Tetra Tech Inc (HI)
737 Bishop St, Suite 2340
Honolulu, Hawaii 96813
Tel: 808-441-6600
Email: Yvonne.parry@Tetratech.com

RE: HDOH Red Hill

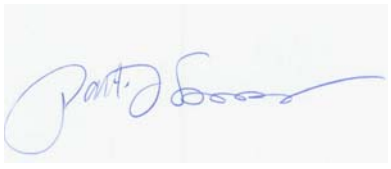
Work Order No.: 2201105

Dear Yvonne Parry:

Torrent Laboratory, Inc. received 1 sample(s) on January 14, 2022 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.



Patti L Sandrock
QA Officer

January 21, 2022
Date

Date: 1/21/2022

Client: Tetra Tech Inc(HI)

Project: HDOH Red Hill

Work Order: 2201105

CASE NARRATIVE

Unless otherwise indicated in the following narrative, no issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Unless otherwise indicated in the following narrative, no results have been method and/or field blank corrected.

Reported results relate only to the items/samples tested by the laboratory.

This report shall not be reproduced, except in full, without the written approval of Torrent Laboratory, Inc

Methane analysis was sub-contracted to ELAP certified laboratory AAC. Sub-contract data will follow under a separate cover.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date Received: 01/14/22
Date Reported: 01/21/22

ERH2420/ RHMW09

2201105-001

Parameters:	Analysis Method	DF	MDL	PQL	Results	Unit
TOC	A5310B	1	0.40	2.0	11.0	mg/L

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	1/19/22 10:32:00AM
Prep Batch ID:	1138480	**Prep Analyst:**	NDUM

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
Pyridine	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
N-Nitrosdimethylamine	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Aniline	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Phenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Bis(2-chloroethyl) ether	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2-Chlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,3-Dichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,4-Dichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Benzyl Alcohol	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,2-Dichlorobenzene	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2-Methylphenol (o-Cresol)	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Bis(2-chloroisopropyl)ether	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
3-/4-Methylphenol (p-/m-Cresol)	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
N-nitroso-di-n-propylamine	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Hexachloroethane	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Nitrobenzene	SW8270	1	0.900	18	ND		ug/L	01/19/22	12:40	TA	462923
Isophorone	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2-Nitrophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,4-Dimethylphenol	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Benzoic Acid	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Bis(2-Chloroethoxy)methane	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,4-Dichlorophenol	SW8270	1	0.180	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,2,4-Trichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,6-Dichlorophenol	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Naphthalene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
4-Chloroaniline	SW8270	1	0.180	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Hexachloro-1,3-butadiene	SW8270	1	0.450	18	ND		ug/L	01/19/22	12:40	TA	462923
4-Chloro-3-methylphenol	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2-Methylnaphthalene	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1-Methylnaphthalene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Hexachlorocyclopentadiene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,4,6-Trichlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,4,5-Trichlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2-Chloronaphthalene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
2-Nitroaniline	SW8270	1	0.900	9.0	ND		ug/L	01/19/22	12:40	TA	462923
1,4-Dinitrobenzene	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Dimethyl phthalate	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,3-Dinitrobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Acenaphthylene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	1/19/22 10:32:00AM
Prep Batch ID:	1138480	**Prep Analyst:**	NDUM

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
2,6-Dinitrotoluene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
1,2-Dinitrobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
3-Nitroaniline	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Acenaphthene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,4-Dinitrophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
4-Nitrophenol	SW8270	1	0.900	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Dibenzofuran	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
2,4-Dinitrotoluene	SW8270	1	0.180	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,3,5,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
2,3,4,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Diethylphthalate	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Fluorene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
4-Chlorophenyl phenyl ether	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
4-Nitroaniline	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
4,6-Dinitro-2-methylphenol	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Diphenylamine	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Azobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
4-Bromophenyl phenyl ether	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Hexachlorobenzene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Pentachlorophenol	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Phenanthrene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Carbazole	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Di-n-butylphthalate	SW8270	1	0.450	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benzidine	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benzyl butyl phthalate	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benz[a]anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
3,3-Dichlorobenzidine	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Chrysene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Bis(2-Ethylhexyl)phthalate	SW8270	1	0.180	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Di-n-octyl phthalate	SW8270	1	0.180	3.6	ND		ug/L	01/19/22	12:40	TA	462923
Benzo[b]fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benzo[k]fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benzo[a]pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Indeno[1,2,3-cd]pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Dibenz[a,h]anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923
Benzo[g,h,i]perylene	SW8270	1	0.180	0.54	ND		ug/L	01/19/22	12:40	TA	462923

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	1/19/22 10:32:00AM
Prep Batch ID:	1138480	**Prep Analyst:**	NDUM

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
			Acceptance Limits								
2-Fluorophenol (S)	SW8270		15 - 105		**44.9**		%	01/19/22	12:40	TA	462923
Phenol-d6 (S)	SW8270		15 - 100		**24.7**		%	01/19/22	12:40	TA	462923
Nitrobenzene-d5 (S)	SW8270		30 - 100		**92.0**		%	01/19/22	12:40	TA	462923
2-Fluorobiphenyl (S)	SW8270		30 - 105		**102**		%	01/19/22	12:40	TA	462923
2,4,6-Tribromophenol (S)	SW8270		15 - 125		**125**		%	01/19/22	12:40	TA	462923
p-Terphenyl-d14 (S)	SW8270		30 - 125		**102**		%	01/19/22	12:40	TA	462923

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	3510_TPH	**Prep Batch Date/Time:**	1/19/22 10:03:00AM
Prep Batch ID:	1138517	**Prep Analyst:**	NDUM

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH as Diesel	SW8015B	1	0.044	0.12	ND	x	mg/L	01/20/22	21:24	SN	462914
TPH as Motor Oil	SW8015B	1	0.13	0.47	ND		mg/L	01/20/22	21:24	SN	462914
			Acceptance Limits								
Pentacosane (S)	SW8015B		59 - 129		**94.2**		%	01/20/22	21:24	SN	462914

NOTE: Reporting limits increased due to limited sample available for extraction
x- Diesel result due to unknown organics within diesel quantified range

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	3510_TPH SG	**Prep Batch Date/Time:**	1/20/22 10:14:00AM
Prep Batch ID:	1138518	**Prep Analyst:**	AKIZ

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH as Diesel (SG)	SW8015B	1	0.044	0.12	ND		mg/L	01/21/22	11:12	SN	462952
TPH as Motor Oil (SG)	SW8015B	1	0.13	0.47	ND		mg/L	01/21/22	11:12	SN	462952
			Acceptance Limits								
Pentacosane (S)	SW8015B		40 - 129		**83.7**		%	01/21/22	11:12	SN	462952

NOTE: Reporting limits increased due to limited sample available for extraction

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001B
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	TOC-W-P	**Prep Batch Date/Time:**	1/18/22 1:00:00PM
Prep Batch ID:	1138476	**Prep Analyst:**	ERAGUDO

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TOC	A5310B	1	0.40	2.0	**11.0**		mg/L	01/18/22	15:20	ERR	462875

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	5030VOC	**Prep Batch Date/Time:**	1/14/22 11:45:00AM
Prep Batch ID:	1138434	**Prep Analyst:**	JZHAO

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
Dichlorodifluoromethane	SW8260B	1	0.26	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Chloromethane	SW8260B	1	0.17	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Vinyl Chloride	SW8260B	1	0.21	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Bromomethane	SW8260B	1	0.21	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Chloroethane	SW8260B	1	0.11	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Trichlorofluoromethane	SW8260B	1	0.19	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1-Dichloroethene	SW8260B	1	0.14	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Freon 113	SW8260B	1	0.34	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Methylene Chloride	SW8260B	1	0.13	1.0	ND		ug/L	01/14/22	19:25	JZ	462836
trans-1,2-Dichloroethene	SW8260B	1	0.16	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
MTBE	SW8260B	1	0.077	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
tert-Butanol	SW8260B	1	2.9	5.0	ND		ug/L	01/14/22	19:25	JZ	462836
DIPE	SW8260B	1	0.12	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1-Dichloroethane	SW8260B	1	0.12	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
ETBE	SW8260B	1	0.064	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
cis-1,2-Dichloroethene	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
2,2-Dichloropropane	SW8260B	1	0.094	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Bromochloromethane	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Chloroform	SW8260B	1	0.12	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Carbon Tetrachloride	SW8260B	1	0.16	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1,1-Trichloroethane	SW8260B	1	0.16	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1-Dichloropropene	SW8260B	1	0.19	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Benzene	SW8260B	1	0.065	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
TAME	SW8260B	1	0.072	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2-Dichloroethane	SW8260B	1	0.11	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Trichloroethylene	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Dibromomethane	SW8260B	1	0.11	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2-Dichloropropane	SW8260B	1	0.089	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Bromodichloromethane	SW8260B	1	0.076	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
cis-1,3-Dichloropropene	SW8260B	1	0.078	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Toluene	SW8260B	1	0.14	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Tetrachloroethylene	SW8260B	1	0.24	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
trans-1,3-Dichloropropene	SW8260B	1	0.22	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1,2-Trichloroethane	SW8260B	1	0.076	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Dibromochloromethane	SW8260B	1	0.18	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,3-Dichloropropane	SW8260B	1	0.22	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2-Dibromoethane	SW8260B	1	0.079	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Chlorobenzene	SW8260B	1	0.16	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Ethylbenzene	SW8260B	1	0.20	0.50	ND		ug/L	01/14/22	19:25	JZ	462836

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	5030VOC	**Prep Batch Date/Time:**	1/14/22	11:45:00AM
Prep Batch ID:	1138434	**Prep Analyst:**	JZHAO	

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
1,1,1,2-Tetrachloroethane	SW8260B	1	0.087	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
m,p-Xylene	SW8260B	1	0.39	1.0	ND		ug/L	01/14/22	19:25	JZ	462836
o-Xylene	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Styrene	SW8260B	1	0.11	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Bromoform	SW8260B	1	0.076	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Isopropyl Benzene	SW8260B	1	0.22	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
n-Propylbenzene	SW8260B	1	0.30	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
Bromobenzene	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,1,2,2-Tetrachloroethane	SW8260B	1	0.079	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
2-Chlorotoluene	SW8260B	1	0.25	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,3,5-Trimethylbenzene	SW8260B	1	0.24	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2,3-Trichloropropane	SW8260B	1	0.15	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
4-Chlorotoluene	SW8260B	1	0.22	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
tert-Butylbenzene	SW8260B	1	0.26	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2,4-Trimethylbenzene	SW8260B	1	0.23	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
sec-Butyl Benzene	SW8260B	1	0.30	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
p-Isopropyltoluene	SW8260B	1	0.27	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,3-Dichlorobenzene	SW8260B	1	0.17	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,4-Dichlorobenzene	SW8260B	1	0.18	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
n-Butylbenzene	SW8260B	1	0.27	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2-Dichlorobenzene	SW8260B	1	0.16	0.50	ND		ug/L	01/14/22	19:25	JZ	462836
1,2-Dibromo-3-Chloropropane	SW8260B	1	0.76	2.0	ND		ug/L	01/14/22	19:25	JZ	462836
Hexachlorobutadiene	SW8260B	1	0.62	2.0	ND		ug/L	01/14/22	19:25	JZ	462836
1,2,4-Trichlorobenzene	SW8260B	1	0.93	2.0	ND		ug/L	01/14/22	19:25	JZ	462836
Naphthalene	SW8260B	1	1.2	2.0	ND		ug/L	01/14/22	19:25	JZ	462836
1,2,3-Trichlorobenzene	SW8260B	1	1.2	2.0	ND		ug/L	01/14/22	19:25	JZ	462836
(S) Dibromofluoromethane	SW8260B		61.2 - 131		**106**		%	01/14/22	19:25	JZ	462836
(S) Toluene-d8	SW8260B		75.1 - 127		**94.5**		%	01/14/22	19:25	JZ	462836
(S) 4-Bromofluorobenzene	SW8260B		64.1 - 120		**95.3**		%	01/14/22	19:25	JZ	462836

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/14/22, 10:55 am
Date Reported: 01/21/22

Client Sample ID:	ERH2420/ RHMW09	**Lab Sample ID:**	2201105-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/12/22 / 10:15		
SDG:			

Prep Method:	5030GRO	**Prep Batch Date/Time:**	1/14/22	11:45:00AM
Prep Batch ID:	1138435	**Prep Analyst:**	JZHAO	

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH(Gasoline)	8260TPH	1	29	50	ND		ug/L	01/14/22	19:25	JZ	462836
(S) 4-Bromofluorobenzene	8260TPH		41.5 - 125		**71.3**		%	01/14/22	19:25	JZ	462836

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	2201105	**Prep Method:**	5030VOC	**Prep Date:**	01/14/22	**Prep Batch:**	1138434
Matrix:	Water	**Analytical Method:**	SW8260B	**Analyzed Date:**	1/14/2022	**Analytical Batch:**	462836
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.26	0.50	ND	
Chloromethane	0.17	0.50	ND	
Vinyl Chloride	0.21	0.50	ND	
Bromomethane	0.21	0.50	ND	
Chloroethane	0.11	0.50	ND	
Trichlorofluoromethane	0.19	0.50	ND	
1,1-Dichloroethene	0.14	0.50	ND	
Freon 113	0.34	0.50	ND	
Methylene Chloride	0.13	1.0	0.30	
trans-1,2-Dichloroethene	0.16	0.50	ND	
MTBE	0.077	0.50	ND	
tert-Butanol	2.9	5.0	ND	
DIPE	0.12	0.50	ND	
1,1-Dichloroethane	0.12	0.50	ND	
ETBE	0.064	0.50	ND	
cis-1,2-Dichloroethene	0.15	0.50	ND	
2,2-Dichloropropane	0.094	0.50	ND	
Bromochloromethane	0.15	0.50	ND	
Chloroform	0.12	0.50	ND	
Carbon Tetrachloride	0.16	0.50	ND	
1,1,1-Trichloroethane	0.16	0.50	ND	
1,1-Dichloropropene	0.19	0.50	ND	
Benzene	0.065	0.50	ND	
TAME	0.072	0.50	ND	
1,2-Dichloroethane	0.11	0.50	ND	
Trichloroethylene	0.15	0.50	ND	
Dibromomethane	0.11	0.50	ND	
1,2-Dichloropropane	0.089	0.50	ND	
Bromodichloromethane	0.076	0.50	ND	
cis-1,3-Dichloropropene	0.078	0.50	ND	
Toluene	0.14	0.50	ND	
Tetrachloroethylene	0.24	0.50	ND	
trans-1,3-Dichloropropene	0.22	0.50	ND	
1,1,2-Trichloroethane	0.076	0.50	ND	
Dibromochloromethane	0.18	0.50	ND	
1,3-Dichloropropane	0.22	0.50	ND	
1,2-Dibromoethane	0.079	0.50	ND	
Chlorobenzene	0.16	0.50	ND	
Ethylbenzene	0.20	0.50	ND	
1,1,1,2-Tetrachloroethane	0.087	0.50	ND	
m,p-Xylene	0.39	1.0	ND	
o-Xylene	0.15	0.50	ND	
Styrene	0.11	0.50	ND	
Bromoform	0.076	0.50	ND	
Isopropyl Benzene	0.22	0.50	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	2201105	**Prep Method:**	5030VOC	**Prep Date:**	01/14/22	**Prep Batch:**	1138434
Matrix:	Water	**Analytical Method:**	SW8260B	**Analyzed Date:**	1/14/2022	**Analytical Batch:**	462836
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
n-Propylbenzene	0.30	0.50	ND	
Bromobenzene	0.15	0.50	ND	
1,1,2,2-Tetrachloroethane	0.079	0.50	ND	
2-Chlorotoluene	0.25	0.50	ND	
1,3,5-Trimethylbenzene	0.24	0.50	ND	
1,2,3-Trichloropropane	0.15	0.50	ND	
4-Chlorotoluene	0.22	0.50	ND	
tert-Butylbenzene	0.26	0.50	ND	
1,2,4-Trimethylbenzene	0.23	0.50	ND	
sec-Butyl Benzene	0.30	0.50	ND	
p-Isopropyltoluene	0.27	0.50	ND	
1,3-Dichlorobenzene	0.17	0.50	ND	
1,4-Dichlorobenzene	0.18	0.50	ND	
n-Butylbenzene	0.27	0.50	ND	
1,2-Dichlorobenzene	0.16	0.50	ND	
1,2-Dibromo-3-Chloropropane	0.76	2.0	ND	
Hexachlorobutadiene	0.62	2.0	ND	
1,2,4-Trichlorobenzene	0.93	2.0	ND	
Naphthalene	1.2	2.0	ND	
1,2,3-Trichlorobenzene	1.2	2.0	ND	
(S) Dibromofluoromethane			105	
(S) Toluene-d8			99.4	
(S) 4-Bromofluorobenzene			103	

Work Order:	2201105	**Prep Method:**	5030GRO	**Prep Date:**	01/14/22	**Prep Batch:**	1138435
Matrix:	Water	**Analytical Method:**	SW8260B	**Analyzed Date:**	1/14/2022	**Analytical Batch:**	462836
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH(Gasoline)	29	50	42	
(S) 4-Bromofluorobenzene			90.6	

Work Order:	2201105	**Prep Method:**	TOC-W-P	**Prep Date:**	01/18/22	**Prep Batch:**	1138476
Matrix:	Water	**Analytical Method:**	A5310B	**Analyzed Date:**	1/18/2022	**Analytical Batch:**	462875
Units:	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TOC	0.40	2.0	0.50	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	2201105	**Prep Method:**	3510_BNASIM	**Prep Date:**	01/19/22	**Prep Batch:**	1138480
Matrix:	Water	**Analytical Method:**	SW8270	**Analyzed Date:**	1/19/2022	**Analytical Batch:**	462923
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Pyridine	0.45	3.6	ND	
N-Nitrosdimethylamine	0.45	3.6	ND	
Aniline	0.90	3.6	ND	
Phenol	0.45	3.6	ND	
Bis(2-chloroethyl) ether	0.90	3.6	ND	
2-Chlorophenol	0.45	3.6	ND	
1,3-Dichlorobenzene	0.45	3.6	ND	
1,4-Dichlorobenzene	0.45	3.6	ND	
Benzyl Alcohol	0.90	3.6	ND	
1,2-Dichlorobenzene	0.90	3.6	ND	
2-Methylphenol (o-Cresol)	0.90	3.6	ND	
Bis(2-chloroisopropyl)ether	0.45	3.6	ND	
3-/4-Methylphenol (p-/m-Cresol)	0.45	3.6	ND	
N-nitroso-di-n-propylamine	0.90	3.6	ND	
Hexachloroethane	0.45	3.6	ND	
Nitrobenzene	0.90	18	ND	
Isophorone	0.90	3.6	ND	
2-Nitrophenol	0.45	3.6	ND	
2,4-Dimethylphenol	0.90	3.6	ND	
Benzoic Acid	0.45	3.6	ND	
Bis(2-Chloroethoxy)methane	0.90	3.6	ND	
2,4-Dichlorophenol	0.18	3.6	ND	
1,2,4-Trichlorobenzene	0.45	3.6	ND	
2,6-Dichlorophenol	0.90	3.6	ND	
Naphthalene	0.18	0.54	ND	
4-Chloroaniline	0.18	3.6	ND	
Hexachloro-1,3-butadiene	0.45	18	ND	
4-Chloro-3-methylphenol	0.90	3.6	ND	
2-Methylnaphthalene	0.90	3.6	ND	
1-Methylnaphthalene	0.45	3.6	ND	
Hexachlorocyclopentadiene	0.45	3.6	ND	
2,4,6-Trichlorophenol	0.45	3.6	ND	
2,4,5-Trichlorophenol	0.45	3.6	ND	
2-Chloronaphthalene	0.18	0.54	ND	
2-Nitroaniline	0.90	9.0	ND	
1,4-Dinitrobenzene	0.90	3.6	ND	
Dimethyl phthalate	0.90	3.6	ND	
1,3-Dinitrobenzene	0.45	3.6	ND	
Acenaphthylene	0.18	0.54	ND	
2,6-Dinitrotoluene	0.45	3.6	ND	
1,2-Dinitrobenzene	0.45	3.6	ND	
3-Nitroaniline	0.45	3.6	ND	
Acenaphthene	0.45	3.6	ND	
2,4-Dinitrophenol	0.45	3.6	ND	
4-Nitrophenol	0.90	3.6	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	2201105	**Prep Method:**	3510_BNASIM	**Prep Date:**	01/19/22	**Prep Batch:**	1138480
Matrix:	Water	**Analytical Method:**	SW8270	**Analyzed Date:**	1/19/2022	**Analytical Batch:**	462923
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dibenzofuran	0.18	0.54	ND	
2,4-Dinitrotoluene	0.18	3.6	ND	
2,3,5,6-Tetrachlorophenol	0.45	3.6	ND	
2,3,4,6-Tetrachlorophenol	0.45	3.6	ND	
Diethylphthalate	0.45	3.6	ND	
Fluorene	0.45	3.6	ND	
4-Chlorophenyl phenyl ether	0.45	3.6	ND	
4-Nitroaniline	0.45	3.6	ND	
4,6-Dinitro-2-methylphenol	0.45	3.6	ND	
Diphenylamine	0.45	3.6	ND	
Azobenzene	0.45	3.6	ND	
4-Bromophenyl phenyl ether	0.45	3.6	ND	
Hexachlorobenzene	0.18	0.54	ND	
Pentachlorophenol	0.18	0.54	ND	
Phenanthrene	0.18	0.54	ND	
Anthracene	0.18	0.54	ND	
Carbazole	0.18	0.54	ND	
Di-n-butylphthalate	0.45	3.6	ND	
Fluoranthene	0.18	0.54	ND	
Benzidine	0.18	0.54	ND	
Pyrene	0.18	0.54	ND	
Benzyl butyl phthalate	0.18	0.54	ND	
Benz[a]anthracene	0.18	0.54	ND	
3,3-Dichlorobenzidine	0.18	0.54	ND	
Chrysene	0.18	0.54	ND	
Bis(2-Ethylhexyl)phthalate	0.18	3.6	ND	
Di-n-octyl phthalate	0.18	3.6	ND	
Benzo[b]fluoranthene	0.18	0.54	ND	
Benzo[k]fluoranthene	0.18	0.54	ND	
Benzo[a]pyrene	0.18	0.54	ND	
Indeno[1,2,3-cd]pyrene	0.18	0.54	ND	
Dibenz[a,h]anthracene	0.18	0.54	ND	
Benzo[g,h,i]perylene	0.18	0.54	ND	
2-Fluorophenol (S)			51.9	
Phenol-d6 (S)			30.1	
Nitrobenzene-d5 (S)			96.4	
2-Fluorobiphenyl (S)			105	
2,4,6-Tribromophenol (S)			119	
p-Terphenyl-d14 (S)			113	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	2201105	**Prep Method:**	3510_TPH	**Prep Date:**	01/19/22	**Prep Batch:**	1138517
Matrix:	Water	**Analytical Method:**	SW8015B	**Analyzed Date:**	1/20/2022	**Analytical Batch:**	462914
Units:	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH as Diesel	0.037	0.10	ND	
TPH as Motor Oil	0.11	0.40	ND	
Pentacosane (S)			95.1	

Work Order:	2201105	**Prep Method:**	3510_TPH SG	**Prep Date:**	01/20/22	**Prep Batch:**	1138518
Matrix:	Water	**Analytical Method:**	SW8015B	**Analyzed Date:**	1/20/2022	**Analytical Batch:**	462920
Units:	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH as Diesel (SG)	0.037	0.10	ND	
TPH as Motor Oil (SG)	0.11	0.40	ND	
Pentacosane (S)			92.0	

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	2201105	**Prep Method:**	5030VOC	**Prep Date:**	01/14/22	**Prep Batch:**	1138434
Matrix:	Water	**Analytical Method:**	SW8260B	**Analyzed Date:**	1/14/2022	**Analytical Batch:**	462836
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.14	0.50	ND	17.9	97.7	100	2.83	61.4 - 129	30	
Benzene	0.16	0.50	ND	17.9	103	107	3.73	66.9 - 140	30	
Trichloroethylene	0.15	0.50	ND	17.9	97.9	103	4.47	69.3 - 144	30	
Toluene	0.14	0.50	ND	17.9	106	111	5.15	76.6 - 123	30	
Chlorobenzene	0.16	0.50	ND	17.9	99.9	103	3.86	73.9 - 137	30	
(S) Dibromofluoromethane				17.9	96.8	97.9		61.2 - 131		
(S) Toluene-d8				17.9	103	106		75.1 - 127		
(S) 4-Bromofluorobenzene				17.9	92.9	96.6		64.1 - 120		

Work Order:	2201105	**Prep Method:**	5030GRO	**Prep Date:**	01/14/22	**Prep Batch:**	1138435
Matrix:	Water	**Analytical Method:**	SW8260B	**Analyzed Date:**	1/14/2022	**Analytical Batch:**	462836
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH(Gasoline)	29	50	42	238	101	95.1	5.59	52.4 - 127	30	
(S) 4-Bromofluorobenzene				11.9	100	99.5		41.5 - 125		

Work Order:	2201105	**Prep Method:**	TOC-W-P	**Prep Date:**	01/18/22	**Prep Batch:**	1138476
Matrix:	Water	**Analytical Method:**	A5310B	**Analyzed Date:**	1/18/2022	**Analytical Batch:**	462875
Units:	mg/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TOC	0.40	2.0	0.50	10	99.8	98.3	1.51	80 - 120	20	

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	2201105	**Prep Method:**	3510_BNASIM	**Prep Date:**	01/19/22	**Prep Batch:**	1138480
Matrix:	Water	**Analytical Method:**	SW8270	**Analyzed Date:**	1/19/2022	**Analytical Batch:**	462923
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
Phenol	0.45	3.6	ND	2.000	28.2	30.1	6.35	15 - 95	30	
2-Chlorophenol	0.45	3.6	ND	2.000	63.4	69.8	9.74	15 - 105	30	
1,4-Dichlorobenzene	0.45	3.6	ND	2.000	67.0	67.2	0.000	35 - 105	30	
N-nitroso-di-n-propylamine	0.90	3.6	ND	2.000	81.7	84.5	3.61	40 - 115	30	
1,2,4-Trichlorobenzene	0.45	3.6	ND	2.000	77.0	77.6	0.647	45 - 110	30	
4-Chloro-3-methylphenol	0.90	3.6	ND	2.000	72.4	77.5	6.67	15 - 110	30	
Acenaphthene	0.18	0.54	ND	2.000	83.0	84.7	6.35	45 - 110	30	
4-Nitrophenol	0.90	3.6	ND	2.000	81.3	89.7	9.36	15 - 140	30	
2,4-Dinitrotoluene	0.18	0.54	ND	2.000	91.0	93.9	3.24	40 - 115	30	
Pentachlorophenol	0.18	0.54	ND	2.000	119	119	3.52	15 - 120	30	
Pyrene	0.18	0.54	ND	2.000	89.3	88.7	1.12	45 - 125	30	
2-Fluorophenol (S)				1111	51.6	56.9		15 - 105		
Phenol-d6 (S)				1111	30.7	35.1		15 - 100		
Nitrobenzene-d5 (S)				555.6	100	102		30 - 105		
2-Fluorobiphenyl (S)				555.6	98.2	98.4		30 - 105		
2,4,6-Tribromophenol (S)				1111	123	124		15 - 125		
p-Terphenyl-d14 (S)				555.6	107	107		30 - 125		

Work Order:	2201105	**Prep Method:**	3510_TPH	**Prep Date:**	01/19/22	**Prep Batch:**	1138517
Matrix:	Water	**Analytical Method:**	SW8015B	**Analyzed Date:**	1/20/2022	**Analytical Batch:**	462914
Units:	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Diesel	0.037	0.10	ND	1.0	74.3	66.5	11.1	52 - 115	30	
Pentacosane (S)				200	100	98.1		59 - 129		

Work Order:	2201105	**Prep Method:**	3510_TPH SG	**Prep Date:**	01/20/22	**Prep Batch:**	1138518
Matrix:	Water	**Analytical Method:**	SW8015B	**Analyzed Date:**	1/20/2022	**Analytical Batch:**	462920
Units:	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH as Diesel (SG)	0.037	0.10	ND	1.0	75.9	66.6	13.1	42 - 115	30	
TPH as Motor Oil (SG)			ND	200				40 - 129		

Torrent LABORATORY, INC.

Duplicate QC Summary Report

Work Order:	2201105	**Prep Method:**	TOC-W-P	**Prep Date:**	1/18/2022	**Prep Batch:**	1138476
Matrix:		**Analytical Method:**	A5310B	**Analyzed Date:**	01/18/22	**Analytical Batch:**	462875
Units:						**Lab Sample ID:**	2201105-001B-DUP-1138476

Parameters	MDL	PQL	Sample Result	Duplicate Result	% RPD	
TOC	0.40	2.0	11.0	11.3	2.69	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit/Reporting Limit/Limit of Quantitation (PQL/RL/LOQ) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs/RLs/LODs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg/m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS

B - Indicates when the analyte is found in the associated method or preparation blank
D - Surrogate is not recoverable due to the necessary dilution of the sample
E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
H- Indicates that the recommended holding time for the analyte or compound has been exceeded
J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
NA - Not Analyzed
N/A - Not Applicable
ND - Not Detected at a concentration greater than the PQL/RL or, if reported to the MDL, at greater than the MDL.
NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Tetra Tech Inc (HI)

Project Name: HDOH Red Hill

Work Order No.: 2201105

Date and Time Received: 1/14/2022 10:55:00AM

Received By: Nutan Kabir

Physically Logged By: Nutan Kabir

Checklist Completed By: Nutan Kabir

Carrier Name: FedEx

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes		
Container/Temp Blank temperature in compliance?		Temperature:	3.0 °C
Water-VOA vials have zero headspace?	Yes		
Water-pH acceptable upon receipt?	Yes		

pH Checked by: na

pH Adjusted by: na

Comments:

Temperature blank at 3.7' C

Login Summary Report

Client ID: TL5162 Tetra Tech Inc (HI)
Project Name: HDOH Red Hill
Project # : 103S518817512
Report Due Date: 1/21/2022

QC Level: II
TAT Requested: 5+ day:5
Date Received: 1/14/2022
Time Received: 10:55 am

Comments:

Work Order # : ***2201105***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
2201105-001A	ERH2420/ RHMW09	01/12/22 10:15	Water	02/26/22			SVOC_W_SIMFull TPHDOSG_W_8015B TPHDO_W_8015B(M)	
2201105-001B	ERH2420/ RHMW09	01/12/22 10:15	Water	02/26/22			TOC_5310B	
2201105-001C	ERH2420/ RHMW09	01/12/22 10:15	Water	02/26/22			VOC_W_8260B VOC_W_GRO	
2201105-001D	ERH2420/ RHMW09	01/12/22 10:15	Water	02/26/22			Sub_RSK-175	Yes

Torrent LABORATORY, INC.

CHAIN-OF-CUSTODY RECORD

TETRA TECH

2201105

Client Name/Account #: TetraTech, Inc.
Address: 737 Bishop St., Suite 2340
City/State/Zip: Honolulu, HI 96813
Project Manager: Yvonne Parry
Telephone Number: 808.393.8829 email yvonne.parry@tetratech.com
Sampler Name: (Print) Anay Shende
Sampler Signature: Anay Shende

Report To: Yvonne Parry
Invoice To: Yvonne Parry
Project ID: HDOH Red Hill
Project #: 103S518817512

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Multi-incremental Sample	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (VOA; Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (1-L Amber)	Preservative: Other (one MeOH VOA)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: Analyses pending	TPH-G EPA 8260	TPH-D,O EPA 8015	TPH-sgc EPA 3630/8015	VOCs EPA 8260	SVOC EPA 8270 SIM	TOC EPA9060A	METHANE RSK175M	LEAD SCAVENGER EPA 8011/8260			RUSH TAT (Pre-Schedule)	Standard TAT	SAMPLER	
001A-D ERH2420 / RHMW09	1/12/22	1015	9	X			X		6				3		X							X	X	X	X	X	X	X	X				X	AS	

Special Instructions:

Method of Shipment: FEDEX

Laboratory Comments:
Temperature Upon Receipt: 3.7°C #2
VOCs Free of Headspace? Y N

Relinquished by:	Date	Time	Received by:	Date	Time
EM Jensen Eric Jensen	1/13/2022	1030	N-S Qudy	1/14/22	10:55 AM
Relinquished by:	Date	Time	Received by Laboratory:	Date	Time

FedEx.

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