August 10, 2020 Service Request No:K2006462

Duane Morita
Naval Facilities Engineering Command Hawaii
Environmental Services Laboratory,
PRJ411
1423 Central Ave
Pearl Harbor, HI 96860

Laboratory Results for: Red Hill Shaft DW

Dear Duane,

Enclosed are the results of the sample(s) submitted to our laboratory July 30, 2020
For your reference, these analyses have been assigned our service request number **K2006462.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3316. You may also contact me via email at Jeff.Christian@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Jeff Christian
Technical Services
Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Environmental

Client: Naval Facilities Engineering Command Hawaii
Project: Red Hill Shaft DW
Sample Matrix: Drinking Water

Service Request: K2006462
Date Received: 07/30/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Two drinking water samples were received for analysis at ALS Environmental on 07/30/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivoa GC:

Method 8015C Semivolatile Range Organics by GC/FID: One of the replicate Laboratory Control Samples (LCS) associated with the initial analysis of the samples showed no recovery. The Duplicate LCS (DLCS) was in control. The problem appeared to be an inadvertent omission of spiking the LCS. Since the problem may indicate a potential bias in the analytical batch, all associated field samples were re-extracted and re-analyzed 1 day past the recommended hold time. The results for the field samples were comparable for both determinations, which indicated the problem with the initial analysis was restricted to the LCS. Therefore, the results from the original analysis were reported. The data was flagged to indicate the problem.

Method 8015C Semivolatile Range Organics by GC/FID: Sample 20-07412 (360-011) yielded a detection above the Method Reporting Limit (MRL) for the range of JP-8 (C8 - C18). Note the chromatographic fingerprint does not resemble a petroleum product.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by  Date 08/10/2020

SAMPLE DETECTION SUMMARY

CLIENT ID: 20-07411 (360-001)			Lab ID: K2006462-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Lead	0.009	J	0.007	0.020	ug/L	200.8
C10 - C25 DRO	12	J	11	50	ug/L	8015C

CLIENT ID: 20-07412 (360-011)			Lab ID: K2006462-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Lead	0.231		0.007	0.020	ug/L	200.8
JP-8 (C8 - C18)	490	Z	50	50	ug/L	8015C
C10 - C25 DRO	65		11	50	ug/L	8015C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Naval Facilities Engineering Command Hawaii **Service Request:**K2006462
Project: Red Hill Shaft DW

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2006462-001	20-07411 (360-001)	7/29/2020	0925
K2006462-002	20-07412 (360-011)	7/29/2020	0955

CHAIN OF CUSTODY 110451

SR# K2006462

ALS Environmental

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PROJECT NAME	Red Hill Additional Testing
PROJECT NUMBER	
PROJECT MANAGER	Duane Morita
COMPANY NAME	NAVFAC Hawaii Env. Services Lab
ADDRESS	1423 Central Ave
CITY/STATE/ZIP	JBPHH, HI 96860
E-MAIL ADDRESS	duane.morita@navy.mil
PHONE #	(808) 471-0768 FAX#
SAMPLER'S SIGNATURE	K Miyaki

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS (SIM PAH) (8270)	Volatile Organics (8260) (8021) (BTEX) (624)	Hydrocarbons (*see below) (Gas) (Diesel) (Oil) + J98	Oil & Grease/TRPH (1664 HEM) (1664 SGT)	PCBs (Aroclors) (Congeners)	Pesticides/Herbicides (608) (8081) (8141)	Chlorophenolics - 8151M (Tri) (Tetra) (PCP)	Metals, (Total) or Dissolved (See list below)	Cyanide	Hex-Chrom	(Circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2-NO_3, BOD, TSS, TDS, Turb	(Circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020 AOX 1650 506	Alkalinity CO_3 HCO_3	Dioxins / Furans (1613) (8290)	Dissolved Gases CO_2 (RSK 175) (Methane) (Ethane) (Ethene)	DOC, Non-Purgeable, TOC D (SM 5310 C)			REMARKS
20-07411 (360-001)	7/29/2020	9:25 AM		DW		X	X	X					X										X			
20-07412 (360-011)	7/29/2020	9:55 AM		DW		X	X	X					X										X			

REPORT REQUIREMENTS

_____ I. Routine Report: Method Blank, Surrogate, as required

_____ II. Report Dup., MS, MSD as required

_____ III. CLP Like Summary (no raw data)

_____ IV. Data Validation Report

_____ V. EDD

INVOICE INFORMATION

PO #

Bill To:

Call Stuart Kaneshiro for CC#,

(808) 474-3704

TURNAROUND REQUIREMENTS

_____ 24 hr.

_____ 48 hr.

_____ 5 day

_____ Standard (15 working days)

14 Calendar days

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe (Pb) Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*** INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

Fedex Tracking Number 7711 2913 4185

☐ *Sample Shipment contains USDA regulated soil samples (check box if applicable)*

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
K Miyaki	7/30/2020 0930		
Signature	Signature	Signature	Signature
7/29/20 1250	Date/Time	Date/Time	Date/Time
Date/Time			
K. Miyaki	AL		
Printed Name	Printed Name	Printed Name	Printed Name
NAVFAC HI	Firm	Firm	Firm
Firm			

PG 1

Cooler Receipt and Preservation Form

Client NAVFAC Service Request *K20* 06462

Received: 7/30/20 Opened: 7/30/20 By: BK Unloaded: 7/30/20 By: BK

1. Samples were received via? *USPS* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____
   If present, were custody seals intact? Y (N) If present, were they signed and dated? Y (N)

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID (NA)	Tracking Number NA	Filed
11.5	11.9	11.4	10.5	11.0	IR01		771291341185	

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA Y (N)
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y (N)
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

Sample rec'd out of temp

Miscellaneous Forms

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www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Naval Facilities Engineering Command Hawaii **Service Request:** K2006462
Project: Red Hill Shaft DW/

Sample Name: 20-07411 (360-001) **Date Collected:** 07/29/20
Lab Code: K2006462-001 **Date Received:** 07/30/20
Sample Matrix: Drinking Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	ABOYER	JCHAN
524.2		KWINSTON
8015C	KVAN	TPOTTSCHMIDT
SM 5310 C		MKANALY

Sample Name: 20-07411 (360-001) **Date Collected:** 07/29/20
Lab Code: K2006462-001.R01 **Date Received:** 07/30/20
Sample Matrix: Drinking Water

Analysis Method	Extracted/Digested By	Analyzed By
8015C	KVAN	TPOTTSCHMIDT

Sample Name: 20-07412 (360-011) **Date Collected:** 07/29/20
Lab Code: K2006462-002 **Date Received:** 07/30/20
Sample Matrix: Drinking Water

Analysis Method	Extracted/Digested By	Analyzed By
200.8	ABOYER	JCHAN
524.2		KWINSTON
8015C	KVAN	TPOTTSCHMIDT
SM 5310 C		MKANALY

Sample Name: 20-07412 (360-011) **Date Collected:** 07/29/20
Lab Code: K2006462-002.R01 **Date Received:** 07/30/20
Sample Matrix: Drinking Water

Analysis Method	Extracted/Digested By	Analyzed By
524.2		KWINSTON
8015C	KVAN	TPOTTSCHMIDT

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Volatile Organic Compounds by GC/MS

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Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:25
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07411 (360-001)	**Units:**	ug/L
Lab Code:	K2006462-001	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	0.032	1	08/05/20 13:25	
Bromobenzene	ND U	0.50	0.039	1	08/05/20 13:25	
Bromochloromethane	ND U	0.50	0.038	1	08/05/20 13:25	
Bromodichloromethane	ND U	0.50	0.039	1	08/05/20 13:25	
Bromoform	ND U	0.50	0.072	1	08/05/20 13:25	
Bromomethane	ND U	0.50	0.043	1	08/05/20 13:25	
n-Butylbenzene	ND U	0.50	0.041	1	08/05/20 13:25	
sec-Butylbenzene	ND U	0.50	0.048	1	08/05/20 13:25	
tert-Butylbenzene	ND U	0.50	0.040	1	08/05/20 13:25	
Carbon Tetrachloride	ND U	0.50	0.073	1	08/05/20 13:25	
Chlorobenzene	ND U	0.50	0.020	1	08/05/20 13:25	
Chloroethane	ND U	0.50	0.15	1	08/05/20 13:25	
Chloroform	ND U	0.50	0.070	1	08/05/20 13:25	
Chloromethane	ND U	0.50	0.055	1	08/05/20 13:25	
2-Chlorotoluene	ND U	0.50	0.029	1	08/05/20 13:25	
4-Chlorotoluene	ND U	0.50	0.028	1	08/05/20 13:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	1.0	0.21	1	08/05/20 13:25	
Dibromochloromethane	ND U	0.50	0.027	1	08/05/20 13:25	
1,2-Dibromoethane (EDB)	ND U	0.50	0.040	1	08/05/20 13:25	
Dibromomethane	ND U	0.50	0.052	1	08/05/20 13:25	
1,2-Dichlorobenzene	ND U	0.50	0.032	1	08/05/20 13:25	
1,3-Dichlorobenzene	ND U	0.50	0.021	1	08/05/20 13:25	
1,4-Dichlorobenzene	ND U	0.50	0.026	1	08/05/20 13:25	
Dichlorodifluoromethane	ND U	0.50	0.048	1	08/05/20 13:25	
1,1-Dichloroethane	ND U	0.50	0.043	1	08/05/20 13:25	
1,2-Dichloroethane	ND U	0.50	0.029	1	08/05/20 13:25	
1,1-Dichloroethene	ND U	0.50	0.066	1	08/05/20 13:25	
cis-1,2-Dichloroethene	ND U	0.50	0.032	1	08/05/20 13:25	
trans-1,2-Dichloroethene	ND U	0.50	0.032	1	08/05/20 13:25	
1,2-Dichloropropane	ND U	0.50	0.037	1	08/05/20 13:25	
1,3-Dichloropropane	ND U	0.50	0.035	1	08/05/20 13:25	
2,2-Dichloropropane	ND U	0.50	0.049	1	08/05/20 13:25	
1,1-Dichloropropene	ND U	0.50	0.050	1	08/05/20 13:25	
cis-1,3-Dichloropropene	ND U	0.50	0.033	1	08/05/20 13:25	
trans-1,3-Dichloropropene	ND U	0.50	0.025	1	08/05/20 13:25	
Ethylbenzene	ND U	0.50	0.035	1	08/05/20 13:25	
Hexachlorobutadiene	ND U	0.50	0.052	1	08/05/20 13:25	
Isopropylbenzene	ND U	0.50	0.045	1	08/05/20 13:25	
p-Isopropyltoluene	ND U	0.50	0.038	1	08/05/20 13:25	
Methylene Chloride	ND U	0.50	0.068	1	08/05/20 13:25	
Naphthalene	ND U	0.50	0.025	1	08/05/20 13:25	
n-Propylbenzene	ND U	0.50	0.029	1	08/05/20 13:25	
Styrene	ND U	0.50	0.020	1	08/05/20 13:25	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:25
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07411 (360-001)	**Units:**	ug/L
Lab Code:	K2006462-001	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	0.029	1	08/05/20 13:25	
1,1,2,2-Tetrachloroethane	ND U	0.50	0.038	1	08/05/20 13:25	
Tetrachloroethene	ND U	0.50	0.058	1	08/05/20 13:25	
Toluene	ND U	0.50	0.034	1	08/05/20 13:25	
1,2,3-Trichlorobenzene	ND U	0.50	0.035	1	08/05/20 13:25	
1,2,4-Trichlorobenzene	ND U	0.50	0.025	1	08/05/20 13:25	
1,1,1-Trichloroethane	ND U	0.50	0.039	1	08/05/20 13:25	
1,1,2-Trichloroethane	ND U	0.50	0.060	1	08/05/20 13:25	
Trichloroethene	ND U	0.50	0.049	1	08/05/20 13:25	
Trichlorofluoromethane	ND U	0.50	0.070	1	08/05/20 13:25	
1,2,3-Trichloropropane	ND U	0.50	0.13	1	08/05/20 13:25	
1,2,4-Trimethylbenzene	ND U	0.50	0.032	1	08/05/20 13:25	
1,3,5-Trimethylbenzene	ND U	0.50	0.023	1	08/05/20 13:25	
Vinyl Chloride	ND U	0.50	0.056	1	08/05/20 13:25	
o-Xylene	ND U	0.50	0.025	1	08/05/20 13:25	
m,p-Xylenes	ND U	0.50	0.052	1	08/05/20 13:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70 - 130	08/05/20 13:25	
1,2-Dichlorobenzene-d4	106	70 - 130	08/05/20 13:25	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:55
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07412 (360-011)	**Units:**	ug/L
Lab Code:	K2006462-002	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Benzene	ND U	0.50	0.032	1	08/05/20 19:25	
Bromobenzene	ND U	0.50	0.039	1	08/05/20 19:25	
Bromochloromethane	ND U	0.50	0.038	1	08/05/20 19:25	
Bromodichloromethane	ND U	0.50	0.039	1	08/05/20 19:25	
Bromoform	ND U	0.50	0.072	1	08/05/20 19:25	
Bromomethane	ND U	0.50	0.043	1	08/05/20 19:25	
n-Butylbenzene	ND U	0.50	0.041	1	08/05/20 19:25	
sec-Butylbenzene	ND U	0.50	0.048	1	08/05/20 19:25	
tert-Butylbenzene	ND U	0.50	0.040	1	08/05/20 19:25	
Carbon Tetrachloride	ND U	0.50	0.073	1	08/05/20 19:25	
Chlorobenzene	ND U	0.50	0.020	1	08/05/20 19:25	
Chloroethane	ND U	0.50	0.15	1	08/05/20 19:25	
Chloroform	ND U	0.50	0.070	1	08/05/20 19:25	
Chloromethane	ND U	0.50	0.055	1	08/05/20 19:25	
2-Chlorotoluene	ND U	0.50	0.029	1	08/05/20 19:25	
4-Chlorotoluene	ND U	0.50	0.028	1	08/05/20 19:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	1.0	0.21	1	08/05/20 19:25	
Dibromochloromethane	ND U	0.50	0.027	1	08/05/20 19:25	
1,2-Dibromoethane (EDB)	ND U	0.50	0.040	1	08/05/20 19:25	
Dibromomethane	ND U	0.50	0.052	1	08/05/20 19:25	
1,2-Dichlorobenzene	ND U	0.50	0.032	1	08/05/20 19:25	
1,3-Dichlorobenzene	ND U	0.50	0.021	1	08/05/20 19:25	
1,4-Dichlorobenzene	ND U	0.50	0.026	1	08/05/20 19:25	
Dichlorodifluoromethane	ND U	0.50	0.048	1	08/05/20 19:25	
1,1-Dichloroethane	ND U	0.50	0.043	1	08/05/20 19:25	
1,2-Dichloroethane	ND U	0.50	0.029	1	08/05/20 19:25	
1,1-Dichloroethene	ND U	0.50	0.066	1	08/05/20 19:25	
cis-1,2-Dichloroethene	ND U	0.50	0.032	1	08/05/20 19:25	
trans-1,2-Dichloroethene	ND U	0.50	0.032	1	08/05/20 19:25	
1,2-Dichloropropane	ND U	0.50	0.037	1	08/05/20 19:25	
1,3-Dichloropropane	ND U	0.50	0.035	1	08/05/20 19:25	
2,2-Dichloropropane	ND U	0.50	0.049	1	08/05/20 19:25	
1,1-Dichloropropene	ND U	0.50	0.050	1	08/05/20 19:25	
cis-1,3-Dichloropropene	ND U	0.50	0.033	1	08/05/20 19:25	
trans-1,3-Dichloropropene	ND U	0.50	0.025	1	08/05/20 19:25	
Ethylbenzene	ND U	0.50	0.035	1	08/05/20 19:25	
Hexachlorobutadiene	ND U	0.50	0.052	1	08/05/20 19:25	
Isopropylbenzene	ND U	0.50	0.045	1	08/05/20 19:25	
p-Isopropyltoluene	ND U	0.50	0.038	1	08/05/20 19:25	
Methylene Chloride	ND U	0.50	0.068	1	08/05/20 19:25	
Naphthalene	ND U	0.50	0.025	1	08/05/20 19:25	
n-Propylbenzene	ND U	0.50	0.029	1	08/05/20 19:25	
Styrene	ND U	0.50	0.020	1	08/05/20 19:25	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:55
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07412 (360-011)	**Units:**	ug/L
Lab Code:	K2006462-002	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.029	1	08/05/20 19:25	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.038	1	08/05/20 19:25	
Tetrachloroethene	ND	U	0.50	0.058	1	08/05/20 19:25	
Toluene	ND	U	0.50	0.034	1	08/05/20 19:25	
1,2,3-Trichlorobenzene	ND	U	0.50	0.035	1	08/05/20 19:25	
1,2,4-Trichlorobenzene	ND	U	0.50	0.025	1	08/05/20 19:25	
1,1,1-Trichloroethane	ND	U	0.50	0.039	1	08/05/20 19:25	
1,1,2-Trichloroethane	ND	U	0.50	0.060	1	08/05/20 19:25	
Trichloroethene	ND	U	0.50	0.049	1	08/05/20 19:25	
Trichlorofluoromethane	ND	U	0.50	0.070	1	08/05/20 19:25	
1,2,3-Trichloropropane	ND	U	0.50	0.13	1	08/05/20 19:25	
1,2,4-Trimethylbenzene	ND	U	0.50	0.032	1	08/05/20 19:25	
1,3,5-Trimethylbenzene	ND	U	0.50	0.023	1	08/05/20 19:25	
Vinyl Chloride	ND	U	0.50	0.056	1	08/05/20 19:25	
o-Xylene	ND	U	0.50	0.025	1	08/05/20 19:25	
m,p-Xylenes	ND	U	0.50	0.052	1	08/05/20 19:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70 - 130	08/05/20 19:25	
1,2-Dichlorobenzene-d4	108	70 - 130	08/05/20 19:25	

Semivolatile Organic Compounds by GC

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Naval Facilities Engineering Command Haw	**Service Request:**	K2006462
Project:	Red Hill Shaft DW/	**Date Collected:**	07/29/20 09:25
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07411 (360-001)	**Units:**	ug/L
Lab Code:	K2006462-001	**Basis:**	NA

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
JP-8 (C8 - C18)	ND U	50	50	1	08/05/20 16:09	7/31/20	
C10 - C25 DRO	**12 J**	50	11	1	08/05/20 19:02	7/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	78	55 - 133	08/05/20 16:09	

Analytical Report

Client:	Naval Facilities Engineering Command Haw	**Service Request:**	K2006462
Project:	Red Hill Shaft DW/	**Date Collected:**	07/29/20 09:55
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07412 (360-011)	**Units:**	ug/L
Lab Code:	K2006462-002	**Basis:**	NA

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
JP-8 (C8 - C18)	**490 Z**	50	50	1	08/05/20 16:30	7/31/20	
C10 - C25 DRO	**65**	50	11	1	08/05/20 19:24	7/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	83	55 - 133	08/05/20 16:30	

Metals

ALS Environmental—Kelso Laboratory
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Phone (360) 577-7222 Fax (360) 425-9096
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Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:25
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07411 (360-001)	**Basis:**	NA
Lab Code:	K2006462-001		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Lead	200.8	**0.009 J**	ug/L	0.020	0.007	1	08/04/20 11:23	08/04/20	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:55
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07412 (360-011)	**Basis:**	NA
Lab Code:	K2006462-002		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Lead	200.8	**0.231**	ug/L	0.020	0.007	1	08/04/20 11:28	08/04/20	

General Chemistry

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Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:25
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07411 (360-001)	**Basis:**	NA
Lab Code:	K2006462-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 C	ND U	mg/L	0.50	0.07	1	08/07/20 12:00	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20 09:55
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20 09:30
Sample Name:	20-07412 (360-011)	**Basis:**	NA
Lab Code:	K2006462-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 C	ND U	mg/L	0.50	0.07	1	08/07/20 12:00	

QC Summary Forms

ALS Environmental—Kelso Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: Naval Facilities Engineering Command Hawaii **Service Request:** K2006462
Project: Red Hill Shaft DW
Sample Matrix: Drinking Water

SURROGATE RECOVERY SUMMARY
Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 70-130	1,2-Dichlorobenzene-d4 70-130
20-07411 (360-001)	K2006462-001	89	106
20-07412 (360-011)	K2006462-002	89	108
Method Blank	KQ2010705-05	89	107
Lab Control Sample	KQ2010705-03	101	95
Duplicate Lab Control Sample	KQ2010705-04	104	99

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2010705-05	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Benzene	ND	U	0.50	0.032	1	08/05/20 12:55	
Bromobenzene	ND	U	0.50	0.039	1	08/05/20 12:55	
Bromochloromethane	ND	U	0.50	0.038	1	08/05/20 12:55	
Bromodichloromethane	ND	U	0.50	0.039	1	08/05/20 12:55	
Bromoform	ND	U	0.50	0.072	1	08/05/20 12:55	
Bromomethane	ND	U	0.50	0.043	1	08/05/20 12:55	
n-Butylbenzene	ND	U	0.50	0.041	1	08/05/20 12:55	
sec-Butylbenzene	ND	U	0.50	0.048	1	08/05/20 12:55	
tert-Butylbenzene	ND	U	0.50	0.040	1	08/05/20 12:55	
Carbon Tetrachloride	ND	U	0.50	0.073	1	08/05/20 12:55	
Chlorobenzene	ND	U	0.50	0.020	1	08/05/20 12:55	
Chloroethane	ND	U	0.50	0.15	1	08/05/20 12:55	
Chloroform	ND	U	0.50	0.070	1	08/05/20 12:55	
Chloromethane	ND	U	0.50	0.055	1	08/05/20 12:55	
2-Chlorotoluene	ND	U	0.50	0.029	1	08/05/20 12:55	
4-Chlorotoluene	ND	U	0.50	0.028	1	08/05/20 12:55	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	1.0	0.21	1	08/05/20 12:55	
Dibromochloromethane	ND	U	0.50	0.027	1	08/05/20 12:55	
1,2-Dibromoethane (EDB)	ND	U	0.50	0.040	1	08/05/20 12:55	
Dibromomethane	ND	U	0.50	0.052	1	08/05/20 12:55	
1,2-Dichlorobenzene	ND	U	0.50	0.032	1	08/05/20 12:55	
1,3-Dichlorobenzene	ND	U	0.50	0.021	1	08/05/20 12:55	
1,4-Dichlorobenzene	ND	U	0.50	0.026	1	08/05/20 12:55	
Dichlorodifluoromethane	ND	U	0.50	0.048	1	08/05/20 12:55	
1,1-Dichloroethane	ND	U	0.50	0.043	1	08/05/20 12:55	
1,2-Dichloroethane	ND	U	0.50	0.029	1	08/05/20 12:55	
1,1-Dichloroethene	ND	U	0.50	0.066	1	08/05/20 12:55	
cis-1,2-Dichloroethene	ND	U	0.50	0.032	1	08/05/20 12:55	
trans-1,2-Dichloroethene	ND	U	0.50	0.032	1	08/05/20 12:55	
1,2-Dichloropropane	ND	U	0.50	0.037	1	08/05/20 12:55	
1,3-Dichloropropane	ND	U	0.50	0.035	1	08/05/20 12:55	
2,2-Dichloropropane	ND	U	0.50	0.049	1	08/05/20 12:55	
1,1-Dichloropropene	ND	U	0.50	0.050	1	08/05/20 12:55	
cis-1,3-Dichloropropene	ND	U	0.50	0.033	1	08/05/20 12:55	
trans-1,3-Dichloropropene	ND	U	0.50	0.025	1	08/05/20 12:55	
Ethylbenzene	ND	U	0.50	0.035	1	08/05/20 12:55	
Hexachlorobutadiene	ND	U	0.50	0.052	1	08/05/20 12:55	
Isopropylbenzene	ND	U	0.50	0.045	1	08/05/20 12:55	
p-Isopropyltoluene	ND	U	0.50	0.038	1	08/05/20 12:55	
Methylene Chloride	ND	U	0.50	0.068	1	08/05/20 12:55	
Naphthalene	**0.090**	**J**	0.50	0.025	1	08/05/20 12:55	
n-Propylbenzene	ND	U	0.50	0.029	1	08/05/20 12:55	
Styrene	ND	U	0.50	0.020	1	08/05/20 12:55	

Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2010705-05	**Basis:**	NA

Purgeable Organic Compounds by GC/MS

Analysis Method: 524.2
Prep Method: None

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	0.50	0.029	1	08/05/20 12:55	
1,1,2,2-Tetrachloroethane	ND	U	0.50	0.038	1	08/05/20 12:55	
Tetrachloroethene	ND	U	0.50	0.058	1	08/05/20 12:55	
Toluene	ND	U	0.50	0.034	1	08/05/20 12:55	
1,2,3-Trichlorobenzene	**0.050**	**J**	0.50	0.035	1	08/05/20 12:55	
1,2,4-Trichlorobenzene	**0.040**	**J**	0.50	0.025	1	08/05/20 12:55	
1,1,1-Trichloroethane	ND	U	0.50	0.039	1	08/05/20 12:55	
1,1,2-Trichloroethane	ND	U	0.50	0.060	1	08/05/20 12:55	
Trichloroethene	ND	U	0.50	0.049	1	08/05/20 12:55	
Trichlorofluoromethane	ND	U	0.50	0.070	1	08/05/20 12:55	
1,2,3-Trichloropropane	ND	U	0.50	0.13	1	08/05/20 12:55	
1,2,4-Trimethylbenzene	ND	U	0.50	0.032	1	08/05/20 12:55	
1,3,5-Trimethylbenzene	ND	U	0.50	0.023	1	08/05/20 12:55	
Vinyl Chloride	ND	U	0.50	0.056	1	08/05/20 12:55	
o-Xylene	ND	U	0.50	0.025	1	08/05/20 12:55	
m,p-Xylenes	ND	U	0.50	0.052	1	08/05/20 12:55	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	70 - 130	08/05/20 12:55	
1,2-Dichlorobenzene-d4	107	70 - 130	08/05/20 12:55	

QA/QC Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Analyzed:**	08/05/20
Sample Matrix:	Drinking Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Purgeable Organic Compounds by GC/MS

Analysis Method:	524.2	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	688486

	Lab Control Sample KQ2010705-03			Duplicate Lab Control Sample KQ2010705-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	4.61	5.00	92	4.84	5.00	97	70-130	5	30
1,1,1-Trichloroethane	4.68	5.00	94	4.65	5.00	93	70-130	<1	30
1,1,2,2-Tetrachloroethane	4.22	5.00	84	4.94	5.00	99	70-130	16	30
1,1,2-Trichloroethane	4.30	5.00	86	4.86	5.00	97	70-130	12	30
1,1-Dichloroethane	4.74	5.00	95	4.50	5.00	90	70-130	5	30
1,1-Dichloroethene	4.64	5.00	93	4.64	5.00	93	70-130	<1	30
1,1-Dichloropropene	4.45	5.00	89	4.41	5.00	88	70-130	<1	30
1,2,3-Trichlorobenzene	4.15	5.00	83	4.57	5.00	91	70-130	10	30
1,2,3-Trichloropropane	4.18	5.00	84	4.95	5.00	99	30-130	17	30
1,2,4-Trichlorobenzene	4.27	5.00	85	4.54	5.00	91	70-130	6	30
1,2,4-Trimethylbenzene	5.11	5.00	102	5.04	5.00	101	70-130	1	30
1,2-Dibromo-3-chloropropane (DBCP)	4.00	5.00	80	4.73	5.00	95	70-130	17	30
1,2-Dibromoethane (EDB)	4.28	5.00	86	4.85	5.00	97	70-130	12	30
1,2-Dichlorobenzene	4.49	5.00	90	4.86	5.00	97	70-130	8	30
1,2-Dichloroethane	4.44	5.00	89	4.88	5.00	98	70-130	9	30
1,2-Dichloropropane	4.36	5.00	87	4.69	5.00	94	70-130	7	30
1,3,5-Trimethylbenzene	5.10	5.00	102	5.02	5.00	100	70-130	2	30
1,3-Dichlorobenzene	4.69	5.00	94	4.94	5.00	99	70-130	5	30
1,3-Dichloropropane	4.25	5.00	85	4.80	5.00	96	70-130	12	30
1,4-Dichlorobenzene	4.61	5.00	92	4.84	5.00	97	70-130	5	30
2,2-Dichloropropane	4.84	5.00	97	4.69	5.00	94	70-130	3	30
2-Chlorotoluene	4.85	5.00	97	4.92	5.00	98	70-130	1	30
4-Chlorotoluene	5.04	5.00	101	5.05	5.00	101	70-130	<1	30
Benzene	4.54	5.00	91	4.66	5.00	93	70-130	3	30
Bromobenzene	4.45	5.00	89	4.86	5.00	97	70-130	9	30
Bromochloromethane	4.48	5.00	90	5.02	5.00	100	70-130	11	30
Bromodichloromethane	4.41	5.00	88	4.93	5.00	99	70-130	11	30
Bromoform	4.54	5.00	91	5.10	5.00	102	70-130	12	30
Bromomethane	4.65	5.00	93	4.65	5.00	93	70-130	<1	30
Carbon Tetrachloride	4.74	5.00	95	4.69	5.00	94	70-130	1	30
Chlorobenzene	4.69	5.00	94	4.82	5.00	96	70-130	3	30
Chloroethane	4.74	5.00	95	4.80	5.00	96	70-130	1	30
Chloroform	4.47	5.00	89	4.68	5.00	94	70-130	5	30
Chloromethane	4.91	5.00	98	4.58	5.00	92	70-130	7	30
cis-1,2-Dichloroethene	4.31	5.00	86	4.38	5.00	88	70-130	2	30
cis-1,3-Dichloropropene	4.12	5.00	82	4.60	5.00	92	70-130	11	30
Dibromochloromethane	4.30	5.00	86	4.79	5.00	96	70-130	11	30
Dibromomethane	4.45	5.00	89	5.06	5.00	101	70-130	13	30
Dichlorodifluoromethane	4.49	5.00	90	4.39	5.00	88	70-130	2	30
Ethylbenzene	4.64	5.00	93	4.66	5.00	93	70-130	<1	30
Hexachlorobutadiene	4.87	5.00	97	4.79	5.00	96	70-130	2	30

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QA/QC Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Analyzed:**	08/05/20
Sample Matrix:	Drinking Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Purgeable Organic Compounds by GC/MS

Analysis Method:	524.2	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	688486

	Lab Control Sample KQ2010705-03			Duplicate Lab Control Sample KQ2010705-04					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Isopropylbenzene	5.02	5.00	100	4.92	5.00	98	70-130	2	30
m,p-Xylenes	10.2	10.0	102	10.2	10.0	102	70-130	<1	30
Methylene Chloride	4.46	5.00	89	4.80	5.00	96	70-130	7	30
Naphthalene	3.90	5.00	78	4.38	5.00	88	70-130	12	30
n-Butylbenzene	4.86	5.00	97	4.64	5.00	93	70-130	5	30
n-Propylbenzene	4.93	5.00	99	4.86	5.00	97	70-130	1	30
o-Xylene	4.84	5.00	97	4.88	5.00	98	70-130	<1	30
p-Isopropyltoluene	5.19	5.00	104	4.96	5.00	99	70-130	5	30
sec-Butylbenzene	5.17	5.00	103	5.00	5.00	100	70-130	3	30
Styrene	4.80	5.00	96	4.92	5.00	98	70-130	2	30
tert-Butylbenzene	4.92	5.00	98	4.82	5.00	96	70-130	2	30
Tetrachloroethene	4.80	5.00	96	4.66	5.00	93	70-130	3	30
Toluene	4.51	5.00	90	4.56	5.00	91	70-130	1	30
trans-1,2-Dichloroethene	4.75	5.00	95	4.57	5.00	91	70-130	4	30
trans-1,3-Dichloropropene	4.43	5.00	89	4.74	5.00	95	70-130	7	30
Trichloroethene	4.50	5.00	90	4.59	5.00	92	70-130	2	30
Trichlorofluoromethane	4.79	5.00	96	4.73	5.00	95	70-130	1	30
Vinyl Chloride	4.70	5.00	94	4.60	5.00	92	70-130	2	30

Semivolatile Organic Compounds by GC

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Client: Naval Facilities Engineering Command Haw **Service Request:** K2006462
Project: Red Hill Shaft DW/
Sample Matrix: Drinking Water

SURROGATE RECOVERY SUMMARY
Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Extraction Method: EPA 3510C

Sample Name	Lab Code	o-Terphenyl 55 - 133
20-07411 (360-001)	K2006462-001	78
20-07412 (360-011)	K2006462-002	83
Duplicate Lab Control Sample	KWG2002231-2	82
Method Blank	KWG2002231-3	83

Analytical Report

Client:	Naval Facilities Engineering Command Haw	**Service Request:**	K2006462
Project:	Red Hill Shaft DW/	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG2002231-3	**Basis:**	NA

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3510C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
JP-8 (C8 - C18)	ND U	50	50	1	08/05/20 15:47	7/31/20	
C10 - C25 DRO	ND U	50	11	1	08/05/20 18:41	7/31/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	83	55 - 133	08/05/20 15:47	

Client:	Naval Facilities Engineering Command Haw	**Service Request:**	K2006462
Project:	Red Hill Shaft DW/	**Date Analyzed:**	08/05/20
Sample Matrix:	Drinking Water	**Date Extracted:**	07/31/20

Lab Control Sample Summary
Semivolatile Range Organics by GC/FID

Analysis Method:	8015C	**Units:**	ug/L
Prep Method:	EPA 3510C	**Basis:**	NA
		Analysis Lot:	KWG2002339

Lab Control Sample
KWG2002231-2

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
JP-8 (C8 - C18)	2340	3200	73	70-130

Metals

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Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ2010562-01		

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Lead	200.8	ND U	ug/L	0.020	0.007	1	08/04/20 11:15	08/04/20	

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	07/29/20
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20
		Date Analyzed:	08/4/20
		Date Extracted:	08/4/20

Matrix Spike Summary
Total Metals

Sample Name:	20-07411 (360-001)	**Units:**	ug/L
Lab Code:	K2006462-001	**Basis:**	NA
Analysis Method:	200.8		
Prep Method:	EPA CLP-METALS ILM04.0		

Matrix Spike
KQ2010562-05

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Lead	0.009 J	50.8	50.0	102	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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QA/QC Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project	Red Hill Shaft DW	**Date Collected:**	07/29/20
Sample Matrix:	Drinking Water	**Date Received:**	07/30/20
		Date Analyzed:	08/04/20

Replicate Sample Summary
Total Metals

Sample Name:	20-07411 (360-001)	**Units:**	ug/L
Lab Code:	K2006462-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ2010562-04 Result	Average	RPD	RPD Limit
Lead	200.8	0.020	0.007	0.009 J	ND U	NC	NC	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Analyzed:**	08/04/20
Sample Matrix:	Drinking Water		

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ2010562-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Lead	200.8	52.9	50.0	106	85-115

General Chemistry

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Analytical Report

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Collected:**	NA
Sample Matrix:	Drinking Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K2006462-MB		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Carbon, Dissolved Organic (DOC)	SM 5310 C	ND U	mg/L	0.50	0.07	1	08/07/20 12:00	

Client:	Naval Facilities Engineering Command Hawaii	**Service Request:**	K2006462
Project:	Red Hill Shaft DW	**Date Analyzed:**	08/07/20
Sample Matrix:	Drinking Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	690002

	Lab Control Sample K2006462-LCS			Duplicate Lab Control Sample K2006462-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Dissolved Organic (DOC)	2.48	2.50	99	2.41	2.50	96	83-117	3	10

Method 8015 Chromatograms

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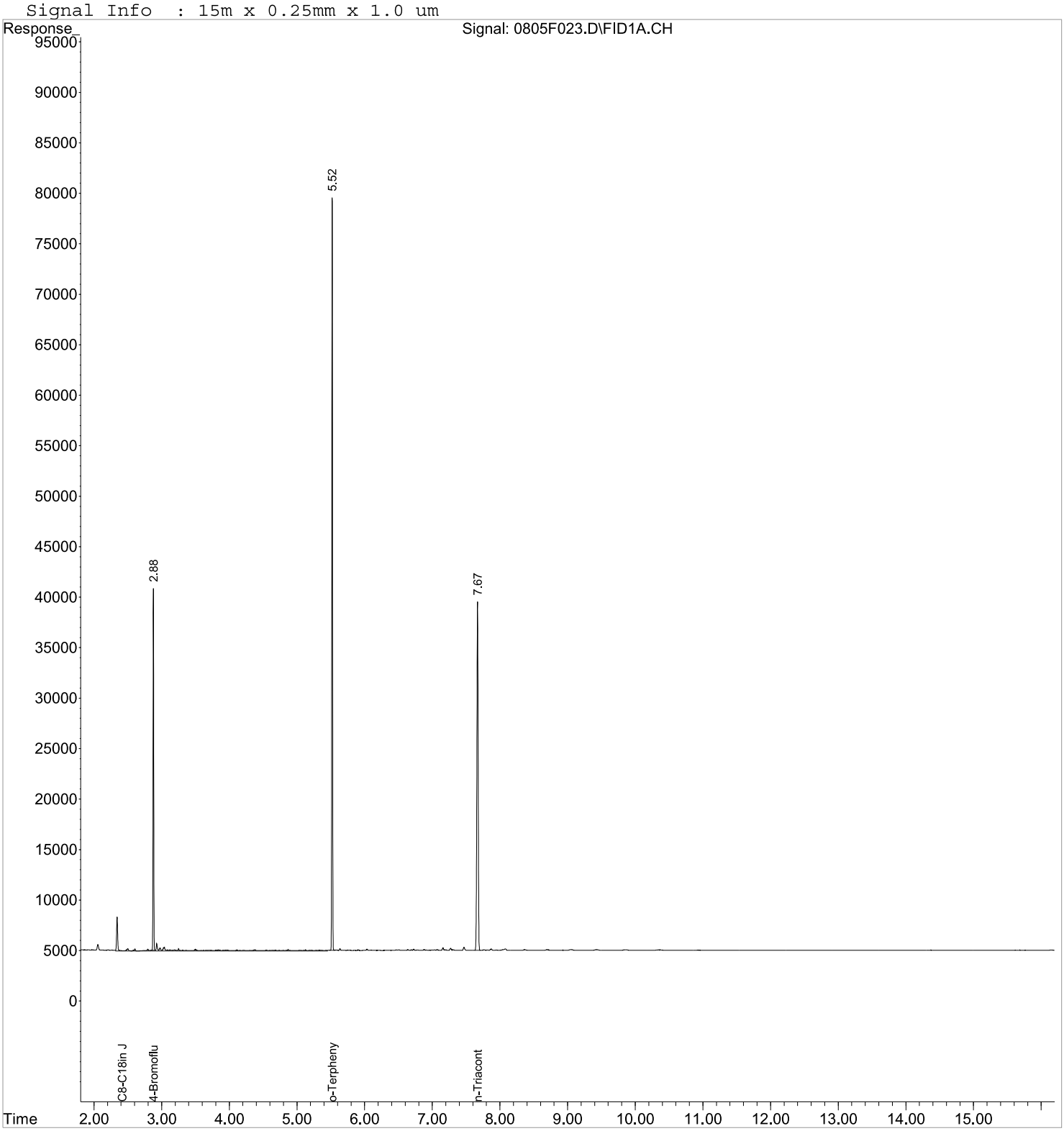
Quantitation Report (QT Reviewed)

1st TP 08/10/20
2nd 4w 08/10/20

Data File : J:\GC35\DATA\080520F\0805F023.D Vial: 4
Acq On : 05 Aug 2020 4:09 pm Operator: TAP
Sample : K2006462-001 Inst : GC35
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Aug 6 8:58 2020 Quant Results File: 080320FJP8.RES

Quant Method : J:\GC35\METHODS\080320FJP8.M (RTE Integrator)
Title : JP-8 by GC/FID CAL16330
Last Update : Tue Aug 04 10:04:14 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_F.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



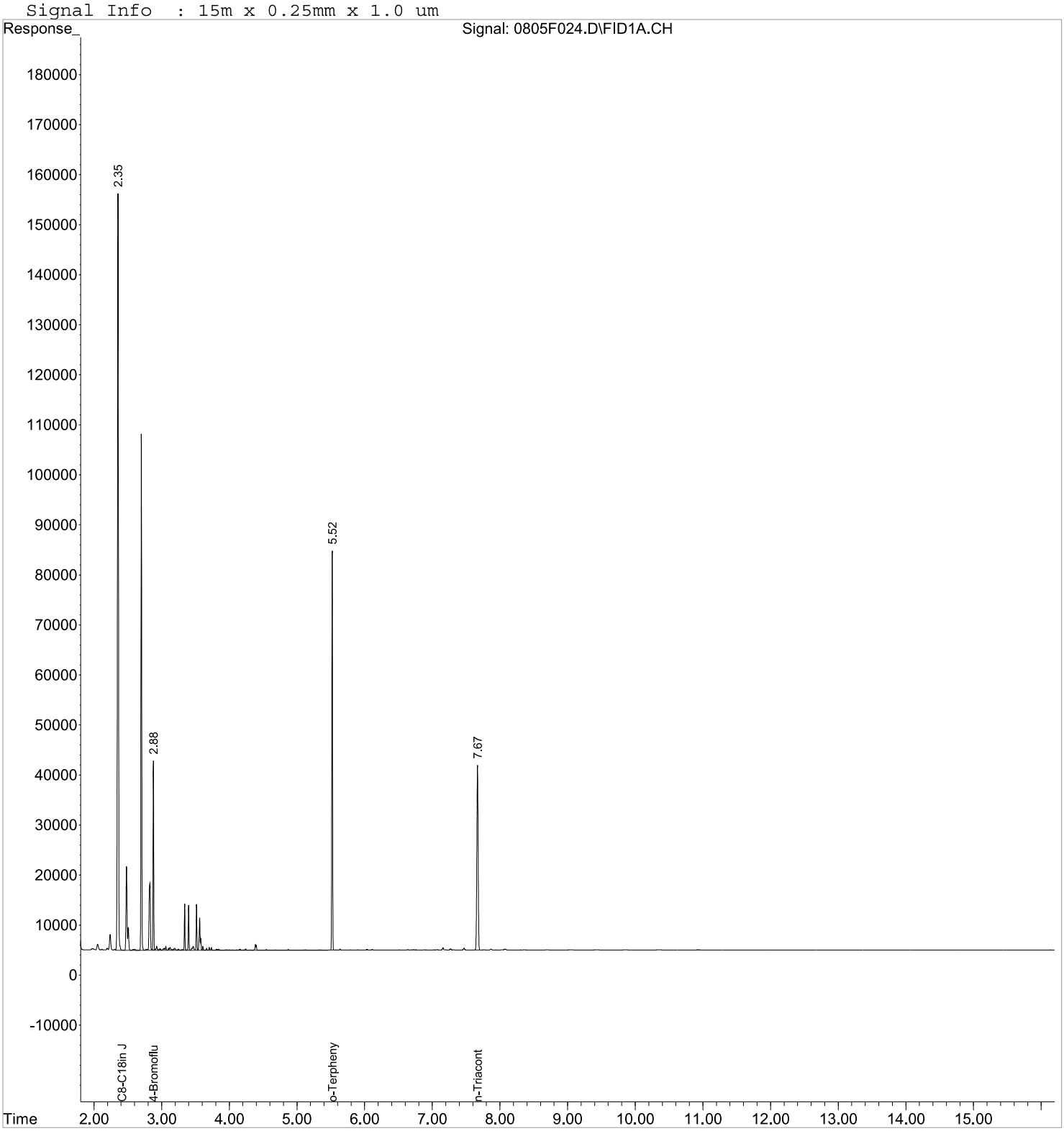
Quantitation Report (QT Reviewed)

1st TP 08/10/20
2nd 4w 08/10/20

Data File : J:\GC35\DATA\080520F\0805F024.D Vial: 5
Acq On : 05 Aug 2020 4:30 pm Operator: TAP
Sample : K2006462-002 Inst : GC35
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Aug 6 8:58 2020 Quant Results File: 080320FJP8.RES

Quant Method : J:\GC35\METHODS\080320FJP8.M (RTE Integrator)
Title : JP-8 by GC/FID CAL16330
Last Update : Tue Aug 04 10:04:14 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_F.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Quantitation Report (QT Reviewed)

1st TP 08/10/20
2nd 08/10/20

Data File : J:\GC35\DATA\080520F\0805F021.D Vial: 2
Acq On : 05 Aug 2020 3:25 pm Operator: TAP
Sample : KWG2002231-002 DLCS Inst : GC35
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Aug 6 8:57 2020 Quant Results File: 080320FJP8.RES

Quant Method : J:\GC35\METHODS\080320FJP8.M (RTE Integrator)
Title : JP-8 by GC/FID CAL16330
Last Update : Tue Aug 04 10:04:14 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_F.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um