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HYDROGEOLOGY • ENGINEERING

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September 14, 2022

VIA FEDERAL EXPRESS STANDARD

Mr. Steve Rounds
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Southern California Region
9211 Oakdale Avenue
Chatsworth, CA 91311-6520

Re: Data Submittal for Groundwater Monitoring and Groundwater Extraction
and Treatment Pilot Testing, Second Quarter 2022, Raytheon Company (Former
Hughes Aircraft Company) Facility, 1901 West Malvern Avenue, Fullerton, California

Dear Mr. Rounds:

This letter has been prepared for the submittal of groundwater monitoring and groundwater treatment pilot testing data collected during the second quarter 2022 for the former Raytheon Company site located at 1901 West Malvern Avenue, Fullerton, California (the Site) (Figure 1). Groundwater monitoring activities were completed in general accordance with the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC)-approved Groundwater Monitoring Work Plan and Sampling and Analysis Plan (GMWPSAP) and subsequent addenda (DTSC, 2003 and 2011; Hargis + Associates, Inc. [H+A], 2003, 2011a, 2011b, and 2017). Groundwater treatment pilot testing continued throughout the second quarter 2022 in general accordance with the DTSC-approved Groundwater Extraction and Treatment System (GETS) Pilot Testing, Corrective Measures Study Work Plan Addendum No. 6 (DTSC, 2013; H+A, 2013). The results of the second quarter 2022 groundwater monitoring and pilot GETS operation from March through May 2022 are included in this data submittal.

GROUNDWATER MONITORING

Groundwater monitoring consists of measuring groundwater levels and collecting groundwater samples from monitor wells and piezometers at the Site (Figure 2). Quarterly water level measurements were taken at all wells and piezometers, and groundwater samples were collected from extraction wells and select monitor wells in May 2022 in general accordance with the GMWPSAP and Addendum No. 1 (H+A, 2003 and 2011a) (Table 1).

Water Level Measurement and Groundwater Sample Collection

Groundwater monitoring included water level measurements in all Site monitor wells, piezometers, and extraction wells (Figures 2 and 3). Quarterly groundwater levels were measured in all wells on May 16, 2022 (Table 2).

Groundwater samples were collected May 17 through May 19, 2022 (Appendix A). Analytical results are summarized in Table 3 and provided in Appendix B. Additional groundwater monitoring was conducted as part of routine operation and monitoring of the pilot GETS. A summary of the pilot GETS operation and monitoring is provided below. Full discussion of groundwater monitoring results will be presented in the next annual report.

Other Offices:
Folsom, CA
Mesa, AZ
Tucson, AZ

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Original and field duplicate groundwater samples were analyzed by Advanced Technology Laboratories, Inc., Signal Hill, California (ATL) (Appendix B). Laboratory split groundwater samples were analyzed by Eurofins Calscience, Tustin, California (Appendix B). Chain-of-custody documentation was enclosed with each sample shipment. Results of groundwater sample volatile organic compound (VOC) and 1,4-dioxane analyses have been summarized (Table 3).

Quality Assurance/Quality Control

Quality assurance/quality control (QA/QC) samples collected in May 2022 consisted of trip blanks, field duplicates, an equipment rinsate blank, and laboratory split samples. Trip blanks were provided by ATL. Field duplicate samples and laboratory split samples were collected for analysis of VOCs and 1,4-dioxane from monitor wells MW-33 and MW-34B in May 2022 (Table 3).

The relative percent difference (RPD) was calculated between the results of each field duplicate and each laboratory split sample with its corresponding original sample. The RPD for 1,1-dichloroethylene (1,1-DCE) between the original and the duplicate groundwater samples collected from MW-34B was outside of acceptable limits, therefore the data was qualified as estimated. All other results for groundwater samples collected from MW-33 and MW-34B are within quality control criteria. The following table summarizes the principal Site compounds, 1,1-DCE, trichloroethylene (TCE) and 1,4-dioxane results in the original, field duplicate and laboratory split groundwater samples, as well as the calculated RPDs and assigned qualifier flag, if any.

Well ID / Collection Date	Compound	Original (ug/l)	Duplicate (ug/l)	RPD (percent)	Split (ug/l)	RPD (percent)	Qualifier Flag
MW-33 05/17/22	1,1-DCE	6.9	6.5	6	4.9	34	
	TCE	1.0	0.65	42	0.75	29	
	1,4-dioxane	<0.20	<0.20	NA	<0.50	NA	
MW-34B 05/17/22	1,1-DCE	24	46	63	29	19	E
	TCE	<0.50	<0.50	NA	0.21	NA	
	1,4-dioxane	11	12	9	17	43	

ug/l = micrograms per liter

NA = not applicable

The following table summarizes H+A project QA/QC criteria for field duplicate and laboratory split RPDs.

Range of detection	RPD Criteria (percent)	Project Qualifier Flag	Note
PQL to 10x PQL	< 100	E (estimated) or U (unusable)	Project qualifier flag may be assigned if RPD criteria is not met and/or result is not consistent with data trending
10x PQL to 100x PQL	< 30		
>100x PQL	< 50		

PQL = practical quantitation limit (undiluted)

< = less than

> = greater than

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There were no detections of 1,4-dioxane in the equipment rinsate blank or method blanks analyzed with groundwater samples collected during the May 2022 groundwater monitoring event (Table 3; Appendix B). Additionally, there were no detections of VOCs in the trip blanks, equipment rinsate blank or method blanks analyzed with groundwater samples collected during the May 2022 groundwater sampling event.

The data quality assessment also included review of laboratory QA/QC results. The laboratory analysis of 1,1-DCE from the groundwater sample collected from monitor well MW-21 was performed beyond the analysis method holding time, therefore, the 1,1-DCE result was qualified as estimated. The cause of the holding time exceedance was related to the high quantity of dilutions required to analyze 1,1-DCE from the groundwater sample and laboratory instrumentation issues at ATL that were occurring during the groundwater sampling event. All other laboratory QA/QC results are within acceptable criteria.

GROUNDWATER EXTRACTION AND TREATMENT PILOT STUDY

This section summarizes the pilot GETS operation within the three-month period of monitoring conducted March through May 2022. The pilot GETS consists of four groundwater extraction wells, the treatment system, and the disposal system; however, the current phase of pilot testing is operating using only two extraction wells, EW-02 and MW-29. Current extraction rates are nominally 40 gallons per minute (gpm) from extraction well EW-02 and nominally 10 gpm from extraction well MW-29. The treatment system processes extracted groundwater through an advanced oxidation unit that utilizes ultraviolet (UV) light and hydrogen peroxide (UV Ox), followed by a granular activated carbon polish prior to disposal to the sanitary sewer.

During the second quarter of 2022, the pilot GETS was operational approximately 97 percent of the available runtime and approximately 4.7 million gallons of groundwater was treated and discharged to the sanitary sewer (Table 4). The average operational monthly discharge flowrate to the sanitary sewer from March to May 2022 was approximately 36.7 gpm. Since startup of the pilot GETS, approximately 234 million gallons of groundwater has been treated at an average operational flowrate of 40.1 gpm through the end of May 2022 (Table 4).

Current monthly and quarterly pilot GETS monitoring activities include collecting groundwater samples from extraction wells EW-02 and MW-29 in addition to collecting samples at treatment system sampling ports: Influent, Post-Particulate-Filter, Post-UV-Ox, Carbon-Breakthrough, and Carbon-Effluent (Tables 5 and 6; Figures 4 and 5). Samples collected during these activities were transmitted to ATL for analysis in accordance with chain-of-custody procedures. Analytical results of the extraction wells and treatment system sampling have been summarized (Table 6; Appendix B).

The UV Ox advanced oxidation treatment unit is designed to remove 1,4-dioxane and most VOCs in groundwater. The carbon adsorption units provide a polish following the UV Ox treatment and remove possible low-level VOCs remaining in groundwater post UV Ox (principally low-level ethanes). The UV Ox advanced oxidation and carbon adsorption treatment units effectively removed VOCs and 1,4-dioxane from extracted groundwater in the second quarter of 2022. The samples collected from the effluent of the UV Ox treatment unit (Post-UV-Ox), carbon breakthrough, and carbon effluent were analyzed for VOCs and 1,4-dioxane. Results indicated non-detect values for 1,4-dioxane and VOCs, with the exception of a detection of the chloromethane at a concentration of 0.51 ug/L from the effluent of Post-UV-OX on May 5, 2022 and a detection of 1,1-dichloroethane from the carbon breakthrough at a concentration of 0.50 ug/L on April 7, 2022. Estimated concentrations of 1,1-dichloroethane, 1,1-dichloroethene, trichlorofluoromethane, and chloroform were detected above the method detection limit but below the reporting limit from select samples collected from the Post-UV-OX, carbon breakthrough, and carbon effluent during the second quarter of 2022, and results were qualified by the laboratory with "J" qualifiers (Table 6; Appendix B).

The pilot GETS continues to remove VOCs and 1,4-dioxane from extracted groundwater. During the second quarter of 2022, the pilot GETS removed approximately 2.4 pounds of VOCs and 1.0 pounds of 1,4-dioxane from

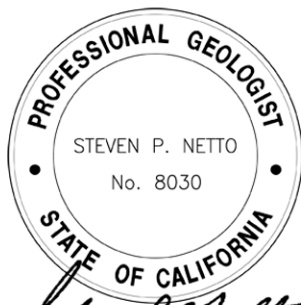
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extracted groundwater. Since startup of the pilot GETS in July 2008, approximately 197 pounds of VOCs and 55 pounds of 1,4-dioxane have been removed from groundwater through May 2022 (Figure 7). Operation of the pilot GETS continues to be optimized to maximize the treatment of 1,4-dioxane and VOCs in extracted groundwater.

If you have any questions or require additional information, please contact us at 858-455-6500.

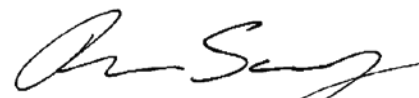
Sincerely,

HARGIS + ASSOCIATES, INC.




Steven P. Netto, PG 8030, CHG 872
Senior Hydrogeologist


Andrew M. Donnelly
Hydrogeologist


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SPN/AMD/RES/ibj

Enclosures

Tables	Table 1: Groundwater Monitoring Program Table 2: Groundwater Levels, Second Quarter 2022 Table 3: Prevalent Volatile Organic Compounds and 1,4-Dioxane in Groundwater, Second Quarter 2022 Table 4: Pilot Groundwater Extraction and Treatment System Operational Summary Table 5: Pilot Groundwater Extraction and Treatment System Sampling Schedule Table 6: Select Compounds Monitored in Pilot Groundwater Extraction and Treatment System Samples
Figures	Figure 1: Site Location Figure 2: Well and Piezometer Locations Figure 3: Water Level and Water Quality, Unit B, May 2022 Figure 4: Pilot Groundwater Extraction and Treatment System Operation and Extraction Well Water Levels Figure 5: 1,1-Dichloroethylene and 1,4-Dioxane Concentrations in Extraction Wells Figure 6: 1,4-Dioxane and Bromate in Influent and Post-Oxidation Samples Figure 7: Pilot Groundwater Extraction and Treatment System Mass Removal
Appendices	Appendix A: Groundwater Sampling Field Forms (provided on CD in hard copy) Appendix B: Laboratory Analytical Reports (provided on CD in hard copy)

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cc w/encl: 1 copy w-CD
Mr. Paul Pongetti, Department of Toxic Substances Control, Cypress
Mr. Dave Mark, Orange County Water District

2 copies w-CDs
Ms. Delaney Felix, City of Fullerton

Via Email Notification (CD Provided Upon Request)

Mr. Jon Hone, Raytheon Company
Mr. Danny Samorano, Raytheon Company
Mr. Roy Herndon, Orange County Water District
Mr. Pat Versluis, Orange County Water District
Ms. Kim Buss, Orange County Public Works
Mr. Aladdin Shaikh, City of Fullerton
Ms. Maile Gee, California RWQCB, Santa Ana Region
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Ms. Carol Owens, Greystar
Mr. Paul Rodolf, Hydraflow
Mr. Robinson Sioson, Hydraflow
Mr. Eric Silvers, Regency Centers

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REFERENCES

- California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), 2003. Letter from A. Plaza to P. Brewer, Raytheon Systems Company, re: Review of Additional Groundwater Assessment Workplan and Groundwater Monitoring Workplan and Sampling and Analysis Plan. May 20, 2003.
- _____, 2011. Email from W. Jeffers to C. Ross, S. Netto, P. Brewer, G. Taylor, re: Conditional Approval of Addendum No. 1 to the Ground Water Monitoring Work Plan, Raytheon Fullerton. June 7, 2011.
- _____, 2013. Email from W. Jeffers to C. Ross and S. Netto, re: Groundwater Extraction and Treatment System Pilot Testing Corrective Measures Study Workplan, Addendum #6. April 16, 2013.
- Hargis + Associates, Inc. (H+A), 2003. Groundwater Monitoring Work Plan and Sampling and Analysis Plan (Revision 1.0), Raytheon Company (former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California. April 25, 2003.
- _____, 2011a. Letter from C. Ross and S. Netto to W. Jeffers, DTSC, re: Addendum No. 1 to the *Groundwater Monitoring Work Plan and Sampling and Analysis Plan (Revision 1.0)*, by Hargis + Associates, Inc., dated April 25, 2003, for the Raytheon Company, (Former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California. February 11, 2011.
- _____, 2011b. Letter from S. Netto and K. Simon to W. Jeffers, DTSC, re: Amendment A, Addendum No. 1 to the *Groundwater Monitoring Work Plan and Sampling and Analysis Plan (Revision 1.0)*, by Hargis + Associates, Inc., dated April 25, 2003, for the Raytheon Company, (Former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California. June 16, 2011.
- _____, 2013. Groundwater Extraction and Treatment System Pilot Testing, Corrective Measures Study Workplan Addendum No. 6, Raytheon Company (former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California. February 27, 2013.
- _____, 2017. Letter from S. Netto and T. Evans to S. Rounds, DTSC, re: Addendum No. 2 to the *Groundwater Monitoring Work Plan and Sampling and Analysis Plan (Revision 1.0)*, by Hargis + Associates, Inc., dated April 25, 2003, for the Raytheon Company, (Former Hughes Aircraft Company), 1901 West Malvern Avenue, Fullerton, California. October 6, 2017.

TABLES

TABLE 1
GROUNDWATER MONITORING PROGRAM

WELL IDENTIFIER	HYDROGEOLOGIC ZONE	SAMPLED MAY 2022	SAMPLING FREQUENCY			
			QUARTERLY FEB, MAY, AUG, NOV	SEMIANNUAL FEBRUARY, AUGUST	ANNUAL FEBRUARY	BIENNIAL FEB (EVEN YEARS)
P-07	Perched				VOCs; 1,4-Dioxane	
P-09	Perched				VOCs; 1,4-Dioxane	
MW-35A	Other					VOCs; 1,4-Dioxane
MW-17	A		PIEZOMETER - WATER LEVEL MEASUREMENT ONLY			
MW-18	A			VOCs; 1,4-Dioxane		
MW-19	A					VOCs
MW-22	A					VOCs; 1,4-Dioxane
MW-23	A					VOCs
MW-34A	A			VOCs; 1,4-Dioxane		
MW-35B	A					VOCs; 1,4-Dioxane
MW-38	A				VOCs; 1,4-Dioxane	
MW-13	AB				VOCs; 1,4-Dioxane	
MW-15	AB			VOCs		
MW-26A	AB		PIEZOMETER - WATER LEVEL MEASUREMENT ONLY			
MW-26B	AB		PIEZOMETER - WATER LEVEL MEASUREMENT ONLY			
MW-32A	AB			VOCs; 1,4-Dioxane		
EW-01	B	☒	VOCs; 1,4-Dioxane			
EW-02*	B	☒	VOCs; 1,4-Dioxane			
MW-16	B			VOCs; 1,4-Dioxane		
MW-26C	B	☒	VOCs; 1,4-Dioxane			
MW-27	B				VOCs; 1,4-Dioxane	
MW-28	B	☒	VOCs; 1,4-Dioxane			
MW-29*	B	☒	VOCs; 1,4-Dioxane			
MW-30A	B	☒	VOCs; 1,4-Dioxane			
MW-31	B	☒	VOCs; 1,4-Dioxane			
MW-32B	B	☒	VOCs; 1,4-Dioxane			
MW-33	B	☒	VOCs; 1,4-Dioxane			
MW-34B	B	☒	VOCs; 1,4-Dioxane			
MW-35C	B	☒	VOCs; 1,4-Dioxane			
MW-36	B	☒	VOCs; 1,4-Dioxane			
MW-39	B	☒	VOCs; 1,4-Dioxane			
MW-40	B	☒	VOCs; 1,4-Dioxane			
MW-41	B	☒	VOCs; 1,4-Dioxane			
MW-42	B	☒	VOCs; 1,4-Dioxane			
MW-43	B	☒	VOCs; 1,4-Dioxane			
MW-21	BC	☒	VOCs; 1,4-Dioxane			
MW-08	BC	☒	VOCs; 1,4-Dioxane			
MW-30B	BC	☒	VOCs; 1,4-Dioxane			
MW-34C	BC			VOCs; 1,4-Dioxane		
MW-09	C			VOCs; 1,4-Dioxane		
MW-24	C				VOCs; 1,4-Dioxane	
MW-32C	C			VOCs; 1,4-Dioxane		
MW-06	D				VOCs	
MW-20	D			VOCs; 1,4-Dioxane		
MW-25	D		WATER LEVEL MEASUREMENT ONLY			
MW-37	D				VOCs; 1,4-Dioxane	

FOOTNOTES:

* = Extraction well monitored monthly as part of the Groundwater Extraction and Treatment System Pilot Testing

VOCs = volatile organic compounds

TABLE 2
GROUNDWATER LEVELS
SECOND QUARTER 2022

Well Identifier	Date Measured	Reference Point Elevation ^(a) (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Remediation System On
<u>Regional Groundwater System Monitor and Extraction Wells</u>					
MW-06	05/16/22	184.70	153.72	30.98	
MW-08	05/16/22	155.91	132.04	23.87	
MW-09	05/16/22	180.10	152.05	28.05	
MW-13	05/16/22	141.84	122.74	19.10	
MW-15	05/16/22	144.95	129.71	15.24	
MW-16	05/16/22	142.40	122.48	19.92	
MW-17	05/16/22	142.70	122.70	20.00	
MW-18	05/16/22	142.32	123.16	19.16	
MW-19	05/16/22	142.06	122.79	19.27	
MW-20	05/16/22	184.19	149.03	35.16	
MW-21	05/16/22	141.18	116.58	24.60	
MW-22	05/16/22	138.65	119.44	19.21	
MW-23	05/16/22	137.33	119.66	17.67	
MW-24	05/16/22	142.83	117.75	25.08	
MW-25	05/16/22	142.64	116.11	26.53	
MW-26A	05/16/22	137.04	118.93	18.11	
MW-26B	05/16/22	137.05	121.55	15.50	
MW-26C	05/16/22	137.22	118.47	18.75	
MW-27	05/16/22	137.16	118.03	19.13	
MW-28	05/16/22	140.77	122.22	18.55	
MW-29	03/03/22	139.81	180.79	-40.98	Pilot GETS
MW-29	03/17/22	139.81	180.90	-41.09	Pilot GETS
MW-29	04/07/22	139.81	182.44	-42.63	Pilot GETS
MW-29	04/21/22	139.81	177.91	-38.10	Pilot GETS
MW-29	05/05/22	139.81	179.36	-39.55	Pilot GETS
MW-29	05/16/22	139.81	181.11	-41.30	Pilot GETS
MW-30A	05/16/22	129.44	111.78	17.66	
MW-30B	05/16/22	129.39	109.80	19.59	
MW-31	05/16/22	119.60	101.16	18.44	
MW-32A	05/16/22	92.88	76.20	16.68	
MW-32B	05/16/22	92.89	75.59	17.30	

TABLE 2
GROUNDWATER LEVELS
SECOND QUARTER 2022

Well Identifier	Date Measured	Reference Point Elevation ^(a) (feet msl)	Depth to Water (feet btoc)	Water Level Elevation (feet msl)	Remediation System On
<u>Reginal Groundwater System Monitor and Extraction Wells (continued)</u>					
MW-32C	05/16/22	92.88	67.70	25.18	
MW-33	05/16/22	83.19	67.61	15.58	
MW-34A	05/16/22	153.25	140.89	12.36	
MW-34B	05/16/22	153.11	136.00	17.11	
MW-34C	05/16/22	153.29	135.80	17.49	
MW-35A	05/16/22	93.57	76.91	16.66	
MW-35B	05/16/22	93.56	80.13	13.43	
MW-35C	05/16/22	93.55	76.90	16.65	
MW-36	05/16/22	86.65	71.50	15.15	
MW-37	05/16/22	155.60	132.53	23.07	
MW-38	05/16/22	154.90	144.54	10.36	
MW-39	05/16/22	84.25	69.73	14.52	
MW-40	05/16/22	123.40	103.25	20.15	
MW-41	05/16/22	155.60	138.90	16.70	
MW-42	05/16/22	82.80	68.45	14.35	
MW-43	05/16/22	76.64	62.64	14.00	
EW-01	05/16/22	141.07	120.83	20.24	
EW-02	03/03/22	132.97	118.94	14.03	Pilot GETS
EW-02	03/17/22	132.97	119.61	13.36	Pilot GETS
EW-02	04/07/22	132.97	118.74	14.23	Pilot GETS
EW-02	04/21/22	132.97	118.75	14.22	Pilot GETS
EW-02	05/05/22	132.97	118.86	14.11	Pilot GETS
EW-02	05/16/22	132.97	118.97	14.00	Pilot GETS
EW-02	05/18/22	132.97	118.52	14.45	Pilot GETS
<u>Perched Zone Water Levels</u>					
P-07	05/16/22	142.31	111.38	30.93	
P-09	05/16/22	183.86	120.81	63.05	

FOOTNOTES:

^(a) Reference point elevations are relative to City of Fullerton datum.

btoc = Below top of casing

msl = Mean sea level

Pilot GETS = Pilot Groundwater Extraction and Treatment System On

TABLE 3
PREVALENT VOLATILE ORGANIC COMPOUNDS AND 1,4-DIOXANE IN GROUNDWATER
SECOND QUARTER 2022

		Concentration (micrograms per liter).....														
		VOLATILE ORGANIC COMPOUNDS (FEDERAL MCL/CALIFORNIA MCL)													Semi-VOCs	
Well Identifier / Sample Identifier	Date Sampled	QA Code	Benzene (5/1)	Carbon Tetrachloride (5/0.5)	Chloroform (80/80)	1,1-DCA (~5)	1,2-DCA (5/0.5)	1,1-DCE (7/6)	cis-1,2-DCE (70/6)	PCE (5/5)	1,1,1-TCA (200/200)	1,1,2-TCA (5/5)	TCE (5/5)	TCFM (~150)	Toluene (1,000/150)	1,4-Dioxane (3*/1**)
Regional Groundwater System Monitor and Extraction Wells																
MW-08	05/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	17	1.4	< 0.50	< 0.50	< 0.50	42	< 0.50	< 0.50	1.4
MW-08 Historical Range***			< 0.50 - 0.95	< 0.50	< 0.50 - 0.86	< 0.50 - 5.1	< 0.50 - 0.99	< 0.50 - 500	< 0.50 - 13	< 0.50 - 2.6	< 0.50	< 0.50	< 0.50 - 480	< 0.50 - 1.0	< 0.50 - 2.3	< 0.20 - 130
MW-21	05/17/22	ORG	< 0.50	0.65	0.31 J	36	6.5	1,800 E	1.4	4.6	< 0.50	17	15	0.32 J	< 0.50	700
MW-21 Historical Range***			< 0.50	< 0.50 - 1.9	< 0.50 - 4.6	< 0.50 - 71	< 0.50 - 8.9	200 - 4,900	< 0.50 - 2.4	< 0.50 - 12	< 0.50 - 2.0	< 0.50 - 27	0.96 - 46	< 0.50 - 0.53	< 0.50	11 - 1,100
MW-26C	05/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-26C Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50 - 1.7	< 0.50	< 0.50 - 120	< 0.50	< 0.50 - 0.79	< 0.50	< 0.50 - 0.77	< 0.50	< 0.50	< 0.50 - 22	< 0.20 - 57
MW-28	05/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-28 Historical Range***			< 0.50	< 0.50	< 0.50 - 0.20 J	< 0.50 - 0.94	< 0.50	< 0.50 - 76 E	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20 - 19
MW-29	03/03/22	ORG	< 0.50	< 0.50	< 0.50	1.5	< 0.50	180	< 0.50	0.51	< 0.50	0.50	1.6	0.71	< 0.50	89
MW-29	03/17/22	ORG	< 0.50	< 0.50	0.23 J	1.5	< 0.50	210	< 0.50	0.58	< 0.50	< 0.50	1.5	0.71	< 0.50	75
MW-29	04/07/22	ORG	< 0.50	< 0.50	< 0.50	1.4	< 0.50	340	< 0.50	< 0.50	< 0.50	0.61	1.3	< 0.50	< 0.50	74
MW-29	04/21/22	ORG	< 0.50	< 0.50	0.13 J	1.4	< 0.50	170	< 0.50	0.17 J	< 0.50	0.42 J	1.3	0.90	< 0.50	71
MW-29	05/05/22	ORG	< 0.50	< 0.50	< 0.50	1.3	< 0.50	190	< 0.50	0.51	< 0.50	< 0.50	1.6	0.86	< 0.50	64
MW-29	05/18/22	ORG	< 0.50	< 0.50	0.17 J	0.93	< 0.50	140	< 0.50	0.41 J	< 0.50	0.35 J	1.5	0.47 J	< 0.50	63
MW-29 Historical Range***			< 0.50 - 0.57	< 0.50 - 1.8	< 0.50 - 0.80	< 0.50 - 9.2	< 0.50 - 1.4	85 - 900 E	< 0.50 - 0.61	< 0.50 - 6.6	< 0.50	< 0.50 - 2.3	< 0.50 - 8.3	< 0.50 - 2.2	< 0.50	26 BE - 301
MW-30A	05/18/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-30A Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50 - 2.9	< 0.50 - 0.67	< 0.50 - 270	< 0.50	< 0.50 - 0.58	< 0.50	< 0.50 - 1.1	< 0.50 - 1.9	< 0.50	< 0.50	< 0.20 - 95
MW-30B	05/18/22	ORG	< 0.50	< 0.50	0.39 J	< 0.50	< 0.50	23	3.6	< 0.50	< 0.50	< 0.50	83	< 0.50	< 0.50	1.1
MW-30B Historical Range***			< 0.50	< 0.50	< 0.50 - 0.77	< 0.50 - 0.15 J	< 0.50	< 0.50 - 31 E	< 0.50 - 8.2	< 0.50 - 0.51	< 0.50	< 0.50	< 0.50 - 110	< 0.50	< 0.50 - 4.5	< 0.20 - 28 E
MW-31	05/18/22	ORG	< 0.50	< 0.50	< 0.50	0.56	< 0.50	72	0.15 J	< 0.50	< 0.50	< 0.50	4.4	< 0.50	< 0.50	4.5
MW-31 Historical Range***			< 0.50	< 0.50 - 0.23 J	< 0.50 - 0.58	< 0.50 - 5.0	< 0.50 - 0.51	25 - 430	< 0.50 - 3.0 E	< 0.50 - 2.5	< 0.50	< 0.50 - 1.2	0.50 - 21	< 0.50	< 0.50 - 1.0	< 0.20 - 33 E
MW-32B	05/17/22	ORG	< 0.50	< 0.50	< 0.50	0.30 J	< 0.50	47	0.83	< 0.50	< 0.50	< 0.50	15	< 0.50	< 0.50	1.9
MW-32B Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50 - 3.6	< 0.50	16 - 290	1.4 - 7.9	< 0.50	< 0.50	< 0.50	13 - 75	< 0.50	< 0.50 - 0.14 J	< 2.0 - 8.0
MW-33	05/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	6.9	< 0.50	< 0.50	< 0.50	< 0.50	1.0	< 0.50	< 0.50	< 0.20
MW-3300	05/17/22	FD	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	6.5	< 0.50	< 0.50	< 0.50	< 0.50	0.65	< 0.50	< 0.50	< 0.20
MW-33	05/17/22	SPT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	4.9	< 0.50	< 0.50	< 0.50	< 0.50	0.75	< 0.50	< 0.50	< 0.50
MW-33 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 - 12	< 0.50	< 0.50 - 0.32 J	< 0.50	< 0.50	< 0.50 - 2.0	< 0.50	< 0.50 - 1.4	< 0.20 - 0.22
MW-34B	05/17/22	ORG	< 0.50	< 0.50	< 0.50	0.47 J	< 0.50	24 E	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	11
MW-3400B	05/17/22	FD	< 0.50	< 0.50	< 0.50	0.68	< 0.50	46 E	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	12
MW-34B	05/17/22	SPT	< 0.50	< 0.50	< 0.50	0.53	< 0.50	29 E	< 0.50	< 0.50	< 0.50	< 0.50	0.21 J	< 0.50	< 0.50	17
MW-34B Historical Range***			< 0.50	< 0.50	< 0.50 - 0.50	< 0.50 - 9.8	< 0.50 - 1.7	20 E - 1,100	< 0.50	< 0.50 - 0.54	< 0.50	< 0.50 - 2.6	< 0.50 - 2.1	< 0.50	< 0.50 - 2.6	< 2.0 E - 260

TABLE 3
PREVALENT VOLATILE ORGANIC COMPOUNDS AND 1,4-DIOXANE IN GROUNDWATER
SECOND QUARTER 2022

Concentration (micrograms per liter)																
VOLATILE ORGANIC COMPOUNDS (FEDERAL MCL/CALIFORNIA MCL)																Semi-VOCs
Well Identifier / Sample Identifier	Date Sampled	QA Code	Benzene (5/1)	Carbon Tetrachloride (5/0.5)	Chloroform (80/80)	1,1-DCA (~5)	1,2-DCA (5/0.5)	1,1-DCE (7/6)	cis-1,2-DCE (70/6)	PCE (5/5)	1,1,1-TCA (200/200)	1,1,2-TCA (5/5)	TCE (5/5)	TCFM (~150)	Toluene (1,000/150)	1,4-Dioxane (3*/1**)
Regional Groundwater System Monitor and Extraction Wells (cont'd)																
MW-35C	05/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-35C Historical Range***			< 0.50	< 0.50	< 0.50 - 120	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20 - 0.06 J
MW-36	05/18/22	ORG	< 0.50	< 0.50	< 0.50	0.91	< 0.50	81	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
MW-36 Historical Range***			< 0.50	< 0.50	< 0.50 - 0.15 J	< 0.50 - 1.9	< 0.50	2.9 - 220	< 0.50	< 0.50	< 0.50	< 0.50 - 0.24 J	< 0.50 - 0.26 J	< 0.50	< 0.50 - 5.9	< 0.20 - 15
MW-39	05/18/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-39 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 - 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 - 1.4	< 0.20
MW-40	05/18/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-40 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 - 0.29 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20 - 0.61
MW-41	05/18/22	ORG	< 0.50	< 0.50	0.50	< 0.50	< 0.50	0.58	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-41 Historical Range***			< 0.50	< 0.50	< 0.50 - 0.86	< 0.50 - 1.3	< 0.50	< 0.50 - 130	< 0.50	< 0.50 - 0.20 J	< 0.50	< 0.50 - 0.39 J	< 0.50 - 0.49 J	< 0.50	< 0.50	< 0.20 - 18
MW-42	05/17/22	ORG	< 0.50	< 0.50	< 0.50	0.67	< 0.50	42	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.7
MW-42 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50 - 0.74 J, E	< 0.50	0.41 J - 53	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20 - 2.5
MW-43	05/19/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-43 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
EW-01	05/17/22	ORG	< 0.50	< 0.50	< 0.50	0.27 J	< 0.50	27	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	13
EW-01 Historical Range***			< 0.50 - 2.0	< 0.50 - 0.53	< 0.50 - 1.2	< 0.50 - 16	< 0.50 - 4.0	< 0.50 - 1,600 E	< 0.50 - 0.52	< 0.50 - 4.3	< 0.50	< 0.50 - 10	< 0.50 - 3.3	< 0.50 - 0.61	< 0.50 - 4.6	< 2.0 - 990 E
EW-02 ⁽¹⁾	03/03/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	11	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02	03/17/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	13	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02	04/07/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	16	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02	04/21/22	ORG	< 0.50	< 0.50	0.14 J	0.15 J	< 0.50	14	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02	05/05/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	16	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02 ⁽²⁾	05/18/22	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
EW-02 Historical Range***			< 0.50	< 0.50	< 0.50	< 0.50 - 1.5	< 0.50	2.3 - 160	< 0.50	< 0.50	< 0.50	< 0.50 - 0.59	< 0.50	< 0.50	< 0.50 - 0.85	< 2.0 - 48
QUALITY ASSURANCE/QUALITY CONTROL SAMPLES																
TB-030322	03/03/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-031722 ⁽³⁾	03/17/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-040722	04/07/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-042122	04/21/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-050522	05/05/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-051722A	05/17/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-051722B	05/17/22	TB-SPT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
RB-051722	05/17/22	RB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
TB-051822	05/18/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA
TB-051922	05/19/22	TB	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	NA

TABLE 3
PREVALENT VOLATILE ORGANIC COMPOUNDS AND 1,4-DIOXANE IN GROUNDWATER
SECOND QUARTER 2022

		Concentration (micrograms per liter).....														
		VOLATILE ORGANIC COMPOUNDS (FEDERAL MCL/CALIFORNIA MCL)													Semi-VOCs	
Well Identifier / Sample Identifier	Date Sampled	QA Code	Benzene (5/1)	Carbon Tetrachloride (5/0.5)	Chloroform (80/80)	1,1-DCA (~5)	1,2-DCA (5/0.5)	1,1-DCE (7/6)	cis-1,2-DCE (70/6)	PCE (5/5)	1,1,1-TCA (200/200)	1,1,2-TCA (5/5)	TCE (5/5)	TCFM (~150)	Toluene (1,000/150)	1,4-Dioxane (3*/1**)

NOTE: Detections are shown in **BOLD** type.

⁽¹⁾ Chloromethane was detected at a concentration of 0.54 ug/L in the original sample for extraction well EW-02 on 03/03/22

⁽²⁾ Chloromethane was detected at a concentration of 0.46 J ug/L in the original sample for extraction well EW-02 on 05/18/22

⁽³⁾ Methylene chloride and styrene was detected at concentrations of 0.81 J ug/L and 0.24 J ug/L, respectively, in the trip blank sample TB-031722 on 03/17/22

FOOTNOTES:

1,1-DCA = 1,1-Dichloroethane
 1,2-DCA = 1,2-Dichloroethane
 1,1-DCE = 1,1-Dichloroethene
 cis-1,2-DCE = cis-1,2-Dichloroethene
 PCE = Tetrachloroethene
 1,1,1-TCA = 1,1,1-Trichloroethane
 1,1,2-TCA = 1,1,2-Trichloroethane

TCE = Trichloroethene
 TCFM = Trichlorofluoromethane
 (<) = Less than; the value is the Limit of Detection for that compound
 * = 1,4-Dioxane Action Level of 3 ug/l
 ** = California Notification Level for 1,4-Dioxane of 1 ug/l
 *** = Historical Range determined using original samples exclusively
 Semi-VOCs = Semivolatile organic compounds

NA = Not analyzed for constituent ug/l = Micrograms per liter
 FD = Field duplicate sample MCL = Maximum Contaminant Level
 ORG = Original sample QA = Quality Assurance
 TB = Trip blank sample SPT = Split sample
 RB = Rinsate blank sample
 B = Analyte detected in the associated Method Blank
 E = Data qualified as Estimated in accordance with quality control criteria.
 J = Estimated Value; analyte detected at less than the Reporting Limit and
 greater than or equal to the Method Detection Limit

TABLE 4
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM OPERATIONAL SUMMARY

OPERATIONAL PERIOD (MONTH/QUARTER/YEAR)	WELLFIELD PRODUCTION ^(a) (gallons)	AVERAGE DISCHARGE RATE ^(b) (gpm)	AVERAGE OPERATIONAL DISCHARGE RATE ^(c) (gpm)	OPERATIONAL HOURS DURING OPERATIONAL PERIOD	HOURS IN OPERATIONAL PERIOD	% OPERATIONAL
2008^(d)	3,659,562	13.8	18.2	3,358	4,416	76%
2009	5,787,848	11.0	18.1	5,319	8,760	61%
2010	14,295,261	27.2	46.4	5,131	8,760	59%
2011	20,456,899	38.9	45.8	7,442	8,760	85%
2012^(e)	19,378,122	40.2	47.2	6,850	8,040	85%
2013^(f)	21,148,029	40.2	45.7	7,713	8,760	88%
2014^(g)	7,690,471	14.6	46.8	2,740	8,760	31%
2015^(h)	18,019,312	34.3	47.9	6,275	8,760	72%
2016⁽ⁱ⁾	21,977,404	41.8	44.2	8,284	8,736	95%
2017^(j)	18,364,603	34.6	39.8	7,684	8,835	87%
2018^(k)	18,144,835	34.5	38.3	7,889	8,760	90%
2019^(l)	18,725,398	35.8	40.3	7,737	8,710	89%
2020^(m)	19,500,449	36.9	38.1	8,521	8,807	97%
2021⁽ⁿ⁾	18,500,784	35.3	36.3	8,508	8,739	97%
December 2021	1,246,691	25.4	33.6	618	818	76%
January 2022	1,452,688	34.8	35.2	688	695	99%
February 2022	1,379,965	34.4	35.3	651	669	97%
Q1 2022	4,079,344	31.2	34.7	1,957	2,182	90%
March 2022	1,823,636	36.1	36.2	839	841	100%
April 2022	1,431,910	35.6	39.2	609	670	91%
May 2022	1,415,085	35.0	35.0	674	675	100%
Q2 2022	4,670,631	35.6	36.7	2,121	2,186	97%
SINCE INCEPTION	234,398,952	32.0	40.1	97,529	121,971	80%

TABLE 4
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM OPERATIONAL SUMMARY

OPERATIONAL PERIOD (MONTH/QUARTER/YEAR)	WELLFIELD PRODUCTION ^(a) (gallons)	AVERAGE DISCHARGE RATE ^(b) (gpm)	AVERAGE OPERATIONAL DISCHARGE RATE ^(c) (gpm)	OPERATIONAL HOURS DURING OPERATIONAL PERIOD	HOURS IN OPERATIONAL PERIOD	% OPERATIONAL

Notes:

(a) Based on Effluent totalizer readings from CEFF, which also includes relatively small amounts of monitor well purge water from quarterly sampling events, well installations, and aquifer testing.

(b) Total volume of water treated during the operational period divided by the total number of minutes in that operational period.

(c) Total volume of water treated during the operational period divided by the minutes of operation in that operational period.

(d) Operational period beginning 7/1/2008 (first month of system operation).

(e) 2012 Calendar year is from 1/1/2012 through 11/30/2012.

(f) 2013 Calendar year is from 12/1/2012 through 11/30/2013.

(g) 2014 Calendar year is from 12/1/2013 through 11/30/2014.

(h) 2015 Calendar year is from 12/1/2014 through 11/30/2015

(i) 2016 Calendar year is from 12/1/2015 through 11/30/2016

(j) 2017 Calendar year is from 12/1/2016 through 11/30/2017

(k) 2018 Calendar year is from 12/1/2017 through 11/30/2018

(l) 2019 Calendar year is from 12/1/2018 through 11/30/2019

(m) 2020 Calendar year is from 12/1/2019 through 11/30/2020

(n) 2021 Calendar year is from 12/1/2020 through 11/30/2021

gpm = gallons per minute

CEFF = Carbon effluent

Refer to previous quarterly reports for detail of 2008 thru 2020 operational summary

Treatment of groundwater from EW-02 initiated in 2010

Treatment of groundwater from MW-29 initiated in 2014

TABLE 5
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM SAMPLING SCHEDULE

COMPOUND(S) / CONSITITUENT				ANALYTICAL METHOD				SAMPLE CONTAINER				REPORTING DETECTION LIMITS (milligrams per liter)				SAMPLE FREQUENCY AND LOCATION																			
																Daily Samples ¹ : Days 1-5					Weekly Samples ¹ : Weeks 1-4					Monthly Samples: Week 5+					Quarterly Samples: Week 1+				
																System Influent (INF)	Post-Filter (PF)	Post-Oxidation (POX)	Carbon Breakthrough (CBT) ³	Post-Carbon (CEFF)	System Influent (INF)	Post-Filter (PF)	Post-Oxidation (POX)	Carbon Breakthrough (CBT) ³	Post-Carbon (CEFF)	Extraction Wells (Well ID) ²	System Influent (INF)	Post-Filter (PF)	Post-Oxidation (POX)	Carbon Breakthrough (CBT) ³	Post-Carbon (CEFF)	Extraction Wells (Well ID) ²	System Influent (INF)	Post-Oxidation (POX)	Post-Carbon (CEFF)
COMPOUNDS/CONSTITUENTS NORMALLY REQUIRED AS PART OF NPDES OR WDR PERMITS, PURSUANT TO CRWQCB REGION 8 ORDER NO. R8-2003-0085																																			
Volatile Organic Compounds	EPA 8260B	3 - 40 mL VOA, HCl	QAPP ⁴	X		X	X	X		X		X	X	X		X	X		X	X	X														
1,4-Dioxane	EPA 8270 Modified	1 L Amber	0.002	X						X						X	X																		
1,4-Dioxane	EPA 8270 SIM	1 L Amber	0.0002			X						X						X	X	X															
Total Suspended Solids	SM2540D	1 L Poly	10														X																		
Total Dissolved Solids	SM2540C	250 mL Poly	10																			X	X	X	X										
SELECTED METALS																																			
Dissolved Metals (Iron, Manganese, Calcium, Sodium, Magnesium)	EPA 6010B	500 mL poly	QAPP ⁴	(a)																		X	X												
Selenium	EPA 6010B	500 mL poly, HNO ₃	QAPP ⁴																			X	X												
SELECTED INORGANIC CONSTITUENTS																																			
Hydroxide Alkalinity	SM2320B	1 L Poly	2.0	(a)													X	X				X	X												
Bicarbonate Alkalinity	SM2320B	1 L Poly	2.0	(a)													X	X				X	X												
Carbonate Alkalinity	SM2320B	1 L Poly	2.0	(a)													X	X				X	X												
Total Alkalinity	SM2320B	1 L Poly	2.0	(a)													X	X				X	X												
BROMATE EVALUATION																																			
Bromate	EPA 317.0	60 mL Poly	0.0005			X					X					X		X																	
Bromide	EPA 300.0	125 mL Poly	0.05	(a)						(a)						X	X																		
OTHER CONSTITUENTS/COMPOUNDS																																			
Total Organic Carbon	SM5310B	2 - 40 mL VOA, HCl	3.0	(a)													X	X				X	X												
Anions (Chloride, Sulfate, Nitrate, Nitrite, and Phosphate)	EPA 300.0	125 mL Poly	Varies	(a)																		X	X	X											
Chemical Oxygen Demand	EPA 410.4	125 mL Amber, H2SO4	5.0	(a)																		X	X	X											
UV Absorption (UVA) @254nm	EPA 415.3	125 mL Amber	N/A		(a)												X					X	X	X											
Field Parameters																																			
Dissolve Oxygen (DO)	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
Electrical Conductance (EC)	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
Redox Potential	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
Temperature	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
pH	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
Turbidity	N/A	N/A	N/A	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X														
Flow-Meter	N/A	N/A	N/A	X						X						X	X																		
Residual Hydrogen Peroxide	N/A	N/A	N/A			(a)	(a)	(a)				X	X	X				X	X	X															

TABLE 5
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM SAMPLING SCHEDULE

FOOTNOTES:

(a) Only one sample to be collected during sampling period.

1 Daily and weekly samples collected during the first month of operation will be repeated after major modifications to system equipment or operating parameters, as detailed in the Workplan.

2 If more than one extraction well is in operation, combined influent samples will be collected in addition to extraction wellhead samples, with the same sampling schedule as the extraction wellheads.

3 Carbon breakthrough will be collected from the effluent of the first carbon unit in series; when breakthrough of the first unit is detected, the breakthrough sample will be collected from the effluent of the second carbon unit in series.

4 QAPP, Quality Assurance Project Plan, Appendix B of Additional Groundwater Assessment Workplan, Hargis + Associates, Inc., April 25, 2003.

CRWQCB = California Regional Water Quality Control Board, Santa Ana Region 8

NPDES = National Pollutant Discharge Elimination System

WDR = Waste Discharge Requirement

N/A = Not applicable

mL = Milliliter

VOA = Volatile organic analysis

HCl = Hydrochloric acid

HNO₃ = Nitric acid

H₂SO₄ = Sulfuric acid

nm = Nanometers

EPA = U.S. Environmental Protection Agency

SIM = Selected ion monitoring

SM = Standard Method

L = Liter

poly = High density polyethylene bottle

Amber = Amber glass bottle

TABLE 6
SELECT COMPOUNDS MONITORED IN
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM SAMPLES

Compound	Date	Units	MW-21 ^(a)	MW-29	EW-01 ^(a)	EW-02	INF	PF	POX	CBT	CEFF
1,1,2-Trichloroethane (5 ug/L MCL)	03/03/22	ug/L	--	0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	0.61	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	0.42 J	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	17	--	<0.50	--	--	--	--	--	--
	05/18/22	ug/L	--	0.35 J	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
1,1-Dichloroethane (5 ug/L MCL)	03/03/22	ug/L	--	1.5	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	1.5	--	<0.50	0.52	--	0.34 J	0.29 J	<0.50
	04/07/22	ug/L	--	1.4	--	<0.50	0.61	--	<0.50	0.50	<0.50
	04/21/22	ug/L	--	1.4	--	0.15 J	0.57	--	0.31 J	0.29 J	0.26 J
	05/05/22	ug/L	--	1.3	--	<0.50	0.63	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	36	--	0.27 J	--	--	--	--	--	--
	05/18/22	ug/L	--	0.93	--	<0.50	0.36 J	--	0.20 J	0.15 J	<0.50
1,1-Dichloroethene (6 ug/L MCL)	03/03/22	ug/L	--	180	--	11	52	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	210	--	13	61	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	340	--	16	65	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	170	--	14	58	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	190	--	16	62	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	1800 E	--	27	--	--	--	--	--	--
	05/18/22	ug/L	--	140	--	12	46	--	<0.50	0.16 J	<0.50
1,2-Dichloroethane (0.5 ug/L MCL)	03/03/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	6.5	--	<0.50	--	--	--	--	--	--
	05/18/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
cis-1,2-Dichloroethene (6 ug/L MCL)	03/03/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	1.4	--	<0.50	--	--	--	--	--	--
	05/18/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
Tetrachloroethene (5 ug/L MCL)	03/03/22	ug/L	--	0.51	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	0.58	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	<0.50	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	0.17 J	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	0.51	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	4.6	--	<0.50	--	--	--	--	--	--
	05/18/22	ug/L	--	0.41 J	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
Trichloroethene (5 ug/L MCL)	03/03/22	ug/L	--	1.6	--	<0.50	0.52	--	<0.50	<0.50	<0.50
	03/17/22	ug/L	--	1.5	--	<0.50	0.62	--	<0.50	<0.50	<0.50
	04/07/22	ug/L	--	1.3	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	04/21/22	ug/L	--	1.3	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/05/22	ug/L	--	1.6	--	<0.50	<0.50	--	<0.50	<0.50	<0.50
	05/17/22	ug/L	15	--	<0.50	--	--	--	--	--	--
	05/18/22	ug/L	--	1.5	--	<0.50	0.51	--	<0.50	<0.50	<0.50
1,4-Dioxane (1 ug/L California Notification Level)	03/03/22	ug/L	--	89	--	<2.0	25	--	<0.20	<0.20	<0.20
	03/17/22	ug/L	--	75	--	<2.0	23	--	<0.20	<0.20	<0.20
	04/07/22	ug/L	--	74	--	<2.0	24	--	<4.0	<4.0	<4.0
	04/21/22	ug/L	--	71	--	<2.0	23	--	<0.20	<0.20	<0.20
	05/05/22	ug/L	--	64	--	<2.0	17	--	<0.20	<0.20	<0.20
	05/17/22	ug/L	700	--	13	--	--	--	--	--	--
	05/18/22	ug/L	--	63	--	<2.0	20	--	<0.20	<0.20	<0.20
Bromide	03/03/22	mg/L	--	0.71	--	0.80	1.0	--	--	--	--
	04/07/22	mg/L	--	<0.10	--	<0.10	<0.10	--	--	--	--
	05/05/22	mg/L	--	0.29	--	0.18	0.22	--	--	--	--

TABLE 6
SELECT COMPOUNDS MONITORED IN
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM SAMPLES

Compound	Date	Units	MW-21 ^(a)	MW-29	EW-01 ^(a)	EW-02	INF	PF	POX	CBT	CEFF
Bromate (10 ug/L MCL)	03/03/22	ug/L	--	--	--	--	<5.0	--	<5.0	--	--
	04/07/22	ug/L	--	--	--	--	<5.0	--	<5.0	--	--
	05/05/22	ug/L	--	--	--	--	<5.0	--	<5.0	--	--
Total Suspended Solids	03/03/22	mg/L	--	--	--	--	--	<1.0	--	--	--
	04/07/22	mg/L	--	--	--	--	--	<1.0	--	--	--
Total Dissolved Solids (500 mg/L MCL)	03/03/22	mg/L	--	760	--	600	660	--	660	--	640

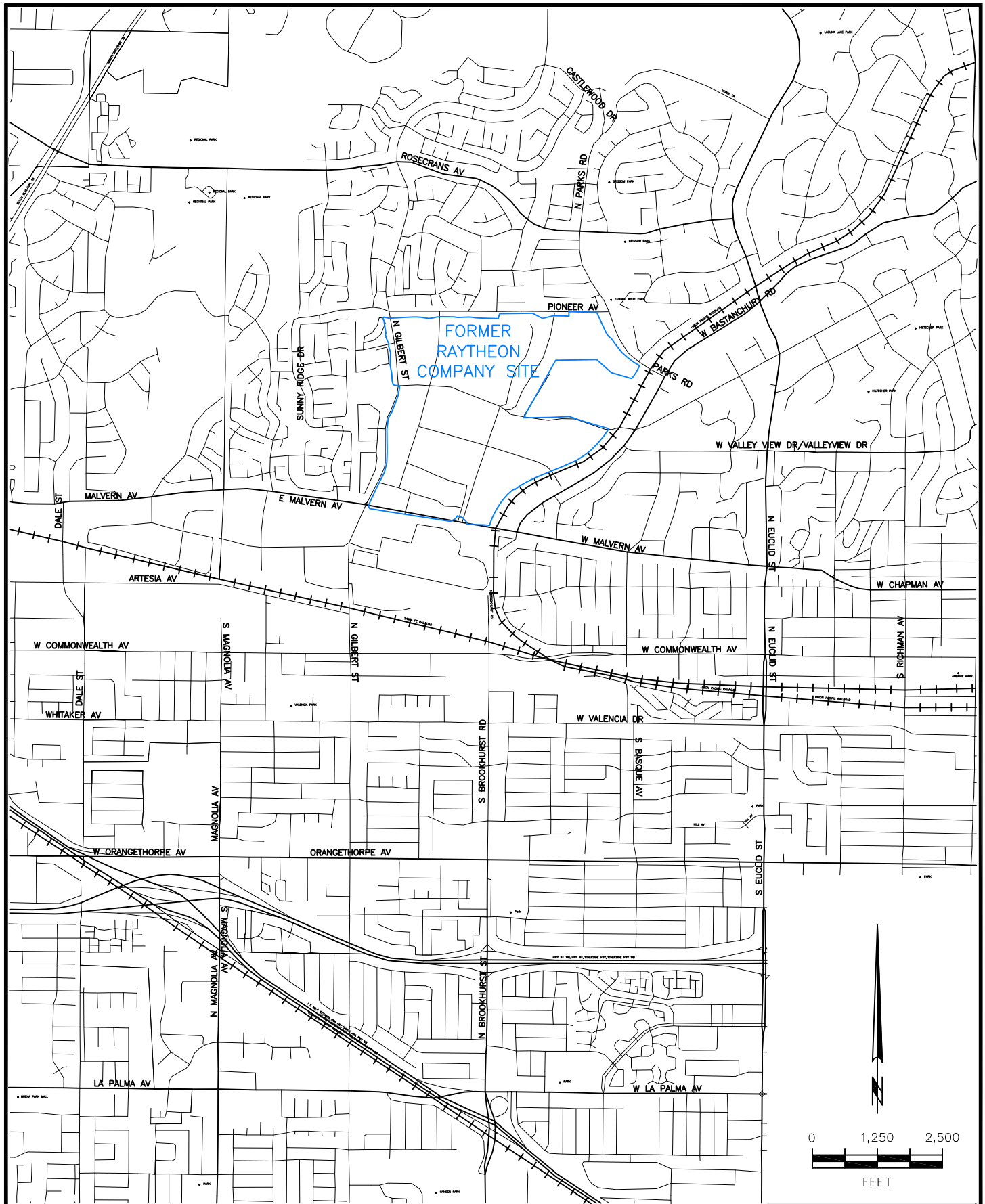
NOTE: Detections are shown in **BOLD** type.

FOOTNOTES:

- ^(a) = inactive extraction wells; extraction wells MW-21 and EW-01 operated routinely from July 2008 to November 2009
- MCL = Drinking Water Maximum Contaminant Level
- ug/L = Micrograms per liter
- mg/L = Milligrams per liter
- = Not scheduled for performance monitoring
- (<) = Less than; the numerical value is the Limit of Detection for that compound
- MW = Monitor Well(s)
- EW = Extraction Well(s)
- INF = Influent; combined flow from active extraction wells
- PF = Post Particulate Filter
- POX = Post Advanced Oxidation
- CBT = Carbon Breakthrough
- CEFF = Carbon Effluent
- E = Data qualified as Estimated in accordance with quality control criteria.
- J = Estimated Value; analyte detected at less than the Reporting Limit and greater than or equal to the Method Detection Limit

FIGURES

May 11, 2011 - 10:09am ADE - T: \2011\500-599\532 Raytheon\Hydrogeology\H+A Base\Maps\410-8281.dwg



HARGIS+ASSOCIATES, INC.
Hydrogeology/Engineering

5/11 | RPT NO. 532.31 | 410-8281 | A

FIGURE 1. SITE LOCATION

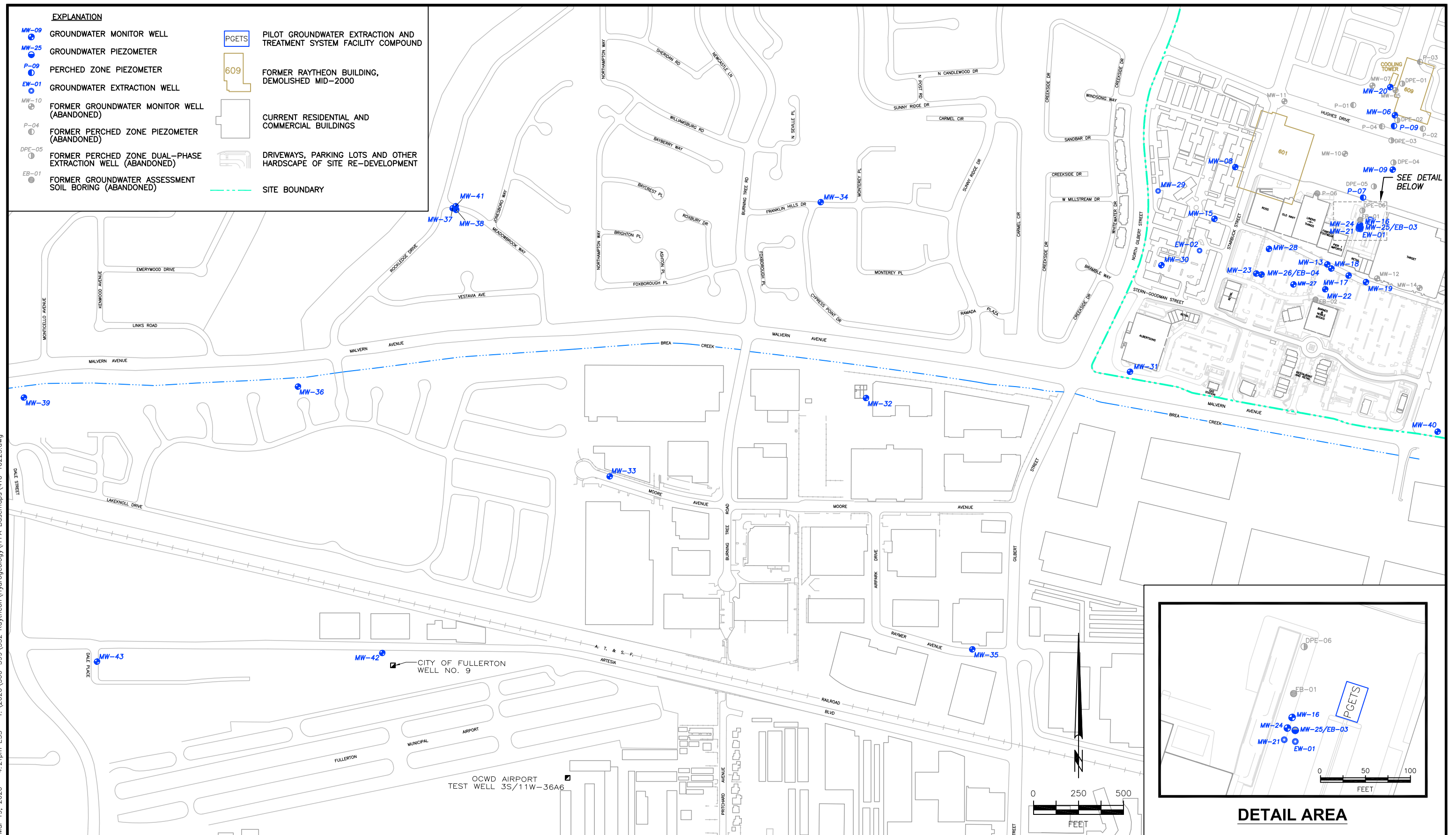
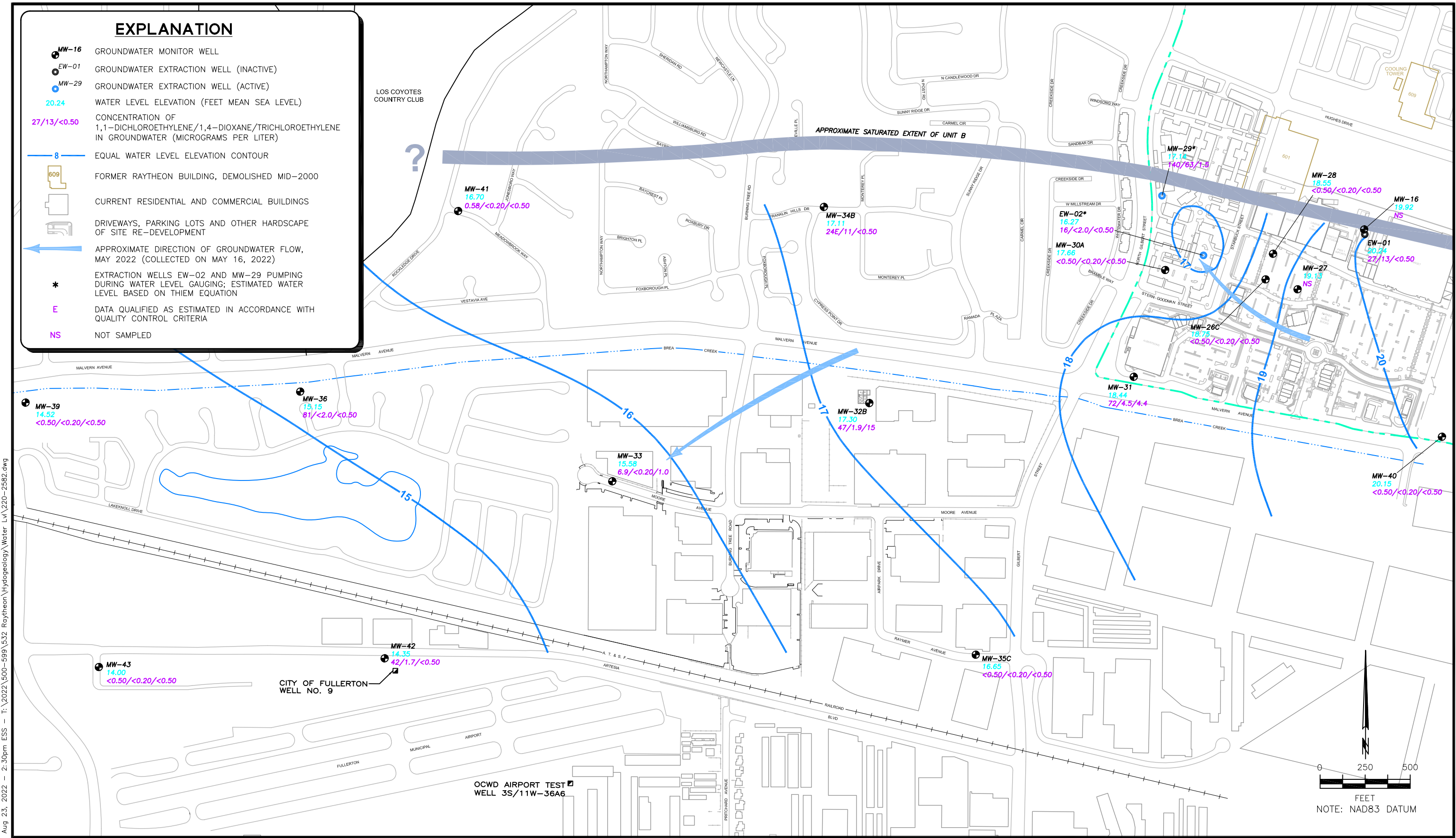


FIGURE 2.
WELL AND PIEZOMETER LOCATIONS



Aug 23, 2022 - 2:30pm ESS - T:\2022\500-599\532 Raytheon\Hydrogeology\Water Lvl\220-2582.dwg

FIGURE 3.
WATER LEVEL AND WATER QUALITY UNIT B
MAY 2022

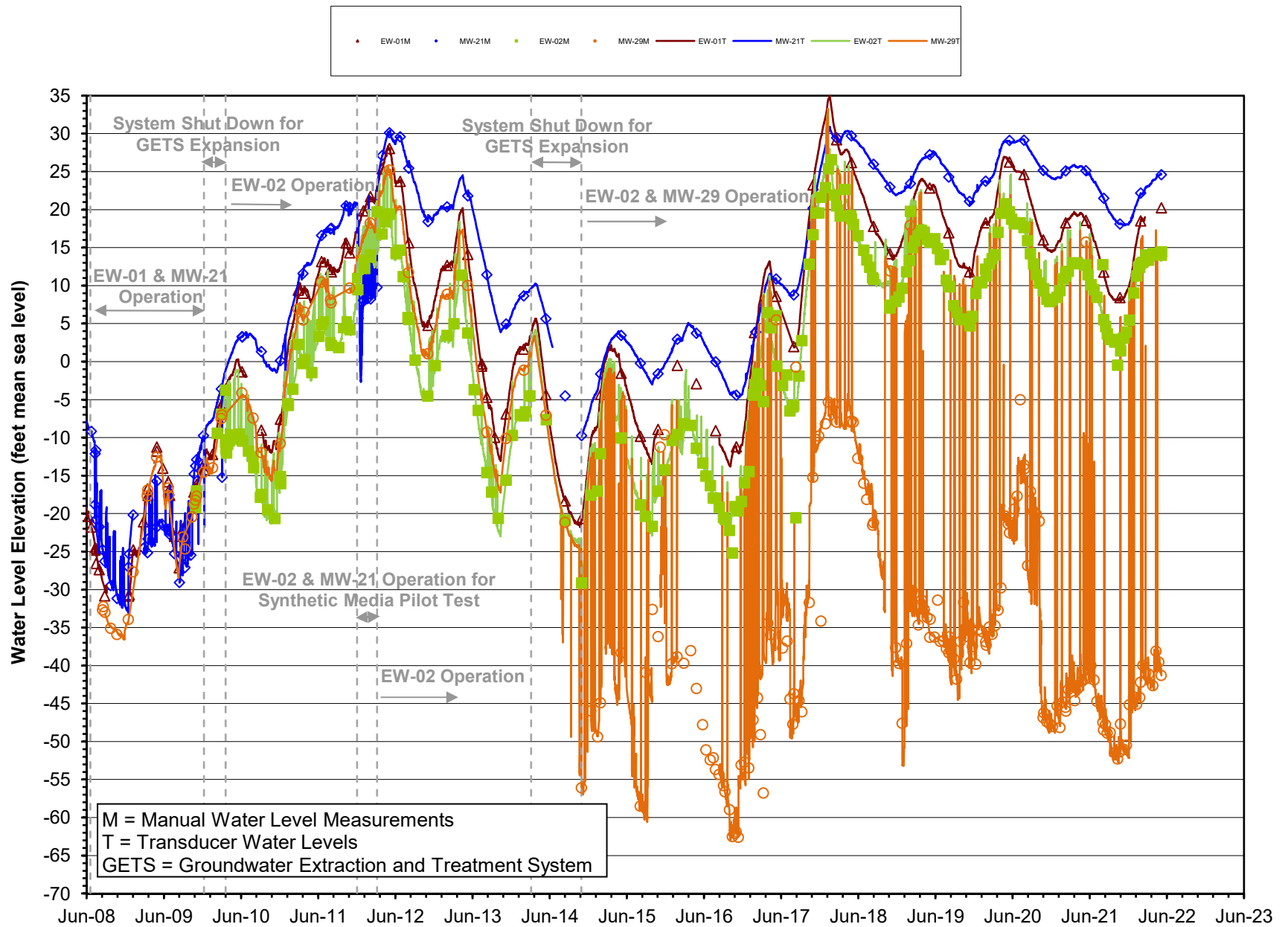


FIGURE 4.
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM OPERATION
AND EXTRACTION WELL WATER LEVELS

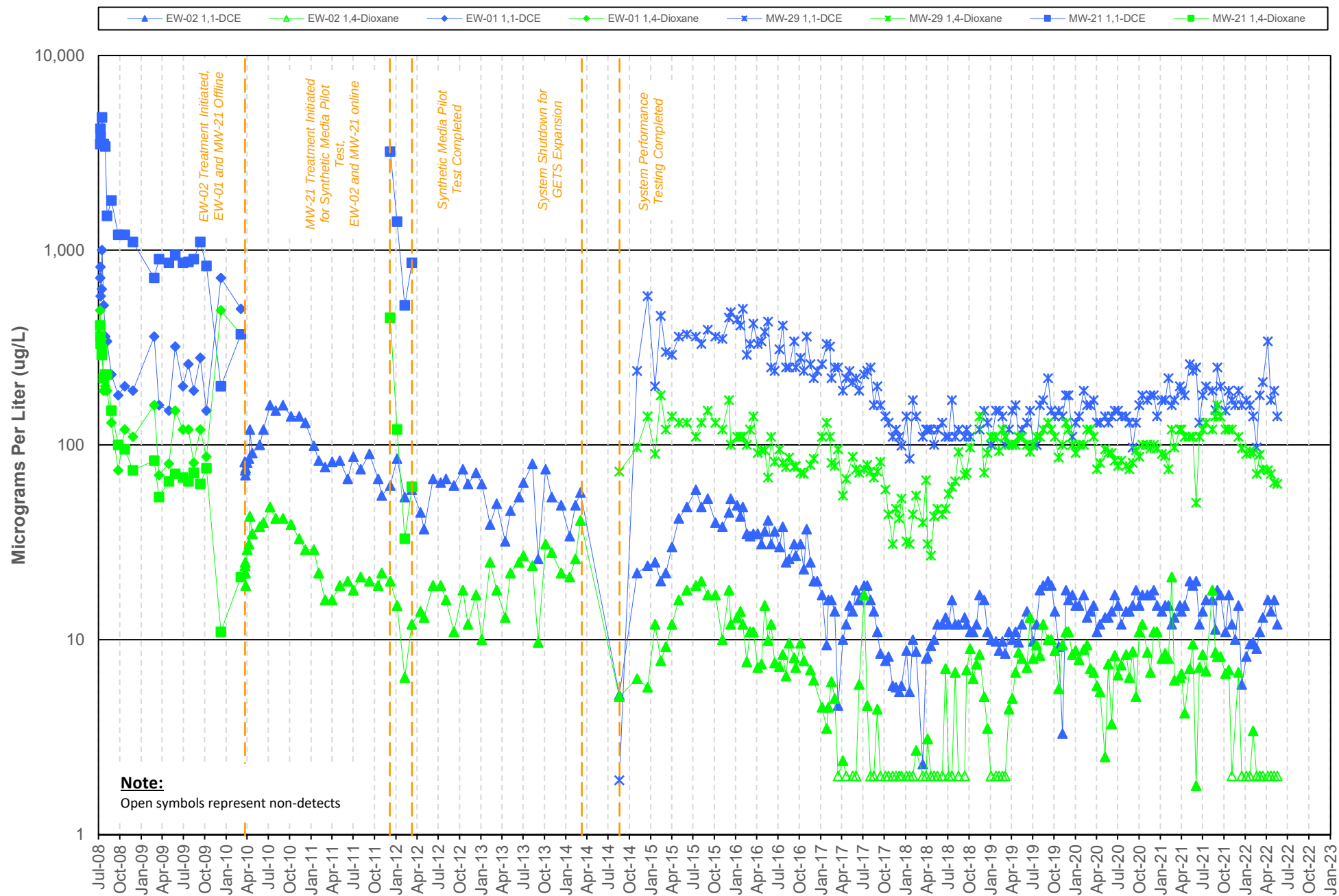


FIGURE 5.
1,1-DICHLOROETHYLENE AND 1,4-DIOXANE CONCENTRATIONS IN EXTRACTION WELLS

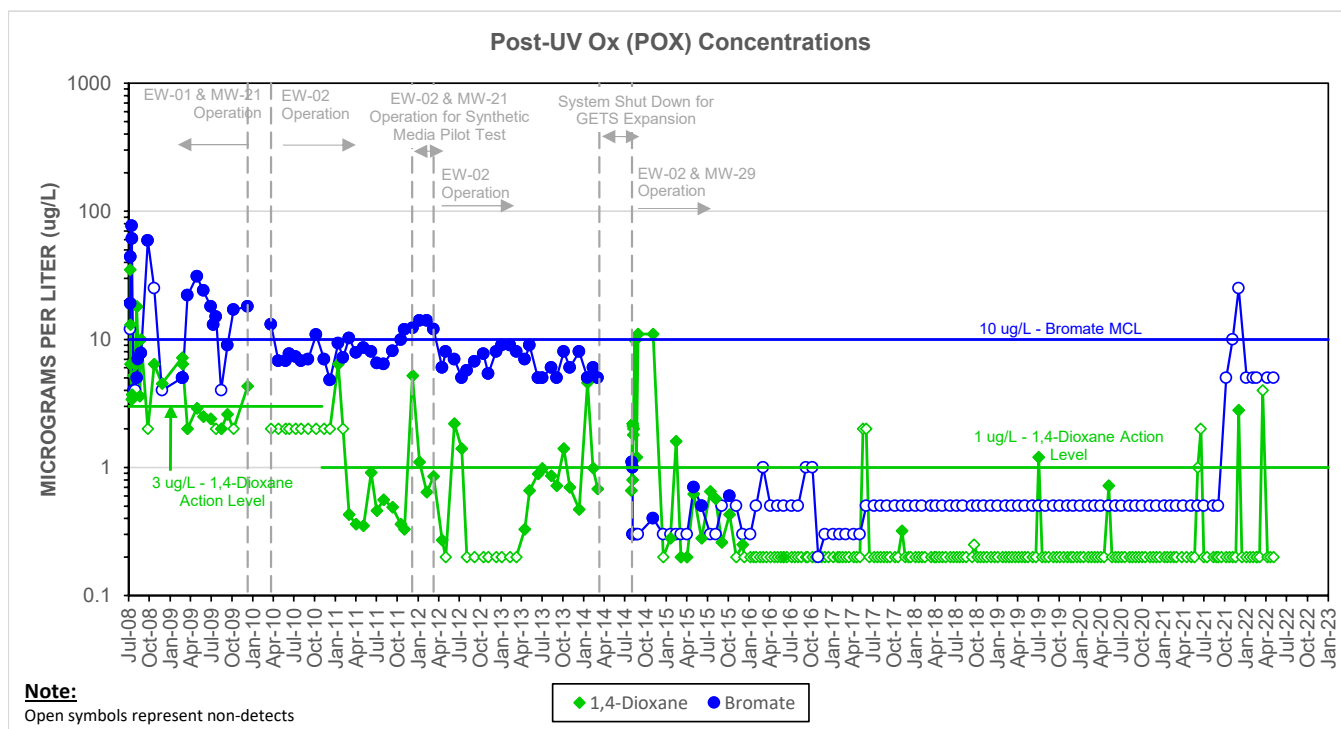
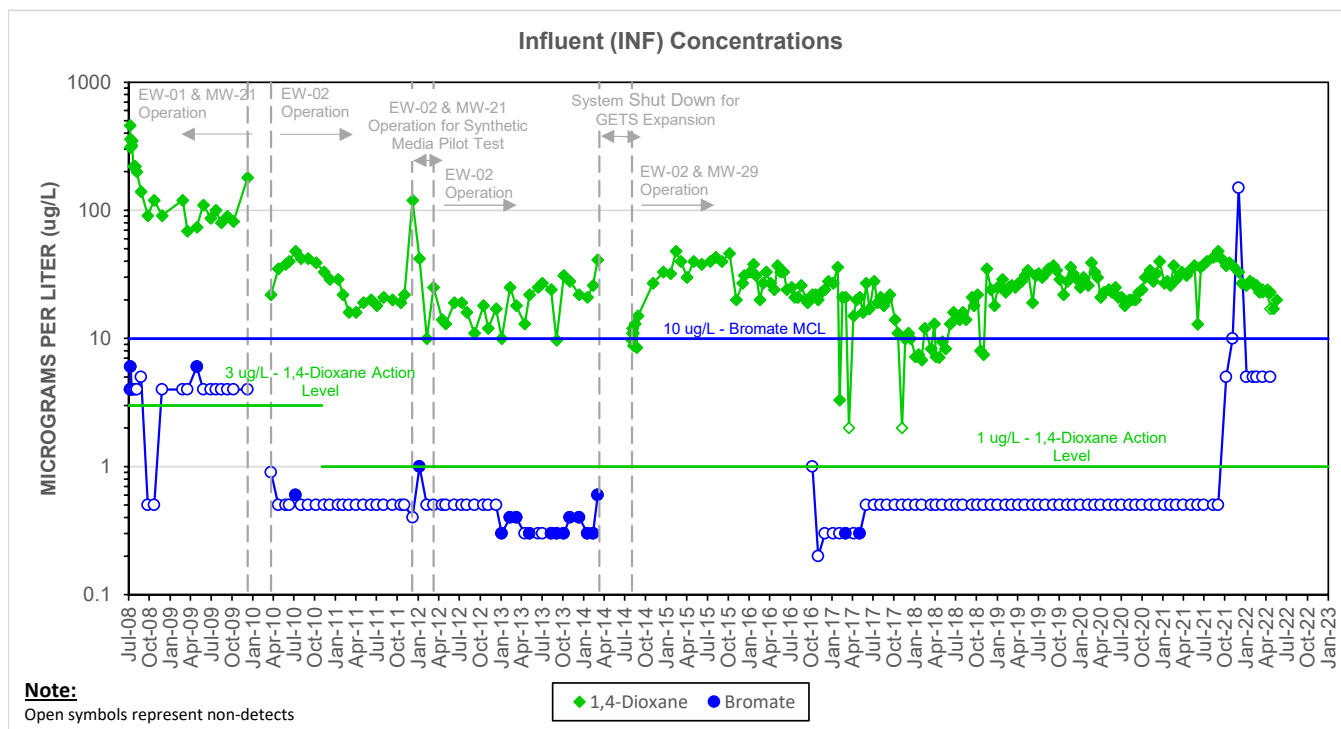


FIGURE 6.
1,4-DIOXANE AND BROMATE IN INFLUENT AND POST-OXIDATION SAMPLES

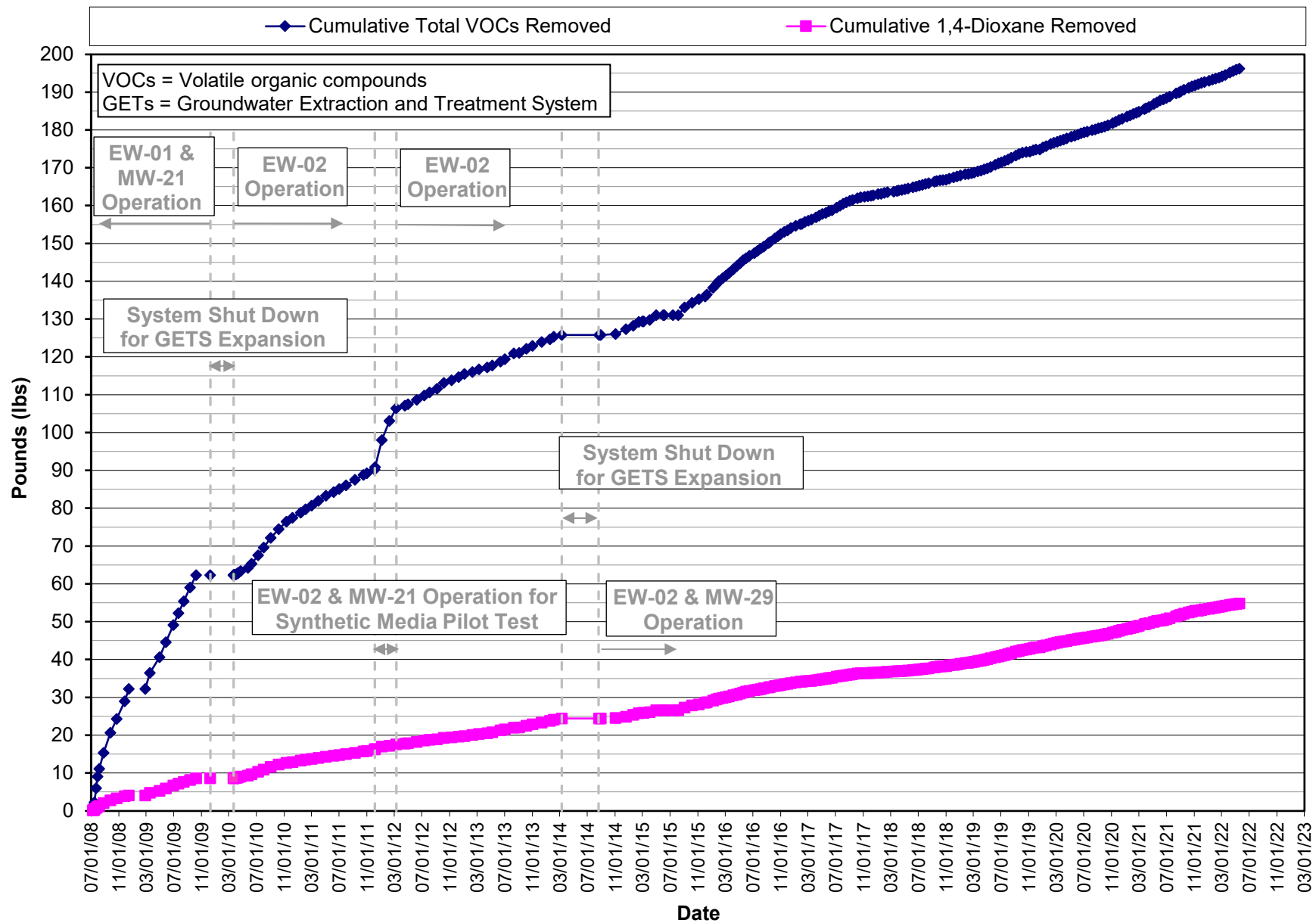


FIGURE 7.
PILOT GROUNDWATER EXTRACTION AND TREATMENT SYSTEM MASS REMOVAL

APPENDIX A
GROUNDWATER SAMPLING FIELD FORMS

MAY 2022

**QUARTERLY GROUNDWATER MONITORING
FIELD NOTEBOOK
LOW VOLUME MONITOR WELLS**

RAYTHEON COMPANY

532.30

**1901 MALVERN AVE.
FULLERTON, CALIFORNIA**



HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

INSTRUMENT CALIBRATION LOG FOR GROUNDWATER SAMPLING: Temp + pH + EC + DO + ORP

[illegible]

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

 METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # 7094

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
P-07	05/16/22	1334	T0C	111.38	142.31	30.93	112.29	0.91		↑
P-09	05/16/22	0939	T0C	120.81	183.86	63.05	121.02	+0.21		AMD/ANW
MW-06	05/16/22	0942	T0C	153.72	184.70	30.98	156.74	+3.02		↓
MW-08	05/16/22				155.91		134.69			
MW-09	05/16/22	1230	T0C	152.05	180.10	28.05	155.69	+3.64		↑
MW-13	05/16/22	0920	T0C	122.74	141.84	19.10	121.61	-1.13		AMD/ANW
MW-15	05/16/22				144.95		131.84			
MW-16	05/16/22	1256	T0C	122.48	142.40	19.92	124.24	+1.76		
MW-17	05/16/22	0923	T0C	122.70	142.70	20.00	121.63	-1.07		AMD/ANW
MW-18	05/16/22	080918	T0C	123.16	142.32	19.16	122.05	-1.11		
MW-19	05/16/22	0928	T0ST	122.79	142.06	19.27	121.72	-1.07		
MW-20	05/16/22	0947	T0C	149.03	184.19	35.16	153.32	+4.29	Confirmed DTW @ 1236 5/16.	
MW-21	05/16/22	1258	T0ST	116.58	141.18	24.60	119.01	+2.43	Totalizer: N/A Pumping? N	
MW-22	05/16/22	0822 ¹⁴	T0ST	~~118.03~~ ^{119.47}	138.65	~~20.62~~ ^{18.59}	118.04	~~+0.01~~ ^{-1.40}	(ANW)	AMD/ANW
MW-23	05/16/22	0900	T0ST	119.66	137.33	17.67	118.21	-1.45		↓
MW-24	05/16/22	1253	T0ST	117.75	142.83	25.08	120.41	+2.66		RA/DJS
MW-25	05/16/22	1249	T0C	116.11	142.64	26.53	121.07	+4.96		↓
MW-26A	05/16/22	0850	T0C	118.93	137.04	18.11	121.10	+2.17		AMD/ANW
MW-26B	05/16/22	0852	T0C	121.55	137.05	15.50	123.48	+1.93		↓
MW-26C	05/16/22	0854	T0C	118.47	137.22	18.75	119.08	+0.61		↓

msl = Mean sea level

ft = feet

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # 7094

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-27	05/16/22	0815 ²²	TOST	~~118.03~~ 119.44	137.16	19.13	118.80	+0.57		AMP/ANW
MW-28	05/16/22	0910	TOST	122.22	140.77	18.55	123.33	+1.11		↓
MW-29	05/ /22				139.81		182.02		Totalizer: Q=	
MW-30A	05/ /22				129.44		112.02			
MW-30B	05/ /22				129.39		109.54			
MW-31	05/ /22				119.60		99.90			
MW-32A	05/16/22	0800	TOST	76.20	92.88	~~16.68~~ 76.20	74.33	-1.87		AMP/ANW
MW-32B	05/16/22	0803	TOST	75.59	92.89	~~17.30~~ 75.59	74.31	-1.28		↓
MW-32C	05/16/22	0758	TOST	67.70	92.88	~~25.18~~ 67.70	69.97	-2.27		↓
MW-33	05/ /22				83.19		65.59			
MW-34A	05/16/22	1154	TOST	140.89	153.25	12.36	139.00	-1.89		↑
MW-34B	05/16/22	1156	TOST	136.00	153.11	17.11	137.15	+1.15		↑
MW-34C	05/16/22	1150	TOST	135.80	153.29	17.49	135.20	-0.60		AMP/ANW
MW-35A	05/ /22				93.57		77.54			↓
MW-35B	05/ /22				93.56		77.60			
MW-35C	05/ /22				93.55		74.34			
MW-36	05/16/22	1009	TOST	71.50	86.65	15.15	70.05	-1.45		AMP/ANW
MW-37	05/16/22	1032	TOST	132.53	155.60	23.07	135.06	+2.53	Confirmed DTWC 1053 5/16.	
MW-38	05/16/22	1037	TOST	144.54	154.90	10.36	143.70	-0.84		
MW-39	05/16/22	1020	TOST	69.73	84.25	14.52	67.83	-1.90		AMP/ANW

msl = Mean sea level

ft = feet

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # _____

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL ($\pm$ ft)	COMMENTS	INITIALS
MW-40	05/ /22				123.40		101.95			
MW-41	05/16/22	1059	TOST	138.90	155.60	16.70	139.69	+0.79		AMD/ANW
MW-42	05/ /22				82.80		66.08			
MW-43	05/ /22				76.64		60.50			
EW-01	05/16/22	1309	TOST	120.83	141.07	20.24	122.56	+1.73	SOUNDING TUBE TO 172.85 Totalizer: N/A Pumping? N	AMD/ANW
EW-02	05/ /22				132.97		120.06		Totalizer: Q=	

 msl = Mean sea level
 ft = feet

**MAY 2022 GROUNDWATER SAMPLE PLAN
TEAM 2**

QA/QC	Total VOC's µg/L	1,4-Dioxane µg/L	APROX. GALLONS	ESTIMATE D TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	MAY 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	18	15	154	4	~~EW-01~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	1657	740	275	5	~~MW-21~~	Water Table; BC	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	ND	ND	218	23	~~MW-40~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	0.34	ND	103	11	~~MW-28~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	1	ND	243	26	~~MW-41~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded.240V
	3	ND	65	11	~~MW-30A~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
DWP/SPT	34	14	160	11	~~MW-34B~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded 240V
	49	ND	124	23	~~MW-30B~~	Deep; BC	VOCs; 1,4-Dioxane	Ded.240V
	87	ND	66	22	~~MW-32B~~	Deep; B	VOCs; 1,4-Dioxane	Ded. Redi-Flo 2
	ND	ND	157	62	~~MW-26C~~	Deep; B	VOCs; 1,4-Dioxane	Redi-flo
	54	ND	18	16	~~MW-08~~	Water Table; BC	VOCs; 1,4-Dioxane	Redi-flo

NOTE

1 = Day - # refers to the day scheduled to sample and the corresponding dedicated pipestand to use: ND=1; 0-10=2; 10 - 100=3; >100=4

A **MS** and **MSD** (3x40ml VOA and 1L amber) should be collected every day/ alternating 1,4-Dioxane methods as indicated.

1,4-Dioxane analysis method is 8270 SIM unless specified otherwise (if historical detect is > 5.0 ug/l MOD is used).

Wells with dedicated pumps should follow concentration order when possible.

MW-36 and MW-39 Gate Access Code: 3252

**MAY 2022 GROUNDWATER SAMPLE PLAN
TEAM 1**

QA/QC	Total VOC's µg/L	1,4-Dioxane µg/L	APROX. GALLONS	ESTIMATE D TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	MAY 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	101	13	980	76	~~MW-36~~	Deep; D	VOCs; 1,4-Dioxane	Ded.240V
	118	13	282	30	~~MW-31~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	37	1.7	928	49	~~MW-42~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
DWP/SPT	8.9	ND	933	51	~~MW-39~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	867	46	~~MW-39~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	918	46	~~MW-35C~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	934	43	MW-43	Deep; B	VOCs; 1,4-Dioxane	Ded.240V

NOTES

A **MS** and **MSD** (3x40ml VOA and 1L amber) should be collected every day/ alternating 1,4-Dioxane methods as indicated.

1,4-Dioxane analysis method is 8270 SIM unless specified otherwise (if historical detect is > 5.0 ug/l MOD is used).

1 = Day - # refers to the day scheduled to sample and the corresponding dedicated pipestand to use: ND=1; 0-10=2; 10 - 100=3; >100=4

Wells with dedicated pumps should follow concentration order when possible.

MW-36 and MW-39 Gate Access Code: 3252

RB = Rinsate blank taken on non-dedicated equipment each day- will vary with schedule and should be confirmed with both teams each morning.

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-26C

Time <u>0944</u> ~~0942~~ Static DTW (ft below reference point)	118.75	Screen SV Casing Volume (CV) (gallons) 49 SV 147	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point)	499	Purging Device ~~3/8"~~ Submers. pump Sampling Device 3/8" LDPE tubing	Time 0943 Temp. 63°F	Begin Purge 0946 End Purge 1115
Water Column (feet)	299	Pump: Depth (ft brp) 200 Type ~~MPI~~ geosub2 Voltage 115 HP 0.5	Skies cloudy	Gallons Purged 171 CVs Purged 3.5
Casing Capacity (Diameter 2") (gallons per foot)	0.163	Monitor Well Recharge Rate: Slow Fast X	Wind (mph) 5 From S	DTW (ft brp) 119.30 Time 1113

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Setting (unitless)	COMMENTS
				Temp. (°C)	pH	EC (m S/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0946	118.75	0	0			BEGIN PURGE			5.75		
1004	119.28	14.0	0.64	21.9	9.31	0.4454	-144.0	0.62	5.75	255	Q ≈ 1.75 gpm
1019	119.30	58	1.2	22.0	8.23	0.673	-200.1	0.00	5.38	255	
1032	119.30	81	1.6	22.0	7.87	0.786	-180.3	0.00	4.64	255	
1045	119.30	103	2.1	22.0	7.70	0.830	-171.8	0.04	4.40	255	
1100	119.30	135	2.8	22.1	7.71	0.830	-155.7	0.05	4.56	255	
1113	119.30	167	3.4	22.1	7.71	0.830	-151.6	0.06	4.45	255	COLLECT SAMPLE
1115	NM	171	3.5			END PURGE					

SAMPLE COLLECTION SAMPLE TIME 1113		ANALYSIS		QUANTITY	TYPE
8260B VOCs	136	40 ml VOA	X		
8270 SIM 1,4 dioxane	12	1 L Amber	X		
8270 MOD 1,4 dioxane		1 L Amber			
DUPLICATES / SPLITS / BLANKS		(Y)	(X)		
If yes, complete appropriate forms.					

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

Well sampled w/ non-dedicated submersible 2" geosub2 pump. Attempted to use geosub2 drop tubing assembly to set intake at ~450 ft bls. Drop tube assembly unable to drop below ~200 ft, getting stuck (tubing too coiled?). Removed drop tube assembly, installed geosub2 at 200 ft bls to perform purge/sample → Collected rinsate blank RB-051722 @ 1315

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-21

Time <u>1222</u> Static DTW (ft below reference point)	<u>116.66</u>	Casing Volume (CV) (gallons) <u>76</u> 3 CV (gallons) <u>228</u>	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point)	<u>232.1</u>	Purging Device <u>ded. pump</u> Sampling Device <u>ded. sample port</u>	Time <u>1222</u> Temp. <u>64°F</u>	Begin Purge <u>1225</u> End Purge <u>1238</u>
Water Column (feet)	<u>115.44</u>	Pump: Depth (ft brp) <u>—</u> Type <u>—</u> Voltage <u>—</u> HP <u>—</u>	Skies <u>partly cloudy</u>	Gallons Purged <u>308</u> CVs Purged <u>4.1</u>
Casing Capacity (Diameter <u>4"</u>) (gallons per foot)	<u>0.66</u>	Monitor Well Recharge Rate: Slow <u>—</u> Fast <u>X</u>	Wind (mph) <u>6</u> From <u>SSW</u>	DTW (ft brp) <u>137.72</u> Time <u>1236</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (S/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1225	116.66	0	0	— BEGIN PURGE —						—	
1227	136.08	44	0.6	22.2	7.34	2.195	-50.7	0.92	9.26	—	Q ≈ 22GPM
1229	136.66	88	1.2	22.2	7.23	2.212	-8.2	2.70	7.09	—	
1230	137.00	132	1.7	22.2	7.20	2.195	12.5	3.93	5.58	—	
1232	137.33	176	2.3	22.2	7.20	2.189	15.1	4.09	5.84	—	
1234	137.70	220	2.9	22.2	7.19	2.186	19.8	4.12	5.10	—	
1236	137.72	264	3.5	22.2	7.18	2.187	20.6	4.09	5.38	—	COLLECT SAMPLE
1238	NM	~~264~~ 308	4.1	— END PURGE —						—	

SAMPLE COLLECTION SAMPLE TIME <u>1236</u>				AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA			
ANALYSIS	QUANTITY	TYPE		NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>					
8270 SIM 1,4 dioxane		1 L Amber					
8270 MOD 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>					
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.							

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: EW-01

Time <u>1242</u> Static DTW (ft below reference point) <u>121.00</u>	Casing Volume (CV) (gallons) <u>36</u> 3 CV (gallons) <u>108</u>	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point) <u>181.00</u>	Purging Device <u>bed. pump</u> Sampling Device <u>ded. sample port</u>	Time <u>1240</u> Temp. <u>70°F</u>	Begin Purge <u>1244</u> End Purge <u>1258</u>
Water Column (feet) <u>60.00</u>	Pump: Depth (ft brp) <u>—</u> Type <u>—</u> Voltage <u>—</u> HP <u>—</u>	Skies <u>partly cloudy</u>	Gallons Purged <u>140</u> CVs Purged <u>3.9</u>
Casing Capacity (Diameter <u>4"</u>) (gallons per foot) <u>0.60</u>	Monitor Well Recharge Rate: Slow <u>—</u> Fast <u>X</u>	Wind (mph) <u>6</u> From <u>SSW</u>	DTW (ft brp) <u>121.60</u> Time <u>1256</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS....						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1244	121.00	0	0	————	————	BEGIN PURGE —————					
1246	121.55	20	0.6	22.3	7.19	1.549	35.0	7.37	5.79	—	Q ≈ 10 GPM
1248	121.60	40	1.1	22.3	7.26	1.546	~~46.0~~ ~~85.3~~ (AND)	85.3	5.31	—	
1250	121.60	60	1.7	22.2	7.24	1.536	51.9	80.5	4.62	—	
1252	121.60	80	2.2	22.2	7.22	1.540	53.7	78.4	4.46	—	
1254	121.60	100	2.8	22.3	7.22	1.529	57.2	80.2	4.77	—	
(AND) 1256	121.60	120	3.3	22.3	7.24	1.534	59.8	79.4	4.36	—	COLLECT SAMPLE
1258	NM	140	3.9	————	END PURGE —————						

SAMPLE COLLECTION SAMPLE TIME <u>1256</u>			AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA			
ANALYSIS	QUANTITY	TYPE	NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>				
8270 SIM 1,4 dioxane	<u>1</u>	1 L Amber <u>—</u>				
8270 MOD 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>				
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u>						
If yes, complete appropriate forms.						

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-32B

Time <u>1337</u> Static DTW (ft below reference point)	<u>76.11</u>	SCREEN SV	<u>19.2</u> SV	<u>57.6</u>	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point)	<u>999</u>	Purging Device <u>ded. grundfos rediflow</u>	Sampling Device <u>ded. tubing</u>	Time <u>1330</u> Temp. <u>72°F</u>	Begin Purge <u>1354</u> End Purge <u>1416</u>	
<u>PUMP TO SCREEN</u> Water Column (feet)	<u>32</u>	Pump: Depth (ft brp) <u>967</u> Type <u>rediflow2</u> Voltage <u>115</u> HP <u>0.5</u>		Skies <u>partly cloudy</u>	Gallons Purged <u>63</u> CVs Purged <u>3.3</u>	
Casing Capacity (Diameter 4") (gallons per foot)	<u>0.60</u>	Monitor Well Recharge Rate: Slow Fast <u>X</u>		Wind (mph) <u>6</u> From <u>S</u>	DTW (ft brp) <u>78.46</u> Time <u>1414</u>	

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	... FIELD PARAMETERS ...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1354	76.11	0	0								
											BEGIN PURGE
1357	78.32	9	0.5	21.9	7.64	0.839	-7.2	0.46	4.84	327	Q ≈ 3 GPM
1400	78.39	18	~~6.0~~ 2.9	21.9	7.63	0.836	-6.8	0.18	5.57	327	
1403	78.39	24	1.3	21.9	7.61	0.838	-5.7	0.11	4.96	327	
1406	78.41	33	1.7	21.9	7.60	0.839	-5.3	0.06	4.53	327	
1410	78.43	45	2.3	21.8	7.61	0.838	-4.7	0.02	5.03	327	
1414	78.46	57	3.0	21.8	7.59	0.836	-4.2	0.00	5.12	327	COLLECT SAMPLE
1416	NM	63	3.3								
											END PURGE

SAMPLE COLLECTION SAMPLE TIME <u>1414</u>	
ANALYSIS	QUANTITY TYPE
8260B VOCs	<u>3</u> 40 ml VOA <u>X</u>
8270 SIM 1,4 dioxane	<u>1</u> 1 L Amber <u>X</u>
8270 MOD 1,4 dioxane	<u>1</u> 1 L Amber
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.	

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022 TASK: 532.30 WELL ID: MW-08

Time <u>1458</u> Static DTW (ft below reference point) <u>132.10</u>	Casing Volume (CV) (gallons) <u>5.5</u> 3 CV (gallons) <u>16.5</u>	Weather Conditions Time <u>1447</u> Temp. <u>72.4</u>	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point) <u>166.1</u>	Purging Device <u>sub. pump</u> Sampling Device <u>3/8" LDPE tubing</u>	Skies <u>clear/sunny</u>	Begin Purge <u>1500</u> End Purge <u>1519</u>
Water Column (feet) <u>33.90</u>	Pump: Depth (ft brp) <u>~163</u> Type <u>peristaltic</u> Voltage <u>115</u> HP <u>0.5</u>	Wind (mph) <u>8</u> From <u>SSW</u>	Gallons Purged <u>19</u> CVs Purged <u>3.5</u>
Casing Capacity (Diameter <u>2"</u>) (gallons per foot) <u>0.163</u>	Monitor Well Recharge Rate: Slow <u>X</u> Fast <u></u>	DTW (ft brp) <u>1517</u> Time <u>1517</u>	

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	... FIELD PARAMETERS ...						Pump Frequency <u>Hz</u>	Pump Setting (units/gs)	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)			
<u>1500</u>	<u>132.10</u>	<u>0</u>	<u>0</u>									
<u>1506</u>	<u>134.05</u>	<u>6</u>	<u>1.1</u>	<u>22.9</u>	<u>7.30</u>	<u>1.722</u>	<u>77.5</u>	<u>1.83</u>	<u>6.91</u>	<u>220</u>	<u>Q ≈ 1 GPM</u>	
<u>1508</u>	<u>134.12</u>	<u>8</u>	<u>1.5</u>	<u>22.9</u>	<u>7.29</u>	<u>1.713</u>	<u>76.6</u>	<u>1.21</u>	<u>5.85</u>	<u>220</u>		
<u>1510</u>	<u>134.18</u>	<u>10</u>	<u>1.8</u>	<u>22.8</u>	<u>7.30</u>	<u>1.708</u>	<u>75.5</u>	<u>1.05</u>	<u>5.54</u>	<u>220</u>		
<u>1512</u>	<u>134.18</u>	<u>12</u>	<u>2.2</u>	<u>22.9</u>	<u>7.28</u>	<u>1.709</u>	<u>77.5</u>	<u>1.04</u>	<u>5.14</u>	<u>220</u>		
<u>1514</u>	<u>134.19</u>	<u>14</u>	<u>2.5</u>	<u>22.8</u>	<u>7.26</u>	<u>1.729</u>	<u>83.3</u>	<u>1.12</u>	<u>5.08</u>	<u>220</u>		
<u>1517</u>	<u>134.19</u>	<u>16.17</u>	<u>3.1</u>	<u>22.8</u>	<u>7.27</u>	<u>1.713</u>	<u>85.7</u>	<u>1.01</u>	<u>5.06</u>	<u>220</u>	<u>COLLECT SAMPLE</u>	
<u>1519</u>	<u>ANW</u>	<u>19</u>	<u>3.5</u>									

SAMPLE COLLECTION SAMPLE TIME <u>1517</u> ANALYSIS QUANTITY TYPE 8260B VOCs <u>3</u> 40 ml VOA <u>X</u> 8270 SIM 1,4 dioxane <u>1</u> 1 L Amber <u>X</u> 8270 MOD 1,4 dioxane <u>1</u> 1 L Amber <u></u> _____ _____ _____	AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.) _____ _____ _____ _____
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>Ⓝ</u> If yes, complete appropriate forms.	<u>SA/ND</u>

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-28

Time <u>1548</u> Static DTW (ft below reference point)	122.30	SCREEN SV	SV	27	3	SV	81	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point)	375	Purging Device	ded. pump	Sampling Device	0-10	pipe stand		Time <u>1544</u> Temp. <u>72°F</u>	Begin Purge <u>1548</u> End Purge <u>1603</u>
<u>PUMP TO SCREEN</u> Water Column (feet)	45	Pump: Depth (ft brp)	330	Type	grundfos	Voltage	240 HP -	Skies <u>Clear / sunny</u>	Gallons Purged <u>96</u> CVs Purged <u>3.6</u>
Casing Capacity (Diameter <u>4"</u>) (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow		Fast	X			Wind (mph) <u>9</u> From <u>S</u>	DTW (ft brp) <u>130.88</u> Time <u>1601</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µmS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1548	122.30	0	0								BEGIN PURGE
1551	130.88	13.5	0.5	22.1	7.56	0.999	149.0	2.30	4.45	-	Q ≈ ~~4.5 GPM~~ ~~4.5 GPM~~ Q ≈ 7.3 GPM
1553	130.88	27	1.0	22.0	7.54	0.984	143.2	2.02	4.56	-	
1555	130.88	40.5	1.5	22.0	7.51	0.972	137.1	1.98	4.82	-	
1557	130.88	54	2.0	22.0	7.50	0.961	128.3	1.86	4.40	-	
1559	130.88	67.5	2.5	22.0	7.48	0.961	122.8	1.85	5.60	-	
1601	130.88	81	3.0	22.1	7.40	0.961	116.2	1.79	4.09	-	COLLECT SAMPLE
1603	NM	96	3.6								END PURGE

SAMPLE COLLECTION SAMPLE TIME <u>1601</u>			AIR MONITORING PID/FID ppm: VAULT NA				BKGD NA		BREATHING ZONE NA		DISCHARGE WATER NA	
ANALYSIS	QUANTITY	TYPE	NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)									
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>										
8270 SIM 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>										
8270 MOD 1,4 dioxane		1 L Amber										
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u>			0.34 / NO									

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-30A

Time <u>0927</u> Static DTW (ft below reference point) <u>112.01</u>	Screen <u>SV</u> Casing Volume <u>SV</u> (gallons) <u>17.2</u> <u>SV</u> (gallons) <u>51.5</u>	Weather Conditions	Initials: <u>AMP/ANW</u>
Casing Total Depth (ft below reference point) <u>56.4</u>	Purging Device <u>ded. pump</u> Sampling Device <u>0-10 pipestand</u>	Time <u>0926</u> Temp. <u>63°F</u>	Begin Purge <u>0930</u> End Purge <u>0948</u>
<u>PUMP TO SCREEN</u> Water Column (feet) <u>44</u>	Pump: Depth (ft brp) <u>520</u> Type <u>grandfos</u> Voltage <u>240</u> HP <u>-</u>	Skies <u>cloudy</u>	Gallons Purged <u>66</u> CVs Purged <u>3.8</u>
Casing Capacity (Diameter <u>3"</u>) (gallons per foot) <u>0.39</u>	Monitor Well Recharge Rate: Slow <u>-</u> Fast <u>X</u>	Wind (mph) <u>2</u> From <u>SSW</u>	DTW (ft brp) <u>114.00</u> Time <u>0944</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0930	112.01	0	0	—	BEGIN PURGE	—	—	—	—	—	
0934	114.00	8.6	0.5	21.2	7.55	0.897	-44.5	0.70	4.76	—	Q ≈ 4 gpm
0936	114.00	17.2	1.0	21.4	7.68	0.897	10.4	0.53	5.67	—	
0938	114.00	25.8	1.5	21.5	7.67	0.897	42.0	0.52	4.87	—	
0940	114.00	34.4	2.0	21.5	7.66	0.897	55.6	0.48	4.72	—	
0942	114.00	43	2.5	21.5	7.65	0.896	58.0	0.45	4.22	—	
0944	114.00	51.6	3.0	21.5	7.65	0.896	56.3	0.43	4.29	—	COLLECT SAMPLE
0948	NM	66	3.8	—	END PURGE	—	—	—	—	—	

SAMPLE COLLECTION SAMPLE TIME <u>0944</u>			AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA			
ANALYSIS	QUANTITY	TYPE	NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>				
8270 SIM 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>				
8270 MOD 1,4 dioxane		1 L Amber				
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.						

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-30B

Time <u>0952</u> Static DTW (ft below reference point) <u>110.04</u>	<u>Screen</u> <u>SV</u> <u>37.4</u> <u>SV</u> <u>112.3</u>	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point) <u>616</u>	Purging Device <u>ded. pump</u> Sampling Device <u>10-100 pipestand</u>	Time <u>0953</u> Temp. <u>63°F</u>	Begin Purge <u>0955</u> End Purge <u>1029</u>
<u>PUMP TO SCREEN</u> Water Column (feet) <u>96</u>	Pump: Depth (ft brp) <u>520</u> Type <u>groundfos</u> Voltage <u>240</u> HP <u>-</u>	Skies <u>cloudy</u>	Gallons Purged <u>119.6</u> CVs Purged <u>3.2</u>
Casing Capacity (Diameter <u>3"</u>) (gallons per foot) <u>0.39</u>	Monitor Well Recharge Rate: Slow Fast <u>X</u>	Wind (mph) <u>2</u> From <u>S</u>	DTW (ft brp) <u>138.98</u> Time <u>1026</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	... FIELD PARAMETERS ...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0955	110.04	0	0								
1000	133.54	18.7	0.5	21.4	7.57	1.094	-252.0	0.40	3.15	-	Q ≈ 4 GPM
1006	136.08	37.4	1.0	21.6	7.29	1.721	-179.5	2.36	4.97	-	
1011	137.30	56.1	1.5	21.7	7.43	1.499	-166.1	2.47	5.13	-	
1016	138.00	74.8	2.0	21.8	7.43	1.487	-156.0	2.57	4.62	-	
1021	138.50	93.5	2.5	21.8	7.43	1.490	-152.9	2.46	4.42	-	
1026	138.98	112.3	3.0	21.7	7.42	1.500	-136.6	2.52	4.51	-	COLLECT SAMPLE
1029	NM	119.6	3.2								

SAMPLE COLLECTION SAMPLE TIME <u>1026</u>		
ANALYSIS	QUANTITY	TYPE
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>
8270 SIM 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>
8270 MOD 1,4 dioxane		1 L Amber
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u>		
If yes, complete appropriate forms.		

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-31

Time <u>1051</u> Static DTW (ft below reference point)	<u>101.70</u> Screen <u>SV</u> Casing Volume (<u>SV</u>) (gallons) <u>81</u> <u>SV</u> (gallons) <u>243</u>	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point)	<u>996</u> Purging Device <u>ded. pump</u> Sampling Device <u>pipestand</u>	Time <u>1048</u> Temp. <u>66°F</u>	Begin Purge <u>1057</u> End Purge <u>1129</u>
<u>PUMP TO SCREEN</u> Water Column (feet)	<u>54</u> Pump: Depth (ft brp) <u>942</u> Type <u>groundfos</u> Voltage <u>240</u> HP <u>-</u>	Skies <u>partly cloudy</u>	Gallons Purged <u>261.7</u> CVs Purged <u>3.2</u>
Casing Capacity (Diameter <u>6"</u>) (gallons per foot)	<u>1.5</u> Monitor Well Recharge Rate: Slow Fast <u>X</u>	Wind (mph) <u>2</u> From <u>WSW</u>	DTW (ft brp) <u>105.47</u> Time <u>1127</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	... FIELD PARAMETERS ...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1057	101.70	0	0								BEGIN PURGE
1102	105.38	40.5	0.5	21.2	7.57	1.294	-49.5	0.06	6.90	-	Q ≈ 8 GPM
1107	105.45	81	1.0	22.1	8.19	1.694	-191.3	0.00	10.11 7.8 (ANW)	-	
1112	105.45	121.5	1.5	21.6	7.61	1.460	-128.1	0.00	8.74	-	
1117	105.45	162	2.0	21.7	7.59	1.376	-108.3	0.03	6.53	-	
1122	105.47	202.5	2.5	21.7	7.58	1.313	-88.2	0.19	5.91	-	
1127	105.47	243	3.0	21.7	7.58	1.282	-69.8	0.29	5.41	-	COLLECT SAMPLE
1129	NM	261.7	3.2								END PURGE

SAMPLE COLLECTION SAMPLE TIME <u>1127</u>	
ANALYSIS	QUANTITY TYPE
8260B VOCs	<u>3</u> 40 ml VOA <u>X</u>
8270 SIM 1,4 dioxane	<u>1</u> 1 L Amber <u>X</u>
8270 MOD 1,4 dioxane	<u> </u> 1 L Amber
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.	

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

118/13

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-40

Time <u>1246</u> Static DTW (ft below reference point)	<u>103.55</u> Screen <u>SV</u> Casing Volume (CV) (gallons)	<u>67.5</u> <u>SV</u> 3 CV (gallons)	<u>202.5</u>	Weather Conditions		Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point)	<u>970</u>	Purging Device <u>ded. pump</u>	Sampling Device <u>NP pipestand</u>	Time <u>1230</u>	Temp. <u>72°F</u>	Begin Purge <u>1249</u> End Purge <u>1316</u>
<u>PUMP TO SCREEN</u> Water Column (feet)	<u>50</u>	Pump: Depth (ft brp) <u>920</u> Type <u>grundfos</u>	Voltage <u>240</u> HP <u>X</u>	Skies <u>clear/sunny</u>		Gallons Purged <u>218</u> CVs Purged <u>32</u>
Casing Capacity (Diameter 6") (gallons per foot)	<u>1.35</u>	Monitor Well Recharge Rate: Slow	Fast <u>X</u>	Wind (mph) <u>5</u>	From <u>SW</u>	DTW (ft brp) <u>104.46</u> Time <u>1315</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
<u>1249</u>	<u>103.55</u>	<u>0</u>	<u>0</u>	<u>BEGIN PURGE</u>							
<u>1252</u>	<u>104.28</u>	<u>34</u>	<u>0.5</u>	<u>21.6</u>	<u>7.65</u>	<u>0.994</u>	<u>44.1</u>	<u>0.29</u>	<u>4.54</u>	<u>—</u>	<u>Q ≈ 18 GPM</u>
<u>1257</u>	<u>104.42</u>	<u>67.5</u>	<u>1.0</u>	<u>21.9</u>	<u>7.66</u>	<u>1.030</u>	<u>-165.6</u>	<u>0.04</u>	<u>5.01</u>	<u>—</u>	
<u>1300</u>	<u>104.45</u>	<u>101</u>	<u>1.5</u>	<u>22.1</u>	<u>7.64</u>	<u>1.057</u>	<u>-144.0</u>	<u>0.13</u>	<u>4.69</u>	<u>—</u>	
<u>1304</u>	<u>104.45</u>	<u>135</u>	<u>2.0</u>	<u>22.1</u>	<u>7.60</u>	<u>1.055</u>	<u>-123.9</u>	<u>0.35</u>	<u>5.37</u>	<u>—</u>	
<u>1309</u>	<u>104.46</u>	<u>169</u>	<u>2.5</u>	<u>22.2</u>	<u>7.61</u>	<u>1.054</u>	<u>-118.4</u>	<u>0.38</u>	<u>4.76</u>	<u>—</u>	
<u>1315</u>	<u>104.46</u>	<u>202.5</u>	<u>3.0</u>	<u>22.2</u>	<u>7.60</u>	<u>1.055</u>	<u>-117.4</u>	<u>0.38</u>	<u>4.60</u>	<u>—</u>	<u>COLLECT SAMPLE</u>
<u>1316</u>	<u>NM</u>	<u>218</u>	<u>32</u>	<u>END PURGE</u>							

SAMPLE COLLECTION SAMPLE TIME <u>1315</u>			AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA			
ANALYSIS	QUANTITY	TYPE	NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>				
8270 SIM 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>				
8270 MOD 1,4 dioxane		1 L Amber				
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.						

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-41

Time <u>1346</u> Static DTW (ft below reference point)	<u>139.07</u> Screen SV	<u>39</u> SV	<u>117</u> SV	Weather Conditions	Initials: <u>AMD/ANW</u>
Casing Total Depth (ft below reference point)	<u>425</u>	Purging Device <u>ded. pump</u>	Sampling Device <u>0-10 pipe stand</u>	Time <u>1338</u> Temp. <u>73°F</u>	Begin Purge <u>1350</u> End Purge <u>1406</u>
<u>pump to screen</u> Water Column (feet)	<u>65</u>	Pump: Depth (ft brp) <u>360</u> Type <u>grundfos</u> Voltage <u>240</u> HP <u>-</u>		Skies <u>clear</u>	Gallons Purged <u>135</u> CVs Purged <u>3.5</u>
Casing Capacity (Diameter <u>4"</u> (gallons per foot)	<u>0.60</u>	Monitor Well Recharge Rate: Slow _____ Fast <u>X</u>		Wind (mph) <u>7</u> From <u>SSW</u>	DTW (ft brp) <u>146.03</u> Time <u>1405</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1350	139.07	0	0	—	BEGIN PURGE	—	—	—	—	—	
1352	145.80	19.5	0.5	22.7	7.05	2.491	20.0	2.49	8.86	—	Q ≈ 8 gpm
1355	145.83	39	1.0	22.9	7.03	2.489	42.5	2.43	7.22	—	
1357	145.90	58.5	1.5	22.4	7.02	2.485	52.0	2.67	13.8	—	
1359	145.98	78	2.0	22.4	7.02	2.480	58.8	2.78	17.4	—	
1402	146.00	97.5	2.5	22.4	7.02	2.482	63.9	3.06	13.6	—	
1405	146.03	117	3.0	22.4	7.01	2.486	66.4	3.28	8.91	—	COLLECT SAMPLE
1406	NM	135	3.5	—	END PURGE	—	—	—	—	—	

SAMPLE COLLECTION SAMPLE TIME <u>1405</u>			AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA			
ANALYSIS	QUANTITY	TYPE	NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
8260B VOCs	<u>3</u>	40 ml VOA <u>X</u>				
8270 SIM 1,4 dioxane		1 L Amber				
8270 MOD 1,4 dioxane	<u>1</u>	1 L Amber <u>X</u>				
DUPLICATES / SPLITS / BLANKS? <u>Y</u> <u>(N)</u> If yes, complete appropriate forms.			1/ND			

MAY 2022

**QUARTERLY GROUNDWATER MONITORING
FIELD NOTEBOOK
LARGE VOLUME MONITOR WELLS**

RAYTHEON COMPANY

532.30

**1901 MALVERN AVE.
FULLERTON, CALIFORNIA**



HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

INSTRUMENT CALIBRATION LOG FOR GROUNDWATER SAMPLING: Temp + pH + EC + DO + ORP

[illegible]

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # _____

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL ($\pm$ ft)	COMMENTS	INITIALS
P-07	05/ /22				142.31		112.29			
P-09	05/ /22				183.86		121.02			
MW-06	05/ /22				184.70		156.74			
MW-08	05/16 /22	1301	TOC	132.04	155.91		134.69			
MW-09	05/ /22				180.10		155.69			
MW-13	05/ /22				141.84		121.61			
MW-15	05/16 /22	1416	TOC	129.71	144.95		131.84			
MW-16	05/ /22				142.40		124.24			
MW-17	05/ /22				142.70		121.63			
MW-18	05/ /22				142.32		122.05			
MW-19	05/ /22				142.06		121.72			
MW-20	05/ /22				184.19		153.32			
MW-21	05/ /22				141.18		119.01		Totalizer: Pumping?	
MW-22	05/ /22				138.65		118.04			
MW-23	05/ /22				137.33		118.21			
MW-24	05/ /22				142.83		120.41			
MW-25	05/ /22				142.64		121.07			
MW-26A	05/ /22				137.04		121.10			
MW-26B	05/ /22				137.05		123.48			
MW-26C	05/ /22				137.22		119.08			

msl = Mean sea level

ft = feet

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # _____

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-27	05/ /22				137.16		118.60			
MW-28	05/ /22				140.77		123.33			
MW-29	05/16 /22	1307	TOST	181.11	139.81		182.02		Totalizer: 5346902 Q= 9.887	
MW-30A	05/16 /22	1327	TOST	111.78	129.44		112.02			
MW-30B	05/16 /22	1329	TOST	109.80	129.39		109.54			
MW-31	05/16 /22	1231	TOST	101.16	119.60		99.90			
MW-32A	05/ /22				92.88		74.33			
MW-32B	05/ /22				92.89		74.31			
MW-32C	05/ /22				92.88		69.97			
MW-33	05/16 /22	1147	TOST	67.61	83.19		65.59			
MW-34A	05/ /22				153.25		139.00			
MW-34B	05/ /22				153.11		137.15			
MW-34C	05/ /22				153.29		135.20			
MW-35A	05/16 /22	1205	TOST	76.91	93.57		77.54			
MW-35B	05/16 /22	1203	TOST	80.13	93.56		77.60			
MW-35C	05/16 /22	1202	TOST	76.90	93.55		74.34			
MW-36	05/ /22				86.65		70.05			
MW-37	05/ /22				155.80		135.06			
MW-38	05/ /22				154.90		143.70			
MW-39	05/ /22				84.25		67.83			

msl = Mean sea level

ft = feet

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: May 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # _____

PROJECT NUMBER: 532.30

WELL IDENTIFIER	DATE	TIME	MEASURING POINT	DEPTH TO WATER FROM REFERENCE POINT (+feet)	REFERENCE POINT ELEVATION (ft msl)	WATER LEVEL ELEVATION (ft msl)	February 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-40	05/16/22	1250	TOST	103.25	123.40		101.95			
MW-41	05/ /22				155.60		139.69			
~~MW-43~~ MW-42	05/16/22	1014	TOST	62.64	82.80		66.08			
~~MW-44~~ MW-45	05/16/22	1025	TOST	68.45	76.64		60.50			
EW-01	05/ /22				141.07		122.56		SOUNDING TUBE TO 172.65 Totalizer: Pumping?	
EW-02	05/16/22	1355	TOST	118.97	132.97		120.06		Totalizer: 1939.73 Q= 29.0	

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

**MAY 2022 GROUNDWATER SAMPLE PLAN
TEAM 1**

QA/QC	Total VOC's µg/L	1,4-Dioxane µg/L	APROX. GALLONS	ESTIMATE D TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	MAY 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	101	13	980	76	4 MW-36	Deep; D	VOCs; 1,4-Dioxane	Ded.240V
	118	13	282	30	MW-31	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	97	1.7	928	49	MW-42	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	8.9	ND	933	51	2 MW-33	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	867	46	3 MW-39	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	918	46	1 MW-35C	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	934	43	MW-43	Deep; B	VOCs; 1,4-Dioxane	Ded.240V

NOTES

A **MS** and **MSD** (3x40ml VOA and 1L amber) should be collected every day/ alternating 1,4-Dioxane methods as indicated.

1,4-Dioxane analysis method is 8270 SIM unless specified otherwise (if historical detect is > 5.0 ug/l MOD is used).

1 = Day - # refers to the day scheduled to sample and the corresponding dedicated pipestand to use: ND=1; 0-10=2; 10 - 100=3; >100=4

Wells with dedicated pumps should follow concentration order when possible.

MW-36 and MW-39 Gate Access Code: 3252

RB = Rinsate blank taken on non-dedicated equipment each day- will vary with schedule and should be confirmed with both teams each morning.

HARGIS + ASSOCIATES, INC.

**MAY 2022 GROUNDWATER SAMPLE PLAN
TEAM 2**

QA/QC	Total VOC's µg/L	1,4-Dioxane µg/L	APPROX. GALLONS	ESTIMATE D TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	MAY 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	18	15	154	4	EW-01	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	1657	740	275	5	MW-21	Water Table; BC	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	ND	ND	218	23	MW-40	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	0.34	ND	103	11	MW-28	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	1	ND	243	26	MW-41	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded.240V
	3	ND	65	11	MW-30A	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	34	14	160	11	MW-34B	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded.240V
	49	ND	124	23	MW-30B	Deep; BC	VOCs; 1,4-Dioxane	Ded.240V
	87	ND	66	22	MW-32B	Deep; B	VOCs; 1,4-Dioxane	Ded. Redi-Flo 2
	ND	ND	157	62	MW-26C	Deep; B	VOCs; 1,4-Dioxane	Redi-flo
	54	ND	18	16	MW-08	Water Table; BC	VOCs; 1,4-Dioxane	Redi-flo

NOTE

1 = Day - # refers to the day scheduled to sample and the corresponding dedicated pipestand to use: ND=1; 0-10=2; 10 - 100=3; >100=4

A **MS** and **MSD** (3x40ml VOA and 1L amber) should be collected every day/ alternating 1,4-Dioxane methods as indicated.

1,4-Dioxane analysis method is 8270 SIM unless specified otherwise (if historical detect is > 5.0 ug/l MOD is used).

Wells with dedicated pumps should follow concentration order when possible.

MW-36 and MW-39 Gate Access Code: 3252

INSTRUMENT CALIBRATION LOG FOR GROUNDWATER SAMPLING: Temp + pH + EC + DO + ORP

[illegible]

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-35c

Time <u>0832</u> Static DTW (ft below reference point)	<u>77.41</u>	Screen Volume (SV) (gallons) <u>288</u> 3 SV (gallons) <u>864</u>	Weather Conditions	Initials: <u>DJS, RA</u>
Casing Total Depth (ft below reference point)	<u>1040</u>	Purging Device <u>ded. pump</u> Sampling Device <u>NDPS</u>	Time <u>0830</u> Temp. <u>63</u>	Begin Purge <u>0835</u> End Purge <u>0920</u>
Water Column (Pump Set Depth to Screen) (feet)	<u>480</u>	Pump: Depth (ft brp) <u>560</u> Type <u>Grundfos</u> Voltage <u>240</u> HP <u>-</u>	Skies <u>Cloudy</u>	Gallons Purged <u>945.6</u> SVs Purged <u>3.3</u>
Casing Capacity (Diameter <u>4"</u>) (gallons per foot)	<u>0.60</u>	Monitor Well Recharge Rate: Slow _____ Fast <u>✓</u>	Wind (mph) <u>2</u> From <u>2</u>	DTW (ft brp) <u>77.41</u> Time <u>0832</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0835	77.41	0	0	~		Begin	Purge	~		-	Q ≈ 20
0842	87.95	144	0.5	20.3	7.51	1029	-89.3	-0.55	3.65	-	
0849	87.99	288	1.0	20.1	7.55	1034	-62.3	1.18	15.93	-	
0856	88.02	432	1.5	20.5	7.58	1062	-43.8	2.03	18.26	-	
0904	88.29	576	2.0	20.5	7.59	1059	-35.4	2.03	20.96	-	
0911	88.29	720	2.5	20.5	7.59	1056	-36.9	2.07	3.05	-	
0918	88.30	864	3.0	20.4	7.59	1053	-33.4	2.00	3.76	-	
0920	NM	945.6	3.3	~		End	Purge	~		-	

SAMPLE COLLECTION SAMPLE TIME <u>0920</u>	
ANALYSIS	QUANTITY TYPE
8260B VOCs	<u>3</u> 40 ml VOA
8270 SIM 1,4 dioxane	<u>1</u> 1 L Amber
8270 MOD 1,4 dioxane	<u>1</u> 1 L Amber
DUPLICATES / SPLITS / BLANKS? Y <u>(N)</u>	
If yes, complete appropriate forms.	

AIR MONITORING PID/FID ppm: VAULT NA BRGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-33

Time <u>1031</u> Static DTW (ft below reference point) <u>68.18</u>	Screen Volume (SV) (gallons) <u>276</u> 3 SV (gallons) <u>828</u>	Weather Conditions	Initials: <u>DJS, RA</u>
Casing Total Depth (ft below reference point) <u>1020</u>	Purging Device <u>40L Pump</u> Sampling Device <u>0-10" Sed. PS</u>	Time <u>1040</u> Temp. <u>65</u>	Begin Purge <u>1050</u> End Purge <u>1136</u>
Water Column (Pump Set Depth to Screen) (feet) <u>460</u>	Pump: Depth (ft brp) <u>560</u> Type <u>grundfos</u> Voltage <u>240</u> HP <u>~</u>	Skies <u>cloudy</u>	Gallons Purged <u>828</u> SVs Purged <u>3.0</u>
Casing Capacity (Diameter <u>4"</u> (gallons per foot) <u>0.60</u>	Monitor Well Recharge Rate: Slow ☐ Fast ☒	Wind (mph) <u>7</u> From <u>7</u>	DTW (ft brp) <u>68.18</u> Time <u>1031</u>

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1050	68.18	0	0	Begin Purge							
1058	70.06	138	0.5	20.6	7.77	1004	-6.4	0.68	1.12	-	Q ≈ 18 GPM
1105	70.23	276	1.0	20.9	7.73	949	-9.7	0.62	0.98	-	
1114	70.23	414	1.5	20.9	7.68	964	-32.4	0.60	2.17	-	
1121	70.25	552	2.0	21.0	7.67	963	-27.5	-0.62	1.22	-	
1129	70.35	690	2.5	21.2	7.67	963	-27.2	-0.64	2.04	-	
1136	70.35	828	3.0	21.2	7.66	960	-28.8	-0.67	2.64	✓	
1141	NM	901	3.3	END PURGE							

SAMPLE COLLECTION	SAMPLE TIME	<u>1140</u> ~~1140~~ ~~1140~~
ANALYSIS	QUANTITY	TYPE
8260B VOCs	<u>4</u>	40 ml VOA
8270 SIM 1,4 dioxane	<u>3</u>	1 L Amber
8270 MOD 1,4 dioxane		1 L Amber
DUPLICATES	SPLITS	BLANKS?
☐	☐	☐
If yes, complete appropriate forms.		

AIR MONITORING PID/FID ppm: VAULT NA	BKGD NA	BREATHING ZONE NA	DISCHARGE WATER NA
NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
<u>dwp collected @ 1230</u>			
<u>split collected @ 1140</u>			

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-42

Time 1351 Static DTW (ft below reference point) 64.05	Screen Volume (SV) (gallons) 245 3 SV (gallons) 885	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point) 1052	Purging Device del pump Sampling Device NDPS	Time 1356 Temp. 70	Begin Purge 1351 End Purge 1442
Water Column (Pump Set Depth to Screen) (feet) 492	Pump: Depth (ft brp) 560 Type Gump's Voltage 240 HP -	Skies clear	Gallons Purged 885 SVs Purged 30
Casing Capacity (Diameter 4") (gallons per foot) 0.67	Monitor Well Recharge Rate: Slow Fast ☒	Wind (mph) - From -	DTW (ft brp) 78.23 Time 1442

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1351	64.05	0	0	Begin Purge						-	
1408	78.01	147.5	0.5	21.3	8.06	886	-126.5	0.43	1.71	-	Q ≈ 20 GPM
1414	78.01	245	1.0	21.4	8.06	897	-110.8	-0.54	2.01	-	
1422	78.22	442.5	1.5	21.7	8.06	890	-111.4	-0.75	6.62	-	
1429	78.23	590	2.0	21.6	8.05	907	-112.9	-0.81	26.20	-	
1437	78.23	737.5	2.5	21.7	8.05	910	-113.0	-0.84	6.34	✓	
1442	78.23	885	3.0	21.7	8.05	911	-116.3	-0.88	2.42	✓	
1445	NM	925	3.1	END PURGE							

SAMPLE COLLECTION	SAMPLE TIME 1445
ANALYSIS	QUANTITY TYPE
8260B VOCs	9 40 ml VOA
8270 SIM 1,4 dioxane	3 1 L Amber
8270 MOD 1,4 dioxane	1 L Amber
DUPLICATES / SPLITS / BLANKS?	(Y) N
If yes, complete appropriate forms.	

AIR MONITORING PID/FID ppm: VAULT NA	BKGD NA	BREATHING ZONE NA	DISCHARGE WATER NA
NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
MS/MSD collected			

GROUNDWATER SAMPLING INFORMATION

DATE: 05/17/2022

TASK: 532.30

WELL ID: MW-34B

Time 1552 Static DTW (ft below reference point)	136.18	Screen Volume (SV) (gallons) 46	3 SV (gallons) 136	Weather Conditions	Initials: RJS/RA
Casing Total Depth (ft below reference point)	536	Purging Device ded pump	Sampling Device 10-100 pipestand	Time 1600 Temp 70	Begin Purge 1613 End Purge 1622
Water Column (Pump Set Depth to Screen) (feet)	76	Pump Depth (ft brp) 460	Type groundfos Voltage 240 HP -	Skies clear	Gallons Purged 149 SVs Purged 3.0
Casing Capacity (Diameter 4") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow	Fast X	Wind (mph) - From -	DTW (ft brp) 140.60 Time 1622

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1643	136.18	0	0	Begin Purge						-	Q ≈ 16 GPM
1615	138.51	28	0.5	21.6	7.49	1247	-53.1	0.14	25.63	-	
1617	140.55	46	1.0	21.8	7.51	1243	-15.0	0.51	30.32	-	
1619	140.55	69	1.5	21.9	7.50	1245	-7.3	0.51	48.23	-	
1620	140.58	92	2.0	21.9	7.50	1246	-6.5	0.53	62.33	-	
1621	140.58	115	2.5	21.9	7.50	1246	-6.0	0.53	44.00	-	
1622	140.60	138	3.0	21.9	7.50	1245	-7.2	0.51	9.06	-	
1624	NM	149	3.2	END PURGE							

SAMPLE COLLECTION	SAMPLE TIME 1630
ANALYSIS	QUANTITY TYPE
8260B VOCs	40 ml VOA
8270 SIM 1,4 dioxane	1 L Amber
8270 MOD 1,4 dioxane	1 L Amber
DUPLICATES SPLITS	BLANKS?
(Y)	(N)

AIR MONITORING PID/FID ppm: VAULT NA	BKGD NA	BREATHING ZONE NA	DISCHARGE WATER NA
NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)			
Collect field duplicate @ 1645			
Collect split lab sample @ 1630			

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-39

Time 0942 Static DTW (ft below reference point)	70.18	Screen Volume (SV) (gallons) 271	3 SV (gallons) 814	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point)	1012	Purging Device JED PUP	Sampling Device NDPS	Time 0940 Temp 62	Begin Purge 0946 End Purge 1030
Water Column (Pump Set Depth to Screen) (feet)	452	Pump Depth (ft brp) 560	Type 4" RND Voltage 240 HP	Skies cloudy	Gallons Purged 834 SVs Purged 3.0
Casing Capacity (Diameter 4" (gallons per foot))	0.60	Monitor Well Recharge Rate: Slow	Fast	Wind (mph) 2 From 2	DTW (ft brp) 85.82 Time 1026

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0946	70.18	0	0	Begin Purge						-	Q ~ 20 GPM
0953	85.71	135.5	0.5	21.6	8.51	563	-165.4	0.09	0.69	-	
0958	85.39	271	1.0	22.3	8.68	549	-142.3	-0.37	0.96	-	
1005	85.55	406	1.5	22.5	8.50	567	-114.0	-0.75	0.86	✓	
1013	85.71	542	2.0	22.5	8.44	572	-126.0	-0.83	0.72	-	
1020	85.78	677.5	2.5	22.6	8.45	575	-127.9	-0.86	0.76	-	
1026	85.82	814	3.0	22.6	8.44	575	-136.1	-0.87	0.73	-	
1030	NM	834	3.1	End Purge						-	

SAMPLE COLLECTION	SAMPLE TIME 1030
ANALYSIS	QUANTITY TYPE
8260B VOCs	3 40 ml VOA
8270 SIM 1,4 dioxane	1 L Amber
8270 MOD 1,4 dioxane	1 L Amber
DUPLICATES / SPLITS / BLANKS?	Y (N)
If yes, complete appropriate forms.	

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

GROUNDWATER SAMPLING INFORMATION

DATE: 05/18/2022

TASK: 532.30

WELL ID: MW-36

Time 1049 Static DTW (ft below reference point)	71.88	Screen Volume (SV) (gallons) 320	3 SV (gallons) 961	Weather Conditions	Initials: DTS, RS
Casing Total Depth (ft below reference point)	994	Purging Device 440 Pump	Sampling Device C100 PS	Time 1049 Temp. 66	Begin Purge 1136 End Purge 1252
Water Column (Pump Set Depth to Screen) (feet)	534	Pump: Depth (ft brp) 460 Type 4TUNDRS Voltage 240 HP -		Skies Partly Cloudy	Gallons Purged 984 SVs Purged 3.1
Casing Capacity (Diameter 4") (gallons per foot)	0.66	Monitor Well Recharge Rate: Slow Fast ☒		Wind (mph) 2 From 2	DTW (ft brp) Time

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
1136	71.88	0	0	Begin Purge						-	
1147	75.60	160	0.5	21.4	7.59	1424	-64.8	0.74	17.68	-	Q ≈ 15 GPM
1200	75.70	320	1.0	21.5	7.71	1175	-78.0	0.84	54.28	-	
1212	75.95	480	1.5	21.7	7.54	1509	-69.8	0.87	1.75	-	
1224	76.02	640	2.0	21.5	7.52	1571	-62.1	0.85	28.75	-	
1237	76.05	800	2.5	21.8	7.51	1602	-58.5	0.91	1.14	-	
1250	76.06	961	3.0	21.8	7.50	1610	-52.3	0.89	3.70	-	
1252	NM	984	3.1	End Purge						-	

SAMPLE COLLECTION SAMPLE TIME 1252		
ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA
8270 SIM 1,4 dioxane		1 L Amber
8270 MOD 1,4 dioxane	1	1 L Amber
DUPLICATES / SPLITS / BLANKS? Y ☒		

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA
 NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

GROUNDWATER SAMPLING INFORMATION

DATE: 05/19/2022

TASK: 532.30

WELL ID: MW-43

Time 0813 Static DTW (ft below reference point) 63.05	Screen Volume (SV) (gallons) 291.6 3 SV (gallons) 874.8	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point) 1046	Purging Device Jet Pump Sampling Device NDPS	Time 0820 Temp. 65	Begin Purge 0821 End Purge 0905
Water Column (Pump Set Depth to Screen) (feet) 486	Pump: Depth (ft brp) 560 Type groutex Voltage 240 HP -	Skies clear	Gallons Purged 937 SVs Purged 3.2
Casing Capacity (Diameter 4" (gallons per foot) 0.60	Monitor Well Recharge Rate: Slow Fast ☒	Wind (mph) - From -	DTW (ft brp) 70.29 Time 0905

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	FIELD PARAMETERS...						Pump Frequency Hz	COMMENTS
				Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)		
0821	63.05	0	0			Begin Purge				-	
0828	70.05	145.8	0.5	20.8	8.86	646.2	-67.1	1.99	0.98	-	Q ≈ 21 GPM
0836	70.23	291.6	1.0	21.1	8.81	634.1	-90.3	2.64	1.15	-	
0842	70.26	437	1.5	21.3	8.11	633.3	-68.3	2.26	0.23	-	
0848	70.28	583	2.0	21.3	8.08	633	-63.0	2.08	0.17	-	
0855	70.29	729	2.5	21.4	8.07	632	-56.5	2.11	0.19	-	
0902	70.29	874	3.0	21.3	8.05	632	-50.3	2.31	0.17	-	
0905	Nm	937	3.2			End Purge				-	

SAMPLE COLLECTION SAMPLE TIME 0905

ANALYSIS	QUANTITY	TYPE
8260B VOCs	4	40 ml VOA
8270 SIM 1,4 dioxane	3	1 L Amber
8270 MOD 1,4 dioxane		1 L Amber
DUPLICATES / SPLITS / BLANKS?	0	N

If yes, complete appropriate forms.

AIR MONITORING PID/FID ppm: VAULT NA BKGD NA BREATHING ZONE NA DISCHARGE WATER NA

NOTES (Color, odor, sand and silt content, factors possibly affecting samples, condition of vault, wellhead, sampling apparatus, etc.)

MS/MSD (211610)

APPENDIX B
LABORATORY ANALYTICAL REPORTS

GROUNDWATER SAMPLING ANALYTICAL RESULTS



June 02, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2201314

Client Reference : Raytheon Main, 532.30

Enclosed are the results for sample(s) received on May 18, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria Michel", with a small flourish below it.

Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 06/02/22 16:26 on Behalf of

A handwritten signature in black ink, appearing to read "Amy Leung", with a small flourish below it.

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-051722A	2201314-01	Water	5/17/22 8:00	5/18/22 17:25
MW-26C	2201314-02	Water	5/17/22 11:13	5/18/22 17:25
MW-21	2201314-03	Water	5/17/22 12:36	5/18/22 17:25
EW-01	2201314-04	Water	5/17/22 12:56	5/18/22 17:25
RB-051722	2201314-05	Water	5/17/22 13:15	5/18/22 17:25
MW-32B	2201314-06	Water	5/17/22 14:14	5/18/22 17:25
MW-08	2201314-07	Water	5/17/22 15:17	5/18/22 17:25
MW-28	2201314-08	Water	5/17/22 16:01	5/18/22 17:25
MW-30A	2201314-09	Water	5/18/22 9:44	5/18/22 17:25
MW-30B	2201314-10	Water	5/18/22 10:26	5/18/22 17:25
MW-31	2201314-11	Water	5/18/22 11:27	5/18/22 17:25
MW-40	2201314-12	Water	5/18/22 13:15	5/18/22 17:25
MW-41	2201314-13	Water	5/18/22 14:05	5/18/22 17:25
MW-34B	2201314-14	Water	5/17/22 16:30	5/18/22 17:25
MW-3400B	2201314-15	Water	5/17/22 16:45	5/18/22 17:25
MW-42	2201314-16	Water	5/17/22 14:45	5/18/22 17:25
MW-33	2201314-17	Water	5/17/22 11:40	5/18/22 17:25
MW-3300	2201314-18	Water	5/17/22 12:30	5/18/22 17:25
MW-35C	2201314-19	Water	5/17/22 9:20	5/18/22 17:25
MW-39	2201314-20	Water	5/18/22 10:20	5/18/22 17:25
MW-36	2201314-21	Water	5/18/22 12:52	5/18/22 17:25



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
S1	Surrogate recovery was above laboratory acceptance limit. No associated target analyte was detected in the sample.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
H3	Initial analysis within holding time. Reanalysis was past holding time.
E12	Internal standard was added before extract, hence, result in low recovery.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: TB-051722A

Lab ID: 2201314-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:52	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:52	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:52	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:52	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 13:52	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 13:52	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:52	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:52	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:52	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:52	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:52	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:52	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 13:52	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:52	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:52	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:52	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:52	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:52	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:52	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 13:52	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 13:52	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: TB-051722A

Lab ID: 2201314-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:52	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:52	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 13:52	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 13:52	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:52	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:52	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 13:52	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:52	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:52	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:52	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:52	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:52	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:52	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 13:52	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:52	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>77.9 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	<i>05/20/22 13:52</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>75.8 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	<i>05/20/22 13:52</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>107 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	<i>05/20/22 13:52</i>	
<i>Surrogate: Toluene-d8</i>	<i>88.1 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	<i>05/20/22 13:52</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-26C

Lab ID: 2201314-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:12	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:12	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:12	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:12	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 18:12	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 18:12	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:12	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:12	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:12	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:12	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:12	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:12	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 18:12	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:12	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:12	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:12	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:12	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:12	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:12	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 18:12	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 18:12	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-26C

Lab ID: 2201314-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:12	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:12	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 18:12	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 18:12	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:12	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:12	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 18:12	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:12	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:12	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:12	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:12	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:12	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:12	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 18:12	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:12	
Surrogate: 1,2-Dichloroethane-d4	76.1 %	64 - 155			B2E1297	05/20/2022	05/20/22 18:12	
Surrogate: 4-Bromofluorobenzene	87.4 %	73 - 124			B2E1297	05/20/2022	05/20/22 18:12	
Surrogate: Dibromofluoromethane	98.2 %	78 - 129			B2E1297	05/20/2022	05/20/22 18:12	
Surrogate: Toluene-d8	88.5 %	84 - 117			B2E1297	05/20/2022	05/20/22 18:12	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 13:51	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99			B2E1381	05/23/2022	05/24/22 13:51	S12
Surrogate: 2-Fluorobiphenyl	96.3 %	8 - 111			B2E1381	05/23/2022	05/24/22 13:51	
Surrogate: 4-Terphenyl-d14	102 %	12 - 113			B2E1381	05/23/2022	05/24/22 13:51	
Surrogate: Nitrobenzene-d5	100 %	15 - 121			B2E1381	05/23/2022	05/24/22 13:51	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-21

Lab ID: 2201314-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:37	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:37	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 16:37	
1,1,2-Trichloroethane	17	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 16:37	
1,1-Dichloroethane	36	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:37	
1,1-Dichloroethene	1800	25	6.6	50	B2F0795	06/01/2022	06/01/22 18:39	H3
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2-Dichloroethane	6.5	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:37	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:37	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:37	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:37	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 16:37	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 16:37	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:37	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:37	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:37	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:37	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:37	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:37	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 16:37	
Carbon tetrachloride	0.65	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:37	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:37	
Chloroform	0.31	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:37	J
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:37	
cis-1,2-Dichloroethene	1.4	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:37	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:37	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 16:37	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 16:37	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-21

Lab ID: 2201314-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:37	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:37	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 16:37	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 16:37	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:37	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:37	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 16:37	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:37	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:37	
Tetrachloroethene	4.6	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:37	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:37	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:37	
Trichloroethene	15	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:37	
Trichlorofluoromethane	0.32	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 16:37	J
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:37	
Surrogate: 1,2-Dichloroethane-d4	115 %	64 - 155			B2E1537	05/31/2022	05/31/22 16:37	
Surrogate: 1,2-Dichloroethane-d4	107 %	64 - 155			B2F0795	06/01/2022	06/01/22 18:39	
Surrogate: 4-Bromofluorobenzene	111 %	73 - 124			B2E1537	05/31/2022	05/31/22 16:37	
Surrogate: 4-Bromofluorobenzene	113 %	73 - 124			B2F0795	06/01/2022	06/01/22 18:39	
Surrogate: Dibromofluoromethane	117 %	78 - 129			B2E1537	05/31/2022	05/31/22 16:37	
Surrogate: Dibromofluoromethane	101 %	78 - 129			B2F0795	06/01/2022	06/01/22 18:39	
Surrogate: Toluene-d8	105 %	84 - 117			B2E1537	05/31/2022	05/31/22 16:37	
Surrogate: Toluene-d8	111 %	84 - 117			B2F0795	06/01/2022	06/01/22 18:39	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	700	2.0	0.84	1	B2E1312	05/19/2022	05/19/22 18:20	
Surrogate: 1,2-Dichlorobenzene-d4	95.0 %	17 - 119			B2E1312	05/19/2022	05/19/22 18:20	
Surrogate: 2-Fluorobiphenyl	89.5 %	10 - 133			B2E1312	05/19/2022	05/19/22 18:20	
Surrogate: 4-Terphenyl-d14	89.9 %	5 - 139			B2E1312	05/19/2022	05/19/22 18:20	
Surrogate: Nitrobenzene-d5	108 %	13 - 150			B2E1312	05/19/2022	05/19/22 18:20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: EW-01

Lab ID: 2201314-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:38	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:38	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 18:38	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 18:38	
1,1-Dichloroethane	0.27	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:38	J
1,1-Dichloroethene	27	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:38	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:38	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:38	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:38	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 18:38	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 18:38	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:38	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:38	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:38	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 18:38	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:38	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 18:38	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 18:38	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:38	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:38	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:38	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:38	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 18:38	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 18:38	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 18:38	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 18:38	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: EW-01

Lab ID: 2201314-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 18:38	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:38	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 18:38	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 18:38	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 18:38	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:38	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 18:38	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:38	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:38	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:38	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 18:38	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 18:38	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 18:38	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 18:38	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 18:38	
Surrogate: 1,2-Dichloroethane-d4	79.1 %	64 - 155			B2E1297	05/20/2022	05/20/22 18:38	
Surrogate: 4-Bromofluorobenzene	83.0 %	73 - 124			B2E1297	05/20/2022	05/20/22 18:38	
Surrogate: Dibromofluoromethane	104 %	78 - 129			B2E1297	05/20/2022	05/20/22 18:38	
Surrogate: Toluene-d8	90.0 %	84 - 117			B2E1297	05/20/2022	05/20/22 18:38	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	13	2.0	0.84	1	B2E1312	05/19/2022	05/19/22 18:46	
Surrogate: 1,2-Dichlorobenzene-d4	93.4 %	17 - 119			B2E1312	05/19/2022	05/19/22 18:46	
Surrogate: 2-Fluorobiphenyl	89.9 %	10 - 133			B2E1312	05/19/2022	05/19/22 18:46	
Surrogate: 4-Terphenyl-d14	92.2 %	5 - 139			B2E1312	05/19/2022	05/19/22 18:46	
Surrogate: Nitrobenzene-d5	104 %	13 - 150			B2E1312	05/19/2022	05/19/22 18:46	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: RB-051722

Lab ID: 2201314-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:04	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:04	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:04	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:04	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 19:04	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 19:04	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:04	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:04	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:04	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:04	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:04	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:04	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 19:04	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:04	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:04	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:04	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:04	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:04	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:04	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 19:04	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:04	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: RB-051722

Lab ID: 2201314-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:04	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:04	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 19:04	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 19:04	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:04	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:04	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:04	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:04	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:04	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:04	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:04	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:04	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:04	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 19:04	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:04	
Surrogate: 1,2-Dichloroethane-d4	74.6 %	64 - 155			B2E1297	05/20/2022	05/20/22 19:04	
Surrogate: 4-Bromofluorobenzene	77.1 %	73 - 124			B2E1297	05/20/2022	05/20/22 19:04	
Surrogate: Dibromofluoromethane	94.4 %	78 - 129			B2E1297	05/20/2022	05/20/22 19:04	
Surrogate: Toluene-d8	93.6 %	84 - 117			B2E1297	05/20/2022	05/20/22 19:04	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 14:18	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99			B2E1381	05/23/2022	05/24/22 14:18	S12
Surrogate: 2-Fluorobiphenyl	98.2 %	8 - 111			B2E1381	05/23/2022	05/24/22 14:18	
Surrogate: 4-Terphenyl-d14	105 %	12 - 113			B2E1381	05/23/2022	05/24/22 14:18	
Surrogate: Nitrobenzene-d5	97.2 %	15 - 121			B2E1381	05/23/2022	05/24/22 14:18	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-32B

Lab ID: 2201314-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:30	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:30	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 19:30	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 19:30	
1,1-Dichloroethane	0.30	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:30	J
1,1-Dichloroethene	47	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:30	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:30	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:30	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:30	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 19:30	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 19:30	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:30	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:30	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:30	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:30	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:30	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:30	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 19:30	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:30	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:30	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:30	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:30	
cis-1,2-Dichloroethene	0.83	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:30	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:30	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 19:30	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:30	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-32B

Lab ID: 2201314-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:30	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:30	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 19:30	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 19:30	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:30	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:30	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:30	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:30	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:30	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:30	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:30	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:30	
Trichloroethene	15	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:30	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 19:30	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>76.4 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	05/20/22 19:30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>85.4 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	05/20/22 19:30	
<i>Surrogate: Dibromofluoromethane</i>	<i>98.1 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	05/20/22 19:30	
<i>Surrogate: Toluene-d8</i>	<i>92.2 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	05/20/22 19:30	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	1.9	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 14:45	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>103 %</i>	<i>13 - 99</i>			B2E1381	05/23/2022	05/24/22 14:45	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>100 %</i>	<i>8 - 111</i>			B2E1381	05/23/2022	05/24/22 14:45	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>109 %</i>	<i>12 - 113</i>			B2E1381	05/23/2022	05/24/22 14:45	
<i>Surrogate: Nitrobenzene-d5</i>	<i>98.6 %</i>	<i>15 - 121</i>			B2E1381	05/23/2022	05/24/22 14:45	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-08

Lab ID: 2201314-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1-Dichloroethene	17	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:56	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:56	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:56	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:56	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 19:56	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 19:56	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:56	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:56	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:56	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 19:56	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:56	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 19:56	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 19:56	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:56	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:56	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:56	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:56	
cis-1,2-Dichloroethene	1.4	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 19:56	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 19:56	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 19:56	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 19:56	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-08

Lab ID: 2201314-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 19:56	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:56	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 19:56	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 19:56	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 19:56	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:56	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 19:56	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:56	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:56	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:56	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 19:56	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 19:56	
Trichloroethene	42	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 19:56	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 19:56	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 19:56	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>77.4 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	<i>05/20/22 19:56</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>88.4 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	<i>05/20/22 19:56</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>97.2 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	<i>05/20/22 19:56</i>	
<i>Surrogate: Toluene-d8</i>	<i>90.9 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	<i>05/20/22 19:56</i>	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	1.4	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 15:12	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>103 %</i>	<i>13 - 99</i>			B2E1381	05/23/2022	<i>05/24/22 15:12</i>	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>99.2 %</i>	<i>8 - 111</i>			B2E1381	05/23/2022	<i>05/24/22 15:12</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>108 %</i>	<i>12 - 113</i>			B2E1381	05/23/2022	<i>05/24/22 15:12</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>93.5 %</i>	<i>15 - 121</i>			B2E1381	05/23/2022	<i>05/24/22 15:12</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-28

Lab ID: 2201314-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:22	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:22	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:22	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:22	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 20:22	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 20:22	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:22	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:22	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:22	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:22	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:22	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:22	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 20:22	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:22	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:22	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:22	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:22	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:22	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:22	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 20:22	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 20:22	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-28

Lab ID: 2201314-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:22	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:22	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 20:22	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 20:22	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:22	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:22	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 20:22	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:22	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:22	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:22	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:22	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:22	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:22	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 20:22	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:22	
Surrogate: 1,2-Dichloroethane-d4	80.9 %	64 - 155			B2E1297	05/20/2022	05/20/22 20:22	
Surrogate: 4-Bromofluorobenzene	78.3 %	73 - 124			B2E1297	05/20/2022	05/20/22 20:22	
Surrogate: Dibromofluoromethane	104 %	78 - 129			B2E1297	05/20/2022	05/20/22 20:22	
Surrogate: Toluene-d8	89.6 %	84 - 117			B2E1297	05/20/2022	05/20/22 20:22	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 15:38	
Surrogate: 1,2-Dichlorobenzene-d4	104 %	13 - 99			B2E1381	05/23/2022	05/24/22 15:38	S12
Surrogate: 2-Fluorobiphenyl	99.8 %	8 - 111			B2E1381	05/23/2022	05/24/22 15:38	
Surrogate: 4-Terphenyl-d14	108 %	12 - 113			B2E1381	05/23/2022	05/24/22 15:38	
Surrogate: Nitrobenzene-d5	101 %	15 - 121			B2E1381	05/23/2022	05/24/22 15:38	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-30A

Lab ID: 2201314-09

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:48	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:48	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:48	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:48	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 20:48	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 20:48	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:48	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:48	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:48	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 20:48	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:48	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 20:48	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 20:48	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:48	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:48	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:48	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:48	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 20:48	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 20:48	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 20:48	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 20:48	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-30A

Lab ID: 2201314-09

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 20:48	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:48	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 20:48	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 20:48	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 20:48	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:48	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 20:48	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:48	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:48	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:48	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 20:48	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 20:48	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 20:48	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 20:48	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 20:48	
Surrogate: 1,2-Dichloroethane-d4	81.9 %	64 - 155			B2E1297	05/20/2022	05/20/22 20:48	
Surrogate: 4-Bromofluorobenzene	90.1 %	73 - 124			B2E1297	05/20/2022	05/20/22 20:48	
Surrogate: Dibromofluoromethane	107 %	78 - 129			B2E1297	05/20/2022	05/20/22 20:48	
Surrogate: Toluene-d8	90.2 %	84 - 117			B2E1297	05/20/2022	05/20/22 20:48	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 16:05	
Surrogate: 1,2-Dichlorobenzene-d4	104 %	13 - 99			B2E1381	05/23/2022	05/24/22 16:05	S12
Surrogate: 2-Fluorobiphenyl	97.8 %	8 - 111			B2E1381	05/23/2022	05/24/22 16:05	
Surrogate: 4-Terphenyl-d14	103 %	12 - 113			B2E1381	05/23/2022	05/24/22 16:05	
Surrogate: Nitrobenzene-d5	98.7 %	15 - 121			B2E1381	05/23/2022	05/24/22 16:05	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-30B

Lab ID: 2201314-10

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1-Dichloroethene	23	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:14	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:14	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:14	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:14	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 21:14	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 21:14	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:14	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:14	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:14	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:14	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:14	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:14	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 21:14	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:14	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:14	
Chloroform	0.39	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:14	J
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:14	
cis-1,2-Dichloroethene	3.6	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:14	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:14	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 21:14	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 21:14	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-30B

Lab ID: 2201314-10

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:14	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:14	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 21:14	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 21:14	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:14	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:14	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 21:14	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:14	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:14	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:14	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:14	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:14	
Trichloroethene	83	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:14	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 21:14	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:14	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>80.4 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	<i>05/20/22 21:14</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>79.6 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	<i>05/20/22 21:14</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	<i>05/20/22 21:14</i>	
<i>Surrogate: Toluene-d8</i>	<i>86.6 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	<i>05/20/22 21:14</i>	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	1.1	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 16:32	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>103 %</i>	<i>13 - 99</i>			B2E1381	05/23/2022	<i>05/24/22 16:32</i>	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>98.1 %</i>	<i>8 - 111</i>			B2E1381	05/23/2022	<i>05/24/22 16:32</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>105 %</i>	<i>12 - 113</i>			B2E1381	05/23/2022	<i>05/24/22 16:32</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>99.7 %</i>	<i>15 - 121</i>			B2E1381	05/23/2022	<i>05/24/22 16:32</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-31

Lab ID: 2201314-11

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1-Dichloroethane	0.56	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1-Dichloroethene	72	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 17:29	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 17:29	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 17:29	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 17:29	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 17:29	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 17:29	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 17:29	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 17:29	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 17:29	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 17:29	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 17:29	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 17:29	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 17:29	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 17:29	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 17:29	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 17:29	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 17:29	
cis-1,2-Dichloroethene	0.15	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 17:29	J
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 17:29	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 17:29	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 17:29	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-31

Lab ID: 2201314-11

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 17:29	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 17:29	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 17:29	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 17:29	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 17:29	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 17:29	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 17:29	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 17:29	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 17:29	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 17:29	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 17:29	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 17:29	
Trichloroethene	4.4	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 17:29	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 17:29	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 17:29	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>115 %</i>	<i>64 - 155</i>			B2E1537	05/31/2022	05/31/22 17:29	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>98.5 %</i>	<i>73 - 124</i>			B2E1537	05/31/2022	05/31/22 17:29	
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>	<i>78 - 129</i>			B2E1537	05/31/2022	05/31/22 17:29	
<i>Surrogate: Toluene-d8</i>	<i>97.5 %</i>	<i>84 - 117</i>			B2E1537	05/31/2022	05/31/22 17:29	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	4.5	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 16:58	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>102 %</i>	<i>13 - 99</i>			B2E1381	05/23/2022	05/24/22 16:58	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>98.5 %</i>	<i>8 - 111</i>			B2E1381	05/23/2022	05/24/22 16:58	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>106 %</i>	<i>12 - 113</i>			B2E1381	05/23/2022	05/24/22 16:58	
<i>Surrogate: Nitrobenzene-d5</i>	<i>101 %</i>	<i>15 - 121</i>			B2E1381	05/23/2022	05/24/22 16:58	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-40

Lab ID: 2201314-12

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:40	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:40	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:40	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:40	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 21:40	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 21:40	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:40	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:40	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:40	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 21:40	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:40	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 21:40	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 21:40	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:40	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:40	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:40	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:40	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 21:40	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 21:40	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 21:40	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 21:40	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-40

Lab ID: 2201314-12

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 21:40	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:40	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 21:40	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 21:40	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 21:40	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:40	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 21:40	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:40	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:40	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:40	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 21:40	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 21:40	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 21:40	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 21:40	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 21:40	
Surrogate: 1,2-Dichloroethane-d4	78.3 %	64 - 155			B2E1297	05/20/2022	05/20/22 21:40	
Surrogate: 4-Bromofluorobenzene	74.6 %	73 - 124			B2E1297	05/20/2022	05/20/22 21:40	
Surrogate: Dibromofluoromethane	99.8 %	78 - 129			B2E1297	05/20/2022	05/20/22 21:40	
Surrogate: Toluene-d8	93.3 %	84 - 117			B2E1297	05/20/2022	05/20/22 21:40	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 17:25	
Surrogate: 1,2-Dichlorobenzene-d4	102 %	13 - 99			B2E1381	05/23/2022	05/24/22 17:25	S12
Surrogate: 2-Fluorobiphenyl	101 %	8 - 111			B2E1381	05/23/2022	05/24/22 17:25	
Surrogate: 4-Terphenyl-d14	109 %	12 - 113			B2E1381	05/23/2022	05/24/22 17:25	
Surrogate: Nitrobenzene-d5	91.5 %	15 - 121			B2E1381	05/23/2022	05/24/22 17:25	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-41

Lab ID: 2201314-13

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1-Dichloroethene	0.58	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 22:06	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 22:06	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 22:06	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 22:06	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 22:06	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 22:06	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 22:06	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 22:06	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 22:06	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 22:06	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 22:06	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 22:06	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 22:06	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 22:06	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 22:06	
Chloroform	0.50	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 22:06	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 22:06	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 22:06	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 22:06	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 22:06	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 22:06	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-41

Lab ID: 2201314-13

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 22:06	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 22:06	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 22:06	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 22:06	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 22:06	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 22:06	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 22:06	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 22:06	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 22:06	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 22:06	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 22:06	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 22:06	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 22:06	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 22:06	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 22:06	
Surrogate: 1,2-Dichloroethane-d4	79.5 %	64 - 155			B2E1297	05/20/2022	05/20/22 22:06	
Surrogate: 4-Bromofluorobenzene	79.7 %	73 - 124			B2E1297	05/20/2022	05/20/22 22:06	
Surrogate: Dibromofluoromethane	105 %	78 - 129			B2E1297	05/20/2022	05/20/22 22:06	
Surrogate: Toluene-d8	92.3 %	84 - 117			B2E1297	05/20/2022	05/20/22 22:06	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 17:52	
Surrogate: 1,2-Dichlorobenzene-d4	102 %	13 - 99			B2E1381	05/23/2022	05/24/22 17:52	S12
Surrogate: 2-Fluorobiphenyl	101 %	8 - 111			B2E1381	05/23/2022	05/24/22 17:52	
Surrogate: 4-Terphenyl-d14	105 %	12 - 113			B2E1381	05/23/2022	05/24/22 17:52	
Surrogate: Nitrobenzene-d5	92.4 %	15 - 121			B2E1381	05/23/2022	05/24/22 17:52	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-34B

Lab ID: 2201314-14

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:01	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:01	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 14:01	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 14:01	
1,1-Dichloroethane	0.47	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:01	J
1,1-Dichloroethene	24	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:01	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:01	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:01	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:01	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 14:01	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 14:01	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:01	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:01	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:01	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:01	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:01	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:01	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 14:01	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:01	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:01	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:01	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:01	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:01	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:01	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 14:01	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:01	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-34B

Lab ID: 2201314-14

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:01	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:01	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 14:01	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 14:01	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:01	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:01	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:01	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:01	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:01	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:01	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:01	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:01	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:01	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 14:01	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:01	
Surrogate: 1,2-Dichloroethane-d4	92.2 %	64 - 155			B2E1537	05/31/2022	05/31/22 14:01	
Surrogate: 4-Bromofluorobenzene	129 %	73 - 124			B2E1537	05/31/2022	05/31/22 14:01	S12
Surrogate: Dibromofluoromethane	92.2 %	78 - 129			B2E1537	05/31/2022	05/31/22 14:01	
Surrogate: Toluene-d8	93.8 %	84 - 117			B2E1537	05/31/2022	05/31/22 14:01	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	11	2.0	0.84	1	B2E1312	05/19/2022	05/19/22 19:13	
Surrogate: 1,2-Dichlorobenzene-d4	93.9 %	17 - 119			B2E1312	05/19/2022	05/19/22 19:13	
Surrogate: 2-Fluorobiphenyl	93.1 %	10 - 133			B2E1312	05/19/2022	05/19/22 19:13	
Surrogate: 4-Terphenyl-d14	91.2 %	5 - 139			B2E1312	05/19/2022	05/19/22 19:13	
Surrogate: Nitrobenzene-d5	104 %	13 - 150			B2E1312	05/19/2022	05/19/22 19:13	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-3400B

Lab ID: 2201314-15

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1-Dichloroethane	0.68	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1-Dichloroethene	46	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:27	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:27	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:27	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:27	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 14:27	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 14:27	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:27	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:27	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:27	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:27	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:27	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:27	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 14:27	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:27	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:27	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:27	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:27	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:27	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:27	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 14:27	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:27	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-3400B

Lab ID: 2201314-15

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:27	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:27	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 14:27	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 14:27	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:27	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:27	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:27	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:27	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:27	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:27	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:27	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:27	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:27	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 14:27	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:27	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>90.5 %</i>	<i>64 - 155</i>			B2E1537	05/31/2022	05/31/22 14:27	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.2 %</i>	<i>73 - 124</i>			B2E1537	05/31/2022	05/31/22 14:27	
<i>Surrogate: Dibromofluoromethane</i>	<i>102 %</i>	<i>78 - 129</i>			B2E1537	05/31/2022	05/31/22 14:27	
<i>Surrogate: Toluene-d8</i>	<i>105 %</i>	<i>84 - 117</i>			B2E1537	05/31/2022	05/31/22 14:27	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	12	2.0	0.84	1	B2E1312	05/19/2022	05/19/22 19:40	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>95.5 %</i>	<i>17 - 119</i>			B2E1312	05/19/2022	05/19/22 19:40	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>95.0 %</i>	<i>10 - 133</i>			B2E1312	05/19/2022	05/19/22 19:40	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>90.7 %</i>	<i>5 - 139</i>			B2E1312	05/19/2022	05/19/22 19:40	
<i>Surrogate: Nitrobenzene-d5</i>	<i>103 %</i>	<i>13 - 150</i>			B2E1312	05/19/2022	05/19/22 19:40	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-42

Lab ID: 2201314-16

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1-Dichloroethane	0.67	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1-Dichloroethene	42	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 13:35	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 13:35	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 13:35	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 13:35	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 13:35	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 13:35	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 13:35	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 13:35	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 13:35	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 13:35	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 13:35	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 13:35	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 13:35	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 13:35	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 13:35	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 13:35	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 13:35	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 13:35	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 13:35	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 13:35	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 13:35	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-42

Lab ID: 2201314-16

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 13:35	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 13:35	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 13:35	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 13:35	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 13:35	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 13:35	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 13:35	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 13:35	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 13:35	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 13:35	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 13:35	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 13:35	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 13:35	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 13:35	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 13:35	
Surrogate: 1,2-Dichloroethane-d4	108 %	64 - 155			B2E1537	05/31/2022	05/31/22 13:35	
Surrogate: 4-Bromofluorobenzene	111 %	73 - 124			B2E1537	05/31/2022	05/31/22 13:35	
Surrogate: Dibromofluoromethane	102 %	78 - 129			B2E1537	05/31/2022	05/31/22 13:35	
Surrogate: Toluene-d8	75.6 %	84 - 117			B2E1537	05/31/2022	05/31/22 13:35	S12

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	1.7	0.20	0.05	1	B2E1381	05/23/2022	05/24/22 18:20	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99			B2E1381	05/23/2022	05/24/22 18:20	S12
Surrogate: 2-Fluorobiphenyl	100 %	8 - 111			B2E1381	05/23/2022	05/24/22 18:20	
Surrogate: 4-Terphenyl-d14	103 %	12 - 113			B2E1381	05/23/2022	05/24/22 18:20	
Surrogate: Nitrobenzene-d5	97.6 %	15 - 121			B2E1381	05/23/2022	05/24/22 18:20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-33

Lab ID: 2201314-17

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1-Dichloroethene	6.9	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:53	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:53	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:53	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:53	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 14:53	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 14:53	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:53	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:53	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:53	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 14:53	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:53	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 14:53	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 14:53	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:53	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:53	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:53	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:53	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 14:53	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 14:53	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 14:53	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 14:53	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-33

Lab ID: 2201314-17

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 14:53	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:53	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 14:53	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 14:53	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 14:53	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:53	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 14:53	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:53	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:53	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:53	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 14:53	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 14:53	
Trichloroethene	1.0	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 14:53	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 14:53	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 14:53	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>102 %</i>	<i>64 - 155</i>			B2E1537	05/31/2022	05/31/22 14:53	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>115 %</i>	<i>73 - 124</i>			B2E1537	05/31/2022	05/31/22 14:53	
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>	<i>78 - 129</i>			B2E1537	05/31/2022	05/31/22 14:53	
<i>Surrogate: Toluene-d8</i>	<i>118 %</i>	<i>84 - 117</i>			B2E1537	05/31/2022	05/31/22 14:53	S12

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1352	05/20/2022	05/23/22 17:17	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>106 %</i>	<i>13 - 99</i>			B2E1352	05/20/2022	05/23/22 17:17	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>94.5 %</i>	<i>8 - 111</i>			B2E1352	05/20/2022	05/23/22 17:17	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>139 %</i>	<i>12 - 113</i>			B2E1352	05/20/2022	05/23/22 17:17	S1
<i>Surrogate: Nitrobenzene-d5</i>	<i>101 %</i>	<i>15 - 121</i>			B2E1352	05/20/2022	05/23/22 17:17	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-3300

Lab ID: 2201314-18

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1-Dichloroethene	6.5	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:19	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:19	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:19	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:19	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 15:19	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 15:19	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:19	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:19	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:19	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:19	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:19	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:19	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 15:19	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:19	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:19	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:19	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:19	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:19	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:19	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 15:19	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 15:19	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-3300

Lab ID: 2201314-18

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:19	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:19	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 15:19	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 15:19	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:19	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:19	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 15:19	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:19	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:19	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:19	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:19	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:19	
Trichloroethene	0.65	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:19	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 15:19	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:19	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>124 %</i>	<i>64 - 155</i>			B2E1537	05/31/2022	<i>05/31/22 15:19</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>105 %</i>	<i>73 - 124</i>			B2E1537	05/31/2022	<i>05/31/22 15:19</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>116 %</i>	<i>78 - 129</i>			B2E1537	05/31/2022	<i>05/31/22 15:19</i>	
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>	<i>84 - 117</i>			B2E1537	05/31/2022	<i>05/31/22 15:19</i>	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1352	05/20/2022	05/23/22 17:44	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>105 %</i>	<i>13 - 99</i>			B2E1352	05/20/2022	<i>05/23/22 17:44</i>	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>90.4 %</i>	<i>8 - 111</i>			B2E1352	05/20/2022	<i>05/23/22 17:44</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>133 %</i>	<i>12 - 113</i>			B2E1352	05/20/2022	<i>05/23/22 17:44</i>	S1
<i>Surrogate: Nitrobenzene-d5</i>	<i>100 %</i>	<i>15 - 121</i>			B2E1352	05/20/2022	<i>05/23/22 17:44</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-35C

Lab ID: 2201314-19

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:45	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:45	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:45	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:45	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 15:45	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 15:45	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:45	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:45	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:45	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 15:45	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:45	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 15:45	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 15:45	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:45	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:45	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:45	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:45	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 15:45	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 15:45	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 15:45	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 15:45	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-35C

Lab ID: 2201314-19

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 15:45	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:45	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 15:45	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 15:45	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 15:45	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:45	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 15:45	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:45	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:45	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:45	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 15:45	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 15:45	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 15:45	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 15:45	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 15:45	
Surrogate: 1,2-Dichloroethane-d4	109 %	64 - 155			B2E1537	05/31/2022	05/31/22 15:45	
Surrogate: 4-Bromofluorobenzene	95.9 %	73 - 124			B2E1537	05/31/2022	05/31/22 15:45	
Surrogate: Dibromofluoromethane	110 %	78 - 129			B2E1537	05/31/2022	05/31/22 15:45	
Surrogate: Toluene-d8	98.8 %	84 - 117			B2E1537	05/31/2022	05/31/22 15:45	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1352	05/20/2022	05/23/22 18:10	
Surrogate: 1,2-Dichlorobenzene-d4	104 %	13 - 99			B2E1352	05/20/2022	05/23/22 18:10	S12
Surrogate: 2-Fluorobiphenyl	90.8 %	8 - 111			B2E1352	05/20/2022	05/23/22 18:10	
Surrogate: 4-Terphenyl-d14	129 %	12 - 113			B2E1352	05/20/2022	05/23/22 18:10	S12
Surrogate: Nitrobenzene-d5	114 %	15 - 121			B2E1352	05/20/2022	05/23/22 18:10	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-39

Lab ID: 2201314-20

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:11	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:11	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:11	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:11	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 16:11	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 16:11	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:11	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:11	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:11	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 16:11	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:11	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 16:11	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 16:11	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:11	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:11	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:11	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:11	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 16:11	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 16:11	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 16:11	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 16:11	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-39

Lab ID: 2201314-20

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 16:11	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:11	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 16:11	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 16:11	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 16:11	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:11	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 16:11	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:11	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:11	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:11	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 16:11	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 16:11	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 16:11	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 16:11	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 16:11	
Surrogate: 1,2-Dichloroethane-d4	118 %	64 - 155			B2E1537	05/31/2022	05/31/22 16:11	
Surrogate: 4-Bromofluorobenzene	117 %	73 - 124			B2E1537	05/31/2022	05/31/22 16:11	
Surrogate: Dibromofluoromethane	98.8 %	78 - 129			B2E1537	05/31/2022	05/31/22 16:11	
Surrogate: Toluene-d8	105 %	84 - 117			B2E1537	05/31/2022	05/31/22 16:11	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1352	05/20/2022	05/23/22 18:37	
Surrogate: 1,2-Dichlorobenzene-d4	109 %	13 - 99			B2E1352	05/20/2022	05/23/22 18:37	S12
Surrogate: 2-Fluorobiphenyl	84.7 %	8 - 111			B2E1352	05/20/2022	05/23/22 18:37	
Surrogate: 4-Terphenyl-d14	128 %	12 - 113			B2E1352	05/20/2022	05/23/22 18:37	S12
Surrogate: Nitrobenzene-d5	118 %	15 - 121			B2E1352	05/20/2022	05/23/22 18:37	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-36

Lab ID: 2201314-21

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1-Dichloroethane	0.91	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1-Dichloroethene	81	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 18:21	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 18:21	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 18:21	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 18:21	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 18:21	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 18:21	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 18:21	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 18:21	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 18:21	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 18:21	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 18:21	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 18:21	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 18:21	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 18:21	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 18:21	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 18:21	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 18:21	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 18:21	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 18:21	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 18:21	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 18:21	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Client Sample ID: MW-36

Lab ID: 2201314-21

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 18:21	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 18:21	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 18:21	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 18:21	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 18:21	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 18:21	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 18:21	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 18:21	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 18:21	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 18:21	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 18:21	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 18:21	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 18:21	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 18:21	
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 18:21	
Surrogate: 1,2-Dichloroethane-d4	126 %	64 - 155			B2E1537	05/31/2022	05/31/22 18:21	
Surrogate: 4-Bromofluorobenzene	95.2 %	73 - 124			B2E1537	05/31/2022	05/31/22 18:21	
Surrogate: Dibromofluoromethane	111 %	78 - 129			B2E1537	05/31/2022	05/31/22 18:21	
Surrogate: Toluene-d8	104 %	84 - 117			B2E1537	05/31/2022	05/31/22 18:21	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	0.84	1	B2E1312	05/19/2022	05/19/22 20:07	
Surrogate: 1,2-Dichlorobenzene-d4	90.3 %	17 - 119			B2E1312	05/19/2022	05/19/22 20:07	
Surrogate: 2-Fluorobiphenyl	94.5 %	10 - 133			B2E1312	05/19/2022	05/19/22 20:07	
Surrogate: 4-Terphenyl-d14	88.5 %	5 - 139			B2E1312	05/19/2022	05/19/22 20:07	
Surrogate: Nitrobenzene-d5	105 %	13 - 150			B2E1312	05/19/2022	05/19/22 20:07	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1297 - MSVOA_LL_W

Blank (B2E1297-BLK1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

Blank (B2E1297-BLK1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	18.79	25.0000	75.2	64 - 155
Surrogate: 4-Bromofluorobenzene	21.77	25.0000	87.1	73 - 124
Surrogate: Dibromofluoromethane	23.85	25.0000	95.4	78 - 129
Surrogate: Toluene-d8	21.19	25.0000	84.8	84 - 117

LCS (B2E1297-BS1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	20.0300	0.50	0.11	20.0000	100	79 - 116
1,1,1-Trichloroethane	17.5500	0.50	0.21	20.0000	87.8	73 - 130
1,1,2,2-Tetrachloroethane	14.9300	0.50	0.36	20.0000	74.6	71 - 122
1,1,2-Trichloroethane	20.2000	0.50	0.25	20.0000	101	70 - 124
1,1-Dichloroethane	16.8100	0.50	0.09	20.0000	84.0	69 - 128
1,1-Dichloroethene	18.9300	0.50	0.13	20.0000	94.6	65 - 137
1,1-Dichloropropene	19.5500	0.50	0.13	20.0000	97.8	74 - 129
1,2,3-Trichloropropane	14.6300	0.50	0.39	20.0000	73.2	74 - 123
1,2,3-Trichlorobenzene	15.9100	0.50	0.18	20.0000	79.6	59 - 130
1,2,4-Trichlorobenzene	18.1700	0.50	0.16	20.0000	90.8	65 - 125
1,2,4-Trimethylbenzene	18.9900	0.50	0.14	20.0000	95.0	88 - 124
1,2-Dibromo-3-chloropropane	19.0300	0.50	0.41	20.0000	95.2	61 - 127
1,2-Dibromoethane	21.1100	0.50	0.24	20.0000	106	72 - 125
1,2-Dichlorobenzene	20.0900	0.50	0.20	20.0000	100	84 - 113
1,2-Dichloroethane	14.6400	0.50	0.20	20.0000	73.2	68 - 130
1,2-Dichloropropane	18.6600	0.50	0.15	20.0000	93.3	77 - 121
1,3,5-Trimethylbenzene	16.9900	0.50	0.13	20.0000	85.0	83 - 124
1,3-Dichlorobenzene	18.5000	0.50	0.16	20.0000	92.5	83 - 112
1,3-Dichloropropane	17.6000	0.50	0.21	20.0000	88.0	77 - 119
1,4-Dichlorobenzene	19.1300	0.50	0.17	20.0000	95.6	79 - 115
2,2-Dichloropropane	17.6900	0.50	0.38	20.0000	88.4	67 - 149
2-Chlorotoluene	17.3300	0.50	0.11	20.0000	86.6	81 - 119

L3



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS (B2E1297-BS1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

4-Chlorotoluene	14.3800	0.50	0.12	20.0000	71.9	86 - 117			L3
4-Isopropyltoluene	19.7900	0.50	0.11	20.0000	99.0	82 - 131			
Benzene	17.4700	0.50	0.13	20.0000	87.4	75 - 124			
Bromobenzene	19.4800	0.50	0.21	20.0000	97.4	82 - 108			
Bromodichloromethane	18.2700	0.50	0.14	20.0000	91.4	80 - 120			
Bromoform	18.0100	0.50	0.20	20.0000	90.0	70 - 123			
Bromomethane	13.7600	0.50	0.40	20.0000	68.8	44 - 151			
Carbon tetrachloride	19.1200	0.50	0.09	20.0000	95.6	62 - 140			
Chlorobenzene	22.2700	0.50	0.13	20.0000	111	80 - 112			
Chloroethane	20.4300	0.50	0.15	20.0000	102	42 - 167			
Chloroform	17.4200	0.50	0.11	20.0000	87.1	77 - 122			
Chloromethane	17.8300	0.50	0.12	20.0000	89.2	33 - 153			
cis-1,2-Dichloroethene	15.6900	0.50	0.14	20.0000	78.4	75 - 121			
cis-1,3-Dichloropropene	18.2600	0.50	0.13	20.0000	91.3	73 - 127			
Dibromochloromethane	20.5200	0.50	0.16	20.0000	103	77 - 122			
Dibromomethane	18.8200	0.50	0.19	20.0000	94.1	75 - 121			
Dichlorodifluoromethane	19.3900	0.50	0.18	20.0000	97.0	0 - 171			
Ethylbenzene	18.0900	0.50	0.13	20.0000	90.4	82 - 119			
Hexachlorobutadiene	14.5100	0.50	0.15	20.0000	72.6	71 - 131			
Isopropylbenzene	17.7000	0.50	0.10	20.0000	88.5	75 - 126			
m,p-Xylene	34.0000	1.0	0.19	40.0000	85.0	86 - 119			L3
Methylene chloride	20.6700	1.0	0.71	20.0000	103	76 - 125			
n-Butylbenzene	16.2400	0.50	0.11	20.0000	81.2	81 - 125			
n-Propylbenzene	15.7800	0.50	0.10	20.0000	78.9	78 - 130			
Naphthalene	17.1900	0.50	0.41	20.0000	86.0	47 - 128			
o-Xylene	18.6800	0.50	0.13	20.0000	93.4	85 - 119			
sec-Butylbenzene	17.9200	0.50	0.09	20.0000	89.6	78 - 130			
Styrene	21.4200	0.50	0.13	20.0000	107	62 - 148			
tert-Butylbenzene	16.5900	0.50	0.09	20.0000	83.0	77 - 125			
Tetrachloroethene	18.9700	0.50	0.10	20.0000	94.8	73 - 120			
Toluene	17.2400	0.50	0.12	20.0000	86.2	79 - 119			
trans-1,2-Dichloroethene	24.7500	0.50	0.09	20.0000	124	70 - 129			
Trichloroethene	21.2300	0.50	0.10	20.0000	106	73 - 117			
Trichlorofluoromethane	18.7000	0.50	0.23	20.0000	93.5	59 - 135			
Vinyl chloride	19.0900	0.50	0.13	20.0000	95.4	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	19.64			25.0000	78.6	64 - 155			
Surrogate: 4-Bromofluorobenzene	23.44			25.0000	93.8	73 - 124			
Surrogate: Dibromofluoromethane	24.74			25.0000	99.0	78 - 129			
Surrogate: Toluene-d8	23.01			25.0000	92.0	84 - 117			

LCS Dup (B2E1297-BSD1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	19.5300	0.50	0.11	20.0000	97.6	79 - 116	2.53	20
1,1,1-Trichloroethane	15.7400	0.50	0.21	20.0000	78.7	73 - 130	10.9	20
1,1,2,2-Tetrachloroethane	16.4600	0.50	0.36	20.0000	82.3	71 - 122	9.75	20



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego, CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS Dup (B2E1297-BSD1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,2-Trichloroethane	17.4800	0.50	0.25	20.0000	87.4	70 - 124	14.4	20	
1,1-Dichloroethane	14.7100	0.50	0.09	20.0000	73.6	69 - 128	13.3	20	
1,1-Dichloroethene	18.3200	0.50	0.13	20.0000	91.6	65 - 137	3.28	20	
1,1-Dichloropropene	19.7100	0.50	0.13	20.0000	98.6	74 - 129	0.815	20	
1,2,3-Trichloropropane	13.1200	0.50	0.39	20.0000	65.6	74 - 123	10.9	20	L4
1,2,3-Trichlorobenzene	13.4300	0.50	0.18	20.0000	67.2	59 - 130	16.9	20	
1,2,4-Trichlorobenzene	14.3900	0.50	0.16	20.0000	72.0	65 - 125	23.2	20	R
1,2,4-Trimethylbenzene	15.1000	0.50	0.14	20.0000	75.5	88 - 124	22.8	20	L3, R
1,2-Dibromo-3-chloropropane	16.8900	0.50	0.41	20.0000	84.4	61 - 127	11.9	20	
1,2-Dibromoethane	21.5500	0.50	0.24	20.0000	108	72 - 125	2.06	20	
1,2-Dichlorobenzene	17.5500	0.50	0.20	20.0000	87.8	84 - 113	13.5	20	
1,2-Dichloroethane	15.3300	0.50	0.20	20.0000	76.6	68 - 130	4.60	20	
1,2-Dichloropropane	17.1200	0.50	0.15	20.0000	85.6	77 - 121	8.61	20	
1,3,5-Trimethylbenzene	15.1400	0.50	0.13	20.0000	75.7	83 - 124	11.5	20	L3
1,3-Dichlorobenzene	17.8600	0.50	0.16	20.0000	89.3	83 - 112	3.52	20	
1,3-Dichloropropane	15.7000	0.50	0.21	20.0000	78.5	77 - 119	11.4	20	
1,4-Dichlorobenzene	15.8400	0.50	0.17	20.0000	79.2	79 - 115	18.8	20	
2,2-Dichloropropane	17.8000	0.50	0.38	20.0000	89.0	67 - 149	0.620	20	
2-Chlorotoluene	13.4200	0.50	0.11	20.0000	67.1	81 - 119	25.4	20	L4, R
4-Chlorotoluene	14.1400	0.50	0.12	20.0000	70.7	86 - 117	1.68	20	L3
4-Isopropyltoluene	17.5700	0.50	0.11	20.0000	87.8	82 - 131	11.9	20	
Benzene	17.3800	0.50	0.13	20.0000	86.9	75 - 124	0.517	20	
Bromobenzene	15.3600	0.50	0.21	20.0000	76.8	82 - 108	23.7	20	L3, R
Bromodichloromethane	17.5800	0.50	0.14	20.0000	87.9	80 - 120	3.85	20	
Bromoform	19.2900	0.50	0.20	20.0000	96.4	70 - 123	6.86	20	
Bromomethane	13.9500	0.50	0.40	20.0000	69.8	44 - 151	1.37	20	
Carbon tetrachloride	17.3900	0.50	0.09	20.0000	87.0	62 - 140	9.48	20	
Chlorobenzene	18.6100	0.50	0.13	20.0000	93.0	80 - 112	17.9	20	
Chloroethane	18.4600	0.50	0.15	20.0000	92.3	42 - 167	10.1	20	
Chloroform	15.0800	0.50	0.11	20.0000	75.4	77 - 122	14.4	20	L3
Chloromethane	16.0100	0.50	0.12	20.0000	80.0	33 - 153	10.8	20	
cis-1,2-Dichloroethene	14.0300	0.50	0.14	20.0000	70.2	75 - 121	11.2	20	L3
cis-1,3-Dichloropropene	17.0700	0.50	0.13	20.0000	85.4	73 - 127	6.74	20	
Dibromochloromethane	20.3500	0.50	0.16	20.0000	102	77 - 122	0.832	20	
Dibromomethane	17.9900	0.50	0.19	20.0000	90.0	75 - 121	4.51	20	
Dichlorodifluoromethane	21.7400	0.50	0.18	20.0000	109	0 - 171	11.4	20	
Ethylbenzene	16.9000	0.50	0.13	20.0000	84.5	82 - 119	6.80	20	
Hexachlorobutadiene	14.3500	0.50	0.15	20.0000	71.8	71 - 131	1.11	20	
Isopropylbenzene	14.3100	0.50	0.10	20.0000	71.6	75 - 126	21.2	20	L3, R
m,p-Xylene	30.9400	1.0	0.19	40.0000	77.4	86 - 119	9.42	20	L3
Methylene chloride	19.1100	1.0	0.71	20.0000	95.6	76 - 125	7.84	20	
n-Butylbenzene	14.1100	0.50	0.11	20.0000	70.6	81 - 125	14.0	20	L3
n-Propylbenzene	13.8400	0.50	0.10	20.0000	69.2	78 - 130	13.1	20	L4
Naphthalene	13.6000	0.50	0.41	20.0000	68.0	47 - 128	23.3	20	R



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS Dup (B2E1297-BSI1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

o-Xylene	18.8900	0.50	0.13	20.0000		94.4	85 - 119	1.12	20	
sec-Butylbenzene	17.4900	0.50	0.09	20.0000		87.4	78 - 130	2.43	20	
Styrene	20.1700	0.50	0.13	20.0000		101	62 - 148	6.01	20	
tert-Butylbenzene	16.9900	0.50	0.09	20.0000		85.0	77 - 125	2.38	20	
Tetrachloroethene	17.9700	0.50	0.10	20.0000		89.8	73 - 120	5.41	20	
Toluene	17.3600	0.50	0.12	20.0000		86.8	79 - 119	0.694	20	
trans-1,2-Dichloroethene	23.0100	0.50	0.09	20.0000		115	70 - 129	7.29	20	
Trichloroethene	20.7000	0.50	0.10	20.0000		104	73 - 117	2.53	20	
Trichlorofluoromethane	18.6700	0.50	0.23	20.0000		93.4	59 - 135	0.161	20	
Vinyl chloride	16.7800	0.50	0.13	20.0000		83.9	58 - 132	12.9	20	
Surrogate: 1,2-Dichloroethane-d4	18.84			25.0000		75.4	64 - 155			
Surrogate: 4-Bromofluorobenzene	20.90			25.0000		83.6	73 - 124			
Surrogate: Dibromofluoromethane	24.68			25.0000		98.7	78 - 129			
Surrogate: Toluene-d8	22.33			25.0000		89.3	84 - 117			



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W

Blank (B2E1537-BLK1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Blank (B2E1537-BLK1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	25.82	25.0000	103	64 - 155
Surrogate: 4-Bromofluorobenzene	23.60	25.0000	94.4	73 - 124
Surrogate: Dibromofluoromethane	27.43	25.0000	110	78 - 129
Surrogate: Toluene-d8	29.24	25.0000	117	84 - 117

LCS (B2E1537-BS1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	19.7100	0.50	0.11	20.0000	98.6	79 - 116
1,1,1-Trichloroethane	17.6100	0.50	0.21	20.0000	88.0	73 - 130
1,1,2,2-Tetrachloroethane	20.7700	0.50	0.36	20.0000	104	71 - 122
1,1,2-Trichloroethane	20.0600	0.50	0.25	20.0000	100	70 - 124
1,1-Dichloroethane	17.5800	0.50	0.09	20.0000	87.9	69 - 128
1,1-Dichloroethene	16.9800	0.50	0.13	20.0000	84.9	65 - 137
1,1-Dichloropropene	17.1000	0.50	0.13	20.0000	85.5	74 - 129
1,2,3-Trichloropropane	18.3900	0.50	0.39	20.0000	92.0	74 - 123
1,2,3-Trichlorobenzene	16.7300	0.50	0.18	20.0000	83.6	59 - 130
1,2,4-Trichlorobenzene	19.3500	0.50	0.16	20.0000	96.8	65 - 125
1,2,4-Trimethylbenzene	20.1100	0.50	0.14	20.0000	101	88 - 124
1,2-Dibromo-3-chloropropane	17.0900	0.50	0.41	20.0000	85.4	61 - 127
1,2-Dibromoethane	18.4900	0.50	0.24	20.0000	92.4	72 - 125
1,2-Dichlorobenzene	17.6500	0.50	0.20	20.0000	88.2	84 - 113
1,2-Dichloroethane	18.8900	0.50	0.20	20.0000	94.4	68 - 130
1,2-Dichloropropane	22.8200	0.50	0.15	20.0000	114	77 - 121
1,3,5-Trimethylbenzene	20.6600	0.50	0.13	20.0000	103	83 - 124
1,3-Dichlorobenzene	19.7600	0.50	0.16	20.0000	98.8	83 - 112
1,3-Dichloropropane	21.7700	0.50	0.21	20.0000	109	77 - 119
1,4-Dichlorobenzene	17.3600	0.50	0.17	20.0000	86.8	79 - 115
2,2-Dichloropropane	18.0200	0.50	0.38	20.0000	90.1	67 - 149
2-Chlorotoluene	21.0500	0.50	0.11	20.0000	105	81 - 119
4-Chlorotoluene	22.0100	0.50	0.12	20.0000	110	86 - 117
4-Isopropyltoluene	18.4700	0.50	0.11	20.0000	92.4	82 - 131
Benzene	20.1100	0.50	0.13	20.0000	101	75 - 124



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

LCS (B2E1537-BS1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

Bromobenzene	19.5900	0.50	0.21	20.0000		98.0	82 - 108		
Bromodichloromethane	19.2100	0.50	0.14	20.0000		96.0	80 - 120		
Bromoform	16.8100	0.50	0.20	20.0000		84.0	70 - 123		
Bromomethane	15.1200	0.50	0.40	20.0000		75.6	44 - 151		
Carbon tetrachloride	18.6400	0.50	0.09	20.0000		93.2	62 - 140		
Chlorobenzene	17.5300	0.50	0.13	20.0000		87.6	80 - 112		
Chloroethane	16.1400	0.50	0.15	20.0000		80.7	42 - 167		
Chloroform	17.2200	0.50	0.11	20.0000		86.1	77 - 122		
Chloromethane	20.3400	0.50	0.12	20.0000		102	33 - 153		
cis-1,2-Dichloroethene	15.1800	0.50	0.14	20.0000		75.9	75 - 121		
cis-1,3-Dichloropropene	18.8000	0.50	0.13	20.0000		94.0	73 - 127		
Dibromochloromethane	20.2900	0.50	0.16	20.0000		101	77 - 122		
Dibromomethane	22.2800	0.50	0.19	20.0000		111	75 - 121		
Dichlorodifluoromethane	23.8900	0.50	0.18	20.0000		119	0 - 171		
Ethylbenzene	18.5100	0.50	0.13	20.0000		92.6	82 - 119		
Hexachlorobutadiene	18.8500	0.50	0.15	20.0000		94.2	71 - 131		
Isopropylbenzene	18.8700	0.50	0.10	20.0000		94.4	75 - 126		
m,p-Xylene	33.5800	1.0	0.19	40.0000		84.0	86 - 119		L3
Methylene chloride	16.8100	1.0	0.71	20.0000		84.0	76 - 125		
n-Butylbenzene	17.3700	0.50	0.11	20.0000		86.8	81 - 125		
n-Propylbenzene	19.4500	0.50	0.10	20.0000		97.2	78 - 130		
Naphthalene	17.8700	0.50	0.41	20.0000		89.4	47 - 128		
o-Xylene	19.2000	0.50	0.13	20.0000		96.0	85 - 119		
sec-Butylbenzene	21.5700	0.50	0.09	20.0000		108	78 - 130		
Styrene	18.1300	0.50	0.13	20.0000		90.6	62 - 148		
tert-Butylbenzene	18.2000	0.50	0.09	20.0000		91.0	77 - 125		
Tetrachloroethene	21.7900	0.50	0.10	20.0000		109	73 - 120		
Toluene	20.5800	0.50	0.12	20.0000		103	79 - 119		
trans-1,2-Dichloroethene	21.8000	0.50	0.09	20.0000		109	70 - 129		
Trichloroethene	20.4000	0.50	0.10	20.0000		102	73 - 117		
Trichlorofluoromethane	17.7500	0.50	0.23	20.0000		88.8	59 - 135		
Vinyl chloride	18.0900	0.50	0.13	20.0000		90.4	58 - 132		

Surrogate: 1,2-Dichloroethane-d4

23.43

25.0000

93.7

64 - 155

Surrogate: 4-Bromofluorobenzene

25.60

25.0000

102

73 - 124

Surrogate: Dibromofluoromethane

22.57

25.0000

90.3

78 - 129

Surrogate: Toluene-d8

23.39

25.0000

93.6

84 - 117

LCS Dup (B2E1537-BS1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	22.4500	0.50	0.11	20.0000		112	79 - 116	13.0	20	
1,1,1-Trichloroethane	19.5200	0.50	0.21	20.0000		97.6	73 - 130	10.3	20	
1,1,2,2-Tetrachloroethane	15.8600	0.50	0.36	20.0000		79.3	71 - 122	26.8	20	R
1,1,2-Trichloroethane	19.7800	0.50	0.25	20.0000		98.9	70 - 124	1.41	20	
1,1-Dichloroethane	19.2200	0.50	0.09	20.0000		96.1	69 - 128	8.91	20	
1,1-Dichloroethene	18.7100	0.50	0.13	20.0000		93.6	65 - 137	9.69	20	



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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

LCS Dup (B2E1537-BSD1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1-Dichloropropene	18.0400	0.50	0.13	20.0000	90.2	74 - 129	5.35	20	
1,2,3-Trichloropropane	18.5500	0.50	0.39	20.0000	92.8	74 - 123	0.866	20	
1,2,3-Trichlorobenzene	15.0000	0.50	0.18	20.0000	75.0	59 - 130	10.9	20	
1,2,4-Trichlorobenzene	16.2500	0.50	0.16	20.0000	81.2	65 - 125	17.4	20	
1,2,4-Trimethylbenzene	16.3600	0.50	0.14	20.0000	81.8	88 - 124	20.6	20	L3, R
1,2-Dibromo-3-chloropropane	15.7900	0.50	0.41	20.0000	79.0	61 - 127	7.91	20	
1,2-Dibromoethane	20.1900	0.50	0.24	20.0000	101	72 - 125	8.79	20	
1,2-Dichlorobenzene	14.5000	0.50	0.20	20.0000	72.5	84 - 113	19.6	20	L3
1,2-Dichloroethane	19.8700	0.50	0.20	20.0000	99.4	68 - 130	5.06	20	
1,2-Dichloropropane	18.8900	0.50	0.15	20.0000	94.4	77 - 121	18.8	20	
1,3,5-Trimethylbenzene	17.9300	0.50	0.13	20.0000	89.6	83 - 124	14.1	20	
1,3-Dichlorobenzene	15.8600	0.50	0.16	20.0000	79.3	83 - 112	21.9	20	L3, R
1,3-Dichloropropane	19.8500	0.50	0.21	20.0000	99.2	77 - 119	9.23	20	
1,4-Dichlorobenzene	15.6700	0.50	0.17	20.0000	78.4	79 - 115	10.2	20	L3
2,2-Dichloropropane	17.6700	0.50	0.38	20.0000	88.4	67 - 149	1.96	20	
2-Chlorotoluene	17.3600	0.50	0.11	20.0000	86.8	81 - 119	19.2	20	
4-Chlorotoluene	17.2500	0.50	0.12	20.0000	86.2	86 - 117	24.2	20	R
4-Isopropyltoluene	14.1300	0.50	0.11	20.0000	70.6	82 - 131	26.6	20	L3, R
Benzene	18.7400	0.50	0.13	20.0000	93.7	75 - 124	7.05	20	
Bromobenzene	18.2900	0.50	0.21	20.0000	91.4	82 - 108	6.86	20	
Bromodichloromethane	19.6300	0.50	0.14	20.0000	98.2	80 - 120	2.16	20	
Bromoform	19.8900	0.50	0.20	20.0000	99.4	70 - 123	16.8	20	
Bromomethane	19.1500	0.50	0.40	20.0000	95.8	44 - 151	23.5	20	R
Carbon tetrachloride	20.2500	0.50	0.09	20.0000	101	62 - 140	8.28	20	
Chlorobenzene	21.1600	0.50	0.13	20.0000	106	80 - 112	18.8	20	
Chloroethane	22.0000	0.50	0.15	20.0000	110	42 - 167	30.7	20	R
Chloroform	20.0100	0.50	0.11	20.0000	100	77 - 122	15.0	20	
Chloromethane	21.2600	0.50	0.12	20.0000	106	33 - 153	4.42	20	
cis-1,2-Dichloroethene	14.0300	0.50	0.14	20.0000	70.2	75 - 121	7.87	20	L3
cis-1,3-Dichloropropene	18.2600	0.50	0.13	20.0000	91.3	73 - 127	2.91	20	
Dibromochloromethane	19.7500	0.50	0.16	20.0000	98.8	77 - 122	2.70	20	
Dibromomethane	20.4800	0.50	0.19	20.0000	102	75 - 121	8.42	20	
Dichlorodifluoromethane	23.7100	0.50	0.18	20.0000	119	0 - 171	0.756	20	
Ethylbenzene	22.5400	0.50	0.13	20.0000	113	82 - 119	19.6	20	
Hexachlorobutadiene	13.4300	0.50	0.15	20.0000	67.2	71 - 131	33.6	20	L4, R
Isopropylbenzene	16.7000	0.50	0.10	20.0000	83.5	75 - 126	12.2	20	
m,p-Xylene	41.2100	1.0	0.19	40.0000	103	86 - 119	20.4	20	R
Methylene chloride	23.6700	1.0	0.71	20.0000	118	76 - 125	33.9	20	R
n-Butylbenzene	15.8900	0.50	0.11	20.0000	79.4	81 - 125	8.90	20	L3
n-Propylbenzene	17.3000	0.50	0.10	20.0000	86.5	78 - 130	11.7	20	
Naphthalene	15.4500	0.50	0.41	20.0000	77.2	47 - 128	14.5	20	
o-Xylene	23.1200	0.50	0.13	20.0000	116	85 - 119	18.5	20	
sec-Butylbenzene	16.5700	0.50	0.09	20.0000	82.8	78 - 130	26.2	20	R
Styrene	23.8700	0.50	0.13	20.0000	119	62 - 148	27.3	20	R



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

LCS Dup (B2E1537-BSI1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

tert-Butylbenzene	14.5500	0.50	0.09	20.0000		72.8	77 - 125	22.3	20	L3, R
Tetrachloroethene	20.0300	0.50	0.10	20.0000		100	73 - 120	8.42	20	
Toluene	20.4700	0.50	0.12	20.0000		102	79 - 119	0.536	20	
trans-1,2-Dichloroethene	27.9200	0.50	0.09	20.0000		140	70 - 129	24.6	20	L5, R
Trichloroethene	18.0700	0.50	0.10	20.0000		90.4	73 - 117	12.1	20	
Trichlorofluoromethane	21.4100	0.50	0.23	20.0000		107	59 - 135	18.7	20	
Vinyl chloride	23.7100	0.50	0.13	20.0000		119	58 - 132	26.9	20	R
Surrogate: 1,2-Dichloroethane-d4	26.71			25.0000		107	64 - 155			
Surrogate: 4-Bromofluorobenzene	35.40			25.0000		142	73 - 124			S12
Surrogate: Dibromofluoromethane	27.16			25.0000		109	78 - 129			
Surrogate: Toluene-d8	30.70			25.0000		123	84 - 117			S12

Matrix Spike (B2E1537-MS1)

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	23.9600	0.50	0.11	20.0000	ND	120	81 - 133			
1,1,1-Trichloroethane	26.7700	0.50	0.21	20.0000	ND	134	93 - 149			
1,1,2,2-Tetrachloroethane	20.8300	0.50	0.36	20.0000	ND	104	69 - 151			
1,1,2-Trichloroethane	21.5500	0.50	0.25	20.0000	ND	108	78 - 130			
1,1-Dichloroethane	29.9700	0.50	0.09	20.0000	0.670000	146	68 - 135			M2
1,1-Dichloroethene	80.8600	0.50	0.13	20.0000	42.2700	193	77 - 134			M2
1,1-Dichloropropene	22.7400	0.50	0.13	20.0000	ND	114	91 - 138			
1,2,3-Trichloropropane	19.4200	0.50	0.39	20.0000	ND	97.1	77 - 136			
1,2,3-Trichlorobenzene	19.9000	0.50	0.18	20.0000	ND	99.5	72 - 129			
1,2,4-Trichlorobenzene	24.1800	0.50	0.16	20.0000	ND	121	64 - 135			
1,2,4-Trimethylbenzene	23.1100	0.50	0.14	20.0000	ND	116	10 - 179			
1,2-Dibromo-3-chloropropane	20.6200	0.50	0.41	20.0000	ND	103	62 - 153			
1,2-Dibromoethane	22.6800	0.50	0.24	20.0000	ND	113	80 - 132			
1,2-Dichlorobenzene	20.5800	0.50	0.20	20.0000	ND	103	81 - 131			
1,2-Dichloroethane	24.1000	0.50	0.20	20.0000	ND	120	68 - 146			
1,2-Dichloropropane	23.7600	0.50	0.15	20.0000	ND	119	74 - 136			
1,3,5-Trimethylbenzene	21.0000	0.50	0.13	20.0000	ND	105	66 - 149			
1,3-Dichlorobenzene	22.0300	0.50	0.16	20.0000	ND	110	79 - 128			
1,3-Dichloropropane	25.3100	0.50	0.21	20.0000	ND	127	80 - 129			
1,4-Dichlorobenzene	21.0100	0.50	0.17	20.0000	ND	105	84 - 121			
2,2-Dichloropropane	25.3600	0.50	0.38	20.0000	ND	127	63 - 179			
2-Chlorotoluene	20.5200	0.50	0.11	20.0000	ND	103	76 - 142			
4-Chlorotoluene	21.0900	0.50	0.12	20.0000	ND	105	72 - 152			
4-Isopropyltoluene	22.5200	0.50	0.11	20.0000	ND	113	84 - 141			
Benzene	23.9900	0.50	0.13	20.0000	ND	120	79 - 131			
Bromobenzene	23.5100	0.50	0.21	20.0000	ND	118	82 - 121			
Bromodichloromethane	24.8000	0.50	0.14	20.0000	ND	124	86 - 138			
Bromoform	20.4800	0.50	0.20	20.0000	ND	102	80 - 136			
Bromomethane	27.3600	0.50	0.40	20.0000	ND	137	35 - 194			
Carbon tetrachloride	25.9200	0.50	0.09	20.0000	ND	130	73 - 176			
Chlorobenzene	20.4100	0.50	0.13	20.0000	ND	102	81 - 124			



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San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Matrix Spike (B2E1537-MS1) - Continued

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

Chloroethane	29.8300	0.50	0.15	20.0000	ND	149	0 - 257			
Chloroform	25.1600	0.50	0.11	20.0000	ND	126	76 - 139			
Chloromethane	34.1500	0.50	0.12	20.0000	ND	171	27 - 144			M2
cis-1,2-Dichloroethene	20.5800	0.50	0.14	20.0000	ND	103	69 - 139			
cis-1,3-Dichloropropene	24.8900	0.50	0.13	20.0000	ND	124	67 - 149			
Dibromochloromethane	24.9100	0.50	0.16	20.0000	ND	125	91 - 131			
Dibromomethane	23.5900	0.50	0.19	20.0000	ND	118	70 - 134			
Dichlorodifluoromethane	42.0200	0.50	0.18	20.0000	ND	210	0 - 161			M2
Ethylbenzene	24.5700	0.50	0.13	20.0000	ND	123	89 - 134			
Hexachlorobutadiene	24.4900	0.50	0.15	20.0000	ND	122	73 - 137			
Isopropylbenzene	23.7500	0.50	0.10	20.0000	ND	119	72 - 152			
m,p-Xylene	45.6300	1.0	0.19	40.0000	ND	114	82 - 141			
Methylene chloride	28.9100	1.0	0.71	20.0000	ND	145	74 - 133			M2
n-Butylbenzene	22.5100	0.50	0.11	20.0000	ND	113	65 - 164			
n-Propylbenzene	23.1600	0.50	0.10	20.0000	ND	116	73 - 161			
Naphthalene	20.2300	0.50	0.41	20.0000	ND	101	59 - 105			
o-Xylene	26.0600	0.50	0.13	20.0000	ND	130	90 - 134			
sec-Butylbenzene	24.1500	0.50	0.09	20.0000	ND	121	80 - 157			
Styrene	24.4200	0.50	0.13	20.0000	ND	122	0 - 222			
tert-Butylbenzene	21.1900	0.50	0.09	20.0000	ND	106	88 - 141			
Tetrachloroethene	28.8800	0.50	0.10	20.0000	ND	144	75 - 136			M2
Toluene	29.7000	0.50	0.12	20.0000	ND	148	82 - 132			M2
trans-1,2-Dichloroethene	42.7600	0.50	0.09	20.0000	ND	214	65 - 135			M2
Trichloroethene	22.6500	0.50	0.10	20.0000	ND	113	75 - 128			
Trichlorofluoromethane	37.7400	0.50	0.23	20.0000	ND	189	89 - 143			M2
Vinyl chloride	36.6700	0.50	0.13	20.0000	ND	183	50 - 148			M2
Surrogate: 1,2-Dichloroethane-d4	27.11			25.0000		108	64 - 155			
Surrogate: 4-Bromofluorobenzene	36.28			25.0000		145	73 - 124			S10
Surrogate: Dibromofluoromethane	28.53			25.0000		114	78 - 129			
Surrogate: Toluene-d8	30.04			25.0000		120	84 - 117			S12

Matrix Spike Dup (B2E1537-MSD1)

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	17.0400	0.50	0.11	20.0000	ND	85.2	81 - 133	33.8	20	R
1,1,1-Trichloroethane	24.9400	0.50	0.21	20.0000	ND	125	93 - 149	7.08	20	
1,1,2,2-Tetrachloroethane	18.6700	0.50	0.36	20.0000	ND	93.4	69 - 151	10.9	20	
1,1,2-Trichloroethane	18.5600	0.50	0.25	20.0000	ND	92.8	78 - 130	14.9	20	
1,1-Dichloroethane	23.4500	0.50	0.09	20.0000	0.670000	114	68 - 135	24.4	20	R
1,1-Dichloroethene	81.6500	0.50	0.13	20.0000	42.2700	197	77 - 134	0.972	20	M2
1,1-Dichloropropene	19.6000	0.50	0.13	20.0000	ND	98.0	91 - 138	14.8	20	
1,2,3-Trichloropropane	21.5200	0.50	0.39	20.0000	ND	108	77 - 136	10.3	20	
1,2,3-Trichlorobenzene	22.1500	0.50	0.18	20.0000	ND	111	72 - 129	10.7	20	
1,2,4-Trichlorobenzene	22.3800	0.50	0.16	20.0000	ND	112	64 - 135	7.73	20	
1,2,4-Trimethylbenzene	20.4800	0.50	0.14	20.0000	ND	102	10 - 179	12.1	20	
1,2-Dibromo-3-chloropropane	20.1800	0.50	0.41	20.0000	ND	101	62 - 153	2.16	20	



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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Matrix Spike Dup (B2E1537-MSD1) - Continued

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,2-Dibromoethane	20.3100	0.50	0.24	20.0000	ND	102	80 - 132	11.0	20	
1,2-Dichlorobenzene	22.0600	0.50	0.20	20.0000	ND	110	81 - 131	6.94	20	
1,2-Dichloroethane	21.0800	0.50	0.20	20.0000	ND	105	68 - 146	13.4	20	
1,2-Dichloropropane	20.3300	0.50	0.15	20.0000	ND	102	74 - 136	15.6	20	
1,3,5-Trimethylbenzene	22.0400	0.50	0.13	20.0000	ND	110	66 - 149	4.83	20	
1,3-Dichlorobenzene	20.3400	0.50	0.16	20.0000	ND	102	79 - 128	7.98	20	
1,3-Dichloropropane	18.7200	0.50	0.21	20.0000	ND	93.6	80 - 129	29.9	20	R
1,4-Dichlorobenzene	20.5100	0.50	0.17	20.0000	ND	103	84 - 121	2.41	20	
2,2-Dichloropropane	23.8500	0.50	0.38	20.0000	ND	119	63 - 179	6.14	20	
2-Chlorotoluene	19.0200	0.50	0.11	20.0000	ND	95.1	76 - 142	7.59	20	
4-Chlorotoluene	21.8400	0.50	0.12	20.0000	ND	109	72 - 152	3.49	20	
4-Isopropyltoluene	20.5700	0.50	0.11	20.0000	ND	103	84 - 141	9.05	20	
Benzene	20.6900	0.50	0.13	20.0000	ND	103	79 - 131	14.8	20	
Bromobenzene	20.8900	0.50	0.21	20.0000	ND	104	82 - 121	11.8	20	
Bromodichloromethane	20.5300	0.50	0.14	20.0000	ND	103	86 - 138	18.8	20	
Bromoform	18.1800	0.50	0.20	20.0000	ND	90.9	80 - 136	11.9	20	
Bromomethane	26.3100	0.50	0.40	20.0000	ND	132	35 - 194	3.91	20	
Carbon tetrachloride	23.6100	0.50	0.09	20.0000	ND	118	73 - 176	9.33	20	
Chlorobenzene	22.9200	0.50	0.13	20.0000	ND	115	81 - 124	11.6	20	
Chloroethane	27.4000	0.50	0.15	20.0000	ND	137	0 - 257	8.49	20	
Chloroform	23.2500	0.50	0.11	20.0000	ND	116	76 - 139	7.89	20	
Chloromethane	31.4500	0.50	0.12	20.0000	ND	157	27 - 144	8.23	20	M2
cis-1,2-Dichloroethene	17.4500	0.50	0.14	20.0000	ND	87.2	69 - 139	16.5	20	
cis-1,3-Dichloropropene	12.1900	0.50	0.13	20.0000	ND	61.0	67 - 149	68.5	20	M2, R
Dibromochloromethane	18.6900	0.50	0.16	20.0000	ND	93.4	91 - 131	28.5	20	R
Dibromomethane	22.7900	0.50	0.19	20.0000	ND	114	70 - 134	3.45	20	
Dichlorodifluoromethane	39.9900	0.50	0.18	20.0000	ND	200	0 - 161	4.95	20	M2
Ethylbenzene	17.5300	0.50	0.13	20.0000	ND	87.6	89 - 134	33.4	20	M2, R
Hexachlorobutadiene	20.6100	0.50	0.15	20.0000	ND	103	73 - 137	17.2	20	
Isopropylbenzene	23.9200	0.50	0.10	20.0000	ND	120	72 - 152	0.713	20	
m,p-Xylene	36.5100	1.0	0.19	40.0000	ND	91.3	82 - 141	22.2	20	R
Methylene chloride	24.8500	1.0	0.71	20.0000	ND	124	74 - 133	15.1	20	
n-Butylbenzene	22.7900	0.50	0.11	20.0000	ND	114	65 - 164	1.24	20	
n-Propylbenzene	22.7400	0.50	0.10	20.0000	ND	114	73 - 161	1.83	20	
Naphthalene	20.3000	0.50	0.41	20.0000	ND	102	59 - 105	0.345	20	
o-Xylene	21.2700	0.50	0.13	20.0000	ND	106	90 - 134	20.2	20	R
sec-Butylbenzene	20.6400	0.50	0.09	20.0000	ND	103	80 - 157	15.7	20	
Styrene	17.8400	0.50	0.13	20.0000	ND	89.2	0 - 222	31.1	20	R
tert-Butylbenzene	23.6600	0.50	0.09	20.0000	ND	118	88 - 141	11.0	20	
Tetrachloroethene	20.2100	0.50	0.10	20.0000	ND	101	75 - 136	35.3	20	R
Toluene	27.2300	0.50	0.12	20.0000	ND	136	82 - 132	8.68	20	M2
trans-1,2-Dichloroethene	35.2900	0.50	0.09	20.0000	ND	176	65 - 135	19.1	20	M2
Trichloroethene	21.9900	0.50	0.10	20.0000	ND	110	75 - 128	2.96	20	
Trichlorofluoromethane	32.3200	0.50	0.23	20.0000	ND	162	89 - 143	15.5	20	M2



Certificate of Analysis

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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Matrix Spike Dup (B2E1537-MSD1) - Continued

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

Vinyl chloride	36.0800	0.50	0.13	20.0000	ND	180	50 - 148	1.62	20	M2
Surrogate: 1,2-Dichloroethane-d4	26.60			25.0000		106	64 - 155			
Surrogate: 4-Bromofluorobenzene	21.81			25.0000		87.2	73 - 124			
Surrogate: Dibromofluoromethane	25.85			25.0000		103	78 - 129			
Surrogate: Toluene-d8	28.78			25.0000		115	84 - 117			



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W

Blank (B2F0795-BLK1)

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Blank (B2F0795-BLK1) - Continued

Prepared: 6/1/2022 Analyzed: 6/1/2022

n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	32.67		25.0000	131	64 - 155
Surrogate: 4-Bromofluorobenzene	26.47		25.0000	106	73 - 124
Surrogate: Dibromofluoromethane	30.79		25.0000	123	78 - 129
Surrogate: Toluene-d8	26.71		25.0000	107	84 - 117

LCS (B2F0795-BS1)

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	18.9700	0.50	0.11	20.0000	94.8	79 - 116	
1,1,1-Trichloroethane	20.6700	0.50	0.21	20.0000	103	73 - 130	
1,1,2,2-Tetrachloroethane	16.4000	0.50	0.36	20.0000	82.0	71 - 122	
1,1,2-Trichloroethane	22.5800	0.50	0.25	20.0000	113	70 - 124	
1,1-Dichloroethane	19.7200	0.50	0.09	20.0000	98.6	69 - 128	
1,1-Dichloroethene	20.5600	0.50	0.13	20.0000	103	65 - 137	
1,1-Dichloropropene	16.6900	0.50	0.13	20.0000	83.4	74 - 129	
1,2,3-Trichloropropane	17.4400	0.50	0.39	20.0000	87.2	74 - 123	
1,2,3-Trichlorobenzene	17.1500	0.50	0.18	20.0000	85.8	59 - 130	
1,2,4-Trichlorobenzene	16.3100	0.50	0.16	20.0000	81.6	65 - 125	
1,2,4-Trimethylbenzene	18.8400	0.50	0.14	20.0000	94.2	88 - 124	
1,2-Dibromo-3-chloropropane	13.5200	0.50	0.41	20.0000	67.6	61 - 127	
1,2-Dibromoethane	20.3100	0.50	0.24	20.0000	102	72 - 125	
1,2-Dichlorobenzene	18.4000	0.50	0.20	20.0000	92.0	84 - 113	
1,2-Dichloroethane	22.0200	0.50	0.20	20.0000	110	68 - 130	
1,2-Dichloropropane	18.7100	0.50	0.15	20.0000	93.6	77 - 121	
1,3,5-Trimethylbenzene	17.1500	0.50	0.13	20.0000	85.8	83 - 124	
1,3-Dichlorobenzene	15.7500	0.50	0.16	20.0000	78.8	83 - 112	L3
1,3-Dichloropropane	17.7500	0.50	0.21	20.0000	88.8	77 - 119	
1,4-Dichlorobenzene	17.3500	0.50	0.17	20.0000	86.8	79 - 115	
2,2-Dichloropropane	21.6200	0.50	0.38	20.0000	108	67 - 149	
2-Chlorotoluene	17.0900	0.50	0.11	20.0000	85.4	81 - 119	
4-Chlorotoluene	18.3700	0.50	0.12	20.0000	91.8	86 - 117	
4-Isopropyltoluene	15.1900	0.50	0.11	20.0000	76.0	82 - 131	L3
Benzene	17.5300	0.50	0.13	20.0000	87.6	75 - 124	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

LCS (B2F0795-BS1) - Continued

Prepared: 6/1/2022 Analyzed: 6/1/2022

Bromobenzene	15.9000	0.50	0.21	20.0000		79.5	82 - 108		L3
Bromodichloromethane	19.9800	0.50	0.14	20.0000		99.9	80 - 120		
Bromoform	18.1500	0.50	0.20	20.0000		90.8	70 - 123		
Bromomethane	22.1700	0.50	0.40	20.0000		111	44 - 151		
Carbon tetrachloride	20.8300	0.50	0.09	20.0000		104	62 - 140		
Chlorobenzene	18.0200	0.50	0.13	20.0000		90.1	80 - 112		
Chloroethane	22.6900	0.50	0.15	20.0000		113	42 - 167		
Chloroform	22.0000	0.50	0.11	20.0000		110	77 - 122		
Chloromethane	21.9100	0.50	0.12	20.0000		110	33 - 153		
cis-1,2-Dichloroethene	15.3500	0.50	0.14	20.0000		76.8	75 - 121		
cis-1,3-Dichloropropene	17.4100	0.50	0.13	20.0000		87.0	73 - 127		
Dibromochloromethane	19.7200	0.50	0.16	20.0000		98.6	77 - 122		
Dibromomethane	18.5900	0.50	0.19	20.0000		93.0	75 - 121		
Dichlorodifluoromethane	30.8300	0.50	0.18	20.0000		154	0 - 171		
Ethylbenzene	18.1100	0.50	0.13	20.0000		90.6	82 - 119		
Hexachlorobutadiene	16.9800	0.50	0.15	20.0000		84.9	71 - 131		
Isopropylbenzene	19.3300	0.50	0.10	20.0000		96.6	75 - 126		
m,p-Xylene	34.5600	1.0	0.19	40.0000		86.4	86 - 119		
Methylene chloride	21.3900	1.0	0.71	20.0000		107	76 - 125		
n-Butylbenzene	17.6600	0.50	0.11	20.0000		88.3	81 - 125		
n-Propylbenzene	18.3200	0.50	0.10	20.0000		91.6	78 - 130		
Naphthalene	15.3000	0.50	0.41	20.0000		76.5	47 - 128		
o-Xylene	21.7000	0.50	0.13	20.0000		108	85 - 119		
sec-Butylbenzene	16.5800	0.50	0.09	20.0000		82.9	78 - 130		
Styrene	21.8000	0.50	0.13	20.0000		109	62 - 148		
tert-Butylbenzene	17.7800	0.50	0.09	20.0000		88.9	77 - 125		
Tetrachloroethene	17.2600	0.50	0.10	20.0000		86.3	73 - 120		
Toluene	17.8600	0.50	0.12	20.0000		89.3	79 - 119		
trans-1,2-Dichloroethene	29.2100	0.50	0.09	20.0000		146	70 - 129		L5
Trichloroethene	18.6900	0.50	0.10	20.0000		93.4	73 - 117		
Trichlorofluoromethane	27.8400	0.50	0.23	20.0000		139	59 - 135		L4
Vinyl chloride	25.0700	0.50	0.13	20.0000		125	58 - 132		

Surrogate: 1,2-Dichloroethane-d4

30.98

25.0000

124

64 - 155

Surrogate: 4-Bromofluorobenzene

30.65

25.0000

123

73 - 124

Surrogate: Dibromofluoromethane

28.66

25.0000

115

78 - 129

Surrogate: Toluene-d8

27.66

25.0000

111

84 - 117

Matrix Spike (B2F0795-MS1)

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	21.6100	0.50	0.11	20.0000	ND	108	81 - 133
1,1,1-Trichloroethane	26.3500	0.50	0.21	20.0000	ND	132	93 - 149
1,1,2,2-Tetrachloroethane	16.3400	0.50	0.36	20.0000	ND	81.7	69 - 151
1,1,2-Trichloroethane	17.2700	0.50	0.25	20.0000	ND	86.4	78 - 130
1,1-Dichloroethane	23.2100	0.50	0.09	20.0000	ND	116	68 - 135
1,1-Dichloroethene	26.2600	0.50	0.13	20.0000	ND	131	77 - 134



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3131 Camino De Rio North Suite 355

San Diego , CA 92108

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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike (B2F0795-MS1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1-Dichloropropene	16.9000	0.50	0.13	20.0000	ND	84.5	91 - 138			M2
1,2,3-Trichloropropane	17.7300	0.50	0.39	20.0000	ND	88.6	77 - 136			
1,2,3-Trichlorobenzene	19.9900	0.50	0.18	20.0000	ND	100	72 - 129			
1,2,4-Trichlorobenzene	19.8500	0.50	0.16	20.0000	ND	99.2	64 - 135			
1,2,4-Trimethylbenzene	20.1300	0.50	0.14	20.0000	ND	101	10 - 179			
1,2-Dibromo-3-chloropropane	18.3800	0.50	0.41	20.0000	ND	91.9	62 - 153			
1,2-Dibromoethane	21.0400	0.50	0.24	20.0000	ND	105	80 - 132			
1,2-Dichlorobenzene	20.1600	0.50	0.20	20.0000	ND	101	81 - 131			
1,2-Dichloroethane	21.3500	0.50	0.20	20.0000	ND	107	68 - 146			
1,2-Dichloropropane	19.3700	0.50	0.15	20.0000	ND	96.8	74 - 136			
1,3,5-Trimethylbenzene	19.2300	0.50	0.13	20.0000	ND	96.2	66 - 149			
1,3-Dichlorobenzene	19.4400	0.50	0.16	20.0000	ND	97.2	79 - 128			
1,3-Dichloropropane	20.3500	0.50	0.21	20.0000	ND	102	80 - 129			
1,4-Dichlorobenzene	17.7800	0.50	0.17	20.0000	ND	88.9	84 - 121			
2,2-Dichloropropane	23.4000	0.50	0.38	20.0000	ND	117	63 - 179			
2-Chlorotoluene	19.3700	0.50	0.11	20.0000	ND	96.8	76 - 142			
4-Chlorotoluene	19.6800	0.50	0.12	20.0000	ND	98.4	72 - 152			
4-Isopropyltoluene	19.2600	0.50	0.11	20.0000	ND	96.3	84 - 141			
Benzene	17.9500	0.50	0.13	20.0000	ND	89.8	79 - 131			
Bromobenzene	16.4900	0.50	0.21	20.0000	ND	82.4	82 - 121			
Bromodichloromethane	19.2900	0.50	0.14	20.0000	ND	96.4	86 - 138			
Bromoform	18.5500	0.50	0.20	20.0000	ND	92.8	80 - 136			
Bromomethane	26.8500	0.50	0.40	20.0000	ND	134	35 - 194			
Carbon tetrachloride	23.1100	0.50	0.09	20.0000	ND	116	73 - 176			
Chlorobenzene	20.9700	0.50	0.13	20.0000	ND	105	81 - 124			
Chloroethane	27.8400	0.50	0.15	20.0000	ND	139	0 - 257			
Chloroform	26.7200	0.50	0.11	20.0000	ND	134	76 - 139			
Chloromethane	27.9700	0.50	0.12	20.0000	ND	140	27 - 144			
cis-1,2-Dichloroethene	15.4200	0.50	0.14	20.0000	ND	77.1	69 - 139			
cis-1,3-Dichloropropene	17.4300	0.50	0.13	20.0000	ND	87.2	67 - 149			
Dibromochloromethane	20.4200	0.50	0.16	20.0000	ND	102	91 - 131			
Dibromomethane	21.2000	0.50	0.19	20.0000	ND	106	70 - 134			
Dichlorodifluoromethane	34.9900	0.50	0.18	20.0000	ND	175	0 - 161			M2
Ethylbenzene	22.7900	0.50	0.13	20.0000	ND	114	89 - 134			
Hexachlorobutadiene	21.5000	0.50	0.15	20.0000	ND	108	73 - 137			
Isopropylbenzene	16.2700	0.50	0.10	20.0000	ND	81.4	72 - 152			
m,p-Xylene	45.5800	1.0	0.19	40.0000	ND	114	82 - 141			
Methylene chloride	21.2100	1.0	0.71	20.0000	ND	106	74 - 133			
n-Butylbenzene	21.1200	0.50	0.11	20.0000	ND	106	65 - 164			
n-Propylbenzene	17.8200	0.50	0.10	20.0000	ND	89.1	73 - 161			
Naphthalene	20.1400	0.50	0.41	20.0000	ND	101	59 - 105			
o-Xylene	23.7400	0.50	0.13	20.0000	ND	119	90 - 134			
sec-Butylbenzene	21.0300	0.50	0.09	20.0000	ND	105	80 - 157			
Styrene	21.9800	0.50	0.13	20.0000	ND	110	0 - 222			



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Reported : 06/02/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike (B2F0795-MS1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

tert-Butylbenzene	19.5400	0.50	0.09	20.0000	ND	97.7	88 - 141			
Tetrachloroethene	19.2800	0.50	0.10	20.0000	ND	96.4	75 - 136			
Toluene	18.1400	0.50	0.12	20.0000	ND	90.7	82 - 132			
trans-1,2-Dichloroethene	30.1000	0.50	0.09	20.0000	ND	150	65 - 135			M2
Trichloroethene	20.2600	0.50	0.10	20.0000	ND	101	75 - 128			
Trichlorofluoromethane	33.5900	0.50	0.23	20.0000	ND	168	89 - 143			M2
Vinyl chloride	33.5700	0.50	0.13	20.0000	ND	168	50 - 148			M2
Surrogate: 1,2-Dichloroethane-d4	31.55			25.0000		126	64 - 155			
Surrogate: 4-Bromofluorobenzene	33.39			25.0000		134	73 - 124			S10
Surrogate: Dibromofluoromethane	27.87			25.0000		111	78 - 129			
Surrogate: Toluene-d8	23.56			25.0000		94.2	84 - 117			

Matrix Spike Dup (B2F0795-MSD1)

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	24.0500	0.50	0.11	20.0000	ND	120	81 - 133	10.7	20	
1,1,1-Trichloroethane	25.8800	0.50	0.21	20.0000	ND	129	93 - 149	1.80	20	
1,1,2,2-Tetrachloroethane	19.0200	0.50	0.36	20.0000	ND	95.1	69 - 151	15.2	20	
1,1,2-Trichloroethane	23.1400	0.50	0.25	20.0000	ND	116	78 - 130	29.1	20	R
1,1-Dichloroethane	23.1300	0.50	0.09	20.0000	ND	116	68 - 135	0.345	20	
1,1-Dichloroethene	24.7400	0.50	0.13	20.0000	ND	124	77 - 134	5.96	20	
1,1-Dichloropropene	21.2700	0.50	0.13	20.0000	ND	106	91 - 138	22.9	20	R
1,2,3-Trichloropropane	21.5800	0.50	0.39	20.0000	ND	108	77 - 136	19.6	20	
1,2,3-Trichlorobenzene	24.4000	0.50	0.18	20.0000	ND	122	72 - 129	19.9	20	
1,2,4-Trichlorobenzene	23.9200	0.50	0.16	20.0000	ND	120	64 - 135	18.6	20	
1,2,4-Trimethylbenzene	23.9200	0.50	0.14	20.0000	ND	120	10 - 179	17.2	20	
1,2-Dibromo-3-chloropropane	22.3000	0.50	0.41	20.0000	ND	112	62 - 153	19.3	20	
1,2-Dibromoethane	24.9700	0.50	0.24	20.0000	ND	125	80 - 132	17.1	20	
1,2-Dichlorobenzene	22.9400	0.50	0.20	20.0000	ND	115	81 - 131	12.9	20	
1,2-Dichloroethane	25.7400	0.50	0.20	20.0000	ND	129	68 - 146	18.6	20	
1,2-Dichloropropane	21.1300	0.50	0.15	20.0000	ND	106	74 - 136	8.69	20	
1,3,5-Trimethylbenzene	20.0300	0.50	0.13	20.0000	ND	100	66 - 149	4.08	20	
1,3-Dichlorobenzene	20.1600	0.50	0.16	20.0000	ND	101	79 - 128	3.64	20	
1,3-Dichloropropane	20.5500	0.50	0.21	20.0000	ND	103	80 - 129	0.978	20	
1,4-Dichlorobenzene	21.8700	0.50	0.17	20.0000	ND	109	84 - 121	20.6	20	R
2,2-Dichloropropane	23.3100	0.50	0.38	20.0000	ND	117	63 - 179	0.385	20	
2-Chlorotoluene	20.4800	0.50	0.11	20.0000	ND	102	76 - 142	5.57	20	
4-Chlorotoluene	23.3300	0.50	0.12	20.0000	ND	117	72 - 152	17.0	20	
4-Isopropyltoluene	22.2300	0.50	0.11	20.0000	ND	111	84 - 141	14.3	20	
Benzene	22.2400	0.50	0.13	20.0000	ND	111	79 - 131	21.3	20	R
Bromobenzene	21.8200	0.50	0.21	20.0000	ND	109	82 - 121	27.8	20	R
Bromodichloromethane	24.3400	0.50	0.14	20.0000	ND	122	86 - 138	23.1	20	R
Bromoform	22.5400	0.50	0.20	20.0000	ND	113	80 - 136	19.4	20	
Bromomethane	26.7500	0.50	0.40	20.0000	ND	134	35 - 194	0.373	20	
Carbon tetrachloride	27.9100	0.50	0.09	20.0000	ND	140	73 - 176	18.8	20	
Chlorobenzene	21.0400	0.50	0.13	20.0000	ND	105	81 - 124	0.333	20	



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike Dup (B2F0795-MSD1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

Chloroethane	27.8100	0.50	0.15	20.0000	ND	139	0 - 257	0.108	20	
Chloroform	24.2800	0.50	0.11	20.0000	ND	121	76 - 139	9.57	20	
Chloromethane	25.8500	0.50	0.12	20.0000	ND	129	27 - 144	7.88	20	
cis-1,2-Dichloroethene	15.2000	0.50	0.14	20.0000	ND	76.0	69 - 139	1.44	20	
cis-1,3-Dichloropropene	22.4700	0.50	0.13	20.0000	ND	112	67 - 149	25.3	20	R
Dibromochloromethane	25.7200	0.50	0.16	20.0000	ND	129	91 - 131	23.0	20	R
Dibromomethane	23.3400	0.50	0.19	20.0000	ND	117	70 - 134	9.61	20	
Dichlorodifluoromethane	38.3500	0.50	0.18	20.0000	ND	192	0 - 161	9.16	20	M2
Ethylbenzene	22.6700	0.50	0.13	20.0000	ND	113	89 - 134	0.528	20	
Hexachlorobutadiene	25.5000	0.50	0.15	20.0000	ND	128	73 - 137	17.0	20	
Isopropylbenzene	22.1700	0.50	0.10	20.0000	ND	111	72 - 152	30.7	20	R
m,p-Xylene	49.0800	1.0	0.19	40.0000	ND	123	82 - 141	7.39	20	
Methylene chloride	24.2300	1.0	0.71	20.0000	ND	121	74 - 133	13.3	20	
n-Butylbenzene	24.1200	0.50	0.11	20.0000	ND	121	65 - 164	13.3	20	
n-Propylbenzene	22.1300	0.50	0.10	20.0000	ND	111	73 - 161	21.6	20	R
Naphthalene	23.2400	0.50	0.41	20.0000	ND	116	59 - 105	14.3	20	M2
o-Xylene	29.6700	0.50	0.13	20.0000	ND	148	90 - 134	22.2	20	M2, R
sec-Butylbenzene	20.8600	0.50	0.09	20.0000	ND	104	80 - 157	0.812	20	
Styrene	26.6500	0.50	0.13	20.0000	ND	133	0 - 222	19.2	20	
tert-Butylbenzene	22.8600	0.50	0.09	20.0000	ND	114	88 - 141	15.7	20	
Tetrachloroethene	21.5500	0.50	0.10	20.0000	ND	108	75 - 136	11.1	20	
Toluene	23.7200	0.50	0.12	20.0000	ND	119	82 - 132	26.7	20	R
trans-1,2-Dichloroethene	29.2800	0.50	0.09	20.0000	ND	146	65 - 135	2.76	20	M2
Trichloroethene	22.1700	0.50	0.10	20.0000	ND	111	75 - 128	9.00	20	
Trichlorofluoromethane	33.1000	0.50	0.23	20.0000	ND	166	89 - 143	1.47	20	M2
Vinyl chloride	30.7200	0.50	0.13	20.0000	ND	154	50 - 148	8.87	20	M2

Surrogate: 1,2-Dichloroethane-d4	29.51			25.0000		118	64 - 155			
Surrogate: 4-Bromofluorobenzene	29.19			25.0000		117	73 - 124			
Surrogate: Dibromofluoromethane	27.58			25.0000		110	78 - 129			
Surrogate: Toluene-d8	26.42			25.0000		106	84 - 117			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1312 - MSSEMI_W

Blank (B2E1312-BLK1)

Prepared: 5/19/2022 Analyzed: 5/19/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	98.87		100.000	98.9	17 - 119
Surrogate: 2-Fluorobiphenyl	92.21		100.000	92.2	10 - 133
Surrogate: 4-Terphenyl-d14	88.77		100.000	88.8	5 - 139
Surrogate: Nitrobenzene-d5	107.5		100.000	107	13 - 150

LCS (B2E1312-BS1)

Prepared: 5/19/2022 Analyzed: 5/19/2022

1,4-Dioxane 92.8800 2.0 0.84 100.000 92.9 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	95.14		100.000	95.1	17 - 119
Surrogate: 2-Fluorobiphenyl	93.09		100.000	93.1	10 - 133
Surrogate: 4-Terphenyl-d14	90.70		100.000	90.7	5 - 139
Surrogate: Nitrobenzene-d5	104.1		100.000	104	13 - 150

LCS Dup (B2E1312-BSD1)

Prepared: 5/19/2022 Analyzed: 5/19/2022

1,4-Dioxane 93.7900 2.0 0.84 100.000 93.8 75 - 155 0.975 20

Surrogate: 1,2-Dichlorobenzene-d4	94.27		100.000	94.3	17 - 119
Surrogate: 2-Fluorobiphenyl	92.52		100.000	92.5	10 - 133
Surrogate: 4-Terphenyl-d14	93.31		100.000	93.3	5 - 139
Surrogate: Nitrobenzene-d5	103.3		100.000	103	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1352 - MSSEMI_W

Blank (B2E1352-BLK1)

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane	ND	0.20	0.05						
Surrogate: 1,2-Dichlorobenzene-d4	1.068			1.00000		107	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9296			1.00000		93.0	8 - 111		
Surrogate: 4-Terphenyl-d14	1.283			1.00000		128	12 - 113		S12
Surrogate: Nitrobenzene-d5	1.077			1.00000		108	15 - 121		

LCS (B2E1352-BS1)

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane	1.25266	0.20	0.05	1.00000		125	75 - 155		
Surrogate: 1,2-Dichlorobenzene-d4	1.031			1.00000		103	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9028			1.00000		90.3	8 - 111		
Surrogate: 4-Terphenyl-d14	1.305			1.00000		131	12 - 113		S12
Surrogate: Nitrobenzene-d5	0.9172			1.00000		91.7	15 - 121		

Matrix Spike (B2E1352-MS1)

Source: 2201321-02

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane	1.04303	0.20	0.05	1.00000	ND	104	75 - 155		
Surrogate: 1,2-Dichlorobenzene-d4	1.064			1.00000		106	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9625			1.00000		96.2	8 - 111		
Surrogate: 4-Terphenyl-d14	1.316			1.00000		132	12 - 113		S10
Surrogate: Nitrobenzene-d5	0.8173			1.00000		81.7	15 - 121		

Matrix Spike Dup (B2E1352-MSD1)

Source: 2201321-02

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane	1.72586	0.20	0.05	1.00000	ND	173	75 - 155	49.3	20	M2, R
Surrogate: 1,2-Dichlorobenzene-d4	1.091			1.00000		109	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.8982			1.00000		89.8	8 - 111			
Surrogate: 4-Terphenyl-d14	1.234			1.00000		123	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.8746			1.00000		87.5	15 - 121			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/02/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1381 - MSSEMI_W

Blank (B2E1381-BLK1)

Prepared: 5/23/2022 Analyzed: 5/24/2022

1,4-Dioxane	ND	0.20	0.05						
Surrogate: 1,2-Dichlorobenzene-d4	1.023			1.00000		102	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9737			1.00000		97.4	8 - 111		
Surrogate: 4-Terphenyl-d14	1.039			1.00000		104	12 - 113		
Surrogate: Nitrobenzene-d5	1.017			1.00000		102	15 - 121		

LCS (B2E1381-BS1)

Prepared: 5/23/2022 Analyzed: 5/24/2022

1,4-Dioxane	1.39531	0.20	0.05	1.00000		140	75 - 155		
Surrogate: 1,2-Dichlorobenzene-d4	1.027			1.00000		103	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9636			1.00000		96.4	8 - 111		
Surrogate: 4-Terphenyl-d14	1.011			1.00000		101	12 - 113		
Surrogate: Nitrobenzene-d5	1.035			1.00000		103	15 - 121		

Matrix Spike (B2E1381-MS1)

Source: 2201314-16

Prepared: 5/23/2022 Analyzed: 5/24/2022

1,4-Dioxane	3.10408	0.20	0.05	1.00000	1.72104	138	75 - 155		
Surrogate: 1,2-Dichlorobenzene-d4	1.029			1.00000		103	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9656			1.00000		96.6	8 - 111		
Surrogate: 4-Terphenyl-d14	1.069			1.00000		107	12 - 113		
Surrogate: Nitrobenzene-d5	1.018			1.00000		102	15 - 121		

Matrix Spike Dup (B2E1381-MSD1)

Source: 2201314-16

Prepared: 5/23/2022 Analyzed: 5/24/2022

1,4-Dioxane	3.15462	0.20	0.05	1.00000	1.72104	143	75 - 155	1.62	20
Surrogate: 1,2-Dichlorobenzene-d4	1.031			1.00000		103	13 - 99		S12
Surrogate: 2-Fluorobiphenyl	0.9702			1.00000		97.0	8 - 111		
Surrogate: 4-Terphenyl-d14	1.054			1.00000		105	12 - 113		
Surrogate: Nitrobenzene-d5	1.034			1.00000		103	15 - 121		



PROJECT: Raytheon Main

TASK NO.: 532.30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858.455.6500

Fax 858.455.6533

2201314

Sampled By:		SAMPLE COLLECTION		MATRIX		PRESERVATION		CONTAINERS		ANALYSIS REQUESTED		Expected Concentration Range (ppb) for VOA's		SPECIAL HANDLING		REMARKS
LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)										
1	TB-051722A	05/17/22	0800	X	X			X	2	X						Report J Flags
2	MW-26C		1113	X	X			X	3	X						
3	MW-21		1236	X	X			X	3	X						
				X				X	1		X					
4	EW-01		1256	X	X			X	3	X						
				X				X	1			X				
5	RB-051722		1315		X	X		X	3	X						
					X			X	1				X			
6	MW-32B		1414	X	X			X	3	X						
				X				X	1		X					
7	MW-08		1517	X	X			X	3	X						
				X				X	1			X				
8	MW-28		1601	X	X			X	3	X						
				X				X	1							
9	MW-30A	05/18/22	0944	X	X			X	3	X						
				X				X	1		X					

Total number of containers per analysis:		Total No. of Containers:	
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> / H+H	5-18-22 1643	<i>[Signature]</i> ATL	5/18/22 1643
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> ATL	5/18/22 1725	<i>[Signature]</i> ATL	5/18/22 1725

- ☒ No. of containers correct
☒ Received in good condition
☒ Custody seals secure
☒ Conforms to COC document

Send Results to:

Steve Netto

~~9171 Towne Centre Drive~~

~~Suite 375~~

~~San Diego, CA 92122~~

Ph: 858.455.5400

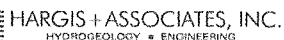
snetto@hargis.com

Instructions

- Fill out form completely and sign only after verified for completeness.
Complete in ballpoint pen. Draw one line through error, initial and date correction.
Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ✗.
Note applicable preservatives, special instructions, and deviations from typical environmental samples.
Consult project QA documents for specific instructions.

2.4 Temperature on receipt

3131 Camino Del Rio N
Suite 355
San Diego, CA 92108



PROJECT: Raytheon Main

TASK NO.: 532.30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858.455.6500

Fax 858.455.6533

Date: 05/18/22
Page 2 of 4

Page 2 of 4

[illegible]

Instructions

1. Fill out form completely and sign only after verified for completeness
 Complete in ballpoint pen. Draw one line through error, initial and date correction
 Indicate the number of sample containers in analytical request space; indicate choice with ✓ or x
 Note applicable preservatives, special instructions, and deviations from typical environmental samples.
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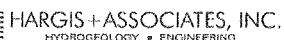
Page 69 of 73

Temperature on receipt

Send Results to:
Steve Netto

9171 Towne Centre Drive
Suite 375
San Diego, CA 92122
Ph: 858.455.5400
snetto@hargis.com

3131 Camino del Rio N
Suite 355
San Diego, CA 92108



PROJECT: Raytheon Main

TASK NO.: 532.30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858.455.6500

Fax 858.455.6533

Date: 5/17/22
Page 3 of 4

[illegible]

Total No. of Containers:

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> / H&A	05-18-22 1643	<i>[Signature]</i> - ATC	5/18/22 1643
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> - ATC	5/18/22 1725	<i>[Signature]</i> ATC	5/18/22 1725

☒	No. of containers correct
☒	Received in good condition
☐	Custody seals secure
☒	Conforms to COC document

Send Results to:

Steve Netto

~~9171 Towne Centre Drive~~

~~Suite 375~~

~~San Diego, CA 92122~~

Ph: 858.455.5400

snetto@hargis.com

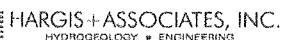
Instructions

2.4 Temperature on receipt

1. Fill out form completely and sign only after verified for completeness
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 Consult project QA documents for specific instructions.

Page 70 of 73

3131 Camino Del Rio
Suite 355
San Diego, 92108



PROJECT: Raytheon Main

TASK NO.: 532.30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858.455.6500

Fax 858.455.6533

Date: 05-18-22
Page 4 of 4

Page 4 of 4

[illegible]

Instructions

Fill out form completely and sign only after verified for completeness
Complete in ballpoint pen. Draw one line through error, initial and date correction
Indicate the number of sample containers in analytical request space; indicate choice with ✓ or x
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Consult project QA documents for specific instructions.

2.4 Temperature on receipt

Send Results to:

Steve Netto

9171 Towne Centre Drive
Suite 375

San Diego, CA 92122

Ph: 858.455.5400

snetto@hargis.com

From: Andrew Donnelly <ADONNELLY@HARGIS.COM>
Sent: Thursday, May 19, 2022 12:38 PM
To: Edward Bae
Cc: Ryne Adams; Amber Warden; DJ Sealee
Subject: RE: Raytheon Main, 532.30
Attachments: 2201314_01 05 19 22 1155.PDF

Hi Edward,

I'd like to make a change to these samples/analyses. For sample "MW-41", please analyze for 1,4-dioxane using method 8270 SIM not 8270 MOD. We need lower RL for this sample location.

Everything else looks good. Thanks,

Andrew Donnelly
Hydrogeologist
HARGIS + ASSOCIATES, INC.
3131 Camino Del Rio North, Suite 355, San Diego, CA 92108
Direct: 858.410.7463
Cell: 951.553.0689
adonnelly@hargis.com
www.hargis.com



From: ATL Project Management <Project.Management@ATLGlobal.com>
Sent: Thursday, May 19, 2022 12:00 PM
To: Steve Netto <SNETTO@HARGIS.COM>
Cc: Andrew Donnelly <ADONNELLY@HARGIS.COM>; Julie Kelly <JKelly@HARGIS.COM>; Monica Morales <MMorales@Hargis.com>; Ross Horton <RHorton@HARGIS.COM>; Stacia Prazen <SPRAZEN@HARGIS.COM>; Ruben Sanchez <RSanchez@HARGIS.COM>
Subject: Raytheon Main, 532.30

CAUTION: This email originated from outside your organization. Do not click links, open attachments or follow instructions unless you have verified the sender and know the content is genuine and safe.

Dear Steve Netto,

Your requested analyses have been logged-in according to your COC, reviewed by Sample Control, and confirmed by Project Management.

Please take a moment to verify that all analyses have been logged correctly, according to your project scope. **Any modifications or cancellations must be communicated to ATL as soon as possible** (same-day as log-in for RUSH TAT, or next business-day from log-in for Standard TAT), as we will begin processing your samples immediately to help ensure timely delivery of your results.

Receipt confirmation for:
Project Name: **Raytheon Main, 532.30**
Received Date/Time: **05/18/22 17:25**

Policies Summary:

Extremely Short Hold-Time Analyses - In the event that ATL receives samples for Extremely Short Hold-Time Analyses, such as pH (15 minute HT), ATL will proceed to perform these analyses without any additional client-notification, even if Hold-Time has passed, and the requested analyses will be invoiced.

RUSH TAT Requests - Due to the complexities of the analytical process, all RUSH TAT requests will be performed on the basis of “best efforts”. For any RUSH results that are delivered past the requested TAT, but ahead of Standard TAT, ATL will adjust RUSH surcharges to reflect the surcharges associated with the TAT that was able to be delivered.

Cancellation - To cancel RUSH TAT Work Orders, ATL must receive the cancellation request by the end of the same day that the samples are logged-in; in the event that Same-Day RUSH TAT is requested, a cancellation request cannot be accepted if the analytical process has already begun, and the analytical work will be invoiced. To cancel Standard TAT Work Orders, ATL must receive the cancellation request by the next business-day after samples are logged-in. If a cancellation request is received within the required time-period, but the analytical process has already begun, 50% of the quoted cost for respective analyses will be invoiced. In the event that analytical-delays occur, and a cancellation of the affected analyses is desired as a result of the delays, ATL must receive the cancellation request within the same day that ATL provides notification of delays; however, if the analytical process has restarted before the cancellation request, even if the cancellation request is received within the same day of ATL’s notification of delay, a cancellation request cannot be accepted, and analytical work will be invoiced.

Please do not reply to this email. This is an automated sample receipt notification from the Element LIMS® at Advanced Technology Laboratories. If you have any questions about this email or if this email has been sent to you in error, please contact your project manager, Edward Bae, at Edward.Bae@atlglobal.com.

Best regards,

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045



June 03, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2201321
Client Reference : Raytheon Main, 532.30

Enclosed are the results for sample(s) received on May 19, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read "for" followed by a stylized signature.

Christine Caballero, Client Relations Manager
Christine.Caballero@atlglobal.com
Authorized to Release on 06/03/22 20:04 on Behalf of

A handwritten signature in black ink, appearing to be a stylized "A" or "L".

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.

3275 Walnut Avenue, Signal Hill, CA 90755 • Tel: 562-989-4045 • Fax: 562-989-4040
www.atlglobal.com



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-051922	2201321-01	Water	5/19/22 8:00	5/19/22 12:45
MW-43	2201321-02	Water	5/19/22 9:05	5/19/22 12:45



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
S1	Surrogate recovery was above laboratory acceptance limit. No associated target analyte was detected in the sample.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
E12	Internal standard was added before extract, hence, result in low recovery.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
 - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
 - (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Client Sample ID: TB-051922

Lab ID: 2201321-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1-Dichloroethane	ND	0.50	0.09	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1-Dichloroethene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
1,1-Dichloropropene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2-Dibromoethane	ND	0.50	0.24	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2-Dichloroethane	ND	0.50	0.20	1	B2F0830	06/02/2022	06/02/22 13:30	
1,2-Dichloropropane	ND	0.50	0.15	1	B2F0830	06/02/2022	06/02/22 13:30	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2F0830	06/02/2022	06/02/22 13:30	
1,3-Dichloropropane	ND	0.50	0.21	1	B2F0830	06/02/2022	06/02/22 13:30	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2F0830	06/02/2022	06/02/22 13:30	
2,2-Dichloropropane	ND	0.50	0.38	1	B2F0830	06/02/2022	06/02/22 13:30	
2-Chlorotoluene	ND	0.50	0.11	1	B2F0830	06/02/2022	06/02/22 13:30	
4-Chlorotoluene	ND	0.50	0.12	1	B2F0830	06/02/2022	06/02/22 13:30	
4-Isopropyltoluene	ND	0.50	0.11	1	B2F0830	06/02/2022	06/02/22 13:30	
Benzene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
Bromobenzene	ND	0.50	0.21	1	B2F0830	06/02/2022	06/02/22 13:30	
Bromodichloromethane	ND	0.50	0.14	1	B2F0830	06/02/2022	06/02/22 13:30	
Bromoform	ND	0.50	0.20	1	B2F0830	06/02/2022	06/02/22 13:30	
Bromomethane	ND	0.50	0.40	1	B2F0830	06/02/2022	06/02/22 13:30	
Carbon tetrachloride	ND	0.50	0.09	1	B2F0830	06/02/2022	06/02/22 13:30	
Chlorobenzene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
Chloroethane	ND	0.50	0.15	1	B2F0830	06/02/2022	06/02/22 13:30	
Chloroform	ND	0.50	0.11	1	B2F0830	06/02/2022	06/02/22 13:30	
Chloromethane	ND	0.50	0.12	1	B2F0830	06/02/2022	06/02/22 13:30	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2F0830	06/02/2022	06/02/22 13:30	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
Dibromochloromethane	ND	0.50	0.16	1	B2F0830	06/02/2022	06/02/22 13:30	
Dibromomethane	ND	0.50	0.19	1	B2F0830	06/02/2022	06/02/22 13:30	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2F0830	06/02/2022	06/02/22 13:30	
Ethylbenzene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Client Sample ID: TB-051922

Lab ID: 2201321-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2F0830	06/02/2022	06/02/22 13:30	
Isopropylbenzene	ND	0.50	0.10	1	B2F0830	06/02/2022	06/02/22 13:30	
m,p-Xylene	ND	1.0	0.19	1	B2F0830	06/02/2022	06/02/22 13:30	
Methylene chloride	ND	1.0	0.71	1	B2F0830	06/02/2022	06/02/22 13:30	
n-Butylbenzene	ND	0.50	0.11	1	B2F0830	06/02/2022	06/02/22 13:30	
n-Propylbenzene	ND	0.50	0.10	1	B2F0830	06/02/2022	06/02/22 13:30	
Naphthalene	ND	0.50	0.41	1	B2F0830	06/02/2022	06/02/22 13:30	
o-Xylene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
sec-Butylbenzene	ND	0.50	0.09	1	B2F0830	06/02/2022	06/02/22 13:30	
Styrene	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
tert-Butylbenzene	ND	0.50	0.09	1	B2F0830	06/02/2022	06/02/22 13:30	
Tetrachloroethene	ND	0.50	0.10	1	B2F0830	06/02/2022	06/02/22 13:30	
Toluene	ND	0.50	0.12	1	B2F0830	06/02/2022	06/02/22 13:30	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2F0830	06/02/2022	06/02/22 13:30	
Trichloroethene	ND	0.50	0.10	1	B2F0830	06/02/2022	06/02/22 13:30	
Trichlorofluoromethane	ND	0.50	0.23	1	B2F0830	06/02/2022	06/02/22 13:30	
Vinyl chloride	ND	0.50	0.13	1	B2F0830	06/02/2022	06/02/22 13:30	
Surrogate: 1,2-Dichloroethane-d4	103 %	64 - 155			B2F0830	06/02/2022	06/02/22 13:30	
Surrogate: 4-Bromofluorobenzene	106 %	73 - 124			B2F0830	06/02/2022	06/02/22 13:30	
Surrogate: Dibromofluoromethane	95.3 %	78 - 129			B2F0830	06/02/2022	06/02/22 13:30	
Surrogate: Toluene-d8	95.7 %	84 - 117			B2F0830	06/02/2022	06/02/22 13:30	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Client Sample ID: MW-43

Lab ID: 2201321-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1-Dichloroethane	ND	0.50	0.09	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1-Dichloroethene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
1,1-Dichloropropene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2-Dibromoethane	ND	0.50	0.24	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2-Dichloroethane	ND	0.50	0.20	1	B2F0795	06/01/2022	06/01/22 13:41	
1,2-Dichloropropane	ND	0.50	0.15	1	B2F0795	06/01/2022	06/01/22 13:41	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2F0795	06/01/2022	06/01/22 13:41	
1,3-Dichloropropane	ND	0.50	0.21	1	B2F0795	06/01/2022	06/01/22 13:41	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2F0795	06/01/2022	06/01/22 13:41	
2,2-Dichloropropane	ND	0.50	0.38	1	B2F0795	06/01/2022	06/01/22 13:41	
2-Chlorotoluene	ND	0.50	0.11	1	B2F0795	06/01/2022	06/01/22 13:41	
4-Chlorotoluene	ND	0.50	0.12	1	B2F0795	06/01/2022	06/01/22 13:41	
4-Isopropyltoluene	ND	0.50	0.11	1	B2F0795	06/01/2022	06/01/22 13:41	
Benzene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
Bromobenzene	ND	0.50	0.21	1	B2F0795	06/01/2022	06/01/22 13:41	
Bromodichloromethane	ND	0.50	0.14	1	B2F0795	06/01/2022	06/01/22 13:41	
Bromoform	ND	0.50	0.20	1	B2F0795	06/01/2022	06/01/22 13:41	
Bromomethane	ND	0.50	0.40	1	B2F0795	06/01/2022	06/01/22 13:41	
Carbon tetrachloride	ND	0.50	0.09	1	B2F0795	06/01/2022	06/01/22 13:41	
Chlorobenzene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
Chloroethane	ND	0.50	0.15	1	B2F0795	06/01/2022	06/01/22 13:41	
Chloroform	ND	0.50	0.11	1	B2F0795	06/01/2022	06/01/22 13:41	
Chloromethane	ND	0.50	0.12	1	B2F0795	06/01/2022	06/01/22 13:41	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2F0795	06/01/2022	06/01/22 13:41	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
Dibromochloromethane	ND	0.50	0.16	1	B2F0795	06/01/2022	06/01/22 13:41	
Dibromomethane	ND	0.50	0.19	1	B2F0795	06/01/2022	06/01/22 13:41	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2F0795	06/01/2022	06/01/22 13:41	
Ethylbenzene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Client Sample ID: MW-43

Lab ID: 2201321-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2F0795	06/01/2022	06/01/22 13:41	
Isopropylbenzene	ND	0.50	0.10	1	B2F0795	06/01/2022	06/01/22 13:41	
m,p-Xylene	ND	1.0	0.19	1	B2F0795	06/01/2022	06/01/22 13:41	
Methylene chloride	ND	1.0	0.71	1	B2F0795	06/01/2022	06/01/22 13:41	
n-Butylbenzene	ND	0.50	0.11	1	B2F0795	06/01/2022	06/01/22 13:41	
n-Propylbenzene	ND	0.50	0.10	1	B2F0795	06/01/2022	06/01/22 13:41	
Naphthalene	ND	0.50	0.41	1	B2F0795	06/01/2022	06/01/22 13:41	
o-Xylene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
sec-Butylbenzene	ND	0.50	0.09	1	B2F0795	06/01/2022	06/01/22 13:41	
Styrene	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
tert-Butylbenzene	ND	0.50	0.09	1	B2F0795	06/01/2022	06/01/22 13:41	
Tetrachloroethene	ND	0.50	0.10	1	B2F0795	06/01/2022	06/01/22 13:41	
Toluene	ND	0.50	0.12	1	B2F0795	06/01/2022	06/01/22 13:41	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2F0795	06/01/2022	06/01/22 13:41	
Trichloroethene	ND	0.50	0.10	1	B2F0795	06/01/2022	06/01/22 13:41	
Trichlorofluoromethane	ND	0.50	0.23	1	B2F0795	06/01/2022	06/01/22 13:41	
Vinyl chloride	ND	0.50	0.13	1	B2F0795	06/01/2022	06/01/22 13:41	
Surrogate: 1,2-Dichloroethane-d4	126 %	64 - 155			B2F0795	06/01/2022	06/01/22 13:41	
Surrogate: 4-Bromofluorobenzene	102 %	73 - 124			B2F0795	06/01/2022	06/01/22 13:41	
Surrogate: Dibromofluoromethane	117 %	78 - 129			B2F0795	06/01/2022	06/01/22 13:41	
Surrogate: Toluene-d8	111 %	84 - 117			B2F0795	06/01/2022	06/01/22 13:41	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1352	05/20/2022	05/23/22 19:04	
Surrogate: 1,2-Dichlorobenzene-d4	106 %	13 - 99			B2E1352	05/20/2022	05/23/22 19:04	S12
Surrogate: 2-Fluorobiphenyl	87.6 %	8 - 111			B2E1352	05/20/2022	05/23/22 19:04	
Surrogate: 4-Terphenyl-d14	135 %	12 - 113			B2E1352	05/20/2022	05/23/22 19:04	S1
Surrogate: Nitrobenzene-d5	108 %	15 - 121			B2E1352	05/20/2022	05/23/22 19:04	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W

Blank (B2F0795-BLK1)

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Blank (B2F0795-BLK1) - Continued

Prepared: 6/1/2022 Analyzed: 6/1/2022

m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	32.67		25.0000	131	64 - 155
Surrogate: 4-Bromofluorobenzene	26.47		25.0000	106	73 - 124
Surrogate: Dibromofluoromethane	30.79		25.0000	123	78 - 129
Surrogate: Toluene-d8	26.71		25.0000	107	84 - 117

LCS (B2F0795-BS1)

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	18.9700	0.50	0.11	20.0000	94.8	79 - 116	
1,1,1-Trichloroethane	20.6700	0.50	0.21	20.0000	103	73 - 130	
1,1,2,2-Tetrachloroethane	16.4000	0.50	0.36	20.0000	82.0	71 - 122	
1,1,2-Trichloroethane	22.5800	0.50	0.25	20.0000	113	70 - 124	
1,1-Dichloroethane	19.7200	0.50	0.09	20.0000	98.6	69 - 128	
1,1-Dichloroethene	20.5600	0.50	0.13	20.0000	103	65 - 137	
1,1-Dichloropropene	16.6900	0.50	0.13	20.0000	83.4	74 - 129	
1,2,3-Trichloropropane	17.4400	0.50	0.39	20.0000	87.2	74 - 123	
1,2,3-Trichlorobenzene	17.1500	0.50	0.18	20.0000	85.8	59 - 130	
1,2,4-Trichlorobenzene	16.3100	0.50	0.16	20.0000	81.6	65 - 125	
1,2,4-Trimethylbenzene	18.8400	0.50	0.14	20.0000	94.2	88 - 124	
1,2-Dibromo-3-chloropropane	13.5200	0.50	0.41	20.0000	67.6	61 - 127	
1,2-Dibromoethane	20.3100	0.50	0.24	20.0000	102	72 - 125	
1,2-Dichlorobenzene	18.4000	0.50	0.20	20.0000	92.0	84 - 113	
1,2-Dichloroethane	22.0200	0.50	0.20	20.0000	110	68 - 130	
1,2-Dichloropropane	18.7100	0.50	0.15	20.0000	93.6	77 - 121	
1,3,5-Trimethylbenzene	17.1500	0.50	0.13	20.0000	85.8	83 - 124	
1,3-Dichlorobenzene	15.7500	0.50	0.16	20.0000	78.8	83 - 112	L3
1,3-Dichloropropane	17.7500	0.50	0.21	20.0000	88.8	77 - 119	
1,4-Dichlorobenzene	17.3500	0.50	0.17	20.0000	86.8	79 - 115	
2,2-Dichloropropane	21.6200	0.50	0.38	20.0000	108	67 - 149	
2-Chlorotoluene	17.0900	0.50	0.11	20.0000	85.4	81 - 119	
4-Chlorotoluene	18.3700	0.50	0.12	20.0000	91.8	86 - 117	
4-Isopropyltoluene	15.1900	0.50	0.11	20.0000	76.0	82 - 131	L3



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

LCS (B2F0795-BS1) - Continued

Prepared: 6/1/2022 Analyzed: 6/1/2022

Benzene	17.5300	0.50	0.13	20.0000		87.6	75 - 124			
Bromobenzene	15.9000	0.50	0.21	20.0000		79.5	82 - 108			L3
Bromodichloromethane	19.9800	0.50	0.14	20.0000		99.9	80 - 120			
Bromoform	18.1500	0.50	0.20	20.0000		90.8	70 - 123			
Bromomethane	22.1700	0.50	0.40	20.0000		111	44 - 151			
Carbon tetrachloride	20.8300	0.50	0.09	20.0000		104	62 - 140			
Chlorobenzene	18.0200	0.50	0.13	20.0000		90.1	80 - 112			
Chloroethane	22.6900	0.50	0.15	20.0000		113	42 - 167			
Chloroform	22.0000	0.50	0.11	20.0000		110	77 - 122			
Chloromethane	21.9100	0.50	0.12	20.0000		110	33 - 153			
cis-1,2-Dichloroethene	15.3500	0.50	0.14	20.0000		76.8	75 - 121			
cis-1,3-Dichloropropene	17.4100	0.50	0.13	20.0000		87.0	73 - 127			
Dibromochloromethane	19.7200	0.50	0.16	20.0000		98.6	77 - 122			
Dibromomethane	18.5900	0.50	0.19	20.0000		93.0	75 - 121			
Dichlorodifluoromethane	30.8300	0.50	0.18	20.0000		154	0 - 171			
Ethylbenzene	18.1100	0.50	0.13	20.0000		90.6	82 - 119			
Hexachlorobutadiene	16.9800	0.50	0.15	20.0000		84.9	71 - 131			
Isopropylbenzene	19.3300	0.50	0.10	20.0000		96.6	75 - 126			
m,p-Xylene	34.5600	1.0	0.19	40.0000		86.4	86 - 119			
Methylene chloride	21.3900	1.0	0.71	20.0000		107	76 - 125			
n-Butylbenzene	17.6600	0.50	0.11	20.0000		88.3	81 - 125			
n-Propylbenzene	18.3200	0.50	0.10	20.0000		91.6	78 - 130			
Naphthalene	15.3000	0.50	0.41	20.0000		76.5	47 - 128			
o-Xylene	21.7000	0.50	0.13	20.0000		108	85 - 119			
sec-Butylbenzene	16.5800	0.50	0.09	20.0000		82.9	78 - 130			
Styrene	21.8000	0.50	0.13	20.0000		109	62 - 148			
tert-Butylbenzene	17.7800	0.50	0.09	20.0000		88.9	77 - 125			
Tetrachloroethene	17.2600	0.50	0.10	20.0000		86.3	73 - 120			
Toluene	17.8600	0.50	0.12	20.0000		89.3	79 - 119			
trans-1,2-Dichloroethene	29.2100	0.50	0.09	20.0000		146	70 - 129			L5
Trichloroethene	18.6900	0.50	0.10	20.0000		93.4	73 - 117			
Trichlorofluoromethane	27.8400	0.50	0.23	20.0000		139	59 - 135			L4
Vinyl chloride	25.0700	0.50	0.13	20.0000		125	58 - 132			

Surrogate: 1,2-Dichloroethane-d4

30.98

25.0000

124

64 - 155

Surrogate: 4-Bromofluorobenzene

30.65

25.0000

123

73 - 124

Surrogate: Dibromofluoromethane

28.66

25.0000

115

78 - 129

Surrogate: Toluene-d8

27.66

25.0000

111

84 - 117

Matrix Spike (B2F0795-MS1)

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	21.6100	0.50	0.11	20.0000	ND	108	81 - 133
1,1,1-Trichloroethane	26.3500	0.50	0.21	20.0000	ND	132	93 - 149
1,1,2,2-Tetrachloroethane	16.3400	0.50	0.36	20.0000	ND	81.7	69 - 151
1,1,2-Trichloroethane	17.2700	0.50	0.25	20.0000	ND	86.4	78 - 130
1,1-Dichloroethane	23.2100	0.50	0.09	20.0000	ND	116	68 - 135
1,1-Dichloroethene	26.2600	0.50	0.13	20.0000	ND	131	77 - 134



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike (B2F0795-MS1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1-Dichloropropene	16.9000	0.50	0.13	20.0000	ND	84.5	91 - 138			M2
1,2,3-Trichloropropane	17.7300	0.50	0.39	20.0000	ND	88.6	77 - 136			
1,2,3-Trichlorobenzene	19.9900	0.50	0.18	20.0000	ND	100	72 - 129			
1,2,4-Trichlorobenzene	19.8500	0.50	0.16	20.0000	ND	99.2	64 - 135			
1,2,4-Trimethylbenzene	20.1300	0.50	0.14	20.0000	ND	101	10 - 179			
1,2-Dibromo-3-chloropropane	18.3800	0.50	0.41	20.0000	ND	91.9	62 - 153			
1,2-Dibromoethane	21.0400	0.50	0.24	20.0000	ND	105	80 - 132			
1,2-Dichlorobenzene	20.1600	0.50	0.20	20.0000	ND	101	81 - 131			
1,2-Dichloroethane	21.3500	0.50	0.20	20.0000	ND	107	68 - 146			
1,2-Dichloropropane	19.3700	0.50	0.15	20.0000	ND	96.8	74 - 136			
1,3,5-Trimethylbenzene	19.2300	0.50	0.13	20.0000	ND	96.2	66 - 149			
1,3-Dichlorobenzene	19.4400	0.50	0.16	20.0000	ND	97.2	79 - 128			
1,3-Dichloropropane	20.3500	0.50	0.21	20.0000	ND	102	80 - 129			
1,4-Dichlorobenzene	17.7800	0.50	0.17	20.0000	ND	88.9	84 - 121			
2,2-Dichloropropane	23.4000	0.50	0.38	20.0000	ND	117	63 - 179			
2-Chlorotoluene	19.3700	0.50	0.11	20.0000	ND	96.8	76 - 142			
4-Chlorotoluene	19.6800	0.50	0.12	20.0000	ND	98.4	72 - 152			
4-Isopropyltoluene	19.2600	0.50	0.11	20.0000	ND	96.3	84 - 141			
Benzene	17.9500	0.50	0.13	20.0000	ND	89.8	79 - 131			
Bromobenzene	16.4900	0.50	0.21	20.0000	ND	82.4	82 - 121			
Bromodichloromethane	19.2900	0.50	0.14	20.0000	ND	96.4	86 - 138			
Bromoform	18.5500	0.50	0.20	20.0000	ND	92.8	80 - 136			
Bromomethane	26.8500	0.50	0.40	20.0000	ND	134	35 - 194			
Carbon tetrachloride	23.1100	0.50	0.09	20.0000	ND	116	73 - 176			
Chlorobenzene	20.9700	0.50	0.13	20.0000	ND	105	81 - 124			
Chloroethane	27.8400	0.50	0.15	20.0000	ND	139	0 - 257			
Chloroform	26.7200	0.50	0.11	20.0000	ND	134	76 - 139			
Chloromethane	27.9700	0.50	0.12	20.0000	ND	140	27 - 144			
cis-1,2-Dichloroethene	15.4200	0.50	0.14	20.0000	ND	77.1	69 - 139			
cis-1,3-Dichloropropene	17.4300	0.50	0.13	20.0000	ND	87.2	67 - 149			
Dibromochloromethane	20.4200	0.50	0.16	20.0000	ND	102	91 - 131			
Dibromomethane	21.2000	0.50	0.19	20.0000	ND	106	70 - 134			
Dichlorodifluoromethane	34.9900	0.50	0.18	20.0000	ND	175	0 - 161			M2
Ethylbenzene	22.7900	0.50	0.13	20.0000	ND	114	89 - 134			
Hexachlorobutadiene	21.5000	0.50	0.15	20.0000	ND	108	73 - 137			
Isopropylbenzene	16.2700	0.50	0.10	20.0000	ND	81.4	72 - 152			
m,p-Xylene	45.5800	1.0	0.19	40.0000	ND	114	82 - 141			
Methylene chloride	21.2100	1.0	0.71	20.0000	ND	106	74 - 133			
n-Butylbenzene	21.1200	0.50	0.11	20.0000	ND	106	65 - 164			
n-Propylbenzene	17.8200	0.50	0.10	20.0000	ND	89.1	73 - 161			
Naphthalene	20.1400	0.50	0.41	20.0000	ND	101	59 - 105			
o-Xylene	23.7400	0.50	0.13	20.0000	ND	119	90 - 134			
sec-Butylbenzene	21.0300	0.50	0.09	20.0000	ND	105	80 - 157			
Styrene	21.9800	0.50	0.13	20.0000	ND	110	0 - 222			
tert-Butylbenzene	19.5400	0.50	0.09	20.0000	ND	97.7	88 - 141			



Certificate of Analysis

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San Diego , CA 92108

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Report To : Steve Netto

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD RPD	Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike (B2F0795-MS1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

Tetrachloroethene	19.2800	0.50	0.10	20.0000	ND	96.4	75 - 136		
Toluene	18.1400	0.50	0.12	20.0000	ND	90.7	82 - 132		
trans-1,2-Dichloroethene	30.1000	0.50	0.09	20.0000	ND	150	65 - 135		M2
Trichloroethene	20.2600	0.50	0.10	20.0000	ND	101	75 - 128		
Trichlorofluoromethane	33.5900	0.50	0.23	20.0000	ND	168	89 - 143		M2
Vinyl chloride	33.5700	0.50	0.13	20.0000	ND	168	50 - 148		M2

Surrogate: 1,2-Dichloroethane-d4	31.55			25.0000		126	64 - 155		
Surrogate: 4-Bromofluorobenzene	33.39			25.0000		134	73 - 124		S10
Surrogate: Dibromofluoromethane	27.87			25.0000		111	78 - 129		
Surrogate: Toluene-d8	23.56			25.0000		94.2	84 - 117		

Matrix Spike Dup (B2F0795-MSD1)

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

1,1,1,2-Tetrachloroethane	24.0500	0.50	0.11	20.0000	ND	120	81 - 133	10.7	20	
1,1,1-Trichloroethane	25.8800	0.50	0.21	20.0000	ND	129	93 - 149	1.80	20	
1,1,2,2-Tetrachloroethane	19.0200	0.50	0.36	20.0000	ND	95.1	69 - 151	15.2	20	
1,1,2-Trichloroethane	23.1400	0.50	0.25	20.0000	ND	116	78 - 130	29.1	20	R
1,1-Dichloroethane	23.1300	0.50	0.09	20.0000	ND	116	68 - 135	0.345	20	
1,1-Dichloroethene	24.7400	0.50	0.13	20.0000	ND	124	77 - 134	5.96	20	
1,1-Dichloropropene	21.2700	0.50	0.13	20.0000	ND	106	91 - 138	22.9	20	R
1,2,3-Trichloropropane	21.5800	0.50	0.39	20.0000	ND	108	77 - 136	19.6	20	
1,2,3-Trichlorobenzene	24.4000	0.50	0.18	20.0000	ND	122	72 - 129	19.9	20	
1,2,4-Trichlorobenzene	23.9200	0.50	0.16	20.0000	ND	120	64 - 135	18.6	20	
1,2,4-Trimethylbenzene	23.9200	0.50	0.14	20.0000	ND	120	10 - 179	17.2	20	
1,2-Dibromo-3-chloropropane	22.3000	0.50	0.41	20.0000	ND	112	62 - 153	19.3	20	
1,2-Dibromoethane	24.9700	0.50	0.24	20.0000	ND	125	80 - 132	17.1	20	
1,2-Dichlorobenzene	22.9400	0.50	0.20	20.0000	ND	115	81 - 131	12.9	20	
1,2-Dichloroethane	25.7400	0.50	0.20	20.0000	ND	129	68 - 146	18.6	20	
1,2-Dichloropropane	21.1300	0.50	0.15	20.0000	ND	106	74 - 136	8.69	20	
1,3,5-Trimethylbenzene	20.0300	0.50	0.13	20.0000	ND	100	66 - 149	4.08	20	
1,3-Dichlorobenzene	20.1600	0.50	0.16	20.0000	ND	101	79 - 128	3.64	20	
1,3-Dichloropropane	20.5500	0.50	0.21	20.0000	ND	103	80 - 129	0.978	20	
1,4-Dichlorobenzene	21.8700	0.50	0.17	20.0000	ND	109	84 - 121	20.6	20	R
2,2-Dichloropropane	23.3100	0.50	0.38	20.0000	ND	117	63 - 179	0.385	20	
2-Chlorotoluene	20.4800	0.50	0.11	20.0000	ND	102	76 - 142	5.57	20	
4-Chlorotoluene	23.3300	0.50	0.12	20.0000	ND	117	72 - 152	17.0	20	
4-Isopropyltoluene	22.2300	0.50	0.11	20.0000	ND	111	84 - 141	14.3	20	
Benzene	22.2400	0.50	0.13	20.0000	ND	111	79 - 131	21.3	20	R
Bromobenzene	21.8200	0.50	0.21	20.0000	ND	109	82 - 121	27.8	20	R
Bromodichloromethane	24.3400	0.50	0.14	20.0000	ND	122	86 - 138	23.1	20	R
Bromoform	22.5400	0.50	0.20	20.0000	ND	113	80 - 136	19.4	20	
Bromomethane	26.7500	0.50	0.40	20.0000	ND	134	35 - 194	0.373	20	
Carbon tetrachloride	27.9100	0.50	0.09	20.0000	ND	140	73 - 176	18.8	20	
Chlorobenzene	21.0400	0.50	0.13	20.0000	ND	105	81 - 124	0.333	20	
Chloroethane	27.8100	0.50	0.15	20.0000	ND	139	0 - 257	0.108	20	
Chloroform	24.2800	0.50	0.11	20.0000	ND	121	76 - 139	9.57	20	



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3131 Camino De Rio North Suite 355

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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0795 - MSVOA_LL_W (continued)

Matrix Spike Dup (B2F0795-MSD1) - Continued

Source: 2201321-02

Prepared: 6/1/2022 Analyzed: 6/1/2022

Chloromethane	25.8500	0.50	0.12	20.0000	ND	129	27 - 144	7.88	20	
cis-1,2-Dichloroethene	15.2000	0.50	0.14	20.0000	ND	76.0	69 - 139	1.44	20	
cis-1,3-Dichloropropene	22.4700	0.50	0.13	20.0000	ND	112	67 - 149	25.3	20	R
Dibromochloromethane	25.7200	0.50	0.16	20.0000	ND	129	91 - 131	23.0	20	R
Dibromomethane	23.3400	0.50	0.19	20.0000	ND	117	70 - 134	9.61	20	
Dichlorodifluoromethane	38.3500	0.50	0.18	20.0000	ND	192	0 - 161	9.16	20	M2
Ethylbenzene	22.6700	0.50	0.13	20.0000	ND	113	89 - 134	0.528	20	
Hexachlorobutadiene	25.5000	0.50	0.15	20.0000	ND	128	73 - 137	17.0	20	
Isopropylbenzene	22.1700	0.50	0.10	20.0000	ND	111	72 - 152	30.7	20	R
m,p-Xylene	49.0800	1.0	0.19	40.0000	ND	123	82 - 141	7.39	20	
Methylene chloride	24.2300	1.0	0.71	20.0000	ND	121	74 - 133	13.3	20	
n-Butylbenzene	24.1200	0.50	0.11	20.0000	ND	121	65 - 164	13.3	20	
n-Propylbenzene	22.1300	0.50	0.10	20.0000	ND	111	73 - 161	21.6	20	R
Naphthalene	23.2400	0.50	0.41	20.0000	ND	116	59 - 105	14.3	20	M2
o-Xylene	29.6700	0.50	0.13	20.0000	ND	148	90 - 134	22.2	20	M2, R
sec-Butylbenzene	20.8600	0.50	0.09	20.0000	ND	104	80 - 157	0.812	20	
Styrene	26.6500	0.50	0.13	20.0000	ND	133	0 - 222	19.2	20	
tert-Butylbenzene	22.8600	0.50	0.09	20.0000	ND	114	88 - 141	15.7	20	
Tetrachloroethene	21.5500	0.50	0.10	20.0000	ND	108	75 - 136	11.1	20	
Toluene	23.7200	0.50	0.12	20.0000	ND	119	82 - 132	26.7	20	R
trans-1,2-Dichloroethene	29.2800	0.50	0.09	20.0000	ND	146	65 - 135	2.76	20	M2
Trichloroethene	22.1700	0.50	0.10	20.0000	ND	111	75 - 128	9.00	20	
Trichlorofluoromethane	33.1000	0.50	0.23	20.0000	ND	166	89 - 143	1.47	20	M2
Vinyl chloride	30.7200	0.50	0.13	20.0000	ND	154	50 - 148	8.87	20	M2
Surrogate: 1,2-Dichloroethane-d4	29.51			25.0000		118	64 - 155			
Surrogate: 4-Bromofluorobenzene	29.19			25.0000		117	73 - 124			
Surrogate: Dibromofluoromethane	27.58			25.0000		110	78 - 129			
Surrogate: Toluene-d8	26.42			25.0000		106	84 - 117			



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0830 - MSVOA_LL_W

Blank (B2F0830-BLK1)

Prepared: 6/2/2022 Analyzed: 6/2/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



Certificate of Analysis

Hargis & Associates, Inc.

Project Number : Raytheon Main, 532.30

3131 Camino De Rio North Suite 355

Report To : Steve Netto

San Diego , CA 92108

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0830 - MSVOA_LL_W (continued)

Blank (B2F0830-BLK1) - Continued

Prepared: 6/2/2022 Analyzed: 6/2/2022

n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	23.81		25.0000	95.2	64 - 155
Surrogate: 4-Bromofluorobenzene	24.09		25.0000	96.4	73 - 124
Surrogate: Dibromofluoromethane	23.01		25.0000	92.0	78 - 129
Surrogate: Toluene-d8	21.44		25.0000	85.8	84 - 117

LCS (B2F0830-BS1)

Prepared: 6/2/2022 Analyzed: 6/2/2022

1,1,1,2-Tetrachloroethane	17.5500	0.50	0.11	20.0000	87.8	79 - 116	
1,1,1-Trichloroethane	21.3300	0.50	0.21	20.0000	107	73 - 130	
1,1,2,2-Tetrachloroethane	14.4700	0.50	0.36	20.0000	72.4	71 - 122	
1,1,2-Trichloroethane	14.7100	0.50	0.25	20.0000	73.6	70 - 124	
1,1-Dichloroethane	19.3800	0.50	0.09	20.0000	96.9	69 - 128	
1,1-Dichloroethene	16.3900	0.50	0.13	20.0000	82.0	65 - 137	
1,1-Dichloropropene	15.3000	0.50	0.13	20.0000	76.5	74 - 129	
1,2,3-Trichloropropane	17.1400	0.50	0.39	20.0000	85.7	74 - 123	
1,2,3-Trichlorobenzene	15.8600	0.50	0.18	20.0000	79.3	59 - 130	
1,2,4-Trichlorobenzene	16.5600	0.50	0.16	20.0000	82.8	65 - 125	
1,2,4-Trimethylbenzene	16.6300	0.50	0.14	20.0000	83.2	88 - 124	L3
1,2-Dibromo-3-chloropropane	15.8400	0.50	0.41	20.0000	79.2	61 - 127	
1,2-Dibromoethane	14.3800	0.50	0.24	20.0000	71.9	72 - 125	L3
1,2-Dichlorobenzene	16.9800	0.50	0.20	20.0000	84.9	84 - 113	
1,2-Dichloroethane	16.1800	0.50	0.20	20.0000	80.9	68 - 130	
1,2-Dichloropropane	18.1300	0.50	0.15	20.0000	90.6	77 - 121	
1,3,5-Trimethylbenzene	17.5800	0.50	0.13	20.0000	87.9	83 - 124	
1,3-Dichlorobenzene	15.6400	0.50	0.16	20.0000	78.2	83 - 112	L3
1,3-Dichloropropane	15.2900	0.50	0.21	20.0000	76.4	77 - 119	L3
1,4-Dichlorobenzene	16.6000	0.50	0.17	20.0000	83.0	79 - 115	
2,2-Dichloropropane	19.8900	0.50	0.38	20.0000	99.4	67 - 149	
2-Chlorotoluene	16.2200	0.50	0.11	20.0000	81.1	81 - 119	
4-Chlorotoluene	18.4500	0.50	0.12	20.0000	92.2	86 - 117	
4-Isopropyltoluene	17.5200	0.50	0.11	20.0000	87.6	82 - 131	
Benzene	18.6000	0.50	0.13	20.0000	93.0	75 - 124	
Bromobenzene	16.6100	0.50	0.21	20.0000	83.0	82 - 108	
Bromodichloromethane	17.2900	0.50	0.14	20.0000	86.4	80 - 120	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2F0830 - MSVOA_LL_W (continued)

LCS (B2F0830-BS1) - Continued

Prepared: 6/2/2022 Analyzed: 6/2/2022

Bromoform	14.8500	0.50	0.20	20.0000		74.2	70 - 123		
Bromomethane	18.7500	0.50	0.40	20.0000		93.8	44 - 151		
Carbon tetrachloride	18.1000	0.50	0.09	20.0000		90.5	62 - 140		
Chlorobenzene	15.3200	0.50	0.13	20.0000		76.6	80 - 112		L3
Chloroethane	18.1600	0.50	0.15	20.0000		90.8	42 - 167		
Chloroform	20.9000	0.50	0.11	20.0000		104	77 - 122		
Chloromethane	21.3000	0.50	0.12	20.0000		106	33 - 153		
cis-1,2-Dichloroethene	15.8800	0.50	0.14	20.0000		79.4	75 - 121		
cis-1,3-Dichloropropene	15.6100	0.50	0.13	20.0000		78.0	73 - 127		
Dibromochloromethane	16.9000	0.50	0.16	20.0000		84.5	77 - 122		
Dibromomethane	17.5000	0.50	0.19	20.0000		87.5	75 - 121		
Dichlorodifluoromethane	28.5400	0.50	0.18	20.0000		143	0 - 171		
Ethylbenzene	18.4700	0.50	0.13	20.0000		92.4	82 - 119		
Hexachlorobutadiene	17.2600	0.50	0.15	20.0000		86.3	71 - 131		
Isopropylbenzene	17.7700	0.50	0.10	20.0000		88.8	75 - 126		
m,p-Xylene	34.2300	1.0	0.19	40.0000		85.6	86 - 119		L3
Methylene chloride	15.8600	1.0	0.71	20.0000		79.3	76 - 125		
n-Butylbenzene	19.5900	0.50	0.11	20.0000		98.0	81 - 125		
n-Propylbenzene	17.7400	0.50	0.10	20.0000		88.7	78 - 130		
Naphthalene	15.2800	0.50	0.41	20.0000		76.4	47 - 128		
o-Xylene	16.9300	0.50	0.13	20.0000		84.6	85 - 119		L3
sec-Butylbenzene	17.5100	0.50	0.09	20.0000		87.6	78 - 130		
Styrene	16.9000	0.50	0.13	20.0000		84.5	62 - 148		
tert-Butylbenzene	17.6700	0.50	0.09	20.0000		88.4	77 - 125		
Tetrachloroethene	21.1200	0.50	0.10	20.0000		106	73 - 120		
Toluene	18.0900	0.50	0.12	20.0000		90.4	79 - 119		
trans-1,2-Dichloroethene	23.4000	0.50	0.09	20.0000		117	70 - 129		
Trichloroethene	18.2900	0.50	0.10	20.0000		91.4	73 - 117		
Trichlorofluoromethane	22.1400	0.50	0.23	20.0000		111	59 - 135		
Vinyl chloride	19.7600	0.50	0.13	20.0000		98.8	58 - 132		
Surrogate: 1,2-Dichloroethane-d4	27.55			25.0000		110	64 - 155		
Surrogate: 4-Bromofluorobenzene	25.85			25.0000		103	73 - 124		
Surrogate: Dibromofluoromethane	28.45			25.0000		114	78 - 129		
Surrogate: Toluene-d8	24.34			25.0000		97.4	84 - 117		

LCS Dup (B2F0830-BSD1)

Prepared: 6/2/2022 Analyzed: 6/2/2022

1,1,1,2-Tetrachloroethane	18.8600	0.50	0.11	20.0000		94.3	79 - 116	7.20	20	
1,1,1-Trichloroethane	19.5300	0.50	0.21	20.0000		97.6	73 - 130	8.81	20	
1,1,2,2-Tetrachloroethane	17.1000	0.50	0.36	20.0000		85.5	71 - 122	16.7	20	
1,1,2-Trichloroethane	18.4000	0.50	0.25	20.0000		92.0	70 - 124	22.3	20	R
1,1-Dichloroethane	17.4800	0.50	0.09	20.0000		87.4	69 - 128	10.3	20	
1,1-Dichloroethene	18.0400	0.50	0.13	20.0000		90.2	65 - 137	9.58	20	
1,1-Dichloropropene	14.7100	0.50	0.13	20.0000		73.6	74 - 129	3.93	20	L3
1,2,3-Trichloropropane	18.2000	0.50	0.39	20.0000		91.0	74 - 123	6.00	20	
1,2,3-Trichlorobenzene	17.1100	0.50	0.18	20.0000		85.6	59 - 130	7.58	20	



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

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Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0830 - MSVOA_LL_W (continued)

LCS Dup (B2F0830-BSD1) - Continued

Prepared: 6/2/2022 Analyzed: 6/2/2022

1,2,4-Trichlorobenzene	17.4600	0.50	0.16	20.0000		87.3	65 - 125	5.29	20	
1,2,4-Trimethylbenzene	17.2700	0.50	0.14	20.0000		86.4	88 - 124	3.78	20	L3
1,2-Dibromo-3-chloropropane	16.5300	0.50	0.41	20.0000		82.6	61 - 127	4.26	20	
1,2-Dibromoethane	19.6600	0.50	0.24	20.0000		98.3	72 - 125	31.0	20	R
1,2-Dichlorobenzene	16.7300	0.50	0.20	20.0000		83.6	84 - 113	1.48	20	L3
1,2-Dichloroethane	20.8700	0.50	0.20	20.0000		104	68 - 130	25.3	20	R
1,2-Dichloropropane	21.3300	0.50	0.15	20.0000		107	77 - 121	16.2	20	
1,3,5-Trimethylbenzene	16.9900	0.50	0.13	20.0000		85.0	83 - 124	3.41	20	
1,3-Dichlorobenzene	16.9400	0.50	0.16	20.0000		84.7	83 - 112	7.98	20	
1,3-Dichloropropane	19.9300	0.50	0.21	20.0000		99.6	77 - 119	26.3	20	R
1,4-Dichlorobenzene	18.0700	0.50	0.17	20.0000		90.4	79 - 115	8.48	20	
2,2-Dichloropropane	17.6200	0.50	0.38	20.0000		88.1	67 - 149	12.1	20	
2-Chlorotoluene	17.1500	0.50	0.11	20.0000		85.8	81 - 119	5.57	20	
4-Chlorotoluene	17.7800	0.50	0.12	20.0000		88.9	86 - 117	3.70	20	
4-Isopropyltoluene	17.0700	0.50	0.11	20.0000		85.4	82 - 131	2.60	20	
Benzene	16.6700	0.50	0.13	20.0000		83.4	75 - 124	10.9	20	
Bromobenzene	17.8800	0.50	0.21	20.0000		89.4	82 - 108	7.36	20	
Bromodichloromethane	20.6300	0.50	0.14	20.0000		103	80 - 120	17.6	20	
Bromoform	19.2000	0.50	0.20	20.0000		96.0	70 - 123	25.6	20	R
Bromomethane	18.6200	0.50	0.40	20.0000		93.1	44 - 151	0.696	20	
Carbon tetrachloride	17.4100	0.50	0.09	20.0000		87.0	62 - 140	3.89	20	
Chlorobenzene	19.5900	0.50	0.13	20.0000		98.0	80 - 112	24.5	20	R
Chloroethane	22.2100	0.50	0.15	20.0000		111	42 - 167	20.1	20	R
Chloroform	20.5100	0.50	0.11	20.0000		103	77 - 122	1.88	20	
Chloromethane	18.2800	0.50	0.12	20.0000		91.4	33 - 153	15.3	20	
cis-1,2-Dichloroethene	13.4100	0.50	0.14	20.0000		67.0	75 - 121	16.9	20	L4
cis-1,3-Dichloropropene	18.4000	0.50	0.13	20.0000		92.0	73 - 127	16.4	20	
Dibromochloromethane	20.8700	0.50	0.16	20.0000		104	77 - 122	21.0	20	R
Dibromomethane	22.6800	0.50	0.19	20.0000		113	75 - 121	25.8	20	R
Dichlorodifluoromethane	24.1500	0.50	0.18	20.0000		121	0 - 171	16.7	20	
Ethylbenzene	19.5700	0.50	0.13	20.0000		97.8	82 - 119	5.78	20	
Hexachlorobutadiene	16.8300	0.50	0.15	20.0000		84.2	71 - 131	2.52	20	
Isopropylbenzene	17.7600	0.50	0.10	20.0000		88.8	75 - 126	0.0563	20	
m,p-Xylene	39.7400	1.0	0.19	40.0000		99.4	86 - 119	14.9	20	
Methylene chloride	20.3900	1.0	0.71	20.0000		102	76 - 125	25.0	20	R
n-Butylbenzene	17.2000	0.50	0.11	20.0000		86.0	81 - 125	13.0	20	
n-Propylbenzene	16.8400	0.50	0.10	20.0000		84.2	78 - 130	5.21	20	
Naphthalene	15.7700	0.50	0.41	20.0000		78.8	47 - 128	3.16	20	
o-Xylene	20.3900	0.50	0.13	20.0000		102	85 - 119	18.5	20	
sec-Butylbenzene	17.9400	0.50	0.09	20.0000		89.7	78 - 130	2.43	20	
Styrene	19.1200	0.50	0.13	20.0000		95.6	62 - 148	12.3	20	
tert-Butylbenzene	16.7200	0.50	0.09	20.0000		83.6	77 - 125	5.52	20	
Tetrachloroethene	18.9000	0.50	0.10	20.0000		94.5	73 - 120	11.1	20	
Toluene	19.3700	0.50	0.12	20.0000		96.8	79 - 119	6.83	20	
trans-1,2-Dichloroethene	22.2800	0.50	0.09	20.0000		111	70 - 129	4.90	20	



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2F0830 - MSVOA_LL_W (continued)

LCS Dup (B2F0830-BSD1) - Continued

Prepared: 6/2/2022 Analyzed: 6/2/2022

Trichloroethene	7.89000	0.50	0.10	20.0000		39.4	73 - 117	79.4	20	R
Trichlorofluoromethane	23.3300	0.50	0.23	20.0000		117	59 - 135	5.23	20	
Vinyl chloride	21.4800	0.50	0.13	20.0000		107	58 - 132	8.34	20	
Surrogate: 1,2-Dichloroethane-d4	28.00			25.0000		112	64 - 155			
Surrogate: 4-Bromofluorobenzene	28.73			25.0000		115	73 - 124			
Surrogate: Dibromofluoromethane	25.65			25.0000		103	78 - 129			
Surrogate: Toluene-d8	25.43			25.0000		102	84 - 117			



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San Diego , CA 92108

Project Number : Raytheon Main, 532.30

Report To : Steve Netto

Reported : 06/03/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1352 - MSSEMI_W

Blank (B2E1352-BLK1)

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane ND 0.20 0.05

Surrogate: 1,2-Dichlorobenzene-d4	1.068			1.00000		107	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9296			1.00000		93.0	8 - 111			
Surrogate: 4-Terphenyl-d14	1.283			1.00000		128	12 - 113			S12
Surrogate: Nitrobenzene-d5	1.077			1.00000		108	15 - 121			

LCS (B2E1352-BS1)

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane 1.25266 0.20 0.05 1.00000 125 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	1.031			1.00000		103	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9028			1.00000		90.3	8 - 111			
Surrogate: 4-Terphenyl-d14	1.305			1.00000		131	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.9172			1.00000		91.7	15 - 121			

Matrix Spike (B2E1352-MS1)

Source: 2201321-02

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane 1.04303 0.20 0.05 1.00000 ND 104 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	1.064			1.00000		106	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9625			1.00000		96.2	8 - 111			
Surrogate: 4-Terphenyl-d14	1.316			1.00000		132	12 - 113			S10
Surrogate: Nitrobenzene-d5	0.8173			1.00000		81.7	15 - 121			

Matrix Spike Dup (B2E1352-MSD1)

Source: 2201321-02

Prepared: 5/20/2022 Analyzed: 5/23/2022

1,4-Dioxane 1.72586 0.20 0.05 1.00000 ND 173 75 - 155 49.3 20 M2, R

Surrogate: 1,2-Dichlorobenzene-d4	1.091			1.00000		109	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.8982			1.00000		89.8	8 - 111			
Surrogate: 4-Terphenyl-d14	1.234			1.00000		123	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.8746			1.00000		87.5	15 - 121			



PROJECT: Raytheon Main

TASK NO.: 532.30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858.455.6500

Fax 858.455.6533

Date: 05-19-22
Page 1 of 1

2201321

[illegible]

Instructions

Fill out form completely and sign only after verified for completeness
Complete in ballpoint pen. Draw one line through error, initial and date correction
Indicate the number of sample containers in analytical request space; indicate choice with ✓ or x
Note applicable preservatives, special instructions, and deviations from typical environmental samples.
Consult project QA documents for specific instructions.

3.0 Temperature on receipt

Send Results to:
Steve Netto
9171 Towne Centre Drive
Suite 375
San Diego, CA 92122
Ph: 858.455.5400
snetto@hargis.com

ANALYTICAL REPORT

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin, CA 92780
Tel: (714)895-5494

Laboratory Job ID: 570-96662-1
Client Project/Site: Raytheon Main / 532.30

For:
Hargis + Associates, Inc.
3131 Camino del Rio N
Suite 355
San Diego, California 92108

Attn: Steve Netto

Virendra R Patel

Authorized for release by:
5/31/2022 12:08:33 PM

Virendra Patel, Project Manager I
(714)895-5494

Virendra.Patel@et.eurofinsus.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
me	LCS Recovery is within Marginal Exceedance (ME) control limit range (± 4 SD from the mean).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Job ID: 570-96662-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative 570-96662-1

Comments

No additional comments.

Receipt

The samples were received on 5/18/2022 4:07 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.5° C.

GC/MS VOA

Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-237414. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 8260B: The following analyte(s) recovered outside control limits for the LCS/LCSD associated with analytical batch 570-237414: 2,2-Dichloropropane. This is not indicative of a systematic control problem because this was random marginal exceedances. Qualified results have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Client Sample ID: TB-051722B

Lab Sample ID: 570-96662-1

No Detections.

Client Sample ID: MW-33

Lab Sample ID: 570-96662-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,1-Dichloroethene	4.9		0.50	0.21	ug/L		1		8260B	Total/NA
Trichloroethene	0.75		0.50	0.15	ug/L		1		8260B	Total/NA

Client Sample ID: MW-34B

Lab Sample ID: 570-96662-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1,1-Dichloroethane	0.53		0.50	0.21	ug/L		1		8260B	Total/NA
1,1-Dichloroethene	29		0.50	0.21	ug/L		1		8260B	Total/NA
Trichloroethene	0.21	J	0.50	0.15	ug/L		1		8260B	Total/NA
1,4-Dioxane	17		0.50	0.34	ug/L		1		8270C SIM ID	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: TB-051722B
Date Collected: 05/17/22 08:00
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/27/22 12:42	1
1,1,1-Trichloroethane	ND		0.50	0.20	ug/L			05/27/22 12:42	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.14	ug/L			05/27/22 12:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.25	ug/L			05/27/22 12:42	1
1,1,2-Trichloroethane	ND		0.50	0.18	ug/L			05/27/22 12:42	1
1,1-Dichloroethane	ND		0.50	0.21	ug/L			05/27/22 12:42	1
1,1-Dichloroethene	ND		0.50	0.21	ug/L			05/27/22 12:42	1
1,1-Dichloropropene	ND		0.50	0.16	ug/L			05/27/22 12:42	1
1,2,3-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 12:42	1
1,2,3-Trichloropropane	ND		0.50	0.31	ug/L			05/27/22 12:42	1
1,2,4-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 12:42	1
1,2,4-Trimethylbenzene	ND		0.50	0.22	ug/L			05/27/22 12:42	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.84	ug/L			05/27/22 12:42	1
1,2-Dibromoethane	ND		0.50	0.27	ug/L			05/27/22 12:42	1
1,2-Dichlorobenzene	ND		0.50	0.14	ug/L			05/27/22 12:42	1
1,2-Dichloroethane	ND		0.50	0.14	ug/L			05/27/22 12:42	1
1,2-Dichloropropane	ND		0.50	0.14	ug/L			05/27/22 12:42	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			05/27/22 12:42	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/27/22 12:42	1
1,3-Dichloropropane	ND		0.50	0.19	ug/L			05/27/22 12:42	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/27/22 12:42	1
2,2-Dichloropropane	ND	+	0.50	0.26	ug/L			05/27/22 12:42	1
2-Butanone	ND		5.0	2.9	ug/L			05/27/22 12:42	1
2-Chlorotoluene	ND		0.50	0.23	ug/L			05/27/22 12:42	1
2-Hexanone	ND		6.0	2.0	ug/L			05/27/22 12:42	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			05/27/22 12:42	1
4-Methyl-2-pentanone	ND		5.0	1.6	ug/L			05/27/22 12:42	1
Acetone	ND		8.0	3.6	ug/L			05/27/22 12:42	1
Benzene	ND		0.50	0.14	ug/L			05/27/22 12:42	1
Bromobenzene	ND		0.50	0.14	ug/L			05/27/22 12:42	1
Bromochloromethane	ND		1.0	0.27	ug/L			05/27/22 12:42	1
Bromodichloromethane	ND		0.50	0.15	ug/L			05/27/22 12:42	1
Bromoform	ND		0.50	0.28	ug/L			05/27/22 12:42	1
Bromomethane	ND		2.0	1.9	ug/L			05/27/22 12:42	1
cis-1,2-Dichloroethene	ND		0.50	0.16	ug/L			05/27/22 12:42	1
cis-1,3-Dichloropropene	ND		0.50	0.15	ug/L			05/27/22 12:42	1
Carbon disulfide	ND		1.0	0.32	ug/L			05/27/22 12:42	1
Carbon tetrachloride	ND		0.50	0.27	ug/L			05/27/22 12:42	1
Chlorobenzene	ND		0.50	0.12	ug/L			05/27/22 12:42	1
Chloroethane	ND		0.50	0.38	ug/L			05/27/22 12:42	1
Chloroform	ND		0.50	0.17	ug/L			05/27/22 12:42	1
Chloromethane	ND		1.0	0.65	ug/L			05/27/22 12:42	1
Dibromochloromethane	ND		0.50	0.21	ug/L			05/27/22 12:42	1
Dibromomethane	ND		0.50	0.16	ug/L			05/27/22 12:42	1
Dichlorodifluoromethane	ND		1.0	0.51	ug/L			05/27/22 12:42	1
Ethylbenzene	ND		0.50	0.16	ug/L			05/27/22 12:42	1
Isopropylbenzene	ND		0.50	0.21	ug/L			05/27/22 12:42	1
Methylene Chloride	ND		1.0	0.40	ug/L			05/27/22 12:42	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.14	ug/L			05/27/22 12:42	1

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Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-051722B
Date Collected: 05/17/22 08:00
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.55	ug/L			05/27/22 12:42	1
n-Butylbenzene	ND		0.50	0.24	ug/L			05/27/22 12:42	1
N-Propylbenzene	ND		0.50	0.18	ug/L			05/27/22 12:42	1
o-Xylene	ND		0.50	0.18	ug/L			05/27/22 12:42	1
m,p-Xylene	ND		1.0	0.39	ug/L			05/27/22 12:42	1
p-Isopropyltoluene	ND		0.50	0.20	ug/L			05/27/22 12:42	1
sec-Butylbenzene	ND		0.50	0.20	ug/L			05/27/22 12:42	1
Styrene	ND		0.50	0.27	ug/L			05/27/22 12:42	1
trans-1,2-Dichloroethene	ND		0.50	0.22	ug/L			05/27/22 12:42	1
trans-1,3-Dichloropropene	ND		0.50	0.21	ug/L			05/27/22 12:42	1
tert-Butylbenzene	ND		0.50	0.21	ug/L			05/27/22 12:42	1
Tetrachloroethene	ND		0.50	0.16	ug/L			05/27/22 12:42	1
Toluene	ND		0.50	0.14	ug/L			05/27/22 12:42	1
Trichloroethene	ND		0.50	0.15	ug/L			05/27/22 12:42	1
Trichlorofluoromethane	ND		0.50	0.26	ug/L			05/27/22 12:42	1
Vinyl acetate	ND		5.0	3.2	ug/L			05/27/22 12:42	1
Vinyl chloride	ND		0.50	0.23	ug/L			05/27/22 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		64 - 132		05/27/22 12:42	1
4-Bromofluorobenzene (Surr)	96		76 - 120		05/27/22 12:42	1
Dibromofluoromethane	102		80 - 120		05/27/22 12:42	1
Toluene-d8 (Surr)	104		80 - 120		05/27/22 12:42	1

Client Sample ID: MW-33
Date Collected: 05/17/22 11:40
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/27/22 13:34	1
1,1,1-Trichloroethane	ND		0.50	0.20	ug/L			05/27/22 13:34	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.14	ug/L			05/27/22 13:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.25	ug/L			05/27/22 13:34	1
1,1,2-Trichloroethane	ND		0.50	0.18	ug/L			05/27/22 13:34	1
1,1-Dichloroethane	ND		0.50	0.21	ug/L			05/27/22 13:34	1
1,1-Dichloroethene	4.9		0.50	0.21	ug/L			05/27/22 13:34	1
1,1-Dichloropropene	ND		0.50	0.16	ug/L			05/27/22 13:34	1
1,2,3-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 13:34	1
1,2,3-Trichloropropane	ND		0.50	0.31	ug/L			05/27/22 13:34	1
1,2,4-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 13:34	1
1,2,4-Trimethylbenzene	ND		0.50	0.22	ug/L			05/27/22 13:34	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.84	ug/L			05/27/22 13:34	1
1,2-Dibromoethane	ND		0.50	0.27	ug/L			05/27/22 13:34	1
1,2-Dichlorobenzene	ND		0.50	0.14	ug/L			05/27/22 13:34	1
1,2-Dichloroethane	ND		0.50	0.14	ug/L			05/27/22 13:34	1
1,2-Dichloropropane	ND		0.50	0.14	ug/L			05/27/22 13:34	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			05/27/22 13:34	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/27/22 13:34	1
1,3-Dichloropropane	ND		0.50	0.19	ug/L			05/27/22 13:34	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/27/22 13:34	1
2,2-Dichloropropane	ND	++	0.50	0.26	ug/L			05/27/22 13:34	1

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Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-33
Date Collected: 05/17/22 11:40
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone	ND		5.0	2.9	ug/L			05/27/22 13:34	1
2-Chlorotoluene	ND		0.50	0.23	ug/L			05/27/22 13:34	1
2-Hexanone	ND		6.0	2.0	ug/L			05/27/22 13:34	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			05/27/22 13:34	1
4-Methyl-2-pentanone	ND		5.0	1.6	ug/L			05/27/22 13:34	1
Acetone	ND		8.0	3.6	ug/L			05/27/22 13:34	1
Benzene	ND		0.50	0.14	ug/L			05/27/22 13:34	1
Bromobenzene	ND		0.50	0.14	ug/L			05/27/22 13:34	1
Bromochloromethane	ND		1.0	0.27	ug/L			05/27/22 13:34	1
Bromodichloromethane	ND		0.50	0.15	ug/L			05/27/22 13:34	1
Bromoform	ND		0.50	0.28	ug/L			05/27/22 13:34	1
Bromomethane	ND		2.0	1.9	ug/L			05/27/22 13:34	1
cis-1,2-Dichloroethene	ND		0.50	0.16	ug/L			05/27/22 13:34	1
cis-1,3-Dichloropropene	ND		0.50	0.15	ug/L			05/27/22 13:34	1
Carbon disulfide	ND		1.0	0.32	ug/L			05/27/22 13:34	1
Carbon tetrachloride	ND		0.50	0.27	ug/L			05/27/22 13:34	1
Chlorobenzene	ND		0.50	0.12	ug/L			05/27/22 13:34	1
Chloroethane	ND		0.50	0.38	ug/L			05/27/22 13:34	1
Chloroform	ND		0.50	0.17	ug/L			05/27/22 13:34	1
Chloromethane	ND		1.0	0.65	ug/L			05/27/22 13:34	1
Dibromochloromethane	ND		0.50	0.21	ug/L			05/27/22 13:34	1
Dibromomethane	ND		0.50	0.16	ug/L			05/27/22 13:34	1
Dichlorodifluoromethane	ND		1.0	0.51	ug/L			05/27/22 13:34	1
Ethylbenzene	ND		0.50	0.16	ug/L			05/27/22 13:34	1
Isopropylbenzene	ND		0.50	0.21	ug/L			05/27/22 13:34	1
Methylene Chloride	ND		1.0	0.40	ug/L			05/27/22 13:34	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.14	ug/L			05/27/22 13:34	1
Naphthalene	ND		1.0	0.55	ug/L			05/27/22 13:34	1
n-Butylbenzene	ND		0.50	0.24	ug/L			05/27/22 13:34	1
N-Propylbenzene	ND		0.50	0.18	ug/L			05/27/22 13:34	1
o-Xylene	ND		0.50	0.18	ug/L			05/27/22 13:34	1
m,p-Xylene	ND		1.0	0.39	ug/L			05/27/22 13:34	1
p-Isopropyltoluene	ND		0.50	0.20	ug/L			05/27/22 13:34	1
sec-Butylbenzene	ND		0.50	0.20	ug/L			05/27/22 13:34	1
Styrene	ND		0.50	0.27	ug/L			05/27/22 13:34	1
trans-1,2-Dichloroethene	ND		0.50	0.22	ug/L			05/27/22 13:34	1
trans-1,3-Dichloropropene	ND		0.50	0.21	ug/L			05/27/22 13:34	1
tert-Butylbenzene	ND		0.50	0.21	ug/L			05/27/22 13:34	1
Tetrachloroethene	ND		0.50	0.16	ug/L			05/27/22 13:34	1
Toluene	ND		0.50	0.14	ug/L			05/27/22 13:34	1
Trichloroethene	0.75		0.50	0.15	ug/L			05/27/22 13:34	1
Trichlorofluoromethane	ND		0.50	0.26	ug/L			05/27/22 13:34	1
Vinyl acetate	ND		5.0	3.2	ug/L			05/27/22 13:34	1
Vinyl chloride	ND		0.50	0.23	ug/L			05/27/22 13:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		64 - 132		05/27/22 13:34	1
4-Bromofluorobenzene (Surr)	93		76 - 120		05/27/22 13:34	1
Dibromofluoromethane	98		80 - 120		05/27/22 13:34	1
Toluene-d8 (Surr)	105		80 - 120		05/27/22 13:34	1

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Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW-34B
Date Collected: 05/17/22 16:30
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/27/22 14:01	1
1,1,1-Trichloroethane	ND		0.50	0.20	ug/L			05/27/22 14:01	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.14	ug/L			05/27/22 14:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.25	ug/L			05/27/22 14:01	1
1,1,2-Trichloroethane	ND		0.50	0.18	ug/L			05/27/22 14:01	1
1,1-Dichloroethane	0.53		0.50	0.21	ug/L			05/27/22 14:01	1
1,1-Dichloroethene	29		0.50	0.21	ug/L			05/27/22 14:01	1
1,1-Dichloropropene	ND		0.50	0.16	ug/L			05/27/22 14:01	1
1,2,3-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 14:01	1
1,2,3-Trichloropropane	ND		0.50	0.31	ug/L			05/27/22 14:01	1
1,2,4-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 14:01	1
1,2,4-Trimethylbenzene	ND		0.50	0.22	ug/L			05/27/22 14:01	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.84	ug/L			05/27/22 14:01	1
1,2-Dibromoethane	ND		0.50	0.27	ug/L			05/27/22 14:01	1
1,2-Dichlorobenzene	ND		0.50	0.14	ug/L			05/27/22 14:01	1
1,2-Dichloroethane	ND		0.50	0.14	ug/L			05/27/22 14:01	1
1,2-Dichloropropane	ND		0.50	0.14	ug/L			05/27/22 14:01	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			05/27/22 14:01	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/27/22 14:01	1
1,3-Dichloropropane	ND		0.50	0.19	ug/L			05/27/22 14:01	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/27/22 14:01	1
2,2-Dichloropropane	ND	+	0.50	0.26	ug/L			05/27/22 14:01	1
2-Butanone	ND		5.0	2.9	ug/L			05/27/22 14:01	1
2-Chlorotoluene	ND		0.50	0.23	ug/L			05/27/22 14:01	1
2-Hexanone	ND		6.0	2.0	ug/L			05/27/22 14:01	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			05/27/22 14:01	1
4-Methyl-2-pentanone	ND		5.0	1.6	ug/L			05/27/22 14:01	1
Acetone	ND		8.0	3.6	ug/L			05/27/22 14:01	1
Benzene	ND		0.50	0.14	ug/L			05/27/22 14:01	1
Bromobenzene	ND		0.50	0.14	ug/L			05/27/22 14:01	1
Bromochloromethane	ND		1.0	0.27	ug/L			05/27/22 14:01	1
Bromodichloromethane	ND		0.50	0.15	ug/L			05/27/22 14:01	1
Bromoform	ND		0.50	0.28	ug/L			05/27/22 14:01	1
Bromomethane	ND		2.0	1.9	ug/L			05/27/22 14:01	1
cis-1,2-Dichloroethene	ND		0.50	0.16	ug/L			05/27/22 14:01	1
cis-1,3-Dichloropropane	ND		0.50	0.15	ug/L			05/27/22 14:01	1
Carbon disulfide	ND		1.0	0.32	ug/L			05/27/22 14:01	1
Carbon tetrachloride	ND		0.50	0.27	ug/L			05/27/22 14:01	1
Chlorobenzene	ND		0.50	0.12	ug/L			05/27/22 14:01	1
Chloroethane	ND		0.50	0.38	ug/L			05/27/22 14:01	1
Chloroform	ND		0.50	0.17	ug/L			05/27/22 14:01	1
Chloromethane	ND		1.0	0.65	ug/L			05/27/22 14:01	1
Dibromochloromethane	ND		0.50	0.21	ug/L			05/27/22 14:01	1
Dibromomethane	ND		0.50	0.16	ug/L			05/27/22 14:01	1
Dichlorodifluoromethane	ND		1.0	0.51	ug/L			05/27/22 14:01	1
Ethylbenzene	ND		0.50	0.16	ug/L			05/27/22 14:01	1
Isopropylbenzene	ND		0.50	0.21	ug/L			05/27/22 14:01	1
Methylene Chloride	ND		1.0	0.40	ug/L			05/27/22 14:01	1
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.14	ug/L			05/27/22 14:01	1

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Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: MW-34B
Date Collected: 05/17/22 16:30
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.55	ug/L			05/27/22 14:01	1
n-Butylbenzene	ND		0.50	0.24	ug/L			05/27/22 14:01	1
N-Propylbenzene	ND		0.50	0.18	ug/L			05/27/22 14:01	1
o-Xylene	ND		0.50	0.18	ug/L			05/27/22 14:01	1
m,p-Xylene	ND		1.0	0.39	ug/L			05/27/22 14:01	1
p-Isopropyltoluene	ND		0.50	0.20	ug/L			05/27/22 14:01	1
sec-Butylbenzene	ND		0.50	0.20	ug/L			05/27/22 14:01	1
Styrene	ND		0.50	0.27	ug/L			05/27/22 14:01	1
trans-1,2-Dichloroethene	ND		0.50	0.22	ug/L			05/27/22 14:01	1
trans-1,3-Dichloropropene	ND		0.50	0.21	ug/L			05/27/22 14:01	1
tert-Butylbenzene	ND		0.50	0.21	ug/L			05/27/22 14:01	1
Tetrachloroethene	ND		0.50	0.16	ug/L			05/27/22 14:01	1
Toluene	ND		0.50	0.14	ug/L			05/27/22 14:01	1
Trichloroethene	0.21	J	0.50	0.15	ug/L			05/27/22 14:01	1
Trichlorofluoromethane	ND		0.50	0.26	ug/L			05/27/22 14:01	1
Vinyl acetate	ND		5.0	3.2	ug/L			05/27/22 14:01	1
Vinyl chloride	ND		0.50	0.23	ug/L			05/27/22 14:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		64 - 132		05/27/22 14:01	1
4-Bromofluorobenzene (Surr)	92		76 - 120		05/27/22 14:01	1
Dibromofluoromethane	103		80 - 120		05/27/22 14:01	1
Toluene-d8 (Surr)	101		80 - 120		05/27/22 14:01	1

Client Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Client Sample ID: MW-33
Date Collected: 05/17/22 11:40
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.34	ug/L		05/20/22 14:33	05/20/22 23:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	29		21 - 120				05/20/22 14:33	05/20/22 23:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	82		58 - 135				05/20/22 14:33	05/20/22 23:00	1

Client Sample ID: MW-34B
Date Collected: 05/17/22 16:30
Date Received: 05/18/22 16:07

Lab Sample ID: 570-96662-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	17		0.50	0.34	ug/L		05/20/22 14:33	05/21/22 01:39	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	31		21 - 120				05/20/22 14:33	05/21/22 01:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	94		58 - 135				05/20/22 14:33	05/21/22 01:39	1

Surrogate Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (64-132)	BFB (76-120)	DBFM (80-120)	TOL (80-120)
570-96662-1	TB-051722B	107	96	102	104
570-96662-2	MW-33	107	93	98	105
570-96662-3	MW-34B	107	92	103	101
LCS 570-237414/3	Lab Control Sample	101	101	97	100
LCSD 570-237414/4	Lab Control Sample Dup	99	102	98	101
MB 570-237414/6	Method Blank	106	97	102	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NBZ (58-135)
570-96662-2	MW-33	82
570-96662-2 MS	MW-33	76
570-96662-2 MSD	MW-33	83
570-96662-3	MW-34B	94
LCS 570-235846/2-A	Lab Control Sample	86
LCSD 570-235846/3-A	Lab Control Sample Dup	82
MB 570-235846/1-A	Method Blank	96

Surrogate Legend

NBZ = Nitrobenzene-d5

Isotope Dilution Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DXE (21-120)
570-96662-2	MW-33	29
570-96662-2 MS	MW-33	36
570-96662-2 MSD	MW-33	34
570-96662-3	MW-34B	31
LCS 570-235846/2-A	Lab Control Sample	30
LCSD 570-235846/3-A	Lab Control Sample Dup	31
MB 570-235846/1-A	Method Blank	35

Surrogate Legend

DXE = 1,4-Dioxane-d8

QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-237414/6

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50	0.20	ug/L			05/27/22 11:49	1
1,1,1-Trichloroethane	ND		0.50	0.20	ug/L			05/27/22 11:49	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.14	ug/L			05/27/22 11:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.25	ug/L			05/27/22 11:49	1
1,1,2-Trichloroethane	ND		0.50	0.18	ug/L			05/27/22 11:49	1
1,1-Dichloroethane	ND		0.50	0.21	ug/L			05/27/22 11:49	1
1,1-Dichloroethene	ND		0.50	0.21	ug/L			05/27/22 11:49	1
1,1-Dichloropropene	ND		0.50	0.16	ug/L			05/27/22 11:49	1
1,2,3-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 11:49	1
1,2,3-Trichloropropane	ND		0.50	0.31	ug/L			05/27/22 11:49	1
1,2,4-Trichlorobenzene	ND		0.50	0.26	ug/L			05/27/22 11:49	1
1,2,4-Trimethylbenzene	ND		0.50	0.22	ug/L			05/27/22 11:49	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.84	ug/L			05/27/22 11:49	1
1,2-Dibromoethane	ND		0.50	0.27	ug/L			05/27/22 11:49	1
1,2-Dichlorobenzene	ND		0.50	0.14	ug/L			05/27/22 11:49	1
1,2-Dichloroethane	ND		0.50	0.14	ug/L			05/27/22 11:49	1
1,2-Dichloropropane	ND		0.50	0.14	ug/L			05/27/22 11:49	1
1,3,5-Trimethylbenzene	ND		0.50	0.19	ug/L			05/27/22 11:49	1
1,3-Dichlorobenzene	ND		0.50	0.16	ug/L			05/27/22 11:49	1
1,3-Dichloropropane	ND		0.50	0.19	ug/L			05/27/22 11:49	1
1,4-Dichlorobenzene	ND		0.50	0.11	ug/L			05/27/22 11:49	1
2,2-Dichloropropane	ND		0.50	0.26	ug/L			05/27/22 11:49	1
2-Butanone	ND		5.0	2.9	ug/L			05/27/22 11:49	1
2-Chlorotoluene	ND		0.50	0.23	ug/L			05/27/22 11:49	1
2-Hexanone	ND		6.0	2.0	ug/L			05/27/22 11:49	1
4-Chlorotoluene	ND		0.50	0.24	ug/L			05/27/22 11:49	1
4-Methyl-2-pentanone	ND		5.0	1.6	ug/L			05/27/22 11:49	1
Acetone	ND		8.0	3.6	ug/L			05/27/22 11:49	1
Benzene	ND		0.50	0.14	ug/L			05/27/22 11:49	1
Bromobenzene	ND		0.50	0.14	ug/L			05/27/22 11:49	1
Bromochloromethane	ND		1.0	0.27	ug/L			05/27/22 11:49	1
Bromodichloromethane	ND		0.50	0.15	ug/L			05/27/22 11:49	1
Bromoform	ND		0.50	0.28	ug/L			05/27/22 11:49	1
Bromomethane	ND		2.0	1.9	ug/L			05/27/22 11:49	1
cis-1,2-Dichloroethene	ND		0.50	0.16	ug/L			05/27/22 11:49	1
cis-1,3-Dichloropropene	ND		0.50	0.15	ug/L			05/27/22 11:49	1
Carbon disulfide	ND		1.0	0.32	ug/L			05/27/22 11:49	1
Carbon tetrachloride	ND		0.50	0.27	ug/L			05/27/22 11:49	1
Chlorobenzene	ND		0.50	0.12	ug/L			05/27/22 11:49	1
Chloroethane	ND		0.50	0.38	ug/L			05/27/22 11:49	1
Chloroform	ND		0.50	0.17	ug/L			05/27/22 11:49	1
Chloromethane	ND		1.0	0.65	ug/L			05/27/22 11:49	1
Dibromochloromethane	ND		0.50	0.21	ug/L			05/27/22 11:49	1
Dibromomethane	ND		0.50	0.16	ug/L			05/27/22 11:49	1
Dichlorodifluoromethane	ND		1.0	0.51	ug/L			05/27/22 11:49	1
Ethylbenzene	ND		0.50	0.16	ug/L			05/27/22 11:49	1
Isopropylbenzene	ND		0.50	0.21	ug/L			05/27/22 11:49	1
Methylene Chloride	ND		1.0	0.40	ug/L			05/27/22 11:49	1

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QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-237414/6

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl-t-Butyl Ether (MTBE)	ND		0.50	0.14	ug/L			05/27/22 11:49	1
Naphthalene	ND		1.0	0.55	ug/L			05/27/22 11:49	1
n-Butylbenzene	ND		0.50	0.24	ug/L			05/27/22 11:49	1
N-Propylbenzene	ND		0.50	0.18	ug/L			05/27/22 11:49	1
o-Xylene	ND		0.50	0.18	ug/L			05/27/22 11:49	1
m,p-Xylene	ND		1.0	0.39	ug/L			05/27/22 11:49	1
p-Isopropyltoluene	ND		0.50	0.20	ug/L			05/27/22 11:49	1
sec-Butylbenzene	ND		0.50	0.20	ug/L			05/27/22 11:49	1
Styrene	ND		0.50	0.27	ug/L			05/27/22 11:49	1
trans-1,2-Dichloroethene	ND		0.50	0.22	ug/L			05/27/22 11:49	1
trans-1,3-Dichloropropene	ND		0.50	0.21	ug/L			05/27/22 11:49	1
tert-Butylbenzene	ND		0.50	0.21	ug/L			05/27/22 11:49	1
Tetrachloroethene	ND		0.50	0.16	ug/L			05/27/22 11:49	1
Toluene	ND		0.50	0.14	ug/L			05/27/22 11:49	1
Trichloroethene	ND		0.50	0.15	ug/L			05/27/22 11:49	1
Trichlorofluoromethane	ND		0.50	0.26	ug/L			05/27/22 11:49	1
Vinyl acetate	ND		5.0	3.2	ug/L			05/27/22 11:49	1
Vinyl chloride	ND		0.50	0.23	ug/L			05/27/22 11:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		64 - 132		05/27/22 11:49	1
4-Bromofluorobenzene (Surr)	97		76 - 120		05/27/22 11:49	1
Dibromofluoromethane	102		80 - 120		05/27/22 11:49	1
Toluene-d8 (Surr)	103		80 - 120		05/27/22 11:49	1

Lab Sample ID: LCS 570-237414/3

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	10.0	11.15		ug/L		112	80 - 125
1,1,1-Trichloroethane	10.0	11.20		ug/L		112	75 - 121
1,1,2,2-Tetrachloroethane	10.0	10.50		ug/L		105	80 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.976		ug/L		90	56 - 132
1,1,2-Trichloroethane	10.0	11.20		ug/L		112	80 - 121
1,1-Dichloroethane	10.0	10.27		ug/L		103	80 - 120
1,1-Dichloroethene	10.0	9.212		ug/L		92	80 - 126
1,1-Dichloropropene	10.0	10.25		ug/L		102	72 - 122
1,2,3-Trichlorobenzene	10.0	10.13		ug/L		101	80 - 125
1,2,3-Trichloropropane	10.0	10.11		ug/L		101	75 - 127
1,2,4-Trichlorobenzene	10.0	9.827		ug/L		98	80 - 124
1,2,4-Trimethylbenzene	10.0	10.34		ug/L		103	80 - 128
1,2-Dibromo-3-Chloropropane	10.0	9.657		ug/L		97	63 - 123
1,2-Dibromoethane	10.0	10.79		ug/L		108	80 - 125
1,2-Dichlorobenzene	10.0	10.41		ug/L		104	80 - 120
1,2-Dichloroethane	10.0	10.29		ug/L		103	76 - 130
1,2-Dichloropropane	10.0	10.44		ug/L		104	74 - 124
1,3,5-Trimethylbenzene	10.0	10.48		ug/L		105	80 - 122

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QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-237414/3

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,3-Dichlorobenzene	10.0	10.41		ug/L		104	80 - 120
1,3-Dichloropropane	10.0	10.79		ug/L		108	80 - 121
1,4-Dichlorobenzene	10.0	10.38		ug/L		104	80 - 120
2,2-Dichloropropane	10.0	13.90	*+ me	ug/L		139	79 - 131
2-Butanone	10.0	11.00		ug/L		110	48 - 145
2-Chlorotoluene	10.0	10.46		ug/L		105	80 - 120
2-Hexanone	10.0	9.525		ug/L		95	50 - 149
4-Chlorotoluene	10.0	10.21		ug/L		102	80 - 120
4-Methyl-2-pentanone	10.0	9.042		ug/L		90	63 - 120
Acetone	10.0	8.456		ug/L		85	45 - 139
Benzene	10.0	10.28		ug/L		103	80 - 120
Bromobenzene	10.0	10.80		ug/L		108	80 - 125
Bromochloromethane	10.0	9.828		ug/L		98	80 - 120
Bromodichloromethane	10.0	10.97		ug/L		110	73 - 131
Bromoform	10.0	11.12		ug/L		111	76 - 124
Bromomethane	10.0	10.22		ug/L		102	26 - 180
cis-1,2-Dichloroethene	10.0	10.27		ug/L		103	80 - 120
cis-1,3-Dichloropropene	10.0	10.30		ug/L		103	76 - 123
Carbon disulfide	10.0	9.055		ug/L		91	75 - 123
Carbon tetrachloride	10.0	11.48		ug/L		115	61 - 139
Chlorobenzene	10.0	10.73		ug/L		107	80 - 120
Chloroethane	10.0	10.34		ug/L		103	54 - 150
Chloroform	10.0	10.33		ug/L		103	80 - 120
Chloromethane	10.0	10.28		ug/L		103	28 - 151
Dibromochloromethane	10.0	10.88		ug/L		109	74 - 136
Dibromomethane	10.0	10.22		ug/L		102	80 - 122
Dichlorodifluoromethane	10.0	9.613		ug/L		96	27 - 154
Ethylbenzene	10.0	10.57		ug/L		106	80 - 126
Isopropylbenzene	10.0	10.42		ug/L		104	80 - 120
Methylene Chloride	10.0	9.778		ug/L		98	80 - 120
Methyl-t-Butyl Ether (MTBE)	10.0	10.70		ug/L		107	69 - 128
Naphthalene	10.0	9.454		ug/L		95	70 - 130
n-Butylbenzene	10.0	10.03		ug/L		100	78 - 127
N-Propylbenzene	10.0	10.69		ug/L		107	80 - 121
o-Xylene	10.0	10.60		ug/L		106	80 - 124
m,p-Xylene	20.0	21.37		ug/L		107	80 - 123
p-Isopropyltoluene	10.0	10.37		ug/L		104	80 - 128
sec-Butylbenzene	10.0	10.21		ug/L		102	80 - 125
Styrene	10.0	10.66		ug/L		107	80 - 121
trans-1,2-Dichloroethene	10.0	9.699		ug/L		97	79 - 120
trans-1,3-Dichloropropene	10.0	12.26		ug/L		123	80 - 126
tert-Butylbenzene	10.0	10.17		ug/L		102	80 - 121
Tetrachloroethene	10.0	10.25		ug/L		102	80 - 125
Toluene	10.0	10.34		ug/L		103	80 - 120
Trichloroethene	10.0	10.53		ug/L		105	77 - 124
Trichlorofluoromethane	10.0	9.539		ug/L		95	41 - 163
Vinyl acetate	10.0	12.34		ug/L		123	61 - 126
Vinyl chloride	10.0	10.18		ug/L		102	50 - 160

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QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-237414/3

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		64 - 132
4-Bromofluorobenzene (Surr)	101		76 - 120
Dibromofluoromethane	97		80 - 120
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: LCSD 570-237414/4

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	10.0	10.66		ug/L		107	80 - 125	4	20
1,1,1-Trichloroethane	10.0	10.52		ug/L		105	75 - 121	6	20
1,1,2,2-Tetrachloroethane	10.0	10.24		ug/L		102	80 - 120	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.725		ug/L		87	56 - 132	3	22
1,1,2-Trichloroethane	10.0	10.81		ug/L		108	80 - 121	4	20
1,1-Dichloroethane	10.0	9.922		ug/L		99	80 - 120	3	20
1,1-Dichloroethene	10.0	8.938		ug/L		89	80 - 126	3	21
1,1-Dichloropropene	10.0	9.594		ug/L		96	72 - 122	7	20
1,2,3-Trichlorobenzene	10.0	10.04		ug/L		100	80 - 125	1	20
1,2,3-Trichloropropane	10.0	9.900		ug/L		99	75 - 127	2	20
1,2,4-Trichlorobenzene	10.0	9.625		ug/L		96	80 - 124	2	20
1,2,4-Trimethylbenzene	10.0	10.15		ug/L		102	80 - 128	2	20
1,2-Dibromo-3-Chloropropane	10.0	9.833		ug/L		98	63 - 123	2	20
1,2-Dibromoethane	10.0	10.38		ug/L		104	80 - 125	4	20
1,2-Dichlorobenzene	10.0	10.21		ug/L		102	80 - 120	2	20
1,2-Dichloroethane	10.0	10.28		ug/L		103	76 - 130	0	20
1,2-Dichloropropane	10.0	10.50		ug/L		105	74 - 124	1	20
1,3,5-Trimethylbenzene	10.0	10.11		ug/L		101	80 - 122	4	20
1,3-Dichlorobenzene	10.0	10.18		ug/L		102	80 - 120	2	20
1,3-Dichloropropane	10.0	10.50		ug/L		105	80 - 121	3	20
1,4-Dichlorobenzene	10.0	10.05		ug/L		101	80 - 120	3	20
2,2-Dichloropropane	10.0	13.23	*+ me	ug/L		132	79 - 131	5	20
2-Butanone	10.0	10.37		ug/L		104	48 - 145	6	30
2-Chlorotoluene	10.0	9.975		ug/L		100	80 - 120	5	20
2-Hexanone	10.0	9.733		ug/L		97	50 - 149	2	29
4-Chlorotoluene	10.0	9.884		ug/L		99	80 - 120	3	20
4-Methyl-2-pentanone	10.0	9.041		ug/L		90	63 - 120	0	20
Acetone	10.0	8.837		ug/L		88	45 - 139	4	30
Benzene	10.0	10.16		ug/L		102	80 - 120	1	20
Bromobenzene	10.0	10.48		ug/L		105	80 - 125	3	20
Bromochloromethane	10.0	9.520		ug/L		95	80 - 120	3	20
Bromodichloromethane	10.0	10.75		ug/L		108	73 - 131	2	20
Bromoform	10.0	10.79		ug/L		108	76 - 124	3	20
Bromomethane	10.0	9.964		ug/L		100	26 - 180	3	20
cis-1,2-Dichloroethene	10.0	9.908		ug/L		99	80 - 120	4	20
cis-1,3-Dichloropropene	10.0	10.20		ug/L		102	76 - 123	1	20
Carbon disulfide	10.0	8.659		ug/L		87	75 - 123	4	20
Carbon tetrachloride	10.0	10.98		ug/L		110	61 - 139	4	20

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QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-237414/4

Matrix: Water

Analysis Batch: 237414

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chlorobenzene	10.0	10.34		ug/L		103	80 - 120	4	20
Chloroethane	10.0	9.847		ug/L		98	54 - 150	5	25
Chloroform	10.0	10.13		ug/L		101	80 - 120	2	20
Chloromethane	10.0	9.900		ug/L		99	28 - 151	4	20
Dibromochloromethane	10.0	10.22		ug/L		102	74 - 136	6	20
Dibromomethane	10.0	9.996		ug/L		100	80 - 122	2	20
Dichlorodifluoromethane	10.0	9.109		ug/L		91	27 - 154	5	21
Ethylbenzene	10.0	10.15		ug/L		102	80 - 126	4	20
Isopropylbenzene	10.0	10.02		ug/L		100	80 - 120	4	20
Methylene Chloride	10.0	9.296		ug/L		93	80 - 120	5	20
Methyl-t-Butyl Ether (MTBE)	10.0	10.35		ug/L		104	69 - 128	3	20
Naphthalene	10.0	9.222		ug/L		92	70 - 130	2	20
n-Butylbenzene	10.0	9.772		ug/L		98	78 - 127	3	20
N-Propylbenzene	10.0	10.25		ug/L		102	80 - 121	4	20
o-Xylene	10.0	10.21		ug/L		102	80 - 124	4	20
m,p-Xylene	20.0	21.02		ug/L		105	80 - 123	2	20
p-Isopropyltoluene	10.0	9.989		ug/L		100	80 - 128	4	20
sec-Butylbenzene	10.0	9.915		ug/L		99	80 - 125	3	20
Styrene	10.0	10.33		ug/L		103	80 - 121	3	20
trans-1,2-Dichloroethene	10.0	9.159		ug/L		92	79 - 120	6	20
trans-1,3-Dichloropropene	10.0	11.68		ug/L		117	80 - 126	5	20
tert-Butylbenzene	10.0	9.857		ug/L		99	80 - 121	3	20
Tetrachloroethene	10.0	10.20		ug/L		102	80 - 125	0	20
Toluene	10.0	10.18		ug/L		102	80 - 120	2	20
Trichloroethene	10.0	10.55		ug/L		106	77 - 124	0	20
Trichlorofluoromethane	10.0	9.137		ug/L		91	41 - 163	4	21
Vinyl acetate	10.0	11.10		ug/L		111	61 - 126	11	24
Vinyl chloride	10.0	9.769		ug/L		98	50 - 160	4	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		64 - 132
4-Bromofluorobenzene (Surr)	102		76 - 120
Dibromofluoromethane	98		80 - 120
Toluene-d8 (Surr)	101		80 - 120

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 570-235846/1-A

Matrix: Water

Analysis Batch: 235837

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 235846

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.34	ug/L		05/20/22 14:32	05/20/22 21:47	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	35		21 - 120				05/20/22 14:32	05/20/22 21:47	1

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QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) (Continued)

Lab Sample ID: MB 570-235846/1-A
Matrix: Water
Analysis Batch: 235837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 235846

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	96		58 - 135	05/20/22 14:32	05/20/22 21:47	1

Lab Sample ID: LCS 570-235846/2-A
Matrix: Water
Analysis Batch: 235837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 235846

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	20.0	18.90		ug/L		95	63 - 144
Isotope Dilution	%Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8	30		21 - 120				
Surrogate	%Recovery	LCS Qualifier	Limits				
Nitrobenzene-d5	86		58 - 135				

Lab Sample ID: LCSD 570-235846/3-A
Matrix: Water
Analysis Batch: 235837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 235846

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	20.0	19.84		ug/L		99	63 - 144	5	20
Isotope Dilution	%Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8	31		21 - 120						
Surrogate	%Recovery	LCSD Qualifier	Limits						
Nitrobenzene-d5	82		58 - 135						

Lab Sample ID: 570-96662-2 MS
Matrix: Water
Analysis Batch: 235837

Client Sample ID: MW-33
Prep Type: Total/NA
Prep Batch: 235846

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	ND		20.0	18.36		ug/L		92	48 - 164
Isotope Dilution	%Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8	36		21 - 120						
Surrogate	%Recovery	MS Qualifier	Limits						
Nitrobenzene-d5	76		58 - 135						

QC Sample Results

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8270C SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) (Continued)

Lab Sample ID: 570-96662-2 MSD

Matrix: Water

Analysis Batch: 235837

Client Sample ID: MW-33

Prep Type: Total/NA

Prep Batch: 235846

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	ND		20.0	20.20		ug/L	-	101	48 - 164	10	20
MSD MSD											
Isotope Dilution	%Recovery	Qualifier	Limits								
1,4-Dioxane-d8	34		21 - 120								
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
Nitrobenzene-d5	83		58 - 135								

Marginal Exceedance (ME) Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 570-237414/3

Matrix: Water

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,1,1,2-Tetrachloroethane	10.0	11.15		ug/L	112	80 - 125	73 - 133	
1,1,1-Trichloroethane	10.0	11.20		ug/L	112	75 - 121	67 - 129	
1,1,2,2-Tetrachloroethane	10.0	10.50		ug/L	105	80 - 120	73 - 127	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.976		ug/L	90	56 - 132	43 - 145	
1,1,2-Trichloroethane	10.0	11.20		ug/L	112	80 - 121	73 - 128	
1,1-Dichloroethane	10.0	10.27		ug/L	103	80 - 120	73 - 127	
1,1-Dichloroethene	10.0	9.212		ug/L	92	80 - 126	72 - 134	
1,1-Dichloropropene	10.0	10.25		ug/L	102	72 - 122	64 - 130	
1,2,3-Trichlorobenzene	10.0	10.13		ug/L	101	80 - 125	73 - 133	
1,2,3-Trichloropropane	10.0	10.11		ug/L	101	75 - 127	66 - 136	
1,2,4-Trichlorobenzene	10.0	9.827		ug/L	98	80 - 124	73 - 131	
1,2,4-Trimethylbenzene	10.0	10.34		ug/L	103	80 - 128	72 - 136	
1,2-Dibromo-3-Chloropropane	10.0	9.657		ug/L	97	63 - 123	53 - 133	
1,2-Dibromoethane	10.0	10.79		ug/L	108	80 - 125	73 - 133	
1,2-Dichlorobenzene	10.0	10.41		ug/L	104	80 - 120	73 - 127	
1,2-Dichloroethane	10.0	10.29		ug/L	103	76 - 130	67 - 139	
1,2-Dichloropropane	10.0	10.44		ug/L	104	74 - 124	66 - 132	
1,3,5-Trimethylbenzene	10.0	10.48		ug/L	105	80 - 122	73 - 129	
1,3-Dichlorobenzene	10.0	10.41		ug/L	104	80 - 120	73 - 127	
1,3-Dichloropropane	10.0	10.79		ug/L	108	80 - 121	73 - 128	
1,4-Dichlorobenzene	10.0	10.38		ug/L	104	80 - 120	73 - 127	
2,2-Dichloropropane	10.0	13.90	*+ me	ug/L	139	79 - 131	70 - 140	ME
2-Butanone	10.0	11.00		ug/L	110	48 - 145	32 - 161	
2-Chlorotoluene	10.0	10.46		ug/L	105	80 - 120	73 - 127	
2-Hexanone	10.0	9.525		ug/L	95	50 - 149	34 - 166	
4-Chlorotoluene	10.0	10.21		ug/L	102	80 - 120	73 - 127	
4-Methyl-2-pentanone	10.0	9.042		ug/L	90	63 - 120	54 - 130	
Acetone	10.0	8.456		ug/L	85	45 - 139	29 - 155	
Benzene	10.0	10.28		ug/L	103	80 - 120	73 - 127	
Bromobenzene	10.0	10.80		ug/L	108	80 - 125	73 - 133	
Bromochloromethane	10.0	9.828		ug/L	98	80 - 120	73 - 127	
Bromodichloromethane	10.0	10.97		ug/L	110	73 - 131	63 - 141	
Bromoform	10.0	11.12		ug/L	111	76 - 124	68 - 132	
Bromomethane	10.0	10.22		ug/L	102	26 - 180	1 - 206	
cis-1,2-Dichloroethene	10.0	10.27		ug/L	103	80 - 120	73 - 127	
cis-1,3-Dichloropropene	10.0	10.30		ug/L	103	76 - 123	68 - 131	
Carbon disulfide	10.0	9.055		ug/L	91	75 - 123	67 - 131	
Carbon tetrachloride	10.0	11.48		ug/L	115	61 - 139	48 - 152	
Chlorobenzene	10.0	10.73		ug/L	107	80 - 120	73 - 127	
Chloroethane	10.0	10.34		ug/L	103	54 - 150	38 - 166	
Chloroform	10.0	10.33		ug/L	103	80 - 120	73 - 127	
Chloromethane	10.0	10.28		ug/L	103	28 - 151	8 - 172	
Dibromochloromethane	10.0	10.88		ug/L	109	74 - 136	64 - 146	
Dibromomethane	10.0	10.22		ug/L	102	80 - 122	73 - 129	
Dichlorodifluoromethane	10.0	9.613		ug/L	96	27 - 154	6 - 175	
Ethylbenzene	10.0	10.57		ug/L	106	80 - 126	72 - 134	
Isopropylbenzene	10.0	10.42		ug/L	104	80 - 120	73 - 127	
Methylene Chloride	10.0	9.778		ug/L	98	80 - 120	73 - 127	
Methyl-t-Butyl Ether (MTBE)	10.0	10.70		ug/L	107	69 - 128	59 - 138	

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Marginal Exceedance (ME) Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-237414/3

Matrix: Water

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
Naphthalene	10.0	9.454		ug/L	95	70 - 130	60 - 140	
n-Butylbenzene	10.0	10.03		ug/L	100	78 - 127	70 - 135	
N-Propylbenzene	10.0	10.69		ug/L	107	80 - 121	73 - 128	
o-Xylene	10.0	10.60		ug/L	106	80 - 124	73 - 131	
m,p-Xylene	20.0	21.37		ug/L	107	80 - 123	73 - 130	
p-Isopropyltoluene	10.0	10.37		ug/L	104	80 - 128	72 - 136	
sec-Butylbenzene	10.0	10.21		ug/L	102	80 - 125	73 - 133	
Styrene	10.0	10.66		ug/L	107	80 - 121	73 - 128	
trans-1,2-Dichloroethene	10.0	9.699		ug/L	97	79 - 120	72 - 127	
trans-1,3-Dichloropropene	10.0	12.26		ug/L	123	80 - 126	72 - 134	
tert-Butylbenzene	10.0	10.17		ug/L	102	80 - 121	73 - 128	
Tetrachloroethene	10.0	10.25		ug/L	102	80 - 125	73 - 133	
Toluene	10.0	10.34		ug/L	103	80 - 120	73 - 127	
Trichloroethene	10.0	10.53		ug/L	105	77 - 124	69 - 132	
Trichlorofluoromethane	10.0	9.539		ug/L	95	41 - 163	21 - 183	
Vinyl acetate	10.0	12.34		ug/L	123	61 - 126	50 - 137	
Vinyl chloride	10.0	10.18		ug/L	102	50 - 160	32 - 178	

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
66	3	1

ME = Marginal Exceedance

Lab Sample ID: LCSD 570-237414/4

Matrix: Water

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
1,1,1,2-Tetrachloroethane	10.0	10.66		ug/L	107	80 - 125	73 - 133	
1,1,1-Trichloroethane	10.0	10.52		ug/L	105	75 - 121	67 - 129	
1,1,2,2-Tetrachloroethane	10.0	10.24		ug/L	102	80 - 120	73 - 127	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.725		ug/L	87	56 - 132	43 - 145	
1,1,2-Trichloroethane	10.0	10.81		ug/L	108	80 - 121	73 - 128	
1,1-Dichloroethane	10.0	9.922		ug/L	99	80 - 120	73 - 127	
1,1-Dichloroethene	10.0	8.938		ug/L	89	80 - 126	72 - 134	
1,1-Dichloropropene	10.0	9.594		ug/L	96	72 - 122	64 - 130	
1,2,3-Trichlorobenzene	10.0	10.04		ug/L	100	80 - 125	73 - 133	
1,2,3-Trichloropropane	10.0	9.900		ug/L	99	75 - 127	66 - 136	
1,2,4-Trichlorobenzene	10.0	9.625		ug/L	96	80 - 124	73 - 131	
1,2,4-Trimethylbenzene	10.0	10.15		ug/L	102	80 - 128	72 - 136	
1,2-Dibromo-3-Chloropropane	10.0	9.833		ug/L	98	63 - 123	53 - 133	
1,2-Dibromoethane	10.0	10.38		ug/L	104	80 - 125	73 - 133	
1,2-Dichlorobenzene	10.0	10.21		ug/L	102	80 - 120	73 - 127	
1,2-Dichloroethane	10.0	10.28		ug/L	103	76 - 130	67 - 139	
1,2-Dichloropropane	10.0	10.50		ug/L	105	74 - 124	66 - 132	
1,3,5-Trimethylbenzene	10.0	10.11		ug/L	101	80 - 122	73 - 129	
1,3-Dichlorobenzene	10.0	10.18		ug/L	102	80 - 120	73 - 127	
1,3-Dichloropropane	10.0	10.50		ug/L	105	80 - 121	73 - 128	
1,4-Dichlorobenzene	10.0	10.05		ug/L	101	80 - 120	73 - 127	

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Marginal Exceedance (ME) Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-237414/4
Matrix: Water

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	%Rec	%Rec. Limits	ME %Rec. Limits	Marginal Exceedance Status
2,2-Dichloropropane	10.0	13.23	*+ me	ug/L	132	79 - 131	70 - 140	ME
2-Butanone	10.0	10.37		ug/L	104	48 - 145	32 - 161	
2-Chlorotoluene	10.0	9.975		ug/L	100	80 - 120	73 - 127	
2-Hexanone	10.0	9.733		ug/L	97	50 - 149	34 - 166	
4-Chlorotoluene	10.0	9.884		ug/L	99	80 - 120	73 - 127	
4-Methyl-2-pentanone	10.0	9.041		ug/L	90	63 - 120	54 - 130	
Acetone	10.0	8.837		ug/L	88	45 - 139	29 - 155	
Benzene	10.0	10.16		ug/L	102	80 - 120	73 - 127	
Bromobenzene	10.0	10.48		ug/L	105	80 - 125	73 - 133	
Bromochloromethane	10.0	9.520		ug/L	95	80 - 120	73 - 127	
Bromodichloromethane	10.0	10.75		ug/L	108	73 - 131	63 - 141	
Bromoform	10.0	10.79		ug/L	108	76 - 124	68 - 132	
Bromomethane	10.0	9.964		ug/L	100	26 - 180	1 - 206	
cis-1,2-Dichloroethene	10.0	9.908		ug/L	99	80 - 120	73 - 127	
cis-1,3-Dichloropropene	10.0	10.20		ug/L	102	76 - 123	68 - 131	
Carbon disulfide	10.0	8.659		ug/L	87	75 - 123	67 - 131	
Carbon tetrachloride	10.0	10.98		ug/L	110	61 - 139	48 - 152	
Chlorobenzene	10.0	10.34		ug/L	103	80 - 120	73 - 127	
Chloroethane	10.0	9.847		ug/L	98	54 - 150	38 - 166	
Chloroform	10.0	10.13		ug/L	101	80 - 120	73 - 127	
Chloromethane	10.0	9.900		ug/L	99	28 - 151	8 - 172	
Dibromochloromethane	10.0	10.22		ug/L	102	74 - 136	64 - 146	
Dibromomethane	10.0	9.996		ug/L	100	80 - 122	73 - 129	
Dichlorodifluoromethane	10.0	9.109		ug/L	91	27 - 154	6 - 175	
Ethylbenzene	10.0	10.15		ug/L	102	80 - 126	72 - 134	
Isopropylbenzene	10.0	10.02		ug/L	100	80 - 120	73 - 127	
Methylene Chloride	10.0	9.296		ug/L	93	80 - 120	73 - 127	
Methyl-t-Butyl Ether (MTBE)	10.0	10.35		ug/L	104	69 - 128	59 - 138	
Naphthalene	10.0	9.222		ug/L	92	70 - 130	60 - 140	
n-Butylbenzene	10.0	9.772		ug/L	98	78 - 127	70 - 135	
N-Propylbenzene	10.0	10.25		ug/L	102	80 - 121	73 - 128	
o-Xylene	10.0	10.21		ug/L	102	80 - 124	73 - 131	
m,p-Xylene	20.0	21.02		ug/L	105	80 - 123	73 - 130	
p-Isopropyltoluene	10.0	9.989		ug/L	100	80 - 128	72 - 136	
sec-Butylbenzene	10.0	9.915		ug/L	99	80 - 125	73 - 133	
Styrene	10.0	10.33		ug/L	103	80 - 121	73 - 128	
trans-1,2-Dichloroethene	10.0	9.159		ug/L	92	79 - 120	72 - 127	
trans-1,3-Dichloropropene	10.0	11.68		ug/L	117	80 - 126	72 - 134	
tert-Butylbenzene	10.0	9.857		ug/L	99	80 - 121	73 - 128	
Tetrachloroethene	10.0	10.20		ug/L	102	80 - 125	73 - 133	
Toluene	10.0	10.18		ug/L	102	80 - 120	73 - 127	
Trichloroethene	10.0	10.55		ug/L	106	77 - 124	69 - 132	
Trichlorofluoromethane	10.0	9.137		ug/L	91	41 - 163	21 - 183	
Vinyl acetate	10.0	11.10		ug/L	111	61 - 126	50 - 137	
Vinyl chloride	10.0	9.769		ug/L	98	50 - 160	32 - 178	

Summary

Number of Analytes Reported	Number of Marginal Exceedances Allowed	Number of Marginal Exceedances Found
66	3	1

Eurofins Calscience

Marginal Exceedance (ME) Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

ME = Marginal Exceedance

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

QC Association Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

GC/MS VOA

Analysis Batch: 237414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-96662-1	TB-051722B	Total/NA	Water	8260B	
570-96662-2	MW-33	Total/NA	Water	8260B	
570-96662-3	MW-34B	Total/NA	Water	8260B	
MB 570-237414/6	Method Blank	Total/NA	Water	8260B	
LCS 570-237414/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 570-237414/4	Lab Control Sample Dup	Total/NA	Water	8260B	

GC/MS Semi VOA

Analysis Batch: 235837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-96662-2	MW-33	Total/NA	Water	8270C SIM ID	235846
570-96662-3	MW-34B	Total/NA	Water	8270C SIM ID	235846
MB 570-235846/1-A	Method Blank	Total/NA	Water	8270C SIM ID	235846
LCS 570-235846/2-A	Lab Control Sample	Total/NA	Water	8270C SIM ID	235846
LCSD 570-235846/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM ID	235846
570-96662-2 MS	MW-33	Total/NA	Water	8270C SIM ID	235846
570-96662-2 MSD	MW-33	Total/NA	Water	8270C SIM ID	235846

Prep Batch: 235846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-96662-2	MW-33	Total/NA	Water	3510C	
570-96662-3	MW-34B	Total/NA	Water	3510C	
MB 570-235846/1-A	Method Blank	Total/NA	Water	3510C	
LCS 570-235846/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 570-235846/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
570-96662-2 MS	MW-33	Total/NA	Water	3510C	
570-96662-2 MSD	MW-33	Total/NA	Water	3510C	

Lab Chronicle

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Client Sample ID: TB-051722B

Lab Sample ID: 570-96662-1

Date Collected: 05/17/22 08:00

Matrix: Water

Date Received: 05/18/22 16:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	237414	05/27/22 12:42	UJHB	ECL 4
Instrument ID: GCMSVV										

Client Sample ID: MW-33

Lab Sample ID: 570-96662-2

Date Collected: 05/17/22 11:40

Matrix: Water

Date Received: 05/18/22 16:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	237414	05/27/22 13:34	UJHB	ECL 4
Instrument ID: GCMSVV										
Total/NA	Prep	3510C			100 mL	10 mL	235846	05/20/22 14:33	RY4P	ECL 4
Total/NA	Analysis	8270C SIM ID		1			235837	05/20/22 23:00	N8CZ	ECL 4
Instrument ID: GCMSDDD										

Client Sample ID: MW-34B

Lab Sample ID: 570-96662-3

Date Collected: 05/17/22 16:30

Matrix: Water

Date Received: 05/18/22 16:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	237414	05/27/22 14:01	UJHB	ECL 4
Instrument ID: GCMSVV										
Total/NA	Prep	3510C			100 mL	10 mL	235846	05/20/22 14:33	RY4P	ECL 4
Total/NA	Analysis	8270C SIM ID		1			235837	05/21/22 01:39	N8CZ	ECL 4
Instrument ID: GCMSDDD										

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	CA300001	01-31-23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

Method Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	ECL 4
8270C SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	ECL 4
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ECL 4
5030C	Purge and Trap	SW846	ECL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ECL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: Hargis + Associates, Inc.
Project/Site: Raytheon Main / 532.30

Job ID: 570-96662-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-96662-1	TB-051722B	Water	05/17/22 08:00	05/18/22 16:07
570-96662-2	MW-33	Water	05/17/22 11:40	05/18/22 16:07
570-96662-3	MW-34B	Water	05/17/22 16:30	05/18/22 16:07

Date 05/18/22
Page 1 of 1

PROJECT Raytheon Main

TASK NO 532 30

Project Manager Steve Netto

QA Manager Andrew Donnelly

Phone 858 455 6500

Fax 858 455 6533

[illegible]

Page 30 of 31

Relinquished By / Company 	Date / Time 09-18-22 1525	Received By / Company 	Date / Time 5-18-22 15 25
Relinquished By / Company 	Date / Time 5-18-22 1607	Received By / Company 	Date / Time 5-18-2022 16:07

☐	No. of containers correct
☐	Received in good condition
☐	Custody seals secure
☐	Conforms to COC document

Send Results to

Steve Netto

~~9171 Towne Centre Drive~~

~~Seite 375~~

~~San Diego, CA 92122~~

Ph 858 455 5400

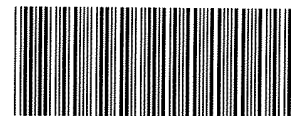
snetto@hargis.com

Instructions

- 1 Fill out form completely and sign only after verified for completeness
2. Complete in ballpoint pen Draw one line through error initial and date correction
- 3 Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ×
- 4 Note applicable preservatives, special instructions, and deviations from typical environmental samples
- 5 Consult project QA documents for specific instructions.

Temperature on receipt

38/55 IR90



570-96662 Chain of Custody

3131 Camino Del Rio N
Suite 355
San Diego, CA 92108

Login Sample Receipt Checklist

Client: Hargis + Associates, Inc.

Job Number: 570-96662-1

Login Number: 96662

List Source: Eurofins Calscience

List Number: 1

Creator: Cortez Diaz, Antonio

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
ANALYTICAL RESULTS



April 01, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2200289

Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on March 03, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Victoria Michel', followed by a small flourish.

Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 04/01/22 11:26 on Behalf of

A handwritten signature in black ink, appearing to read 'Amy Leung'.

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-030322	2200289-01	Groundwater	3/03/22 8:00	3/03/22 16:02
CEFF	2200289-02	Groundwater	3/03/22 9:30	3/03/22 16:02
CBT	2200289-03	Groundwater	3/03/22 9:40	3/03/22 16:02
POX	2200289-04	Groundwater	3/03/22 9:45	3/03/22 16:02
PF	2200289-05	Groundwater	3/03/22 9:50	3/03/22 16:02
INF	2200289-06	Groundwater	3/03/22 9:55	3/03/22 16:02
EW-02	2200289-07	Groundwater	3/03/22 10:25	3/03/22 16:02
MW-29	2200289-08	Groundwater	3/03/22 10:50	3/03/22 16:02



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Notes and Definitions

S15	Surrogate recovery outside laboratory acceptance limit. However, the surrogate is not associated with the target analyte.
S12	Surrogate recovery outside in-house established limit but within method default criteria.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L2	Laboratory Control Sample and/ or Laboratory Control Sample Duplicate outside of acceptance limits. Reextraction and/or reanalysis is not possible due to limited amount of sample.
E12	Internal standard was added before extract, hence, result in low recovery.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

Bromide by Ion Chromatography EPA 300

Analyte: Bromide

Analyst: VJ

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time	Notes
								Analyzed	
2200289-06	INF	1.0	mg/L	0.05	1	B2C1205	03/16/2022	03/16/22 16:17	
2200289-07	EW-02	0.80	mg/L	0.05	1	B2C1205	03/16/2022	03/16/22 16:28	
2200289-08	MW-29	0.71	mg/L	0.05	1	B2C1205	03/16/2022	03/16/22 17:05	

UV Absorption by EPA 415.3

Analyte: UV Absorption

Analyst: JF

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time	Notes
								Analyzed	
2200289-05	PF	ND	1/cm	0.01	1	B2C0962	03/04/2022	03/04/22 15:41	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D

Analyte: Residue, Suspended

Analyst: LN

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200289-05	PF	ND	mg/L	1.0	1	B2C1050	03/09/2022	03/09/22 18:16	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: TB-030322

Lab ID: 2200289-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: TB-030322

Lab ID: 2200289-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 12:42	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 12:42	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Trichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 12:42	
Surrogate: 1,2-Dichloroethane-d4	110 %	64 - 155		B2C0949	03/04/2022	03/04/22 12:42	
Surrogate: 4-Bromofluorobenzene	97.2 %	73 - 124		B2C0949	03/04/2022	03/04/22 12:42	
Surrogate: Dibromofluoromethane	108 %	78 - 129		B2C0949	03/04/2022	03/04/22 12:42	
Surrogate: Toluene-d8	99.7 %	84 - 117		B2C0949	03/04/2022	03/04/22 12:42	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: CEFF

Lab ID: 2200289-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: CEFF

Lab ID: 2200289-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:07	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:07	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Trichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:07	
Surrogate: 1,2-Dichloroethane-d4	110 %	64 - 155		B2C0949	03/04/2022	03/04/22 13:07	
Surrogate: 4-Bromofluorobenzene	98.7 %	73 - 124		B2C0949	03/04/2022	03/04/22 13:07	
Surrogate: Dibromofluoromethane	110 %	78 - 129		B2C0949	03/04/2022	03/04/22 13:07	
Surrogate: Toluene-d8	102 %	84 - 117		B2C0949	03/04/2022	03/04/22 13:07	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2C0960	03/04/2022	03/07/22 13:02	
Surrogate: 1,2-Dichlorobenzene-d4	108 %	13 - 99		B2C0960	03/04/2022	03/07/22 13:02	S12
Surrogate: 2-Fluorobiphenyl	119 %	8 - 111		B2C0960	03/04/2022	03/07/22 13:02	S12
Surrogate: 4-Terphenyl-d14	132 %	12 - 113		B2C0960	03/04/2022	03/07/22 13:02	S15
Surrogate: Nitrobenzene-d5	74.1 %	15 - 121		B2C0960	03/04/2022	03/07/22 13:02	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: CBT

Lab ID: 2200289-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: CBT

Lab ID: 2200289-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:32	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:32	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Trichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:32	
Surrogate: 1,2-Dichloroethane-d4	111 %	64 - 155		B2C0949	03/04/2022	03/04/22 13:32	
Surrogate: 4-Bromofluorobenzene	97.6 %	73 - 124		B2C0949	03/04/2022	03/04/22 13:32	
Surrogate: Dibromofluoromethane	109 %	78 - 129		B2C0949	03/04/2022	03/04/22 13:32	
Surrogate: Toluene-d8	102 %	84 - 117		B2C0949	03/04/2022	03/04/22 13:32	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2C0960	03/04/2022	03/07/22 13:28	
Surrogate: 1,2-Dichlorobenzene-d4	188 %	13 - 99		B2C0960	03/04/2022	03/07/22 13:28	S15
Surrogate: 2-Fluorobiphenyl	116 %	8 - 111		B2C0960	03/04/2022	03/07/22 13:28	S12
Surrogate: 4-Terphenyl-d14	32.3 %	12 - 113		B2C0960	03/04/2022	03/07/22 13:28	
Surrogate: Nitrobenzene-d5	138 %	15 - 121		B2C0960	03/04/2022	03/07/22 13:28	S15



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: POX

Lab ID: 2200289-04

Alkalinity, Speciated by SM 2320B

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO₃)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Total (as CaCO₃)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: POX

Lab ID: 2200289-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:57	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 13:57	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Trichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 13:57	
Surrogate: 1,2-Dichloroethane-d4	115 %	64 - 155		B2C0949	03/04/2022	03/04/22 13:57	
Surrogate: 4-Bromofluorobenzene	98.6 %	73 - 124		B2C0949	03/04/2022	03/04/22 13:57	
Surrogate: Dibromofluoromethane	108 %	78 - 129		B2C0949	03/04/2022	03/04/22 13:57	
Surrogate: Toluene-d8	98.7 %	84 - 117		B2C0949	03/04/2022	03/04/22 13:57	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2C0960	03/04/2022	03/07/22 13:54	
Surrogate: 1,2-Dichlorobenzene-d4	108 %	13 - 99		B2C0960	03/04/2022	03/07/22 13:54	S12
Surrogate: 2-Fluorobiphenyl	122 %	8 - 111		B2C0960	03/04/2022	03/07/22 13:54	S12



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: POX

Lab ID: 2200289-04

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Surrogate: 4-Terphenyl-d14	136 %	12 - 113		B2C0960	03/04/2022	03/07/22 13:54	S15
Surrogate: Nitrobenzene-d5	71.9 %	15 - 121		B2C0960	03/04/2022	03/07/22 13:54	

Client Sample ID: PF

Lab ID: 2200289-05

Alkalinity, Speciated by SM 2320B

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Total (as CaCO3)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: INF

Lab ID: 2200289-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1-Dichloroethene	52	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: INF

Lab ID: 2200289-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 14:22	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 14:22	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Trichloroethene	0.52	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:22	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>113 %</i>	<i>64 - 155</i>		B2C0949	03/04/2022	<i>03/04/22 14:22</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.8 %</i>	<i>73 - 124</i>		B2C0949	03/04/2022	<i>03/04/22 14:22</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>111 %</i>	<i>78 - 129</i>		B2C0949	03/04/2022	<i>03/04/22 14:22</i>	
<i>Surrogate: Toluene-d8</i>	<i>99.2 %</i>	<i>84 - 117</i>		B2C0949	03/04/2022	<i>03/04/22 14:22</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	25	2.0	1	B2C0957	03/04/2022	03/04/22 16:33	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>111 %</i>	<i>17 - 119</i>		B2C0957	03/04/2022	<i>03/04/22 16:33</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>102 %</i>	<i>10 - 133</i>		B2C0957	03/04/2022	<i>03/04/22 16:33</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>112 %</i>	<i>5 - 139</i>		B2C0957	03/04/2022	<i>03/04/22 16:33</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>92.4 %</i>	<i>13 - 150</i>		B2C0957	03/04/2022	<i>03/04/22 16:33</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: EW-02

Lab ID: 2200289-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1,2-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1-Dichloroethene	11	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Chloromethane	0.54	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: EW-02

Lab ID: 2200289-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 14:46	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 14:46	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Tetrachloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Trichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Trichlorofluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 14:46	
Surrogate: 1,2-Dichloroethane-d4	115 %	64 - 155		B2C0949	03/04/2022	03/04/22 14:46	
Surrogate: 4-Bromofluorobenzene	98.6 %	73 - 124		B2C0949	03/04/2022	03/04/22 14:46	
Surrogate: Dibromofluoromethane	113 %	78 - 129		B2C0949	03/04/2022	03/04/22 14:46	
Surrogate: Toluene-d8	101 %	84 - 117		B2C0949	03/04/2022	03/04/22 14:46	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	1	B2C0957	03/04/2022	03/04/22 17:00	
Surrogate: 1,2-Dichlorobenzene-d4	99.2 %	17 - 119		B2C0957	03/04/2022	03/04/22 17:00	
Surrogate: 2-Fluorobiphenyl	103 %	10 - 133		B2C0957	03/04/2022	03/04/22 17:00	
Surrogate: 4-Terphenyl-d14	113 %	5 - 139		B2C0957	03/04/2022	03/04/22 17:00	
Surrogate: Nitrobenzene-d5	85.9 %	13 - 150		B2C0957	03/04/2022	03/04/22 17:00	



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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: MW-29

Lab ID: 2200289-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,1,1-Trichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,1,2-Trichloroethane	0.50	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,1-Dichloroethane	1.5	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,1-Dichloroethene	180	5.0	10	B2C0949	03/04/2022	03/04/22 15:36	
1,1-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2,3-Trichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2,3-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2,4-Trichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2,4-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2-Dibromoethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2-Dichloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,3,5-Trimethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,3-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,3-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
1,4-Dichlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
2,2-Dichloropropane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
2-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
4-Chlorotoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
4-Isopropyltoluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Benzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Bromobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Bromodichloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Bromoform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Bromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Carbon tetrachloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Chlorobenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Chloroethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Chloroform	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Chloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
cis-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
cis-1,3-Dichloropropene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Dibromochloromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Dibromomethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Dichlorodifluoromethane	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Ethylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Client Sample ID: MW-29

Lab ID: 2200289-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Isopropylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
m,p-Xylene	ND	1.0	1	B2C0949	03/04/2022	03/04/22 15:11	
Methylene chloride	ND	1.0	1	B2C0949	03/04/2022	03/04/22 15:11	
n-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
n-Propylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Naphthalene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
o-Xylene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
sec-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Styrene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
tert-Butylbenzene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Tetrachloroethene	0.51	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Toluene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
trans-1,2-Dichloroethene	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Trichloroethene	1.6	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Trichlorofluoromethane	0.71	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
Vinyl chloride	ND	0.50	1	B2C0949	03/04/2022	03/04/22 15:11	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>	<i>64 - 155</i>		B2C0949	03/04/2022	<i>03/04/22 15:11</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>111 %</i>	<i>64 - 155</i>		B2C0949	03/04/2022	<i>03/04/22 15:36</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96.5 %</i>	<i>73 - 124</i>		B2C0949	03/04/2022	<i>03/04/22 15:11</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.5 %</i>	<i>73 - 124</i>		B2C0949	03/04/2022	<i>03/04/22 15:36</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>	<i>78 - 129</i>		B2C0949	03/04/2022	<i>03/04/22 15:36</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>	<i>78 - 129</i>		B2C0949	03/04/2022	<i>03/04/22 15:11</i>	
<i>Surrogate: Toluene-d8</i>	<i>99.7 %</i>	<i>84 - 117</i>		B2C0949	03/04/2022	<i>03/04/22 15:36</i>	
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>	<i>84 - 117</i>		B2C0949	03/04/2022	<i>03/04/22 15:11</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	89	2.0	1	B2C0957	03/04/2022	03/04/22 17:26	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>101 %</i>	<i>17 - 119</i>		B2C0957	03/04/2022	<i>03/04/22 17:26</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>101 %</i>	<i>10 - 133</i>		B2C0957	03/04/2022	<i>03/04/22 17:26</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>111 %</i>	<i>5 - 139</i>		B2C0957	03/04/2022	<i>03/04/22 17:26</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>87.3 %</i>	<i>13 - 150</i>		B2C0957	03/04/2022	<i>03/04/22 17:26</i>	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

QUALITY CONTROL SECTION

Alkalinity, Speciated by SM 2320B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1097 - No_Prep_WC1_W

Blank (B2C1097-BLK1)

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Bicarbonate (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Total (as CaCO ₃)	ND	5.0	3.4

LCS (B2C1097-BS1)

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	98.8900	5.0	3.4	99.9580	98.9	80 - 120

Matrix Spike (B2C1097-MS1)

Source: 2200290-04

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	303.460	5.0	3.4	100.184	200.250	103	80 - 120

Matrix Spike Dup (B2C1097-MSD1)

Source: 2200290-04

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	308.100	5.0	3.4	100.184	200.250	108	80 - 120	1.52	20



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Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1050 - No_Prep_WC1_W

Blank (B2C1050-BLK1)

Prepared: 3/9/2022 Analyzed: 3/9/2022

Residue, Suspended ND 1.0 1.0

LCS (B2C1050-BS1)

Prepared: 3/9/2022 Analyzed: 3/9/2022

Residue, Suspended 86.0000 10 10 100.000 86.0 80 - 120

Duplicate (B2C1050-DUP1)

Source: 2200283-01

Prepared: 3/9/2022 Analyzed: 3/9/2022

Residue, Suspended 1395.00 50 50 1405.00 0.714 10



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

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Reported : 04/01/2022

Bromide by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1205 - No_Prep_IC1_W

Blank (B2C1205-BLK1)

Prepared: 3/16/2022 Analyzed: 3/16/2022

Bromide ND 0.05 0.02

LCS (B2C1205-BS1)

Prepared: 3/16/2022 Analyzed: 3/16/2022

Bromide 1.02250 0.05 0.02 1.00000 102 90 - 110

Duplicate (B2C1205-DUP1)

Source: 2200289-07

Prepared: 3/16/2022 Analyzed: 3/16/2022

Bromide 0.844800 0.05 0.02 0.804800 4.85 20

Matrix Spike (B2C1205-MS1)

Source: 2200289-07

Prepared: 3/16/2022 Analyzed: 3/16/2022

Bromide 3.61840 0.05 0.02 2.50000 0.804800 113 80 - 120

Matrix Spike Dup (B2C1205-MSD1)

Source: 2200289-07

Prepared: 3/16/2022 Analyzed: 3/16/2022

Bromide 3.66110 0.05 0.02 2.50000 0.804800 114 80 - 120 1.17 20



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

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Reported : 04/01/2022

UV Absorption by EPA 415.3 - Quality Control

Analyte	Result (1/cm)	PQL (1/cm)	MDL (1/cm)	Spike Level	Source Result	% Rec Limits	RPD Limit	Notes

Batch B2C0962 - No_Prep_II_W

Blank (B2C0962-BLK1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

UV Absorption ND 0.01 0.01

Duplicate (B2C0962-DUP1)

Source: 2200289-05

Prepared: 3/4/2022 Analyzed: 3/4/2022

UV Absorption ND 0.01 0.01 ND NR 20



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0949 - MSVOA_LL_W

Blank (B2C0949-BLK1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0949 - MSVOA_LL_W (continued)

Blank (B2C0949-BLK1) - Continued

Prepared: 3/4/2022 Analyzed: 3/4/2022

n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	26.91		25.0000	108	64 - 155
Surrogate: 4-Bromofluorobenzene	24.19		25.0000	96.8	73 - 124
Surrogate: Dibromofluoromethane	27.09		25.0000	108	78 - 129
Surrogate: Toluene-d8	24.98		25.0000	99.9	84 - 117

LCS (B2C0949-BS1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,1,1,2-Tetrachloroethane	18.8000	0.50	0.11	20.0000	94.0	79 - 116
1,1,1-Trichloroethane	19.4700	0.50	0.21	20.0000	97.4	73 - 130
1,1,2,2-Tetrachloroethane	19.2000	0.50	0.36	20.0000	96.0	71 - 122
1,1,2-Trichloroethane	19.2000	0.50	0.25	20.0000	96.0	70 - 124
1,1-Dichloroethane	19.8800	0.50	0.09	20.0000	99.4	69 - 128
1,1-Dichloroethene	19.0500	0.50	0.13	20.0000	95.2	65 - 137
1,1-Dichloropropene	19.0400	0.50	0.13	20.0000	95.2	74 - 129
1,2,3-Trichloropropane	19.2000	0.50	0.39	20.0000	96.0	74 - 123
1,2,3-Trichlorobenzene	22.3000	0.50	0.18	20.0000	112	59 - 130
1,2,4-Trichlorobenzene	21.4800	0.50	0.16	20.0000	107	65 - 125
1,2,4-Trimethylbenzene	18.7500	0.50	0.14	20.0000	93.8	88 - 124
1,2-Dibromo-3-chloropropane	19.7900	0.50	0.41	20.0000	99.0	61 - 127
1,2-Dibromoethane	19.5800	0.50	0.24	20.0000	97.9	72 - 125
1,2-Dichlorobenzene	19.0800	0.50	0.20	20.0000	95.4	84 - 113
1,2-Dichloroethane	20.4900	0.50	0.20	20.0000	102	68 - 130
1,2-Dichloropropane	19.3600	0.50	0.15	20.0000	96.8	77 - 121
1,3,5-Trimethylbenzene	18.2600	0.50	0.13	20.0000	91.3	83 - 124
1,3-Dichlorobenzene	18.7300	0.50	0.16	20.0000	93.6	83 - 112
1,3-Dichloropropane	20.0800	0.50	0.21	20.0000	100	77 - 119
1,4-Dichlorobenzene	18.6800	0.50	0.17	20.0000	93.4	79 - 115
2,2-Dichloropropane	20.3100	0.50	0.38	20.0000	102	67 - 149
2-Chlorotoluene	18.1800	0.50	0.11	20.0000	90.9	81 - 119
4-Chlorotoluene	18.5700	0.50	0.12	20.0000	92.8	86 - 117
4-Isopropyltoluene	18.8100	0.50	0.11	20.0000	94.0	82 - 131
Benzene	19.3800	0.50	0.13	20.0000	96.9	75 - 124
Bromobenzene	18.5000	0.50	0.21	20.0000	92.5	82 - 108
Bromodichloromethane	19.6200	0.50	0.14	20.0000	98.1	80 - 120



Certificate of Analysis

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0949 - MSVOA_LL_W (continued)

LCS (B2C0949-BS1) - Continued

Prepared: 3/4/2022 Analyzed: 3/4/2022

Bromoform	19.1500	0.50	0.20	20.0000		95.8	70 - 123		
Bromomethane	15.4200	0.50	0.40	20.0000		77.1	44 - 151		
Carbon tetrachloride	18.0400	0.50	0.09	20.0000		90.2	62 - 140		
Chlorobenzene	18.6500	0.50	0.13	20.0000		93.2	80 - 112		
Chloroethane	19.8200	0.50	0.15	20.0000		99.1	42 - 167		
Chloroform	20.7300	0.50	0.11	20.0000		104	77 - 122		
Chloromethane	22.2400	0.50	0.12	20.0000		111	33 - 153		
cis-1,2-Dichloroethene	15.6000	0.50	0.14	20.0000		78.0	75 - 121		
cis-1,3-Dichloropropene	18.6300	0.50	0.13	20.0000		93.2	73 - 127		
Dibromochloromethane	18.5700	0.50	0.16	20.0000		92.8	77 - 122		
Dibromomethane	19.5600	0.50	0.19	20.0000		97.8	75 - 121		
Dichlorodifluoromethane	15.1000	0.50	0.18	20.0000		75.5	0 - 171		
Ethylbenzene	19.3900	0.50	0.13	20.0000		97.0	82 - 119		
Hexachlorobutadiene	19.8600	0.50	0.15	20.0000		99.3	71 - 131		
Isopropylbenzene	18.8600	0.50	0.10	20.0000		94.3	75 - 126		
m,p-Xylene	37.0000	1.0	0.19	40.0000		92.5	86 - 119		
Methylene chloride	19.3400	1.0	0.71	20.0000		96.7	76 - 125		
n-Butylbenzene	19.7000	0.50	0.11	20.0000		98.5	81 - 125		
n-Propylbenzene	18.3000	0.50	0.10	20.0000		91.5	78 - 130		
Naphthalene	18.7200	0.50	0.41	20.0000		93.6	47 - 128		
o-Xylene	19.2400	0.50	0.13	20.0000		96.2	85 - 119		
sec-Butylbenzene	19.0600	0.50	0.09	20.0000		95.3	78 - 130		
Styrene	19.4100	0.50	0.13	20.0000		97.0	62 - 148		
tert-Butylbenzene	18.3200	0.50	0.09	20.0000		91.6	77 - 125		
Tetrachloroethene	18.5500	0.50	0.10	20.0000		92.8	73 - 120		
Toluene	19.7300	0.50	0.12	20.0000		98.6	79 - 119		
trans-1,2-Dichloroethene	26.9200	0.50	0.09	20.0000		135	70 - 129		L4
Trichloroethene	18.8700	0.50	0.10	20.0000		94.4	73 - 117		
Trichlorofluoromethane	20.7700	0.50	0.23	20.0000		104	59 - 135		
Vinyl chloride	19.4500	0.50	0.13	20.0000		97.2	58 - 132		

Surrogate: 1,2-Dichloroethane-d4	26.81			25.0000		107	64 - 155		
Surrogate: 4-Bromofluorobenzene	25.62			25.0000		102	73 - 124		
Surrogate: Dibromofluoromethane	26.26			25.0000		105	78 - 129		
Surrogate: Toluene-d8	25.29			25.0000		101	84 - 117		

LCS Dup (B2C0949-BS1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,1,1,2-Tetrachloroethane	18.0500	0.50	0.11	20.0000		90.2	79 - 116	4.07	20
1,1,1-Trichloroethane	19.0700	0.50	0.21	20.0000		95.4	73 - 130	2.08	20
1,1,2,2-Tetrachloroethane	18.9000	0.50	0.36	20.0000		94.5	71 - 122	1.57	20
1,1,2-Trichloroethane	18.8900	0.50	0.25	20.0000		94.4	70 - 124	1.63	20
1,1-Dichloroethane	19.2000	0.50	0.09	20.0000		96.0	69 - 128	3.48	20
1,1-Dichloroethene	18.5100	0.50	0.13	20.0000		92.6	65 - 137	2.88	20
1,1-Dichloropropene	18.0500	0.50	0.13	20.0000		90.2	74 - 129	5.34	20
1,2,3-Trichloropropane	19.0500	0.50	0.39	20.0000		95.2	74 - 123	0.784	20
1,2,3-Trichlorobenzene	21.1100	0.50	0.18	20.0000		106	59 - 130	5.48	20



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	Limits	RPD	RPD Limit	Notes

Batch B2C0949 - MSVOA_LL_W (continued)

LCS Dup (B2C0949-BSD1) - Continued

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,2,4-Trichlorobenzene	20.4900	0.50	0.16	20.0000		102	65 - 125	4.72	20	
1,2,4-Trimethylbenzene	17.7100	0.50	0.14	20.0000		88.6	88 - 124	5.70	20	
1,2-Dibromo-3-chloropropane	19.7900	0.50	0.41	20.0000		99.0	61 - 127	0.00	20	
1,2-Dibromoethane	19.3800	0.50	0.24	20.0000		96.9	72 - 125	1.03	20	
1,2-Dichlorobenzene	18.4500	0.50	0.20	20.0000		92.2	84 - 113	3.36	20	
1,2-Dichloroethane	19.8200	0.50	0.20	20.0000		99.1	68 - 130	3.32	20	
1,2-Dichloropropane	19.0900	0.50	0.15	20.0000		95.4	77 - 121	1.40	20	
1,3,5-Trimethylbenzene	17.1800	0.50	0.13	20.0000		85.9	83 - 124	6.09	20	
1,3-Dichlorobenzene	18.1800	0.50	0.16	20.0000		90.9	83 - 112	2.98	20	
1,3-Dichloropropane	19.3800	0.50	0.21	20.0000		96.9	77 - 119	3.55	20	
1,4-Dichlorobenzene	18.0700	0.50	0.17	20.0000		90.4	79 - 115	3.32	20	
2,2-Dichloropropane	18.7800	0.50	0.38	20.0000		93.9	67 - 149	7.83	20	
2-Chlorotoluene	17.2200	0.50	0.11	20.0000		86.1	81 - 119	5.42	20	
4-Chlorotoluene	17.8100	0.50	0.12	20.0000		89.0	86 - 117	4.18	20	
4-Isopropyltoluene	17.7800	0.50	0.11	20.0000		88.9	82 - 131	5.63	20	
Benzene	18.7100	0.50	0.13	20.0000		93.6	75 - 124	3.52	20	
Bromobenzene	17.7800	0.50	0.21	20.0000		88.9	82 - 108	3.97	20	
Bromodichloromethane	19.1000	0.50	0.14	20.0000		95.5	80 - 120	2.69	20	
Bromoform	19.1400	0.50	0.20	20.0000		95.7	70 - 123	0.0522	20	
Bromomethane	14.7100	0.50	0.40	20.0000		73.6	44 - 151	4.71	20	
Carbon tetrachloride	16.8400	0.50	0.09	20.0000		84.2	62 - 140	6.88	20	
Chlorobenzene	18.0200	0.50	0.13	20.0000		90.1	80 - 112	3.44	20	
Chloroethane	19.1400	0.50	0.15	20.0000		95.7	42 - 167	3.49	20	
Chloroform	19.9800	0.50	0.11	20.0000		99.9	77 - 122	3.68	20	
Chloromethane	21.2000	0.50	0.12	20.0000		106	33 - 153	4.79	20	
cis-1,2-Dichloroethene	15.3300	0.50	0.14	20.0000		76.6	75 - 121	1.75	20	
cis-1,3-Dichloropropene	17.8500	0.50	0.13	20.0000		89.2	73 - 127	4.28	20	
Dibromochloromethane	18.5300	0.50	0.16	20.0000		92.6	77 - 122	0.216	20	
Dibromomethane	18.9500	0.50	0.19	20.0000		94.8	75 - 121	3.17	20	
Dichlorodifluoromethane	14.1500	0.50	0.18	20.0000		70.8	0 - 171	6.50	20	
Ethylbenzene	18.4300	0.50	0.13	20.0000		92.2	82 - 119	5.08	20	
Hexachlorobutadiene	18.9600	0.50	0.15	20.0000		94.8	71 - 131	4.64	20	
Isopropylbenzene	18.0700	0.50	0.10	20.0000		90.4	75 - 126	4.28	20	
m,p-Xylene	35.9500	1.0	0.19	40.0000		89.9	86 - 119	2.88	20	
Methylene chloride	18.9600	1.0	0.71	20.0000		94.8	76 - 125	1.98	20	
n-Butylbenzene	18.7400	0.50	0.11	20.0000		93.7	81 - 125	4.99	20	
n-Propylbenzene	17.3000	0.50	0.10	20.0000		86.5	78 - 130	5.62	20	
Naphthalene	18.3800	0.50	0.41	20.0000		91.9	47 - 128	1.83	20	
o-Xylene	18.6300	0.50	0.13	20.0000		93.2	85 - 119	3.22	20	
sec-Butylbenzene	18.1200	0.50	0.09	20.0000		90.6	78 - 130	5.06	20	
Styrene	18.5100	0.50	0.13	20.0000		92.6	62 - 148	4.75	20	
tert-Butylbenzene	17.5500	0.50	0.09	20.0000		87.8	77 - 125	4.29	20	
Tetrachloroethene	18.1000	0.50	0.10	20.0000		90.5	73 - 120	2.46	20	
Toluene	18.8900	0.50	0.12	20.0000		94.4	79 - 119	4.35	20	
trans-1,2-Dichloroethene	26.1600	0.50	0.09	20.0000		131	70 - 129	2.86	20	L4



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0949 - MSVOA_LL_W (continued)

LCS Dup (B2C0949-BSD1) - Continued

Prepared: 3/4/2022 Analyzed: 3/4/2022

Trichloroethene	18.6500	0.50	0.10	20.0000		93.2	73 - 117	1.17	20
Trichlorofluoromethane	20.0600	0.50	0.23	20.0000		100	59 - 135	3.48	20
Vinyl chloride	18.3000	0.50	0.13	20.0000		91.5	58 - 132	6.09	20

Surrogate: 1,2-Dichloroethane-d4	26.83			25.0000		107	64 - 155		
Surrogate: 4-Bromofluorobenzene	24.94			25.0000		99.8	73 - 124		
Surrogate: Dibromofluoromethane	26.71			25.0000		107	78 - 129		
Surrogate: Toluene-d8	25.41			25.0000		102	84 - 117		



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0957 - MSSEMI_W

Blank (B2C0957-BLK1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	106.5		100.000	106	17 - 119
Surrogate: 2-Fluorobiphenyl	104.8		100.000	105	10 - 133
Surrogate: 4-Terphenyl-d14	116.6		100.000	117	5 - 139
Surrogate: Nitrobenzene-d5	90.48		100.000	90.5	13 - 150

LCS (B2C0957-BS1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,4-Dioxane 113.680 2.0 0.84 100.000 114 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	104.2		100.000	104	17 - 119
Surrogate: 2-Fluorobiphenyl	99.26		100.000	99.3	10 - 133
Surrogate: 4-Terphenyl-d14	107.4		100.000	107	5 - 139
Surrogate: Nitrobenzene-d5	93.69		100.000	93.7	13 - 150

LCS Dup (B2C0957-BS1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

1,4-Dioxane 99.0800 2.0 0.84 100.000 99.1 75 - 155 13.7 20

Surrogate: 1,2-Dichlorobenzene-d4	106.5		100.000	107	17 - 119
Surrogate: 2-Fluorobiphenyl	99.16		100.000	99.2	10 - 133
Surrogate: 4-Terphenyl-d14	106.7		100.000	107	5 - 139
Surrogate: Nitrobenzene-d5	100.3		100.000	100	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 04/01/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	Limit	RPD	Limit	Notes

Batch B2C0960 - MSSEMI_W

Blank (B2C0960-BLK1)

Prepared: 3/4/2022 Analyzed: 3/7/2022

1,4-Dioxane ND 0.20 0.05

Surrogate: 1,2-Dichlorobenzene-d4	1.158			1.00000		116	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.260			1.00000		126	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.350			1.00000		135	12 - 113			S15
Surrogate: Nitrobenzene-d5	0.8459			1.00000		84.6	15 - 121			

LCS (B2C0960-BS1)

Prepared: 3/4/2022 Analyzed: 3/7/2022

1,4-Dioxane 0.553050 0.20 0.05 1.00000 55.3 75 - 155 L2

Surrogate: 1,2-Dichlorobenzene-d4	1.125			1.00000		113	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.114			1.00000		111	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.237			1.00000		124	12 - 113			S12
Surrogate: Nitrobenzene-d5	1.037			1.00000		104	15 - 121			

LCS Dup (B2C0960-BSD1)

Prepared: 3/4/2022 Analyzed: 3/7/2022

1,4-Dioxane 0.743620 0.20 0.05 1.00000 74.4 75 - 155 29.4 20 L2, R

Surrogate: 1,2-Dichlorobenzene-d4	1.091			1.00000		109	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.167			1.00000		117	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.190			1.00000		119	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.9465			1.00000		94.6	15 - 121			



3.40C

Date: 3/3/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Monthly Sample

TASK NO.: 532.15

Project Manager Steve Netto

QA Manager Ruben Sanchez

Phone 858.455.6500

Fax 858.455.6533

Sampled By:		SAMPLE COLLECTION		Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	125 mL Poly	250 mL Poly	125 mL Amber	1 L Poly	1L Amber	VOCs by EPA 8260	Bromate by EPA 31	Bromide by EPA 30	Alkalinity by SM2323	Total Organic Carbon	Total Suspended Solids	UV Absorption EPA 254	1,4-Dioxane by EPA 8260	1,4-Dioxane by EPA 8260	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Valid	MS/MSD Requester	Signal Hill, CA 90755 (562) 989-4045	
LAB ID	SAMPLE ID																																		Date
	TB-030322	3/3/2022	8:00		X	X			X	2						X									X										
	CEFF	3/3/2022	09:30	X		X			X	3					1	X								X	X										
	CBT	3/3/2022	09:40	X		X			X	3					1	X								X	X										
	POX	3/3/2022	09:45	X		X			X	5	1		1	1	X	X			X	X				X	X										
	PF	3/3/2022	09:50	X					X	2		1	2						X	X	X	X													
	INF	3/3/2022	09:55	X		X			X	3	1	1		1	X	X	X					X				X									
	EW-02	3/3/2022	10:25	X		X			X	3	1			1	X		X					X				X									
	MW-29	3/3/2022	10:50	X		X			X	3	1			1	X		X					X				X									
Total number of containers per analysis:										24	3	2	1	3	6																Total No. of Containers: 39				
Relinquished By: / Company:		Date / Time		Received By: / Company		Date / Time																													
[Signature] HGA		3-3-22 1358		[Signature] HGA		3-3-2022 13:58																													
Relinquished By: / Company:		Date / Time		Received By: / Company		Date / Time																													
[Signature] HGA		3-3-22 16:02		[Signature]		3/3/22 16:02																													

☐ No. of containers correct
☐ Received in good condition
☐ Custody seals secure
☐ Conforms to COC document

Send Results to:

Steve Netto & Ruben Sanchez

3131 Camino Del Rio North

Suite 355

Instructions

1. Fill out form completely and sign only after verified for completeness
2. Complete in ballpoint pen. Draw one line through error, initial and date correction
- Indicate the number of sample containers in analytical request space; indicate choice with ✓ or x
- Note applicable preservatives, special instructions, and deviations from typical environmental samples.
- Consult project QA documents for specific instructions.

Temperature on receipt

Send Results to:
Steve Netto & Ruben Sanchez
 3131 Camino Del Rio North
 Suite 355
 San Diego, CA 92108
 Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

Work Orders: 2C04071

Project: 2200289

Attn: Advanced Technology Labs

Client: Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Report Date: 3/21/2022

Received Date: 3/4/2022

Turnaround Time: Normal

Phones: (562) 989-4045

Fax: (562) 989-4040

P.O. #:

Billing Code:

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A •
SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Advanced Technology Labs,

Enclosed are the results of analyses for samples received 3/04/22 with the Chain-of-Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Rahul R. Nair
Project Manager



Project Number: 2200289

Project Manager: Advanced Technology Labs

Reported:
03/21/2022 13:22

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
2200289-04/ POX	Ruben Sanchez	2C04071-01	Water	03/03/22 09:45	
2200289-05/ PF	Ruben Sanchez	2C04071-02	Water	03/03/22 09:50	
2200289-06/INF	Ruben Sanchez	2C04071-03	Water	03/03/22 09:55	

Project Number: 2200289

Project Manager: Advanced Technology Labs

Reported:
03/21/2022 13:22

Sample Results

Sample: 2200289-04/ POX						Sampled: 03/03/22 9:45 by Ruben Sanchez	
2C04071-01 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Anions by IC, EPA Method 300.1							
Method: EPA 300.1			Instr: LC08_Channel2				
Batch ID: W2C0957		Preparation: _NONE (LC)		Prepared: 03/14/22 10:33		Analyst: JAN	
Bromate	ND	1.4	5.0	ug/l	1	03/14/22	
<i>Surrogate(s)</i>							
Dichloroacetate	107%	Conc: 537	90-115			03/14/22	

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 5310B			Instr: TOC02				
Batch ID: W2C0577		Preparation: _NONE (TOC/TOX)		Prepared: 03/08/22 13:23		Analyst: ajc	
Total Organic Carbon (TOC)	0.25	0.19	0.30	mg/l	1	03/10/22	

Sample Results

Sample: 2200289-05/ PF						Sampled: 03/03/22 9:50 by Ruben Sanchez	
2C04071-02 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 5310B			Instr: TOC02				
Batch ID: W2C0577		Preparation: _NONE (TOC/TOX)		Prepared: 03/08/22 13:23		Analyst: ajc	
Total Organic Carbon (TOC)	0.31	0.19	0.30	mg/l	1	03/10/22	

Sample Results

Sample: 2200289-06/INF						Sampled: 03/03/22 9:55 by Ruben Sanchez	
2C04071-03 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Anions by IC, EPA Method 300.1							
Method: EPA 300.1			Instr: LC08_Channel2				
Batch ID: W2C0957		Preparation: _NONE (LC)		Prepared: 03/14/22 10:33		Analyst: JAN	
Bromate	ND	1.4	5.0	ug/l	1	03/14/22	
<i>Surrogate(s)</i>							
Dichloroacetate	103%	Conc: 513	90-115			03/14/22	

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Project Number: 2200289

Project Manager: Advanced Technology Labs

Reported:
03/21/2022 13:22

Quality Control Results

Anions by IC, EPA Method 300.1

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2C0957 - EPA 300.1											
Blank (W2C0957-BLK1)						Prepared & Analyzed: 03/14/22					
Bromate	ND	1.4	5.0	ug/l							
Surrogate(s)											
Dichloroacetate	539			ug/l	500		108	90-115			
LCS (W2C0957-BS1)						Prepared & Analyzed: 03/14/22					
Bromate	102	1.4	5.0	ug/l	100		102	85-115			
Surrogate(s)											
Dichloroacetate	560			ug/l	500		112	90-115			
Matrix Spike (W2C0957-MS1)						Source: 2B23049-03 Prepared & Analyzed: 03/14/22					
Bromate	108	1.4	5.0	ug/l	100	ND	108	64-133			
Surrogate(s)											
Dichloroacetate	541			ug/l	500		108	90-115			
Matrix Spike (W2C0957-MS2)						Source: 2B23049-04 Prepared & Analyzed: 03/14/22					
Bromate	105	1.4	5.0	ug/l	100	ND	105	64-133			
Surrogate(s)											
Dichloroacetate	556			ug/l	500		111	90-115			
Matrix Spike Dup (W2C0957-MSD1)						Source: 2B23049-03 Prepared & Analyzed: 03/14/22					
Bromate	98.3	1.4	5.0	ug/l	100	ND	98	64-133	9	20	
Surrogate(s)											
Dichloroacetate	562			ug/l	500		112	90-115			
Matrix Spike Dup (W2C0957-MSD2)						Source: 2B23049-04 Prepared & Analyzed: 03/14/22					
Bromate	109	1.4	5.0	ug/l	100	ND	109	64-133	4	20	
Surrogate(s)											
Dichloroacetate	540			ug/l	500		108	90-115			

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2C0577 - SM 5310B											
Blank (W2C0577-BLK1)						Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	ND	0.19	0.30	mg/l							
LCS (W2C0577-BS1)						Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	0.889	0.19	0.30	mg/l	1.00		89	85-115			
LCS Dup (W2C0577-BSD1)						Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	0.918	0.19	0.30	mg/l	1.00		92	85-115	3	20	
Matrix Spike (W2C0577-MS1)						Source: 2C04058-01 Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	9.24	0.19	0.30	mg/l	5.00	4.22	100	76-115			
Matrix Spike Dup (W2C0577-MSD1)						Source: 2C04058-01 Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	8.98	0.19	0.30	mg/l	5.00	4.22	95	76-115	3	20	

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



March 31, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2200290

Client Reference : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Enclosed are the results for sample(s) received on March 03, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria Michel", enclosed in a rectangular box.

Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 03/31/22 17:37 on Behalf of

A handwritten signature in black ink, appearing to read "Amy Leung", enclosed in a rectangular box.

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.

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San Diego , CA 92108

Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CEFF	2200290-01	Groundwater	3/03/22 9:30	3/03/22 16:02
POX	2200290-02	Groundwater	3/03/22 9:45	3/03/22 16:02
INF	2200290-03	Groundwater	3/03/22 9:55	3/03/22 16:02
EW-02	2200290-04	Groundwater	3/03/22 10:25	3/03/22 16:02
MW-29	2200290-05	Groundwater	3/03/22 10:50	3/03/22 16:02



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Notes and Definitions

M3	Matrix spike recovery outside of acceptance limit due to disproportionate concentration of the analyte to spike level. The analytical batch was validated by the laboratory control sample.
H3	Initial analysis within holding time. Reanalysis was past holding time.
E	Result value is above quantitation range and therefore, estimated.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
 - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
 - (3) Results are wet unless otherwise specified.

UV Absorption by EPA 415.3

Analyte: UV Absorption

Analyst: JF

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200290-02	POX	ND	1/cm	0.01	1	B2C0962	03/04/2022	03/04/22 15:41	
2200290-03	INF	ND	1/cm	0.01	1	B2C0962	03/04/2022	03/04/22 15:41	
2200290-04	EW-02	ND	1/cm	0.01	1	B2C0962	03/04/2022	03/04/22 15:41	
2200290-05	MW-29	ND	1/cm	0.01	1	B2C0962	03/04/2022	03/04/22 15:41	



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyte: Residue, Dissolved

Analyst: LN

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200290-01	CEFF	640	mg/L	10	1	B2C0964	03/04/2022	03/08/22 11:00	
2200290-02	POX	660	mg/L	10	1	B2C0964	03/04/2022	03/08/22 11:00	
2200290-03	INF	660	mg/L	10	1	B2C0964	03/04/2022	03/08/22 11:00	
2200290-04	EW-02	600	mg/L	10	1	B2C0964	03/04/2022	03/08/22 11:00	
2200290-05	MW-29	760	mg/L	10	1	B2C0964	03/04/2022	03/08/22 11:00	

Chemical Oxygen Demand by EPA 410.4

Analyte: Chemical Oxygen Demand

Analyst: VJ

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200290-02	POX	ND	mg/L	5.0	1	B2C1014	03/08/2022	03/08/22 17:12	
2200290-03	INF	ND	mg/L	5.0	1	B2C1014	03/08/2022	03/08/22 17:12	
2200290-04	EW-02	ND	mg/L	5.0	1	B2C1014	03/08/2022	03/08/22 17:12	
2200290-05	MW-29	ND	mg/L	5.0	1	B2C1014	03/08/2022	03/08/22 17:12	

Total Metals by ICP-AES EPA 6010B

Analyte: Selenium

Analyst: WT

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200290-03	INF	ND	mg/L	0.010	1	B2C0984	03/07/2022	03/08/22 12:23	
2200290-04	EW-02	ND	mg/L	0.010	1	B2C0984	03/07/2022	03/08/22 12:25	
2200290-05	MW-29	ND	mg/L	0.010	1	B2C0984	03/07/2022	03/08/22 12:27	



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: POX

Lab ID: 2200290-02

Anions Scan by Ion Chromatography EPA 300.0

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	81	5.0	10	B2C0963	03/04/2022	03/14/22 14:33	H3
Nitrate, as N	3.5	0.10	1	B2C0963	03/04/2022	03/04/22 16:34	
Nitrite, as N	2.2	0.10	1	B2C0963	03/04/2022	03/04/22 16:34	
ortho-Phosphate, as P	ND	0.05	1	B2C0963	03/04/2022	03/04/22 16:34	
Sulfate	120	5.0	10	B2C0963	03/04/2022	03/14/22 14:33	H3

Client Sample ID: INF

Lab ID: 2200290-03

Anions Scan by Ion Chromatography EPA 300.0

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	81	5.0	10	B2C0963	03/04/2022	03/14/22 14:42	H3
Nitrate, as N	3.2	0.10	1	B2C0963	03/04/2022	03/04/22 16:43	
Nitrite, as N	2.0	0.10	1	B2C0963	03/04/2022	03/04/22 16:43	
ortho-Phosphate, as P	ND	0.05	1	B2C0963	03/04/2022	03/04/22 16:43	
Sulfate	120	5.0	10	B2C0963	03/04/2022	03/14/22 14:42	H3

Alkalinity, Speciated by SM 2320B

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO₃)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Total (as CaCO₃)	210	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	

Dissolved Metals by ICP-AES EPA 6010B

Analyst: WT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Calcium	94	0.50	1	B2C1019	03/08/2022	03/10/22 17:34	
Iron	ND	0.50	1	B2C1019	03/08/2022	03/10/22 17:34	
Magnesium	29	0.10	1	B2C1019	03/08/2022	03/10/22 17:34	
Manganese	ND	0.50	1	B2C1019	03/08/2022	03/10/22 17:34	
Selenium	ND	0.010	1	B2C1019	03/08/2022	03/10/22 17:34	
Sodium	83	1.0	1	B2C1019	03/08/2022	03/10/22 17:34	



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: EW-02

Lab ID: 2200290-04

Anions Scan by Ion Chromatography EPA 300.0

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	71	2.5	5	B2C0963	03/04/2022	03/14/22 14:51	H3
Nitrate, as N	2.7	0.10	1	B2C0963	03/04/2022	03/04/22 16:53	
Nitrite, as N	1.7	0.10	1	B2C0963	03/04/2022	03/04/22 16:53	
ortho-Phosphate, as P	ND	0.05	1	B2C0963	03/04/2022	03/04/22 16:53	
Sulfate	140	2.5	5	B2C0963	03/04/2022	03/14/22 14:51	H3

Alkalinity, Speciated by SM 2320B

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO₃)	200	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Total (as CaCO₃)	200	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	

Dissolved Metals by ICP-AES EPA 6010B

Analyst: WT

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Calcium	86	0.50	1	B2C1019	03/08/2022	03/10/22 17:44	
Iron	1.4	0.50	1	B2C1019	03/08/2022	03/10/22 17:44	
Magnesium	27	0.10	1	B2C1019	03/08/2022	03/10/22 17:44	
Manganese	ND	0.50	1	B2C1019	03/08/2022	03/10/22 17:44	
Selenium	ND	0.010	1	B2C1019	03/08/2022	03/10/22 17:44	
Sodium	80	1.0	1	B2C1019	03/08/2022	03/10/22 17:44	



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: MW-29

Lab ID: 2200290-05

Anions Scan by Ion Chromatography EPA 300.0

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	130	5.0	10	B2C0963	03/04/2022	03/14/22 15:10	H3
Nitrate, as N	4.9	0.10	1	B2C0963	03/04/2022	03/04/22 17:30	
Nitrite, as N	3.0	0.10	1	B2C0963	03/04/2022	03/04/22 17:30	
ortho-Phosphate, as P	ND	0.05	1	B2C0963	03/04/2022	03/04/22 17:30	
Sulfate	120	5.0	10	B2C0963	03/04/2022	03/14/22 15:10	H3

Alkalinity, Speciated by SM 2320B

Analyst: VJ

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO₃)	240	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	
Alkalinity, Total (as CaCO₃)	240	5.0	1	B2C1097	03/11/2022	03/11/22 13:49	



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

QUALITY CONTROL SECTION

Alkalinity, Speciated by SM 2320B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1097 - No_Prep_WC1_W

Blank (B2C1097-BLK1)

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Bicarbonate (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Carbonate (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Hydroxide (as CaCO ₃)	ND	5.0	3.4
Alkalinity, Total (as CaCO ₃)	ND	5.0	3.4

LCS (B2C1097-BS1)

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	98.8900	5.0	3.4	99.9580	98.9	80 - 120

Matrix Spike (B2C1097-MS1)

Source: 2200290-04

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	303.460	5.0	3.4	100.184	200.250	103	80 - 120

Matrix Spike Dup (B2C1097-MSD1)

Source: 2200290-04

Prepared: 3/11/2022 Analyzed: 3/11/2022

Alkalinity, Total (as CaCO ₃)	308.100	5.0	3.4	100.184	200.250	108	80 - 120	1.52	20



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Report To : Steve Netto

Reported : 03/31/2022

Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0964 - No_Prep_WC1_W

Blank (B2C0964-BLK1)

Prepared: 3/4/2022 Analyzed: 3/8/2022

Residue, Dissolved ND 10 10

LCS (B2C0964-BS1)

Prepared: 3/4/2022 Analyzed: 3/8/2022

Residue, Dissolved 972.000 10 10 1000.00 97.2 80 - 120

Duplicate (B2C0964-DUP1)

Source: 2200287-01

Prepared: 3/4/2022 Analyzed: 3/8/2022

Residue, Dissolved 1616.00 20 20 1610.00 0.372 10



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Anions Scan by Ion Chromatography EPA 300.0 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C0963 - No_Prep_IC1_W

Blank (B2C0963-BLK1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

Chloride	ND	0.50	0.15							
Nitrate, as N	ND	0.10	0.05							
Nitrite, as N	ND	0.10	0.02							
ortho-Phosphate, as P	ND	0.05	0.05							
Sulfate	ND	0.50	0.25							

LCS (B2C0963-BS1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

Chloride	1.07150	0.50	0.15	1.00000		107	90 - 110			
Nitrate, as N	0.924000	0.10	0.05	1.00000		92.4	90 - 110			
Nitrite, as N	1.01100	0.10	0.02	1.00000		101	90 - 110			
ortho-Phosphate, as P	0.905000	0.05	0.05	1.00000		90.5	90 - 110			
Sulfate	2.19880	0.50	0.25	2.00000		110	90 - 110			

Duplicate (B2C0963-DUP1)

Source: 2200290-04

Prepared: 3/4/2022 Analyzed: 3/14/2022

Chloride	71.1235	2.5	0.74		71.0180		0.148	20		H3
Nitrate, as N	2.73770	0.10	0.05		2.73880		0.0402	20		
Nitrite, as N	1.68970	0.10	0.02		1.68040		0.552	20		
ortho-Phosphate, as P	ND	0.05	0.05		ND		NR	20		
Sulfate	134.834	2.5	1.2		135.072		0.176	20		H3

Matrix Spike (B2C0963-MS1)

Source: 2200290-04

Prepared: 3/4/2022 Analyzed: 3/4/2022

Chloride	99.2927	0.50	0.15	2.50000	71.0180	1130	80 - 120			M3, E
Nitrate, as N	4.95570	0.10	0.05	2.50000	2.73880	88.7	80 - 120			M3
Nitrite, as N	3.73430	0.10	0.02	2.50000	1.68040	82.2	80 - 120			M3
ortho-Phosphate, as P	1.16950	0.05	0.05	2.50000	ND	46.8	80 - 120			M3
Sulfate	175.014	0.50	0.25	5.00000	135.072	799	80 - 120			E, M3

Matrix Spike Dup (B2C0963-MSD1)

Source: 2200290-04

Prepared: 3/4/2022 Analyzed: 3/4/2022

Chloride	99.6225	0.50	0.15	2.50000	71.0180	1140	80 - 120	0.332	20	E, M3
Nitrate, as N	5.06390	0.10	0.05	2.50000	2.73880	93.0	80 - 120	2.16	20	M3
Nitrite, as N	3.73620	0.10	0.02	2.50000	1.68040	82.2	80 - 120	0.0509	20	M3
ortho-Phosphate, as P	1.12630	0.05	0.05	2.50000	ND	45.1	80 - 120	3.76	20	M3
Sulfate	175.862	0.50	0.25	5.00000	135.072	816	80 - 120	0.484	20	E, M3



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

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Reported : 03/31/2022

UV Absorption by EPA 415.3 - Quality Control

Analyte	Result (1/cm)	PQL (1/cm)	MDL (1/cm)	Spike Level	Source Result	% Rec Limits	RPD Limit	Notes

Batch B2C0962 - No_Prep_II_W

Blank (B2C0962-BLK1)

Prepared: 3/4/2022 Analyzed: 3/4/2022

UV Absorption ND 0.01 0.01

Duplicate (B2C0962-DUP1)

Source: 2200289-05

Prepared: 3/4/2022 Analyzed: 3/4/2022

UV Absorption ND 0.01 0.01 ND NR 20



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Chemical Oxygen Demand by EPA 410.4 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1014 - Prep_WC1_W

Blank (B2C1014-BLK1)

Prepared: 3/8/2022 Analyzed: 3/8/2022

Chemical Oxygen Demand ND 5.0 4.2

LCS (B2C1014-BS1)

Prepared: 3/8/2022 Analyzed: 3/8/2022

Chemical Oxygen Demand 528.420 5.0 4.2 502.680 105 80 - 120

Matrix Spike (B2C1014-MS1)

Source: 2200290-05

Prepared: 3/8/2022 Analyzed: 3/8/2022

Chemical Oxygen Demand 538.554 5.0 4.2 501.264 ND 107 80 - 120

Matrix Spike Dup (B2C1014-MSD1)

Source: 2200290-05

Prepared: 3/8/2022 Analyzed: 3/8/2022

Chemical Oxygen Demand 542.841 5.0 4.2 501.264 ND 108 80 - 120 0.793 20



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Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Total Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2C0984 - EPA 3010A_W										
Blank (B2C0984-BLK1)										
Selenium	ND	0.010	0.0093							Prepared: 3/7/2022 Analyzed: 3/8/2022
LCS (B2C0984-BS1)										
Selenium	0.462096	0.010	0.0093	0.500000		92.4	80 - 120			Prepared: 3/7/2022 Analyzed: 3/8/2022
Matrix Spike (B2C0984-MS1)										
Selenium	0.487696	0.010	0.0093	0.500000	ND	97.5	57 - 146			Source: 2200276-01 Prepared: 3/7/2022 Analyzed: 3/8/2022
Matrix Spike Dup (B2C0984-MSD1)										
Selenium	0.574405	0.010	0.0093	0.500000	ND	115	57 - 146	16.3	20	Source: 2200276-01 Prepared: 3/7/2022 Analyzed: 3/8/2022



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Report To : Steve Netto

Reported : 03/31/2022

Dissolved Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1019 - EPA 3010A_W

Blank (B2C1019-BLK1)

Prepared: 3/8/2022 Analyzed: 3/10/2022

Calcium	ND	0.50	0.12							
Iron	ND	0.50	0.011							
Magnesium	ND	0.10	0.021							
Manganese	ND	0.50	0.0046							
Selenium	ND	0.010	0.0093							
Sodium	ND	1.0	0.12							

LCS (B2C1019-BS1)

Prepared: 3/8/2022 Analyzed: 3/10/2022

Calcium	4.92776	0.50	0.12	5.00000		98.6	80 - 120			
Iron	4.96638	0.50	0.011	5.00000		99.3	80 - 120			
Magnesium	4.64598	0.10	0.021	5.00000		92.9	80 - 120			
Manganese	0.522670	0.50	0.0046	0.500000		105	80 - 120			
Selenium	0.490093	0.010	0.0093	0.500000		98.0	80 - 120			
Sodium	4.65145	1.0	0.12	5.00000		93.0	80 - 120			

Matrix Spike (B2C1019-MS1)

Source: 2200290-03

Prepared: 3/8/2022 Analyzed: 3/10/2022

Calcium	94.7220	0.50	0.12	5.00000	94.4356	5.73	0 - 218			
Iron	5.32355	0.50	0.011	5.00000	0.367283	99.1	46 - 158			
Magnesium	32.5599	0.10	0.021	5.00000	28.6630	77.9	22 - 181			
Manganese	0.526063	0.50	0.0046	0.500000	0.005708	104	51 - 152			
Selenium	0.533199	0.010	0.0093	0.500000	ND	107	57 - 146			
Sodium	90.0066	1.0	0.12	5.00000	82.9941	140	0 - 194			

Matrix Spike Dup (B2C1019-MSD1)

Source: 2200290-03

Prepared: 3/8/2022 Analyzed: 3/10/2022

Calcium	98.1354	0.50	0.12	5.00000	94.4356	74.0	0 - 218	3.54	20	
Iron	5.27873	0.50	0.011	5.00000	0.367283	98.2	46 - 158	0.846	20	
Magnesium	33.6287	0.10	0.021	5.00000	28.6630	99.3	22 - 181	3.23	20	
Manganese	0.530447	0.50	0.0046	0.500000	0.005708	105	51 - 152	0.830	20	
Selenium	0.491477	0.010	0.0093	0.500000	ND	98.3	57 - 146	8.14	20	
Sodium	90.9195	1.0	0.12	5.00000	82.9941	159	0 - 194	1.01	20	

2200290

Date: 3/3/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Quarterly Sample

TASK NO.: 532.15

Project Manager Steve Netto
QA Manager Ruben Sanchez
Phone 858.455.6500
Fax 858.455.6533

Sampled By: Ruben Sanchez				SAMPLE COLLECTION				MATRIX										PRESERVATION										CONTAINERS										ANALYSIS REQUESTED										Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				Laboratory	
LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	1 L Poly	125 mL amber	250 mL Poly	500 mL Poly	250 mL Glass	Alkalinity by SM2320B	Anions by EPA 300	COD by EPA 410.4	Dissolved Metals by EPA 6010B	Total Dissolved Solids by SM2540C	Total Organic Carbon by SM5310B	Total Se by EPA 6010B	UV Absorption EPA 415.3 @254 nm	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested	REMARKS																								
1	CEFF	3/3/2022	09:30	X				X			1									X																																					
2	POX	3/3/2022	09:45	X				X	X	2	2						X	X		X			X													Lab to filter dissolved																					
3	INF	3/3/2022	09:55	X		X	X	X	X	3	3	2	2			X	X	X	X	X	X	X	X														metals, and anions																				
4	EW-02	3/3/2022	10:25	X		X	X	X	X	3	3	2	2			X	X	X	X	X	X	X	X																																		
5	MW-29	3/3/2022	10:50	X		X	X	X	X	3	3	2	2			X	X	X	X	X	X	X	X																																		
Total number of containers per analysis:										9	12	8	6											Total No. of Containers: 35																																	

Relinquished By: [Signature] HHA	Date / Time: 3-3-22 13:58	Received By: [Signature] HHA	Date / Time: 3-3-2022 13:58
Relinquished By: [Signature] HHA	Date / Time: 3-3-22 16:02	Received By: [Signature] DAnnyle	Date / Time: 3/3/22 16:02

No. of containers correct
Received in good condition
Custody seals secure
Conforms to COC document

Instructions

- Fill out form completely and sign only after verified for completeness
- Complete in ballpoint pen. Draw one line through error, initial and date correction
- Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ✗
- Note applicable preservatives, special instructions, and deviations from typical environmental samples.
- Consult project QA documents for specific instructions.

Temperature on receipt

Send Results to:
Steve Netto & Ruben Sanchez
3131 Camino Del Rio North
Suite 355
San Diego, CA 92108
Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

Work Orders: 2C04069

Project: 2200290

Attn: Advanced Technology Labs

Client: Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Report Date: 3/17/2022

Received Date: 3/4/2022

Turnaround Time: Normal

Phones: (562) 989-4045

Fax: (562) 989-4040

P.O. #:

Billing Code:

ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • LACSD #10143 • NJ-DEP #CA015 • NV-DEP #NAC 445A •
SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Advanced Technology Labs,

Enclosed are the results of analyses for samples received 3/04/22 with the Chain-of-Custody document. The samples were received in good condition, at 3.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Rahul R. Nair
Project Manager



Project Number: 2200290

Project Manager: Advanced Technology Labs

Reported:
03/17/2022 13:34

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
2200290-03/ INF	Ruben Sanchez	2C04069-01	Water	03/03/22 09:55	
2200290-04/ EW-02	Ruben Sanchez	2C04069-02	Water	03/03/22 10:25	
2200290-05/ MW-29	Ruben Sanchez	2C04069-03	Water	03/03/22 10:50	

Project Number: 2200290

Project Manager: Advanced Technology Labs

Reported:
03/17/2022 13:34

Sample Results

Sample: 2200290-03/ INF
2C04069-01 (Water) Sampled: 03/03/22 9:55 by Ruben Sanchez

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods						
Method: SM 5310B						
Batch ID: W2C0886	Preparation: _NONE (TOC/TOX)	Instr: TOC02				
		Prepared: 03/11/22 15:28				Analyst: ajc
Total Organic Carbon (TOC)	ND	0.30	mg/l	1	03/12/22	

Sample Results

Sample: 2200290-04/ EW-02
2C04069-02 (Water) Sampled: 03/03/22 10:25 by Ruben Sanchez

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods						
Method: SM 5310B						
Batch ID: W2C0886	Preparation: _NONE (TOC/TOX)	Instr: TOC02				
		Prepared: 03/11/22 15:28				Analyst: ajc
Total Organic Carbon (TOC)	0.36	0.30	mg/l	1	03/12/22	

Sample Results

Sample: 2200290-05/ MW-29
2C04069-03 (Water) Sampled: 03/03/22 10:50 by Ruben Sanchez

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods						
Method: SM 5310B						
Batch ID: W2C0577	Preparation: _NONE (TOC/TOX)	Instr: TOC02				
		Prepared: 03/08/22 13:23				Analyst: ajc
Total Organic Carbon (TOC)	0.41	0.30	mg/l	1	03/10/22	

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Project Number: 2200290

Project Manager: Advanced Technology Labs

Reported:
03/17/2022 13:34

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2C0577 - SM 5310B										
Blank (W2C0577-BLK1)										
Total Organic Carbon (TOC)	ND	0.30	mg/l							
LCS (W2C0577-BS1)										
Total Organic Carbon (TOC)	0.889	0.30	mg/l	1.00		89	85-115			
LCS Dup (W2C0577-BSD1)										
Total Organic Carbon (TOC)	0.918	0.30	mg/l	1.00		92	85-115	3	20	
Matrix Spike (W2C0577-MS1)										
			Source: 2C04058-01		Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	9.24	0.30	mg/l	5.00	4.22	100	76-115			
Matrix Spike Dup (W2C0577-MSD1)										
			Source: 2C04058-01		Prepared: 03/08/22 Analyzed: 03/10/22					
Total Organic Carbon (TOC)	8.98	0.30	mg/l	5.00	4.22	95	76-115	3	20	
Batch: W2C0886 - SM 5310B										
Blank (W2C0886-BLK1)										
Total Organic Carbon (TOC)	ND	0.30	mg/l							
LCS (W2C0886-BS1)										
Total Organic Carbon (TOC)	0.996	0.30	mg/l	1.00		100	85-115			
Matrix Spike (W2C0886-MS1)										
			Source: 2B15001-02		Prepared: 03/11/22 Analyzed: 03/12/22					
Total Organic Carbon (TOC)	9.07	0.30	mg/l	5.00	4.78	86	76-115			
Matrix Spike Dup (W2C0886-MSD1)										
			Source: 2B15001-02		Prepared: 03/11/22 Analyzed: 03/12/22					
Total Organic Carbon (TOC)	9.03	0.30	mg/l	5.00	4.78	85	76-115	0.5	20	

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



March 31, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2200399

Client Reference : Raytheon Main GETS Mid Month Sample / 532.15

Enclosed are the results for sample(s) received on March 17, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Victoria Michel', enclosed in a rectangular box.

Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 03/31/22 16:29 on Behalf of

A handwritten signature in black ink, appearing to read 'Amy Leung'.

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-031722	2200399-01	Water	3/17/22 8:00	3/17/22 14:40
CEFF	2200399-02	Groundwater	3/17/22 9:30	3/17/22 14:40
CBT	2200399-03	Groundwater	3/17/22 9:40	3/17/22 14:40
POX	2200399-04	Groundwater	3/17/22 9:45	3/17/22 14:40
INF	2200399-05	Groundwater	3/17/22 9:50	3/17/22 14:40
EW-02	2200399-06	Groundwater	3/17/22 10:15	3/17/22 14:40
MW-29	2200399-07	Groundwater	3/17/22 10:30	3/17/22 14:40



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Notes and Definitions

S1	Surrogate recovery was above laboratory acceptance limit. No associated target analyte was detected in the sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
H3	Initial analysis within holding time. Reanalysis was past holding time.
E12	Internal standard was added before extract, hence, result in low recovery.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
 - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
 - (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: TB-031722

Lab ID: 2200399-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1-Dichloroethane	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1-Dichloroethene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:32	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:32	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:32	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:32	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 12:32	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 12:32	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:32	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:32	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:32	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:32	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:32	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:32	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 12:32	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:32	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:32	
Chloroform	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:32	
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:32	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:32	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:32	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 12:32	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 12:32	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:32	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: TB-031722

Lab ID: 2200399-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:32	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 12:32	
Methylene chloride	0.81	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 12:32	J
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:32	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:32	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 12:32	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:32	
Styrene	0.24	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	J
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:32	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:32	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:32	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:32	
Trichloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:32	
Trichlorofluoromethane	ND	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 12:32	
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:32	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>105 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 12:32</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>99.5 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 12:32</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>102 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 12:32</i>	
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 12:32</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: CEFF

Lab ID: 2200399-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1-Dichloroethane	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1-Dichloroethene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:57	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:57	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:57	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:57	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 12:57	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 12:57	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:57	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:57	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:57	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 12:57	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:57	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 12:57	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 12:57	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:57	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:57	
Chloroform	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:57	
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:57	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 12:57	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 12:57	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 12:57	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 12:57	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 12:57	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: CEFF

Lab ID: 2200399-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:57	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 12:57	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 12:57	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 12:57	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:57	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 12:57	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:57	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:57	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:57	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 12:57	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 12:57	
Trichloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 12:57	
Trichlorofluoromethane	0.32	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 12:57	J
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 12:57	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 12:57</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>101 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 12:57</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 12:57</i>	
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 12:57</i>	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2C1297	03/21/2022	03/23/22 07:00	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>197 %</i>	<i>13 - 99</i>			B2C1297	03/21/2022	<i>03/23/22 07:00</i>	S1
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>150 %</i>	<i>8 - 111</i>			B2C1297	03/21/2022	<i>03/23/22 07:00</i>	S1
<i>Surrogate: 4-Terphenyl-d14</i>	<i>113 %</i>	<i>12 - 113</i>			B2C1297	03/21/2022	<i>03/23/22 07:00</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>186 %</i>	<i>15 - 121</i>			B2C1297	03/21/2022	<i>03/23/22 07:00</i>	S1



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: CBT

Lab ID: 2200399-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:23	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:23	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 13:23	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 13:23	
1,1-Dichloroethane	0.29	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:23	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:23	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:23	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:23	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:23	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 13:23	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 13:23	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:23	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:23	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:23	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:23	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:23	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:23	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 13:23	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:23	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:23	
Chloroform	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:23	
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:23	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:23	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:23	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 13:23	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 13:23	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:23	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: CBT

Lab ID: 2200399-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:23	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 13:23	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 13:23	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:23	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:23	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 13:23	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:23	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:23	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:23	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:23	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:23	
Trichloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:23	
Trichlorofluoromethane	ND	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 13:23	
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:23	
Surrogate: 1,2-Dichloroethane-d4	102 %	64 - 155			B2C1243	03/18/2022	03/18/22 13:23	
Surrogate: 4-Bromofluorobenzene	92.2 %	73 - 124			B2C1243	03/18/2022	03/18/22 13:23	
Surrogate: Dibromofluoromethane	101 %	78 - 129			B2C1243	03/18/2022	03/18/22 13:23	
Surrogate: Toluene-d8	98.4 %	84 - 117			B2C1243	03/18/2022	03/18/22 13:23	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2C1297	03/21/2022	03/23/22 07:27	
Surrogate: 1,2-Dichlorobenzene-d4	209 %	13 - 99			B2C1297	03/21/2022	03/23/22 07:27	S1
Surrogate: 2-Fluorobiphenyl	160 %	8 - 111			B2C1297	03/21/2022	03/23/22 07:27	S1
Surrogate: 4-Terphenyl-d14	120 %	12 - 113			B2C1297	03/21/2022	03/23/22 07:27	S1
Surrogate: Nitrobenzene-d5	196 %	15 - 121			B2C1297	03/21/2022	03/23/22 07:27	S1



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: POX

Lab ID: 2200399-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:49	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:49	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 13:49	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 13:49	
1,1-Dichloroethane	0.34	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:49	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:49	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:49	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:49	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:49	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 13:49	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 13:49	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:49	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:49	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:49	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 13:49	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:49	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 13:49	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 13:49	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:49	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:49	
Chloroform	0.13	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:49	J
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:49	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 13:49	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 13:49	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 13:49	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 13:49	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 13:49	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: POX

Lab ID: 2200399-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:49	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 13:49	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 13:49	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 13:49	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:49	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 13:49	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:49	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:49	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:49	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 13:49	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 13:49	
Trichloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 13:49	
Trichlorofluoromethane	0.25	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 13:49	J
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 13:49	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 13:49</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.3 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 13:49</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>103 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 13:49</i>	
<i>Surrogate: Toluene-d8</i>	<i>97.2 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 13:49</i>	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2C1297	03/21/2022	03/23/22 07:54	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>200 %</i>	<i>13 - 99</i>			B2C1297	03/21/2022	<i>03/23/22 07:54</i>	S1
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>152 %</i>	<i>8 - 111</i>			B2C1297	03/21/2022	<i>03/23/22 07:54</i>	S1
<i>Surrogate: 4-Terphenyl-d14</i>	<i>117 %</i>	<i>12 - 113</i>			B2C1297	03/21/2022	<i>03/23/22 07:54</i>	S1
<i>Surrogate: Nitrobenzene-d5</i>	<i>189 %</i>	<i>15 - 121</i>			B2C1297	03/21/2022	<i>03/23/22 07:54</i>	S1



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: INF

Lab ID: 2200399-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1-Dichloroethane	0.52	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1-Dichloroethene	61	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:15	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:15	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:15	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:15	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 14:15	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 14:15	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:15	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:15	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:15	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:15	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:15	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:15	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 14:15	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:15	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:15	
Chloroform	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:15	
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:15	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:15	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:15	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 14:15	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 14:15	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:15	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: INF

Lab ID: 2200399-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:15	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 14:15	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 14:15	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:15	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:15	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 14:15	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:15	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:15	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:15	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:15	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:15	
Trichloroethene	0.62	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:15	
Trichlorofluoromethane	0.27	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 14:15	J
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>104 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 14:15</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>88.9 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 14:15</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>101 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 14:15</i>	
<i>Surrogate: Toluene-d8</i>	<i>95.5 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 14:15</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	23	2.0	0.84	1	B2C1448	03/29/2022	03/29/22 21:28	H3
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>102 %</i>	<i>17 - 119</i>			B2C1448	03/29/2022	<i>03/29/22 21:28</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>84.4 %</i>	<i>10 - 133</i>			B2C1448	03/29/2022	<i>03/29/22 21:28</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>91.1 %</i>	<i>5 - 139</i>			B2C1448	03/29/2022	<i>03/29/22 21:28</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>97.9 %</i>	<i>13 - 150</i>			B2C1448	03/29/2022	<i>03/29/22 21:28</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: EW-02

Lab ID: 2200399-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1-Dichloroethane	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1-Dichloroethene	13	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:41	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:41	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:41	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:41	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 14:41	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 14:41	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:41	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:41	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:41	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 14:41	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:41	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 14:41	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 14:41	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:41	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:41	
Chloroform	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:41	
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:41	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 14:41	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 14:41	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 14:41	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 14:41	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 14:41	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: EW-02

Lab ID: 2200399-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:41	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 14:41	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 14:41	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 14:41	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:41	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 14:41	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:41	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:41	
Tetrachloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:41	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 14:41	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 14:41	
Trichloroethene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 14:41	
Trichlorofluoromethane	ND	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 14:41	
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 14:41	
Surrogate: 1,2-Dichloroethane-d4	106 %		64 - 155		B2C1243	03/18/2022	03/18/22 14:41	
Surrogate: 4-Bromofluorobenzene	89.8 %		73 - 124		B2C1243	03/18/2022	03/18/22 14:41	
Surrogate: Dibromofluoromethane	100 %		78 - 129		B2C1243	03/18/2022	03/18/22 14:41	
Surrogate: Toluene-d8	95.4 %		84 - 117		B2C1243	03/18/2022	03/18/22 14:41	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	0.84	1	B2C1448	03/29/2022	03/30/22 18:15	H3
Surrogate: 1,2-Dichlorobenzene-d4	98.0 %		17 - 119		B2C1448	03/29/2022	03/30/22 18:15	
Surrogate: 2-Fluorobiphenyl	89.1 %		10 - 133		B2C1448	03/29/2022	03/30/22 18:15	
Surrogate: 4-Terphenyl-d14	88.2 %		5 - 139		B2C1448	03/29/2022	03/30/22 18:15	
Surrogate: Nitrobenzene-d5	97.1 %		13 - 150		B2C1448	03/29/2022	03/30/22 18:15	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: MW-29

Lab ID: 2200399-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 15:07	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 15:07	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2C1243	03/18/2022	03/18/22 15:07	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2C1243	03/18/2022	03/18/22 15:07	
1,1-Dichloroethane	1.5	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 15:07	
1,1-Dichloroethene	210	5.0	1.3	10	B2C1243	03/18/2022	03/18/22 15:33	
1,1-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2-Dibromoethane	ND	0.50	0.24	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2-Dichloroethane	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 15:07	
1,2-Dichloropropane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 15:07	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 15:07	
1,3-Dichloropropane	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 15:07	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2C1243	03/18/2022	03/18/22 15:07	
2,2-Dichloropropane	ND	0.50	0.38	1	B2C1243	03/18/2022	03/18/22 15:07	
2-Chlorotoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 15:07	
4-Chlorotoluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 15:07	
4-Isopropyltoluene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 15:07	
Benzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
Bromobenzene	ND	0.50	0.21	1	B2C1243	03/18/2022	03/18/22 15:07	
Bromodichloromethane	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 15:07	
Bromoform	ND	0.50	0.20	1	B2C1243	03/18/2022	03/18/22 15:07	
Bromomethane	ND	0.50	0.40	1	B2C1243	03/18/2022	03/18/22 15:07	
Carbon tetrachloride	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 15:07	
Chlorobenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
Chloroethane	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 15:07	
Chloroform	0.23	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 15:07	J
Chloromethane	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 15:07	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2C1243	03/18/2022	03/18/22 15:07	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
Dibromochloromethane	ND	0.50	0.16	1	B2C1243	03/18/2022	03/18/22 15:07	
Dibromomethane	ND	0.50	0.19	1	B2C1243	03/18/2022	03/18/22 15:07	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2C1243	03/18/2022	03/18/22 15:07	
Ethylbenzene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
Hexachlorobutadiene	ND	0.50	0.15	1	B2C1243	03/18/2022	03/18/22 15:07	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Client Sample ID: MW-29

Lab ID: 2200399-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Isopropylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 15:07	
m,p-Xylene	ND	1.0	0.19	1	B2C1243	03/18/2022	03/18/22 15:07	
Methylene chloride	ND	1.0	0.71	1	B2C1243	03/18/2022	03/18/22 15:07	
n-Butylbenzene	ND	0.50	0.11	1	B2C1243	03/18/2022	03/18/22 15:07	
n-Propylbenzene	ND	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 15:07	
Naphthalene	ND	0.50	0.41	1	B2C1243	03/18/2022	03/18/22 15:07	
o-Xylene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
sec-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 15:07	
Styrene	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
tert-Butylbenzene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 15:07	
Tetrachloroethene	0.58	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 15:07	
Toluene	ND	0.50	0.12	1	B2C1243	03/18/2022	03/18/22 15:07	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2C1243	03/18/2022	03/18/22 15:07	
Trichloroethene	1.5	0.50	0.10	1	B2C1243	03/18/2022	03/18/22 15:07	
Trichlorofluoromethane	0.71	0.50	0.23	1	B2C1243	03/18/2022	03/18/22 15:07	
Vinyl chloride	ND	0.50	0.13	1	B2C1243	03/18/2022	03/18/22 15:07	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>103 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 15:07</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>105 %</i>	<i>64 - 155</i>			B2C1243	03/18/2022	<i>03/18/22 15:33</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.6 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 15:07</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>94.5 %</i>	<i>73 - 124</i>			B2C1243	03/18/2022	<i>03/18/22 15:33</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>99.4 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 15:07</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>	<i>78 - 129</i>			B2C1243	03/18/2022	<i>03/18/22 15:33</i>	
<i>Surrogate: Toluene-d8</i>	<i>91.3 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 15:07</i>	
<i>Surrogate: Toluene-d8</i>	<i>94.8 %</i>	<i>84 - 117</i>			B2C1243	03/18/2022	<i>03/18/22 15:33</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	75	2.0	0.84	1	B2C1448	03/29/2022	03/29/22 22:21	H3
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>106 %</i>	<i>17 - 119</i>			B2C1448	03/29/2022	<i>03/29/22 22:21</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>87.0 %</i>	<i>10 - 133</i>			B2C1448	03/29/2022	<i>03/29/22 22:21</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>92.6 %</i>	<i>5 - 139</i>			B2C1448	03/29/2022	<i>03/29/22 22:21</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>96.7 %</i>	<i>13 - 150</i>			B2C1448	03/29/2022	<i>03/29/22 22:21</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1243 - MSVOA_LL_W

Blank (B2C1243-BLK1)

Prepared: 3/18/2022 Analyzed: 3/18/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1243 - MSVOA_LL_W (continued)

Blank (B2C1243-BLK1) - Continued

Prepared: 3/18/2022 Analyzed: 3/18/2022

m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	26.40		25.0000	106	64 - 155
Surrogate: 4-Bromofluorobenzene	24.42		25.0000	97.7	73 - 124
Surrogate: Dibromofluoromethane	24.75		25.0000	99.0	78 - 129
Surrogate: Toluene-d8	25.37		25.0000	101	84 - 117

LCS (B2C1243-BS1)

Prepared: 3/18/2022 Analyzed: 3/18/2022

1,1,1,2-Tetrachloroethane	19.1800	0.50	0.11	20.0000	95.9	79 - 116
1,1,1-Trichloroethane	18.9100	0.50	0.21	20.0000	94.6	73 - 130
1,1,2,2-Tetrachloroethane	20.7700	0.50	0.36	20.0000	104	71 - 122
1,1,2-Trichloroethane	21.6500	0.50	0.25	20.0000	108	70 - 124
1,1-Dichloroethane	20.3800	0.50	0.09	20.0000	102	69 - 128
1,1-Dichloroethene	20.4800	0.50	0.13	20.0000	102	65 - 137
1,1-Dichloropropene	19.6300	0.50	0.13	20.0000	98.2	74 - 129
1,2,3-Trichloropropane	20.2700	0.50	0.39	20.0000	101	74 - 123
1,2,3-Trichlorobenzene	16.7800	0.50	0.18	20.0000	83.9	59 - 130
1,2,4-Trichlorobenzene	18.1500	0.50	0.16	20.0000	90.8	65 - 125
1,2,4-Trimethylbenzene	20.2900	0.50	0.14	20.0000	101	88 - 124
1,2-Dibromo-3-chloropropane	16.8400	0.50	0.41	20.0000	84.2	61 - 127
1,2-Dibromoethane	20.9600	0.50	0.24	20.0000	105	72 - 125
1,2-Dichlorobenzene	19.2500	0.50	0.20	20.0000	96.2	84 - 113
1,2-Dichloroethane	20.2400	0.50	0.20	20.0000	101	68 - 130
1,2-Dichloropropane	22.6300	0.50	0.15	20.0000	113	77 - 121
1,3,5-Trimethylbenzene	20.3300	0.50	0.13	20.0000	102	83 - 124
1,3-Dichlorobenzene	19.5000	0.50	0.16	20.0000	97.5	83 - 112
1,3-Dichloropropane	21.5400	0.50	0.21	20.0000	108	77 - 119
1,4-Dichlorobenzene	19.3700	0.50	0.17	20.0000	96.8	79 - 115
2,2-Dichloropropane	16.3800	0.50	0.38	20.0000	81.9	67 - 149
2-Chlorotoluene	20.1800	0.50	0.11	20.0000	101	81 - 119
4-Chlorotoluene	20.1600	0.50	0.12	20.0000	101	86 - 117
4-Isopropyltoluene	19.4800	0.50	0.11	20.0000	97.4	82 - 131



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	Limit	RPD	Limit	Notes

Batch B2C1243 - MSVOA_LL_W (continued)

LCS (B2C1243-BS1) - Continued

Prepared: 3/18/2022 Analyzed: 3/18/2022

Benzene	20.1900	0.50	0.13	20.0000		101	75 - 124			
Bromobenzene	19.7100	0.50	0.21	20.0000		98.6	82 - 108			
Bromodichloromethane	20.9700	0.50	0.14	20.0000		105	80 - 120			
Bromoform	19.0600	0.50	0.20	20.0000		95.3	70 - 123			
Bromomethane	19.3200	0.50	0.40	20.0000		96.6	44 - 151			
Carbon tetrachloride	17.1600	0.50	0.09	20.0000		85.8	62 - 140			
Chlorobenzene	20.3500	0.50	0.13	20.0000		102	80 - 112			
Chloroethane	22.3600	0.50	0.15	20.0000		112	42 - 167			
Chloroform	19.6500	0.50	0.11	20.0000		98.2	77 - 122			
Chloromethane	20.2000	0.50	0.12	20.0000		101	33 - 153			
cis-1,2-Dichloroethene	15.4500	0.50	0.14	20.0000		77.2	75 - 121			
cis-1,3-Dichloropropene	20.2700	0.50	0.13	20.0000		101	73 - 127			
Dibromochloromethane	20.4500	0.50	0.16	20.0000		102	77 - 122			
Dibromomethane	21.4200	0.50	0.19	20.0000		107	75 - 121			
Dichlorodifluoromethane	14.2900	0.50	0.18	20.0000		71.4	0 - 171			
Ethylbenzene	20.5600	0.50	0.13	20.0000		103	82 - 119			
Hexachlorobutadiene	17.4500	0.50	0.15	20.0000		87.2	71 - 131			
Isopropylbenzene	20.3600	0.50	0.10	20.0000		102	75 - 126			
m,p-Xylene	40.9500	1.0	0.19	40.0000		102	86 - 119			
Methylene chloride	22.4500	1.0	0.71	20.0000		112	76 - 125			
n-Butylbenzene	19.5400	0.50	0.11	20.0000		97.7	81 - 125			
n-Propylbenzene	19.6800	0.50	0.10	20.0000		98.4	78 - 130			
Naphthalene	15.8400	0.50	0.41	20.0000		79.2	47 - 128			
o-Xylene	20.5000	0.50	0.13	20.0000		102	85 - 119			
sec-Butylbenzene	20.6800	0.50	0.09	20.0000		103	78 - 130			
Styrene	20.4200	0.50	0.13	20.0000		102	62 - 148			
tert-Butylbenzene	19.3900	0.50	0.09	20.0000		97.0	77 - 125			
Tetrachloroethene	19.3600	0.50	0.10	20.0000		96.8	73 - 120			
Toluene	21.3100	0.50	0.12	20.0000		107	79 - 119			
trans-1,2-Dichloroethene	24.9500	0.50	0.09	20.0000		125	70 - 129			
Trichloroethene	19.3200	0.50	0.10	20.0000		96.6	73 - 117			
Trichlorofluoromethane	21.0100	0.50	0.23	20.0000		105	59 - 135			
Vinyl chloride	21.1700	0.50	0.13	20.0000		106	58 - 132			

Surrogate: 1,2-Dichloroethane-d4

25.81

25.0000

103

64 - 155

Surrogate: 4-Bromofluorobenzene

24.03

25.0000

96.1

73 - 124

Surrogate: Dibromofluoromethane

24.67

25.0000

98.7

78 - 129

Surrogate: Toluene-d8

26.43

25.0000

106

84 - 117

LCS Dup (B2C1243-BS1)

Prepared: 3/18/2022 Analyzed: 3/18/2022

1,1,1,2-Tetrachloroethane	18.2400	0.50	0.11	20.0000		91.2	79 - 116	5.02	20	
1,1,1-Trichloroethane	18.2100	0.50	0.21	20.0000		91.0	73 - 130	3.77	20	
1,1,2,2-Tetrachloroethane	19.3200	0.50	0.36	20.0000		96.6	71 - 122	7.23	20	
1,1,2-Trichloroethane	20.0700	0.50	0.25	20.0000		100	70 - 124	7.57	20	
1,1-Dichloroethane	19.4000	0.50	0.09	20.0000		97.0	69 - 128	4.93	20	
1,1-Dichloroethene	17.9000	0.50	0.13	20.0000		89.5	65 - 137	13.4	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1243 - MSVOA_LL_W (continued)

LCS Dup (B2C1243-BSD1) - Continued

Prepared: 3/18/2022 Analyzed: 3/18/2022

1,1-Dichloropropene	17.9200	0.50	0.13	20.0000		89.6	74 - 129	9.11	20
1,2,3-Trichloropropane	18.8700	0.50	0.39	20.0000		94.4	74 - 123	7.15	20
1,2,3-Trichlorobenzene	15.6100	0.50	0.18	20.0000		78.0	59 - 130	7.22	20
1,2,4-Trichlorobenzene	16.6700	0.50	0.16	20.0000		83.4	65 - 125	8.50	20
1,2,4-Trimethylbenzene	18.3200	0.50	0.14	20.0000		91.6	88 - 124	10.2	20
1,2-Dibromo-3-chloropropane	16.2400	0.50	0.41	20.0000		81.2	61 - 127	3.63	20
1,2-Dibromoethane	19.3800	0.50	0.24	20.0000		96.9	72 - 125	7.83	20
1,2-Dichlorobenzene	18.8600	0.50	0.20	20.0000		94.3	84 - 113	2.05	20
1,2-Dichloroethane	19.1000	0.50	0.20	20.0000		95.5	68 - 130	5.80	20
1,2-Dichloropropane	20.9400	0.50	0.15	20.0000		105	77 - 121	7.76	20
1,3,5-Trimethylbenzene	18.1600	0.50	0.13	20.0000		90.8	83 - 124	11.3	20
1,3-Dichlorobenzene	17.4100	0.50	0.16	20.0000		87.0	83 - 112	11.3	20
1,3-Dichloropropane	20.4800	0.50	0.21	20.0000		102	77 - 119	5.05	20
1,4-Dichlorobenzene	18.1800	0.50	0.17	20.0000		90.9	79 - 115	6.34	20
2,2-Dichloropropane	17.0000	0.50	0.38	20.0000		85.0	67 - 149	3.71	20
2-Chlorotoluene	17.7800	0.50	0.11	20.0000		88.9	81 - 119	12.6	20
4-Chlorotoluene	18.0800	0.50	0.12	20.0000		90.4	86 - 117	10.9	20
4-Isopropyltoluene	17.4900	0.50	0.11	20.0000		87.4	82 - 131	10.8	20
Benzene	19.1100	0.50	0.13	20.0000		95.6	75 - 124	5.50	20
Bromobenzene	18.0600	0.50	0.21	20.0000		90.3	82 - 108	8.74	20
Bromodichloromethane	19.0000	0.50	0.14	20.0000		95.0	80 - 120	9.86	20
Bromoform	18.3000	0.50	0.20	20.0000		91.5	70 - 123	4.07	20
Bromomethane	18.8500	0.50	0.40	20.0000		94.2	44 - 151	2.46	20
Carbon tetrachloride	16.4400	0.50	0.09	20.0000		82.2	62 - 140	4.29	20
Chlorobenzene	18.4700	0.50	0.13	20.0000		92.4	80 - 112	9.69	20
Chloroethane	19.8800	0.50	0.15	20.0000		99.4	42 - 167	11.7	20
Chloroform	18.3000	0.50	0.11	20.0000		91.5	77 - 122	7.11	20
Chloromethane	18.2600	0.50	0.12	20.0000		91.3	33 - 153	10.1	20
cis-1,2-Dichloroethene	15.6100	0.50	0.14	20.0000		78.0	75 - 121	1.03	20
cis-1,3-Dichloropropene	18.2300	0.50	0.13	20.0000		91.2	73 - 127	10.6	20
Dibromochloromethane	19.5400	0.50	0.16	20.0000		97.7	77 - 122	4.55	20
Dibromomethane	20.1300	0.50	0.19	20.0000		101	75 - 121	6.21	20
Dichlorodifluoromethane	11.8600	0.50	0.18	20.0000		59.3	0 - 171	18.6	20
Ethylbenzene	18.9800	0.50	0.13	20.0000		94.9	82 - 119	7.99	20
Hexachlorobutadiene	17.2500	0.50	0.15	20.0000		86.2	71 - 131	1.15	20
Isopropylbenzene	18.7800	0.50	0.10	20.0000		93.9	75 - 126	8.07	20
m,p-Xylene	36.9200	1.0	0.19	40.0000		92.3	86 - 119	10.4	20
Methylene chloride	22.0400	1.0	0.71	20.0000		110	76 - 125	1.84	20
n-Butylbenzene	17.9100	0.50	0.11	20.0000		89.6	81 - 125	8.70	20
n-Propylbenzene	17.5700	0.50	0.10	20.0000		87.8	78 - 130	11.3	20
Naphthalene	15.4300	0.50	0.41	20.0000		77.2	47 - 128	2.62	20
o-Xylene	19.4400	0.50	0.13	20.0000		97.2	85 - 119	5.31	20
sec-Butylbenzene	18.9600	0.50	0.09	20.0000		94.8	78 - 130	8.68	20
Styrene	19.0900	0.50	0.13	20.0000		95.4	62 - 148	6.73	20
tert-Butylbenzene	17.5400	0.50	0.09	20.0000		87.7	77 - 125	10.0	20



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1243 - MSVOA_LL_W (continued)

LCS Dup (B2C1243-BS1) - Continued

Prepared: 3/18/2022 Analyzed: 3/18/2022

Tetrachloroethene	18.1200	0.50	0.10	20.0000		90.6	73 - 120	6.62	20
Toluene	19.1600	0.50	0.12	20.0000		95.8	79 - 119	10.6	20
trans-1,2-Dichloroethene	23.7400	0.50	0.09	20.0000		119	70 - 129	4.97	20
Trichloroethene	18.2800	0.50	0.10	20.0000		91.4	73 - 117	5.53	20
Trichlorofluoromethane	18.7800	0.50	0.23	20.0000		93.9	59 - 135	11.2	20
Vinyl chloride	19.3000	0.50	0.13	20.0000		96.5	58 - 132	9.24	20
Surrogate: 1,2-Dichloroethane-d4	25.21			25.0000		101	64 - 155		
Surrogate: 4-Bromofluorobenzene	23.80			25.0000		95.2	73 - 124		
Surrogate: Dibromofluoromethane	25.84			25.0000		103	78 - 129		
Surrogate: Toluene-d8	24.95			25.0000		99.8	84 - 117		



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1448 - MSSEMI_W

Blank (B2C1448-BLK1)

Prepared: 3/29/2022 Analyzed: 3/29/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	102.6		100.000	103	17 - 119
Surrogate: 2-Fluorobiphenyl	88.13		100.000	88.1	10 - 133
Surrogate: 4-Terphenyl-d14	91.82		100.000	91.8	5 - 139
Surrogate: Nitrobenzene-d5	96.89		100.000	96.9	13 - 150

Blank (B2C1448-BLK2)

Prepared: 3/29/2022 Analyzed: 3/30/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	101.2		100.000	101	17 - 119
Surrogate: 2-Fluorobiphenyl	87.15		100.000	87.2	10 - 133
Surrogate: 4-Terphenyl-d14	93.82		100.000	93.8	5 - 139
Surrogate: Nitrobenzene-d5	98.48		100.000	98.5	13 - 150

LCS (B2C1448-BS1)

Prepared: 3/29/2022 Analyzed: 3/29/2022

1,4-Dioxane 96.5900 2.0 0.84 100.000 96.6 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	96.11		100.000	96.1	17 - 119
Surrogate: 2-Fluorobiphenyl	76.83		100.000	76.8	10 - 133
Surrogate: 4-Terphenyl-d14	91.15		100.000	91.2	5 - 139
Surrogate: Nitrobenzene-d5	103.8		100.000	104	13 - 150

LCS (B2C1448-BS2)

Prepared: 3/29/2022 Analyzed: 3/30/2022

1,4-Dioxane 97.5200 2.0 0.84 100.000 97.5 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	102.0		100.000	102	17 - 119
Surrogate: 2-Fluorobiphenyl	87.21		100.000	87.2	10 - 133
Surrogate: 4-Terphenyl-d14	91.08		100.000	91.1	5 - 139
Surrogate: Nitrobenzene-d5	94.72		100.000	94.7	13 - 150

LCS Dup (B2C1448-BSD1)

Prepared: 3/29/2022 Analyzed: 3/29/2022

1,4-Dioxane 97.9000 2.0 0.84 100.000 97.9 75 - 155 1.35 20

Surrogate: 1,2-Dichlorobenzene-d4	99.37		100.000	99.4	17 - 119
Surrogate: 2-Fluorobiphenyl	90.56		100.000	90.6	10 - 133
Surrogate: 4-Terphenyl-d14	93.44		100.000	93.4	5 - 139
Surrogate: Nitrobenzene-d5	101.8		100.000	102	13 - 150

LCS Dup (B2C1448-BSD2)

Prepared: 3/29/2022 Analyzed: 3/30/2022

1,4-Dioxane 101.450 2.0 0.84 100.000 101 75 - 155 3.95 20

Surrogate: 1,2-Dichlorobenzene-d4	105.8		100.000	106	17 - 119
Surrogate: 2-Fluorobiphenyl	88.51		100.000	88.5	10 - 133
Surrogate: 4-Terphenyl-d14	88.15		100.000	88.2	5 - 139
Surrogate: Nitrobenzene-d5	101.9		100.000	102	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 03/31/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2C1297 - MSSEMI_W

Blank (B2C1297-BLK1)

Prepared: 3/21/2022 Analyzed: 3/23/2022

1,4-Dioxane ND 0.20 0.05

Surrogate: 1,2-Dichlorobenzene-d4	2.019			1.00000	202	13 - 99			S1
Surrogate: 2-Fluorobiphenyl	1.565			1.00000	157	8 - 111			S1
Surrogate: 4-Terphenyl-d14	1.126			1.00000	113	12 - 113			
Surrogate: Nitrobenzene-d5	1.945			1.00000	194	15 - 121			S1

LCS (B2C1297-BS1)

Prepared: 3/21/2022 Analyzed: 3/23/2022

1,4-Dioxane 1.26552 0.20 0.05 1.00000 127 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	1.931			1.00000	193	13 - 99			E12
Surrogate: 2-Fluorobiphenyl	1.563			1.00000	156	8 - 111			E12
Surrogate: 4-Terphenyl-d14	1.155			1.00000	115	12 - 113			E12
Surrogate: Nitrobenzene-d5	1.834			1.00000	183	15 - 121			E12

LCS Dup (B2C1297-BS1)

Prepared: 3/21/2022 Analyzed: 3/23/2022

1,4-Dioxane 1.12770 0.20 0.05 1.00000 113 75 - 155 11.5 20

Surrogate: 1,2-Dichlorobenzene-d4	1.906			1.00000	191	13 - 99			E12
Surrogate: 2-Fluorobiphenyl	1.517			1.00000	152	8 - 111			E12
Surrogate: 4-Terphenyl-d14	1.146			1.00000	115	12 - 113			E12
Surrogate: Nitrobenzene-d5	1.868			1.00000	187	15 - 121			E12

2200399

Date: 3/17/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Mid Month Sample

TASK NO.: 532.15

Project Manager Steve Netto
QA Manager Ruben Sanchez
Phone 858.455.6500
Fax 858.455.6533

Sampled By: <u>Ruben Sanchez</u>				SAMPLE COLLECTION				MATRIX		PRESERVATION		CONTAINERS				ANALYSIS REQUESTED										Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				REMARKS	
LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	125 mL Poly	250 mL Poly	250 mL Glass	1 L Poly	1L Amber	VOCs by EPA 8260B	Bromate by EPA 317	Bromide by EPA 300	Alkalinity by SM2320B	Total Organic Carbon by SM5310B	Total Suspended Solids by SM2540D	UV Absorption EPA 415.3 @254 nm	1,4-Dioxane by EPA 8270C MOD	1,4-Dioxane by EPA 8270C SIM	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested		
1	TB-031722	3/17/2022	8:00		X	X				X	2					X									X										
2	CEFF	3/17/2022	9:30	X		X				X	3				1	X								X	X										
3	CBT	3/17/2022	9:40	X		X				X	3				1	X							X	X											
4	POX	3/17/2022	9:45	X		X				X	3				1	X							X	X											
5	INF	3/17/2022	9:50	X		X				X	3				1	X						X				X									
6	EW-02	3/17/2022	10:15	X		X				X	3				1	X						X			X										
7	MW-29	3/17/2022	10:30	X		X				X	3				1	X						X			X										
Total number of containers per analysis:				20										6														Total No. of Containers: 26							

Relinquished By: / Company:		Date / Time	Received By: / Company		Date / Time
<u>[Signature]</u> HHA		3-17-22 10:58	<u>[Signature]</u> HHA		3-17-22 10:58
Relinquished By: / Company:		Date / Time	Received By: / Company		Date / Time
<u>[Signature]</u> HHA		3-17-22 14:40	<u>[Signature]</u> DANNGLE		3/17/22 16:40

- ☒ No. of containers correct
☒ Received in good condition
☐ Custody seals secure
☐ Conforms to COC document

Send Results to:
Steve Netto & Ruben Sanchez
 3131 Camino Del Rio North
 Suite 355
 San Diego, CA 92108
 Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

Instructions

- Fill out form completely and sign only after verified for completeness
- Complete in ballpoint pen. Draw one line through error, initial and date correction
- Indicate the number of sample containers in analytical request space; indicate choice with ✓ or x
- Note applicable preservatives, special instructions, and deviations from typical environmental samples.
- Consult project QA documents for specific instructions.

32°C Temperature on receipt

June 17, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

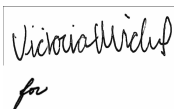
Re: ATL Work Order Number : 2200589

Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on April 07, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,



Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 06/17/22 14:47 on Behalf of



Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-040722	2200589-01	Water	4/07/22 8:00	4/07/22 15:11
CEFF	2200589-02	Groundwater	4/07/22 10:20	4/07/22 15:11
CBT	2200589-03	Groundwater	4/07/22 10:30	4/07/22 15:11
POX	2200589-04	Groundwater	4/07/22 10:32	4/07/22 15:11
PF	2200589-05	Groundwater	4/07/22 10:40	4/07/22 15:11
INF	2200589-06	Groundwater	4/07/22 10:50	4/07/22 15:11
EW-02	2200589-07	Groundwater	4/07/22 11:10	4/07/22 15:11
MW-29	2200589-08	Groundwater	4/07/22 11:15	4/07/22 15:11



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Notes and Definitions

S4	Surrogate was diluted out.
S13	Surrogate recovery was below laboratory acceptance limit. Sample reanalysis showed the same low recovery.
S12	Surrogate recovery outside in-house established limit but within method default criteria.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
S1	Surrogate recovery was above laboratory acceptance limit. No associated target analyte was detected in the sample.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
D10	Sample required dilution due to dark sample
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.



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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D

Analyte: Residue, Suspended

Analyst: JF

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2200589-05	PF	ND	mg/L	1.0	1	B2D1294	04/11/2022	04/12/22 12:00	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: TB-040722

Lab ID: 2200589-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1,1-Trichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1,2-Trichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1-Dichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,1-Dichloropropene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2,3-Trichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2-Dibromoethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2-Dichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,2-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,3-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,3-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
1,4-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
2,2-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
2-Chlorotoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
4-Chlorotoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
4-Isopropyltoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Benzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Bromobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Bromodichloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Bromoform	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Bromomethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Carbon tetrachloride	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Chlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Chloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Chloroform	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Chloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Dibromochloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Dibromomethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Dichlorodifluoromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Ethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: TB-040722

Lab ID: 2200589-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Isopropylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
m,p-Xylene	ND	1.0	1	B2D1257	04/11/2022	04/11/22 13:53	
Methylene chloride	ND	1.0	1	B2D1257	04/11/2022	04/11/22 13:53	
n-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
n-Propylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Naphthalene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
o-Xylene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
sec-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Styrene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
tert-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Tetrachloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Toluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Trichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Trichlorofluoromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Vinyl chloride	ND	0.50	1	B2D1257	04/11/2022	04/11/22 13:53	
Surrogate: 1,2-Dichloroethane-d4	123 %	64 - 155		B2D1257	04/11/2022	04/11/22 13:53	
Surrogate: 4-Bromofluorobenzene	96.5 %	73 - 124		B2D1257	04/11/2022	04/11/22 13:53	
Surrogate: Dibromofluoromethane	115 %	78 - 129		B2D1257	04/11/2022	04/11/22 13:53	
Surrogate: Toluene-d8	97.6 %	84 - 117		B2D1257	04/11/2022	04/11/22 13:53	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: CEFF

Lab ID: 2200589-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1,1-Trichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1,2-Trichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1-Dichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,1-Dichloropropene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2,3-Trichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2-Dibromoethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2-Dichloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,2-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,3-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,3-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
1,4-Dichlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
2,2-Dichloropropane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
2-Chlorotoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
4-Chlorotoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
4-Isopropyltoluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Benzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Bromobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Bromodichloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Bromoform	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Bromomethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Carbon tetrachloride	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Chlorobenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Chloroethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Chloroform	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Chloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Dibromochloromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Dibromomethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Dichlorodifluoromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Ethylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: CEFF

Lab ID: 2200589-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Isopropylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
m,p-Xylene	ND	1.0	1	B2D1257	04/11/2022	04/11/22 14:19	
Methylene chloride	ND	1.0	1	B2D1257	04/11/2022	04/11/22 14:19	
n-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
n-Propylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Naphthalene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
o-Xylene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
sec-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Styrene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
tert-Butylbenzene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Tetrachloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Toluene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Trichloroethene	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Trichlorofluoromethane	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Vinyl chloride	ND	0.50	1	B2D1257	04/11/2022	04/11/22 14:19	
Surrogate: 1,2-Dichloroethane-d4	113 %	64 - 155		B2D1257	04/11/2022	04/11/22 14:19	
Surrogate: 4-Bromofluorobenzene	150 %	73 - 124		B2D1257	04/11/2022	04/11/22 14:19	S1
Surrogate: Dibromofluoromethane	93.3 %	78 - 129		B2D1257	04/11/2022	04/11/22 14:19	
Surrogate: Toluene-d8	50.3 %	84 - 117		B2D1257	04/11/2022	04/11/22 14:19	S13

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	4.0	20	B2D1270	04/11/2022	04/12/22 02:50	D10
Surrogate: 1,2-Dichlorobenzene-d4	2070 %	13 - 99		B2D1270	04/11/2022	04/12/22 02:50	S4
Surrogate: 2-Fluorobiphenyl	2400 %	8 - 111		B2D1270	04/11/2022	04/12/22 02:50	S4
Surrogate: 4-Terphenyl-d14	2490 %	12 - 113		B2D1270	04/11/2022	04/12/22 02:50	S4
Surrogate: Nitrobenzene-d5	1590 %	15 - 121		B2D1270	04/11/2022	04/12/22 02:50	S4



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: CBT

Lab ID: 2200589-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1,1-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1,2-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1-Dichloroethane	0.50	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,1-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2,3-Trichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2-Dibromoethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,3-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,3-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
1,4-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
2,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
2-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
4-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
4-Isopropyltoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Benzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Bromobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Bromodichloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Bromoform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Bromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Carbon tetrachloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Chlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Chloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Chloroform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Chloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Dibromochloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Dibromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Dichlorodifluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Ethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: CBT

Lab ID: 2200589-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Isopropylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
m,p-Xylene	ND	1.0	1	B2D1232	04/08/2022	04/08/22 14:31	
Methylene chloride	ND	1.0	1	B2D1232	04/08/2022	04/08/22 14:31	
n-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
n-Propylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Naphthalene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
o-Xylene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
sec-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Styrene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
tert-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Tetrachloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Toluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Trichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Trichlorofluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Vinyl chloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:31	
Surrogate: 1,2-Dichloroethane-d4	117 %	64 - 155		B2D1232	04/08/2022	04/08/22 14:31	
Surrogate: 4-Bromofluorobenzene	97.5 %	73 - 124		B2D1232	04/08/2022	04/08/22 14:31	
Surrogate: Dibromofluoromethane	105 %	78 - 129		B2D1232	04/08/2022	04/08/22 14:31	
Surrogate: Toluene-d8	121 %	84 - 117		B2D1232	04/08/2022	04/08/22 14:31	S12

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	4.0	20	B2D1270	04/11/2022	04/12/22 03:17	D10
Surrogate: 1,2-Dichlorobenzene-d4	2030 %	13 - 99		B2D1270	04/11/2022	04/12/22 03:17	S4
Surrogate: 2-Fluorobiphenyl	2430 %	8 - 111		B2D1270	04/11/2022	04/12/22 03:17	S4
Surrogate: 4-Terphenyl-d14	2450 %	12 - 113		B2D1270	04/11/2022	04/12/22 03:17	S4
Surrogate: Nitrobenzene-d5	1570 %	15 - 121		B2D1270	04/11/2022	04/12/22 03:17	S4



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: POX

Lab ID: 2200589-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1,1-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1,2-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,1-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2,3-Trichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2-Dibromoethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,3-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,3-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
1,4-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
2,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
2-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
4-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
4-Isopropyltoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Benzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Bromobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Bromodichloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Bromoform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Bromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Carbon tetrachloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Chlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Chloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Chloroform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Chloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Dibromochloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Dibromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Dichlorodifluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Ethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: POX

Lab ID: 2200589-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Isopropylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
m,p-Xylene	ND	1.0	1	B2D1232	04/08/2022	04/08/22 14:57	
Methylene chloride	ND	1.0	1	B2D1232	04/08/2022	04/08/22 14:57	
n-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
n-Propylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Naphthalene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
o-Xylene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
sec-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Styrene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
tert-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Tetrachloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Toluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Trichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Trichlorofluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Vinyl chloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 14:57	
Surrogate: 1,2-Dichloroethane-d4	113 %	64 - 155		B2D1232	04/08/2022	04/08/22 14:57	
Surrogate: 4-Bromofluorobenzene	95.4 %	73 - 124		B2D1232	04/08/2022	04/08/22 14:57	
Surrogate: Dibromofluoromethane	118 %	78 - 129		B2D1232	04/08/2022	04/08/22 14:57	
Surrogate: Toluene-d8	106 %	84 - 117		B2D1232	04/08/2022	04/08/22 14:57	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	4.0	20	B2D1270	04/11/2022	04/12/22 03:44	D10
Surrogate: 1,2-Dichlorobenzene-d4	2050 %	13 - 99		B2D1270	04/11/2022	04/12/22 03:44	S4
Surrogate: 2-Fluorobiphenyl	2370 %	8 - 111		B2D1270	04/11/2022	04/12/22 03:44	S4
Surrogate: 4-Terphenyl-d14	2480 %	12 - 113		B2D1270	04/11/2022	04/12/22 03:44	S4
Surrogate: Nitrobenzene-d5	1770 %	15 - 121		B2D1270	04/11/2022	04/12/22 03:44	S4



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: INF

Lab ID: 2200589-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1,1-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1,2-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1-Dichloroethane	0.61	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1-Dichloroethene	65	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,1-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2,3-Trichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2-Dibromoethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,3-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,3-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
1,4-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
2,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
2-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
4-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
4-Isopropyltoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Benzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Bromobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Bromodichloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Bromoform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Bromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Carbon tetrachloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Chlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Chloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Chloroform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Chloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Dibromochloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Dibromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Dichlorodifluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Ethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: INF

Lab ID: 2200589-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Isopropylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
m,p-Xylene	ND	1.0	1	B2D1232	04/08/2022	04/08/22 15:23	
Methylene chloride	ND	1.0	1	B2D1232	04/08/2022	04/08/22 15:23	
n-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
n-Propylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Naphthalene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
o-Xylene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
sec-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Styrene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
tert-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Tetrachloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Toluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Trichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Trichlorofluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Vinyl chloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:23	
Surrogate: 1,2-Dichloroethane-d4	113 %	64 - 155		B2D1232	04/08/2022	04/08/22 15:23	
Surrogate: 4-Bromofluorobenzene	88.3 %	73 - 124		B2D1232	04/08/2022	04/08/22 15:23	
Surrogate: Dibromofluoromethane	118 %	78 - 129		B2D1232	04/08/2022	04/08/22 15:23	
Surrogate: Toluene-d8	87.2 %	84 - 117		B2D1232	04/08/2022	04/08/22 15:23	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	24	2.0	1	B2D1277	04/11/2022	04/13/22 19:18	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	17 - 119		B2D1277	04/11/2022	04/13/22 19:18	
Surrogate: 2-Fluorobiphenyl	93.0 %	10 - 133		B2D1277	04/11/2022	04/13/22 19:18	
Surrogate: 4-Terphenyl-d14	93.5 %	5 - 139		B2D1277	04/11/2022	04/13/22 19:18	
Surrogate: Nitrobenzene-d5	93.6 %	13 - 150		B2D1277	04/11/2022	04/13/22 19:18	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: EW-02

Lab ID: 2200589-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1,1-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1,2-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1-Dichloroethene	16	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,1-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2,3-Trichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2-Dibromoethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,3-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,3-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
1,4-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
2,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
2-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
4-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
4-Isopropyltoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Benzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Bromobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Bromodichloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Bromoform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Bromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Carbon tetrachloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Chlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Chloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Chloroform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Chloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Dibromochloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Dibromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Dichlorodifluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Ethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: EW-02

Lab ID: 2200589-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Isopropylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
m,p-Xylene	ND	1.0	1	B2D1232	04/08/2022	04/08/22 15:49	
Methylene chloride	ND	1.0	1	B2D1232	04/08/2022	04/08/22 15:49	
n-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
n-Propylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Naphthalene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
o-Xylene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
sec-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Styrene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
tert-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Tetrachloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Toluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Trichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Trichlorofluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Vinyl chloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 15:49	
Surrogate: 1,2-Dichloroethane-d4	114 %	64 - 155		B2D1232	04/08/2022	04/08/22 15:49	
Surrogate: 4-Bromofluorobenzene	91.6 %	73 - 124		B2D1232	04/08/2022	04/08/22 15:49	
Surrogate: Dibromofluoromethane	109 %	78 - 129		B2D1232	04/08/2022	04/08/22 15:49	
Surrogate: Toluene-d8	101 %	84 - 117		B2D1232	04/08/2022	04/08/22 15:49	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	1	B2D1277	04/11/2022	04/13/22 19:44	
Surrogate: 1,2-Dichlorobenzene-d4	96.5 %	17 - 119		B2D1277	04/11/2022	04/13/22 19:44	
Surrogate: 2-Fluorobiphenyl	91.8 %	10 - 133		B2D1277	04/11/2022	04/13/22 19:44	
Surrogate: 4-Terphenyl-d14	94.3 %	5 - 139		B2D1277	04/11/2022	04/13/22 19:44	
Surrogate: Nitrobenzene-d5	94.1 %	13 - 150		B2D1277	04/11/2022	04/13/22 19:44	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: MW-29

Lab ID: 2200589-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,1,1-Trichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,1,2-Trichloroethane	0.61	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,1-Dichloroethane	1.4	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,1-Dichloroethene	340	5.0	10	B2D1232	04/08/2022	04/08/22 16:41	
1,1-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2,3-Trichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2,3-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2,4-Trichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2,4-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2-Dibromoethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2-Dichloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,3,5-Trimethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,3-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,3-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
1,4-Dichlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
2,2-Dichloropropane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
2-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
4-Chlorotoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
4-Isopropyltoluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Benzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Bromobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Bromodichloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Bromoform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Bromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Carbon tetrachloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Chlorobenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Chloroethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Chloroform	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Chloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
cis-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
cis-1,3-Dichloropropene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Dibromochloromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Dibromomethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Dichlorodifluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Ethylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Client Sample ID: MW-29

Lab ID: 2200589-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Isopropylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
m,p-Xylene	ND	1.0	1	B2D1232	04/08/2022	04/08/22 16:15	
Methylene chloride	ND	1.0	1	B2D1232	04/08/2022	04/08/22 16:15	
n-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
n-Propylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Naphthalene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
o-Xylene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
sec-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Styrene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
tert-Butylbenzene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Tetrachloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Toluene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
trans-1,2-Dichloroethene	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Trichloroethene	1.3	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Trichlorofluoromethane	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
Vinyl chloride	ND	0.50	1	B2D1232	04/08/2022	04/08/22 16:15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>116 %</i>	<i>64 - 155</i>		B2D1232	04/08/2022	04/08/22 16:15	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>125 %</i>	<i>64 - 155</i>		B2D1232	04/08/2022	04/08/22 16:41	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>84.4 %</i>	<i>73 - 124</i>		B2D1232	04/08/2022	04/08/22 16:15	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>82.4 %</i>	<i>73 - 124</i>		B2D1232	04/08/2022	04/08/22 16:41	
<i>Surrogate: Dibromofluoromethane</i>	<i>81.7 %</i>	<i>78 - 129</i>		B2D1232	04/08/2022	04/08/22 16:15	
<i>Surrogate: Dibromofluoromethane</i>	<i>98.6 %</i>	<i>78 - 129</i>		B2D1232	04/08/2022	04/08/22 16:41	
<i>Surrogate: Toluene-d8</i>	<i>136 %</i>	<i>84 - 117</i>		B2D1232	04/08/2022	04/08/22 16:15	S10
<i>Surrogate: Toluene-d8</i>	<i>93.6 %</i>	<i>84 - 117</i>		B2D1232	04/08/2022	04/08/22 16:41	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	74	2.0	1	B2D1277	04/11/2022	04/13/22 20:10	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>94.8 %</i>	<i>17 - 119</i>		B2D1277	04/11/2022	04/13/22 20:10	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>96.4 %</i>	<i>10 - 133</i>		B2D1277	04/11/2022	04/13/22 20:10	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>98.4 %</i>	<i>5 - 139</i>		B2D1277	04/11/2022	04/13/22 20:10	
<i>Surrogate: Nitrobenzene-d5</i>	<i>99.5 %</i>	<i>13 - 150</i>		B2D1277	04/11/2022	04/13/22 20:10	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

QUALITY CONTROL SECTION

Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1294 - No_Prep_WC1_W

Blank (B2D1294-BLK1)

Prepared: 4/11/2022 Analyzed: 4/12/2022

Residue, Suspended ND 1.0 1.0

LCS (B2D1294-BS1)

Prepared: 4/11/2022 Analyzed: 4/12/2022

Residue, Suspended 91.0000 10 10 100.000 91.0 80 - 120

Duplicate (B2D1294-DUP1)

Source: 2200572-01

Prepared: 4/11/2022 Analyzed: 4/12/2022

Residue, Suspended 435.000 50 50 460.000 5.59 10



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Hargis & Associates, Inc.

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1232 - MSVOA_LL_W

Blank (B2D1232-BLK1)

Prepared: 4/8/2022 Analyzed: 4/8/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1232 - MSVOA_LL_W (continued)

Blank (B2D1232-BLK1) - Continued

Prepared: 4/8/2022 Analyzed: 4/8/2022

n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	30.58		25.0000	122	64 - 155
Surrogate: 4-Bromofluorobenzene	25.37		25.0000	101	73 - 124
Surrogate: Dibromofluoromethane	29.58		25.0000	118	78 - 129
Surrogate: Toluene-d8	25.97		25.0000	104	84 - 117

LCS (B2D1232-BS1)

Prepared: 4/8/2022 Analyzed: 4/8/2022

1,1,1,2-Tetrachloroethane	20.2500	0.50	0.11	20.0000	101	79 - 116	
1,1,1-Trichloroethane	20.7400	0.50	0.21	20.0000	104	73 - 130	
1,1,2,2-Tetrachloroethane	21.5600	0.50	0.36	20.0000	108	71 - 122	
1,1,2-Trichloroethane	18.8700	0.50	0.25	20.0000	94.4	70 - 124	
1,1-Dichloroethane	22.5900	0.50	0.09	20.0000	113	69 - 128	
1,1-Dichloroethene	25.1700	0.50	0.13	20.0000	126	65 - 137	
1,1-Dichloropropene	17.0700	0.50	0.13	20.0000	85.4	74 - 129	
1,2,3-Trichloropropane	20.3900	0.50	0.39	20.0000	102	74 - 123	
1,2,3-Trichlorobenzene	19.7800	0.50	0.18	20.0000	98.9	59 - 130	
1,2,4-Trichlorobenzene	20.5500	0.50	0.16	20.0000	103	65 - 125	
1,2,4-Trimethylbenzene	23.4300	0.50	0.14	20.0000	117	88 - 124	
1,2-Dibromo-3-chloropropane	19.4800	0.50	0.41	20.0000	97.4	61 - 127	
1,2-Dibromoethane	20.0400	0.50	0.24	20.0000	100	72 - 125	
1,2-Dichlorobenzene	25.2400	0.50	0.20	20.0000	126	84 - 113	L3
1,2-Dichloroethane	20.8900	0.50	0.20	20.0000	104	68 - 130	
1,2-Dichloropropane	20.1100	0.50	0.15	20.0000	101	77 - 121	
1,3,5-Trimethylbenzene	21.4900	0.50	0.13	20.0000	107	83 - 124	
1,3-Dichlorobenzene	24.7400	0.50	0.16	20.0000	124	83 - 112	L3
1,3-Dichloropropane	21.9500	0.50	0.21	20.0000	110	77 - 119	
1,4-Dichlorobenzene	20.0900	0.50	0.17	20.0000	100	79 - 115	
2,2-Dichloropropane	21.3800	0.50	0.38	20.0000	107	67 - 149	
2-Chlorotoluene	21.5300	0.50	0.11	20.0000	108	81 - 119	
4-Chlorotoluene	24.6300	0.50	0.12	20.0000	123	86 - 117	L3
4-Isopropyltoluene	24.3500	0.50	0.11	20.0000	122	82 - 131	
Benzene	21.2500	0.50	0.13	20.0000	106	75 - 124	
Bromobenzene	18.6100	0.50	0.21	20.0000	93.0	82 - 108	
Bromodichloromethane	16.4600	0.50	0.14	20.0000	82.3	80 - 120	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2D1232 - MSVOA_LL_W (continued)

LCS (B2D1232-BS1) - Continued

Prepared: 4/8/2022 Analyzed: 4/8/2022

Bromoform	18.4200	0.50	0.20	20.0000		92.1	70 - 123			
Bromomethane	25.7400	0.50	0.40	20.0000		129	44 - 151			
Carbon tetrachloride	17.1400	0.50	0.09	20.0000		85.7	62 - 140			
Chlorobenzene	20.3600	0.50	0.13	20.0000		102	80 - 112			
Chloroethane	27.0200	0.50	0.15	20.0000		135	42 - 167			
Chloroform	19.7900	0.50	0.11	20.0000		99.0	77 - 122			
Chloromethane	18.6200	0.50	0.12	20.0000		93.1	33 - 153			
cis-1,2-Dichloroethene	16.8200	0.50	0.14	20.0000		84.1	75 - 121			
cis-1,3-Dichloropropene	18.3400	0.50	0.13	20.0000		91.7	73 - 127			
Dibromochloromethane	21.7000	0.50	0.16	20.0000		108	77 - 122			
Dibromomethane	17.8100	0.50	0.19	20.0000		89.0	75 - 121			
Dichlorodifluoromethane	12.5900	0.50	0.18	20.0000		63.0	0 - 171			
Ethylbenzene	21.4700	0.50	0.13	20.0000		107	82 - 119			
Hexachlorobutadiene	22.9600	0.50	0.15	20.0000		115	71 - 131			
Isopropylbenzene	25.7900	0.50	0.10	20.0000		129	75 - 126			L3
m,p-Xylene	43.0300	1.0	0.19	40.0000		108	86 - 119			
Methylene chloride	26.0900	1.0	0.71	20.0000		130	76 - 125			L3
n-Butylbenzene	24.1600	0.50	0.11	20.0000		121	81 - 125			
n-Propylbenzene	21.8100	0.50	0.10	20.0000		109	78 - 130			
Naphthalene	18.1900	0.50	0.41	20.0000		91.0	47 - 128			
o-Xylene	20.3300	0.50	0.13	20.0000		102	85 - 119			
sec-Butylbenzene	26.2100	0.50	0.09	20.0000		131	78 - 130			L5
Styrene	21.8900	0.50	0.13	20.0000		109	62 - 148			
tert-Butylbenzene	24.4300	0.50	0.09	20.0000		122	77 - 125			
Tetrachloroethene	20.1600	0.50	0.10	20.0000		101	73 - 120			
Toluene	20.4100	0.50	0.12	20.0000		102	79 - 119			
trans-1,2-Dichloroethene	31.7800	0.50	0.09	20.0000		159	70 - 129			L5
Trichloroethene	22.5900	0.50	0.10	20.0000		113	73 - 117			
Trichlorofluoromethane	26.0700	0.50	0.23	20.0000		130	59 - 135			
Vinyl chloride	24.8800	0.50	0.13	20.0000		124	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	25.80			25.0000		103	64 - 155			
Surrogate: 4-Bromofluorobenzene	22.34			25.0000		89.4	73 - 124			
Surrogate: Dibromofluoromethane	24.12			25.0000		96.5	78 - 129			
Surrogate: Toluene-d8	23.28			25.0000		93.1	84 - 117			

LCS Dup (B2D1232-BS1)

Prepared: 4/8/2022 Analyzed: 4/8/2022

1,1,1,2-Tetrachloroethane	17.1300	0.50	0.11	20.0000		85.6	79 - 116	16.7	20	
1,1,1-Trichloroethane	19.1500	0.50	0.21	20.0000		95.8	73 - 130	7.97	20	
1,1,2,2-Tetrachloroethane	19.1300	0.50	0.36	20.0000		95.6	71 - 122	11.9	20	
1,1,2-Trichloroethane	21.7500	0.50	0.25	20.0000		109	70 - 124	14.2	20	
1,1-Dichloroethane	20.6000	0.50	0.09	20.0000		103	69 - 128	9.22	20	
1,1-Dichloroethene	22.8400	0.50	0.13	20.0000		114	65 - 137	9.71	20	
1,1-Dichloropropene	18.6300	0.50	0.13	20.0000		93.2	74 - 129	8.74	20	
1,2,3-Trichloropropane	18.6800	0.50	0.39	20.0000		93.4	74 - 123	8.75	20	
1,2,3-Trichlorobenzene	9.98000	0.50	0.18	20.0000		49.9	59 - 130	65.9	20	L4, R



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2D1232 - MSVOA_LL_W (continued)

LCS Dup (B2D1232-BSD1) - Continued

Prepared: 4/8/2022 Analyzed: 4/8/2022

1,2,4-Trichlorobenzene	10.2400	0.50	0.16	20.0000	51.2	65 - 125	67.0	20	L4, R
1,2,4-Trimethylbenzene	18.6200	0.50	0.14	20.0000	93.1	88 - 124	22.9	20	R
1,2-Dibromo-3-chloropropane	16.8600	0.50	0.41	20.0000	84.3	61 - 127	14.4	20	
1,2-Dibromoethane	20.3600	0.50	0.24	20.0000	102	72 - 125	1.58	20	
1,2-Dichlorobenzene	18.1200	0.50	0.20	20.0000	90.6	84 - 113	32.8	20	R
1,2-Dichloroethane	20.8900	0.50	0.20	20.0000	104	68 - 130	0.00	20	
1,2-Dichloropropane	18.4000	0.50	0.15	20.0000	92.0	77 - 121	8.88	20	
1,3,5-Trimethylbenzene	18.6500	0.50	0.13	20.0000	93.2	83 - 124	14.2	20	
1,3-Dichlorobenzene	17.6900	0.50	0.16	20.0000	88.4	83 - 112	33.2	20	R
1,3-Dichloropropane	19.8400	0.50	0.21	20.0000	99.2	77 - 119	10.1	20	
1,4-Dichlorobenzene	18.0500	0.50	0.17	20.0000	90.2	79 - 115	10.7	20	
2,2-Dichloropropane	17.0700	0.50	0.38	20.0000	85.4	67 - 149	22.4	20	R
2-Chlorotoluene	18.2300	0.50	0.11	20.0000	91.2	81 - 119	16.6	20	
4-Chlorotoluene	18.4000	0.50	0.12	20.0000	92.0	86 - 117	29.0	20	R
4-Isopropyltoluene	17.7700	0.50	0.11	20.0000	88.8	82 - 131	31.2	20	R
Benzene	18.3700	0.50	0.13	20.0000	91.8	75 - 124	14.5	20	
Bromobenzene	19.1400	0.50	0.21	20.0000	95.7	82 - 108	2.81	20	
Bromodichloromethane	16.2000	0.50	0.14	20.0000	81.0	80 - 120	1.59	20	
Bromoform	12.7600	0.50	0.20	20.0000	63.8	70 - 123	36.3	20	L4, R
Bromomethane	25.9800	0.50	0.40	20.0000	130	44 - 151	0.928	20	
Carbon tetrachloride	18.8000	0.50	0.09	20.0000	94.0	62 - 140	9.24	20	
Chlorobenzene	19.6000	0.50	0.13	20.0000	98.0	80 - 112	3.80	20	
Chloroethane	25.5100	0.50	0.15	20.0000	128	42 - 167	5.75	20	
Chloroform	18.7000	0.50	0.11	20.0000	93.5	77 - 122	5.66	20	
Chloromethane	18.2600	0.50	0.12	20.0000	91.3	33 - 153	1.95	20	
cis-1,2-Dichloroethene	13.4400	0.50	0.14	20.0000	67.2	75 - 121	22.3	20	L4, R
cis-1,3-Dichloropropene	20.5100	0.50	0.13	20.0000	103	73 - 127	11.2	20	
Dibromochloromethane	19.1000	0.50	0.16	20.0000	95.5	77 - 122	12.7	20	
Dibromomethane	15.6000	0.50	0.19	20.0000	78.0	75 - 121	13.2	20	
Dichlorodifluoromethane	10.8100	0.50	0.18	20.0000	54.0	0 - 171	15.2	20	
Ethylbenzene	19.6700	0.50	0.13	20.0000	98.4	82 - 119	8.75	20	
Hexachlorobutadiene	10.9900	0.50	0.15	20.0000	55.0	71 - 131	70.5	20	R
Isopropylbenzene	14.7500	0.50	0.10	20.0000	73.8	75 - 126	54.5	20	L3, R
m,p-Xylene	38.4100	1.0	0.19	40.0000	96.0	86 - 119	11.3	20	
Methylene chloride	22.6700	1.0	0.71	20.0000	113	76 - 125	14.0	20	
n-Butylbenzene	15.9800	0.50	0.11	20.0000	79.9	81 - 125	40.8	20	L3, R
n-Propylbenzene	18.2700	0.50	0.10	20.0000	91.4	78 - 130	17.7	20	
Naphthalene	9.72000	0.50	0.41	20.0000	48.6	47 - 128	60.7	20	R
o-Xylene	15.0500	0.50	0.13	20.0000	75.2	85 - 119	29.8	20	L3, R
sec-Butylbenzene	18.5000	0.50	0.09	20.0000	92.5	78 - 130	34.5	20	R
Styrene	14.3300	0.50	0.13	20.0000	71.6	62 - 148	41.7	20	R
tert-Butylbenzene	18.2100	0.50	0.09	20.0000	91.0	77 - 125	29.2	20	R
Tetrachloroethene	17.6100	0.50	0.10	20.0000	88.0	73 - 120	13.5	20	
Toluene	19.4200	0.50	0.12	20.0000	97.1	79 - 119	4.97	20	
trans-1,2-Dichloroethene	27.5700	0.50	0.09	20.0000	138	70 - 129	14.2	20	L5



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1232 - MSVOA_LL_W (continued)

LCS Dup (B2D1232-BSD1) - Continued

Prepared: 4/8/2022 Analyzed: 4/8/2022

Trichloroethene	17.8000	0.50	0.10	20.0000		89.0	73 - 117	23.7	20	R
Trichlorofluoromethane	23.1400	0.50	0.23	20.0000		116	59 - 135	11.9	20	
Vinyl chloride	22.6000	0.50	0.13	20.0000		113	58 - 132	9.60	20	
Surrogate: 1,2-Dichloroethane-d4	25.66			25.0000		103	64 - 155			
Surrogate: 4-Bromofluorobenzene	25.62			25.0000		102	73 - 124			
Surrogate: Dibromofluoromethane	25.36			25.0000		101	78 - 129			
Surrogate: Toluene-d8	25.72			25.0000		103	84 - 117			



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

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Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1257 - MSVOA_LL_W

Blank (B2D1257-BLK1)

Prepared: 4/11/2022 Analyzed: 4/11/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



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Report To : Steve Netto

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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1257 - MSVOA_LL_W (continued)

Blank (B2D1257-BLK1) - Continued

Prepared: 4/11/2022 Analyzed: 4/11/2022

n-Propylbenzene	ND	0.50	0.10							
Naphthalene	ND	0.50	0.41							
o-Xylene	ND	0.50	0.13							
sec-Butylbenzene	ND	0.50	0.09							
Styrene	ND	0.50	0.13							
tert-Butylbenzene	ND	0.50	0.09							
Tetrachloroethene	ND	0.50	0.10							
Toluene	ND	0.50	0.12							
trans-1,2-Dichloroethene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.10							
Trichlorofluoromethane	ND	0.50	0.23							
Vinyl chloride	ND	0.50	0.13							

Surrogate: 1,2-Dichloroethane-d4	28.93			25.0000		116	64 - 155			
Surrogate: 4-Bromofluorobenzene	19.53			25.0000		78.1	73 - 124			
Surrogate: Dibromofluoromethane	26.13			25.0000		105	78 - 129			
Surrogate: Toluene-d8	29.70			25.0000		119	84 - 117			

S12

LCS (B2D1257-BS1)

Prepared: 4/11/2022 Analyzed: 4/11/2022

1,1,1,2-Tetrachloroethane	17.4600	0.50	0.11	20.0000		87.3	79 - 116			
1,1,1-Trichloroethane	20.9600	0.50	0.21	20.0000		105	73 - 130			
1,1,2,2-Tetrachloroethane	21.4500	0.50	0.36	20.0000		107	71 - 122			
1,1,2-Trichloroethane	21.6600	0.50	0.25	20.0000		108	70 - 124			
1,1-Dichloroethane	21.3500	0.50	0.09	20.0000		107	69 - 128			
1,1-Dichloroethene	17.3200	0.50	0.13	20.0000		86.6	65 - 137			
1,1-Dichloropropene	19.2300	0.50	0.13	20.0000		96.2	74 - 129			
1,2,3-Trichloropropane	20.7500	0.50	0.39	20.0000		104	74 - 123			
1,2,3-Trichlorobenzene	13.7100	0.50	0.18	20.0000		68.6	59 - 130			
1,2,4-Trichlorobenzene	15.3700	0.50	0.16	20.0000		76.8	65 - 125			
1,2,4-Trimethylbenzene	20.1900	0.50	0.14	20.0000		101	88 - 124			
1,2-Dibromo-3-chloropropane	13.4100	0.50	0.41	20.0000		67.0	61 - 127			
1,2-Dibromoethane	20.0600	0.50	0.24	20.0000		100	72 - 125			
1,2-Dichlorobenzene	17.4500	0.50	0.20	20.0000		87.2	84 - 113			
1,2-Dichloroethane	19.3800	0.50	0.20	20.0000		96.9	68 - 130			
1,2-Dichloropropane	22.8000	0.50	0.15	20.0000		114	77 - 121			
1,3,5-Trimethylbenzene	20.7500	0.50	0.13	20.0000		104	83 - 124			
1,3-Dichlorobenzene	18.6500	0.50	0.16	20.0000		93.2	83 - 112			
1,3-Dichloropropane	19.8000	0.50	0.21	20.0000		99.0	77 - 119			
1,4-Dichlorobenzene	18.5600	0.50	0.17	20.0000		92.8	79 - 115			
2,2-Dichloropropane	20.5100	0.50	0.38	20.0000		103	67 - 149			
2-Chlorotoluene	20.5200	0.50	0.11	20.0000		103	81 - 119			
4-Chlorotoluene	20.3800	0.50	0.12	20.0000		102	86 - 117			
4-Isopropyltoluene	18.9500	0.50	0.11	20.0000		94.8	82 - 131			
Benzene	21.2600	0.50	0.13	20.0000		106	75 - 124			
Bromobenzene	19.5500	0.50	0.21	20.0000		97.8	82 - 108			
Bromodichloromethane	20.1300	0.50	0.14	20.0000		101	80 - 120			



Certificate of Analysis

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Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2D1257 - MSVOA_LL_W (continued)

LCS (B2D1257-BS1) - Continued

Prepared: 4/11/2022 Analyzed: 4/11/2022

Bromoform	16.3400	0.50	0.20	20.0000		81.7	70 - 123			
Bromomethane	23.8400	0.50	0.40	20.0000		119	44 - 151			
Carbon tetrachloride	18.0400	0.50	0.09	20.0000		90.2	62 - 140			
Chlorobenzene	18.8800	0.50	0.13	20.0000		94.4	80 - 112			
Chloroethane	21.5300	0.50	0.15	20.0000		108	42 - 167			
Chloroform	19.4600	0.50	0.11	20.0000		97.3	77 - 122			
Chloromethane	20.4200	0.50	0.12	20.0000		102	33 - 153			
cis-1,2-Dichloroethene	16.4800	0.50	0.14	20.0000		82.4	75 - 121			
cis-1,3-Dichloropropene	18.7500	0.50	0.13	20.0000		93.8	73 - 127			
Dibromochloromethane	18.6300	0.50	0.16	20.0000		93.2	77 - 122			
Dibromomethane	20.0300	0.50	0.19	20.0000		100	75 - 121			
Dichlorodifluoromethane	10.2900	0.50	0.18	20.0000		51.4	0 - 171			
Ethylbenzene	19.9800	0.50	0.13	20.0000		99.9	82 - 119			
Hexachlorobutadiene	15.3900	0.50	0.15	20.0000		77.0	71 - 131			
Isopropylbenzene	21.5900	0.50	0.10	20.0000		108	75 - 126			
m,p-Xylene	38.4400	1.0	0.19	40.0000		96.1	86 - 119			
Methylene chloride	23.5100	1.0	0.71	20.0000		118	76 - 125			
n-Butylbenzene	19.1200	0.50	0.11	20.0000		95.6	81 - 125			
n-Propylbenzene	21.4000	0.50	0.10	20.0000		107	78 - 130			
Naphthalene	13.2400	0.50	0.41	20.0000		66.2	47 - 128			
o-Xylene	18.9200	0.50	0.13	20.0000		94.6	85 - 119			
sec-Butylbenzene	20.7700	0.50	0.09	20.0000		104	78 - 130			
Styrene	18.7700	0.50	0.13	20.0000		93.8	62 - 148			
tert-Butylbenzene	19.3900	0.50	0.09	20.0000		97.0	77 - 125			
Tetrachloroethene	16.5000	0.50	0.10	20.0000		82.5	73 - 120			
Toluene	21.6700	0.50	0.12	20.0000		108	79 - 119			
trans-1,2-Dichloroethene	29.0500	0.50	0.09	20.0000		145	70 - 129			L5
Trichloroethene	18.5100	0.50	0.10	20.0000		92.6	73 - 117			
Trichlorofluoromethane	16.8400	0.50	0.23	20.0000		84.2	59 - 135			
Vinyl chloride	19.0200	0.50	0.13	20.0000		95.1	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	29.17			25.0000		117	64 - 155			
Surrogate: 4-Bromofluorobenzene	22.15			25.0000		88.6	73 - 124			
Surrogate: Dibromofluoromethane	27.86			25.0000		111	78 - 129			
Surrogate: Toluene-d8	27.19			25.0000		109	84 - 117			

LCS Dup (B2D1257-BSD1)

Prepared: 4/11/2022 Analyzed: 4/11/2022

1,1,1,2-Tetrachloroethane	17.9000	0.50	0.11	20.0000		89.5	79 - 116	2.49	20	
1,1,1-Trichloroethane	19.1400	0.50	0.21	20.0000		95.7	73 - 130	9.08	20	
1,1,2,2-Tetrachloroethane	21.4100	0.50	0.36	20.0000		107	71 - 122	0.187	20	
1,1,2-Trichloroethane	19.1000	0.50	0.25	20.0000		95.5	70 - 124	12.6	20	
1,1-Dichloroethane	20.3200	0.50	0.09	20.0000		102	69 - 128	4.94	20	
1,1-Dichloroethene	16.1500	0.50	0.13	20.0000		80.8	65 - 137	6.99	20	
1,1-Dichloropropene	18.2700	0.50	0.13	20.0000		91.4	74 - 129	5.12	20	
1,2,3-Trichloropropane	20.8200	0.50	0.39	20.0000		104	74 - 123	0.337	20	
1,2,3-Trichlorobenzene	15.0300	0.50	0.18	20.0000		75.2	59 - 130	9.19	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2D1257 - MSVOA_LL_W (continued)

LCS Dup (B2D1257-BSD1) - Continued

Prepared: 4/11/2022 Analyzed: 4/11/2022

1,2,4-Trichlorobenzene	15.1600	0.50	0.16	20.0000		75.8	65 - 125	1.38	20	
1,2,4-Trimethylbenzene	19.1500	0.50	0.14	20.0000		95.8	88 - 124	5.29	20	
1,2-Dibromo-3-chloropropane	15.5400	0.50	0.41	20.0000		77.7	61 - 127	14.7	20	
1,2-Dibromoethane	18.2300	0.50	0.24	20.0000		91.2	72 - 125	9.56	20	
1,2-Dichlorobenzene	17.3500	0.50	0.20	20.0000		86.8	84 - 113	0.575	20	
1,2-Dichloroethane	19.6500	0.50	0.20	20.0000		98.2	68 - 130	1.38	20	
1,2-Dichloropropane	22.2900	0.50	0.15	20.0000		111	77 - 121	2.26	20	
1,3,5-Trimethylbenzene	18.7100	0.50	0.13	20.0000		93.6	83 - 124	10.3	20	
1,3-Dichlorobenzene	18.4500	0.50	0.16	20.0000		92.2	83 - 112	1.08	20	
1,3-Dichloropropane	21.0000	0.50	0.21	20.0000		105	77 - 119	5.88	20	
1,4-Dichlorobenzene	18.0400	0.50	0.17	20.0000		90.2	79 - 115	2.84	20	
2,2-Dichloropropane	18.5700	0.50	0.38	20.0000		92.8	67 - 149	9.93	20	
2-Chlorotoluene	18.8500	0.50	0.11	20.0000		94.2	81 - 119	8.48	20	
4-Chlorotoluene	18.4500	0.50	0.12	20.0000		92.2	86 - 117	9.94	20	
4-Isopropyltoluene	18.0800	0.50	0.11	20.0000		90.4	82 - 131	4.70	20	
Benzene	20.9700	0.50	0.13	20.0000		105	75 - 124	1.37	20	
Bromobenzene	18.5700	0.50	0.21	20.0000		92.8	82 - 108	5.14	20	
Bromodichloromethane	19.0500	0.50	0.14	20.0000		95.2	80 - 120	5.51	20	
Bromoform	16.6200	0.50	0.20	20.0000		83.1	70 - 123	1.70	20	
Bromomethane	19.7800	0.50	0.40	20.0000		98.9	44 - 151	18.6	20	
Carbon tetrachloride	15.7800	0.50	0.09	20.0000		78.9	62 - 140	13.4	20	
Chlorobenzene	19.5200	0.50	0.13	20.0000		97.6	80 - 112	3.33	20	
Chloroethane	18.9800	0.50	0.15	20.0000		94.9	42 - 167	12.6	20	
Chloroform	18.9100	0.50	0.11	20.0000		94.6	77 - 122	2.87	20	
Chloromethane	16.0100	0.50	0.12	20.0000		80.0	33 - 153	24.2	20	R
cis-1,2-Dichloroethene	15.1600	0.50	0.14	20.0000		75.8	75 - 121	8.34	20	
cis-1,3-Dichloropropene	17.5500	0.50	0.13	20.0000		87.8	73 - 127	6.61	20	
Dibromochloromethane	18.6700	0.50	0.16	20.0000		93.4	77 - 122	0.214	20	
Dibromomethane	20.7300	0.50	0.19	20.0000		104	75 - 121	3.43	20	
Dichlorodifluoromethane	8.18000	0.50	0.18	20.0000		40.9	0 - 171	22.8	20	R
Ethylbenzene	19.8900	0.50	0.13	20.0000		99.4	82 - 119	0.451	20	
Hexachlorobutadiene	16.3200	0.50	0.15	20.0000		81.6	71 - 131	5.87	20	
Isopropylbenzene	20.0100	0.50	0.10	20.0000		100	75 - 126	7.60	20	
m,p-Xylene	39.6200	1.0	0.19	40.0000		99.0	86 - 119	3.02	20	
Methylene chloride	20.3100	1.0	0.71	20.0000		102	76 - 125	14.6	20	
n-Butylbenzene	18.7300	0.50	0.11	20.0000		93.6	81 - 125	2.06	20	
n-Propylbenzene	20.1300	0.50	0.10	20.0000		101	78 - 130	6.12	20	
Naphthalene	13.8900	0.50	0.41	20.0000		69.4	47 - 128	4.79	20	
o-Xylene	18.3000	0.50	0.13	20.0000		91.5	85 - 119	3.33	20	
sec-Butylbenzene	21.3100	0.50	0.09	20.0000		107	78 - 130	2.57	20	
Styrene	18.0400	0.50	0.13	20.0000		90.2	62 - 148	3.97	20	
tert-Butylbenzene	18.8400	0.50	0.09	20.0000		94.2	77 - 125	2.88	20	
Tetrachloroethene	16.8000	0.50	0.10	20.0000		84.0	73 - 120	1.80	20	
Toluene	17.8400	0.50	0.12	20.0000		89.2	79 - 119	19.4	20	
trans-1,2-Dichloroethene	25.5300	0.50	0.09	20.0000		128	70 - 129	12.9	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1257 - MSVOA_LL_W (continued)

LCS Dup (B2D1257-BSD1) - Continued

Prepared: 4/11/2022 Analyzed: 4/11/2022

Trichloroethene	18.8100	0.50	0.10	20.0000		94.0	73 - 117	1.61	20	
Trichlorofluoromethane	14.7400	0.50	0.23	20.0000		73.7	59 - 135	13.3	20	
Vinyl chloride	15.6800	0.50	0.13	20.0000		78.4	58 - 132	19.3	20	
Surrogate: 1,2-Dichloroethane-d4	26.84			25.0000		107	64 - 155			
Surrogate: 4-Bromofluorobenzene	23.55			25.0000		94.2	73 - 124			
Surrogate: Dibromofluoromethane	24.99			25.0000		100	78 - 129			
Surrogate: Toluene-d8	23.38			25.0000		93.5	84 - 117			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2D1277 - MSSEMI_W

Blank (B2D1277-BLK1)

Prepared: 4/11/2022 Analyzed: 4/13/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	93.43		100.000	93.4	17 - 119
Surrogate: 2-Fluorobiphenyl	91.68		100.000	91.7	10 - 133
Surrogate: 4-Terphenyl-d14	98.68		100.000	98.7	5 - 139
Surrogate: Nitrobenzene-d5	85.78		100.000	85.8	13 - 150

LCS (B2D1277-BS1)

Prepared: 4/11/2022 Analyzed: 4/13/2022

1,4-Dioxane 96.1400 2.0 0.84 100.000 96.1 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	99.88		100.000	99.9	17 - 119
Surrogate: 2-Fluorobiphenyl	94.32		100.000	94.3	10 - 133
Surrogate: 4-Terphenyl-d14	90.57		100.000	90.6	5 - 139
Surrogate: Nitrobenzene-d5	97.58		100.000	97.6	13 - 150

LCS Dup (B2D1277-BSD1)

Prepared: 4/11/2022 Analyzed: 4/13/2022

1,4-Dioxane 100.390 2.0 0.84 100.000 100 75 - 155 4.33 20

Surrogate: 1,2-Dichlorobenzene-d4	100.6		100.000	101	17 - 119
Surrogate: 2-Fluorobiphenyl	88.42		100.000	88.4	10 - 133
Surrogate: 4-Terphenyl-d14	93.57		100.000	93.6	5 - 139
Surrogate: Nitrobenzene-d5	101.3		100.000	101	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/17/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1270 - MSSEMI_W

Blank (B2D1270-BLK1)

Prepared: 4/11/2022 Analyzed: 4/12/2022

1,4-Dioxane	ND	0.20	0.05							
Surrogate: 1,2-Dichlorobenzene-d4	1.022			1.00000		102	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.210			1.00000		121	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.129			1.00000		113	12 - 113			
Surrogate: Nitrobenzene-d5	0.7816			1.00000		78.2	15 - 121			

LCS (B2D1270-BS1)

Prepared: 4/11/2022 Analyzed: 4/12/2022

1,4-Dioxane	1.10204	0.20	0.05	1.00000		110	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	1.018			1.00000		102	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.201			1.00000		120	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.164			1.00000		116	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.7972			1.00000		79.7	15 - 121			

LCS Dup (B2D1270-BSD1)

Prepared: 4/11/2022 Analyzed: 4/12/2022

1,4-Dioxane	1.25418	0.20	0.05	1.00000		125	75 - 155	12.9	20	
Surrogate: 1,2-Dichlorobenzene-d4	1.017			1.00000		102	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	1.214			1.00000		121	8 - 111			S12
Surrogate: 4-Terphenyl-d14	1.169			1.00000		117	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.7585			1.00000		75.9	15 - 121			

2200589

Date: 4/7/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Monthly Sample

TASK NO.: 532.15

Project Manager Steve Netto
QA Manager Ruben Sanchez
Phone 858.455.6500
Fax 858.455.6533

Sampled By: Ruben Sanchez		SAMPLE COLLECTION		Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	CONTAINERS						ANALYSIS REQUESTED										Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				REMARKS	
LAB ID	SAMPLE ID	Date	Time							40-ml VOA	125 mL Poly	60 mL Poly	125 mL Amber	1 L Poly	1L Amber	VOCs by EPA 8260B	Bromate by EPA 317	Bromide by EPA 300	Alkalinity by SM2320B	Total Organic Carbon by SM5310B	Total Suspended Solids by SM2540D	UV Absorption EPA 415.3 @254 nm	1,4-Dioxane by EPA 8270C MOD	1,4-Dioxane by EPA 8270 SIM	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested		
1	TB-040722	4/7/2022	8:00		X	X			X	2																									
2	CEFF	4/7/2022	10:20	X	X				X	3									X	X							X								
3	CBT	4/7/2022	10:30	X	X				X	3									X	X							X								
4	POX	4/7/2022	10:32	X	X				X	5	1		1	1	X	X			X	X							X								
5	PF	4/7/2022	10:40	X					X	2		1	1														X								
6	INF	4/7/2022	10:50	X	X				X	3	1	1		1	X	X	X										X								
7	EW-02	4/7/2022	11:10	X	X				X	3	1			1	X	X			X			X					X								
8	MW-29	4/7/2022	11:15	X	X				X	3	1			1	X	X			X			X					X								

Total number of containers per analysis:

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> HFA	4-7-22 12:00	<i>[Signature]</i> HFA	4-7-22 12:00
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> HFA	4-7-22 15:11	<i>[Signature]</i> ATL	4/7/22 15:21

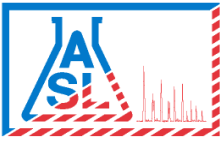
- ☒ No. of containers correct
☒ Received in good condition
☒ Custody seals secure
☒ Conforms to COC document

Send Results to:
Steve Netto & Ruben Sanchez
 3131 Camino Del Rio North
 Suite 355
 San Diego, CA 92108
 Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

Instructions

- Fill out form completely and sign only after verified for completeness
- Complete in ballpoint pen. Draw one line through error, initial and date correction
 Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ×
 Note applicable preservatives, special instructions, and deviations from typical environmental samples.
 Consult project QA documents for specific instructions.

3.1 Temperature on receipt



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

11 May 2022

Jerald Ancheta

Advanced Technology Laboratories

3275 Walnut Ave.

Signal Hill, CA 90755

Work Order #: 2204229

Project Name: Groundwater

Project ID: [none]

Site Address:

Enclosed are the results of analyses for samples received by the laboratory on April 11, 2022. If you have any questions concerning this report, please feel free to contact us.

Molky Brar

Laboratory Director

American Scientific Laboratories, LLC (ASL) accepts sample materials from clients for analysis with the assumption that all of the information provided to ASL verbally or in writing by our clients (and/or their agents), regarding samples being submitted to ASL, is complete and accurate. ASL accepts all samples subject to the following conditions:

- 1) ASL is not responsible for verifying any client-provided information regarding any samples submitted to the laboratory.
- 2) ASL is not responsible for any consequences resulting from any inaccuracies, omissions, or misrepresentations contained in client-provided information regarding samples submitted to the laboratory.

SUBCONTRACT ORDER

Work Order: 2200589

AS1 JOB # 2204229

SENDING LABORATORY:

Advanced Technology Laboratories
 3275 Walnut Avenue
 Signal Hill, CA 90755
 Phone: 562.989.4045
 Fax: 562.989.6348
 Project Manager: Jerald Ancheta
 (Jerald.Ancheta@atlglobal.com)
 Sampler: Ruben Sanchez

RECEIVING LABORATORY:

American Scientific Laboratories
 2520 N. San Fernando Rd.
 Los Angeles, CA 90065
 Phone: (323) 223-9700
 Fax: (323) 223-9500
 PO#: SC16121

IMPORTANT : Please 'J-Flag' results to MDL. Please include Work Order # and PO # in your invoice.

QC Requirements:

☒ Routine ☐ MS/MSD
☐ Caltrans ☐ Level IV*
☐ DUP ☐ Other: _____

TAT Requirements:

☒ Standard
☐ Rush _____ Days
☐ Fastest Possible

EDD Requirements:

☐ Standard Excel
☐ Geotracker EDF
☐ EQUS
☐ Other: _____

* All Level IV sample containers (including empty ones) must be returned to ATL 30 days after receipt.

Analysis	Expires	Sampled	Comments	Lab. ID.
ATL Lab#: 2200589-04 / POX 310.1_2320B_Speciated_SUB [Alkalinity, Speciated]	Groundwater 04/21/22 10:32	04/07/22 10:32 Poly Unpres - 250mL		<i>2204229-01</i>
ATL Lab#: 2200589-05 / PF 310.1_2320B_Speciated_SUB [Alkalinity, Speciated]	Groundwater 04/21/22 10:40	04/07/22 10:40 Poly Unpres - 250mL		<i>2204229-02</i>

Prepared by: *[Signature]* *4/11/22*
 Sample Control Technician Date

Inspected by: *[Signature]* *4/11/22*
 PM Lead / SC Lead Date

Approved by: *[Signature]* *04/09/2022*
 Dedicated ATL Project Manager Date

Released By ATL Sample Control Date Time

Released By Courier Date Time

Released By Date Time

Received By Courier Date Time

Received By Subcontract Laboratory Date Time

Received By Date Time

SUBCONTRACT ORDER

Work Order: 2200589

ASL JOB # 2204229

Analysis	Expires	Sampled	Comments
ATL Lab#: 2200589-06 / INF 300_Bromide_SUB [Bromide by Ion Chromatography]	Groundwater 05/05/22 10:50	04/07/22 10:50 Poly Unpres - 125mL	lab. I.D. 2204229-03
ATL Lab#: 2200589-07 / EW-02 300_Bromide_SUB [Bromide by Ion Chromatography]	Groundwater 05/05/22 11:10	04/07/22 11:10 Poly Unpres - 125mL	2204229-04
ATL Lab#: 2200589-08 / MW-29 300_Bromide_SUB [Bromide by Ion Chromatography]	Groundwater 05/05/22 11:15	04/07/22 11:15 Poly Unpres - 125mL	2204229-05

Prepared by: [Signature] 4/11/22
Sample Control Technician Date

Inspected by: [Signature] 4/11/22
PM Lead / SC Lead Date

Approved by: [Signature] 04/09/2022
Dedicated ATL Project Manager Date

[Signature] 4/11/22 13:45
Released By ATL Sample Control Date Time

Released By Courier Date Time

Released By Date Time

Received By Courier Date Time
[Signature] 4/11/22 1:45 PM
Received By Subcontract Laboratory Date Time

Received By Date Time

Job# 2204229

ASL Sample Receipt Form

Client: Advanced Technology LaboratoriesDate: 9-11-2022

Sample Information:

Temperature: 5.2 °C

Custody Seal:

Received Within Holding Time:

☐ Blank ☒ Sample☐ Yes ☒ No ☐ Not Available☒ Yes ☐ No

Container:

Proper Containers and Sufficient Volume:

☒ Yes ☐ NoSoil: ☐ 4oz ☐ 8oz ☐ Sleeve ☐ VOAWater: ☐ 500AG ☐ 1AG ☒ 3 ☒ 125PB ☒ 2 ☒ 250PB ☐ 500PB ☐ VOA ☐ OtherAir: ☐ Tedlar®

Sample Containers Intact:

☒ Yes ☐ No

Trip Blank

☐ Yes ☒ No

Chain-of-Custody (COC):

Received:

☒ Yes ☐ No

Samplers Name:

☒ Yes ☐ No

Container Labels match COC:

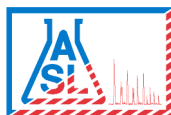
☒ Yes ☐ No

COC documents received complete:

☒ Yes ☐ No

Proper Preservation Noted:

☒ Yes ☐ NoNo preservativeCompleted By: Janet Chin



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755

Project: Groundwater
Project Number: [none]
Project Manager: Jerald Ancheta

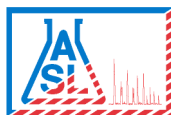
Work Order No: 2204229
Reported:
05/11/2022 16:25

ANALYTICAL SUMMARY REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2200589-04 / POX	2204229-01	Water	04/07/2022 10:32	04/11/2022 13:45
2200589-05 / PF	2204229-02	Water	04/07/2022 10:40	04/11/2022 13:45
2200589-06 / INF	2204229-03	Water	04/07/2022 10:50	04/11/2022 13:45
2200589-07 / EW-02	2204229-04	Water	04/07/2022 11:10	04/11/2022 13:45
2200589-08 / MW-29	2204229-05	Water	04/07/2022 11:15	04/11/2022 13:45

Amolk Brar, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

**AMERICAN SCIENTIFIC LABORATORIES, LLC***Environmental Testing Services*

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755Project: Groundwater
Project Number: [none]
Project Manager: Jerald AnchetaWork Order No: 2204229
Reported:
05/11/2022 16:25**Analytical Results****Client Sample ID: 2200589-04 / POX****Laboratory Sample ID: 2204229-01 (Water)**

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method

Wet Chemistry

Alkalinity, Total (CaCO ₃)	201		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Bicarbonate Alkalinity	201		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Carbonate Alkalinity	ND		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Hydroxide Alkalinity	ND		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B

Analytical Results**Client Sample ID: 2200589-05 / PF****Laboratory Sample ID: 2204229-02 (Water)**

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method

Wet Chemistry

Alkalinity, Total (CaCO ₃)	203		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Bicarbonate Alkalinity	203		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Carbonate Alkalinity	ND		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B
Hydroxide Alkalinity	ND		5.0	10.0	mg/L	1	Prep - Wet Cl	04/18/2022 16:00	LVE	SM 2320B

Analytical Results**Client Sample ID: 2200589-06 / INF****Laboratory Sample ID: 2204229-03 (Water)**

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method

Anions by Ion Chromatography

Batch ID: BE20459

Prepared: 04/18/2022 11:53

Bromide	ND		0.006	0.10	mg/L	1	Prep - Wet Cl	04/18/2022 19:07	LVE	300

Analytical Results**Client Sample ID: 2200589-07 / EW-02****Laboratory Sample ID: 2204229-04 (Water)**

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method

Anions by Ion Chromatography

Batch ID: BE20459

Prepared: 04/18/2022 11:53

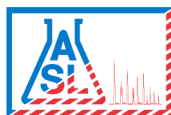
Bromide	ND		0.006	0.10	mg/L	1	Prep - Wet Cl	04/18/2022 19:07	LVE	300

Analytical Results**Client Sample ID: 2200589-08 / MW-29****Laboratory Sample ID: 2204229-05 (Water)**

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amolk Brar, Lab Director



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755

Project: Groundwater
Project Number: [none]
Project Manager: Jerald Ancheta

Work Order No: 2204229
Reported:
05/11/2022 16:25

Analytical Results

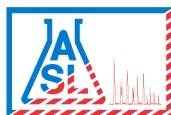
Client Sample ID: 2200589-08 / MW-29

Laboratory Sample ID: 2204229-05 (Water)

Analyte	Result	Notes	MDL	PQL	Units	Dilution	Prep Method	Analyzed	Analyst	Method
Anions by Ion Chromatography				Batch ID: BE20459			Prepared: 04/18/2022 11:53			
Bromide	ND		0.006	0.10	mg/L	1	Prep - Wet Cl	04/18/2022 19:07	LVE	300

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Amolk Brar, Lab Director



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Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755

Project: Groundwater
Project Number: [none]
Project Manager: Jerald Ancheta

Work Order No: 2204229
Reported:
05/11/2022 16:25

Anions by Ion Chromatography - Quality Control Report

Analyte	Result	MDL	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch BE20459 - No Prep - Wet Chem - 300

Blank (BE20459-BLK1)

Prepared & Analyzed: 04/18/202

Bromide	ND	0.006	0.10	mg/L						

LCS (BE20459-BS1)

Prepared & Analyzed: 04/18/202

Bromide	4.74	0.006	0.10	mg/L	5.00		94.8	85-115		

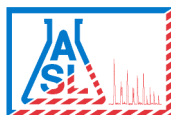
LCS Dup (BE20459-BSD1)

Prepared & Analyzed: 04/18/202

Bromide	4.73	0.006	0.10	mg/L	5.00		94.6	85-115	0.211	15

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Amolk Brar, Lab Director



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755

Project: Groundwater
Project Number: [none]
Project Manager: Jerald Ancheta

Work Order No: 2204229
Reported:
05/11/2022 16:25

Wet Chemistry - Quality Control Report

Analyte	Result	MDL	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Batch BE20462 - No Prep - Wet Chem - SM 2320B

Blank (BE20462-BLK1)

Prepared & Analyzed: 04/18/202

Alkalinity, Total (CaCO ₃)	ND	5.0	10.0	mg/L
Bicarbonate Alkalinity	ND	5.0	10.0	"
Carbonate Alkalinity	ND	5.0	10.0	"
Hydroxide Alkalinity	ND	5.0	10.0	"

LCS (BE20462-BS1)

Prepared & Analyzed: 04/18/202

Alkalinity, Total (CaCO ₃)	98.0	5.0	10.0	mg/L	90-110

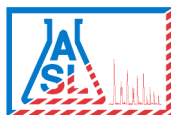
LCS Dup (BE20462-BSD1)

Prepared & Analyzed: 04/18/202

Alkalinity, Total (CaCO ₃)	100	5.0	10.0	mg/L	90-110	2.02	20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Amolk Brar, Lab Director



AMERICAN SCIENTIFIC LABORATORIES, LLC

Environmental Testing Services

2520 N. San Fernando Road, LA CA 90065 Tel: (323) 223-9700 • Fax: (323) 223-9500

Advanced Technology Laboratories
3275 Walnut Ave.
Signal Hill CA, 90755

Project: Groundwater
Project Number: [none]
Project Manager: Jerald Ancheta

Work Order No: 2204229
Reported:
05/11/2022 16:25

Notes and Definitions

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the practical quantitation limit (PQL)

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Work Orders: 2D12089

Project: 2200589

Attn: Accounting Dept

Client: Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Report Date: 5/11/2022

Received Date: 4/12/2022

Turnaround Time: Normal

Phones: (562) 989-4045

Fax: (562) 989-4040

P.O. #:

Billing Code:

DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH #4047 • ISO17025 ANAB
#L2457.01 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Accounting Dept,

Enclosed are the results of analyses for samples received 4/12/22 with the Chain-of-Custody document. The samples were received in good condition, at 6.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Rahul R. Nair
Project Manager



Project Number: 2200589

Project Manager: Accounting Dept

Reported:
05/11/2022 13:57

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
2200589-04	Client	2D12089-01	Water	04/07/22 10:32	
2200589-05	Client	2D12089-02	Water	04/07/22 10:40	
2200589-06	Client	2D12089-03	Water	04/07/22 10:50	

Project Number: 2200589

Project Manager: Accounting Dept

Reported:
05/11/2022 13:57

Sample Results

Sample: 2200589-04						Sampled: 04/07/22 10:32 by Client	
2D12089-01 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Anions by IC, EPA Method 300.1							
Method: EPA 300.1			Instr: LC08_Channel2				
Batch ID: W2D1886		Preparation: _NONE (LC)		Prepared: 04/26/22 10:30		Analyst: JAN	
Bromate	ND	1.4	5.0	ug/l	1	04/26/22	
<i>Surrogate(s)</i>							
Dichloroacetate	99%	Conc: 493	90-115			04/26/22	

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 5310B			Instr: TOC02				
Batch ID: W2D1673		Preparation: _NONE (TOC/TOX)		Prepared: 04/22/22 09:36		Analyst: ajc	
Total Organic Carbon (TOC)	0.50	0.19	0.30	mg/l	1	04/25/22	

Sample Results

Sample: 2200589-05						Sampled: 04/07/22 10:40 by Client	
2D12089-02 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods							
Method: SM 5310B			Instr: TOC02				
Batch ID: W2D1673		Preparation: _NONE (TOC/TOX)		Prepared: 04/22/22 09:36		Analyst: ajc	
Total Organic Carbon (TOC)	0.46	0.19	0.30	mg/l	1	04/25/22	

Sample Results

Sample: 2200589-06						Sampled: 04/07/22 10:50 by Client	
2D12089-03 (Water)							
Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
Anions by IC, EPA Method 300.1							
Method: EPA 300.1			Instr: LC08_Channel2				
Batch ID: W2D1886		Preparation: _NONE (LC)		Prepared: 04/26/22 10:30		Analyst: JAN	
Bromate	ND	1.4	5.0	ug/l	1	04/26/22	
<i>Surrogate(s)</i>							
Dichloroacetate	98%	Conc: 489	90-115			04/26/22	

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Project Number: 2200589

Project Manager: Accounting Dept

Reported:
05/11/2022 13:57

Quality Control Results

Anions by IC, EPA Method 300.1

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2D1886 - EPA 300.1											
Blank (W2D1886-BLK1)						Prepared & Analyzed: 04/26/22					
Bromate	ND	1.4	5.0	ug/l							
Surrogate(s)											
Dichloroacetate	517			ug/l	500		103	90-115			
LCS (W2D1886-BS1)						Prepared & Analyzed: 04/26/22					
Bromate	102	1.4	5.0	ug/l	100		102	85-115			
Surrogate(s)											
Dichloroacetate	536			ug/l	500		107	90-115			
Matrix Spike (W2D1886-MS1)						Source: 2D06038-03 Prepared & Analyzed: 04/26/22					
Bromate	93.8	1.4	5.0	ug/l	100	ND	94	64-133			
Surrogate(s)											
Dichloroacetate	525			ug/l	500		105	90-115			
Matrix Spike (W2D1886-MS2)						Source: 2D06040-02 Prepared & Analyzed: 04/26/22					
Bromate	100	1.4	5.0	ug/l	100	ND	100	64-133			
Surrogate(s)											
Dichloroacetate	559			ug/l	500		112	90-115			
Matrix Spike Dup (W2D1886-MSD1)						Source: 2D06038-03 Prepared & Analyzed: 04/26/22					
Bromate	98.0	1.4	5.0	ug/l	100	ND	98	64-133	4	20	
Surrogate(s)											
Dichloroacetate	546			ug/l	500		109	90-115			
Matrix Spike Dup (W2D1886-MSD2)						Source: 2D06040-02 Prepared & Analyzed: 04/26/22					
Bromate	97.8	1.4	5.0	ug/l	100	ND	98	64-133	3	20	
Surrogate(s)											
Dichloroacetate	558			ug/l	500		112	90-115			

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2D1673 - SM 5310B											
Blank (W2D1673-BLK1)						Prepared: 04/22/22 Analyzed: 04/24/22					
Total Organic Carbon (TOC)	ND	0.19	0.30	mg/l							
LCS (W2D1673-BS1)						Prepared: 04/22/22 Analyzed: 04/24/22					
Total Organic Carbon (TOC)	0.983	0.19	0.30	mg/l	1.00		98	85-115			
Matrix Spike (W2D1673-MS1)						Source: 2B18087-01 Prepared: 04/22/22 Analyzed: 04/24/22					
Total Organic Carbon (TOC)	5.68	0.19	0.30	mg/l	5.00	0.793	98	76-115			
Matrix Spike Dup (W2D1673-MSD1)						Source: 2B18087-01 Prepared: 04/22/22 Analyzed: 04/24/22					
Total Organic Carbon (TOC)	5.77	0.19	0.30	mg/l	5.00	0.793	100	76-115	2	20	

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



April 29, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

Re: ATL Work Order Number : 2200922

Client Reference : Raytheon Main GETS Mid Month Sample / 532.15

Enclosed are the results for sample(s) received on April 21, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Victoria Michel", with a small flourish below it.

Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 04/29/22 09:53 on Behalf of

A handwritten signature in black ink, appearing to read "Amy Leung".

Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-042122	2200922-01	Water	4/21/22 8:00	3/17/22 14:40
CEFF	2200922-02	Groundwater	4/21/22 10:30	3/17/22 14:40
CBT	2200922-03	Groundwater	4/21/22 10:35	3/17/22 14:40
POX	2200922-04	Groundwater	4/21/22 10:40	3/17/22 14:40
INF	2200922-05	Groundwater	4/21/22 10:45	3/17/22 14:40
EW-02	2200922-06	Groundwater	4/21/22 11:15	3/17/22 14:40
MW-29	2200922-07	Groundwater	4/21/22 11:30	3/17/22 14:40



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
L2	Laboratory Control Sample and/ or Laboratory Control Sample Duplicate outside of acceptance limits. Reextraction and/or reanalysis is not possible due to limited amount of sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
B6	Associated method blank above PQL, analyte non-detected. Therefore, reanalysis is not necessary.
B	Analyte detected in the associated method blank above the PQL.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

- Notes:
- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
 - (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
 - (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: TB-042122

Lab ID: 2200922-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1-Dichloroethane	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1-Dichloroethene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:18	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:18	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:18	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:18	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 18:18	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 18:18	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:18	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:18	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:18	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:18	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:18	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:18	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 18:18	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:18	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:18	
Chloroform	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:18	
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:18	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:18	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:18	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 18:18	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 18:18	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: TB-042122

Lab ID: 2200922-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:18	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:18	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 18:18	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 18:18	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:18	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:18	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 18:18	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:18	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:18	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:18	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:18	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:18	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:18	
Trichlorofluoromethane	ND	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 18:18	
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:18	
Surrogate: 1,2-Dichloroethane-d4	150 %	64 - 155			B2D1548	04/25/2022	04/25/22 18:18	
Surrogate: 4-Bromofluorobenzene	113 %	73 - 124			B2D1548	04/25/2022	04/25/22 18:18	
Surrogate: Dibromofluoromethane	120 %	78 - 129			B2D1548	04/25/2022	04/25/22 18:18	
Surrogate: Toluene-d8	106 %	84 - 117			B2D1548	04/25/2022	04/25/22 18:18	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: CEFF

Lab ID: 2200922-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:44	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:44	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 18:44	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 18:44	
1,1-Dichloroethane	0.26	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:44	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:44	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:44	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:44	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:44	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 18:44	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 18:44	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:44	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:44	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:44	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 18:44	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:44	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 18:44	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 18:44	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:44	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:44	
Chloroform	0.20	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:44	J
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:44	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 18:44	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 18:44	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 18:44	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 18:44	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: CEFF

Lab ID: 2200922-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 18:44	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:44	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 18:44	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 18:44	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 18:44	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:44	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 18:44	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:44	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:44	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:44	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 18:44	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 18:44	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 18:44	
Trichlorofluoromethane	0.39	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 18:44	J
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 18:44	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>145 %</i>		<i>64 - 155</i>		B2D1548	04/25/2022	04/25/22 18:44	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>113 %</i>		<i>73 - 124</i>		B2D1548	04/25/2022	04/25/22 18:44	
<i>Surrogate: Dibromofluoromethane</i>	<i>123 %</i>		<i>78 - 129</i>		B2D1548	04/25/2022	04/25/22 18:44	
<i>Surrogate: Toluene-d8</i>	<i>108 %</i>		<i>84 - 117</i>		B2D1548	04/25/2022	04/25/22 18:44	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2D1589	04/27/2022	04/27/22 22:33	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>54.2 %</i>		<i>13 - 99</i>		B2D1589	04/27/2022	04/27/22 22:33	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>26.6 %</i>		<i>8 - 111</i>		B2D1589	04/27/2022	04/27/22 22:33	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>53.4 %</i>		<i>12 - 113</i>		B2D1589	04/27/2022	04/27/22 22:33	
<i>Surrogate: Nitrobenzene-d5</i>	<i>54.1 %</i>		<i>15 - 121</i>		B2D1589	04/27/2022	04/27/22 22:33	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: CBT

Lab ID: 2200922-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:10	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:10	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 19:10	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 19:10	
1,1-Dichloroethane	0.29	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:10	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:10	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:10	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:10	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:10	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 19:10	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 19:10	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:10	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:10	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:10	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:10	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:10	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:10	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 19:10	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:10	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:10	
Chloroform	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:10	
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:10	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:10	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:10	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 19:10	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 19:10	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: CBT

Lab ID: 2200922-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:10	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:10	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 19:10	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 19:10	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:10	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:10	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 19:10	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:10	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:10	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:10	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:10	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:10	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:10	
Trichlorofluoromethane	0.28	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 19:10	J
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:10	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>138 %</i>		<i>64 - 155</i>		B2D1548	04/25/2022	04/25/22 19:10	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>107 %</i>		<i>73 - 124</i>		B2D1548	04/25/2022	04/25/22 19:10	
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>		<i>78 - 129</i>		B2D1548	04/25/2022	04/25/22 19:10	
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>84 - 117</i>		B2D1548	04/25/2022	04/25/22 19:10	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2D1589	04/27/2022	04/27/22 23:00	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>52.4 %</i>		<i>13 - 99</i>		B2D1589	04/27/2022	04/27/22 23:00	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>27.6 %</i>		<i>8 - 111</i>		B2D1589	04/27/2022	04/27/22 23:00	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>53.5 %</i>		<i>12 - 113</i>		B2D1589	04/27/2022	04/27/22 23:00	
<i>Surrogate: Nitrobenzene-d5</i>	<i>52.5 %</i>		<i>15 - 121</i>		B2D1589	04/27/2022	04/27/22 23:00	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: POX

Lab ID: 2200922-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:36	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:36	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 19:36	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 19:36	
1,1-Dichloroethane	0.31	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:36	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:36	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:36	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:36	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:36	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 19:36	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 19:36	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:36	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:36	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:36	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 19:36	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:36	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 19:36	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 19:36	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:36	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:36	
Chloroform	0.11	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:36	J
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:36	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 19:36	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 19:36	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 19:36	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 19:36	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: POX

Lab ID: 2200922-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 19:36	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:36	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 19:36	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 19:36	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 19:36	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:36	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 19:36	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:36	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:36	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:36	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 19:36	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 19:36	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 19:36	
Trichlorofluoromethane	0.29	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 19:36	J
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 19:36	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>141 %</i>		<i>64 - 155</i>		B2D1548	04/25/2022	04/25/22 19:36	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.6 %</i>		<i>73 - 124</i>		B2D1548	04/25/2022	04/25/22 19:36	
<i>Surrogate: Dibromofluoromethane</i>	<i>119 %</i>		<i>78 - 129</i>		B2D1548	04/25/2022	04/25/22 19:36	
<i>Surrogate: Toluene-d8</i>	<i>99.8 %</i>		<i>84 - 117</i>		B2D1548	04/25/2022	04/25/22 19:36	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2D1589	04/27/2022	04/27/22 23:27	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>50.2 %</i>		<i>13 - 99</i>		B2D1589	04/27/2022	04/27/22 23:27	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>25.5 %</i>		<i>8 - 111</i>		B2D1589	04/27/2022	04/27/22 23:27	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>52.1 %</i>		<i>12 - 113</i>		B2D1589	04/27/2022	04/27/22 23:27	
<i>Surrogate: Nitrobenzene-d5</i>	<i>54.5 %</i>		<i>15 - 121</i>		B2D1589	04/27/2022	04/27/22 23:27	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: INF

Lab ID: 2200922-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1-Dichloroethane	0.57	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1-Dichloroethene	58	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:02	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:02	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:02	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:02	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 20:02	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 20:02	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:02	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:02	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:02	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:02	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:02	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:02	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 20:02	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:02	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:02	
Chloroform	0.19	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:02	J
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:02	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:02	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:02	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 20:02	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:02	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: INF

Lab ID: 2200922-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:02	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:02	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 20:02	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 20:02	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:02	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:02	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:02	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:02	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:02	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:02	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:02	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:02	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:02	
Trichlorofluoromethane	0.30	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 20:02	J
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:02	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>146 %</i>		<i>64 - 155</i>		B2D1548	04/25/2022	04/25/22 20:02	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>98.6 %</i>		<i>73 - 124</i>		B2D1548	04/25/2022	04/25/22 20:02	
<i>Surrogate: Dibromofluoromethane</i>	<i>122 %</i>		<i>78 - 129</i>		B2D1548	04/25/2022	04/25/22 20:02	
<i>Surrogate: Toluene-d8</i>	<i>99.0 %</i>		<i>84 - 117</i>		B2D1548	04/25/2022	04/25/22 20:02	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	23	2.0	0.84	1	B2D1515	04/22/2022	04/27/22 18:33	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>93.5 %</i>		<i>17 - 119</i>		B2D1515	04/22/2022	04/27/22 18:33	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>92.5 %</i>		<i>10 - 133</i>		B2D1515	04/22/2022	04/27/22 18:33	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>100 %</i>		<i>5 - 139</i>		B2D1515	04/22/2022	04/27/22 18:33	
<i>Surrogate: Nitrobenzene-d5</i>	<i>99.0 %</i>		<i>13 - 150</i>		B2D1515	04/22/2022	04/27/22 18:33	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: EW-02

Lab ID: 2200922-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:28	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:28	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 20:28	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 20:28	
1,1-Dichloroethane	0.15	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:28	J
1,1-Dichloroethene	14	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:28	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:28	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:28	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:28	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 20:28	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 20:28	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:28	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:28	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:28	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:28	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:28	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:28	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 20:28	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:28	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:28	
Chloroform	0.14	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:28	J
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:28	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:28	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:28	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 20:28	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:28	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: EW-02

Lab ID: 2200922-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:28	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:28	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 20:28	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 20:28	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:28	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:28	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:28	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:28	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:28	
Tetrachloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:28	
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:28	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:28	
Trichloroethene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:28	
Trichlorofluoromethane	ND	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 20:28	
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:28	
Surrogate: 1,2-Dichloroethane-d4	141 %	64 - 155			B2D1548	04/25/2022	04/25/22 20:28	
Surrogate: 4-Bromofluorobenzene	100 %	73 - 124			B2D1548	04/25/2022	04/25/22 20:28	
Surrogate: Dibromofluoromethane	102 %	78 - 129			B2D1548	04/25/2022	04/25/22 20:28	
Surrogate: Toluene-d8	105 %	84 - 117			B2D1548	04/25/2022	04/25/22 20:28	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	0.84	1	B2D1515	04/22/2022	04/27/22 19:01	
Surrogate: 1,2-Dichlorobenzene-d4	95.9 %	17 - 119			B2D1515	04/22/2022	04/27/22 19:01	
Surrogate: 2-Fluorobiphenyl	91.0 %	10 - 133			B2D1515	04/22/2022	04/27/22 19:01	
Surrogate: 4-Terphenyl-d14	97.5 %	5 - 139			B2D1515	04/22/2022	04/27/22 19:01	
Surrogate: Nitrobenzene-d5	95.0 %	13 - 150			B2D1515	04/22/2022	04/27/22 19:01	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: MW-29

Lab ID: 2200922-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:54	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:54	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2D1548	04/25/2022	04/25/22 20:54	
1,1,2-Trichloroethane	0.42	0.50	0.25	1	B2D1548	04/25/2022	04/25/22 20:54	J
1,1-Dichloroethane	1.4	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:54	
1,1-Dichloroethene	170	5.0	1.3	10	B2D1548	04/25/2022	04/25/22 21:21	
1,1-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2-Dibromoethane	ND	0.50	0.24	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2-Dichloroethane	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:54	
1,2-Dichloropropane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:54	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:54	
1,3-Dichloropropane	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:54	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2D1548	04/25/2022	04/25/22 20:54	
2,2-Dichloropropane	ND	0.50	0.38	1	B2D1548	04/25/2022	04/25/22 20:54	
2-Chlorotoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:54	
4-Chlorotoluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:54	
4-Isopropyltoluene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:54	
Benzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
Bromobenzene	ND	0.50	0.21	1	B2D1548	04/25/2022	04/25/22 20:54	
Bromodichloromethane	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:54	
Bromoform	ND	0.50	0.20	1	B2D1548	04/25/2022	04/25/22 20:54	
Bromomethane	ND	0.50	0.40	1	B2D1548	04/25/2022	04/25/22 20:54	
Carbon tetrachloride	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:54	
Chlorobenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
Chloroethane	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:54	
Chloroform	0.13	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:54	J
Chloromethane	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:54	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2D1548	04/25/2022	04/25/22 20:54	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
Dibromochloromethane	ND	0.50	0.16	1	B2D1548	04/25/2022	04/25/22 20:54	
Dibromomethane	ND	0.50	0.19	1	B2D1548	04/25/2022	04/25/22 20:54	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2D1548	04/25/2022	04/25/22 20:54	
Ethylbenzene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Client Sample ID: MW-29

Lab ID: 2200922-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2D1548	04/25/2022	04/25/22 20:54	
Isopropylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:54	
m,p-Xylene	ND	1.0	0.19	1	B2D1548	04/25/2022	04/25/22 20:54	
Methylene chloride	ND	1.0	0.71	1	B2D1548	04/25/2022	04/25/22 20:54	
n-Butylbenzene	ND	0.50	0.11	1	B2D1548	04/25/2022	04/25/22 20:54	
n-Propylbenzene	ND	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:54	
Naphthalene	ND	0.50	0.41	1	B2D1548	04/25/2022	04/25/22 20:54	
o-Xylene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
sec-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:54	
Styrene	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
tert-Butylbenzene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:54	
Tetrachloroethene	0.17	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:54	J
Toluene	ND	0.50	0.12	1	B2D1548	04/25/2022	04/25/22 20:54	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2D1548	04/25/2022	04/25/22 20:54	
Trichloroethene	1.3	0.50	0.10	1	B2D1548	04/25/2022	04/25/22 20:54	
Trichlorofluoromethane	0.90	0.50	0.23	1	B2D1548	04/25/2022	04/25/22 20:54	
Vinyl chloride	ND	0.50	0.13	1	B2D1548	04/25/2022	04/25/22 20:54	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>148 %</i>	<i>64 - 155</i>			B2D1548	04/25/2022	04/25/22 20:54	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>137 %</i>	<i>64 - 155</i>			B2D1548	04/25/2022	04/25/22 21:21	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>117 %</i>	<i>73 - 124</i>			B2D1548	04/25/2022	04/25/22 20:54	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>113 %</i>	<i>73 - 124</i>			B2D1548	04/25/2022	04/25/22 21:21	
<i>Surrogate: Dibromofluoromethane</i>	<i>120 %</i>	<i>78 - 129</i>			B2D1548	04/25/2022	04/25/22 20:54	
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>	<i>78 - 129</i>			B2D1548	04/25/2022	04/25/22 21:21	
<i>Surrogate: Toluene-d8</i>	<i>110 %</i>	<i>84 - 117</i>			B2D1548	04/25/2022	04/25/22 20:54	
<i>Surrogate: Toluene-d8</i>	<i>108 %</i>	<i>84 - 117</i>			B2D1548	04/25/2022	04/25/22 21:21	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	71	2.0	0.84	1	B2D1515	04/22/2022	04/27/22 19:28	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>92.7 %</i>	<i>17 - 119</i>			B2D1515	04/22/2022	04/27/22 19:28	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>94.0 %</i>	<i>10 - 133</i>			B2D1515	04/22/2022	04/27/22 19:28	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>98.8 %</i>	<i>5 - 139</i>			B2D1515	04/22/2022	04/27/22 19:28	
<i>Surrogate: Nitrobenzene-d5</i>	<i>99.3 %</i>	<i>13 - 150</i>			B2D1515	04/22/2022	04/27/22 19:28	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1548 - MSVOA_LL_W

Blank (B2D1548-BLK1)

Prepared: 4/25/2022 Analyzed: 4/25/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1548 - MSVOA_LL_W (continued)

Blank (B2D1548-BLK1) - Continued

Prepared: 4/25/2022 Analyzed: 4/25/2022

m,p-Xylene	ND	1.0	0.19							
Methylene chloride	2.02000	1.0	0.71							B6
n-Butylbenzene	ND	0.50	0.11							
n-Propylbenzene	ND	0.50	0.10							
Naphthalene	ND	0.50	0.41							
o-Xylene	ND	0.50	0.13							
sec-Butylbenzene	ND	0.50	0.09							
Styrene	ND	0.50	0.13							
tert-Butylbenzene	ND	0.50	0.09							
Tetrachloroethene	ND	0.50	0.10							
Toluene	ND	0.50	0.12							
trans-1,2-Dichloroethene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.10							
Trichlorofluoromethane	ND	0.50	0.23							
Vinyl chloride	ND	0.50	0.13							

Surrogate: 1,2-Dichloroethane-d4	31.33			25.0000		125	64 - 155			
Surrogate: 4-Bromofluorobenzene	29.16			25.0000		117	73 - 124			
Surrogate: Dibromofluoromethane	26.70			25.0000		107	78 - 129			
Surrogate: Toluene-d8	26.60			25.0000		106	84 - 117			

LCS (B2D1548-BS1)

Prepared: 4/25/2022 Analyzed: 4/25/2022

1,1,1,2-Tetrachloroethane	16.2400	0.50	0.11	20.0000		81.2	79 - 116			
1,1,1-Trichloroethane	20.7400	0.50	0.21	20.0000		104	73 - 130			
1,1,2,2-Tetrachloroethane	17.6100	0.50	0.36	20.0000		88.0	71 - 122			
1,1,2-Trichloroethane	19.7900	0.50	0.25	20.0000		99.0	70 - 124			
1,1-Dichloroethane	20.0000	0.50	0.09	20.0000		100	69 - 128			
1,1-Dichloroethene	20.3500	0.50	0.13	20.0000		102	65 - 137			
1,1-Dichloropropene	18.5500	0.50	0.13	20.0000		92.8	74 - 129			
1,2,3-Trichloropropane	18.8400	0.50	0.39	20.0000		94.2	74 - 123			
1,2,3-Trichlorobenzene	15.4500	0.50	0.18	20.0000		77.2	59 - 130			
1,2,4-Trichlorobenzene	16.7500	0.50	0.16	20.0000		83.8	65 - 125			
1,2,4-Trimethylbenzene	20.2900	0.50	0.14	20.0000		101	88 - 124			
1,2-Dibromo-3-chloropropane	13.9700	0.50	0.41	20.0000		69.8	61 - 127			
1,2-Dibromoethane	19.7300	0.50	0.24	20.0000		98.6	72 - 125			
1,2-Dichlorobenzene	16.4500	0.50	0.20	20.0000		82.2	84 - 113			L3
1,2-Dichloroethane	21.6800	0.50	0.20	20.0000		108	68 - 130			
1,2-Dichloropropane	20.3300	0.50	0.15	20.0000		102	77 - 121			
1,3,5-Trimethylbenzene	21.5100	0.50	0.13	20.0000		108	83 - 124			
1,3-Dichlorobenzene	16.7200	0.50	0.16	20.0000		83.6	83 - 112			
1,3-Dichloropropane	19.7800	0.50	0.21	20.0000		98.9	77 - 119			
1,4-Dichlorobenzene	16.2800	0.50	0.17	20.0000		81.4	79 - 115			
2,2-Dichloropropane	23.7400	0.50	0.38	20.0000		119	67 - 149			
2-Chlorotoluene	19.7600	0.50	0.11	20.0000		98.8	81 - 119			
4-Chlorotoluene	20.6800	0.50	0.12	20.0000		103	86 - 117			
4-Isopropyltoluene	18.9700	0.50	0.11	20.0000		94.8	82 - 131			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD Limit	Notes

Batch B2D1548 - MSVOA_LL_W (continued)

LCS (B2D1548-BS1) - Continued

Prepared: 4/25/2022 Analyzed: 4/25/2022

Benzene	20.0100	0.50	0.13	20.0000		100	75 - 124	
Bromobenzene	16.7100	0.50	0.21	20.0000		83.6	82 - 108	
Bromodichloromethane	22.3700	0.50	0.14	20.0000		112	80 - 120	
Bromoform	14.7300	0.50	0.20	20.0000		73.6	70 - 123	
Bromomethane	18.7400	0.50	0.40	20.0000		93.7	44 - 151	
Carbon tetrachloride	19.6700	0.50	0.09	20.0000		98.4	62 - 140	
Chlorobenzene	17.1800	0.50	0.13	20.0000		85.9	80 - 112	
Chloroethane	21.6600	0.50	0.15	20.0000		108	42 - 167	
Chloroform	19.6900	0.50	0.11	20.0000		98.4	77 - 122	
Chloromethane	14.1800	0.50	0.12	20.0000		70.9	33 - 153	
cis-1,2-Dichloroethene	14.2900	0.50	0.14	20.0000		71.4	75 - 121	L3
cis-1,3-Dichloropropene	22.2900	0.50	0.13	20.0000		111	73 - 127	
Dibromochloromethane	16.2100	0.50	0.16	20.0000		81.0	77 - 122	
Dibromomethane	18.6500	0.50	0.19	20.0000		93.2	75 - 121	
Dichlorodifluoromethane	8.53000	0.50	0.18	20.0000		42.6	0 - 171	
Ethylbenzene	18.7200	0.50	0.13	20.0000		93.6	82 - 119	
Hexachlorobutadiene	21.8700	0.50	0.15	20.0000		109	71 - 131	
Isopropylbenzene	20.1800	0.50	0.10	20.0000		101	75 - 126	
m,p-Xylene	37.6200	1.0	0.19	40.0000		94.0	86 - 119	
Methylene chloride	19.5900	1.0	0.71	20.0000		98.0	76 - 125	B
n-Butylbenzene	19.1100	0.50	0.11	20.0000		95.6	81 - 125	
n-Propylbenzene	20.0400	0.50	0.10	20.0000		100	78 - 130	
Naphthalene	11.7500	0.50	0.41	20.0000		58.8	47 - 128	
o-Xylene	20.1700	0.50	0.13	20.0000		101	85 - 119	
sec-Butylbenzene	19.8600	0.50	0.09	20.0000		99.3	78 - 130	
Styrene	17.2500	0.50	0.13	20.0000		86.2	62 - 148	
tert-Butylbenzene	19.1300	0.50	0.09	20.0000		95.6	77 - 125	
Tetrachloroethene	15.3600	0.50	0.10	20.0000		76.8	73 - 120	
Toluene	21.2300	0.50	0.12	20.0000		106	79 - 119	
trans-1,2-Dichloroethene	24.1300	0.50	0.09	20.0000		121	70 - 129	
Trichloroethene	16.2300	0.50	0.10	20.0000		81.2	73 - 117	
Trichlorofluoromethane	22.4200	0.50	0.23	20.0000		112	59 - 135	
Vinyl chloride	17.5200	0.50	0.13	20.0000		87.6	58 - 132	

Surrogate: 1,2-Dichloroethane-d4

30.72

25.0000

123

64 - 155

Surrogate: 4-Bromofluorobenzene

27.80

25.0000

111

73 - 124

Surrogate: Dibromofluoromethane

26.52

25.0000

106

78 - 129

Surrogate: Toluene-d8

29.44

25.0000

118

84 - 117

L3

LCS Dup (B2D1548-BSD1)

Prepared: 4/25/2022 Analyzed: 4/25/2022

1,1,1,2-Tetrachloroethane	19.7600	0.50	0.11	20.0000		98.8	79 - 116	19.6	20	
1,1,1-Trichloroethane	23.9400	0.50	0.21	20.0000		120	73 - 130	14.3	20	
1,1,2,2-Tetrachloroethane	25.1200	0.50	0.36	20.0000		126	71 - 122	35.2	20	L3, R
1,1,2-Trichloroethane	22.4200	0.50	0.25	20.0000		112	70 - 124	12.5	20	
1,1-Dichloroethane	23.4400	0.50	0.09	20.0000		117	69 - 128	15.8	20	
1,1-Dichloroethene	20.4500	0.50	0.13	20.0000		102	65 - 137	0.490	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1548 - MSVOA_LL_W (continued)

LCS Dup (B2D1548-BSD1) - Continued

Prepared: 4/25/2022 Analyzed: 4/25/2022

1,1-Dichloropropene	18.1600	0.50	0.13	20.0000		90.8	74 - 129	2.12	20	
1,2,3-Trichloropropane	27.9500	0.50	0.39	20.0000		140	74 - 123	38.9	20	L5, R
1,2,3-Trichlorobenzene	21.3800	0.50	0.18	20.0000		107	59 - 130	32.2	20	R
1,2,4-Trichlorobenzene	22.4100	0.50	0.16	20.0000		112	65 - 125	28.9	20	R
1,2,4-Trimethylbenzene	23.7400	0.50	0.14	20.0000		119	88 - 124	15.7	20	
1,2-Dibromo-3-chloropropane	19.5100	0.50	0.41	20.0000		97.6	61 - 127	33.1	20	R
1,2-Dibromoethane	24.1400	0.50	0.24	20.0000		121	72 - 125	20.1	20	R
1,2-Dichlorobenzene	20.8300	0.50	0.20	20.0000		104	84 - 113	23.5	20	R
1,2-Dichloroethane	25.8900	0.50	0.20	20.0000		129	68 - 130	17.7	20	
1,2-Dichloropropane	22.0400	0.50	0.15	20.0000		110	77 - 121	8.07	20	
1,3,5-Trimethylbenzene	23.9500	0.50	0.13	20.0000		120	83 - 124	10.7	20	
1,3-Dichlorobenzene	20.9300	0.50	0.16	20.0000		105	83 - 112	22.4	20	R
1,3-Dichloropropane	25.0000	0.50	0.21	20.0000		125	77 - 119	23.3	20	L3, R
1,4-Dichlorobenzene	19.8700	0.50	0.17	20.0000		99.4	79 - 115	19.9	20	
2,2-Dichloropropane	27.0800	0.50	0.38	20.0000		135	67 - 149	13.1	20	
2-Chlorotoluene	22.8400	0.50	0.11	20.0000		114	81 - 119	14.5	20	
4-Chlorotoluene	24.8200	0.50	0.12	20.0000		124	86 - 117	18.2	20	L3
4-Isopropyltoluene	21.8700	0.50	0.11	20.0000		109	82 - 131	14.2	20	
Benzene	23.9500	0.50	0.13	20.0000		120	75 - 124	17.9	20	
Bromobenzene	21.4600	0.50	0.21	20.0000		107	82 - 108	24.9	20	R
Bromodichloromethane	25.4100	0.50	0.14	20.0000		127	80 - 120	12.7	20	L3
Bromoform	21.5500	0.50	0.20	20.0000		108	70 - 123	37.6	20	R
Bromomethane	22.3100	0.50	0.40	20.0000		112	44 - 151	17.4	20	
Carbon tetrachloride	21.2200	0.50	0.09	20.0000		106	62 - 140	7.58	20	
Chlorobenzene	18.9000	0.50	0.13	20.0000		94.5	80 - 112	9.53	20	
Chloroethane	22.0900	0.50	0.15	20.0000		110	42 - 167	1.97	20	
Chloroform	23.7700	0.50	0.11	20.0000		119	77 - 122	18.8	20	
Chloromethane	15.4900	0.50	0.12	20.0000		77.4	33 - 153	8.83	20	
cis-1,2-Dichloroethene	15.6700	0.50	0.14	20.0000		78.4	75 - 121	9.21	20	
cis-1,3-Dichloropropene	22.7300	0.50	0.13	20.0000		114	73 - 127	1.95	20	
Dibromochloromethane	19.6300	0.50	0.16	20.0000		98.2	77 - 122	19.1	20	
Dibromomethane	24.0100	0.50	0.19	20.0000		120	75 - 121	25.1	20	R
Dichlorodifluoromethane	8.79000	0.50	0.18	20.0000		44.0	0 - 171	3.00	20	
Ethylbenzene	20.9600	0.50	0.13	20.0000		105	82 - 119	11.3	20	
Hexachlorobutadiene	25.4700	0.50	0.15	20.0000		127	71 - 131	15.2	20	
Isopropylbenzene	24.2500	0.50	0.10	20.0000		121	75 - 126	18.3	20	
m,p-Xylene	48.5800	1.0	0.19	40.0000		121	86 - 119	25.4	20	L3, R
Methylene chloride	24.9900	1.0	0.71	20.0000		125	76 - 125	24.2	20	R, B
n-Butylbenzene	22.4400	0.50	0.11	20.0000		112	81 - 125	16.0	20	
n-Propylbenzene	21.8500	0.50	0.10	20.0000		109	78 - 130	8.64	20	
Naphthalene	14.9100	0.50	0.41	20.0000		74.6	47 - 128	23.7	20	R
o-Xylene	25.0100	0.50	0.13	20.0000		125	85 - 119	21.4	20	L3, R
sec-Butylbenzene	23.1200	0.50	0.09	20.0000		116	78 - 130	15.2	20	
Styrene	20.6900	0.50	0.13	20.0000		103	62 - 148	18.1	20	
tert-Butylbenzene	20.4400	0.50	0.09	20.0000		102	77 - 125	6.62	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1548 - MSVOA_LL_W (continued)

LCS Dup (B2D1548-BSD1) - Continued

Prepared: 4/25/2022 Analyzed: 4/25/2022

Tetrachloroethene	17.6900	0.50	0.10	20.0000		88.4	73 - 120	14.1	20	
Toluene	22.3300	0.50	0.12	20.0000		112	79 - 119	5.05	20	
trans-1,2-Dichloroethene	27.5900	0.50	0.09	20.0000		138	70 - 129	13.4	20	L4
Trichloroethene	17.9500	0.50	0.10	20.0000		89.8	73 - 117	10.1	20	
Trichlorofluoromethane	23.1600	0.50	0.23	20.0000		116	59 - 135	3.25	20	
Vinyl chloride	18.9100	0.50	0.13	20.0000		94.6	58 - 132	7.63	20	
Surrogate: 1,2-Dichloroethane-d4	33.72			25.0000		135	64 - 155			
Surrogate: 4-Bromofluorobenzene	29.90			25.0000		120	73 - 124			
Surrogate: Dibromofluoromethane	28.66			25.0000		115	78 - 129			
Surrogate: Toluene-d8	27.84			25.0000		111	84 - 117			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1515 - MSSEMI_W

Blank (B2D1515-BLK1)

Prepared: 4/22/2022 Analyzed: 4/27/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	95.26			100.000		95.3	17 - 119			
Surrogate: 2-Fluorobiphenyl	95.41			100.000		95.4	10 - 133			
Surrogate: 4-Terphenyl-d14	99.14			100.000		99.1	5 - 139			
Surrogate: Nitrobenzene-d5	97.22			100.000		97.2	13 - 150			

LCS (B2D1515-BS1)

Prepared: 4/22/2022 Analyzed: 4/27/2022

1,4-Dioxane 92.9500 2.0 0.84 100.000 93.0 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	96.45			100.000		96.4	17 - 119			
Surrogate: 2-Fluorobiphenyl	92.33			100.000		92.3	10 - 133			
Surrogate: 4-Terphenyl-d14	98.31			100.000		98.3	5 - 139			
Surrogate: Nitrobenzene-d5	101.1			100.000		101	13 - 150			

LCS Dup (B2D1515-BS1)

Prepared: 4/22/2022 Analyzed: 4/27/2022

1,4-Dioxane 92.2300 2.0 0.84 100.000 92.2 75 - 155 0.778 20

Surrogate: 1,2-Dichlorobenzene-d4	94.77			100.000		94.8	17 - 119			
Surrogate: 2-Fluorobiphenyl	89.21			100.000		89.2	10 - 133			
Surrogate: 4-Terphenyl-d14	97.18			100.000		97.2	5 - 139			
Surrogate: Nitrobenzene-d5	98.96			100.000		99.0	13 - 150			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample / 532.15

Report To : Steve Netto

Reported : 04/29/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2D1589 - MSSEMI_W

Blank (B2D1589-BLK1)

Prepared: 4/27/2022 Analyzed: 4/27/2022

1,4-Dioxane ND 0.20 0.05

Surrogate: 1,2-Dichlorobenzene-d4	1.034			2.00000		51.7	13 - 99
Surrogate: 2-Fluorobiphenyl	0.5699			2.00000		28.5	8 - 111
Surrogate: 4-Terphenyl-d14	1.082			2.00000		54.1	12 - 113
Surrogate: Nitrobenzene-d5	0.9231			2.00000		46.2	15 - 121

LCS (B2D1589-BS1)

Prepared: 4/27/2022 Analyzed: 4/27/2022

1,4-Dioxane 0.148270 0.20 0.05 1.00000 14.8 75 - 155 L2, J

Surrogate: 1,2-Dichlorobenzene-d4	1.044			2.00000		52.2	13 - 99
Surrogate: 2-Fluorobiphenyl	0.5579			2.00000		27.9	8 - 111
Surrogate: 4-Terphenyl-d14	1.095			2.00000		54.8	12 - 113
Surrogate: Nitrobenzene-d5	0.9776			2.00000		48.9	15 - 121

LCS Dup (B2D1589-BSD1)

Prepared: 4/27/2022 Analyzed: 4/27/2022

1,4-Dioxane 0.223820 0.20 0.05 1.00000 22.4 75 - 155 40.6 20 L2, R

Surrogate: 1,2-Dichlorobenzene-d4	1.063			2.00000		53.1	13 - 99
Surrogate: 2-Fluorobiphenyl	0.4927			2.00000		24.6	8 - 111
Surrogate: 4-Terphenyl-d14	1.095			2.00000		54.8	12 - 113
Surrogate: Nitrobenzene-d5	1.076			2.00000		53.8	15 - 121

2200922

Date: 4/21/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Mid Month Sample

TASK NO.: 532.15

Project Manager Steve Netto

QA Manager Ruben Sanchez

Phone 858.455.6500

Fax 858.455.6533

Sampled By:		SAMPLE COLLECTION				MATRIX		PRESERVATION				CONTAINERS				ANALYSIS REQUESTED										Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				REMARKS	
LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	125 mL Poly	250 mL Poly	250 mL Glass	1 L Poly	1L Amber	VOCs by EPA 8260B	Bromate by EPA 317	Bromide by EPA 300	Alkalinity by SM2320B	Total Organic Carbon by SM5310B	Total Suspended Solids by SM2540D	UV Absorption EPA 415.3 @254 nm	1,4-Dioxane by EPA 8270C MOD	1,4-Dioxane by EPA 8270C SIM	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested		
1	TB-042122	4/21/2022	8:00		X	X			X	2					X										X										
2	CEFF	4/21/2022	10:30	X		X			X	3					1	X								X	X							X			
3	CBT	4/21/2022	10:35	X		X			X	3					1	X								X	X							X			
4	POX	4/21/2022	10:40	X		X			X	3					1	X								X	X							X			
5	INF	4/21/2022	10:45	X		X			X	3					1	X						X					X					X			
6	EW-02	4/21/2022	11:15	X		X			X	3					1	X						X				X						X			
7	MW-29	4/21/2022	11:30	X		X			X	3					1	X						X				X						X			

Total number of containers per analysis:

20

6

Total No. of Containers: 26

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
<i>[Signature]</i> HHA	4-21-22 12:00	Danielle Golbhar HHA	4-21-22 12:00
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
Danielle Golbhar HHA	4-21-22 12:40	Danngly ATL	4/21/22 12:40

- ☒ No. of containers correct
☒ Received in good condition
☐ Custody seals secure
☒ Conforms to COC document

Instructions 3.3 Temperature on receipt

- Fill out form completely and sign only after verified for completeness
- Complete in ballpoint pen. Draw one line through error, initial and date correction
- Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ×
- Note applicable preservatives, special instructions, and deviations from typical environmental samples.
- Consult project QA documents for specific instructions.

Send Results to:
Steve Netto & Ruben Sanchez
 3131 Camino Del Rio North
 Suite 355
 San Diego, CA 92108
 Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

June 29, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

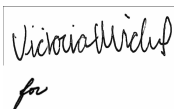
Re: ATL Work Order Number : 2201131

Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on May 05, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,



Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 06/29/22 13:28 on Behalf of



Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-050522	2201131-01	Water	5/05/22 8:00	5/05/22 15:01
CEFF	2201131-02	Groundwater	5/05/22 8:20	5/05/22 15:01
CBT	2201131-03	Groundwater	5/05/22 8:25	5/05/22 15:01
POX	2201131-04	Groundwater	5/05/22 8:30	5/05/22 15:01
PF	2201131-05	Groundwater	5/05/22 8:40	5/05/22 15:01
INF	2201131-06	Groundwater	5/05/22 8:45	5/05/22 15:01
EW-02	2201131-07	Groundwater	5/05/22 9:05	5/05/22 15:01
MW-29	2201131-08	Groundwater	5/05/22 9:20	5/05/22 15:01



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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
R2	RPD value outside acceptance criteria due to possible matrix interference.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

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Bromide by Ion Chromatography EPA 300

Analyte: Bromide

Analyst: eddie.ngo

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2201131-06	INF	0.22	mg/L	0.05	1	B2E1160	05/11/2022	05/11/22 14:27	
2201131-07	EW-02	0.18	mg/L	0.05	1	B2E1160	05/11/2022	05/11/22 14:48	
2201131-08	MW-29	0.29	mg/L	0.05	1	B2E1160	05/11/2022	05/11/22 14:57	

Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D

Analyte: Residue, Suspended

Analyst: LN

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2201131-05	PF	690	mg/L	10	1	B2E1109	05/09/2022	05/10/22 13:00	



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: TB-050522

Lab ID: 2201131-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Chloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: TB-050522

Lab ID: 2201131-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 17:38	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 17:38	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Tetrachloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Trichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Trichlorofluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 17:38	
Surrogate: 1,2-Dichloroethane-d4	131 %	64 - 155		B2E1103	05/09/2022	05/09/22 17:38	
Surrogate: 4-Bromofluorobenzene	116 %	73 - 124		B2E1103	05/09/2022	05/09/22 17:38	
Surrogate: Dibromofluoromethane	104 %	78 - 129		B2E1103	05/09/2022	05/09/22 17:38	
Surrogate: Toluene-d8	108 %	84 - 117		B2E1103	05/09/2022	05/09/22 17:38	



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: CEFF

Lab ID: 2201131-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1,1-Trichloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1,2-Trichloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1-Dichloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1-Dichloroethene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,1-Dichloropropene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2,3-Trichloropropane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2-Dibromoethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2-Dichlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2-Dichloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,2-Dichloropropane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,3-Dichlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,3-Dichloropropane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
1,4-Dichlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
2,2-Dichloropropane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
2-Chlorotoluene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
4-Chlorotoluene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
4-Isopropyltoluene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Benzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Bromobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Bromodichloromethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Bromoform	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Bromomethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Carbon tetrachloride	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Chlorobenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Chloroethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Chloroform	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Chloromethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Dibromochloromethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Dibromomethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Dichlorodifluoromethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Ethylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	



Certificate of Analysis

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Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: CEFF

Lab ID: 2201131-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Isopropylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
m,p-Xylene	ND	1.0	1	B2E1128	05/10/2022	05/10/22 17:28	
Methylene chloride	ND	1.0	1	B2E1128	05/10/2022	05/10/22 17:28	
n-Butylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
n-Propylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Naphthalene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
o-Xylene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
sec-Butylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Styrene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
tert-Butylbenzene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Tetrachloroethene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Toluene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Trichloroethene	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Trichlorofluoromethane	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Vinyl chloride	ND	0.50	1	B2E1128	05/10/2022	05/10/22 17:28	
Surrogate: 1,2-Dichloroethane-d4	133 %	64 - 155		B2E1128	05/10/2022	05/10/22 17:28	
Surrogate: 4-Bromofluorobenzene	122 %	73 - 124		B2E1128	05/10/2022	05/10/22 17:28	
Surrogate: Dibromofluoromethane	116 %	78 - 129		B2E1128	05/10/2022	05/10/22 17:28	
Surrogate: Toluene-d8	97.7 %	84 - 117		B2E1128	05/10/2022	05/10/22 17:28	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2E1066	05/06/2022	05/09/22 16:13	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99		B2E1066	05/06/2022	05/09/22 16:13	S12
Surrogate: 2-Fluorobiphenyl	99.3 %	8 - 111		B2E1066	05/06/2022	05/09/22 16:13	
Surrogate: 4-Terphenyl-d14	107 %	12 - 113		B2E1066	05/06/2022	05/09/22 16:13	
Surrogate: Nitrobenzene-d5	101 %	15 - 121		B2E1066	05/06/2022	05/09/22 16:13	



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: CBT

Lab ID: 2201131-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Chloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: CBT

Lab ID: 2201131-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 18:30	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 18:30	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Tetrachloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Trichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Trichlorofluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:30	
Surrogate: 1,2-Dichloroethane-d4	143 %	64 - 155		B2E1103	05/09/2022	05/09/22 18:30	
Surrogate: 4-Bromofluorobenzene	113 %	73 - 124		B2E1103	05/09/2022	05/09/22 18:30	
Surrogate: Dibromofluoromethane	118 %	78 - 129		B2E1103	05/09/2022	05/09/22 18:30	
Surrogate: Toluene-d8	113 %	84 - 117		B2E1103	05/09/2022	05/09/22 18:30	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2E1066	05/06/2022	05/09/22 16:39	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99		B2E1066	05/06/2022	05/09/22 16:39	S12
Surrogate: 2-Fluorobiphenyl	98.1 %	8 - 111		B2E1066	05/06/2022	05/09/22 16:39	
Surrogate: 4-Terphenyl-d14	110 %	12 - 113		B2E1066	05/06/2022	05/09/22 16:39	
Surrogate: Nitrobenzene-d5	100 %	15 - 121		B2E1066	05/06/2022	05/09/22 16:39	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: POX

Lab ID: 2201131-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Chloromethane	0.51	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: POX

Lab ID: 2201131-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 18:56	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 18:56	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Tetrachloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Trichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Trichlorofluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 18:56	
Surrogate: 1,2-Dichloroethane-d4	132 %	64 - 155		B2E1103	05/09/2022	05/09/22 18:56	
Surrogate: 4-Bromofluorobenzene	106 %	73 - 124		B2E1103	05/09/2022	05/09/22 18:56	
Surrogate: Dibromofluoromethane	121 %	78 - 129		B2E1103	05/09/2022	05/09/22 18:56	
Surrogate: Toluene-d8	92.2 %	84 - 117		B2E1103	05/09/2022	05/09/22 18:56	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	1	B2E1066	05/06/2022	05/09/22 17:06	
Surrogate: 1,2-Dichlorobenzene-d4	103 %	13 - 99		B2E1066	05/06/2022	05/09/22 17:06	S12
Surrogate: 2-Fluorobiphenyl	101 %	8 - 111		B2E1066	05/06/2022	05/09/22 17:06	
Surrogate: 4-Terphenyl-d14	114 %	12 - 113		B2E1066	05/06/2022	05/09/22 17:06	S12
Surrogate: Nitrobenzene-d5	99.6 %	15 - 121		B2E1066	05/06/2022	05/09/22 17:06	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: INF

Lab ID: 2201131-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1-Dichloroethane	0.63	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1-Dichloroethene	62	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Chloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: INF

Lab ID: 2201131-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 19:22	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 19:22	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Tetrachloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Trichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Trichlorofluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:22	
Surrogate: 1,2-Dichloroethane-d4	152 %	64 - 155		B2E1103	05/09/2022	05/09/22 19:22	
Surrogate: 4-Bromofluorobenzene	92.9 %	73 - 124		B2E1103	05/09/2022	05/09/22 19:22	
Surrogate: Dibromofluoromethane	129 %	78 - 129		B2E1103	05/09/2022	05/09/22 19:22	
Surrogate: Toluene-d8	115 %	84 - 117		B2E1103	05/09/2022	05/09/22 19:22	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	17	2.0	1	B2E1063	05/05/2022	05/06/22 13:24	
Surrogate: 1,2-Dichlorobenzene-d4	98.0 %	17 - 119		B2E1063	05/05/2022	05/06/22 13:24	
Surrogate: 2-Fluorobiphenyl	93.3 %	10 - 133		B2E1063	05/05/2022	05/06/22 13:24	
Surrogate: 4-Terphenyl-d14	92.5 %	5 - 139		B2E1063	05/05/2022	05/06/22 13:24	
Surrogate: Nitrobenzene-d5	103 %	13 - 150		B2E1063	05/05/2022	05/06/22 13:24	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: EW-02

Lab ID: 2201131-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1-Dichloroethene	16	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Chloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: EW-02

Lab ID: 2201131-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 19:48	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 19:48	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Tetrachloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Trichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Trichlorofluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 19:48	
Surrogate: 1,2-Dichloroethane-d4	143 %	64 - 155		B2E1103	05/09/2022	05/09/22 19:48	
Surrogate: 4-Bromofluorobenzene	100 %	73 - 124		B2E1103	05/09/2022	05/09/22 19:48	
Surrogate: Dibromofluoromethane	111 %	78 - 129		B2E1103	05/09/2022	05/09/22 19:48	
Surrogate: Toluene-d8	102 %	84 - 117		B2E1103	05/09/2022	05/09/22 19:48	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	1	B2E1063	05/05/2022	05/06/22 13:50	
Surrogate: 1,2-Dichlorobenzene-d4	89.2 %	17 - 119		B2E1063	05/05/2022	05/06/22 13:50	
Surrogate: 2-Fluorobiphenyl	89.5 %	10 - 133		B2E1063	05/05/2022	05/06/22 13:50	
Surrogate: 4-Terphenyl-d14	95.7 %	5 - 139		B2E1063	05/05/2022	05/06/22 13:50	
Surrogate: Nitrobenzene-d5	96.7 %	13 - 150		B2E1063	05/05/2022	05/06/22 13:50	



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Hargis & Associates, Inc.

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: MW-29

Lab ID: 2201131-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,1,1-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,1,2-Trichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,1-Dichloroethane	1.3	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,1-Dichloroethene	190	5.0	10	B2E1103	05/09/2022	05/09/22 20:40	
1,1-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2,3-Trichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2,3-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2,4-Trichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2,4-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2-Dibromoethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2-Dichloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,3,5-Trimethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,3-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,3-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
1,4-Dichlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
2,2-Dichloropropane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
2-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
4-Chlorotoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
4-Isopropyltoluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Benzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Bromobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Bromodichloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Bromoform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Bromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Carbon tetrachloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Chlorobenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Chloroethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Chloroform	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Chloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
cis-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
cis-1,3-Dichloropropene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Dibromochloromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Dibromomethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Dichlorodifluoromethane	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Ethylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	



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Hargis & Associates, Inc.

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Client Sample ID: MW-29

Lab ID: 2201131-08

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Isopropylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
m,p-Xylene	ND	1.0	1	B2E1103	05/09/2022	05/09/22 20:14	
Methylene chloride	ND	1.0	1	B2E1103	05/09/2022	05/09/22 20:14	
n-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
n-Propylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Naphthalene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
o-Xylene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
sec-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Styrene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
tert-Butylbenzene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Tetrachloroethene	0.51	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Toluene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
trans-1,2-Dichloroethene	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Trichloroethene	1.6	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Trichlorofluoromethane	0.86	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Vinyl chloride	ND	0.50	1	B2E1103	05/09/2022	05/09/22 20:14	
Surrogate: 1,2-Dichloroethane-d4	123 %	64 - 155		B2E1103	05/09/2022	05/09/22 20:14	
Surrogate: 1,2-Dichloroethane-d4	117 %	64 - 155		B2E1103	05/09/2022	05/09/22 20:40	
Surrogate: 4-Bromofluorobenzene	122 %	73 - 124		B2E1103	05/09/2022	05/09/22 20:14	
Surrogate: 4-Bromofluorobenzene	112 %	73 - 124		B2E1103	05/09/2022	05/09/22 20:40	
Surrogate: Dibromofluoromethane	97.9 %	78 - 129		B2E1103	05/09/2022	05/09/22 20:40	
Surrogate: Dibromofluoromethane	107 %	78 - 129		B2E1103	05/09/2022	05/09/22 20:14	
Surrogate: Toluene-d8	108 %	84 - 117		B2E1103	05/09/2022	05/09/22 20:40	
Surrogate: Toluene-d8	113 %	84 - 117		B2E1103	05/09/2022	05/09/22 20:14	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	64	2.0	1	B2E1063	05/05/2022	05/06/22 14:17	
Surrogate: 1,2-Dichlorobenzene-d4	98.6 %	17 - 119		B2E1063	05/05/2022	05/06/22 14:17	
Surrogate: 2-Fluorobiphenyl	89.8 %	10 - 133		B2E1063	05/05/2022	05/06/22 14:17	
Surrogate: 4-Terphenyl-d14	92.9 %	5 - 139		B2E1063	05/05/2022	05/06/22 14:17	
Surrogate: Nitrobenzene-d5	98.6 %	13 - 150		B2E1063	05/05/2022	05/06/22 14:17	



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Hargis & Associates, Inc.

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

QUALITY CONTROL SECTION

Total Suspended Solids (Residue, Non-Filtrable) by SM 2540D - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1109 - No_Prep_WC1_W

Blank (B2E1109-BLK1)

Prepared: 5/9/2022 Analyzed: 5/10/2022

Residue, Suspended ND 10 10

LCS (B2E1109-BS1)

Prepared: 5/9/2022 Analyzed: 5/10/2022

Residue, Suspended 90.0000 10 10 100.000 90.0 80 - 120

Duplicate (B2E1109-DUP1)

Source: 2201095-01

Prepared: 5/9/2022 Analyzed: 5/10/2022

Residue, Suspended 1388.00 10 10 1953.00 33.8 10 R2



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Bromide by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1160 - No_Prep_IC1_W

Blank (B2E1160-BLK1)

Prepared: 5/11/2022 Analyzed: 5/11/2022

Bromide ND 0.05 0.02

Duplicate (B2E1160-DUP1)

Source: 2201186-01

Prepared: 5/11/2022 Analyzed: 5/11/2022

Bromide 2.92780 0.05 0.02 2.80440 4.31 20

Matrix Spike (B2E1160-MS1)

Source: 2201186-01

Prepared: 5/11/2022 Analyzed: 5/11/2022

Bromide 5.48400 0.05 0.02 2.50000 2.80440 107 80 - 120

Matrix Spike Dup (B2E1160-MSD1)

Source: 2201186-01

Prepared: 5/11/2022 Analyzed: 5/11/2022

Bromide 5.29810 0.05 0.02 2.50000 2.80440 99.7 80 - 120 3.45 20



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Hargis & Associates, Inc.

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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1103 - MSVOA_LL_W

Blank (B2E1103-BLK1)

Prepared: 5/9/2022 Analyzed: 5/9/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1103 - MSVOA_LL_W (continued)

Blank (B2E1103-BLK1) - Continued

Prepared: 5/9/2022 Analyzed: 5/9/2022

n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	32.21		25.0000	129	64 - 155
Surrogate: 4-Bromofluorobenzene	26.49		25.0000	106	73 - 124
Surrogate: Dibromofluoromethane	27.88		25.0000	112	78 - 129
Surrogate: Toluene-d8	26.48		25.0000	106	84 - 117

LCS (B2E1103-BS1)

Prepared: 5/9/2022 Analyzed: 5/9/2022

1,1,1,2-Tetrachloroethane	20.5500	0.50	0.11	20.0000	103	79 - 116	
1,1,1-Trichloroethane	24.7000	0.50	0.21	20.0000	124	73 - 130	
1,1,2,2-Tetrachloroethane	26.6700	0.50	0.36	20.0000	133	71 - 122	L5
1,1,2-Trichloroethane	20.0100	0.50	0.25	20.0000	100	70 - 124	
1,1-Dichloroethane	21.9500	0.50	0.09	20.0000	110	69 - 128	
1,1-Dichloroethene	21.6700	0.50	0.13	20.0000	108	65 - 137	
1,1-Dichloropropene	18.1600	0.50	0.13	20.0000	90.8	74 - 129	
1,2,3-Trichloropropane	27.0600	0.50	0.39	20.0000	135	74 - 123	L5
1,2,3-Trichlorobenzene	19.0800	0.50	0.18	20.0000	95.4	59 - 130	
1,2,4-Trichlorobenzene	22.1900	0.50	0.16	20.0000	111	65 - 125	
1,2,4-Trimethylbenzene	23.9500	0.50	0.14	20.0000	120	88 - 124	
1,2-Dibromo-3-chloropropane	19.0900	0.50	0.41	20.0000	95.4	61 - 127	
1,2-Dibromoethane	19.0800	0.50	0.24	20.0000	95.4	72 - 125	
1,2-Dichlorobenzene	21.9600	0.50	0.20	20.0000	110	84 - 113	
1,2-Dichloroethane	22.0600	0.50	0.20	20.0000	110	68 - 130	
1,2-Dichloropropane	22.3600	0.50	0.15	20.0000	112	77 - 121	
1,3,5-Trimethylbenzene	22.8000	0.50	0.13	20.0000	114	83 - 124	
1,3-Dichlorobenzene	19.8500	0.50	0.16	20.0000	99.2	83 - 112	
1,3-Dichloropropane	22.8400	0.50	0.21	20.0000	114	77 - 119	
1,4-Dichlorobenzene	20.8100	0.50	0.17	20.0000	104	79 - 115	
2,2-Dichloropropane	25.9500	0.50	0.38	20.0000	130	67 - 149	
2-Chlorotoluene	22.7200	0.50	0.11	20.0000	114	81 - 119	
4-Chlorotoluene	23.8200	0.50	0.12	20.0000	119	86 - 117	L3
4-Isopropyltoluene	18.7500	0.50	0.11	20.0000	93.8	82 - 131	
Benzene	18.6600	0.50	0.13	20.0000	93.3	75 - 124	
Bromobenzene	19.2000	0.50	0.21	20.0000	96.0	82 - 108	
Bromodichloromethane	22.4200	0.50	0.14	20.0000	112	80 - 120	



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1103 - MSVOA_LL_W (continued)

LCS (B2E1103-BS1) - Continued

Prepared: 5/9/2022 Analyzed: 5/9/2022

Bromoform	20.1300	0.50	0.20	20.0000		101	70 - 123			
Bromomethane	21.5200	0.50	0.40	20.0000		108	44 - 151			
Carbon tetrachloride	16.9300	0.50	0.09	20.0000		84.6	62 - 140			
Chlorobenzene	18.8300	0.50	0.13	20.0000		94.2	80 - 112			
Chloroethane	22.0900	0.50	0.15	20.0000		110	42 - 167			
Chloroform	24.2300	0.50	0.11	20.0000		121	77 - 122			
Chloromethane	15.2500	0.50	0.12	20.0000		76.2	33 - 153			
cis-1,2-Dichloroethene	17.6500	0.50	0.14	20.0000		88.2	75 - 121			
cis-1,3-Dichloropropene	20.7800	0.50	0.13	20.0000		104	73 - 127			
Dibromochloromethane	20.6100	0.50	0.16	20.0000		103	77 - 122			
Dibromomethane	20.0100	0.50	0.19	20.0000		100	75 - 121			
Dichlorodifluoromethane	6.94000	0.50	0.18	20.0000		34.7	0 - 171			
Ethylbenzene	21.0800	0.50	0.13	20.0000		105	82 - 119			
Hexachlorobutadiene	22.7300	0.50	0.15	20.0000		114	71 - 131			
Isopropylbenzene	22.4900	0.50	0.10	20.0000		112	75 - 126			
m,p-Xylene	40.3300	1.0	0.19	40.0000		101	86 - 119			
Methylene chloride	27.3700	1.0	0.71	20.0000		137	76 - 125			L5
n-Butylbenzene	24.5600	0.50	0.11	20.0000		123	81 - 125			
n-Propylbenzene	20.3700	0.50	0.10	20.0000		102	78 - 130			
Naphthalene	14.7600	0.50	0.41	20.0000		73.8	47 - 128			
o-Xylene	20.5300	0.50	0.13	20.0000		103	85 - 119			
sec-Butylbenzene	23.0600	0.50	0.09	20.0000		115	78 - 130			
Styrene	21.6900	0.50	0.13	20.0000		108	62 - 148			
tert-Butylbenzene	21.4500	0.50	0.09	20.0000		107	77 - 125			
Tetrachloroethene	19.6500	0.50	0.10	20.0000		98.2	73 - 120			
Toluene	19.3900	0.50	0.12	20.0000		97.0	79 - 119			
trans-1,2-Dichloroethene	23.3700	0.50	0.09	20.0000		117	70 - 129			
Trichloroethene	16.4800	0.50	0.10	20.0000		82.4	73 - 117			
Trichlorofluoromethane	21.7400	0.50	0.23	20.0000		109	59 - 135			
Vinyl chloride	19.6300	0.50	0.13	20.0000		98.2	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	35.42			25.0000		142	64 - 155			
Surrogate: 4-Bromofluorobenzene	27.06			25.0000		108	73 - 124			
Surrogate: Dibromofluoromethane	30.48			25.0000		122	78 - 129			
Surrogate: Toluene-d8	26.59			25.0000		106	84 - 117			

LCS Dup (B2E1103-BS1)

Prepared: 5/9/2022 Analyzed: 5/9/2022

1,1,1,2-Tetrachloroethane	19.0700	0.50	0.11	20.0000		95.4	79 - 116	7.47	20	
1,1,1-Trichloroethane	20.6600	0.50	0.21	20.0000		103	73 - 130	17.8	20	
1,1,2,2-Tetrachloroethane	24.8700	0.50	0.36	20.0000		124	71 - 122	6.98	20	L3
1,1,2-Trichloroethane	22.1100	0.50	0.25	20.0000		111	70 - 124	9.97	20	
1,1-Dichloroethane	18.8600	0.50	0.09	20.0000		94.3	69 - 128	15.1	20	
1,1-Dichloroethene	17.8200	0.50	0.13	20.0000		89.1	65 - 137	19.5	20	
1,1-Dichloropropene	16.6300	0.50	0.13	20.0000		83.2	74 - 129	8.80	20	
1,2,3-Trichloropropane	26.3300	0.50	0.39	20.0000		132	74 - 123	2.73	20	L5
1,2,3-Trichlorobenzene	19.0200	0.50	0.18	20.0000		95.1	59 - 130	0.315	20	



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Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2E1103 - MSVOA_LL_W (continued)

LCS Dup (B2E1103-BSD1) - Continued

Prepared: 5/9/2022 Analyzed: 5/9/2022

1,2,4-Trichlorobenzene	19.7300	0.50	0.16	20.0000		98.6	65 - 125	11.7	20	
1,2,4-Trimethylbenzene	21.7900	0.50	0.14	20.0000		109	88 - 124	9.44	20	
1,2-Dibromo-3-chloropropane	18.0900	0.50	0.41	20.0000		90.4	61 - 127	5.38	20	
1,2-Dibromoethane	19.6100	0.50	0.24	20.0000		98.0	72 - 125	2.74	20	
1,2-Dichlorobenzene	20.1100	0.50	0.20	20.0000		101	84 - 113	8.79	20	
1,2-Dichloroethane	21.1500	0.50	0.20	20.0000		106	68 - 130	4.21	20	
1,2-Dichloropropane	21.2800	0.50	0.15	20.0000		106	77 - 121	4.95	20	R
1,3,5-Trimethylbenzene	21.4900	0.50	0.13	20.0000		107	83 - 124	5.92	20	
1,3-Dichlorobenzene	19.6600	0.50	0.16	20.0000		98.3	83 - 112	0.962	20	
1,3-Dichloropropane	21.5600	0.50	0.21	20.0000		108	77 - 119	5.77	20	
1,4-Dichlorobenzene	20.7800	0.50	0.17	20.0000		104	79 - 115	0.144	20	
2,2-Dichloropropane	21.9300	0.50	0.38	20.0000		110	67 - 149	16.8	20	
2-Chlorotoluene	22.2400	0.50	0.11	20.0000		111	81 - 119	2.14	20	
4-Chlorotoluene	21.1700	0.50	0.12	20.0000		106	86 - 117	11.8	20	
4-Isopropyltoluene	20.6100	0.50	0.11	20.0000		103	82 - 131	9.45	20	
Benzene	21.5500	0.50	0.13	20.0000		108	75 - 124	14.4	20	
Bromobenzene	20.6600	0.50	0.21	20.0000		103	82 - 108	7.33	20	
Bromodichloromethane	24.9500	0.50	0.14	20.0000		125	80 - 120	10.7	20	L3
Bromoform	19.0200	0.50	0.20	20.0000		95.1	70 - 123	5.67	20	
Bromomethane	17.6200	0.50	0.40	20.0000		88.1	44 - 151	19.9	20	
Carbon tetrachloride	18.1900	0.50	0.09	20.0000		91.0	62 - 140	7.18	20	
Chlorobenzene	18.0500	0.50	0.13	20.0000		90.2	80 - 112	4.23	20	
Chloroethane	18.9200	0.50	0.15	20.0000		94.6	42 - 167	15.5	20	
Chloroform	19.9300	0.50	0.11	20.0000		99.6	77 - 122	19.5	20	
Chloromethane	12.1400	0.50	0.12	20.0000		60.7	33 - 153	22.7	20	R
cis-1,2-Dichloroethene	14.7100	0.50	0.14	20.0000		73.6	75 - 121	18.2	20	L3
cis-1,3-Dichloropropene	21.4300	0.50	0.13	20.0000		107	73 - 127	3.08	20	
Dibromochloromethane	20.2300	0.50	0.16	20.0000		101	77 - 122	1.86	20	
Dibromomethane	21.6700	0.50	0.19	20.0000		108	75 - 121	7.97	20	
Dichlorodifluoromethane	6.07000	0.50	0.18	20.0000		30.4	0 - 171	13.4	20	
Ethylbenzene	21.1700	0.50	0.13	20.0000		106	82 - 119	0.426	20	
Hexachlorobutadiene	23.6900	0.50	0.15	20.0000		118	71 - 131	4.14	20	
Isopropylbenzene	21.3100	0.50	0.10	20.0000		107	75 - 126	5.39	20	
m,p-Xylene	42.2200	1.0	0.19	40.0000		106	86 - 119	4.58	20	
Methylene chloride	23.8100	1.0	0.71	20.0000		119	76 - 125	13.9	20	
n-Butylbenzene	24.4600	0.50	0.11	20.0000		122	81 - 125	0.408	20	
n-Propylbenzene	23.1400	0.50	0.10	20.0000		116	78 - 130	12.7	20	
Naphthalene	15.6500	0.50	0.41	20.0000		78.2	47 - 128	5.85	20	
o-Xylene	19.9400	0.50	0.13	20.0000		99.7	85 - 119	2.92	20	
sec-Butylbenzene	21.3700	0.50	0.09	20.0000		107	78 - 130	7.61	20	
Styrene	19.7100	0.50	0.13	20.0000		98.6	62 - 148	9.57	20	
tert-Butylbenzene	20.9200	0.50	0.09	20.0000		105	77 - 125	2.50	20	
Tetrachloroethene	18.9100	0.50	0.10	20.0000		94.6	73 - 120	3.84	20	
Toluene	20.8900	0.50	0.12	20.0000		104	79 - 119	7.45	20	
trans-1,2-Dichloroethene	24.3100	0.50	0.09	20.0000		122	70 - 129	3.94	20	



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San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1103 - MSVOA_LL_W (continued)

LCS Dup (B2E1103-BSD1) - Continued

Prepared: 5/9/2022 Analyzed: 5/9/2022

Trichloroethene	18.7300	0.50	0.10	20.0000		93.6	73 - 117	12.8	20	
Trichlorofluoromethane	16.9100	0.50	0.23	20.0000		84.6	59 - 135	25.0	20	R
Vinyl chloride	14.8400	0.50	0.13	20.0000		74.2	58 - 132	27.8	20	R
Surrogate: 1,2-Dichloroethane-d4	29.40			25.0000		118	64 - 155			
Surrogate: 4-Bromofluorobenzene	28.34			25.0000		113	73 - 124			
Surrogate: Dibromofluoromethane	24.00			25.0000		96.0	78 - 129			
Surrogate: Toluene-d8	26.43			25.0000		106	84 - 117			



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Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec % Rec	% Rec Limits	RPD RPD	RPD Limit	Notes

Batch B2E1128 - MSVOA_LL_W

Blank (B2E1128-BLK1)

Prepared: 5/10/2022 Analyzed: 5/10/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1128 - MSVOA_LL_W (continued)

Blank (B2E1128-BLK1) - Continued

Prepared: 5/10/2022 Analyzed: 5/10/2022

n-Propylbenzene	ND	0.50	0.10							
Naphthalene	ND	0.50	0.41							
o-Xylene	ND	0.50	0.13							
sec-Butylbenzene	ND	0.50	0.09							
Styrene	ND	0.50	0.13							
tert-Butylbenzene	ND	0.50	0.09							
Tetrachloroethene	ND	0.50	0.10							
Toluene	ND	0.50	0.12							
trans-1,2-Dichloroethene	ND	0.50	0.09							
Trichloroethene	ND	0.50	0.10							
Trichlorofluoromethane	ND	0.50	0.23							
Vinyl chloride	ND	0.50	0.13							

Surrogate: 1,2-Dichloroethane-d4	35.37			25.0000		141	64 - 155			
Surrogate: 4-Bromofluorobenzene	24.11			25.0000		96.4	73 - 124			
Surrogate: Dibromofluoromethane	27.66			25.0000		111	78 - 129			
Surrogate: Toluene-d8	27.30			25.0000		109	84 - 117			

LCS (B2E1128-BS1)

Prepared: 5/10/2022 Analyzed: 5/10/2022

1,1,1,2-Tetrachloroethane	15.6500	0.50	0.11	20.0000		78.2	79 - 116			L3
1,1,1-Trichloroethane	20.9700	0.50	0.21	20.0000		105	73 - 130			
1,1,2,2-Tetrachloroethane	23.4600	0.50	0.36	20.0000		117	71 - 122			
1,1,2-Trichloroethane	20.7300	0.50	0.25	20.0000		104	70 - 124			
1,1-Dichloroethane	18.6300	0.50	0.09	20.0000		93.2	69 - 128			
1,1-Dichloroethene	16.2800	0.50	0.13	20.0000		81.4	65 - 137			
1,1-Dichloropropene	15.9300	0.50	0.13	20.0000		79.6	74 - 129			
1,2,3-Trichloropropane	27.9800	0.50	0.39	20.0000		140	74 - 123			L5
1,2,3-Trichlorobenzene	19.7800	0.50	0.18	20.0000		98.9	59 - 130			
1,2,4-Trichlorobenzene	20.7500	0.50	0.16	20.0000		104	65 - 125			
1,2,4-Trimethylbenzene	23.2300	0.50	0.14	20.0000		116	88 - 124			
1,2-Dibromo-3-chloropropane	20.7800	0.50	0.41	20.0000		104	61 - 127			
1,2-Dibromoethane	17.5700	0.50	0.24	20.0000		87.8	72 - 125			
1,2-Dichlorobenzene	23.8200	0.50	0.20	20.0000		119	84 - 113			L3
1,2-Dichloroethane	20.1700	0.50	0.20	20.0000		101	68 - 130			
1,2-Dichloropropane	18.6700	0.50	0.15	20.0000		93.4	77 - 121			
1,3,5-Trimethylbenzene	26.9000	0.50	0.13	20.0000		134	83 - 124			L5
1,3-Dichlorobenzene	19.2900	0.50	0.16	20.0000		96.4	83 - 112			
1,3-Dichloropropane	21.9400	0.50	0.21	20.0000		110	77 - 119			
1,4-Dichlorobenzene	20.9500	0.50	0.17	20.0000		105	79 - 115			
2,2-Dichloropropane	23.7400	0.50	0.38	20.0000		119	67 - 149			
2-Chlorotoluene	24.1400	0.50	0.11	20.0000		121	81 - 119			L3
4-Chlorotoluene	20.8300	0.50	0.12	20.0000		104	86 - 117			
4-Isopropyltoluene	20.1200	0.50	0.11	20.0000		101	82 - 131			
Benzene	18.4800	0.50	0.13	20.0000		92.4	75 - 124			
Bromobenzene	19.3400	0.50	0.21	20.0000		96.7	82 - 108			
Bromodichloromethane	20.5800	0.50	0.14	20.0000		103	80 - 120			



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Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1128 - MSVOA_LL_W (continued)

LCS (B2E1128-BS1) - Continued

Prepared: 5/10/2022 Analyzed: 5/10/2022

Bromoform	19.1900	0.50	0.20	20.0000		96.0	70 - 123		
Bromomethane	19.4300	0.50	0.40	20.0000		97.2	44 - 151		
Carbon tetrachloride	18.9600	0.50	0.09	20.0000		94.8	62 - 140		
Chlorobenzene	15.9700	0.50	0.13	20.0000		79.8	80 - 112		L3
Chloroethane	16.5600	0.50	0.15	20.0000		82.8	42 - 167		
Chloroform	20.5900	0.50	0.11	20.0000		103	77 - 122		
Chloromethane	10.6400	0.50	0.12	20.0000		53.2	33 - 153		
cis-1,2-Dichloroethene	14.2500	0.50	0.14	20.0000		71.2	75 - 121		L3
cis-1,3-Dichloropropene	19.8600	0.50	0.13	20.0000		99.3	73 - 127		
Dibromochloromethane	17.4600	0.50	0.16	20.0000		87.3	77 - 122		
Dibromomethane	17.9400	0.50	0.19	20.0000		89.7	75 - 121		
Dichlorodifluoromethane	5.20000	0.50	0.18	20.0000		26.0	0 - 171		
Ethylbenzene	18.6800	0.50	0.13	20.0000		93.4	82 - 119		
Hexachlorobutadiene	25.4100	0.50	0.15	20.0000		127	71 - 131		
Isopropylbenzene	25.6600	0.50	0.10	20.0000		128	75 - 126		L3
m,p-Xylene	38.6100	1.0	0.19	40.0000		96.5	86 - 119		
Methylene chloride	20.9500	1.0	0.71	20.0000		105	76 - 125		
n-Butylbenzene	23.5800	0.50	0.11	20.0000		118	81 - 125		
n-Propylbenzene	23.9600	0.50	0.10	20.0000		120	78 - 130		
Naphthalene	14.7500	0.50	0.41	20.0000		73.8	47 - 128		
o-Xylene	19.0000	0.50	0.13	20.0000		95.0	85 - 119		
sec-Butylbenzene	26.4300	0.50	0.09	20.0000		132	78 - 130		L4
Styrene	19.2100	0.50	0.13	20.0000		96.0	62 - 148		
tert-Butylbenzene	21.7700	0.50	0.09	20.0000		109	77 - 125		
Tetrachloroethene	17.8500	0.50	0.10	20.0000		89.2	73 - 120		
Toluene	18.3500	0.50	0.12	20.0000		91.8	79 - 119		
trans-1,2-Dichloroethene	23.6300	0.50	0.09	20.0000		118	70 - 129		
Trichloroethene	15.5500	0.50	0.10	20.0000		77.8	73 - 117		
Trichlorofluoromethane	19.2800	0.50	0.23	20.0000		96.4	59 - 135		
Vinyl chloride	16.7900	0.50	0.13	20.0000		84.0	58 - 132		
Surrogate: 1,2-Dichloroethane-d4	31.15			25.0000		125	64 - 155		
Surrogate: 4-Bromofluorobenzene	27.12			25.0000		108	73 - 124		
Surrogate: Dibromofluoromethane	25.38			25.0000		102	78 - 129		
Surrogate: Toluene-d8	24.61			25.0000		98.4	84 - 117		

LCS Dup (B2E1128-BS1)

Prepared: 5/10/2022 Analyzed: 5/10/2022

1,1,1,2-Tetrachloroethane	17.2800	0.50	0.11	20.0000		86.4	79 - 116	9.90	20
1,1,1-Trichloroethane	20.2200	0.50	0.21	20.0000		101	73 - 130	3.64	20
1,1,2,2-Tetrachloroethane	22.5800	0.50	0.36	20.0000		113	71 - 122	3.82	20
1,1,2-Trichloroethane	20.1000	0.50	0.25	20.0000		100	70 - 124	3.09	20
1,1-Dichloroethane	19.1400	0.50	0.09	20.0000		95.7	69 - 128	2.70	20
1,1-Dichloroethene	15.8900	0.50	0.13	20.0000		79.4	65 - 137	2.42	20
1,1-Dichloropropene	17.1300	0.50	0.13	20.0000		85.6	74 - 129	7.26	20
1,2,3-Trichloropropane	23.0100	0.50	0.39	20.0000		115	74 - 123	19.5	20
1,2,3-Trichlorobenzene	17.0100	0.50	0.18	20.0000		85.0	59 - 130	15.1	20



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2E1128 - MSVOA_LL_W (continued)

LCS Dup (B2E1128-BSD1) - Continued

Prepared: 5/10/2022 Analyzed: 5/10/2022

1,2,4-Trichlorobenzene	15.9600	0.50	0.16	20.0000		79.8	65 - 125	26.1	20	R
1,2,4-Trimethylbenzene	19.0100	0.50	0.14	20.0000		95.0	88 - 124	20.0	20	
1,2-Dibromo-3-chloropropane	15.9700	0.50	0.41	20.0000		79.8	61 - 127	26.2	20	R
1,2-Dibromoethane	18.0900	0.50	0.24	20.0000		90.4	72 - 125	2.92	20	
1,2-Dichlorobenzene	18.0300	0.50	0.20	20.0000		90.2	84 - 113	27.7	20	R
1,2-Dichloroethane	21.9000	0.50	0.20	20.0000		110	68 - 130	8.22	20	
1,2-Dichloropropane	18.4800	0.50	0.15	20.0000		92.4	77 - 121	1.02	20	
1,3,5-Trimethylbenzene	22.3200	0.50	0.13	20.0000		112	83 - 124	18.6	20	
1,3-Dichlorobenzene	14.5700	0.50	0.16	20.0000		72.8	83 - 112	27.9	20	L3, R
1,3-Dichloropropane	20.8300	0.50	0.21	20.0000		104	77 - 119	5.19	20	
1,4-Dichlorobenzene	15.3600	0.50	0.17	20.0000		76.8	79 - 115	30.8	20	L3, R
2,2-Dichloropropane	22.7700	0.50	0.38	20.0000		114	67 - 149	4.17	20	
2-Chlorotoluene	20.4800	0.50	0.11	20.0000		102	81 - 119	16.4	20	
4-Chlorotoluene	20.4700	0.50	0.12	20.0000		102	86 - 117	1.74	20	
4-Isopropyltoluene	19.8900	0.50	0.11	20.0000		99.4	82 - 131	1.15	20	
Benzene	20.7700	0.50	0.13	20.0000		104	75 - 124	11.7	20	
Bromobenzene	16.9800	0.50	0.21	20.0000		84.9	82 - 108	13.0	20	
Bromodichloromethane	22.7200	0.50	0.14	20.0000		114	80 - 120	9.88	20	
Bromoform	18.8400	0.50	0.20	20.0000		94.2	70 - 123	1.84	20	
Bromomethane	19.0000	0.50	0.40	20.0000		95.0	44 - 151	2.24	20	
Carbon tetrachloride	16.8200	0.50	0.09	20.0000		84.1	62 - 140	12.0	20	
Chlorobenzene	15.3600	0.50	0.13	20.0000		76.8	80 - 112	3.89	20	L3
Chloroethane	16.4600	0.50	0.15	20.0000		82.3	42 - 167	0.606	20	
Chloroform	20.2400	0.50	0.11	20.0000		101	77 - 122	1.71	20	
Chloromethane	11.2600	0.50	0.12	20.0000		56.3	33 - 153	5.66	20	
cis-1,2-Dichloroethene	14.8100	0.50	0.14	20.0000		74.0	75 - 121	3.85	20	L3
cis-1,3-Dichloropropene	21.0800	0.50	0.13	20.0000		105	73 - 127	5.96	20	
Dibromochloromethane	17.2100	0.50	0.16	20.0000		86.0	77 - 122	1.44	20	
Dibromomethane	19.7600	0.50	0.19	20.0000		98.8	75 - 121	9.66	20	
Dichlorodifluoromethane	6.11000	0.50	0.18	20.0000		30.6	0 - 171	16.1	20	
Ethylbenzene	16.8000	0.50	0.13	20.0000		84.0	82 - 119	10.6	20	
Hexachlorobutadiene	22.5500	0.50	0.15	20.0000		113	71 - 131	11.9	20	
Isopropylbenzene	19.9900	0.50	0.10	20.0000		100	75 - 126	24.8	20	R
m,p-Xylene	36.6900	1.0	0.19	40.0000		91.7	86 - 119	5.10	20	
Methylene chloride	18.8000	1.0	0.71	20.0000		94.0	76 - 125	10.8	20	
n-Butylbenzene	19.3800	0.50	0.11	20.0000		96.9	81 - 125	19.6	20	
n-Propylbenzene	20.6000	0.50	0.10	20.0000		103	78 - 130	15.1	20	
Naphthalene	13.2900	0.50	0.41	20.0000		66.4	47 - 128	10.4	20	
o-Xylene	19.2000	0.50	0.13	20.0000		96.0	85 - 119	1.05	20	
sec-Butylbenzene	21.1000	0.50	0.09	20.0000		106	78 - 130	22.4	20	R
Styrene	17.1500	0.50	0.13	20.0000		85.8	62 - 148	11.3	20	
tert-Butylbenzene	19.0000	0.50	0.09	20.0000		95.0	77 - 125	13.6	20	
Tetrachloroethene	16.0800	0.50	0.10	20.0000		80.4	73 - 120	10.4	20	
Toluene	18.4400	0.50	0.12	20.0000		92.2	79 - 119	0.489	20	
trans-1,2-Dichloroethene	23.8000	0.50	0.09	20.0000		119	70 - 129	0.717	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1128 - MSVOA_LL_W (continued)

LCS Dup (B2E1128-BSD1) - Continued

Prepared: 5/10/2022 Analyzed: 5/10/2022

Trichloroethene	14.9600	0.50	0.10	20.0000		74.8	73 - 117	3.87	20
Trichlorofluoromethane	19.8800	0.50	0.23	20.0000		99.4	59 - 135	3.06	20
Vinyl chloride	15.7700	0.50	0.13	20.0000		78.8	58 - 132	6.27	20

Surrogate: 1,2-Dichloroethane-d4	32.65			25.0000		131	64 - 155		
Surrogate: 4-Bromofluorobenzene	27.99			25.0000		112	73 - 124		
Surrogate: Dibromofluoromethane	26.50			25.0000		106	78 - 129		
Surrogate: Toluene-d8	24.80			25.0000		99.2	84 - 117		



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1063 - MSSEMI_W

Blank (B2E1063-BLK1)

Prepared: 5/5/2022 Analyzed: 5/6/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	95.35		100.000	95.4	17 - 119
Surrogate: 2-Fluorobiphenyl	91.43		100.000	91.4	10 - 133
Surrogate: 4-Terphenyl-d14	93.89		100.000	93.9	5 - 139
Surrogate: Nitrobenzene-d5	104.8		100.000	105	13 - 150

LCS (B2E1063-BS1)

Prepared: 5/5/2022 Analyzed: 5/6/2022

1,4-Dioxane 92.8600 2.0 0.84 100.000 92.9 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	91.21		100.000	91.2	17 - 119
Surrogate: 2-Fluorobiphenyl	89.41		100.000	89.4	10 - 133
Surrogate: 4-Terphenyl-d14	88.88		100.000	88.9	5 - 139
Surrogate: Nitrobenzene-d5	104.1		100.000	104	13 - 150

LCS Dup (B2E1063-BSD1)

Prepared: 5/5/2022 Analyzed: 5/6/2022

1,4-Dioxane 81.4900 2.0 0.84 100.000 81.5 75 - 155 13.0 20

Surrogate: 1,2-Dichlorobenzene-d4	94.63		100.000	94.6	17 - 119
Surrogate: 2-Fluorobiphenyl	92.16		100.000	92.2	10 - 133
Surrogate: 4-Terphenyl-d14	96.36		100.000	96.4	5 - 139
Surrogate: Nitrobenzene-d5	101.4		100.000	101	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main Gets Monthly Sample / 532.15

Report To : Steve Netto

Reported : 06/29/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1066 - MSSEMI_W

Blank (B2E1066-BLK1)

Prepared: 5/6/2022 Analyzed: 5/9/2022

1,4-Dioxane	ND	0.20	0.05							
Surrogate: 1,2-Dichlorobenzene-d4	1.027			1.00000		103	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9661			1.00000		96.6	8 - 111			
Surrogate: 4-Terphenyl-d14	1.108			1.00000		111	12 - 113			
Surrogate: Nitrobenzene-d5	0.9842			1.00000		98.4	15 - 121			

LCS (B2E1066-BS1)

Prepared: 5/6/2022 Analyzed: 5/9/2022

1,4-Dioxane	1.00531	0.20	0.05	1.00000		101	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	1.041			1.00000		104	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9932			1.00000		99.3	8 - 111			
Surrogate: 4-Terphenyl-d14	1.102			1.00000		110	12 - 113			
Surrogate: Nitrobenzene-d5	1.034			1.00000		103	15 - 121			

LCS Dup (B2E1066-BSD1)

Prepared: 5/6/2022 Analyzed: 5/9/2022

1,4-Dioxane	1.28015	0.20	0.05	1.00000		128	75 - 155	24.1	20	R
Surrogate: 1,2-Dichlorobenzene-d4	1.027			1.00000		103	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9924			1.00000		99.2	8 - 111			
Surrogate: 4-Terphenyl-d14	1.075			1.00000		108	12 - 113			
Surrogate: Nitrobenzene-d5	0.9761			1.00000		97.6	15 - 121			

2201131

Date: 5/5/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Monthly Sample

TASK NO.: 532.15

Project Manager Steve Netto
QA Manager Ruben Sanchez
Phone 858.455.6500
Fax 858.455.6533

Sampled By:		SAMPLE COLLECTION		MATRIX	PRESERVATION				CONTAINERS				ANALYSIS REQUESTED												Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				REMARKS				
LAB ID	SAMPLE ID	Date	Time		Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	125 mL Poly	60 mL Poly	125 mL Amber	1 L Poly	1L Amber	VOCs by EPA 8260B	Bromate by EPA 317	Bromide by EPA 300	Alkalinity by SM2320B	Total Organic Carbon by SM5310B	Total Suspended Solids by SM2540D	UV Absorption EPA 415.3 @254 nm	1,4-Dioxane by EPA 8270C MOD	1,4-Dioxane by EPA 8270 SIM	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT		Level IV Data Validation Requested	MS/MSD Requested		
1	TB-050522	5/5/2022	8:00		X	X			X	2						X										X											
2	CEFF	5/5/2022	8:20	X		X			X	3					1	X									X	X											
3	CBT	5/5/2022	8:25	X		X			X	3					1	X									X	X											
4	POX	5/5/2022	8:30	X		X			X	5	1		1	1	X	X			X	X					X	X											
5	PF	5/5/2022	8:40	X					X	2			1	1					X	X	X	X															
6	INF	5/5/2022	8:45	X		X			X	3	1	1		1	X	X	X						X			X											
7	EW-02	5/5/2022	9:05	X		X			X	3	1			1	X	X							X			X											
8	MW-29	5/5/2022	9:20	X		X			X	3	1			1	X	X							X			X											
Total number of containers per analysis:										24	3	2	1	2	6																		Total No. of Containers: 38				

Relinquished By: / Company:	Date / Time	Received By: / Company:	Date / Time
<i>[Signature]</i> HMA	5-5-22 0940	<i>[Signature]</i> ATL	5-5-22 0940
Relinquished By: / Company:	Date / Time	Received By: / Company:	Date / Time
<i>[Signature]</i> ATL	5-5-22 1501	<i>[Signature]</i> ATL	5/5/22 1501

- ☐ No. of containers correct
☐ Received in good condition
☐ Custody seals secure
☐ Conforms to COC document

Send Results to:
Steve Netto & Ruben Sanchez
 3131 Camino Del Rio North
 Suite 355
 San Diego, CA 92108
 Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

- Instructions
- Fill out form completely and sign only after verified for completeness
 - Complete in ballpoint pen. Draw one line through error, initial and date correction
 - Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ✗
 - Note applicable preservatives, special instructions, and deviations from typical environmental samples.
 - Consult project QA documents for specific instructions.

Work Orders: 2E10024

Project: 2201131

Attn: Advanced Technology Labs

Client: Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Report Date: 6/07/2022

Received Date: 5/10/2022

Turnaround Time: Normal

Phones: (562) 989-4045

Fax: (562) 989-4040

P.O. #:

Billing Code:

DoD-ELAP ANAB #ADE-2882 • DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH #4047 • ISO17025 ANAB
#L2457.01 • LACSD #10143 • NELAP-OR #4047 • NJ-DEP #CA015 • NV-DEP #NAC 445A • SCAQMD #93LA1006

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear Advanced Technology Labs,

Enclosed are the results of analyses for samples received 5/10/22 with the Chain-of-Custody document. The samples were received in good condition, at 5.6 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Rahul R. Nair
Project Manager



Project Number: 2201131

Project Manager: Advanced Technology Labs

Reported:
06/07/2022 15:19

Sample Summary

Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
2201131-04	Client	2E10024-01	Water	05/05/22 08:30	
2201131-05	Client	2E10024-02	Water	05/05/22 08:40	
2201131-06	Client	2E10024-03	Water	05/05/22 08:45	

Sample Results

Sample:	2201131-04	Sampled: 05/05/22 8:30 by Client
	2E10024-01 (Water)	

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier

Anions by IC, EPA Method 300.1

Method: EPA 300.1

Instr: LC08_Channel2

Batch ID: W2E1952

Preparation: _NONE (LC)

Prepared: 05/26/22 17:00

Analyst: JAN

Bromate	ND	5.0	ug/l	1	05/27/22

Surrogate(s)

Dichloroacetate	99%	Conc: 493	90-115	05/27/22

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 2320B

Instr: AA02

Batch ID: W2E1055

Preparation: _NONE (WETCHEM)

Prepared: 05/14/22 12:07

Analyst: vat

Alkalinity as CaCO3	220	5.0	mg/l	1	05/14/22

Bicarbonate Alkalinity as HCO3	270	6.1	mg/l	1	05/14/22

Carbonate Alkalinity as CaCO3	ND	5.0	mg/l	1	05/14/22

Hydroxide Alkalinity as CaCO3	ND	5.0	mg/l	1	05/14/22

Method: SM 5310B

Instr: TOC02

Batch ID: W2E0971

Preparation: _NONE (TOC/TOX)

Prepared: 05/13/22 08:59

Analyst: ajc

Total Organic Carbon (TOC)	0.32	0.30	mg/l	1	05/16/22

Sample Results

Sample:	2201131-05	Sampled: 05/05/22 8:40 by Client
	2E10024-02 (Water)	

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Method: SM 2320B

Instr: AA02

Batch ID: W2E1055

Preparation: _NONE (WETCHEM)

Prepared: 05/14/22 12:07

Analyst: vat

Alkalinity as CaCO3	220	5.0	mg/l	1	05/14/22

Bicarbonate Alkalinity as HCO3	270	6.1	mg/l	1	05/14/22

Carbonate Alkalinity as CaCO3	ND	5.0	mg/l	1	05/14/22

Hydroxide Alkalinity as CaCO3	ND	5.0	mg/l	1	05/14/22

Method: SM 5310B

Instr: TOC02

Batch ID: W2E0971

Preparation: _NONE (TOC/TOX)

Prepared: 05/13/22 08:59

Analyst: ajc

Total Organic Carbon (TOC)	0.41	0.30	mg/l	1	05/16/22

Project Number: 2201131

Project Manager: Advanced Technology Labs

Reported:
06/07/2022 15:19

Sample Results

(Continued)

Sample: 2201131-06
2E10024-03 (Water) Sampled: 05/05/22 8:45 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier

Anions by IC, EPA Method 300.1

Method: EPA 300.1

Instr: LC08_Channel2

Batch ID: W2E1952

Preparation: _NONE (LC)

Prepared: 05/26/22 17:00

Analyst: JAN

Bromate	ND	5.0	ug/l	1	05/27/22

Surrogate(s)

Dichloroacetate	99%	Conc: 495	90-115	05/27/22

Advanced Technology Laboratories
3275 Walnut Street
Signal Hill, CA 90755

Project Number: 2201131

Project Manager: Advanced Technology Labs

Reported:
06/07/2022 15:19

Quality Control Results

Anions by IC, EPA Method 300.1

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2E1952 - EPA 300.1										
Blank (W2E1952-BLK1)				Prepared: 05/26/22 Analyzed: 05/27/22						
Bromate	ND	5.0	ug/l							
Surrogate(s)										
Dichloroacetate	507		ug/l	500		101	90-115			
LCS (W2E1952-BS1)				Prepared: 05/26/22 Analyzed: 05/27/22						
Bromate	101	5.0	ug/l	100		101	85-115			
Surrogate(s)										
Dichloroacetate	495		ug/l	500		99	90-115			
Matrix Spike (W2E1952-MS1)				Source: 2E10024-01 Prepared: 05/26/22 Analyzed: 05/27/22						
Bromate	96.8	5.0	ug/l	100	ND	97	64-133			
Surrogate(s)										
Dichloroacetate	500		ug/l	500		100	90-115			
Matrix Spike Dup (W2E1952-MSD1)				Source: 2E10024-01 Prepared: 05/26/22 Analyzed: 05/27/22						
Bromate	109	5.0	ug/l	100	ND	109	64-133	12	20	
Surrogate(s)										
Dichloroacetate	527		ug/l	500		105	90-115			

Quality Control Results

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W2E0971 - SM 5310B										
Blank (W2E0971-BLK1)				Prepared: 05/13/22 Analyzed: 05/15/22						
Total Organic Carbon (TOC)	ND	0.30	mg/l							
LCS (W2E0971-BS1)				Prepared: 05/13/22 Analyzed: 05/15/22						
Total Organic Carbon (TOC)	1.03	0.30	mg/l	1.00		103	85-115			
Matrix Spike (W2E0971-MS1)				Source: 2C24087-01 Prepared: 05/13/22 Analyzed: 05/15/22						
Total Organic Carbon (TOC)	19.8	0.30	mg/l	5.00	15.4	88	76-115			
Matrix Spike Dup (W2E0971-MSD1)				Source: 2C24087-01 Prepared: 05/13/22 Analyzed: 05/15/22						
Total Organic Carbon (TOC)	19.4	0.30	mg/l	5.00	15.4	79	76-115	2	20	
Batch: W2E1055 - SM 2320B										
Blank (W2E1055-BLK1)				Prepared & Analyzed: 05/14/22						
Alkalinity as CaCO3	ND	5.0	mg/l							
Bicarbonate Alkalinity as HCO3	ND	6.1	mg/l							
Carbonate Alkalinity as CaCO3	ND	5.0	mg/l							
Hydroxide Alkalinity as CaCO3	ND	5.0	mg/l							
LCS (W2E1055-BS1)				Prepared & Analyzed: 05/14/22						
Alkalinity as CaCO3	246	5.0	mg/l	250		98	94-108			
Bicarbonate Alkalinity as HCO3	300	6.1	mg/l	305		98	95-108			
Duplicate (W2E1055-DUP1)				Source: 2C23131-01 Prepared & Analyzed: 05/14/22						
Alkalinity as CaCO3	207	5.0	mg/l		206			0.5	15	

2E10024

Page 5 of 7

Quality Control Results

(Continued)

Conventional Chemistry/Physical Parameters by APHA/EPA/ASTM Methods (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	Limit	Qualifier

Batch: W2E1055 - SM 2320B (Continued)

Duplicate (W2E1055-DUP1)

Source: 2C23131-01

Prepared & Analyzed: 05/14/22

Bicarbonate Alkalinity as HCO ₃	253	6.1	mg/l		252			0.5	15	
Carbonate Alkalinity as CaCO ₃	ND	5.0	mg/l		ND				200	

Notes and Definitions

Item	Definition
%REC	Percent Recovery
Dil	Dilution
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.

June 01, 2022

Steve Netto
Hargis & Associates, Inc.
3131 Camino De Rio North Suite 355
San Diego, CA 92108
Tel: (619) 249-3166
Fax: (858) 455-6533

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003

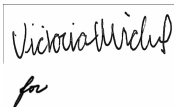
Re: ATL Work Order Number : 2201310

Client Reference : Raytheon Main GETS Mid Month Sample: 532.15

Enclosed are the results for sample(s) received on May 18, 2022 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or Project.Management@atlglobal.com.

Sincerely,



Victoria Michel, Project Assistant
Victoria.Michel@atlglobal.com

Authorized to Release on 06/01/22 14:33 on Behalf of



Amy Leung
Laboratory Director

The test results in this report relate exclusively to the samples as received by the laboratory, and meet the requirements of the methodology under which they were reported; any exceptions are noted within the report and/ or case narrative.

The cover letter/ signature page and the case narrative are integral parts of this analytical report; the absence of any portion of the report renders the report invalid. This report shall not be reproduced except in full, and shall have the express written approval of the laboratory, and the original client firm to do so

The electronic signature on this report is signed by an authorized signatory of Advanced Technology Laboratories, and is intended to be legally binding as the equivalent of a handwritten signature.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-051822	2201310-01	Water	5/18/22 8:00	5/18/22 11:56
CEFF	2201310-02	Groundwater	5/18/22 8:10	5/18/22 11:56
CBT	2201310-03	Groundwater	5/18/22 8:20	5/18/22 11:56
POX	2201310-04	Groundwater	5/18/22 8:30	5/18/22 11:56
INF	2201310-05	Groundwater	5/18/22 8:40	5/18/22 11:56
EW-02	2201310-06	Groundwater	5/18/22 10:00	5/18/22 11:56
MW-29	2201310-07	Groundwater	5/18/22 10:30	5/18/22 11:56



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Notes and Definitions

S15	Surrogate recovery outside laboratory acceptance limit. However, the surrogate is not associated with the target analyte.
S12	Surrogate recovery outside in-house established limit but within method default criteria.
S10	Surrogate recovery was outside of laboratory acceptance limit due to possible matrix interference.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
L5	Laboratory Control Sample high biased. Sample result/s was non-detect (ND) for the target analyte; therefore reanalysis was not necessary.
L4	Laboratory Control Sample outside of control limit but within Marginal Exceedance (ME) limit.
L3	Laboratory control sample outside in-house established limits but within method criteria.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)

Notes:

- (1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
- (2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
- (3) Results are wet unless otherwise specified.



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: TB-051822

Lab ID: 2201310-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:27	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:27	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:27	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:27	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 13:27	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 13:27	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:27	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:27	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:27	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 13:27	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:27	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 13:27	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 13:27	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:27	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:27	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:27	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:27	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 13:27	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 13:27	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 13:27	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 13:27	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: TB-051822

Lab ID: 2201310-01

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 13:27	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:27	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 13:27	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 13:27	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 13:27	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:27	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 13:27	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:27	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:27	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:27	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 13:27	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 13:27	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 13:27	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 13:27	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 13:27	
Surrogate: 1,2-Dichloroethane-d4	75.6 %	64 - 155			B2E1297	05/20/2022	05/20/22 13:27	
Surrogate: 4-Bromofluorobenzene	89.5 %	73 - 124			B2E1297	05/20/2022	05/20/22 13:27	
Surrogate: Dibromofluoromethane	92.7 %	78 - 129			B2E1297	05/20/2022	05/20/22 13:27	
Surrogate: Toluene-d8	88.6 %	84 - 117			B2E1297	05/20/2022	05/20/22 13:27	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: CEFF

Lab ID: 2201310-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 14:18	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 14:18	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 14:18	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 14:18	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 14:18	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 14:18	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 14:18	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 14:18	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 14:18	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 14:18	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 14:18	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 14:18	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 14:18	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 14:18	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 14:18	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 14:18	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 14:18	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 14:18	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 14:18	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 14:18	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 14:18	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: CEFF

Lab ID: 2201310-02

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 14:18	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 14:18	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 14:18	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 14:18	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 14:18	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 14:18	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 14:18	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 14:18	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 14:18	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 14:18	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 14:18	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 14:18	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 14:18	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 14:18	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 14:18	
Surrogate: 1,2-Dichloroethane-d4	73.6 %	64 - 155			B2E1297	05/20/2022	05/20/22 14:18	
Surrogate: 4-Bromofluorobenzene	88.9 %	73 - 124			B2E1297	05/20/2022	05/20/22 14:18	
Surrogate: Dibromofluoromethane	94.3 %	78 - 129			B2E1297	05/20/2022	05/20/22 14:18	
Surrogate: Toluene-d8	87.3 %	84 - 117			B2E1297	05/20/2022	05/20/22 14:18	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1289	05/18/2022	05/18/22 16:51	
Surrogate: 1,2-Dichlorobenzene-d4	108 %	13 - 99			B2E1289	05/18/2022	05/18/22 16:51	S12
Surrogate: 2-Fluorobiphenyl	99.7 %	8 - 111			B2E1289	05/18/2022	05/18/22 16:51	
Surrogate: 4-Terphenyl-d14	145 %	12 - 113			B2E1289	05/18/2022	05/18/22 16:51	S15
Surrogate: Nitrobenzene-d5	71.2 %	15 - 121			B2E1289	05/18/2022	05/18/22 16:51	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: CBT

Lab ID: 2201310-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 19:38	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 19:38	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1537	05/31/2022	05/31/22 19:38	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1537	05/31/2022	05/31/22 19:38	
1,1-Dichloroethane	0.15	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 19:38	J
1,1-Dichloroethene	0.16	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	J
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 19:38	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 19:38	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 19:38	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 19:38	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1537	05/31/2022	05/31/22 19:38	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1537	05/31/2022	05/31/22 19:38	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 19:38	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 19:38	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 19:38	
Benzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
Bromobenzene	ND	0.50	0.21	1	B2E1537	05/31/2022	05/31/22 19:38	
Bromodichloromethane	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 19:38	
Bromoform	ND	0.50	0.20	1	B2E1537	05/31/2022	05/31/22 19:38	
Bromomethane	ND	0.50	0.40	1	B2E1537	05/31/2022	05/31/22 19:38	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 19:38	
Chlorobenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
Chloroethane	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 19:38	
Chloroform	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 19:38	
Chloromethane	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 19:38	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1537	05/31/2022	05/31/22 19:38	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
Dibromochloromethane	ND	0.50	0.16	1	B2E1537	05/31/2022	05/31/22 19:38	
Dibromomethane	ND	0.50	0.19	1	B2E1537	05/31/2022	05/31/22 19:38	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1537	05/31/2022	05/31/22 19:38	
Ethylbenzene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: CBT

Lab ID: 2201310-03

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1537	05/31/2022	05/31/22 19:38	
Isopropylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 19:38	
m,p-Xylene	ND	1.0	0.19	1	B2E1537	05/31/2022	05/31/22 19:38	
Methylene chloride	ND	1.0	0.71	1	B2E1537	05/31/2022	05/31/22 19:38	
n-Butylbenzene	ND	0.50	0.11	1	B2E1537	05/31/2022	05/31/22 19:38	
n-Propylbenzene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 19:38	
Naphthalene	ND	0.50	0.41	1	B2E1537	05/31/2022	05/31/22 19:38	
o-Xylene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 19:38	
Styrene	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 19:38	
Tetrachloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 19:38	
Toluene	ND	0.50	0.12	1	B2E1537	05/31/2022	05/31/22 19:38	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1537	05/31/2022	05/31/22 19:38	
Trichloroethene	ND	0.50	0.10	1	B2E1537	05/31/2022	05/31/22 19:38	
Trichlorofluoromethane	0.23	0.50	0.23	1	B2E1537	05/31/2022	05/31/22 19:38	J
Vinyl chloride	ND	0.50	0.13	1	B2E1537	05/31/2022	05/31/22 19:38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>	<i>64 - 155</i>			B2E1537	05/31/2022	05/31/22 19:38	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97.8 %</i>	<i>73 - 124</i>			B2E1537	05/31/2022	05/31/22 19:38	
<i>Surrogate: Dibromofluoromethane</i>	<i>98.7 %</i>	<i>78 - 129</i>			B2E1537	05/31/2022	05/31/22 19:38	
<i>Surrogate: Toluene-d8</i>	<i>117 %</i>	<i>84 - 117</i>			B2E1537	05/31/2022	05/31/22 19:38	S12

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1289	05/18/2022	05/18/22 17:17	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>104 %</i>	<i>13 - 99</i>			B2E1289	05/18/2022	05/18/22 17:17	S12
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>95.5 %</i>	<i>8 - 111</i>			B2E1289	05/18/2022	05/18/22 17:17	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>131 %</i>	<i>12 - 113</i>			B2E1289	05/18/2022	05/18/22 17:17	S15
<i>Surrogate: Nitrobenzene-d5</i>	<i>73.2 %</i>	<i>15 - 121</i>			B2E1289	05/18/2022	05/18/22 17:17	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: POX

Lab ID: 2201310-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 15:36	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 15:36	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 15:36	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 15:36	
1,1-Dichloroethane	0.20	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 15:36	J
1,1-Dichloroethene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 15:36	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 15:36	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 15:36	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 15:36	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 15:36	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 15:36	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 15:36	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 15:36	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 15:36	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 15:36	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 15:36	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 15:36	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 15:36	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 15:36	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 15:36	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 15:36	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 15:36	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 15:36	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 15:36	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 15:36	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 15:36	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: POX

Lab ID: 2201310-04

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 15:36	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 15:36	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 15:36	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 15:36	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 15:36	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 15:36	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 15:36	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 15:36	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 15:36	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 15:36	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 15:36	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 15:36	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 15:36	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 15:36	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 15:36	
Surrogate: 1,2-Dichloroethane-d4	88.7 %	64 - 155			B2E1297	05/20/2022	05/20/22 15:36	
Surrogate: 4-Bromofluorobenzene	90.5 %	73 - 124			B2E1297	05/20/2022	05/20/22 15:36	
Surrogate: Dibromofluoromethane	105 %	78 - 129			B2E1297	05/20/2022	05/20/22 15:36	
Surrogate: Toluene-d8	92.1 %	84 - 117			B2E1297	05/20/2022	05/20/22 15:36	

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	0.20	0.05	1	B2E1289	05/18/2022	05/18/22 17:44	
Surrogate: 1,2-Dichlorobenzene-d4	102 %	13 - 99			B2E1289	05/18/2022	05/18/22 17:44	S12
Surrogate: 2-Fluorobiphenyl	84.7 %	8 - 111			B2E1289	05/18/2022	05/18/22 17:44	
Surrogate: 4-Terphenyl-d14	140 %	12 - 113			B2E1289	05/18/2022	05/18/22 17:44	S15
Surrogate: Nitrobenzene-d5	64.2 %	15 - 121			B2E1289	05/18/2022	05/18/22 17:44	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: INF

Lab ID: 2201310-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:02	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:02	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 16:02	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 16:02	
1,1-Dichloroethane	0.36	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:02	J
1,1-Dichloroethene	46	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:02	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:02	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:02	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:02	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 16:02	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 16:02	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:02	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:02	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:02	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:02	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:02	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:02	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 16:02	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:02	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:02	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:02	
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:02	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:02	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:02	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 16:02	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:02	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: INF

Lab ID: 2201310-05

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:02	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:02	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 16:02	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 16:02	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:02	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:02	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:02	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:02	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:02	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:02	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:02	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:02	
Trichloroethene	0.51	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:02	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 16:02	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:02	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>74.3 %</i>		<i>64 - 155</i>		B2E1297	05/20/2022	<i>05/20/22 16:02</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>81.4 %</i>		<i>73 - 124</i>		B2E1297	05/20/2022	<i>05/20/22 16:02</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>102 %</i>		<i>78 - 129</i>		B2E1297	05/20/2022	<i>05/20/22 16:02</i>	
<i>Surrogate: Toluene-d8</i>	<i>95.7 %</i>		<i>84 - 117</i>		B2E1297	05/20/2022	<i>05/20/22 16:02</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	20	2.0	0.84	1	B2E1287	05/18/2022	05/18/22 18:10	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>90.3 %</i>		<i>17 - 119</i>		B2E1287	05/18/2022	<i>05/18/22 18:10</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>92.4 %</i>		<i>10 - 133</i>		B2E1287	05/18/2022	<i>05/18/22 18:10</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>95.1 %</i>		<i>5 - 139</i>		B2E1287	05/18/2022	<i>05/18/22 18:10</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>102 %</i>		<i>13 - 150</i>		B2E1287	05/18/2022	<i>05/18/22 18:10</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: EW-02

Lab ID: 2201310-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1,2-Trichloroethane	ND	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1-Dichloroethane	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1-Dichloroethene	12	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:28	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:28	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:28	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:28	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 16:28	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 16:28	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:28	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:28	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:28	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:28	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:28	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:28	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 16:28	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:28	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:28	
Chloroform	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:28	
Chloromethane	0.46	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:28	J
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:28	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:28	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 16:28	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:28	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: EW-02

Lab ID: 2201310-06

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:28	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:28	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 16:28	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 16:28	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:28	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:28	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:28	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:28	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:28	
Tetrachloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:28	
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:28	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:28	
Trichloroethene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:28	
Trichlorofluoromethane	ND	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 16:28	
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:28	
Surrogate: 1,2-Dichloroethane-d4	74.1 %	64 - 155			B2E1297	05/20/2022	05/20/22 16:28	
Surrogate: 4-Bromofluorobenzene	83.3 %	73 - 124			B2E1297	05/20/2022	05/20/22 16:28	
Surrogate: Dibromofluoromethane	95.0 %	78 - 129			B2E1297	05/20/2022	05/20/22 16:28	
Surrogate: Toluene-d8	102 %	84 - 117			B2E1297	05/20/2022	05/20/22 16:28	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	ND	2.0	0.84	1	B2E1287	05/18/2022	05/18/22 18:37	
Surrogate: 1,2-Dichlorobenzene-d4	94.1 %	17 - 119			B2E1287	05/18/2022	05/18/22 18:37	
Surrogate: 2-Fluorobiphenyl	91.2 %	10 - 133			B2E1287	05/18/2022	05/18/22 18:37	
Surrogate: 4-Terphenyl-d14	91.1 %	5 - 139			B2E1287	05/18/2022	05/18/22 18:37	
Surrogate: Nitrobenzene-d5	102 %	13 - 150			B2E1287	05/18/2022	05/18/22 18:37	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: MW-29

Lab ID: 2201310-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:54	
1,1,1-Trichloroethane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:54	
1,1,2,2-Tetrachloroethane	ND	0.50	0.36	1	B2E1297	05/20/2022	05/20/22 16:54	
1,1,2-Trichloroethane	0.35	0.50	0.25	1	B2E1297	05/20/2022	05/20/22 16:54	J
1,1-Dichloroethane	0.93	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:54	
1,1-Dichloroethene	140	5.0	1.3	10	B2E1297	05/20/2022	05/20/22 17:20	
1,1-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2,3-Trichloropropane	ND	0.50	0.39	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2,3-Trichlorobenzene	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2,4-Trichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2,4-Trimethylbenzene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2-Dibromo-3-chloropropane	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2-Dibromoethane	ND	0.50	0.24	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2-Dichlorobenzene	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2-Dichloroethane	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:54	
1,2-Dichloropropane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:54	
1,3,5-Trimethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
1,3-Dichlorobenzene	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:54	
1,3-Dichloropropane	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:54	
1,4-Dichlorobenzene	ND	0.50	0.17	1	B2E1297	05/20/2022	05/20/22 16:54	
2,2-Dichloropropane	ND	0.50	0.38	1	B2E1297	05/20/2022	05/20/22 16:54	
2-Chlorotoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:54	
4-Chlorotoluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:54	
4-Isopropyltoluene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:54	
Benzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
Bromobenzene	ND	0.50	0.21	1	B2E1297	05/20/2022	05/20/22 16:54	
Bromodichloromethane	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:54	
Bromoform	ND	0.50	0.20	1	B2E1297	05/20/2022	05/20/22 16:54	
Bromomethane	ND	0.50	0.40	1	B2E1297	05/20/2022	05/20/22 16:54	
Carbon tetrachloride	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:54	
Chlorobenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
Chloroethane	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:54	
Chloroform	0.17	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:54	J
Chloromethane	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:54	
cis-1,2-Dichloroethene	ND	0.50	0.14	1	B2E1297	05/20/2022	05/20/22 16:54	
cis-1,3-Dichloropropene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
Dibromochloromethane	ND	0.50	0.16	1	B2E1297	05/20/2022	05/20/22 16:54	
Dibromomethane	ND	0.50	0.19	1	B2E1297	05/20/2022	05/20/22 16:54	
Dichlorodifluoromethane	ND	0.50	0.18	1	B2E1297	05/20/2022	05/20/22 16:54	
Ethylbenzene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Client Sample ID: MW-29

Lab ID: 2201310-07

Volatile Organic Compounds by EPA 8260B

Analyst: KL

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	0.15	1	B2E1297	05/20/2022	05/20/22 16:54	
Isopropylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:54	
m,p-Xylene	ND	1.0	0.19	1	B2E1297	05/20/2022	05/20/22 16:54	
Methylene chloride	ND	1.0	0.71	1	B2E1297	05/20/2022	05/20/22 16:54	
n-Butylbenzene	ND	0.50	0.11	1	B2E1297	05/20/2022	05/20/22 16:54	
n-Propylbenzene	ND	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:54	
Naphthalene	ND	0.50	0.41	1	B2E1297	05/20/2022	05/20/22 16:54	
o-Xylene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
sec-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:54	
Styrene	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
tert-Butylbenzene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:54	
Tetrachloroethene	0.41	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:54	J
Toluene	ND	0.50	0.12	1	B2E1297	05/20/2022	05/20/22 16:54	
trans-1,2-Dichloroethene	ND	0.50	0.09	1	B2E1297	05/20/2022	05/20/22 16:54	
Trichloroethene	1.5	0.50	0.10	1	B2E1297	05/20/2022	05/20/22 16:54	
Trichlorofluoromethane	0.47	0.50	0.23	1	B2E1297	05/20/2022	05/20/22 16:54	J
Vinyl chloride	ND	0.50	0.13	1	B2E1297	05/20/2022	05/20/22 16:54	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>77.0 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	<i>05/20/22 16:54</i>	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>78.4 %</i>	<i>64 - 155</i>			B2E1297	05/20/2022	<i>05/20/22 17:20</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>95.1 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	<i>05/20/22 16:54</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>87.6 %</i>	<i>73 - 124</i>			B2E1297	05/20/2022	<i>05/20/22 17:20</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>95.3 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	<i>05/20/22 16:54</i>	
<i>Surrogate: Dibromofluoromethane</i>	<i>86.6 %</i>	<i>78 - 129</i>			B2E1297	05/20/2022	<i>05/20/22 17:20</i>	
<i>Surrogate: Toluene-d8</i>	<i>94.2 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	<i>05/20/22 16:54</i>	
<i>Surrogate: Toluene-d8</i>	<i>91.2 %</i>	<i>84 - 117</i>			B2E1297	05/20/2022	<i>05/20/22 17:20</i>	

1,4-Dioxane by EPA 8270: Isotope Dilution Technique

Analyst: EB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,4-Dioxane	63	2.0	0.84	1	B2E1287	05/18/2022	05/18/22 19:04	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>87.7 %</i>	<i>17 - 119</i>			B2E1287	05/18/2022	<i>05/18/22 19:04</i>	
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>90.5 %</i>	<i>10 - 133</i>			B2E1287	05/18/2022	<i>05/18/22 19:04</i>	
<i>Surrogate: 4-Terphenyl-d14</i>	<i>90.8 %</i>	<i>5 - 139</i>			B2E1287	05/18/2022	<i>05/18/22 19:04</i>	
<i>Surrogate: Nitrobenzene-d5</i>	<i>102 %</i>	<i>13 - 150</i>			B2E1287	05/18/2022	<i>05/18/22 19:04</i>	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

QUALITY CONTROL SECTION

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W

Blank (B2E1297-BLK1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10



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San Diego , CA 92108

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Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

Blank (B2E1297-BLK1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11
n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	18.79		25.0000	75.2	64 - 155
Surrogate: 4-Bromofluorobenzene	21.77		25.0000	87.1	73 - 124
Surrogate: Dibromofluoromethane	23.85		25.0000	95.4	78 - 129
Surrogate: Toluene-d8	21.19		25.0000	84.8	84 - 117

LCS (B2E1297-BS1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	20.0300	0.50	0.11	20.0000	100	79 - 116	
1,1,1-Trichloroethane	17.5500	0.50	0.21	20.0000	87.8	73 - 130	
1,1,2,2-Tetrachloroethane	14.9300	0.50	0.36	20.0000	74.6	71 - 122	
1,1,2-Trichloroethane	20.2000	0.50	0.25	20.0000	101	70 - 124	
1,1-Dichloroethane	16.8100	0.50	0.09	20.0000	84.0	69 - 128	
1,1-Dichloroethene	18.9300	0.50	0.13	20.0000	94.6	65 - 137	
1,1-Dichloropropene	19.5500	0.50	0.13	20.0000	97.8	74 - 129	
1,2,3-Trichloropropane	14.6300	0.50	0.39	20.0000	73.2	74 - 123	L3
1,2,3-Trichlorobenzene	15.9100	0.50	0.18	20.0000	79.6	59 - 130	
1,2,4-Trichlorobenzene	18.1700	0.50	0.16	20.0000	90.8	65 - 125	
1,2,4-Trimethylbenzene	18.9900	0.50	0.14	20.0000	95.0	88 - 124	
1,2-Dibromo-3-chloropropane	19.0300	0.50	0.41	20.0000	95.2	61 - 127	
1,2-Dibromoethane	21.1100	0.50	0.24	20.0000	106	72 - 125	
1,2-Dichlorobenzene	20.0900	0.50	0.20	20.0000	100	84 - 113	
1,2-Dichloroethane	14.6400	0.50	0.20	20.0000	73.2	68 - 130	
1,2-Dichloropropane	18.6600	0.50	0.15	20.0000	93.3	77 - 121	
1,3,5-Trimethylbenzene	16.9900	0.50	0.13	20.0000	85.0	83 - 124	
1,3-Dichlorobenzene	18.5000	0.50	0.16	20.0000	92.5	83 - 112	
1,3-Dichloropropane	17.6000	0.50	0.21	20.0000	88.0	77 - 119	
1,4-Dichlorobenzene	19.1300	0.50	0.17	20.0000	95.6	79 - 115	
2,2-Dichloropropane	17.6900	0.50	0.38	20.0000	88.4	67 - 149	
2-Chlorotoluene	17.3300	0.50	0.11	20.0000	86.6	81 - 119	
4-Chlorotoluene	14.3800	0.50	0.12	20.0000	71.9	86 - 117	L3
4-Isopropyltoluene	19.7900	0.50	0.11	20.0000	99.0	82 - 131	



Certificate of Analysis

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San Diego , CA 92108

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Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS (B2E1297-BS1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

Benzene	17.4700	0.50	0.13	20.0000		87.4	75 - 124			
Bromobenzene	19.4800	0.50	0.21	20.0000		97.4	82 - 108			
Bromodichloromethane	18.2700	0.50	0.14	20.0000		91.4	80 - 120			
Bromoform	18.0100	0.50	0.20	20.0000		90.0	70 - 123			
Bromomethane	13.7600	0.50	0.40	20.0000		68.8	44 - 151			
Carbon tetrachloride	19.1200	0.50	0.09	20.0000		95.6	62 - 140			
Chlorobenzene	22.2700	0.50	0.13	20.0000		111	80 - 112			
Chloroethane	20.4300	0.50	0.15	20.0000		102	42 - 167			
Chloroform	17.4200	0.50	0.11	20.0000		87.1	77 - 122			
Chloromethane	17.8300	0.50	0.12	20.0000		89.2	33 - 153			
cis-1,2-Dichloroethene	15.6900	0.50	0.14	20.0000		78.4	75 - 121			
cis-1,3-Dichloropropene	18.2600	0.50	0.13	20.0000		91.3	73 - 127			
Dibromochloromethane	20.5200	0.50	0.16	20.0000		103	77 - 122			
Dibromomethane	18.8200	0.50	0.19	20.0000		94.1	75 - 121			
Dichlorodifluoromethane	19.3900	0.50	0.18	20.0000		97.0	0 - 171			
Ethylbenzene	18.0900	0.50	0.13	20.0000		90.4	82 - 119			
Hexachlorobutadiene	14.5100	0.50	0.15	20.0000		72.6	71 - 131			
Isopropylbenzene	17.7000	0.50	0.10	20.0000		88.5	75 - 126			
m,p-Xylene	34.0000	1.0	0.19	40.0000		85.0	86 - 119			L3
Methylene chloride	20.6700	1.0	0.71	20.0000		103	76 - 125			
n-Butylbenzene	16.2400	0.50	0.11	20.0000		81.2	81 - 125			
n-Propylbenzene	15.7800	0.50	0.10	20.0000		78.9	78 - 130			
Naphthalene	17.1900	0.50	0.41	20.0000		86.0	47 - 128			
o-Xylene	18.6800	0.50	0.13	20.0000		93.4	85 - 119			
sec-Butylbenzene	17.9200	0.50	0.09	20.0000		89.6	78 - 130			
Styrene	21.4200	0.50	0.13	20.0000		107	62 - 148			
tert-Butylbenzene	16.5900	0.50	0.09	20.0000		83.0	77 - 125			
Tetrachloroethene	18.9700	0.50	0.10	20.0000		94.8	73 - 120			
Toluene	17.2400	0.50	0.12	20.0000		86.2	79 - 119			
trans-1,2-Dichloroethene	24.7500	0.50	0.09	20.0000		124	70 - 129			
Trichloroethene	21.2300	0.50	0.10	20.0000		106	73 - 117			
Trichlorofluoromethane	18.7000	0.50	0.23	20.0000		93.5	59 - 135			
Vinyl chloride	19.0900	0.50	0.13	20.0000		95.4	58 - 132			

Surrogate: 1,2-Dichloroethane-d4

19.64

25.0000

78.6

64 - 155

Surrogate: 4-Bromofluorobenzene

23.44

25.0000

93.8

73 - 124

Surrogate: Dibromofluoromethane

24.74

25.0000

99.0

78 - 129

Surrogate: Toluene-d8

23.01

25.0000

92.0

84 - 117

LCS Dup (B2E1297-BSD1)

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1,1,2-Tetrachloroethane	19.5300	0.50	0.11	20.0000		97.6	79 - 116	2.53	20	
1,1,1-Trichloroethane	15.7400	0.50	0.21	20.0000		78.7	73 - 130	10.9	20	
1,1,2,2-Tetrachloroethane	16.4600	0.50	0.36	20.0000		82.3	71 - 122	9.75	20	
1,1,2-Trichloroethane	17.4800	0.50	0.25	20.0000		87.4	70 - 124	14.4	20	
1,1-Dichloroethane	14.7100	0.50	0.09	20.0000		73.6	69 - 128	13.3	20	
1,1-Dichloroethene	18.3200	0.50	0.13	20.0000		91.6	65 - 137	3.28	20	



Certificate of Analysis

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Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS Dup (B2E1297-BSD1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

1,1-Dichloropropene	19.7100	0.50	0.13	20.0000		98.6	74 - 129	0.815	20	
1,2,3-Trichloropropane	13.1200	0.50	0.39	20.0000		65.6	74 - 123	10.9	20	L4
1,2,3-Trichlorobenzene	13.4300	0.50	0.18	20.0000		67.2	59 - 130	16.9	20	
1,2,4-Trichlorobenzene	14.3900	0.50	0.16	20.0000		72.0	65 - 125	23.2	20	R
1,2,4-Trimethylbenzene	15.1000	0.50	0.14	20.0000		75.5	88 - 124	22.8	20	L3, R
1,2-Dibromo-3-chloropropane	16.8900	0.50	0.41	20.0000		84.4	61 - 127	11.9	20	
1,2-Dibromoethane	21.5500	0.50	0.24	20.0000		108	72 - 125	2.06	20	
1,2-Dichlorobenzene	17.5500	0.50	0.20	20.0000		87.8	84 - 113	13.5	20	
1,2-Dichloroethane	15.3300	0.50	0.20	20.0000		76.6	68 - 130	4.60	20	
1,2-Dichloropropane	17.1200	0.50	0.15	20.0000		85.6	77 - 121	8.61	20	
1,3,5-Trimethylbenzene	15.1400	0.50	0.13	20.0000		75.7	83 - 124	11.5	20	L3
1,3-Dichlorobenzene	17.8600	0.50	0.16	20.0000		89.3	83 - 112	3.52	20	
1,3-Dichloropropane	15.7000	0.50	0.21	20.0000		78.5	77 - 119	11.4	20	
1,4-Dichlorobenzene	15.8400	0.50	0.17	20.0000		79.2	79 - 115	18.8	20	
2,2-Dichloropropane	17.8000	0.50	0.38	20.0000		89.0	67 - 149	0.620	20	
2-Chlorotoluene	13.4200	0.50	0.11	20.0000		67.1	81 - 119	25.4	20	L4, R
4-Chlorotoluene	14.1400	0.50	0.12	20.0000		70.7	86 - 117	1.68	20	L3
4-Isopropyltoluene	17.5700	0.50	0.11	20.0000		87.8	82 - 131	11.9	20	
Benzene	17.3800	0.50	0.13	20.0000		86.9	75 - 124	0.517	20	
Bromobenzene	15.3600	0.50	0.21	20.0000		76.8	82 - 108	23.7	20	L3, R
Bromodichloromethane	17.5800	0.50	0.14	20.0000		87.9	80 - 120	3.85	20	
Bromoform	19.2900	0.50	0.20	20.0000		96.4	70 - 123	6.86	20	
Bromomethane	13.9500	0.50	0.40	20.0000		69.8	44 - 151	1.37	20	
Carbon tetrachloride	17.3900	0.50	0.09	20.0000		87.0	62 - 140	9.48	20	
Chlorobenzene	18.6100	0.50	0.13	20.0000		93.0	80 - 112	17.9	20	
Chloroethane	18.4600	0.50	0.15	20.0000		92.3	42 - 167	10.1	20	
Chloroform	15.0800	0.50	0.11	20.0000		75.4	77 - 122	14.4	20	L3
Chloromethane	16.0100	0.50	0.12	20.0000		80.0	33 - 153	10.8	20	
cis-1,2-Dichloroethene	14.0300	0.50	0.14	20.0000		70.2	75 - 121	11.2	20	L3
cis-1,3-Dichloropropene	17.0700	0.50	0.13	20.0000		85.4	73 - 127	6.74	20	
Dibromochloromethane	20.3500	0.50	0.16	20.0000		102	77 - 122	0.832	20	
Dibromomethane	17.9900	0.50	0.19	20.0000		90.0	75 - 121	4.51	20	
Dichlorodifluoromethane	21.7400	0.50	0.18	20.0000		109	0 - 171	11.4	20	
Ethylbenzene	16.9000	0.50	0.13	20.0000		84.5	82 - 119	6.80	20	
Hexachlorobutadiene	14.3500	0.50	0.15	20.0000		71.8	71 - 131	1.11	20	
Isopropylbenzene	14.3100	0.50	0.10	20.0000		71.6	75 - 126	21.2	20	L3, R
m,p-Xylene	30.9400	1.0	0.19	40.0000		77.4	86 - 119	9.42	20	L3
Methylene chloride	19.1100	1.0	0.71	20.0000		95.6	76 - 125	7.84	20	
n-Butylbenzene	14.1100	0.50	0.11	20.0000		70.6	81 - 125	14.0	20	L3
n-Propylbenzene	13.8400	0.50	0.10	20.0000		69.2	78 - 130	13.1	20	L4
Naphthalene	13.6000	0.50	0.41	20.0000		68.0	47 - 128	23.3	20	R
o-Xylene	18.8900	0.50	0.13	20.0000		94.4	85 - 119	1.12	20	
sec-Butylbenzene	17.4900	0.50	0.09	20.0000		87.4	78 - 130	2.43	20	
Styrene	20.1700	0.50	0.13	20.0000		101	62 - 148	6.01	20	
tert-Butylbenzene	16.9900	0.50	0.09	20.0000		85.0	77 - 125	2.38	20	



Certificate of Analysis

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Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1297 - MSVOA_LL_W (continued)

LCS Dup (B2E1297-BSD1) - Continued

Prepared: 5/20/2022 Analyzed: 5/20/2022

Tetrachloroethene	17.9700	0.50	0.10	20.0000		89.8	73 - 120	5.41	20	
Toluene	17.3600	0.50	0.12	20.0000		86.8	79 - 119	0.694	20	
trans-1,2-Dichloroethene	23.0100	0.50	0.09	20.0000		115	70 - 129	7.29	20	
Trichloroethene	20.7000	0.50	0.10	20.0000		104	73 - 117	2.53	20	
Trichlorofluoromethane	18.6700	0.50	0.23	20.0000		93.4	59 - 135	0.161	20	
Vinyl chloride	16.7800	0.50	0.13	20.0000		83.9	58 - 132	12.9	20	
Surrogate: 1,2-Dichloroethane-d4	18.84			25.0000		75.4	64 - 155			
Surrogate: 4-Bromofluorobenzene	20.90			25.0000		83.6	73 - 124			
Surrogate: Dibromofluoromethane	24.68			25.0000		98.7	78 - 129			
Surrogate: Toluene-d8	22.33			25.0000		89.3	84 - 117			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1537 - MSVOA_LL_W

Blank (B2E1537-BLK1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	ND	0.50	0.11
1,1,1-Trichloroethane	ND	0.50	0.21
1,1,2,2-Tetrachloroethane	ND	0.50	0.36
1,1,2-Trichloroethane	ND	0.50	0.25
1,1-Dichloroethane	ND	0.50	0.09
1,1-Dichloroethene	ND	0.50	0.13
1,1-Dichloropropene	ND	0.50	0.13
1,2,3-Trichloropropane	ND	0.50	0.39
1,2,3-Trichlorobenzene	ND	0.50	0.18
1,2,4-Trichlorobenzene	ND	0.50	0.16
1,2,4-Trimethylbenzene	ND	0.50	0.14
1,2-Dibromo-3-chloropropane	ND	0.50	0.41
1,2-Dibromoethane	ND	0.50	0.24
1,2-Dichlorobenzene	ND	0.50	0.20
1,2-Dichloroethane	ND	0.50	0.20
1,2-Dichloropropane	ND	0.50	0.15
1,3,5-Trimethylbenzene	ND	0.50	0.13
1,3-Dichlorobenzene	ND	0.50	0.16
1,3-Dichloropropane	ND	0.50	0.21
1,4-Dichlorobenzene	ND	0.50	0.17
2,2-Dichloropropane	ND	0.50	0.38
2-Chlorotoluene	ND	0.50	0.11
4-Chlorotoluene	ND	0.50	0.12
4-Isopropyltoluene	ND	0.50	0.11
Benzene	ND	0.50	0.13
Bromobenzene	ND	0.50	0.21
Bromodichloromethane	ND	0.50	0.14
Bromoform	ND	0.50	0.20
Bromomethane	ND	0.50	0.40
Carbon tetrachloride	ND	0.50	0.09
Chlorobenzene	ND	0.50	0.13
Chloroethane	ND	0.50	0.15
Chloroform	ND	0.50	0.11
Chloromethane	ND	0.50	0.12
cis-1,2-Dichloroethene	ND	0.50	0.14
cis-1,3-Dichloropropene	ND	0.50	0.13
Dibromochloromethane	ND	0.50	0.16
Dibromomethane	ND	0.50	0.19
Dichlorodifluoromethane	ND	0.50	0.18
Ethylbenzene	ND	0.50	0.13
Hexachlorobutadiene	ND	0.50	0.15
Isopropylbenzene	ND	0.50	0.10
m,p-Xylene	ND	1.0	0.19
Methylene chloride	ND	1.0	0.71
n-Butylbenzene	ND	0.50	0.11



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Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Blank (B2E1537-BLK1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

n-Propylbenzene	ND	0.50	0.10
Naphthalene	ND	0.50	0.41
o-Xylene	ND	0.50	0.13
sec-Butylbenzene	ND	0.50	0.09
Styrene	ND	0.50	0.13
tert-Butylbenzene	ND	0.50	0.09
Tetrachloroethene	ND	0.50	0.10
Toluene	ND	0.50	0.12
trans-1,2-Dichloroethene	ND	0.50	0.09
Trichloroethene	ND	0.50	0.10
Trichlorofluoromethane	ND	0.50	0.23
Vinyl chloride	ND	0.50	0.13

Surrogate: 1,2-Dichloroethane-d4	25.82		25.0000	103	64 - 155
Surrogate: 4-Bromofluorobenzene	23.60		25.0000	94.4	73 - 124
Surrogate: Dibromofluoromethane	27.43		25.0000	110	78 - 129
Surrogate: Toluene-d8	29.24		25.0000	117	84 - 117

LCS (B2E1537-BS1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	19.7100	0.50	0.11	20.0000	98.6	79 - 116
1,1,1-Trichloroethane	17.6100	0.50	0.21	20.0000	88.0	73 - 130
1,1,2,2-Tetrachloroethane	20.7700	0.50	0.36	20.0000	104	71 - 122
1,1,2-Trichloroethane	20.0600	0.50	0.25	20.0000	100	70 - 124
1,1-Dichloroethane	17.5800	0.50	0.09	20.0000	87.9	69 - 128
1,1-Dichloroethene	16.9800	0.50	0.13	20.0000	84.9	65 - 137
1,1-Dichloropropene	17.1000	0.50	0.13	20.0000	85.5	74 - 129
1,2,3-Trichloropropane	18.3900	0.50	0.39	20.0000	92.0	74 - 123
1,2,3-Trichlorobenzene	16.7300	0.50	0.18	20.0000	83.6	59 - 130
1,2,4-Trichlorobenzene	19.3500	0.50	0.16	20.0000	96.8	65 - 125
1,2,4-Trimethylbenzene	20.1100	0.50	0.14	20.0000	101	88 - 124
1,2-Dibromo-3-chloropropane	17.0900	0.50	0.41	20.0000	85.4	61 - 127
1,2-Dibromoethane	18.4900	0.50	0.24	20.0000	92.4	72 - 125
1,2-Dichlorobenzene	17.6500	0.50	0.20	20.0000	88.2	84 - 113
1,2-Dichloroethane	18.8900	0.50	0.20	20.0000	94.4	68 - 130
1,2-Dichloropropane	22.8200	0.50	0.15	20.0000	114	77 - 121
1,3,5-Trimethylbenzene	20.6600	0.50	0.13	20.0000	103	83 - 124
1,3-Dichlorobenzene	19.7600	0.50	0.16	20.0000	98.8	83 - 112
1,3-Dichloropropane	21.7700	0.50	0.21	20.0000	109	77 - 119
1,4-Dichlorobenzene	17.3600	0.50	0.17	20.0000	86.8	79 - 115
2,2-Dichloropropane	18.0200	0.50	0.38	20.0000	90.1	67 - 149
2-Chlorotoluene	21.0500	0.50	0.11	20.0000	105	81 - 119
4-Chlorotoluene	22.0100	0.50	0.12	20.0000	110	86 - 117
4-Isopropyltoluene	18.4700	0.50	0.11	20.0000	92.4	82 - 131
Benzene	20.1100	0.50	0.13	20.0000	101	75 - 124
Bromobenzene	19.5900	0.50	0.21	20.0000	98.0	82 - 108
Bromodichloromethane	19.2100	0.50	0.14	20.0000	96.0	80 - 120



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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

LCS (B2E1537-BS1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

Bromoform	16.8100	0.50	0.20	20.0000	84.0	70 - 123			
Bromomethane	15.1200	0.50	0.40	20.0000	75.6	44 - 151			
Carbon tetrachloride	18.6400	0.50	0.09	20.0000	93.2	62 - 140			
Chlorobenzene	17.5300	0.50	0.13	20.0000	87.6	80 - 112			
Chloroethane	16.1400	0.50	0.15	20.0000	80.7	42 - 167			
Chloroform	17.2200	0.50	0.11	20.0000	86.1	77 - 122			
Chloromethane	20.3400	0.50	0.12	20.0000	102	33 - 153			
cis-1,2-Dichloroethene	15.1800	0.50	0.14	20.0000	75.9	75 - 121			
cis-1,3-Dichloropropene	18.8000	0.50	0.13	20.0000	94.0	73 - 127			
Dibromochloromethane	20.2900	0.50	0.16	20.0000	101	77 - 122			
Dibromomethane	22.2800	0.50	0.19	20.0000	111	75 - 121			
Dichlorodifluoromethane	23.8900	0.50	0.18	20.0000	119	0 - 171			
Ethylbenzene	18.5100	0.50	0.13	20.0000	92.6	82 - 119			
Hexachlorobutadiene	18.8500	0.50	0.15	20.0000	94.2	71 - 131			
Isopropylbenzene	18.8700	0.50	0.10	20.0000	94.4	75 - 126			
m,p-Xylene	33.5800	1.0	0.19	40.0000	84.0	86 - 119			L3
Methylene chloride	16.8100	1.0	0.71	20.0000	84.0	76 - 125			
n-Butylbenzene	17.3700	0.50	0.11	20.0000	86.8	81 - 125			
n-Propylbenzene	19.4500	0.50	0.10	20.0000	97.2	78 - 130			
Naphthalene	17.8700	0.50	0.41	20.0000	89.4	47 - 128			
o-Xylene	19.2000	0.50	0.13	20.0000	96.0	85 - 119			
sec-Butylbenzene	21.5700	0.50	0.09	20.0000	108	78 - 130			
Styrene	18.1300	0.50	0.13	20.0000	90.6	62 - 148			
tert-Butylbenzene	18.2000	0.50	0.09	20.0000	91.0	77 - 125			
Tetrachloroethene	21.7900	0.50	0.10	20.0000	109	73 - 120			
Toluene	20.5800	0.50	0.12	20.0000	103	79 - 119			
trans-1,2-Dichloroethene	21.8000	0.50	0.09	20.0000	109	70 - 129			
Trichloroethene	20.4000	0.50	0.10	20.0000	102	73 - 117			
Trichlorofluoromethane	17.7500	0.50	0.23	20.0000	88.8	59 - 135			
Vinyl chloride	18.0900	0.50	0.13	20.0000	90.4	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	23.43			25.0000	93.7	64 - 155			
Surrogate: 4-Bromofluorobenzene	25.60			25.0000	102	73 - 124			
Surrogate: Dibromofluoromethane	22.57			25.0000	90.3	78 - 129			
Surrogate: Toluene-d8	23.39			25.0000	93.6	84 - 117			

LCS Dup (B2E1537-BS1)

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	22.4500	0.50	0.11	20.0000	112	79 - 116	13.0	20	
1,1,1-Trichloroethane	19.5200	0.50	0.21	20.0000	97.6	73 - 130	10.3	20	
1,1,2,2-Tetrachloroethane	15.8600	0.50	0.36	20.0000	79.3	71 - 122	26.8	20	R
1,1,2-Trichloroethane	19.7800	0.50	0.25	20.0000	98.9	70 - 124	1.41	20	
1,1-Dichloroethane	19.2200	0.50	0.09	20.0000	96.1	69 - 128	8.91	20	
1,1-Dichloroethene	18.7100	0.50	0.13	20.0000	93.6	65 - 137	9.69	20	
1,1-Dichloropropene	18.0400	0.50	0.13	20.0000	90.2	74 - 129	5.35	20	
1,2,3-Trichloropropane	18.5500	0.50	0.39	20.0000	92.8	74 - 123	0.866	20	
1,2,3-Trichlorobenzene	15.0000	0.50	0.18	20.0000	75.0	59 - 130	10.9	20	



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

LCS Dup (B2E1537-BSD1) - Continued

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,2,4-Trichlorobenzene	16.2500	0.50	0.16	20.0000		81.2	65 - 125	17.4	20	
1,2,4-Trimethylbenzene	16.3600	0.50	0.14	20.0000		81.8	88 - 124	20.6	20	L3, R
1,2-Dibromo-3-chloropropane	15.7900	0.50	0.41	20.0000		79.0	61 - 127	7.91	20	
1,2-Dibromoethane	20.1900	0.50	0.24	20.0000		101	72 - 125	8.79	20	
1,2-Dichlorobenzene	14.5000	0.50	0.20	20.0000		72.5	84 - 113	19.6	20	L3
1,2-Dichloroethane	19.8700	0.50	0.20	20.0000		99.4	68 - 130	5.06	20	
1,2-Dichloropropane	18.8900	0.50	0.15	20.0000		94.4	77 - 121	18.8	20	
1,3,5-Trimethylbenzene	17.9300	0.50	0.13	20.0000		89.6	83 - 124	14.1	20	
1,3-Dichlorobenzene	15.8600	0.50	0.16	20.0000		79.3	83 - 112	21.9	20	L3, R
1,3-Dichloropropane	19.8500	0.50	0.21	20.0000		99.2	77 - 119	9.23	20	
1,4-Dichlorobenzene	15.6700	0.50	0.17	20.0000		78.4	79 - 115	10.2	20	L3
2,2-Dichloropropane	17.6700	0.50	0.38	20.0000		88.4	67 - 149	1.96	20	
2-Chlorotoluene	17.3600	0.50	0.11	20.0000		86.8	81 - 119	19.2	20	
4-Chlorotoluene	17.2500	0.50	0.12	20.0000		86.2	86 - 117	24.2	20	R
4-Isopropyltoluene	14.1300	0.50	0.11	20.0000		70.6	82 - 131	26.6	20	L3, R
Benzene	18.7400	0.50	0.13	20.0000		93.7	75 - 124	7.05	20	
Bromobenzene	18.2900	0.50	0.21	20.0000		91.4	82 - 108	6.86	20	
Bromodichloromethane	19.6300	0.50	0.14	20.0000		98.2	80 - 120	2.16	20	
Bromoform	19.8900	0.50	0.20	20.0000		99.4	70 - 123	16.8	20	
Bromomethane	19.1500	0.50	0.40	20.0000		95.8	44 - 151	23.5	20	R
Carbon tetrachloride	20.2500	0.50	0.09	20.0000		101	62 - 140	8.28	20	
Chlorobenzene	21.1600	0.50	0.13	20.0000		106	80 - 112	18.8	20	
Chloroethane	22.0000	0.50	0.15	20.0000		110	42 - 167	30.7	20	R
Chloroform	20.0100	0.50	0.11	20.0000		100	77 - 122	15.0	20	
Chloromethane	21.2600	0.50	0.12	20.0000		106	33 - 153	4.42	20	
cis-1,2-Dichloroethene	14.0300	0.50	0.14	20.0000		70.2	75 - 121	7.87	20	L3
cis-1,3-Dichloropropene	18.2600	0.50	0.13	20.0000		91.3	73 - 127	2.91	20	
Dibromochloromethane	19.7500	0.50	0.16	20.0000		98.8	77 - 122	2.70	20	
Dibromomethane	20.4800	0.50	0.19	20.0000		102	75 - 121	8.42	20	
Dichlorodifluoromethane	23.7100	0.50	0.18	20.0000		119	0 - 171	0.756	20	
Ethylbenzene	22.5400	0.50	0.13	20.0000		113	82 - 119	19.6	20	
Hexachlorobutadiene	13.4300	0.50	0.15	20.0000		67.2	71 - 131	33.6	20	L4, R
Isopropylbenzene	16.7000	0.50	0.10	20.0000		83.5	75 - 126	12.2	20	
m,p-Xylene	41.2100	1.0	0.19	40.0000		103	86 - 119	20.4	20	R
Methylene chloride	23.6700	1.0	0.71	20.0000		118	76 - 125	33.9	20	R
n-Butylbenzene	15.8900	0.50	0.11	20.0000		79.4	81 - 125	8.90	20	L3
n-Propylbenzene	17.3000	0.50	0.10	20.0000		86.5	78 - 130	11.7	20	
Naphthalene	15.4500	0.50	0.41	20.0000		77.2	47 - 128	14.5	20	
o-Xylene	23.1200	0.50	0.13	20.0000		116	85 - 119	18.5	20	
sec-Butylbenzene	16.5700	0.50	0.09	20.0000		82.8	78 - 130	26.2	20	R
Styrene	23.8700	0.50	0.13	20.0000		119	62 - 148	27.3	20	R
tert-Butylbenzene	14.5500	0.50	0.09	20.0000		72.8	77 - 125	22.3	20	L3, R
Tetrachloroethene	20.0300	0.50	0.10	20.0000		100	73 - 120	8.42	20	
Toluene	20.4700	0.50	0.12	20.0000		102	79 - 119	0.536	20	
trans-1,2-Dichloroethene	27.9200	0.50	0.09	20.0000		140	70 - 129	24.6	20	L5, R



Certificate of Analysis

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3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	Limit	Notes
Batch B2E1537 - MSVOA_LL_W (continued)										
LCS Dup (B2E1537-BSD1) - Continued										
					Prepared: 5/31/2022 Analyzed: 5/31/2022					
Trichloroethene	18.0700	0.50	0.10	20.0000		90.4	73 - 117	12.1	20	
Trichlorofluoromethane	21.4100	0.50	0.23	20.0000		107	59 - 135	18.7	20	
Vinyl chloride	23.7100	0.50	0.13	20.0000		119	58 - 132	26.9	20	R

Surrogate: 1,2-Dichloroethane-d4	26.71			25.0000		107	64 - 155			
Surrogate: 4-Bromofluorobenzene	35.40			25.0000		142	73 - 124			S12
Surrogate: Dibromofluoromethane	27.16			25.0000		109	78 - 129			
Surrogate: Toluene-d8	30.70			25.0000		123	84 - 117			S12

Matrix Spike (B2E1537-MS1)

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	23.9600	0.50	0.11	20.0000	ND	120	81 - 133			
1,1,1-Trichloroethane	26.7700	0.50	0.21	20.0000	ND	134	93 - 149			
1,1,2,2-Tetrachloroethane	20.8300	0.50	0.36	20.0000	ND	104	69 - 151			
1,1,2-Trichloroethane	21.5500	0.50	0.25	20.0000	ND	108	78 - 130			
1,1-Dichloroethane	29.9700	0.50	0.09	20.0000	0.670000	146	68 - 135			M2
1,1-Dichloroethene	80.8600	0.50	0.13	20.0000	42.2700	193	77 - 134			M2
1,1-Dichloropropene	22.7400	0.50	0.13	20.0000	ND	114	91 - 138			
1,2,3-Trichloropropane	19.4200	0.50	0.39	20.0000	ND	97.1	77 - 136			
1,2,3-Trichlorobenzene	19.9000	0.50	0.18	20.0000	ND	99.5	72 - 129			
1,2,4-Trichlorobenzene	24.1800	0.50	0.16	20.0000	ND	121	64 - 135			
1,2,4-Trimethylbenzene	23.1100	0.50	0.14	20.0000	ND	116	10 - 179			
1,2-Dibromo-3-chloropropane	20.6200	0.50	0.41	20.0000	ND	103	62 - 153			
1,2-Dibromoethane	22.6800	0.50	0.24	20.0000	ND	113	80 - 132			
1,2-Dichlorobenzene	20.5800	0.50	0.20	20.0000	ND	103	81 - 131			
1,2-Dichloroethane	24.1000	0.50	0.20	20.0000	ND	120	68 - 146			
1,2-Dichloropropane	23.7600	0.50	0.15	20.0000	ND	119	74 - 136			
1,3,5-Trimethylbenzene	21.0000	0.50	0.13	20.0000	ND	105	66 - 149			
1,3-Dichlorobenzene	22.0300	0.50	0.16	20.0000	ND	110	79 - 128			
1,3-Dichloropropane	25.3100	0.50	0.21	20.0000	ND	127	80 - 129			
1,4-Dichlorobenzene	21.0100	0.50	0.17	20.0000	ND	105	84 - 121			
2,2-Dichloropropane	25.3600	0.50	0.38	20.0000	ND	127	63 - 179			
2-Chlorotoluene	20.5200	0.50	0.11	20.0000	ND	103	76 - 142			
4-Chlorotoluene	21.0900	0.50	0.12	20.0000	ND	105	72 - 152			
4-Isopropyltoluene	22.5200	0.50	0.11	20.0000	ND	113	84 - 141			
Benzene	23.9900	0.50	0.13	20.0000	ND	120	79 - 131			
Bromobenzene	23.5100	0.50	0.21	20.0000	ND	118	82 - 121			
Bromodichloromethane	24.8000	0.50	0.14	20.0000	ND	124	86 - 138			
Bromoform	20.4800	0.50	0.20	20.0000	ND	102	80 - 136			
Bromomethane	27.3600	0.50	0.40	20.0000	ND	137	35 - 194			
Carbon tetrachloride	25.9200	0.50	0.09	20.0000	ND	130	73 - 176			
Chlorobenzene	20.4100	0.50	0.13	20.0000	ND	102	81 - 124			
Chloroethane	29.8300	0.50	0.15	20.0000	ND	149	0 - 257			
Chloroform	25.1600	0.50	0.11	20.0000	ND	126	76 - 139			
Chloromethane	34.1500	0.50	0.12	20.0000	ND	171	27 - 144			M2
cis-1,2-Dichloroethene	20.5800	0.50	0.14	20.0000	ND	103	69 - 139			
cis-1,3-Dichloropropene	24.8900	0.50	0.13	20.0000	ND	124	67 - 149			



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Matrix Spike (B2E1537-MS1) - Continued

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

Dibromochloromethane	24.9100	0.50	0.16	20.0000	ND	125	91 - 131			
Dibromomethane	23.5900	0.50	0.19	20.0000	ND	118	70 - 134			
Dichlorodifluoromethane	42.0200	0.50	0.18	20.0000	ND	210	0 - 161			M2
Ethylbenzene	24.5700	0.50	0.13	20.0000	ND	123	89 - 134			
Hexachlorobutadiene	24.4900	0.50	0.15	20.0000	ND	122	73 - 137			
Isopropylbenzene	23.7500	0.50	0.10	20.0000	ND	119	72 - 152			
m,p-Xylene	45.6300	1.0	0.19	40.0000	ND	114	82 - 141			
Methylene chloride	28.9100	1.0	0.71	20.0000	ND	145	74 - 133			M2
n-Butylbenzene	22.5100	0.50	0.11	20.0000	ND	113	65 - 164			
n-Propylbenzene	23.1600	0.50	0.10	20.0000	ND	116	73 - 161			
Naphthalene	20.2300	0.50	0.41	20.0000	ND	101	59 - 105			
o-Xylene	26.0600	0.50	0.13	20.0000	ND	130	90 - 134			
sec-Butylbenzene	24.1500	0.50	0.09	20.0000	ND	121	80 - 157			
Styrene	24.4200	0.50	0.13	20.0000	ND	122	0 - 222			
tert-Butylbenzene	21.1900	0.50	0.09	20.0000	ND	106	88 - 141			
Tetrachloroethene	28.8800	0.50	0.10	20.0000	ND	144	75 - 136			M2
Toluene	29.7000	0.50	0.12	20.0000	ND	148	82 - 132			M2
trans-1,2-Dichloroethene	42.7600	0.50	0.09	20.0000	ND	214	65 - 135			M2
Trichloroethene	22.6500	0.50	0.10	20.0000	ND	113	75 - 128			
Trichlorofluoromethane	37.7400	0.50	0.23	20.0000	ND	189	89 - 143			M2
Vinyl chloride	36.6700	0.50	0.13	20.0000	ND	183	50 - 148			M2

Surrogate: 1,2-Dichloroethane-d4

27.11

25.0000

108

64 - 155

Surrogate: 4-Bromofluorobenzene

36.28

25.0000

145

73 - 124

Surrogate: Dibromofluoromethane

28.53

25.0000

114

78 - 129

Surrogate: Toluene-d8

30.04

25.0000

120

84 - 117

Matrix Spike Dup (B2E1537-MSD1)

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,1,1,2-Tetrachloroethane	17.0400	0.50	0.11	20.0000	ND	85.2	81 - 133	33.8	20	R
1,1,1-Trichloroethane	24.9400	0.50	0.21	20.0000	ND	125	93 - 149	7.08	20	
1,1,2,2-Tetrachloroethane	18.6700	0.50	0.36	20.0000	ND	93.4	69 - 151	10.9	20	
1,1,2-Trichloroethane	18.5600	0.50	0.25	20.0000	ND	92.8	78 - 130	14.9	20	
1,1-Dichloroethane	23.4500	0.50	0.09	20.0000	0.670000	114	68 - 135	24.4	20	R
1,1-Dichloroethene	81.6500	0.50	0.13	20.0000	42.2700	197	77 - 134	0.972	20	M2
1,1-Dichloropropene	19.6000	0.50	0.13	20.0000	ND	98.0	91 - 138	14.8	20	
1,2,3-Trichloropropane	21.5200	0.50	0.39	20.0000	ND	108	77 - 136	10.3	20	
1,2,3-Trichlorobenzene	22.1500	0.50	0.18	20.0000	ND	111	72 - 129	10.7	20	
1,2,4-Trichlorobenzene	22.3800	0.50	0.16	20.0000	ND	112	64 - 135	7.73	20	
1,2,4-Trimethylbenzene	20.4800	0.50	0.14	20.0000	ND	102	10 - 179	12.1	20	
1,2-Dibromo-3-chloropropane	20.1800	0.50	0.41	20.0000	ND	101	62 - 153	2.16	20	
1,2-Dibromoethane	20.3100	0.50	0.24	20.0000	ND	102	80 - 132	11.0	20	
1,2-Dichlorobenzene	22.0600	0.50	0.20	20.0000	ND	110	81 - 131	6.94	20	
1,2-Dichloroethane	21.0800	0.50	0.20	20.0000	ND	105	68 - 146	13.4	20	
1,2-Dichloropropane	20.3300	0.50	0.15	20.0000	ND	102	74 - 136	15.6	20	
1,3,5-Trimethylbenzene	22.0400	0.50	0.13	20.0000	ND	110	66 - 149	4.83	20	
1,3-Dichlorobenzene	20.3400	0.50	0.16	20.0000	ND	102	79 - 128	7.98	20	



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	% Rec Limits	RPD	RPD Limit	Notes

Batch B2E1537 - MSVOA_LL_W (continued)

Matrix Spike Dup (B2E1537-MSD1) - Continued

Source: 2201314-16

Prepared: 5/31/2022 Analyzed: 5/31/2022

1,3-Dichloropropane	18.7200	0.50	0.21	20.0000	ND	93.6	80 - 129	29.9	20	R
1,4-Dichlorobenzene	20.5100	0.50	0.17	20.0000	ND	103	84 - 121	2.41	20	
2,2-Dichloropropane	23.8500	0.50	0.38	20.0000	ND	119	63 - 179	6.14	20	
2-Chlorotoluene	19.0200	0.50	0.11	20.0000	ND	95.1	76 - 142	7.59	20	
4-Chlorotoluene	21.8400	0.50	0.12	20.0000	ND	109	72 - 152	3.49	20	
4-Isopropyltoluene	20.5700	0.50	0.11	20.0000	ND	103	84 - 141	9.05	20	
Benzene	20.6900	0.50	0.13	20.0000	ND	103	79 - 131	14.8	20	
Bromobenzene	20.8900	0.50	0.21	20.0000	ND	104	82 - 121	11.8	20	
Bromodichloromethane	20.5300	0.50	0.14	20.0000	ND	103	86 - 138	18.8	20	
Bromoform	18.1800	0.50	0.20	20.0000	ND	90.9	80 - 136	11.9	20	
Bromomethane	26.3100	0.50	0.40	20.0000	ND	132	35 - 194	3.91	20	
Carbon tetrachloride	23.6100	0.50	0.09	20.0000	ND	118	73 - 176	9.33	20	
Chlorobenzene	22.9200	0.50	0.13	20.0000	ND	115	81 - 124	11.6	20	
Chloroethane	27.4000	0.50	0.15	20.0000	ND	137	0 - 257	8.49	20	
Chloroform	23.2500	0.50	0.11	20.0000	ND	116	76 - 139	7.89	20	
Chloromethane	31.4500	0.50	0.12	20.0000	ND	157	27 - 144	8.23	20	M2
cis-1,2-Dichloroethene	17.4500	0.50	0.14	20.0000	ND	87.2	69 - 139	16.5	20	
cis-1,3-Dichloropropene	12.1900	0.50	0.13	20.0000	ND	61.0	67 - 149	68.5	20	M2, R
Dibromochloromethane	18.6900	0.50	0.16	20.0000	ND	93.4	91 - 131	28.5	20	R
Dibromomethane	22.7900	0.50	0.19	20.0000	ND	114	70 - 134	3.45	20	
Dichlorodifluoromethane	39.9900	0.50	0.18	20.0000	ND	200	0 - 161	4.95	20	M2
Ethylbenzene	17.5300	0.50	0.13	20.0000	ND	87.6	89 - 134	33.4	20	M2, R
Hexachlorobutadiene	20.6100	0.50	0.15	20.0000	ND	103	73 - 137	17.2	20	
Isopropylbenzene	23.9200	0.50	0.10	20.0000	ND	120	72 - 152	0.713	20	
m,p-Xylene	36.5100	1.0	0.19	40.0000	ND	91.3	82 - 141	22.2	20	R
Methylene chloride	24.8500	1.0	0.71	20.0000	ND	124	74 - 133	15.1	20	
n-Butylbenzene	22.7900	0.50	0.11	20.0000	ND	114	65 - 164	1.24	20	
n-Propylbenzene	22.7400	0.50	0.10	20.0000	ND	114	73 - 161	1.83	20	
Naphthalene	20.3000	0.50	0.41	20.0000	ND	102	59 - 105	0.345	20	
o-Xylene	21.2700	0.50	0.13	20.0000	ND	106	90 - 134	20.2	20	R
sec-Butylbenzene	20.6400	0.50	0.09	20.0000	ND	103	80 - 157	15.7	20	
Styrene	17.8400	0.50	0.13	20.0000	ND	89.2	0 - 222	31.1	20	R
tert-Butylbenzene	23.6600	0.50	0.09	20.0000	ND	118	88 - 141	11.0	20	
Tetrachloroethene	20.2100	0.50	0.10	20.0000	ND	101	75 - 136	35.3	20	R
Toluene	27.2300	0.50	0.12	20.0000	ND	136	82 - 132	8.68	20	M2
trans-1,2-Dichloroethene	35.2900	0.50	0.09	20.0000	ND	176	65 - 135	19.1	20	M2
Trichloroethene	21.9900	0.50	0.10	20.0000	ND	110	75 - 128	2.96	20	
Trichlorofluoromethane	32.3200	0.50	0.23	20.0000	ND	162	89 - 143	15.5	20	M2
Vinyl chloride	36.0800	0.50	0.13	20.0000	ND	180	50 - 148	1.62	20	M2

Surrogate: 1,2-Dichloroethane-d4

26.60

25.0000

106

64 - 155

Surrogate: 4-Bromofluorobenzene

21.81

25.0000

87.2

73 - 124

Surrogate: Dibromofluoromethane

25.85

25.0000

103

78 - 129

Surrogate: Toluene-d8

28.78

25.0000

115

84 - 117



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

1,4-Dioxane by EPA 8270: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1287 - MSSEMI_W

Blank (B2E1287-BLK1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane ND 2.0 0.84

Surrogate: 1,2-Dichlorobenzene-d4	91.08			100.000	91.1	17 - 119
Surrogate: 2-Fluorobiphenyl	91.49			100.000	91.5	10 - 133
Surrogate: 4-Terphenyl-d14	90.56			100.000	90.6	5 - 139
Surrogate: Nitrobenzene-d5	102.8			100.000	103	13 - 150

LCS (B2E1287-BS1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane 85.3600 2.0 0.84 100.000 85.4 75 - 155

Surrogate: 1,2-Dichlorobenzene-d4	91.49			100.000	91.5	17 - 119
Surrogate: 2-Fluorobiphenyl	92.87			100.000	92.9	10 - 133
Surrogate: 4-Terphenyl-d14	91.11			100.000	91.1	5 - 139
Surrogate: Nitrobenzene-d5	99.83			100.000	99.8	13 - 150

LCS Dup (B2E1287-BSD1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane 101.290 2.0 0.84 100.000 101 75 - 155 17.1 20

Surrogate: 1,2-Dichlorobenzene-d4	95.50			100.000	95.5	17 - 119
Surrogate: 2-Fluorobiphenyl	94.12			100.000	94.1	10 - 133
Surrogate: 4-Terphenyl-d14	94.09			100.000	94.1	5 - 139
Surrogate: Nitrobenzene-d5	105.0			100.000	105	13 - 150



Certificate of Analysis

Hargis & Associates, Inc.

3131 Camino De Rio North Suite 355

San Diego , CA 92108

Project Number : Raytheon Main GETS Mid Month Sample: 532.15

Report To : Steve Netto

Reported : 06/01/2022

1,4-Dioxane by EPA 8270/SIM: Isotope Dilution Technique - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec Limits	RPD	Limit	Notes

Batch B2E1289 - MSSEMI_W

Blank (B2E1289-BLK1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane	ND	0.20	0.05						
Surrogate: 1,2-Dichlorobenzene-d4	1.073			1.00000	107	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9139			1.00000	91.4	8 - 111			
Surrogate: 4-Terphenyl-d14	1.244			1.00000	124	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.7607			1.00000	76.1	15 - 121			

LCS (B2E1289-BS1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane	1.09237	0.20	0.05	1.00000	109	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	1.033			1.00000	103	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.9921			1.00000	99.2	8 - 111			
Surrogate: 4-Terphenyl-d14	1.270			1.00000	127	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.7701			1.00000	77.0	15 - 121			

LCS Dup (B2E1289-BSD1)

Prepared: 5/18/2022 Analyzed: 5/18/2022

1,4-Dioxane	1.15205	0.20	0.05	1.00000	115	75 - 155	5.32	20	
Surrogate: 1,2-Dichlorobenzene-d4	1.053			1.00000	105	13 - 99			S12
Surrogate: 2-Fluorobiphenyl	0.8928			1.00000	89.3	8 - 111			
Surrogate: 4-Terphenyl-d14	1.243			1.00000	124	12 - 113			S12
Surrogate: Nitrobenzene-d5	0.8533			1.00000	85.3	15 - 121			

2201310

3.3

Date: 5/18/2022
Page 1 of 1

PROJECT: Raytheon Main GETS Mid Month Sample

TASK NO.: 532.15

Project Manager Steve Netto
QA Manager Ruben Sanchez
Phone 858.455.6500
Fax 858.455.6533

Sampled By: <u>Ruben Sanchez</u>				SAMPLE COLLECTION				MATRIX		PRESERVATION		CONTAINERS				ANALYSIS REQUESTED										Expected Concentration Range (ppb) for VOAs				SPECIAL HANDLING				REMARKS		
LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO ₃)	Sulfuric Acid (H ₂ SO ₄)	Ice	40-ml VOA	125 mL Poly	250 mL Poly	250 mL Glass	1 L Poly	1L Amber	VOCs by EPA 8260B	Bromate by EPA 317	Bromide by EPA 300	Alkalinity by SM2320B	Total Organic Carbon by SM5310B	Total Suspended Solids by SM2540D	UV Absorption EPA 415.3 @254 nm	1,4-Dioxane by EPA 8270C MOD	1,4-Dioxane by EPA 8270C SIM	0 - 10	10 - 100	100 - 1,000	>1,000	24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested			
1	TB-051822	5/18/2022	8:00		X	X				X	2					X									X											
2	CEFF	5/18/2022	8:10	X	X					X	3				1	X								X	X											
3	CBT	5/18/2022	8:20	X	X					X	3				1	X								X	X											
4	POX	5/18/2022	8:30	X	X					X	3				1	X								X	X											
5	INF	5/18/2022	8:40	X	X					X	3				1	X						X					X									
6	EW-02	5/18/2022	10:00	X	X					X	3				1	X						X			X											
7	MW-29	5/18/2022	10:30	X	X					X	3				1	X						X			X											

Total number of containers per analysis: 20				6				Total No. of Containers: 26			
Relinquished By: / Company:		Date / Time	Received By: / Company	Date / Time							
<u>[Signature]</u> HHA		5-18-22 11:56	<u>Danmyle</u> ATL	5/18/22 11:56							
Relinquished By: / Company:		Date / Time	Received By: / Company	Date / Time							

- ☐ No. of containers correct
- ☐ Received in good condition
- ☐ Custody seals secure
- ☐ Conforms to COC document

Send Results to:
Steve Netto & Ruben Sanchez
3131 Camino Del Rio North
Suite 355
San Diego, CA 92108
Ph: 858.455.6500
snetto@hargis.com
rsanchez@hargis.com

- Instructions
- Fill out form completely and sign only after verified for completeness
 - Complete in ballpoint pen. Draw one line through error, initial and date correction
 - Indicate the number of sample containers in analytical request space; indicate choice with ✓ or ✕
 - Note applicable preservatives, special instructions, and deviations from typical environmental samples.
 - Consult project QA documents for specific instructions.

Temperature on receipt