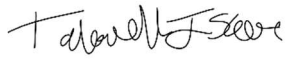
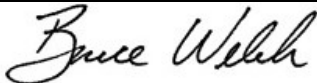


DATA VALIDATION CHECKLIST – STAGE 2A

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.	2112240	Laboratory	Torrent Laboratory, Inc. - Milpitas, CA
Analyses	Semi volatile organic compounds (SVOC) by EPA SW-846 Method 8270 using selected ion monitoring, total petroleum hydrocarbons (TPH) by EPA SW-846 Method 8015B, TPH using silica gel (SG) by EPA SW-846 Method 8015B, total organic compounds (TOC) by SM 5310B, volatile organic compounds (VOC) by SW8260B, gasoline by EPA SW-846 Method 8260, methane by EPA RSK175		
Samples and Matrix	Two groundwater samples (ERH2188/RHMW08 and ERH2191/RHMW09)		
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.

DATA VALIDATION CHECKLIST – STAGE 2A

Sample preservation, receipt, and holding times:

Within Criteria	Exceedance/Notes
N	<p>All sample containers were received intact and with proper COC documentation. The cooler temperature and sample preservation (as applicable) were verified upon receipt of the samples. No custody seals were present on sample or shipping containers, but no qualifications were applied for this field oversight.</p> <p>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.</p> <p>The data user should note that lead scavenger (ethylene dibromide and ethylene dichloride) by EPA methods SW8260 was requested on the chain of custody (COC), 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.</p> <p>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.</p>

Method blanks:

Within Criteria	Exceedance/Notes
N	<p>TPH (SG) by 8015B</p> <ul style="list-style-type: none"> • Batch 1137908: The method blank contained 0.165 mg/L of motor oil (SG); however, no qualifications were applied because the motor oil (SG) sample results were nondetect. <p>VOCs by 8260B</p> <ul style="list-style-type: none"> • Batch 1137889: These method blanks contained 0.27 micrograms per liter (µg/L) of n-butylbenzene, however, no qualifications were applied because the n-butylbenzene sample results were nondetect. <p>Gasoline by 8260B</p> <ul style="list-style-type: none"> • Batch 462336: These method blanks contained 33 µg/L of gasoline; however, no qualifications were applied because the gasoline sample results were nondetect.

DATA VALIDATION CHECKLIST – STAGE 2A

Field blanks:

Within Criteria	Exceedance/Notes
NA	

System monitoring compounds (surrogates and labeled compounds):

Within Criteria	Exceedance/Notes
N	VOCs by 8260B <ul style="list-style-type: none">Sample ERH2188/RHMW08 had a 142% percent recovery for dibromofluoromethane exceed the laboratory 131% acceptance limit; however, no qualifications were applied because all sample results were nondetect.

MS/MSD:

Within Criteria	Exceedance/Notes
NA	

Laboratory duplicates:

Within Criteria	Exceedance/Notes
NA	

Field duplicates:

Within Criteria	Exceedance/Notes
NA	

DATA VALIDATION CHECKLIST – STAGE 2A

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	All samples were 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	

DATA VALIDATION CHECKLIST – STAGE 2A

Other [target analyte identification]:

Within Criteria	Exceedance/Notes
N	<p>TPH by 8015B</p> <ul style="list-style-type: none"> The diesel result for samples ERH2188/RHMW08 and ERH2191/RHMW09 had contributions from unknown discrete peaks within the diesel quantification range; therefore, the diesel result for samples ERH2188/RHMW08 and ERH2191/RHMW09 were qualified as estimated (flagged J).

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.



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: ERH2188 / RHMW08
 Project Name/Location: HDOH Red Hill
 Project Number: 103S518817512
 Date/Time Sampled: 12/16/21 / 9:33
 SDG:

Lab Sample ID: 2112240-001A
 Sample Matrix: Water

Prep Method: 3510_BNASIM
 Prep Batch ID: 1137907

Prep Batch Date/Time: 12/22/21 12:29:00PM
 Prep Analyst: NDUM

Parameters:	Analysis Method	DF	MDL	PQL	Results	Q	Units	Analyzed	Time	By	Analytical Batch
Pyridine	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
N-Nitrosdimethylamine	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Aniline	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Phenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Bis(2-chloroethyl) ether	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Chlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1,3-Dichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1,4-Dichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzyl Alcohol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1,2-Dichlorobenzene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Methylphenol (o-Cresol)	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Bis(2-chloroisopropyl)ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
3-/4-Methylphenol (p-/m-Cresol)	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
N-nitroso-di-n-propylamine	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Hexachloroethane	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Nitrobenzene	SW8270	1	0.900	18 U	ND		ug/L	12/22/21	14:45	TA	462453
Isophorone	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Nitrophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4-Dimethylphenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzoic Acid	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Bis(2-Chloroethoxy)methane	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4-Dichlorophenol	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1,2,4-Trichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,6-Dichlorophenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Naphthalene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Chloroaniline	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Hexachloro-1,3-butadiene	SW8270	1	0.450	18 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Chloro-3-methylphenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Methylnaphthalene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1-Methylnaphthalene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Hexachlorocyclopentadiene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4,6-Trichlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4,5-Trichlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Chloronaphthalene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
2-Nitroaniline	SW8270	1	0.900	9.0 U	ND		ug/L	12/22/21	14:45	TA	462453
1,4-Dinitrobenzene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Dimethyl phthalate	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
1,3-Dinitrobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Acenaphthylene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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 U	ND		ug/L	12/22/21	14:45	TA	462453
1,2-Dinitrobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
3-Nitroaniline	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Acenaphthene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4-Dinitrophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Nitrophenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Dibenzofuran	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
2,4-Dinitrotoluene	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,3,5,6-Tetrachlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
2,3,4,6-Tetrachlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Diethylphthalate	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Fluorene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Chlorophenyl phenyl ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Nitroaniline	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
4,6-Dinitro-2-methylphenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Diphenylamine	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Azobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
4-Bromophenyl phenyl ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Hexachlorobenzene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Pentachlorophenol	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Phenanthrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Carbazole	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Di-n-butylphthalate	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzidine	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzyl butyl phthalate	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benz[a]anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
3,3-Dichlorobenzidine	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Chrysene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Bis(2-Ethylhexyl)phthalate	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Di-n-octyl phthalate	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzo[b]fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzo[k]fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzo[a]pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Indeno[1,2,3-cd]pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Dibenz[a,h]anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453
Benzo[g,h,i]perylene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	14:45	TA	462453



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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		38.7		%	12/22/21	14:45	TA	462453
Phenol-d6 (S)	SW8270		15 - 100		23.5		%	12/22/21	14:45	TA	462453
Nitrobenzene-d5 (S)	SW8270		30 - 100		80.0		%	12/22/21	14:45	TA	462453
2-Fluorobiphenyl (S)	SW8270		30 - 105		83.8		%	12/22/21	14:45	TA	462453
2,4,6-Tribromophenol (S)	SW8270		15 - 125		112		%	12/22/21	14:45	TA	462453
p-Terphenyl-d14 (S)	SW8270		30 - 125		90.8		%	12/22/21	14:45	TA	462453



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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	0.181 J	x	mg/L	12/22/21	22:26	SN	462384
TPH as Motor Oil	SW8015B	1	0.11	0.40	0.409		mg/L	12/22/21	22:26	SN	462384
			Acceptance Limits								
Pentacosane (S)	SW8015B		59 - 129		94.7		%	12/22/21	22:26	SN	462384

NOTE: x- Diesel result due to unknown organics and presence of discrete peaks within diesel quantified range



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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	11:22	SN	462460
TPH as Motor Oil (SG)	SW8015B	1	0.11	0.40 U	ND		mg/L	12/28/21	11:22	SN	462460
			Acceptance Limits								
Pentacosane (S)	SW8015B		40 - 129		90.5		%	12/28/21	11:22	SN	462460



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001B
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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	24.3		mg/L	12/23/21	20:40	BJAY	462450



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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	U ND		ug/L	12/21/21	15:13	BP	462336
Chloromethane	SW8260B	1	0.17	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Vinyl Chloride	SW8260B	1	0.21	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Bromomethane	SW8260B	1	0.21	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Chloroethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Trichlorofluoromethane	SW8260B	1	0.19	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,1-Dichloroethene	SW8260B	1	0.14	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Freon 113	SW8260B	1	0.34	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Methylene Chloride	SW8260B	1	0.13	1.0	U ND		ug/L	12/21/21	15:13	BP	462336
trans-1,2-Dichloroethene	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
MTBE	SW8260B	1	0.077	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
tert-Butanol	SW8260B	1	2.9	5.0	U ND		ug/L	12/21/21	15:13	BP	462336
DIPE	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,1-Dichloroethane	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
ETBE	SW8260B	1	0.064	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
cis-1,2-Dichloroethene	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
2,2-Dichloropropane	SW8260B	1	0.094	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Bromochloromethane	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Chloroform	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Carbon Tetrachloride	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,1,1-Trichloroethane	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,1-Dichloropropene	SW8260B	1	0.19	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Benzene	SW8260B	1	0.065	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
TAME	SW8260B	1	0.072	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,2-Dichloroethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Trichloroethylene	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Dibromomethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,2-Dichloropropane	SW8260B	1	0.089	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Bromodichloromethane	SW8260B	1	0.076	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
cis-1,3-Dichloropropene	SW8260B	1	0.078	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Toluene	SW8260B	1	0.14	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Tetrachloroethylene	SW8260B	1	0.24	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
trans-1,3-Dichloropropene	SW8260B	1	0.22	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,1,2-Trichloroethane	SW8260B	1	0.076	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Dibromochloromethane	SW8260B	1	0.18	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,3-Dichloropropane	SW8260B	1	0.22	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
1,2-Dibromoethane	SW8260B	1	0.079	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Chlorobenzene	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:13	BP	462336
Ethylbenzene	SW8260B	1	0.20	0.50	U ND		ug/L	12/21/21	15:13	BP	462336



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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	15:13	BP	462336	
m,p-Xylene	SW8260B	1	0.39	1.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
o-Xylene	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
Styrene	SW8260B	1	0.11	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
Bromoform	SW8260B	1	0.076	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
Isopropyl Benzene	SW8260B	1	0.22	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
n-Propylbenzene	SW8260B	1	0.30	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
Bromobenzene	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,1,2,2-Tetrachloroethane	SW8260B	1	0.079	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
2-Chlorotoluene	SW8260B	1	0.25	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,3,5-Trimethylbenzene	SW8260B	1	0.24	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2,3-Trichloropropane	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
4-Chlorotoluene	SW8260B	1	0.22	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
tert-Butylbenzene	SW8260B	1	0.26	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2,4-Trimethylbenzene	SW8260B	1	0.23	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
sec-Butyl Benzene	SW8260B	1	0.30	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
p-Isopropyltoluene	SW8260B	1	0.27	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,3-Dichlorobenzene	SW8260B	1	0.17	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,4-Dichlorobenzene	SW8260B	1	0.18	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
n-Butylbenzene	SW8260B	1	0.27	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2-Dichlorobenzene	SW8260B	1	0.16	0.50	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2-Dibromo-3-Chloropropane	SW8260B	1	0.76	2.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
Hexachlorobutadiene	SW8260B	1	0.62	2.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2,4-Trichlorobenzene	SW8260B	1	0.93	2.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
Naphthalene	SW8260B	1	1.2	2.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
1,2,3-Trichlorobenzene	SW8260B	1	1.2	2.0	U	ND	ug/L	12/21/21	15:13	BP	462336	
(S) Dibromofluoromethane	SW8260B		61.2 - 131			142	S	%	12/21/21	15:13	BP	462336
(S) Toluene-d8	SW8260B		75.1 - 127			94.8		%	12/21/21	15:13	BP	462336
(S) 4-Bromofluorobenzene	SW8260B		64.1 - 120			104		%	12/21/21	15:13	BP	462336

NOTE: S-Surrogate outside of control limit (high bias). All associated target compounds are ND at the MDL. No corrective action required.



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:	ERH2188 / RHMW08	Lab Sample ID:	2112240-001C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 9:33		
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 U	ND		ug/L	12/21/21	15:13	BP	462336
(S) 4-Bromofluorobenzene	8260TPH		41.5 - 125		80.6		%	12/21/21	15:13	BP	462336



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:16		
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 U	ND		ug/L	12/22/21	15:15	TA	462453
N-Nitrosdimethylamine	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Aniline	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Phenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Bis(2-chloroethyl) ether	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Chlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1,3-Dichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1,4-Dichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzyl Alcohol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1,2-Dichlorobenzene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Methylphenol (o-Cresol)	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Bis(2-chloroisopropyl)ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
3-/4-Methylphenol (p-/m-Cresol)	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
N-nitroso-di-n-propylamine	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Hexachloroethane	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Nitrobenzene	SW8270	1	0.900	18 U	ND		ug/L	12/22/21	15:15	TA	462453
Isophorone	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Nitrophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4-Dimethylphenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzoic Acid	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Bis(2-Chloroethoxy)methane	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4-Dichlorophenol	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1,2,4-Trichlorobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,6-Dichlorophenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Naphthalene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Chloroaniline	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Hexachloro-1,3-butadiene	SW8270	1	0.450	18 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Chloro-3-methylphenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Methylnaphthalene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1-Methylnaphthalene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Hexachlorocyclopentadiene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4,6-Trichlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4,5-Trichlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Chloronaphthalene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
2-Nitroaniline	SW8270	1	0.900	9.0 U	ND		ug/L	12/22/21	15:15	TA	462453
1,4-Dinitrobenzene	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Dimethyl phthalate	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
1,3-Dinitrobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Acenaphthylene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:16		
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 U	ND		ug/L	12/22/21	15:15	TA	462453
1,2-Dinitrobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
3-Nitroaniline	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Acenaphthene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4-Dinitrophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Nitrophenol	SW8270	1	0.900	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Dibenzofuran	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
2,4-Dinitrotoluene	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,3,5,6-Tetrachlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
2,3,4,6-Tetrachlorophenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Diethylphthalate	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Fluorene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Chlorophenyl phenyl ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Nitroaniline	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
4,6-Dinitro-2-methylphenol	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Diphenylamine	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Azobenzene	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
4-Bromophenyl phenyl ether	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Hexachlorobenzene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Pentachlorophenol	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Phenanthrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Carbazole	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Di-n-butylphthalate	SW8270	1	0.450	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzidine	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzyl butyl phthalate	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benz[a]anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
3,3-Dichlorobenzidine	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Chrysene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Bis(2-Ethylhexyl)phthalate	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Di-n-octyl phthalate	SW8270	1	0.180	3.6 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzo[b]fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzo[k]fluoranthene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzo[a]pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Indeno[1,2,3-cd]pyrene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzo[a,h]anthracene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453
Benzo[g,h,i]perylene	SW8270	1	0.180	0.54 U	ND		ug/L	12/22/21	15:15	TA	462453



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:16		
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		36.5		%	12/22/21	15:15	TA	462453
Phenol-d6 (S)	SW8270		15 - 100		22.8		%	12/22/21	15:15	TA	462453
Nitrobenzene-d5 (S)	SW8270		30 - 100		76.3		%	12/22/21	15:15	TA	462453
2-Fluorobiphenyl (S)	SW8270		30 - 105		75.8		%	12/22/21	15:15	TA	462453
2,4,6-Tribromophenol (S)	SW8270		15 - 125		104		%	12/22/21	15:15	TA	462453
p-Terphenyl-d14 (S)	SW8270		30 - 125		89.9		%	12/22/21	15:15	TA	462453



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:16		
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	0.458 J	x	mg/L	12/22/21	22:49	SN	462384
TPH as Motor Oil	SW8015B	1	0.11	0.40	0.605		mg/L	12/22/21	22:49	SN	462384
			Acceptance Limits								
Pentacosane (S)	SW8015B		59 - 129		87.3		%	12/22/21	22:49	SN	462384

NOTE: x- Diesel result due to unknown organics and presence of discrete peaks within diesel quantified range



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002A
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:16		
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	11:45	SN	462460
TPH as Motor Oil (SG)	SW8015B	1	0.11	0.40 U	ND		mg/L	12/28/21	11:45	SN	462460
			Acceptance Limits								
Pentacosane (S)	SW8015B		40 - 129		92.1		%	12/28/21	11:45	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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002B
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:13		
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	31.8		mg/L	12/23/21	21:00	BJAY	462450



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:13		
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	U ND		ug/L	12/21/21	15:43	BP	462336
Chloromethane	SW8260B	1	0.17	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Vinyl Chloride	SW8260B	1	0.21	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Bromomethane	SW8260B	1	0.21	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Chloroethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Trichlorofluoromethane	SW8260B	1	0.19	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,1-Dichloroethene	SW8260B	1	0.14	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Freon 113	SW8260B	1	0.34	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Methylene Chloride	SW8260B	1	0.13	1.0	U ND		ug/L	12/21/21	15:43	BP	462336
trans-1,2-Dichloroethene	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
MTBE	SW8260B	1	0.077	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
tert-Butanol	SW8260B	1	2.9	5.0	U ND		ug/L	12/21/21	15:43	BP	462336
DIPE	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,1-Dichloroethane	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
ETBE	SW8260B	1	0.064	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
cis-1,2-Dichloroethene	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
2,2-Dichloropropane	SW8260B	1	0.094	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Bromochloromethane	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Chloroform	SW8260B	1	0.12	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Carbon Tetrachloride	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,1,1-Trichloroethane	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,1-Dichloropropene	SW8260B	1	0.19	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Benzene	SW8260B	1	0.065	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
TAME	SW8260B	1	0.072	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,2-Dichloroethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Trichloroethylene	SW8260B	1	0.15	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Dibromomethane	SW8260B	1	0.11	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,2-Dichloropropane	SW8260B	1	0.089	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Bromodichloromethane	SW8260B	1	0.076	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
cis-1,3-Dichloropropene	SW8260B	1	0.078	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Toluene	SW8260B	1	0.14	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Tetrachloroethylene	SW8260B	1	0.24	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
trans-1,3-Dichloropropene	SW8260B	1	0.22	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,1,2-Trichloroethane	SW8260B	1	0.076	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Dibromochloromethane	SW8260B	1	0.18	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,3-Dichloropropane	SW8260B	1	0.22	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
1,2-Dibromoethane	SW8260B	1	0.079	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Chlorobenzene	SW8260B	1	0.16	0.50	U ND		ug/L	12/21/21	15:43	BP	462336
Ethylbenzene	SW8260B	1	0.20	0.50	U ND		ug/L	12/21/21	15:43	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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:13		
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	15:43	BP	462336
m,p-Xylene	SW8260B	1	0.39	1.0	U	ND	ug/L	12/21/21	15:43	BP	462336
o-Xylene	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
Styrene	SW8260B	1	0.11	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
Bromoform	SW8260B	1	0.076	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
Isopropyl Benzene	SW8260B	1	0.22	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
n-Propylbenzene	SW8260B	1	0.30	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
Bromobenzene	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,1,2,2-Tetrachloroethane	SW8260B	1	0.079	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
2-Chlorotoluene	SW8260B	1	0.25	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,3,5-Trimethylbenzene	SW8260B	1	0.24	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2,3-Trichloropropane	SW8260B	1	0.15	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
4-Chlorotoluene	SW8260B	1	0.22	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
tert-Butylbenzene	SW8260B	1	0.26	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2,4-Trimethylbenzene	SW8260B	1	0.23	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
sec-Butyl Benzene	SW8260B	1	0.30	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
p-Isopropyltoluene	SW8260B	1	0.27	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,3-Dichlorobenzene	SW8260B	1	0.17	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,4-Dichlorobenzene	SW8260B	1	0.18	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
n-Butylbenzene	SW8260B	1	0.27	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2-Dichlorobenzene	SW8260B	1	0.16	0.50	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2-Dibromo-3-Chloropropane	SW8260B	1	0.76	2.0	U	ND	ug/L	12/21/21	15:43	BP	462336
Hexachlorobutadiene	SW8260B	1	0.62	2.0	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2,4-Trichlorobenzene	SW8260B	1	0.93	2.0	U	ND	ug/L	12/21/21	15:43	BP	462336
Naphthalene	SW8260B	1	1.2	2.0	U	ND	ug/L	12/21/21	15:43	BP	462336
1,2,3-Trichlorobenzene	SW8260B	1	1.2	2.0	U	ND	ug/L	12/21/21	15:43	BP	462336
(S) Dibromofluoromethane	SW8260B		61.2 - 131			127	%	12/21/21	15:43	BP	462336
(S) Toluene-d8	SW8260B		75.1 - 127			97.0	%	12/21/21	15:43	BP	462336
(S) 4-Bromofluorobenzene	SW8260B		64.1 - 120			103	%	12/21/21	15:43	BP	462336



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:	ERH2191 / RHMW09	Lab Sample ID:	2112240-002C
Project Name/Location:	HDOH Red Hill	Sample Matrix:	Water
Project Number:	103S518817512		
Date/Time Sampled:	12/16/21 / 14:13		
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 U	ND		ug/L	12/21/21	15:43	BP	462336
(S) 4-Bromofluorobenzene	8260TPH		41.5 - 125		86.9		%	12/21/21	15:43	BP	462336