	0.231	1	0.1	0.2	µg/L	0.5	0	46	40 - 117%	PASS
2-Nitrophenol	Total	0.214	1	0.1	0.2	µg/L	0.5	0	43	40 - 117%	PASS
3+4-Methylphenol	Total	0.258	1	0.1	0.2	µg/L	0.5	0	52	0 - 130%	PASS
4-Chloro-3-methylphenol	Total	0.396	1	0.1	0.2	µg/L	0.5	0	79	51 - 128%	PASS
4-Nitrophenol	Total	0.221	1	0.1	0.2	µg/L	0.5	0	44	10 - 164%	PASS
6-tert-butyl-2,4-dimethylphen	Total	0.789	1	0.05	0.1	µg/L	1	0	79	50 - 150%	PASS
Benzoic Acid	Total	0.118	1	0.1	0.2	µg/L	0.5	0	24	2 - 145%	PASS
Benzyl Alcohol	Total	0.258	1	0.1	0.2	µg/L	0.5	0	52	43 - 148%	PASS
Pentachlorophenol	Total	0.311	1	0.05	0.1	µg/L	0.5	0	62	36 - 111%	PASS
Phenol	Total	0.167	1	0.1	0.2	µg/L	0.5	0	33	29 - 114%	PASS
p-tert-Butylphenol	Total	1.22	1	0.05	0.1	µg/L	1	0	122	50 - 150%	PASS

## Acid Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE	
									%	LIMITS	%	LIMITS		
Sample ID: 94941-BS2														
Matrix: BlankMatrix														
Sampled: Received:														
Method: EPA 625.1														
Batch ID: O-35070														
Prepared: 17-Jan-22														
Analyzed: 23-Feb-22														
(2,4,6-Tribromophenol)	Total	86	1			% Recovery	100	0	86	44 - 159%	PASS	4	30	PASS
(d5-Phenol)	Total	42	1			% Recovery	100	0	42	20 - 121%	PASS	43	30	FAIL
2,4,5-Trichlorophenol	Total	0.327	1	0.05	0.1	µg/L	0.5	0	65	57 - 116%	PASS	2	30	PASS
2,4,6-Trichlorophenol	Total	0.362	1	0.05	0.1	µg/L	0.5	0	72	56 - 118%	PASS	4	30	PASS
2,4-Dichlorophenol	Total	0.274	1	0.05	0.1	µg/L	0.5	0	55	51 - 117%	PASS	7	30	PASS
2,4-Dinitrophenol	Total	0.102	1	0.1	0.2	µg/L	0.5	0	20	0 - 152%	PASS	5	30	PASS
2,6-Dichlorophenol	Total	0.152	1	0.05	0.1	µg/L	0.5	0	30	30 - 130%	PASS	12	30	PASS
2,6-Di-tert-butyl-4-methylphe	Total	0.756	1	0.05	0.1	µg/L	1	0	76	50 - 150%	PASS	5	30	PASS
2,6-Di-tert-butylphenol	Total	1	1	0.05	0.1	µg/L	1	0	100	50 - 150%	PASS	14	30	PASS
2-Chlorophenol	Total	0.329	1	0.05	0.1	µg/L	0.5	0	66	41 - 110%	PASS	10	30	PASS
2-Methyl-4,6-dinitrophenol	Total	0.317	1	0.1	0.2	µg/L	0.5	0	63	0 - 141%	PASS	12	30	PASS
2-Methylphenol	Total	0.295	1	0.1	0.2	µg/L	0.5	0	59	40 - 117%	PASS	25	30	PASS
2-Nitrophenol	Total	0.212	1	0.1	0.2	µg/L	0.5	0	42	40 - 117%	PASS	2	30	PASS
3+4-Methylphenol	Total	0.244	1	0.1	0.2	µg/L	0.5	0	49	0 - 130%	PASS	6	30	PASS
4-Chloro-3-methylphenol	Total	0.381	1	0.1	0.2	µg/L	0.5	0	76	51 - 128%	PASS	4	30	PASS
4-Nitrophenol	Total	0.217	1	0.1	0.2	µg/L	0.5	0	43	10 - 164%	PASS	2	30	PASS
6-tert-butyl-2,4-dimethylphen	Total	0.655	1	0.05	0.1	µg/L	1	0	65	50 - 150%	PASS	18	30	PASS
Benzoic Acid	Total	0.115	1	0.1	0.2	µg/L	0.5	0	23	2 - 145%	PASS	4	30	PASS
Benzyl Alcohol	Total	0.285	1	0.1	0.2	µg/L	0.5	0	57	43 - 148%	PASS	9	30	PASS
Pentachlorophenol	Total	0.318	1	0.05	0.1	µg/L	0.5	0	64	36 - 111%	PASS	3	30	PASS
Phenol	Total	0.187	1	0.1	0.2	µg/L	0.5	0	37	29 - 114%	PASS	11	30	PASS
p-tert-Butylphenol	Total	1.03	1	0.05	0.1	µg/L	1	0	103	50 - 150%	PASS	17	30	PASS

## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY %	PRECISION %	QA CODE
Matrix: BlankMatrix											
Sample ID: 94941-B1											
QAQC Procedural Blank											
Method: EPA 625.1											
Batch ID: O-35070											
Prepared: 17-Jan-22											
Analyzed: 23-Feb-22											
Received:											
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					
Dibenzofuran	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 RESULT	ACCURACY %	PRECISION %	QA CODE	LIMITS						
												RECEIVED	ANALYZED					
<b>Sample ID: 94941-BS1</b>													<b>Received:</b>					
<b>QAQC Procedural Blank</b>													<b>Sampled:</b>					
Method: EPA 625.1													Batch ID: O-35070		Prepared: 17-Jan-22		Analyzed: 23-Feb-22	
2-Chloronaphthalene	Total	0.347	1	0.05	0.1	µg/L	0.5	0	69	53 - 130%	PASS							
2-Nitroaniline	Total	0.211	1	0.05	0.1	µg/L	0.25	0	84	69 - 114%	PASS							
3-Nitroaniline	Total	0.289	1	0.05	0.1	µg/L	0.5	0	58	23 - 137%	PASS							
4-Bromophenylphenyl ether	Total	0.342	1	0.05	0.1	µg/L	0.5	0	68	61 - 132%	PASS							
4-Chloroaniline	Total	0.585	1	0.05	0.1	µg/L	0.5	0	117	50 - 150%	PASS							
4-Chlorophenylphenyl ether	Total	0.376	1	0.05	0.1	µg/L	0.5	0	75	63 - 130%	PASS							
4-Nitroaniline	Total	0.275	1	0.05	0.1	µg/L	0.5	0	55	10 - 159%	PASS							
Aniline	Total	0.406	1	0.05	0.1	µg/L	0.5	0	81	50 - 150%	PASS							
Benzidine	Total	0.116	1	0.05	0.1	µg/L	0.5	0	23	0 - 125%	PASS							
Bis(2-Chloroethoxy) methane	Total	0.351	1	0.05	0.1	µg/L	0.5	0	70	66 - 122%	PASS							
Bis(2-Chloroethyl) ether	Total	0.341	1	0.05	0.1	µg/L	0.5	0	68	43 - 127%	PASS							
Bis(2-Chloroisopropyl) ether	Total	0.436	1	0.05	0.1	µg/L	0.5	0	87	49 - 128%	PASS							
Dibenzofuran	Total	0.399	1	0.05	0.1	µg/L	0.5	0	80	50 - 150%	PASS							
Disalicylidenepropanediamin	Total	35.7	1	0.05	0.1	µg/L	50	0	71	50 - 150%	PASS							
Hexachloroethane	Total	0.329	1	0.05	0.1	µg/L	0.5	0	66	27 - 130%	PASS							
Nitrobenzene	Total	0.32	1	0.05	0.1	µg/L	0.5	0	64	54 - 111%	PASS							
N-Nitrosodi-n-propylamine	Total	0.366	1	0.05	0.1	µg/L	0.5	0	73	61 - 152%	PASS							
N-Nitrosodiphenylamine	Total	0.305	1	0.05	0.1	µg/L	0.5	0	61	49 - 142%	PASS							



## Base/Neutral Extractable Compounds

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	Spike Level	SOURCE	ACCURACY	PRECISION	QA CODE	LIMITS					
												%	LIMITS				
Sample ID: 94941-BS2												Received:					
QAQC Procedural Blank												Sampled:					
Method: EPA 625.1												Batch ID: O-35070		Prepared: 17-Jan-22		Analyzed: 23-Feb-22	
2-Chloronaphthalene	Total	0.378	1	0.05	0.1	µg/L	0.5	0	76	53 - 130%	PASS	10	30	PASS			
2-Nitroaniline	Total	0.209	1	0.05	0.1	µg/L	0.25	0	84	69 - 114%	PASS	0	30	PASS			
3-Nitroaniline	Total	0.313	1	0.05	0.1	µg/L	0.5	0	63	23 - 137%	PASS	8	30	PASS			
4-Bromophenylphenyl ether	Total	0.333	1	0.05	0.1	µg/L	0.5	0	67	61 - 132%	PASS	1	30	PASS			
4-Chloroaniline	Total	0.516	1	0.05	0.1	µg/L	0.5	0	103	50 - 150%	PASS	13	30	PASS			
4-Chlorophenylphenyl ether	Total	0.331	1	0.05	0.1	µg/L	0.5	0	66	63 - 130%	PASS	13	30	PASS			
4-Nitroaniline	Total	0.251	1	0.05	0.1	µg/L	0.5	0	50	10 - 159%	PASS	10	30	PASS			
Aniline	Total	0.405	1	0.05	0.1	µg/L	0.5	0	81	50 - 150%	PASS	0	30	PASS			
Benzidine	Total	0.105	1	0.05	0.1	µg/L	0.5	0	21	0 - 125%	PASS	9	30	PASS			
Bis(2-Chloroethoxy) methane	Total	0.382	1	0.05	0.1	µg/L	0.5	0	76	66 - 122%	PASS	8	30	PASS			
Bis(2-Chloroethyl) ether	Total	0.339	1	0.05	0.1	µg/L	0.5	0	68	43 - 127%	PASS	0	30	PASS			
Bis(2-Chloroisopropyl) ether	Total	0.5	1	0.05	0.1	µg/L	0.5	0	100	49 - 128%	PASS	14	30	PASS			
Dibenzofuran	Total	0.377	1	0.05	0.1	µg/L	0.5	0	75	50 - 150%	PASS	6	30	PASS			
Disalicylidenepropanediamin	Total	31.9	1	0.05	0.1	µg/L	50	0	64	50 - 150%	PASS	10	30	PASS			
Hexachloroethane	Total	0.369	1	0.05	0.1	µg/L	0.5	0	74	27 - 130%	PASS	11	30	PASS			
Nitrobenzene	Total	0.325	1	0.05	0.1	µg/L	0.5	0	65	54 - 111%	PASS	2	30	PASS			
N-Nitrosodi-n-propylamine	Total	0.345	1	0.05	0.1	µg/L	0.5	0	69	61 - 152%	PASS	6	30	PASS			
N-Nitrosodiphenylamine	Total	0.314	1	0.05	0.1	µg/L	0.5	0	63	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											
Sample ID: 94941-B1											
QAQC Procedural Blank											
Method: EPA 625.1											
Batch ID: O-35070											
Prepared: 17-Jan-22											
Analyzed: 23-Feb-22											
Received:											
(d10)-Acenaphthene	Total	88	1			% Recovery	100		88	65 - 113%	PASS
(d10)-Phenanthrene	Total	100	1			% Recovery	100		100	80 - 111%	PASS
(d12)-Chrysene	Total	70	1			% Recovery	100		70	60 - 139%	PASS
(d12)-Perylene	Total	86	1			% Recovery	100		86	36 - 161%	PASS
(d8)-Naphthalene	Total	44	1			% Recovery	100		44	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					
Dibenz[a,h]anthracene	Total	ND	1	0.001	0.005	µg/L					
Dibenzo[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	%	
Dibenzothiophene	Total	ND	1	0.001	0.005	µg/L							
Fluoranthene	Total	ND	1	0.001	0.005	µg/L							
Fluorene	Total	ND	1	0.001	0.005	µg/L							
Indeno[1,2,3-cd]pyrene	Total	ND	1	0.001	0.005	µg/L							
Naphthalene	Total	ND	1	0.001	0.005	µg/L							
Perylene	Total	ND	1	0.001	0.005	µg/L							
Phenanthrene	Total	ND	1	0.001	0.005	µg/L							
Pyrene	Total	ND	1	0.001	0.005	µg/L							

## 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: 94941-BS1											
QAQC Procedural Blank											
Method: EPA 625.1											
Batch ID: O-35070											
Prepared: 17-Jan-22											
Analyzed: 23-Feb-22											
(d10-Acenaphthene)	Total	72	1			% Recovery	100	0	72	65 - 113%	PASS
(d10-Phenanthrene)	Total	83	1			% Recovery	100	0	83	80 - 111%	PASS
(d12-Chrysene)	Total	81	1			% Recovery	100	0	81	60 - 139%	PASS
(d12-Perylene)	Total	90	1			% Recovery	100	0	90	36 - 161%	PASS
(d8-Naphthalene)	Total	60	1			% Recovery	100	0	60	44 - 119%	PASS
1-Methylnaphthalene	Total	0.336	1	0.001	0.005	µg/L	0.5	0	67	49 - 117%	PASS
1-Methylphenanthrene	Total	0.329	1	0.001	0.005	µg/L	0.5	0	66	66 - 127%	PASS
2,3,5-Trimethylnaphthalene	Total	0.363	1	0.001	0.005	µg/L	0.5	0	73	57 - 120%	PASS
2,6-Dimethylnaphthalene	Total	0.287	1	0.001	0.005	µg/L	0.5	0	57	54 - 117%	PASS
2-Methylnaphthalene	Total	0.301	1	0.001	0.005	µg/L	0.5	0	60	47 - 130%	PASS
Acenaphthene	Total	0.386	1	0.001	0.005	µg/L	0.5	0	77	53 - 131%	PASS
Acenaphthylene	Total	0.294	1	0.001	0.005	µg/L	0.5	0	59	43 - 140%	PASS
Anthracene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	58 - 135%	PASS
Benz[a]anthracene	Total	0.538	1	0.001	0.005	µg/L	0.5	0	108	55 - 145%	PASS
Benzo[a]pyrene	Total	0.322	1	0.001	0.005	µg/L	0.5	0	64	51 - 143%	PASS
Benzo[b]fluoranthene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	46 - 165%	PASS
Benzo[e]pyrene	Total	0.442	1	0.001	0.005	µg/L	0.5	0	88	42 - 152%	PASS
Benzo[g,h,i]perylene	Total	0.424	1	0.001	0.005	µg/L	0.5	0	85	63 - 133%	PASS
Benzo[k]fluoranthene	Total	0.555	1	0.001	0.005	µg/L	0.5	0	111	56 - 145%	PASS
Biphenyl	Total	0.345	1	0.001	0.005	µg/L	0.5	0	69	56 - 119%	PASS
Chrysene	Total	0.497	1	0.001	0.005	µg/L	0.5	0	99	56 - 141%	PASS
Dibenz[a,h]anthracene	Total	0.438	1	0.001	0.005	µg/L	0.5	0	88	55 - 150%	PASS
Dibenzo[a,i]pyrene	Total	0.478	1	0.001	0.005	µg/L	0.5	0	96	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	
Dibenzothiophene	Total	0.392	1	0.001	0.005	µg/L	0.5	0	78	75 - 113%	78	PASS	
Fluoranthene	Total	0.412	1	0.001	0.005	µg/L	0.5	0	82	60 - 146%	82	PASS	
Fluorene	Total	0.422	1	0.001	0.005	µg/L	0.5	0	84	58 - 131%	84	PASS	
Indeno[1,2,3-cd]pyrene	Total	0.459	1	0.001	0.005	µg/L	0.5	0	92	50 - 151%	92	PASS	
Naphthalene	Total	0.222	1	0.001	0.005	µg/L	0.5	0	44	41 - 126%	44	PASS	
Perylene	Total	0.516	1	0.001	0.005	µg/L	0.5	0	103	48 - 141%	103	PASS	
Phenanthrene	Total	0.467	1	0.001	0.005	µg/L	0.5	0	93	67 - 127%	93	PASS	
Pyrene	Total	0.546	1	0.001	0.005	µg/L	0.5	0	109	54 - 156%	109	PASS	

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY LIMITS	PRECISION %	QA CODE	
Matrix: BlankMatrix												
Sample ID: 94941-BS2												
QAQC Procedural Blank												
Method: EPA 625.1												
Batch ID: O-35070												
Prepared: 17-Jan-22												
Analyzed: 23-Feb-22												
(d10-Acenaphthene)	Total	93	1			% Recovery	100	0	93	65 - 113%	PASS	25
(d10-Phenanthrene)	Total	86	1			% Recovery	100	0	86	80 - 111%	PASS	4
(d12-Chrysene)	Total	82	1			% Recovery	100	0	82	60 - 139%	PASS	1
(d12-Perylene)	Total	115	1			% Recovery	100	0	115	36 - 161%	PASS	24
(d8-Naphthalene)	Total	56	1			% Recovery	100	0	56	44 - 119%	PASS	7
1-Methylnaphthalene	Total	0.359	1	0.001	0.005	µg/L	0.5	0	72	49 - 117%	PASS	7
1-Methylphenanthrene	Total	0.344	1	0.001	0.005	µg/L	0.5	0	69	66 - 127%	PASS	4
2,3,5-Trimethylnaphthalene	Total	0.346	1	0.001	0.005	µg/L	0.5	0	69	57 - 120%	PASS	6
2,6-Dimethylnaphthalene	Total	0.301	1	0.001	0.005	µg/L	0.5	0	60	54 - 117%	PASS	5
2-Methylnaphthalene	Total	0.289	1	0.001	0.005	µg/L	0.5	0	58	47 - 130%	PASS	3
Acenaphthene	Total	0.359	1	0.001	0.005	µg/L	0.5	0	72	53 - 131%	PASS	7
Acenaphthylene	Total	0.323	1	0.001	0.005	µg/L	0.5	0	65	43 - 140%	PASS	10
Anthracene	Total	0.479	1	0.001	0.005	µg/L	0.5	0	96	58 - 135%	PASS	5
Benz[a]anthracene	Total	0.487	1	0.001	0.005	µg/L	0.5	0	97	55 - 145%	PASS	11
Benzo[a]pyrene	Total	0.41	1	0.001	0.005	µg/L	0.5	0	82	51 - 143%	PASS	25
Benzo[b]fluoranthene	Total	0.437	1	0.001	0.005	µg/L	0.5	0	87	46 - 165%	PASS	10
Benzo[e]pyrene	Total	0.572	1	0.001	0.005	µg/L	0.5	0	114	42 - 152%	PASS	26
Benzo[g,h,i]perylene	Total	0.42	1	0.001	0.005	µg/L	0.5	0	84	63 - 133%	PASS	1
Benzo[k]fluoranthene	Total	0.503	1	0.001	0.005	µg/L	0.5	0	101	56 - 145%	PASS	9
Biphenyl	Total	0.323	1	0.001	0.005	µg/L	0.5	0	65	56 - 119%	PASS	6
Chrysene	Total	0.469	1	0.001	0.005	µg/L	0.5	0	94	56 - 141%	PASS	5
Dibenz[a,h]anthracene	Total	0.428	1	0.001	0.005	µg/L	0.5	0	86	55 - 150%	PASS	2
Dibenzo[a,l]pyrene	Total	0.403	1	0.001	0.005	µg/L	0.5	0	81	50 - 150%	PASS	17

## Polynuclear Aromatic Hydrocarbons

## QUALITY CONTROL REPORT

ANALYTE	FRACTION	RESULT	DF	MDL	RL	UNITS	SPIKE LEVEL	SOURCE RESULT	ACCURACY		PRECISION		QA CODE	
									%	LIMITS	%	LIMITS		
Dibenzothiophene	Total	0.419	1	0.001	0.005	µg/L	0.5	0	84	75 - 113%	PASS	7	30	PASS
Fluoranthene	Total	0.483	1	0.001	0.005	µg/L	0.5	0	97	60 - 146%	PASS	17	30	PASS
Fluorene	Total	0.448	1	0.001	0.005	µg/L	0.5	0	90	58 - 131%	PASS	7	30	PASS
Indeno[1,2,3-cd]pyrene	Total	0.585	1	0.001	0.005	µg/L	0.5	0	117	50 - 151%	PASS	24	30	PASS
Naphthalene	Total	0.254	1	0.001	0.005	µg/L	0.5	0	51	41 - 126%	PASS	15	30	PASS
Perylene	Total	0.526	1	0.001	0.005	µg/L	0.5	0	105	48 - 141%	PASS	2	30	PASS
Phenanthrene	Total	0.521	1	0.001	0.005	µg/L	0.5	0	104	67 - 127%	PASS	11	30	PASS
Pyrene	Total	0.519	1	0.001	0.005	µg/L	0.5	0	104	54 - 156%	PASS	5	30	PASS



# PREVIOUS TENTATIVELY IDENTIFIED COMPOUNDS

ENVIRONMENTAL LABORATORIES, INC.

*Innovative Solutions for Nature*

Sample ID: 94942

RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Qual
33.4120	0.3569	1111	Anthracene-D10	1517-22-2	91
15.4126	1.8602	5791	Cyclohexane, 1,2,4,5-tetraethyl-, (1.alpha.,2.alpha.,4.alpha.,5.alpha.)-	61142-24-3	86
15.2470	0.9387	2923	3-Hexene, 3-ethyl-2,5-dimethyl-	62338-08-3	84
10.9194	0.9320	2902	Octane, 6-ethyl-2-methyl-	62016-19-7	94
15.2469	0.8532	2656	1,7-Dimethyl-4-(1-methylethyl)cyclodecane	645-10-3	86
10.9194	0.8322	2591	Hexane, 3,3-dimethyl-	563-16-6	95
16.1552	0.8163	2541	3-Octene, 2,2-dimethyl-	86869-76-3	80
11.2055	0.5951	1853	Octane, 2,6-dimethyl-	2051-30-1	92
10.7086	0.4309	1341	Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	91
11.0299	0.4294	1337	2-Heptanone, 4,6-dimethyl-	19549-80-5	88
11.2915	0.3746	1166	2,2,7,7-Tetramethyloctane	1071-31-4	92
11.5104	0.3524	1097	Undecane, 2,8-dimethyl-	17301-25-6	94
25.9622	0.2868	893	Pentanoic acid, 2,2,4-trimethyl-3-carboxyisopropyl, isobutyl ester	1000140-77-5	90
15.1360	0.2789	868	3-Buten-2-one, 4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-	14901-07-6	83
15.1359	0.2733	851	trans-.beta.-Ionone	79-77-6	84
14.1146	0.2273	708	Cyclohexene, 2-butyl-1,3,3-trimethyl-	3293-50-3	80
11.7680	0.1844	574	Ethanone, 1-(2-thienyl)-	88-15-3	92
10.7570	0.1807	563	2-Propenoic acid, 2-methyl-, (tetrahydro-2-furanyl)methyl ester	2455-24-5	81
15.9154	0.1375	428	2-Fluorobenzoic acid, 4-nitrophenyl ester	1000307-69-1	87
18.2291	0.1117	348	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9	88
10.2187	0.0945	294	Ethoxyacetylene	927-80-0	82
17.5172	0.0859	267	Propane, 2-isocyanato-	1795-48-8	81
10.3628	0.0828	258	Benzene, 1,2,4-trimethyl-	95-63-6	83
10.5813	0.0688	214	Azetidone	503-29-7	85
10.1286	0.0589	183	Butane, 2,2,3-trimethyl-	464-06-2	90
10.1286	0.0542	169	Propane, 2-methyl-1-nitro-	625-74-1	88
17.7194	0.0538	167	Phenol, 2,4,6-trichloro-	88-06-2	88
25.7623	0.0527	164	Diethyl Phthalate	84-66-2	84
10.6409	0.0526	164	3-Acetyl-2,5-dimethyl furan	10599-70-9	87
11.3700	0.0514	160	Formic acid, propyl ester	110-74-7	84
11.3700	0.0494	154	tert-Butyl N-(tert-butoxy)carbamate	91426-13-0	83
16.0188	0.0483	150	3-Hexen-1-ol, propanoate, (Z)-	33467-74-2	80
10.8584	0.0367	114	D-Limonene	5989-27-5	80

Concentration estimated using the response for Anthracene-d10

Sample ID: Lab Blank Batch O-35070

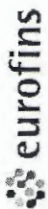
RT	Area Pct	Concentration (ng/L)	Library/ID	Cas Number	Qual
33.4477	0.2438	1111	Anthracene-D10	1517-22-2	89
10.9206	0.5063	2308	Octane, 2,3,6,7-tetramethyl-	52670-34-5	94
12.5605	0.3053	1391	1,3-Dioxolane	646-06-0	83
11.2090	0.2659	1212	Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	90
11.2935	0.1448	660	Decane, 2,5,9-trimethyl-	62108-22-9	92
11.5125	0.0958	437	Undecane, 2,8-dimethyl-	17301-25-6	93
10.8285	0.0633	288	Heptane, 2,2,4,6,6-pentamethyl-	13475-82-6	92
11.7884	0.0474	216	1-Pentanone, 1-(2-thienyl)-	53119-25-8	85
10.5850	0.0265	121	Diazene, bis(1,1-dimethylethyl)-	927-83-3	84
11.1546	0.0236	108	5H-Tetrazol-5-amine	1000273-02-0	82
16.2402	0.0227	104	2H-Pyran-2-one, tetrahydro-6-methyl-	823-22-3	81

Concentration estimated using the response for Anthracene-d10

# PERFORMANCE CHAIN OF CUSTODY

TERRA ENVIRONMENTAL LABORATORIES, INC. AURA

*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 #: 979941
Report Due: 01/17/2022

Date: 1/13/2022

Submittal Form

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers! Report & Invoice must have the Folder # 979941 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@eurofinset.com
Eurofins Eaton Analytical, LLC 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016
Phone (626) 386-1166 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

3 day rush

Sample ID: 202201120762
Client Sample ID for reference onl: HALAWA SHAFT-331-241-TP401

Sample Date & Time Matrix: 01/10/22 0930 DW
Clip Code: PWSID

JLS

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

Table with 3 columns: Method (EPA 625), Prep Method (EPA 625), Analysis Requested (625 Acid Extractable in ug/L, 625 Base Neutral Extractable in ug/L, 625PAH in ug/L)

Relinquished by: [Signature] Sample Control Date: 1/13/22 Time: 1236
Received by: [Signature] Date: 1/13/22 Time: 1236
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 attn: Jackie Contreras



Project Iteration ID: 1407003-215  
 Client Name: Eurofins Eaton Analytical  
 Project Name: Folder # 979941 Job # 1000014  
 COC Page Number: 2 of 2  
 Bottle Label Color: NA

**Sample Receipt Summary**

**Receiving Info**

1. Initials Received By: PH
2. Date Received: 1/13/22
3. Time Received: 1236
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)
  - 4 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): 6.5  
 Used I/R Thermometer # 1-2

**Inspection Info**

1. Initials Inspected By: RGH

**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:

See temp



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

Date: 01-26-2022  
EMAX Batch No.: 22A118

Attn: Jackie Contreras

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

Subject: Laboratory Report  
Project: 979941

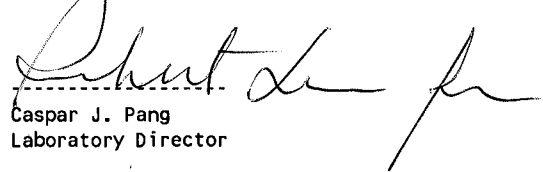
-----  
Enclosed is the Laboratory report for samples received on 01/13/22.  
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
202201120762	A118-01	01/10/22	WATER	TPH GASOLINE TPH ETHANOL
202201120763	A118-02	01/10/22	WATER	TPH GASOLINE

The results are summarized on the following pages.

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

Sincerely yours,

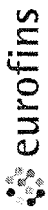
  
-----  
Caspar J. Pang  
Laboratory Director

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 #: 979941 Report Due: 01/17/2022

Sample ID: 202201120762 Client Sample ID for reference on: HALAWA SHAFT-331-241-TP401

Sample type: SW8015C Analysis Requested: Ethanol

Method	Prep Method	Analysis Requested
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: 202201120763 Client Sample ID for reference on: TRAVEL BLANK: HALAWA SHAFT-331-241-TP401

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

Relinquished by: [Signature]

Sample Control

Received by: [Signature]

Sample Control

Relinquished by:

Sample Control

Received by:

Sample Control

Date: 1/13/22 Time: 11:40

Date: 1/13/22 Time: 11:40

Date: Time

Date: Time

NOTIFICATION REQUIRED IF RECEIVED OUTSIDE OF 0-6 CELSIUS

An Acknowledgement of Receipt is requested to attain Jackie Contreras

Temp. 2.3, 3.1, 2.1

Date: 1/13/2022

22A118

### Submittal Form

\*REPORTING REQUIREMENTS: Do Not Combine Reports with any other samples submitted under different Folder Numbers! Report & Invoice must have the Folder # 979941 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@eurofinset.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

3 day rush

Sample ID: 202201120762 Sample Date & Time Matrix: 01/10/22 0930 DW PWSID: JLS

Sample type: SW8015C Facility ID: Sample Point ID: Static ID:

Sample ID: 202201120763 Sample Date & Time Matrix: 01/10/22 0930 DW PWSID: JLS

Sample type: SW8015B Facility ID: Sample Point ID: Static ID:

Type of Delivery <input type="checkbox"/> Fedex <input type="checkbox"/> UPS <input type="checkbox"/> GSO <input type="checkbox"/> Others	Airbill / Tracking Number	ECN 22A118
<input type="checkbox"/> EMAX Courier <input checked="" type="checkbox"/> Client Delivery		Recipient <u>maria rivera</u>
		Date <u>01/13/22</u> Time <u>11:40</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 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	<input type="checkbox"/> Custody Seal	<input type="checkbox"/> Intact	<input type="checkbox"/> Damaged
Packaging	<input checked="" type="checkbox"/> Bubble Pack	<input type="checkbox"/> Styrofoam	<input type="checkbox"/> Popcorn
Temperatures (Cool, ≤6 °C but not frozen)	<input checked="" type="checkbox"/> Cooler 1 <u>2.3</u> °C	<input checked="" type="checkbox"/> Cooler 2 <u>3.1</u> °C	<input checked="" type="checkbox"/> Cooler 3 <u>2.1</u> °C
	<input type="checkbox"/> Cooler 4 _____ °C	<input type="checkbox"/> Cooler 5 _____ °C	<input type="checkbox"/> Cooler 6 _____ °C
	<input type="checkbox"/> Cooler 7 _____ °C	<input type="checkbox"/> Cooler 8 _____ °C	<input type="checkbox"/> Cooler 9 _____ °C
	<input type="checkbox"/> Cooler 10 _____ °C		

Thermometer: A - S/N 210191066 a 14/14 B - S/N 210271396 C - S/N 210271399 D - S/N \_\_\_\_\_

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

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

**DISCREPANCIES**

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	8-16	D22		AS
/ 01/13/22				

pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. AS 1/14/22

**NOTES/OBSERVATIONS:**

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- LEGEND:**
- |   |  |   |
|---|--|---|
| <p><b>Code Description- Sample Management</b></p> <ul style="list-style-type: none"> <li>D1 Analysis is not indicated in _____</li> <li>D2 Analysis mismatch COC vs label</li> <li>D3 Sample ID mismatch COC vs label</li> <li>D4 Sample ID is not indicated in _____</li> <li>D5 Container -[improper] [leaking] [broken]</li> <li>D6 Date/Time is not indicated in _____</li> <li>D7 Date/Time mismatch COC vs label</li> <li>D8 Sample listed in COC is not received</li> <li>D9 Sample received is not listed in COC</li> <li>D10 No initial/date on corrections in COC/label</li> <li>D11 Container count mismatch COC vs received</li> <li>D12 Container size mismatch COC vs received</li> </ul> | <p><b>Code Description-Sample Management</b></p> <ul style="list-style-type: none"> <li>D13 Out of Holding Time</li> <li>D14 Bubble is &gt;6mm</li> <li>D15 No trip blank in cooler</li> <li>D16 Preservation not indicated in _____</li> <li>D17 Preservation mismatch COC vs label</li> <li>D18 Insufficient chemical preservative</li> <li>D19 Insufficient Sample</li> <li>D20 No filtration info for dissolved analysis</li> <li>D21 No sample for moisture determination</li> <li>D22 <u>Jet Fuel 8 Analysis not indicated on label</u></li> <li>D23 _____</li> <li>D24 _____</li> </ul> | <p><input type="checkbox"/> Continue to next page.</p> <p><b>Code Description-Sample Management</b></p> <ul style="list-style-type: none"> <li>R1 Proceed as indicated in <input type="checkbox"/> COC <input type="checkbox"/> Label</li> <li>R2 Refer to attached instruction</li> <li>R3 Cancel the analysis</li> <li>R4 Use vial with smallest bubble first</li> <li>R5 Log-in with latest sampling date and time+1 min</li> <li>R6 Adjust pH as necessary</li> <li>R7 Filter and preserved as necessary</li> <li>R8 <u>Informed Client</u></li> <li>R9 _____</li> <li>R10 _____</li> <li>R11 _____</li> <li>R12 _____</li> </ul> |
|---|--|---|

**REVIEWS:**

Sample Labeling <u>Maria Rivera</u>	SRF <u>Capitaw</u>	PM <u>AS</u>
Date <u>01/13/22</u>	Date <u>1/13/22</u>	Date <u>1/14/22</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

979941

METHOD SW8015C  
ALCOHOLS BY GC

SDG#: 22A118

CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 979941

SDG : 22A118

METHOD SW8015C  
ALCOHOLS BY GC

One(1) water sample was received on 01/13/22 to be analyzed for Alcohols by GC in accordance with Method SW8015C 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. MEA003WB - 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. MEA003WL/MEA003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. Ethanol was within MS QC limits in A116-01M/A116-01S. Refer to Matrix QC summary form for details.

Sample Analysis

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



# SAMPLE RESULTS



METHOD SW8015C  
ALCOHOLS BY GC

```
=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: 01/10/22
Project     : 979941                          Date Received: 01/13/22
Batch No.   : 22A118                          Date Extracted: NA
Sample ID   : 202201120762                   Date Analyzed: 01/13/22 19:14
Lab Samp ID: A118-01                          Dilution Factor: 1
Lab File ID: TA13010A                         Matrix          : WATER
Ext Btch ID: MEA003W                          % Moisture     : NA
Calib. Ref.: TA13002A                         Instrument ID   : GCT050
=====
```

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

RL : Reporting Limit

# QC SUMMARIES

METHOD SW8015C  
ALCOHOLS BY GC

```
=====
Client      : EUROFINS EATON ANALYTICAL      Date Collected: NA
Project     : 979941                          Date Received: NA
Batch No.   : 22A118                          Date Extracted: NA
Sample ID   : MBLK1W                          Date Analyzed: 01/13/22 17:51
Lab Samp ID: MEA003WB                         Dilution Factor: 1
Lab File ID: TA13004A                         Matrix          : WATER
Ext Btch ID: MEA003W                          % Moisture     : NA
Calib. Ref.: TA13002A                         Instrument ID  : GCT050
=====
```

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

RL : Reporting Limit

EMAX QUALITY CONTROL DATA  
LCS/LCD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 979941  
BATCH NO.: 22A118  
METHOD: METHOD SW8015C

=====

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: MBLK1W  
LAB SAMP ID: MEA003WB MEA003WL MEA003WC  
LAB FILE ID: TA13004A TA13005A TA13006A  
DATE EXTRACTED: NA NA NA DATE COLLECTED: NA  
DATE ANALYZED: 01/13/2217:51 01/13/2218:06 01/13/2218:19 DATE RECEIVED: NA  
PREP. BATCH: MEA003W MEA003W MEA003W  
CALIB. REF: TA13002A TA13002A TA13002A

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
Ethanol	ND	10000	9130	91	10000	9890	99	8	60-130	30

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT: EUROFINS EATON ANALYTICAL  
PROJECT: 979946  
BATCH NO.: 22A116  
METHOD: METHOD SW8015C

=====

MATRIX: WATER % MOISTURE: NA  
DILUTION FACTOR: 1 1 1  
SAMPLE ID: 202201120772  
LAB SAMP ID: A116-01 A116-01M A116-01S  
LAB FILE ID: TA13007A TA13008A TA13009A  
DATE EXTRACTED: NA NA NA DATE COLLECTED: 01/10/22  
DATE ANALYZED: 01/13/2218:34 01/13/2218:48 01/13/2219:01 DATE RECEIVED: 01/13/22  
PREP. BATCH: MEA003W MEA003W MEA003W  
CALIB. REF: TA13002A TA13002A TA13002A

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD ( % )	QC LIMIT ( % )	MAX RPD ( % )
Ethanol	ND	10000	10300	103	10000	9830	98	5	60-130	30

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

979941

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

SDG#: 22A118

## CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 979941

SDG : 22A118

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

A total of two(2) water samples were received on 01/13/22 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. VG39A07B - 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. VG39A07L/VG39A07C were within LCS limits. Refer to LCS summary form for details.

#### Matrix QC Sample

No matrix QC sample was provided on this SDG. Gasoline was within MS QC limits in A100-01M/A100-01S. 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.





# SAMPLE RESULTS

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

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/10/22 09:30
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 17:20
Sample ID   : 202201120762              Date Analyzed: 01/13/22 17:20
Lab Samp ID : A118-01                    Dilution Factor: 1
Lab File ID : EA12048A                   Matrix: WATER
Ext Btch ID: 22VG39A07                  % Moisture: NA
Calib. Ref.: EA12047A                   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	0.0316	0.0400	79	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: 01/10/22 09:30
Project     : 979941                      Date Received: 01/13/22
Batch No.   : 22A118                      Date Extracted: 01/13/22 17:57
Sample ID   : 202201120763                Date Analyzed: 01/13/22 17:57
Lab Samp ID: A118-02                      Dilution Factor: 1
Lab File ID: EA12049A                    Matrix: WATER
Ext Btch ID: 22VG39A07                   % Moisture: NA
Calib. Ref.: EA12047A                    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	0.0327	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: 01/13/22 05:12
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 05:12
Sample ID   : MBLK1W                     Date Analyzed: 01/13/22 05:12
Lab Samp ID: VG39A07B                    Dilution Factor: 1
Lab File ID: EA12028A                    Matrix: WATER
Ext Btch ID: 22VG39A07                   % Moisture: NA
Calib. Ref.: EA12025A                    Instrument ID: 39
=====

```

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

Notes:

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

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

EMAX QUALITY CONTROL DATA  
LAB CONTROL SAMPLE ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 979941  
BATCH NO. : 22A118  
METHOD : 5030B/8015B

MATRIX : WATER		% MOISTURE:NA
DILUTION FACTOR: 1	1	1
SAMPLE ID : MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID : VG39A07B	VG39A07L	VG39A07C
LAB FILE ID : EA12028A	EA12029A	EA12030A
DATE PREPARED : 01/13/22 05:12	01/13/22 05:49	01/13/22 06:25
DATE ANALYZED : 01/13/22 05:12	01/13/22 05:49	01/13/22 06:25
PREP BATCH : 22VG39A07	22VG39A07	22VG39A07
CALIBRATION REF: EA12025A	EA12025A	EA12025A

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	0.498	100	0.500	0.482	96	3	60-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0427	107	0.0400	0.0427	107	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 : 979513  
BATCH NO. : 22A100  
METHOD : 5030B/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 202201110305                       202201110305MS 202201110305MSD
LAB SAMPLE ID : A100-01                           A100-01M      A100-01S
LAB FILE ID  : EA12039A                           EA12040A      EA12041A
DATE PREPARED : 01/13/22 11:52                    01/13/22 12:28 01/13/22 13:05
DATE ANALYZED : 01/13/22 11:52                    01/13/22 12:28 01/13/22 13:05
PREP BATCH   : 22VG39A07                           22VG39A07     22VG39A07
CALIBRATION REF: EA12036A                           EA12036A      EA12036A
=====

```

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	0.456	91	0.500	0.482	96	6	50-130	30

SURROGATE PARAMETER	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromofluorobenzene	0.0400	0.0415	104	0.0400	0.0413	103	60-140

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

LABORATORY REPORT FOR

EUROFINS EATON ANALYTICAL

979941

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 22A118



CASE NARRATIVE

Client : EUROFINS EATON ANALYTICAL

Project: 979941

SDG : 22A118

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/13/22 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. DSA010WB - 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 DSA010WL. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. One(1) set of MS/MSD was analyzed. Diesel was within MS QC limits in 22A116-01M/22A116-01S. 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: 979941

SDG : 22A118

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/13/22 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. DSA010WB - 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 J5A010WL. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. One(1) set of MS/MSD was analyzed. JP5 was within MS QC limits in 22A116-01M/22A116-01S. 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: 979941

SDG : 22A118

METHOD 3520C/8015B  
PETROLEUM HYDROCARBONS BY EXTRACTION

One(1) water sample was received on 01/13/22 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. DSA010WB - 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 J8A010WL. Refer to LCS summary form for details.

Matrix QC Sample

No matrix QC sample was provided on this SDG. One(1) set of MS/MSD was analyzed. JP8 was within MS QC limits in 22A116-01M/22A116-01S. 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     : 979941
=====
SDG NO.    : 22A118
Instrument ID : D5
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER			Extraction Date/Time	Sample Data FN	Calibration Prep. Data FN	Notes
				Analysis Date/Time	% Moist	Extraction Date/Time				
MBLK1W	DSA010WB	1	NA	01/14/2218:53	01/13/2216:00	01/13/2216:00	LA14012A	LA14004A	22DSA010W Method Blank	
LCS1W	DSA010WL	1	NA	01/14/2219:11	01/13/2216:00	01/13/2216:00	LA14013A	LA14004A	22DSA010W Lab Control Sample (LCS)	
202201120762	A118-01	1	NA	01/14/2222:26	01/13/2216:00	01/13/2216:00	LA14024A	LA14004A	22DSA010W Field Sample	

```

FN      - Filename
% Moist - Percent Moisture

```

LAB CHRONICLE  
PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL
Project     : 979941
SDG NO.    : 22A118
Instrument ID : D5
=====

```

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER			Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
				Analysis DateTime	Extraction DateTime	Sample Data FN					
MBLK1W	DSA010WB	1	NA	01/14/2218:53	01/13/2216:00	LA14012A	LA14005A	22DSA010W	Method Blank		
LCS1W	J5A010WL	1	NA	01/14/2219:28	01/13/2216:00	LA14014A	LA14005A	22DSA010W	Lab Control Sample (LCS)		
202201120762	A118-01	1	NA	01/14/2222:26	01/13/2216:00	LA14024A	LA14005A	22DSA010W	Field Sample		

```

FN      - Filename
% Moist - Percent Moisture

```



# SAMPLE RESULTS

METHOD 3520C/8015B  
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/10/22 09:30
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : 202201120762              Date Analyzed: 01/14/22 22:26
Lab Samp ID : 22A118-01                  Dilution Factor: 1
Lab File ID : LA14024A                   Matrix: WATER
Ext Btch ID : 22DSA010W                  % Moisture: NA
Calib. Ref.: LA14004A                    Instrument ID: D5
=====

```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
Diesel	ND	0.027	0.014	
Motor Oil	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.437	0.545	80	60-130
Hexacosane	0.116	0.136	85	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 : 920ml                      Final Volume : 5ml  
Prepared by : JMuert                        Analyzed by : SDeeso



METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/10/22 09:30
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : 202201120762              Date Analyzed: 01/14/22 22:26
Lab Samp ID: 22A118-01                   Dilution Factor: 1
Lab File ID: LA14024A                     Matrix: WATER
Ext Btch ID: 22DSA010W                    % Moisture: NA
Calib. Ref.: LA14005A                     Instrument ID: D5
=====
    
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP5	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.437	0.545	80	60-130
Hexacosane	0.116	0.136	85	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 : 920ml                      Final Volume : 5ml  
 Prepared by : JMuert                      Analyzed by : SDeeso

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/10/22 09:30
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : 202201120762              Date Analyzed: 01/14/22 22:26
Lab Samp ID : 22A118-01                  Dilution Factor: 1
Lab File ID : LA14024A                   Matrix: WATER
Ext Btch ID : 22DSA010W                  % Moisture: NA
Calib. Ref. : LA14006A                   Instrument ID: D5
=====
  
```

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)	
JP8	ND	0.055	0.027	
SURROGATE PARAMETERS	RESULT	SPK_AMT	%RECOVERY	QC LIMIT
Bromobenzene	0.437	0.545	80	60-130
Hexacosane	0.116	0.136	85	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 : 920ml                      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: 01/13/22 16:00
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : MBLK1W                     Date Analyzed: 01/14/22 18:53
Lab Samp ID: DSA010WB                    Dilution Factor: 1
Lab File ID: LA14012A                    Matrix: WATER
Ext Btch ID: 22DSA010W                    % Moisture: NA
Calib. Ref.: LA14004A                    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	0.386	0.500	77	60-130
Hexacosane	0.109	0.125	87	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 : 979941  
BATCH NO. : 22A118  
METHOD : 3520C/8015B

=====

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSA010WB DSA010WL  
LAB FILE ID : LA14012A LA14013A  
DATE PREPARED : 01/13/22 16:00 01/13/22 16:00  
DATE ANALYZED : 01/14/22 18:53 01/14/22 19:11  
PREP BATCH : 22DSA010W 22DSA010W  
CALIBRATION REF: LA14004A LA14004A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Diesel	ND	2.50	2.39	96	50-130

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.465	93	60-130
Hexacosane	0.125	0.118	94	60-130

MB: Method Blank sample LCS: Lab Control Sample

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/13/22 16:00
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : MBLK1W                     Date Analyzed: 01/14/22 18:53
Lab Samp ID: DSA010WB                    Dilution Factor: 1
Lab File ID: LA14012A                    Matrix: WATER
Ext Btch ID: 22DSA010W                    % Moisture: NA
Calib. Ref.: LA14005A                    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	0.386	0.500	77	60-130
Hexacosane	0.109	0.125	87	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 : 979941  
BATCH NO. : 22A118  
METHOD : 3520C/8015B

=====

MATRIX	: WATER	% MOISTURE:NA
DILUTION FACTOR:	1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: DSA010WB	J5A010WL
LAB FILE ID	: LA14012A	LA14014A
DATE PREPARED	: 01/13/22 16:00	01/13/22 16:00
DATE ANALYZED	: 01/14/22 18:53	01/14/22 19:28
PREP BATCH	: 22DSA010W	22DSA010W
CALIBRATION REF:	LA14005A	LA14005A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
-----	-----	-----	-----	-----	-----
JP5	ND	2.50	2.12	85	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
-----	-----	-----	-----	-----
Bromobenzene	0.500	0.477	95	60-130
Hexacosane	0.125	0.115	92	60-130

=====

MB: Method Blank sample    LCS: Lab Control Sample

METHOD 3520C/8015B  
 PETROLEUM HYDROCARBONS BY EXTRACTION

```

=====
Client      : EUROFINS EATON ANALYTICAL   Date Collected: 01/13/22 16:00
Project     : 979941                     Date Received: 01/13/22
Batch No.   : 22A118                     Date Extracted: 01/13/22 16:00
Sample ID   : MBLK1W                     Date Analyzed: 01/14/22 18:53
Lab Samp ID: DSA010WB                    Dilution Factor: 1
Lab File ID: LA14012A                    Matrix: WATER
Ext Btch ID: 22DSA010W                    % Moisture: NA
Calib. Ref.: LA14006A                    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	0.386	0.500	77	60-130
Hexacosane	0.109	0.125	87	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 : 979941  
BATCH NO. : 22A118  
METHOD : 3520C/8015B

MATRIX : WATER % MOISTURE:NA  
DILUTION FACTOR: 1 1  
SAMPLE ID : MBLK1W LCS1W  
LAB SAMPLE ID : DSA010WB J8A010WL  
LAB FILE ID : LA14012A LA14015A  
DATE PREPARED : 01/13/22 16:00 01/13/22 16:00  
DATE ANALYZED : 01/14/22 18:53 01/14/22 19:46  
PREP BATCH : 22DSA010W 22DSA010W  
CALIBRATION REF: LA14006A LA14006A

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
JP8	ND	2.50	1.99	80	30-160

SURROGATE PARAMETERS	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	QCLimit (%)
Bromobenzene	0.500	0.519	104	60-130
Hexacosane	0.125	0.107	86	60-130

MB: Method Blank sample LCS: Lab Control Sample

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 979946  
BATCH NO. : 22A116  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                               % MOISTURE:NA
DILUTION FACTOR: 1                               1
SAMPLE ID   : 202201120772                       202201120772MSD
LAB SAMPLE ID : 22A116-01                         22A116-01S
LAB FILE ID  : LA14016A                          LA14018A
DATE PREPARED : 01/13/22 16:00                   01/13/22 16:00
DATE ANALYZED : 01/14/22 20:03                   01/14/22 20:39
PREP BATCH   : 22DSA010W                         22DSA010W
CALIBRATION REF: LA14004A                       LA14004A
=====
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Diesel	ND	2.95	2.66	90	2.95	2.70	92	1	50-130	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.590	0.441	75	0.590	0.482	82	60-130
Hexacosane	0.148	0.124	84	0.148	0.128	87	60-130

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

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 979946  
BATCH NO. : 22A116  
METHOD : 3520C/8015B

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: 202201120772	202201120772MS	202201120772MSD
LAB SAMPLE ID	: 22A116-01	22A116-01M	22A116-01S
LAB FILE ID	: LA14016A	LA14019A	LA14020A
DATE PREPARED	: 01/13/22 16:00	01/13/22 16:00	01/13/22 16:00
DATE ANALYZED	: 01/14/22 20:03	01/14/22 20:57	01/14/22 21:15
PREP BATCH	: 22DSA010W	22DSA010W	22DSA010W
CALIBRATION REF:	LA14005A	LA14005A	LA14005A

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP5	ND	2.78	2.37	85	2.80	2.86	102	19	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.555	0.496	89	0.560	0.540	96	60-130
Hexacosane	0.139	0.120	86	0.140	0.126	90	60-130

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

EMAX QUALITY CONTROL DATA  
MS/MSD ANALYSIS

CLIENT : EUROFINS EATON ANALYTICAL  
PROJECT : 979946  
BATCH NO. : 22A116  
METHOD : 3520C/8015B

```

=====
MATRIX      : WATER                                % MOISTURE:NA
DILUTION FACTOR: 1                                1
SAMPLE ID   : 202201120772                        202201120772MSD
LAB SAMPLE ID : 22A116-01                          22A116-01S
LAB FILE ID  : LA14016A                            LA14021A
DATE PREPARED : 01/13/22 16:00                    01/13/22 16:00
DATE ANALYZED : 01/14/22 20:03                    01/14/22 21:50
PREP BATCH   : 22DSA010W                          22DSA010W
CALIBRATION REF: LA14006A                          LA14006A
=====
  
```

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
JP8	ND	2.88	2.41	84	2.88	2.85	99	17	30-160	30

SURROGATE PARAMETERS	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	QCLimit (%)
Bromobenzene	0.575	0.556	97	0.575	0.634	110	60-130
Hexacosane	0.144	0.118	82	0.144	0.125	87	60-130

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