

ANALYTICAL REPORT

Eurofins Eaton Monrovia
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Tel: (626)386-1100

Laboratory Job ID: 380-23768-1

Client Project/Site: RED-HILL

Sampling Event: RUSH Weekly Red Hill

For:

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

Attn: Mr. Erwin Kawata



Authorized for release by:

10/28/2022 6:18:25 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.

1. Laboratory is accredited in accordance with TNI 2016 Standards and ISO/IEC 17025:2017.
2. Laboratory certifies that the test results meet all TNI 2016 and ISO/IEC 17025:2017 requirements unless noted under the individual analysis
3. Test results relate only to the sample(s) tested.
4. This report shall not be reproduced except in full, without the written approval of the laboratory.
5. Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. (DW,Water matrices)



Rachelle Arada
Manager of Project Management
10/28/2022 6:18:25 PM



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Definitions/Glossary

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

Job ID: 380-23768-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Case Narrative

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

Job ID: 380-23768-1

Job ID: 380-23768-1

Laboratory: Eurofins Eaton Monrovia

Narrative

Job Narrative
380-23768-1

Receipt

The sample was received on 10/11/2022 9:45 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°C

HPLC/IC

Method 300_OF_28D_PREC: The matrix spike duplicate (MSD) recovery for analytical batch 380-20359 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Detection Summary

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

Job ID: 380-23768-1

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-23768-1

PWSID Number: HI0000331

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bromide	310		5.0	ug/L	1		300.0	Total/NA
Chloride	75		2.5	mg/L	5		300.0	Total/NA
Nitrate as N	1.1		0.25	mg/L	5		300.0	Total/NA
Nitrate Nitrite as N	1.1		0.25	mg/L	5		300.0	Total/NA
Sulfate	33		1.3	mg/L	5		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

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

Job ID: 380-23768-1

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-23768-1

Date Collected: 10/10/22 09:30

Matrix: Drinking Water

Date Received: 10/11/22 09:45

PWSID Number: HI0000331

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	310		5.0	ug/L			10/14/22 02:08	1
Chloride	75		2.5	mg/L			10/11/22 18:45	5
Nitrate as N	1.1		0.25	mg/L			10/11/22 18:45	5
Nitrate Nitrite as N	1.1		0.25	mg/L			10/11/22 18:45	5
Sulfate	33		1.3	mg/L			10/11/22 18:45	5
Nitrite as N	ND		0.25	mg/L			10/11/22 18:45	5

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride (SM 4500 F C)	ND		0.050	mg/L			10/25/22 21:45	1



Action Limit Summary

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

Job ID: 380-23768-1

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-23768-1

PWSID Number: HI0000331

Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits have been highlighted for your convenience.

Analyte	Result	Qualifier	Unit	EPAMCL Limit	EPAMCLS Limit	RL	Method	Prep Type
Chloride	75		mg/L		250	2.5	300.0	Total/NA
Nitrate as N	1.1		mg/L	10		0.25	300.0	Total/NA
Nitrate Nitrite as N	1.1		mg/L	10		0.25	300.0	Total/NA
Sulfate	33		mg/L		250	1.3	300.0	Total/NA
Nitrite as N	ND		mg/L	1		0.25	300.0	Total/NA
Fluoride	ND		mg/L	4	2	0.050	SM 4500 F C	Total/NA

QC Sample Results

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

Job ID: 380-23768-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 380-20358/4
Matrix: Water
Analysis Batch: 20358

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	mg/L			10/11/22 12:58	1
Nitrate Nitrite as N	ND		0.050	mg/L			10/11/22 12:58	1
Nitrite as N	ND		0.050	mg/L			10/11/22 12:58	1

Lab Sample ID: MB 380-20358/43
Matrix: Water
Analysis Batch: 20358

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.050	mg/L			10/11/22 22:38	1
Nitrate Nitrite as N	ND		0.050	mg/L			10/11/22 22:38	1
Nitrite as N	ND		0.050	mg/L			10/11/22 22:38	1

Lab Sample ID: LCS 380-20358/46
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.52		mg/L		101	90 - 110
Nitrate Nitrite as N	3.50	3.50		mg/L		100	90 - 110
Nitrite as N	1.00	0.976		mg/L		98	90 - 110

Lab Sample ID: LCS 380-20358/7
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.52		mg/L		101	90 - 110
Nitrate Nitrite as N	3.50	3.50		mg/L		100	90 - 110
Nitrite as N	1.00	0.979		mg/L		98	90 - 110

Lab Sample ID: LCSD 380-20358/47
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	2.50	2.56		mg/L		102	90 - 110	2	20
Nitrate Nitrite as N	3.50	3.55		mg/L		102	90 - 110	2	20
Nitrite as N	1.00	0.993		mg/L		99	90 - 110	2	20

Lab Sample ID: LCSD 380-20358/8
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	2.50	2.56		mg/L		102	90 - 110	2	20
Nitrate Nitrite as N	3.50	3.55		mg/L		102	90 - 110	2	20
Nitrite as N	1.00	0.993		mg/L		99	90 - 110	1	20

QC Sample Results

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

Job ID: 380-23768-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 380-20358/4
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	0.0125	0.0106	J	mg/L		85	50 - 150
Nitrate Nitrite as N	0.0250	0.0218	J	mg/L		87	50 - 150
Nitrite as N	0.0125	0.0112	J	mg/L		90	50 - 150

Lab Sample ID: MRL 380-20358/5
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	0.0125	0.0108	J	mg/L		86	50 - 150
Nitrate Nitrite as N	0.0250	0.0221	J	mg/L		88	50 - 150
Nitrite as N	0.0125	0.0113	J	mg/L		90	50 - 150

Lab Sample ID: MRL 380-20358/6
Matrix: Water
Analysis Batch: 20358

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

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Nitrate as N	0.0500	0.0437	J	mg/L		87	50 - 150
Nitrate Nitrite as N	0.100	0.0891		mg/L		89	50 - 150
Nitrite as N	0.0500	0.0454	J	mg/L		91	50 - 150

Lab Sample ID: 380-23309-A-6 MS
Matrix: Water
Analysis Batch: 20358

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Nitrate as N			6.25	7.12		mg/L			
Nitrate Nitrite as N			8.75	9.80		mg/L			
Nitrite as N			2.50	2.68		mg/L			

Lab Sample ID: 380-23309-A-6 MSD
Matrix: Water
Analysis Batch: 20358

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
				Result	Qualifier						
Nitrate as N			6.25	7.18		mg/L					
Nitrate Nitrite as N			8.75	9.89		mg/L					
Nitrite as N			2.50	2.71		mg/L					

Lab Sample ID: MB 380-20359/4
Matrix: Water
Analysis Batch: 20359

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		0.25	mg/L			10/11/22 12:58	1

QC Sample Results

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

Job ID: 380-23768-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 380-20359/43
Matrix: Water
Analysis Batch: 20359

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	mg/L			10/11/22 22:38	1
Sulfate	ND		0.25	mg/L			10/11/22 22:38	1

Lab Sample ID: LCS 380-20359/46
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	25.2		mg/L		101	90 - 110
Sulfate	50.0	51.3		mg/L		103	90 - 110

Lab Sample ID: LCS 380-20359/7
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	25.0	25.1		mg/L		100	90 - 110
Sulfate	50.0	51.2		mg/L		102	90 - 110

Lab Sample ID: LCSD 380-20359/47
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	25.5		mg/L		102	90 - 110	1	20
Sulfate	50.0	52.1		mg/L		104	90 - 110	2	20

Lab Sample ID: LCSD 380-20359/8
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	25.0	25.6		mg/L		102	90 - 110	2	20
Sulfate	50.0	52.1		mg/L		104	90 - 110	2	20

Lab Sample ID: MRL 380-20359/44
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.125	0.0952	J	mg/L		76	50 - 150
Sulfate	0.250	0.225	J	mg/L		90	50 - 150

Lab Sample ID: MRL 380-20359/5
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.125	0.111	J	mg/L		89	50 - 150
Sulfate	0.250	0.231	J	mg/L		92	50 - 150

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QC Sample Results

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

Job ID: 380-23768-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MRL 380-20359/6
Matrix: Water
Analysis Batch: 20359

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	0.500	0.406	J	mg/L		81	50 - 150
Sulfate	1.00	0.898		mg/L		90	50 - 150

Lab Sample ID: 380-23309-A-6 MS
Matrix: Water
Analysis Batch: 20359

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	78	F1	62.5	153		mg/L		120	80 - 120
Sulfate	79	F1	125	228		mg/L		119	80 - 120

Lab Sample ID: 380-23309-A-6 MSD
Matrix: Water
Analysis Batch: 20359

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	78	F1	62.5	153	F1	mg/L		121	80 - 120	0	20
Sulfate	79	F1	125	230	F1	mg/L		121	80 - 120	1	20

Lab Sample ID: MB 380-20669/4
Matrix: Water
Analysis Batch: 20669

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		5.0	ug/L			10/13/22 16:07	1

Lab Sample ID: LCS 380-20669/5
Matrix: Water
Analysis Batch: 20669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	100	102		ug/L		102	90 - 110

Lab Sample ID: LCSD 380-20669/6
Matrix: Water
Analysis Batch: 20669

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	100	99.4		ug/L		99	90 - 110	2	10

Lab Sample ID: MRL 380-20669/3
Matrix: Water
Analysis Batch: 20669

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	5.00	5.25		ug/L		105	75 - 125

QC Sample Results

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

Job ID: 380-23768-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 380-23733-E-2 MS
Matrix: Water
Analysis Batch: 20669

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Bromide	130		50.0	177		ug/L		100	80 - 120

Lab Sample ID: 380-23733-E-2 MSD
Matrix: Water
Analysis Batch: 20669

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromide	130		50.0	177		ug/L		100	80 - 120	0	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 380-22034/6
Matrix: Water
Analysis Batch: 22034

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.050	mg/L			10/25/22 20:48	1

Lab Sample ID: LCS 380-22034/8
Matrix: Water
Analysis Batch: 22034

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.00	1.08		mg/L		108	90 - 110

Lab Sample ID: LCSD 380-22034/9
Matrix: Water
Analysis Batch: 22034

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.00	1.02		mg/L		102	90 - 110	6	10

Lab Sample ID: MRL 380-22034/7
Matrix: Water
Analysis Batch: 22034

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.0500	0.0506		mg/L		101	50 - 150

QC Association Summary

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

Job ID: 380-23768-1

HPLC/IC

Analysis Batch: 20358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23768-1	HALAWA SHAFT VIEW POOL	Total/NA	Drinking Water	300.0	
MB 380-20358/4	Method Blank	Total/NA	Water	300.0	
MB 380-20358/43	Method Blank	Total/NA	Water	300.0	
LCS 380-20358/46	Lab Control Sample	Total/NA	Water	300.0	
LCS 380-20358/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-20358/47	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 380-20358/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-20358/44	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-20358/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-20358/6	Lab Control Sample	Total/NA	Water	300.0	
380-23309-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
380-23309-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 20359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23768-1	HALAWA SHAFT VIEW POOL	Total/NA	Drinking Water	300.0	
MB 380-20359/4	Method Blank	Total/NA	Water	300.0	
MB 380-20359/43	Method Blank	Total/NA	Water	300.0	
LCS 380-20359/46	Lab Control Sample	Total/NA	Water	300.0	
LCS 380-20359/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-20359/47	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 380-20359/8	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-20359/44	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-20359/5	Lab Control Sample	Total/NA	Water	300.0	
MRL 380-20359/6	Lab Control Sample	Total/NA	Water	300.0	
380-23309-A-6 MS	Matrix Spike	Total/NA	Water	300.0	
380-23309-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 20669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23768-1	HALAWA SHAFT VIEW POOL	Total/NA	Drinking Water	300.0	
MB 380-20669/4	Method Blank	Total/NA	Water	300.0	
LCS 380-20669/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 380-20669/6	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 380-20669/3	Lab Control Sample	Total/NA	Water	300.0	
380-23733-E-2 MS	Matrix Spike	Total/NA	Water	300.0	
380-23733-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

General Chemistry

Analysis Batch: 22034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
380-23768-1	HALAWA SHAFT VIEW POOL	Total/NA	Drinking Water	SM 4500 F C	
MB 380-22034/6	Method Blank	Total/NA	Water	SM 4500 F C	
LCS 380-22034/8	Lab Control Sample	Total/NA	Water	SM 4500 F C	
LCSD 380-22034/9	Lab Control Sample Dup	Total/NA	Water	SM 4500 F C	
MRL 380-22034/7	Lab Control Sample	Total/NA	Water	SM 4500 F C	

Lab Chronicle

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

Job ID: 380-23768-1

Client Sample ID: HALAWA SHAFT VIEW POOL

Lab Sample ID: 380-23768-1

Date Collected: 10/10/22 09:30

Matrix: Drinking Water

Date Received: 10/11/22 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	20669	UNJR	EA MON	10/14/22 02:08
Total/NA	Analysis	300.0		5	20358	UNJR	EA MON	10/11/22 18:45
Total/NA	Analysis	300.0		5	20359	LM8C	EA MON	10/11/22 18:45
Total/NA	Analysis	SM 4500 F C		1	22034	ZYV7	EA MON	10/25/22 21:45

Laboratory References:

EA MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100



Accreditation/Certification Summary

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

Job ID: 380-23768-1

Laboratory: Eurofins Eaton Monrovia

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Hawaii	State	CA00006	01-31-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
300.0		Drinking Water	Nitrate Nitrite as N

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Method Summary

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

Job ID: 380-23768-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EA MON
SM 4500 F C	Fluoride	SM	EA MON

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EA MON = Eurofins Eaton Monrovia, 750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016, TEL (626)386-1100



Sample Summary

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

Job ID: 380-23768-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	PWSID Number
380-23768-1	HALAWA SHAFT VIEW POOL	Drinking Water	10/10/22 09:30	10/11/22 09:45	HI0000331

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15


Monrovia, CA (Suite 100)

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

Chain of Custody Record



Environment Testing
 America

Client Information		Sampler: <i>Olaf Happe</i>		Lab PM: Arada, Rachele		Carrier Tracking No(s):		COC No: 380-15739-1845.1					
Client Contact: Dr. Ron Fenstemacher		Phone: <i>808 748 5840</i>		E-Mail: Rachele.Arada@et.eurofinsus.com		State of Origin:		Page: Page 1 of 3					
Company: City & County of Honolulu		PWSID:		Analysis Requested						Job #:			
Address: 630 South Beretania Street Chemistry Lab		Due Date Requested:		Field Filled Samples (Yes or No) 904.1_PREC, 805_LL_PREC 2320B, 2510B, SM4500_H+ 200.7, 200.8 2540C, Calcd - Total Dissolved Solids (TDS) SM4500_SZ_D - Sulfide, Total 524.2_Pres_PREC, 524.2_SIM_PREC 525.2_PREC - 525plus Plus TICs 300_OF_28D_B, 300_OF_28D_PREC, 300_OF_48H_PREC, 4800_F_C 245.1 - Local Method SUBCONTRACT - 8015 Jet Fuel 8 (JP8) SUBCONTRACT - 8015 Jet Fuel 5 (JP5) SUBCONTRACT - 8015 Diesel LL (EAL) and Motor Oil SUBCONTRACT - 8015 Gas (Purgeable) LL (EAL) Total Number of containers:		Preservation Codes:		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)					
City: Honolulu		TAT Requested (days):				Other:							
State, Zip: HI, 96843		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No											
Phone: 808-748-5091(Tel)		PO #: C20525101 exp 05312023											
Email: RFENSTEMACHER@hbws.org		WO #:											
Project Name: RED-HILL		Project #: 38001111											
Site: Hawaii		SSOW#:											
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, G=wastewater, BT=Tissue, A=Air)		Special Instructions/Note:			
										 380-23768 COC			
AIEA GULCH WELLS PUMP 1 (331-201-TP071)													
AIEA GULCH WELLS PUMP 2 (331-202-TP072)													
AIEA WELLS P___ (260) (331-00___-WL10___)													
HALAWA WELLS UNITS 1 & 2 (331-206-TP065)													
MOANALUA WELLS (331-223-TP202)													
HALAWA SHAFT VIEW POOL (331-244-TP401)		<i>4/10/22</i>		<i>930</i>		<i>G</i>							
KAAMILO WELLS (331-261-TP008)													
TB: AIEA GULCH WELLS PUMP 1													
TB: AIEA GULCH WELLS PUMP 2													
TB: AIEA WELLS PUMPS1&2(260)													
TB: HALAWA WELLS UNITS 1 & 2													
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:							
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:							
Relinquished by:		Date/Time:		Company:		Received by: <i>G. RETNER</i>		Date/Time: <i>10/11/2022 09:45</i>		Company: <i>ECA</i>			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:									

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

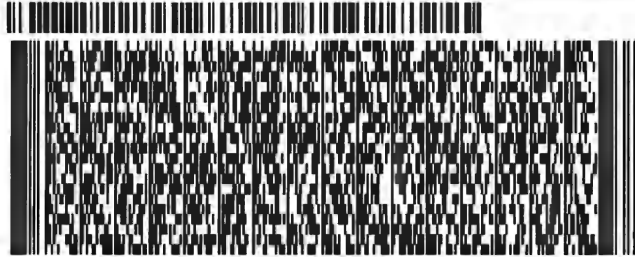
SHIP DATE: 10OCT22
ACTWGT: 25.00 LB
CAD: 100205419/NET4530

BILL RECIPIENT

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

581J1/AC5F/FE2D

(626) 386-1178 REF:
INV. PO. DEPT:

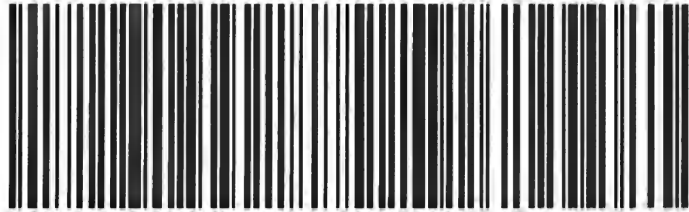


TUE - 11 OCT 10:30A
PRIORITY OVERNIGHT

TRK# 7701 6432 5045
0201

WZ WHPA

91016
CA-US BUR



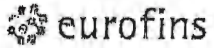
After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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





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 = 649A (Observation = 2.6 °C) (Corr. Factor 0.3 °C) (Final = 2.3 °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:

7701 6432 5045

- 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(5251,552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

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

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

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	G. REITNER	Eurofins Eaton Analytical	10/11/2022	09:45
SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
		Eurofins Eaton Analytical		

Login Sample Receipt Checklist

Client: City & County of Honolulu

Job Number: 380-23768-1

Login Number: 23768

List Source: Eurofins Eaton Monrovia

List Number: 1

Creator: Elyas, Matthew

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Samples do not require splitting or compositing.	True	
Container provided by EEA	True	