



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

Work Order No.: 2201060

Dear Yvonne Parry:

Torrent Laboratory, Inc. received 1 sample(s) on January 11, 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.

A handwritten signature in blue ink, appearing to read "Patti L Sandrock", is written over a light blue horizontal line.

Patti L Sandrock
QA Officer

January 18, 2022

Date



Date: 1/18/2022

Client: Tetra Tech Inc(HI)

Project: HDOH Red Hill

Work Order: 2201060

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.



Sample Result Summary

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

Date Received: 01/11/22

Date Reported: 01/18/22

2201060-001

ERH2362/RHMW09

<u>Parameters:</u>	<u>Analysis Method</u>	<u>DF</u>	<u>MDL</u>	<u>PQL</u>	<u>Results</u>	<u>Unit</u>
TOC	A5310B	1	0.40	2.0	9.99	mg/L
TPH as Diesel	SW8015B	1	0.037	0.10	0.136	mg/L



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am

Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 3510_BNASIM	Prep Batch Date/Time: 1/11/22	2:43:00PM
Prep Batch ID: 1138304	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	01/12/22	15:51	TA	462748
N-Nitrosdimethylamine	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Aniline	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Phenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Bis(2-chloroethyl) ether	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2-Chlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1,3-Dichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1,4-Dichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Benzyl Alcohol	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1,2-Dichlorobenzene	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2-Methylphenol (o-Cresol)	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Bis(2-chloroisopropyl)ether	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
3-/4-Methylphenol (p-/m-Cresol)	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
N-nitroso-di-n-propylamine	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Hexachloroethane	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Nitrobenzene	SW8270	1	0.900	18	ND		ug/L	01/12/22	15:51	TA	462748
Isophorone	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2-Nitrophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,4-Dimethylphenol	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Benzoic Acid	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Bis(2-Chloroethoxy)methane	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,4-Dichlorophenol	SW8270	1	0.180	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1,2,4-Trichlorobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,6-Dichlorophenol	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Naphthalene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
4-Chloroaniline	SW8270	1	0.180	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Hexachloro-1,3-butadiene	SW8270	1	0.450	18	ND		ug/L	01/12/22	15:51	TA	462748
4-Chloro-3-methylphenol	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2-Methylnaphthalene	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1-Methylnaphthalene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Hexachlorocyclopentadiene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,4,6-Trichlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,4,5-Trichlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2-Chloronaphthalene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
2-Nitroaniline	SW8270	1	0.900	9.0	ND		ug/L	01/12/22	15:51	TA	462748
1,4-Dinitrobenzene	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Dimethyl phthalate	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
1,3-Dinitrobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Acenaphthylene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am

Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 3510_BNASIM	Prep Batch Date/Time: 1/11/22	2:43:00PM
Prep Batch ID: 1138304	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	01/12/22	15:51	TA	462748
1,2-Dinitrobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
3-Nitroaniline	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Acenaphthene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,4-Dinitrophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
4-Nitrophenol	SW8270	1	0.900	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Dibenzofuran	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
2,4-Dinitrotoluene	SW8270	1	0.180	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,3,5,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
2,3,4,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Diethylphthalate	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Fluorene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
4-Chlorophenyl phenyl ether	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
4-Nitroaniline	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
4,6-Dinitro-2-methylphenol	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Diphenylamine	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Azobenzene	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
4-Bromophenyl phenyl ether	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Hexachlorobenzene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Pentachlorophenol	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Phenanthrene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Carbazole	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Di-n-butylphthalate	SW8270	1	0.450	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benzidine	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benzyl butyl phthalate	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benz[a]anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
3,3-Dichlorobenzidine	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Chrysene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Bis(2-Ethylhexyl)phthalate	SW8270	1	0.180	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Di-n-octyl phthalate	SW8270	1	0.180	3.6	ND		ug/L	01/12/22	15:51	TA	462748
Benzo[b]fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benzo[k]fluoranthene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benzo[a]pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Indeno[1,2,3-cd]pyrene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Dibenz[a,h]anthracene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748
Benzo[g,h,i]perylene	SW8270	1	0.180	0.54	ND		ug/L	01/12/22	15:51	TA	462748



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am

Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 3510_BNASIM	Prep Batch Date/Time: 1/11/22	2:43:00PM
Prep Batch ID: 1138304	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		49.5		%	01/12/22	15:51	TA	462748
Phenol-d6 (S)	SW8270		15 - 100		27.7		%	01/12/22	15:51	TA	462748
Nitrobenzene-d5 (S)	SW8270		30 - 100		102	S	%	01/12/22	15:51	TA	462748
2-Fluorobiphenyl (S)	SW8270		30 - 105		113	S	%	01/12/22	15:51	TA	462748
2,4,6-Tribromophenol (S)	SW8270		15 - 125		122		%	01/12/22	15:51	TA	462748
p-Terphenyl-d14 (S)	SW8270		30 - 125		119		%	01/12/22	15:51	TA	462748

NOTE: S-surrogate outside of control limits due to possible matrix interference



SAMPLE RESULTS

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

Date/Time Received: 01/11/22, 11:50 am
Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 3510_TPH	Prep Batch Date/Time: 1/11/22	1:29:00PM
Prep Batch ID: 1138302	Prep Analyst:	AKIZ

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH as Diesel	SW8015B	1	0.037	0.10	0.136	x	mg/L	01/11/22	23:05	SN	462744
TPH as Motor Oil	SW8015B	1	0.11	0.40	ND		mg/L	01/11/22	23:05	SN	462744
Acceptance Limits											
Pentacosane (S)	SW8015B		59 - 129		128		%	01/11/22	23:05	SN	462744

NOTE: x- Diesel result due to unknown organics slightly heavier than diesel and presence of discrete peaks within diesel quantified range quantified as diesel.



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am
Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 3510_TPH SG	Prep Batch Date/Time: 1/11/22	3:46:00PM
Prep Batch ID: 1138307	Prep Analyst:	AKIZ

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH as Diesel (SG)	SW8015B	1	0.037	0.10	ND		mg/L	01/13/22	15:53	SN	462786
TPH as Motor Oil (SG)	SW8015B	1	0.11	0.40	ND		mg/L	01/13/22	15:53	SN	462786
			Acceptance Limits								
Pentacosane (S)	SW8015B		40 - 129		110		%	01/13/22	15:53	SN	462786



SAMPLE RESULTS

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

Date/Time Received: 01/11/22, 11:50 am
Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001B
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
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	9.99		mg/L	01/18/22	15:05	ERR	462875



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am

Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 5030VOC	Prep Batch Date/Time: 1/11/22	11:28:00AM
Prep Batch ID: 1138309	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	01/11/22	18:39	JZ	462735
Chloromethane	SW8260B	1	0.17	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Vinyl Chloride	SW8260B	1	0.21	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Bromomethane	SW8260B	1	0.21	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Chloroethane	SW8260B	1	0.11	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Trichlorofluoromethane	SW8260B	1	0.19	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1-Dichloroethene	SW8260B	1	0.14	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Freon 113	SW8260B	1	0.34	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Methylene Chloride	SW8260B	1	0.13	1.0	ND		ug/L	01/11/22	18:39	JZ	462735
trans-1,2-Dichloroethene	SW8260B	1	0.16	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
MTBE	SW8260B	1	0.077	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
tert-Butanol	SW8260B	1	2.9	5.0	ND		ug/L	01/11/22	18:39	JZ	462735
DIPE	SW8260B	1	0.12	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1-Dichloroethane	SW8260B	1	0.12	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
ETBE	SW8260B	1	0.064	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
cis-1,2-Dichloroethene	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
2,2-Dichloropropane	SW8260B	1	0.094	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Bromochloromethane	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Chloroform	SW8260B	1	0.12	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Carbon Tetrachloride	SW8260B	1	0.16	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1,1-Trichloroethane	SW8260B	1	0.16	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1-Dichloropropene	SW8260B	1	0.19	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Benzene	SW8260B	1	0.065	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
TAME	SW8260B	1	0.072	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2-Dichloroethane	SW8260B	1	0.11	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Trichloroethylene	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Dibromomethane	SW8260B	1	0.11	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2-Dichloropropane	SW8260B	1	0.089	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Bromodichloromethane	SW8260B	1	0.076	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
cis-1,3-Dichloropropene	SW8260B	1	0.078	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Toluene	SW8260B	1	0.14	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Tetrachloroethylene	SW8260B	1	0.24	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
trans-1,3-Dichloropropene	SW8260B	1	0.22	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1,2-Trichloroethane	SW8260B	1	0.076	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Dibromochloromethane	SW8260B	1	0.18	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,3-Dichloropropane	SW8260B	1	0.22	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2-Dibromoethane	SW8260B	1	0.079	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Chlorobenzene	SW8260B	1	0.16	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Ethylbenzene	SW8260B	1	0.20	0.50	ND		ug/L	01/11/22	18:39	JZ	462735



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am

Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 5030VOC	Prep Batch Date/Time: 1/11/22	11:28:00AM
Prep Batch ID: 1138309	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	01/11/22	18:39	JZ	462735
m,p-Xylene	SW8260B	1	0.39	1.0	ND		ug/L	01/11/22	18:39	JZ	462735
o-Xylene	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Styrene	SW8260B	1	0.11	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Bromoform	SW8260B	1	0.076	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Isopropyl Benzene	SW8260B	1	0.22	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
n-Propylbenzene	SW8260B	1	0.30	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
Bromobenzene	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,1,2,2-Tetrachloroethane	SW8260B	1	0.079	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
2-Chlorotoluene	SW8260B	1	0.25	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,3,5-Trimethylbenzene	SW8260B	1	0.24	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2,3-Trichloropropane	SW8260B	1	0.15	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
4-Chlorotoluene	SW8260B	1	0.22	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
tert-Butylbenzene	SW8260B	1	0.26	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2,4-Trimethylbenzene	SW8260B	1	0.23	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
sec-Butyl Benzene	SW8260B	1	0.30	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
p-Isopropyltoluene	SW8260B	1	0.27	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,3-Dichlorobenzene	SW8260B	1	0.17	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,4-Dichlorobenzene	SW8260B	1	0.18	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
n-Butylbenzene	SW8260B	1	0.27	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2-Dichlorobenzene	SW8260B	1	0.16	0.50	ND		ug/L	01/11/22	18:39	JZ	462735
1,2-Dibromo-3-Chloropropane	SW8260B	1	0.76	2.0	ND		ug/L	01/11/22	18:39	JZ	462735
Hexachlorobutadiene	SW8260B	1	0.62	2.0	ND		ug/L	01/11/22	18:39	JZ	462735
1,2,4-Trichlorobenzene	SW8260B	1	0.93	2.0	ND		ug/L	01/11/22	18:39	JZ	462735
Naphthalene	SW8260B	1	1.2	2.0	ND		ug/L	01/11/22	18:39	JZ	462735
1,2,3-Trichlorobenzene	SW8260B	1	1.2	2.0	ND		ug/L	01/11/22	18:39	JZ	462735
(S) Dibromofluoromethane	SW8260B		61.2 - 131		108		%	01/11/22	18:39	JZ	462735
(S) Toluene-d8	SW8260B		75.1 - 127		93.9		%	01/11/22	18:39	JZ	462735
(S) 4-Bromofluorobenzene	SW8260B		64.1 - 120		97.5		%	01/11/22	18:39	JZ	462735



SAMPLE RESULTS

Report prepared for:

Yvonne Parry
Tetra Tech Inc (HI)

Date/Time Received: 01/11/22, 11:50 am
Date Reported: 01/18/22

Client Sample ID:	ERH2362/RHMW09	Lab Sample ID:	2201060-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	01/07/22 / 12:00		
SDG:			

Prep Method: 5030GRO	Prep Batch Date/Time: 1/11/22	11:28:00AM
Prep Batch ID: 1138310	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	01/11/22	18:39	JZ	462735
(S) 4-Bromofluorobenzene	8260TPH		41.5 - 125		93.9		%	01/11/22	18:39	JZ	462735



MB Summary Report

Work Order:	2201060	Prep Method:	3510_TPH	Prep Date:	01/11/22	Prep Batch:	1138302
Matrix:	Water	Analytical Method:	SW8015B	Analyzed Date:	1/11/2022	Analytical Batch:	462744
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	0.114	
Pentacosane (S)			87.3	

Work Order:	2201060	Prep Method:	3510_BNASIM	Prep Date:	01/11/22	Prep Batch:	1138304
Matrix:	Water	Analytical Method:	SW8270	Analyzed Date:	1/11/2022	Analytical Batch:	462743
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Pyridine	0.45	3.6	ND	
N-Nitrosodimethylamine	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	



MB Summary Report

Work Order:	2201060	Prep Method:	3510_BNASIM	Prep Date:	01/11/22	Prep Batch:	1138304
Matrix:	Water	Analytical Method:	SW8270	Analyzed Date:	1/11/2022	Analytical Batch:	462743
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
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	
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	
Benzo[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)			52.3	



MB Summary Report

Work Order:	2201060	Prep Method:	3510_BNASIM	Prep Date:	01/11/22	Prep Batch:	1138304
Matrix:	Water	Analytical Method:	SW8270	Analyzed Date:	1/11/2022	Analytical Batch:	462743
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Phenol-d6 (S)			32.1	
Nitrobenzene-d5 (S)			99.0	
2-Fluorobiphenyl (S)			100	
2,4,6-Tribromophenol (S)			105	
p-Terphenyl-d14 (S)			122	

Work Order:	2201060	Prep Method:	3510_TPH SG	Prep Date:	01/11/22	Prep Batch:	1138307
Matrix:	Water	Analytical Method:	SW8015B	Analyzed Date:	1/13/2022	Analytical Batch:	462786
Units:	mg/Kg						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH as Diesel (SG)	0.037	0.10	0.0475	
TPH as Motor Oil (SG)	0.11	0.40	0.181	
Pentacosane (S)			83.7	



MB Summary Report

Work Order:	2201060	Prep Method:	5030VOC	Prep Date:	01/11/22	Prep Batch:	1138309
Matrix:	Water	Analytical Method:	SW8260B	Analyzed Date:	1/11/2022	Analytical Batch:	462735
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	ND	
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	



MB Summary Report

Work Order:	2201060	Prep Method:	5030VOC	Prep Date:	01/11/22	Prep Batch:	1138309
Matrix:	Water	Analytical Method:	SW8260B	Analyzed Date:	1/11/2022	Analytical Batch:	462735
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			103		
(S) Toluene-d8			94.1		
(S) 4-Bromofluorobenzene			98.5		

Work Order:	2201060	Prep Method:	5030GRO	Prep Date:	01/11/22	Prep Batch:	1138310
Matrix:	Water	Analytical Method:	SW8260B	Analyzed Date:	1/11/2022	Analytical Batch:	462735
Units:	ug/L						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
TPH(Gasoline)	29	50	ND		
(S) 4-Bromofluorobenzene			72.3		

Work Order:	2201060	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		



LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	2201060	Prep Method:	3510_TPH	Prep Date:	01/11/22	Prep Batch:	1138302
Matrix:	Water	Analytical Method:	SW8015B	Analyzed Date:	1/11/2022	Analytical Batch:	462744
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	73.6	91.1	21.3	52 - 115	30	
Pentacosane (S)				200	71.4	90.6		59 - 129		

Work Order:	2201060	Prep Method:	3510_BNASIM	Prep Date:	01/11/22	Prep Batch:	1138304
Matrix:	Water	Analytical Method:	SW8270	Analyzed Date:	1/11/2022	Analytical Batch:	462743
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	26.4	26.3	0.380	15 - 95	30	
2-Chlorophenol	0.45	3.6	ND	2.000	58.4	58.5	0.000	15 - 105	30	
1,4-Dichlorobenzene	0.45	3.6	ND	2.000	67.4	68.8	2.20	35 - 105	30	
N-nitroso-di-n-propylamine	0.90	3.6	ND	2.000	87.3	89.1	1.70	40 - 115	30	
1,2,4-Trichlorobenzene	0.45	3.6	ND	2.000	72.1	74.8	4.08	45 - 110	30	
4-Chloro-3-methylphenol	0.90	3.6	ND	2.000	67.7	69.3	2.92	15 - 110	30	
Acenaphthene	0.18	0.54	ND	2.000	83.0	83.8	0.380	45 - 110	30	
4-Nitrophenol	0.90	3.6	ND	2.000	75.0	77.9	3.92	15 - 140	30	
2,4-Dinitrotoluene	0.18	0.54	ND	2.000	90.2	91.5	1.65	40 - 115	30	
Pentachlorophenol	0.18	0.54	ND	2.000	99.4	103	3.46	15 - 120	30	
Pyrene	0.18	0.54	ND	2.000	91.9	93.7	2.15	45 - 125	30	
2-Fluorophenol (S)				1111	47.1	52.2		15 - 105		
Phenol-d6 (S)				1111	32.0	32.8		15 - 100		
Nitrobenzene-d5 (S)				555.6	91.3	94.4		30 - 100		
2-Fluorobiphenyl (S)				555.6	101	105		30 - 105		
2,4,6-Tribromophenol (S)				1111	121	124		15 - 125		
p-Terphenyl-d14 (S)				555.6	115	119		30 - 125		

Work Order:	2201060	Prep Method:	3510_TPH SG	Prep Date:	01/11/22	Prep Batch:	1138307
Matrix:	Water	Analytical Method:	SW8015B	Analyzed Date:	1/13/2022	Analytical Batch:	462786
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	0.0475	1.0	45.4	53.3	16.0	42 - 115	30	
TPH as Motor Oil (SG)			0.181	200				40 - 129		



LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	2201060	Prep Method:	5030VOC	Prep Date:	01/11/22	Prep Batch:	1138309
Matrix:	Water	Analytical Method:	SW8260B	Analyzed Date:	1/11/2022	Analytical Batch:	462735
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	109	95.4	13.2	61.4 - 129	30	
Benzene	0.16	0.50	ND	17.9	116	99.7	15.1	66.9 - 140	30	
Trichloroethylene	0.15	0.50	ND	17.9	110	100	9.57	69.3 - 144	30	
Toluene	0.14	0.50	ND	17.9	117	105	10.6	76.6 - 123	30	
Chlorobenzene	0.16	0.50	ND	17.9	111	97.8	12.3	73.9 - 137	30	
(S) Dibromofluoromethane				17.9	110	93.4		61.2 - 131		
(S) Toluene-d8				17.9	115	98.5		75.1 - 127		
(S) 4-Bromofluorobenzene				17.9	104	90.0		64.1 - 120		

Work Order:	2201060	Prep Method:	5030GRO	Prep Date:	01/11/22	Prep Batch:	1138310
Matrix:	Water	Analytical Method:	SW8260B	Analyzed Date:	1/11/2022	Analytical Batch:	462735
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	ND	238	96.3	103	7.16	52.4 - 127	30	
(S) 4-Bromofluorobenzene				11.9	82.7	88.2		41.5 - 125		

Work Order:	2201060	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	



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

<p>B - Indicates when the analyte is found in the associated method or preparation blank</p> <p>D - Surrogate is not recoverable due to the necessary dilution of the sample</p> <p>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.</p> <p>H- Indicates that the recommended holding time for the analyte or compound has been exceeded</p> <p>J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative</p> <p>NA - Not Analyzed</p> <p>N/A - Not Applicable</p> <p>ND - Not Detected at a concentration greater than the PQL/RL or, if reported to the MDL, at greater than the MDL.</p> <p>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</p> <p>R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts</p> <p>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</p> <p>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.</p>



Sample Receipt Checklist

Client Name: Tetra Tech Inc (HI)

Date and Time Received: 1/11/2022 11:50:00AM

Project Name: HDOH Red Hill

Received By: Lorna Imbat

Work Order No.: 2201060

Physically Logged By: Helena Ueng

Checklist Completed By: Helena Ueng

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? No
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? Yes Temperature: 2.0 °C
Water-VOA vials have zero headspace? Yes
Water-pH acceptable upon receipt? N/A
pH Checked by: N/A pH Adjusted by: N/A

Comments:

1 of 6 HCL vials received broken in bubble bag; there is still sufficient volume remaining for requested tests to be performed.



Login Summary Report

Client ID: TL5162 Tetra Tech Inc (HI)
Project Name: HDOH Red Hill
Project # : 103S518817512
Report Due Date: 1/18/2022

QC Level: II
TAT Requested: 5+ day:5
Date Received: 1/11/2022
Time Received: 11:50 am

Comments:
Work Order # : 2201060

<u>WO Sample ID</u>	<u>Client Sample ID</u>	<u>Collection Date/Time</u>	<u>Matrix</u>	<u>Scheduled Disposal</u>	<u>Sample On Hold</u>	<u>Test On Hold</u>	<u>Requested Tests</u>	<u>Subbed</u>
2201060-001A	ERH2362/RHMW09	01/07/22 12:00	Water	02/21/22			TPHDO_W_8015B(M) TPHDOSG_W_8015B SVOC_W_SIMFull	
Sample Note:	SVOCs by SIM and TPHd/mo w & w/o silica gel							
2201060-001B	ERH2362/RHMW09	01/07/22 12:00	Water	02/21/22			TOC_5310B	
Sample Note:	TOC (only 1 vial available)							
2201060-001C	ERH2362/RHMW09	01/07/22 12:00	Water	02/21/22			VOC_W_8260B VOC_W_GRO	
Sample Note:	VOCs & TPHg (only 2 voas available)							
2201060-001D	ERH2362/RHMW09	01/07/22 12:00	Water	02/21/22			Sub_RSK-175	Yes

