DATA VALIDATION CHECKLIST – STAGE 2A

Site Name	Joint Base Pearl Harbor - Hickam	**Project Name**	Red-Hill-Incident
Data Reviewer (signature and date)	Jan 22, 2022	**Technical Reviewer (signature and date)**	Jan 23, 2022
Laboratory Report No.	2112237	**Laboratory**	Torrent Laboratory, Inc - Milpitas, CA
Analyses	Semivolatile organic compounds (SVOCs) by EPA SW-846 Method 8270 using selected ion monitoring, total petroleum hydrocarbons (TPH) by EPA SW-846 Method 8015B, total organic compounds (TOC) by SM 5310B, TPH using silica gel (SG) by EPA SW-846 Method 8015B, volatile organic compounds (VOCs) by EPA SW-846 Method 8260B, and gasoline by EPA SW-846 Method 8260, methane by EPA RSK175		
Samples and Matrix	One groundwater sample (ERH2199/RHMW11 [Zone 5])		
Field Duplicate Pairs	None		
Field Blanks	None		

INTRODUCTION,

This checklist summarizes the Stage 2A validation performed on the subject laboratory report, in accordance with the U.S. Environmental Protection Agency (EPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (January 2009). Analytical data were evaluated in general accordance with the EPA *National Functional Guidelines (NFG) for Organic Superfund Methods Data Review* (November 2020).

OVERALL EVALUATION

No results were rejected for this data package. All results are usable with the qualifications described in this checklist.

Data completeness:

Within Criteria	Exceedance/Notes
N	The laboratory reported water method blanks and water laboratory control samples (LCS) for TPH diesel and motor oil and TPH diesel (SG) and motor oil (SG) in solid units of milligrams per kilogram (mg/Kg), not in water units of milligrams per liter (mg/L). The laboratory was contacted to review this issue, and the laboratory confirmed water method blank and LCS samples in units of mg/Kg are incorrect and the correct units are mg/L. The laboratory provided a revised laboratory report to correct the issue.

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	All sample containers were received intact and with proper COC documentation. Cooler temperature and sample preservation (as applicable) were verified upon receipt of the samples. No custody seals were present on sample or shipping containers, no qualifications were applied for this field oversight. The chain of custody requested SVOC by EPA 8270 SIM. The laboratory SVOC prep method was called 3510_BNASIM, but the laboratory analysis method was called SW8270. The laboratory was contacted, and they confirmed the samples were analyzed via EPA 8270 SIM. The data user should note that lead scavenger (ethylene dibromide and ethylene dichloride) by EPA method SW8011 was requested on the chain of custody, but the laboratory reported both ethylene dibromide and ethylene dichloride results by VOC method 8260B, and no qualifications were applied for this variance. Also, the laboratory reported ethylene dibromide as 1,2-dibromoethane and ethylene dichloride as 1,2-dichloroethane. All samples were subcontracted to the Atmospheric Analysis & Consulting Inc. for methane by EPA RSK 175, but the subcontracted results were attached to the laboratory report. The laboratory was contacted, and they provided a revised report to include the methane results from Atmospheric Analysis & Consulting Inc.

Method blanks:

Within Criteria	Exceedance/Notes
N	**TPH (SG) by 8015B** • Batch 1137908: The method blank contained 0.165 mg/L of motor oil (SG); however, no qualification was applied because the motor oil (SG) sample result was nondetect. **VOC by 8260B** • Batch 1137889**:** The method blank contained 0.27 micrograms per liter (µg/L) of n-butylbenzene, however, no qualification was applied because the n-butylbenzene sample result was nondetect. **Gasoline by 8260B** • Batch 1137890**:** The method blank contained 33 µg/L of gasoline; however, no qualification was applied because the gasoline sample result was non-detected.

DATA VALIDATION CHECKLIST – STAGE 2A

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	**SVOCs by 8270** • Sample ERH2199/RHMW11 (Zone 5) had a 11.2% recovery for phenol-d_6 that was less than the 15% laboratory acceptance limit; therefore, all acid extractable nondetect sample results were qualified as estimated (flagged UJ).

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

LCSs/LCSDs:

Within Criteria	Exceedance/Notes
N	The data user should note that the SVOC and VOC full analyte lists were not spiked in the laboratory control sample (LCS). The NFG requires all of the SVOC and VOC target analytes to be spiked in the LCS/LCSD, but no qualifications were applied because the laboratory achieved the method 8270 and 8260 requirements by spiking a representative subset of SVOC and VOC method-specified analytes (as opposed to all reported analytes) in the LCS/LCSD.

Sample dilutions:

Within Criteria	Exceedance/Notes
Y	The sample was analyzed undiluted.

Re-extraction and reanalysis:

Within Criteria	Exceedance/Notes
NA	

MDLs/RLs:

Within Criteria	Exceedance/Notes
Y	Analytes detected between the MDL and RL were not present. The nondetect sample results are reported at the reporting limit (identified as PQL [project quantitation limit] in the laboratory report) and qualified nondetect (flagged U).

Tentatively identified compounds:

Within Criteria	Exceedance/Notes
NA	

Other [None]:

Within Criteria	Exceedance/Notes
NA	

Overall Qualifications:

See results summary pages attached for changes to the laboratory qualifiers based upon this validation. The following is a list of qualifiers and definitions that may be used for the validation of this data package:

J	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample.
J+	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased high.
J-	The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated value is the approximate concentration of the analyte in the sample.
R	The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.
U	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit).
UJ	The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate due to deficiencies in one or more quality control criteria.

Talaidh Isaacs 01/22/2022

Torrent LABORATORY, INC.

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	12/22/21 12:29:00PM
Prep Batch ID:	1137907	**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	U	ug/L	12/22/21	14:15	TA	462453
N-Nitrosdimethylamine	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Aniline	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Phenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Bis(2-chloroethyl) ether	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2-Chlorophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
1,3-Dichlorobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
1,4-Dichlorobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzyl Alcohol	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
1,2-Dichlorobenzene	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2-Methylphenol (o-Cresol)	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Bis(2-chloroisopropyl)ether	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
3-/4-Methylphenol (p-/m-Cresol)	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
N-nitroso-di-n-propylamine	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Hexachloroethane	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Nitrobenzene	SW8270	1	0.900	18	ND	U	ug/L	12/22/21	14:15	TA	462453
Isophorone	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2-Nitrophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
2,4-Dimethylphenol	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Benzoic Acid	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Bis(2-Chloroethoxy)methane	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2,4-Dichlorophenol	SW8270	1	0.180	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
1,2,4-Trichlorobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2,6-Dichlorophenol	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Naphthalene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
4-Chloroaniline	SW8270	1	0.180	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Hexachloro-1,3-butadiene	SW8270	1	0.450	18	ND	U	ug/L	12/22/21	14:15	TA	462453
4-Chloro-3-methylphenol	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
2-Methylnaphthalene	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
1-Methylnaphthalene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Hexachlorocyclopentadiene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2,4,6-Trichlorophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
2,4,5-Trichlorophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
2-Chloronaphthalene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
2-Nitroaniline	SW8270	1	0.900	9.0	ND	U	ug/L	12/22/21	14:15	TA	462453
1,4-Dinitrobenzene	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Dimethyl phthalate	SW8270	1	0.900	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
1,3-Dinitrobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Acenaphthylene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453

Talaidh Isaacs 01/22/2022

Torrent LABORATORY, INC.

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	12/22/21 12:29:00PM
Prep Batch ID:	1137907	**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	U	ug/L	12/22/21	14:15	TA	462453
1,2-Dinitrobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
3-Nitroaniline	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Acenaphthene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2,4-Dinitrophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
4-Nitrophenol	SW8270	1	0.900	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Dibenzofuran	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
2,4-Dinitrotoluene	SW8270	1	0.180	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
2,3,5,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
2,3,4,6-Tetrachlorophenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Diethylphthalate	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Fluorene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
4-Chlorophenyl phenyl ether	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
4-Nitroaniline	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
4,6-Dinitro-2-methylphenol	SW8270	1	0.450	3.6	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Diphenylamine	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Azobenzene	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
4-Bromophenyl phenyl ether	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Hexachlorobenzene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Pentachlorophenol	SW8270	1	0.180	0.54	ND	UJ	ug/L	12/22/21	14:15	TA	462453
Phenanthrene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Anthracene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Carbazole	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Di-n-butylphthalate	SW8270	1	0.450	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Fluoranthene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzidine	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Pyrene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzyl butyl phthalate	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benz[a]anthracene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
3,3-Dichlorobenzidine	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Chrysene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Bis(2-Ethylhexyl)phthalate	SW8270	1	0.180	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Di-n-octyl phthalate	SW8270	1	0.180	3.6	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzo[b]fluoranthene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzo[k]fluoranthene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzo[a]pyrene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Indeno[1,2,3-cd]pyrene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Dibenz[a,h]anthracene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453
Benzo[g,h,i]perylene	SW8270	1	0.180	0.54	ND	U	ug/L	12/22/21	14:15	TA	462453

Torrent LABORATORY, INC.

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	3510_BNASIM	**Prep Batch Date/Time:**	12/22/21 12:29:00PM
Prep Batch ID:	1137907	**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		**17.6**		%	12/22/21	14:15	TA	462453
Phenol-d6 (S)	SW8270		15 - 100		**11.2**	S	%	12/22/21	14:15	TA	462453
Nitrobenzene-d5 (S)	SW8270		30 - 100		**68.7**		%	12/22/21	14:15	TA	462453
2-Fluorobiphenyl (S)	SW8270		30 - 105		**71.8**		%	12/22/21	14:15	TA	462453
2,4,6-Tribromophenol (S)	SW8270		15 - 125		**77.5**		%	12/22/21	14:15	TA	462453
p-Terphenyl-d14 (S)	SW8270		30 - 125		**91.8**		%	12/22/21	14:15	TA	462453

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

Torrent LABORATORY, INC.

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	3510_TPH	**Prep Batch Date/Time:**	12/22/21 10:46:00AM
Prep Batch ID:	1137901	**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 U	ND		mg/L	12/22/21	22:02	SN	462384
TPH as Motor Oil	SW8015B	1	0.11	0.40 U	ND		mg/L	12/22/21	22:02	SN	462384
			Acceptance Limits								
Pentacosane (S)	SW8015B		59 - 129		**87.1**		%	12/22/21	22:02	SN	462384

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001A
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	3510_TPH SG	**Prep Batch Date/Time:**	12/22/21 12:53:00PM
Prep Batch ID:	1137908	**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 U	ND		mg/L	12/28/21	10:58	SN	462460
TPH as Motor Oil (SG)	SW8015B	1	0.11	0.40 U	ND		mg/L	12/28/21	10:58	SN	462460
			Acceptance Limits								
Pentacosane (S)	SW8015B		40 - 129		**93.7**		%	12/28/21	10:58	SN	462460

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001B
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	TOC-W-P	**Prep Batch Date/Time:**	12/23/21	11:00:00AM
Prep Batch ID:	1138001	**Prep Analyst:**	BJAY	

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TOC	A5310B	1	0.40	2.0	**22.5**		mg/L	12/23/21	20:22	BJAY	462450

Torrent LABORATORY, INC.

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	5030VOC	**Prep Batch Date/Time:**	12/21/21 10:45:00AM
Prep Batch ID:	1137889	**Prep Analyst:**	BPATEL

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
Dichlorodifluoromethane	SW8260B	1	0.26	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Chloromethane	SW8260B	1	0.17	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Vinyl Chloride	SW8260B	1	0.21	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Bromomethane	SW8260B	1	0.21	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Chloroethane	SW8260B	1	0.11	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Trichlorofluoromethane	SW8260B	1	0.19	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,1-Dichloroethene	SW8260B	1	0.14	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Freon 113	SW8260B	1	0.34	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Methylene Chloride	SW8260B	1	0.13	1.0	ND	U	ug/L	12/21/21	14:43	BP	462336
trans-1,2-Dichloroethene	SW8260B	1	0.16	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
MTBE	SW8260B	1	0.077	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
tert-Butanol	SW8260B	1	2.9	5.0	ND	U	ug/L	12/21/21	14:43	BP	462336
DIPE	SW8260B	1	0.12	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,1-Dichloroethane	SW8260B	1	0.12	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
ETBE	SW8260B	1	0.064	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
cis-1,2-Dichloroethene	SW8260B	1	0.15	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
2,2-Dichloropropane	SW8260B	1	0.094	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Bromochloromethane	SW8260B	1	0.15	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Chloroform	SW8260B	1	0.12	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Carbon Tetrachloride	SW8260B	1	0.16	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,1,1-Trichloroethane	SW8260B	1	0.16	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,1-Dichloropropene	SW8260B	1	0.19	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Benzene	SW8260B	1	0.065	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
TAME	SW8260B	1	0.072	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,2-Dichloroethane	SW8260B	1	0.11	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Trichloroethylene	SW8260B	1	0.15	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Dibromomethane	SW8260B	1	0.11	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,2-Dichloropropane	SW8260B	1	0.089	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Bromodichloromethane	SW8260B	1	0.076	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
cis-1,3-Dichloropropene	SW8260B	1	0.078	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Toluene	SW8260B	1	0.14	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Tetrachloroethylene	SW8260B	1	0.24	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
trans-1,3-Dichloropropene	SW8260B	1	0.22	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,1,2-Trichloroethane	SW8260B	1	0.076	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Dibromochloromethane	SW8260B	1	0.18	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,3-Dichloropropane	SW8260B	1	0.22	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
1,2-Dibromoethane	SW8260B	1	0.079	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Chlorobenzene	SW8260B	1	0.16	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336
Ethylbenzene	SW8260B	1	0.20	0.50	ND	U	ug/L	12/21/21	14:43	BP	462336

Torrent LABORATORY, INC.

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	5030VOC	**Prep Batch Date/Time:**	12/21/21 10:45:00AM
Prep Batch ID:	1137889	**Prep Analyst:**	BPATEL

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 U	ND		ug/L	12/21/21	14:43	BP	462336
m,p-Xylene	SW8260B	1	0.39	1.0 U	ND		ug/L	12/21/21	14:43	BP	462336
o-Xylene	SW8260B	1	0.15	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
Styrene	SW8260B	1	0.11	0.50	**0.79**		ug/L	12/21/21	14:43	BP	462336
Bromoform	SW8260B	1	0.076	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
Isopropyl Benzene	SW8260B	1	0.22	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
n-Propylbenzene	SW8260B	1	0.30	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
Bromobenzene	SW8260B	1	0.15	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,1,2,2-Tetrachloroethane	SW8260B	1	0.079	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
2-Chlorotoluene	SW8260B	1	0.25	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,3,5-Trimethylbenzene	SW8260B	1	0.24	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2,3-Trichloropropane	SW8260B	1	0.15	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
4-Chlorotoluene	SW8260B	1	0.22	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
tert-Butylbenzene	SW8260B	1	0.26	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2,4-Trimethylbenzene	SW8260B	1	0.23	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
sec-Butyl Benzene	SW8260B	1	0.30	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
p-Isopropyltoluene	SW8260B	1	0.27	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,3-Dichlorobenzene	SW8260B	1	0.17	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,4-Dichlorobenzene	SW8260B	1	0.18	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
n-Butylbenzene	SW8260B	1	0.27	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2-Dichlorobenzene	SW8260B	1	0.16	0.50 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2-Dibromo-3-Chloropropane	SW8260B	1	0.76	2.0 U	ND		ug/L	12/21/21	14:43	BP	462336
Hexachlorobutadiene	SW8260B	1	0.62	2.0 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2,4-Trichlorobenzene	SW8260B	1	0.93	2.0 U	ND		ug/L	12/21/21	14:43	BP	462336
Naphthalene	SW8260B	1	1.2	2.0 U	ND		ug/L	12/21/21	14:43	BP	462336
1,2,3-Trichlorobenzene	SW8260B	1	1.2	2.0 U	ND		ug/L	12/21/21	14:43	BP	462336
(S) Dibromofluoromethane	SW8260B		61.2 - 131		**130**		%	12/21/21	14:43	BP	462336
(S) Toluene-d8	SW8260B		75.1 - 127		**98.9**		%	12/21/21	14:43	BP	462336
(S) 4-Bromofluorobenzene	SW8260B		64.1 - 120		**108**		%	12/21/21	14:43	BP	462336

Talaidh Isaacs 01/22/2022

SAMPLE RESULTS

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

Date/Time Received: 12/18/21, 1:00 pm
Date Reported: 12/29/21

Client Sample ID:	ERH2199 / RHMW11 (Zone 5)	**Lab Sample ID:**	2112237-001C
Project Name/Location:	HDOH Red Hill	**Sample Matrix:**	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 11:40		
SDG:			

Prep Method:	5030GRO	**Prep Batch Date/Time:**	12/21/21 10:45:00AM
Prep Batch ID:	1137890	**Prep Analyst:**	BPATEL

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
TPH(Gasoline)	8260TPH	1	29	50	ND	U	ug/L	12/21/21	14:43	BP	462336
(S) 4-Bromofluorobenzene	8260TPH		41.5 - 125		**96.9**		%	12/21/21	14:43	BP	462336